

2017 Annual Groundwater Monitoring Report

Livingston Ridge to Hugh – P. Sims
Plains SRS Number: 2001-11005
Lea County, New Mexico

March 27, 2018
Terracon Project No. AR187007
NMOCD File No. 1R-0398



Prepared for:
Plains Pipeline, LP
Midland, Texas

Prepared by:
Terracon Consultants, Inc.
Lubbock, Texas

terracon.com

Terracon

Environmental ■ Facilities ■ Geotechnical ■ Materials



March 27, 2018

Plains Pipeline, LP
577 US Hwy 385 North
Seminole, TX 79360
Attn: Mrs. Camille Bryant

Telephone: (432) 758-8138
Fax: (432) 758-8150

Re: 2017 Annual Groundwater Monitoring Report
Livingston Ridge to Hugh - P. Sims
NE ¼ of the SE ¼, Section 3, T21S, R37E
Lea County, New Mexico
NMOCD File Number 1R – 0398
Plains Pipeline, L.P. SRS Number 2001-11005
Terracon Project Number AR187007

Dear Mrs. 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 Pipeline, LP (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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Environmental



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Geotechnical



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TABLE OF CONTENTS



Page No.

1.0	INTRODUCTION	1
2.0	FIELD ACTIVITIES	3
3.0	LABORATORY ANALYTICAL METHODS	4
4.0	DATA EVALUATION	5
5.0	SUMMARY	6
6.0	ANTICIPATED ACTIONS	7
7.0	DISTRIBUTION	8

LIST OF APPENDICES

Appendix A: Figure 1 – Topographic Map

Figure 2 – Site Map

Figure 3a – Groundwater Gradient Map (1Q2017)

Figure 3b – Groundwater Gradient Map (2Q2017)

Figure 3c – Groundwater Gradient Map (3Q2017)

Figure 3d – Groundwater Gradient Map (4Q2017)

Figure 4a – Groundwater Contaminant Concentration Map (1Q2017)

Figure 4b – Groundwater Contaminant Concentration Map (2Q2017)

Figure 4c – Groundwater Contaminant Concentration Map (3Q2017)

Figure 4d – Groundwater Contaminant Concentration Map (4Q2017)

Appendix B: Tables

Appendix C: Laboratory Data Sheets

Appendix D: Historical Data Tables

Appendix E: CD of the 2017 Annual Groundwater Monitoring Report

2017 ANNUAL GROUNDWATER MONITORING REPORT

Livingston Ridge to Hugh – P. Sims Site
Plains SRS Number 2001-11005
NE ¼ of the SE ¼ of Section 3, T21S, R37E
Lea County, New Mexico
Terracon Project Number AR187007
NMOCD File Number 1R – 0398

1.0 INTRODUCTION

1.1 Site Description

Site Name	Livingston Ridge to Hugh – P. Sims
Site Location	West of Loop 207 approximately 5 miles north-northeast of Eunice, Lea County, New Mexico.
General Site Description	Pipeline right-of-way surrounded by native pasture land, in close proximity of the former Carbon Black Plant.

Figure 1 presents the general boundaries and topography of the site on portions of the USGS topographic quadrangle map of Hobbs Southwest, New Mexico (Appendix A). Figure 2 is a site plan that indicates the approximate locations of the monitor wells in relation to the pertinent features, structures and general site boundaries (Appendix A).

1.2 Release Assessment Chronology

Below is a chronology of assessment and remedial activities to date as a result of the reported June 2001 crude oil release at the site.

- On June 22, 2001, an estimated release of 6 barrels (bbls) of crude oil was reported to the New Mexico Oil Conservation District (NMOCD). Initial excavation activities were reportedly conducted by Environmental Plus, Inc. (EPI) in an effort to stockpile saturated soils and expose the leak origin to facilitate repair of the pipeline. The pipeline excavation activities continued into July 2001. A total of approximately 148 cubic yards (cy) of hydrocarbon impacted soil were excavated at the site and transported to EPI's landfarm south of Eunice, New Mexico. A temporary groundwater monitoring well (TMW-1) was installed in the bottom of the excavation. Phase-separated hydrocarbons (PSH) were observed within the shallow groundwater bearing unit. Based on the review of provided documentation, the NMOCD and landowner were immediately notified of the release. EPI installed three groundwater monitoring wells at the site to evaluate the magnitude and extent of the release and determine the groundwater gradient;
- In August 2002, Environmental Technology Group, Inc. (ETGI), assumed control of remedial activities and installed 12 additional groundwater monitor wells at the site. These

Plains Pipeline, LP

Livingston Ridge to Hugh P. Sims ■ Lea County, New Mexico
March 27, 2018 ■ Terracon Project Number AR187007



- wells were installed to complete the delineation activities initiated by EPI. At the time of ETGI's investigation, the groundwater monitor wells had adequately delineated the hydrocarbon dissolved phase plume and PSH plume at the site;
- In 2004, Plains appointed EPI to take over the remediation and sampling activities;
 - On February 1, 2007, Terracon assumed consulting duties in association with the release. Available files for this site were given to Terracon at this time;
 - In July 2007, Terracon oversaw the installation of a polyvinyl chloride (PVC) liner on the floor of the excavation and backfilling the excavation with remediated soils from the previous land treatment area at the site in accordance with the NMOCD-approved work plan. Details of these activities can be found in *Plains' Soil Closure Compliance Report*, dated August 17, 2007; and
 - Terracon has continued to provide quarterly gauging and groundwater monitoring activities at the site through the present.

1.3 Scope of Work

Terracon's scope of work included assuming oversight of remedial activities on February 1, 2007. Oversight activities included the preparation of the 2006 through 2016 Annual Groundwater Monitoring Reports for submittal to the NMOCD on the behalf of Plains. In accordance with the approved scope of work, Terracon conducted quarterly groundwater monitoring and sampling events on February 9, 13, and 14, April 26, July 15 and 16, and November 8 and 9, 2017. Micro-purging, the use of absorbant socks, and Aggressive Fluid Recovery (AFR) methods in select monitor wells were used to recover PSH. The events were performed at the Livingston Ridge to Hugh - P. Sims site located in Lea County, New Mexico.

The objective of the quarterly sampling events was to gauge and collect groundwater samples from the on-site groundwater monitor wells MW-1 through MW-15, and TMW-1, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) on a quarterly basis. Monitoring wells exhibiting the presence of PSH were not sampled or submitted for laboratory analysis.

1.4 Standard of Care

Activities conducted prior to Terracon management of the project (beginning on February 1, 2007) 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 these 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 Pipeline, 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 Pipeline, 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 Monitor Well Gauging

Monitoring wells were gauged to determine the depth to groundwater and to evaluate the presence of PSH. Based on the gauging data, no measurable thicknesses of PSH were present in the on-site monitor wells during 2017 except for temporary monitor well TMW-1. Based on the gauging data, measurable thicknesses of PSH were present in temporary monitor well TMW-1 (ranging in thickness from 1.74 to 3.56 feet) during the 2017.

Groundwater elevation gauging data collected during the respective quarterly sampling events were used to construct groundwater gradient maps that are included as Figures 3 through 6 (Appendix A). Groundwater flow direction was relatively consistent during the 2017 reporting period in the southeasterly direction. Groundwater gradient maps for each quarter are included as Figures 3 through 6 (Appendix A). Monitor well MW-3 has been dry (containing no fluids) since October 2014. Water level measurement data is summarized in Table 1 in Appendix B.

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Livingston Ridge to Hugh P. Sims ■ Lea County, New Mexico
March 27, 2018 ■ Terracon Project Number AR187007



2.1 PSH Recovery

In an attempt to enhance remediation of the plume at the site, Terracon performed two aggressive fluid recovery (AFR) events on monitor well TMW-1 in 2017. The AFR events resulted in recovering approximately 20 gallons (0.5 bbls) of PSH, and approximately 672 gallons (16 bbls) of total fluids. Groundwater and PSH gauging data are included in Appendix B, as Table 1, and AFR event data collection information is included as Table 3 (Appendix B).

2.2 Groundwater Sampling

Quarterly monitoring and sampling events were performed February 9, 13, and 14, April 26, July 15 and 16, and November 8 and 9, 2017, by Terracon.

Groundwater samples were collected and analyzed from each of the groundwater monitor wells with the exception of monitoring wells exhibiting PSH or were dry in accordance with the NMOCD-approved groundwater sampling plan. Prior to sample collection, each of these monitor wells were micro-purged until consistent values (i.e., less than 10% variance between consecutive readings) were obtained for pH, temperature and conductivity. Following purging, a groundwater sample was collected directly from dedicated polyethylene tubing attached to the downhole pump.

Groundwater samples were 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 on a standard turnaround. The groundwater samples collected from the on-site monitor wells were analyzed for BTEX using EPA SW-846 Method 8021B in each of the four quarters of 2016.

Groundwater generated onsite during the sampling events was collected in the on-site recovery tank. Purged fluids from the sampling events and the two AFR events were transported and disposed of at an NMOCD-permitted facility.

3.0 LABORATORY ANALYTICAL METHODS

The groundwater samples collected from the 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 Tables 3 and 4 in Appendix B and presented as Figures 4a through 4d 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

Terracon compared the reported groundwater concentrations to the New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards. Based on historical data, PAH sampling was not required for any of the onsite monitoring wells.

1st Quarter 2017

The 1st Quarter 2017 Groundwater Sampling Event was conducted on February 9, 13 and 14, 2017. The first quarter analytical results are summarized below:

- Groundwater was not collected from monitor well MW-3, as the well was dry;
- Groundwater was not collected from monitor well TMW-1 due to measured PSH thickness of 3.15 feet; and
- BTEX constituents were not detected at concentrations above applicable NMWQCC groundwater standards in the groundwater samples collected from any of the remaining onsite groundwater monitoring wells during the 1st Quarter 2017 Groundwater Sampling Event.

2nd Quarter 2017

The 2nd Quarter 2017 Groundwater Sampling Event was conducted on April 26, 2017. The second quarter results are summarized below:

- Groundwater was not collected from monitor well MW-3, as the well was dry;
- Groundwater was not collected from monitor well TMW-1 due to measured PSH thickness of 3.56 feet; and
- BTEX constituents were not detected at concentrations above applicable NMWQCC groundwater standards in the groundwater samples collected from any of the remaining onsite groundwater monitoring wells during the 2nd Quarter 2017 Groundwater Sampling Event.

3rd Quarter 2017

The 3rd Quarter 2017 Groundwater Sampling Event was conducted on July 15 and 16, 2017. The third quarter results are summarized below:

- Groundwater was not collected from monitor well MW-3, as the well was dry;
- Groundwater was not collected from monitor wells TMW-1 due to measured PSH thickness of 2.94 feet; and

Plains Pipeline, LP

Livingston Ridge to Hugh P. Sims ■ Lea County, New Mexico

March 27, 2018 ■ Terracon Project Number AR187007

- BTEX constituents were not detected at concentrations above applicable NMWQCC groundwater standards in the groundwater samples collected from any of the remaining onsite groundwater monitoring wells during the 3rd Quarter 2017 Groundwater Sampling Event, with the exception of monitor well MW-5. Laboratory analytical results indicated that the benzene concentration in MW-5 was 0.0146 mg/L, exceeding NMOCD regulatory standards.

4th Quarter 2017

The 4th Quarter 2017 Groundwater Sampling Event was conducted on November 8 and 9, 2017. The fourth quarter results are summarized below:

- Groundwater was not collected from monitor well MW-3, as the well was dry;
- Groundwater was not collected from monitor well TMW-1 due to measured PSH thickness of 2.94 feet;
- BTEX constituents were not detected at concentrations above applicable NMWQCC groundwater standards in the groundwater samples collected from any of the remaining onsite groundwater monitoring wells during the 4th Quarter 2017 Groundwater Sampling Event.

5.0 SUMMARY

The findings of the 2017 Quarterly Groundwater Monitoring activities are as follows:

- Groundwater was not collected from monitor well MW-3 in 2017, as the well was dry;
- Measurable thicknesses of PSH were observed in monitor well TMW-1 ranging in thicknesses from 1.74 to 3.75 ft. Two AFR events conducted in 2017 on TMW-1 resulted in recovering approximately 20 gallons of PSH, and approximately of 16 bbls total fluids. An additional 1.85 bbls of PSH and approximately 12 bbls of total fluids were recovered through manual recovery, absorbant socks, and micro-purging.
- Groundwater samples collected from monitor wells MW-1, MW-2, MW-4 and MW-6 through MW-15 did not exhibit BTEX concentrations exceeding the NMWQCC groundwater standards in 2017;
- Benzene concentrations in the 3rd Quarter sample from monitor well MW-5 exceeded the NMWQCC groundwater standard; and
- The extent of the PSH plume and the hydrocarbon dissolved phase plume exceeding the NMWQCC groundwater standards has been defined. Detected concentrations of BTEX have demonstrated a decreasing trend since groundwater sampling activities were initiated.

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Livingston Ridge to Hugh P. Sims ■ Lea County, New Mexico
March 27, 2018 ■ Terracon Project Number AR187007



6.0 ANTICIPATED ACTIONS

Based upon the results of this report and approval from the NMOCD, Terracon recommends the following:

- Upon landowner approval and completion of permitting, Plains will proceed with the NMOCD-approved plugging and abandonment activities of monitor wells MW-3 and TMW-1, and redrilling of monitor well TMW-1 as a four-inch recovery well to enhance recovery at the site;
- Quarterly groundwater sampling of monitor wells MW-1 through MW-15
- Submit an annual report to the NMOCD detailing the 2018 site activities.

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March 27, 2018 ■ Terracon Project Number AR187007



7.0 DISTRIBUTION

Copy 1: Bradford Billings, Hydrologist
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Santa Fe, New Mexico 87505

Copy 2: Ms. Oliva Yu
New Mexico Oil Conservation Division
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Terracon Consultants, Inc.
5827 50th Street, Suite 1
Lubbock, Texas 79424
kris.williams@terracon.com

APPENDIX A

Figure 1 – Topographic Map

Figure 2 – Site Map

Figure 3a – Groundwater Gradient Map (1Q2017)

Figure 3b – Groundwater Gradient Map (2Q2017)

Figure 3c – Groundwater Gradient Map (3Q2017)

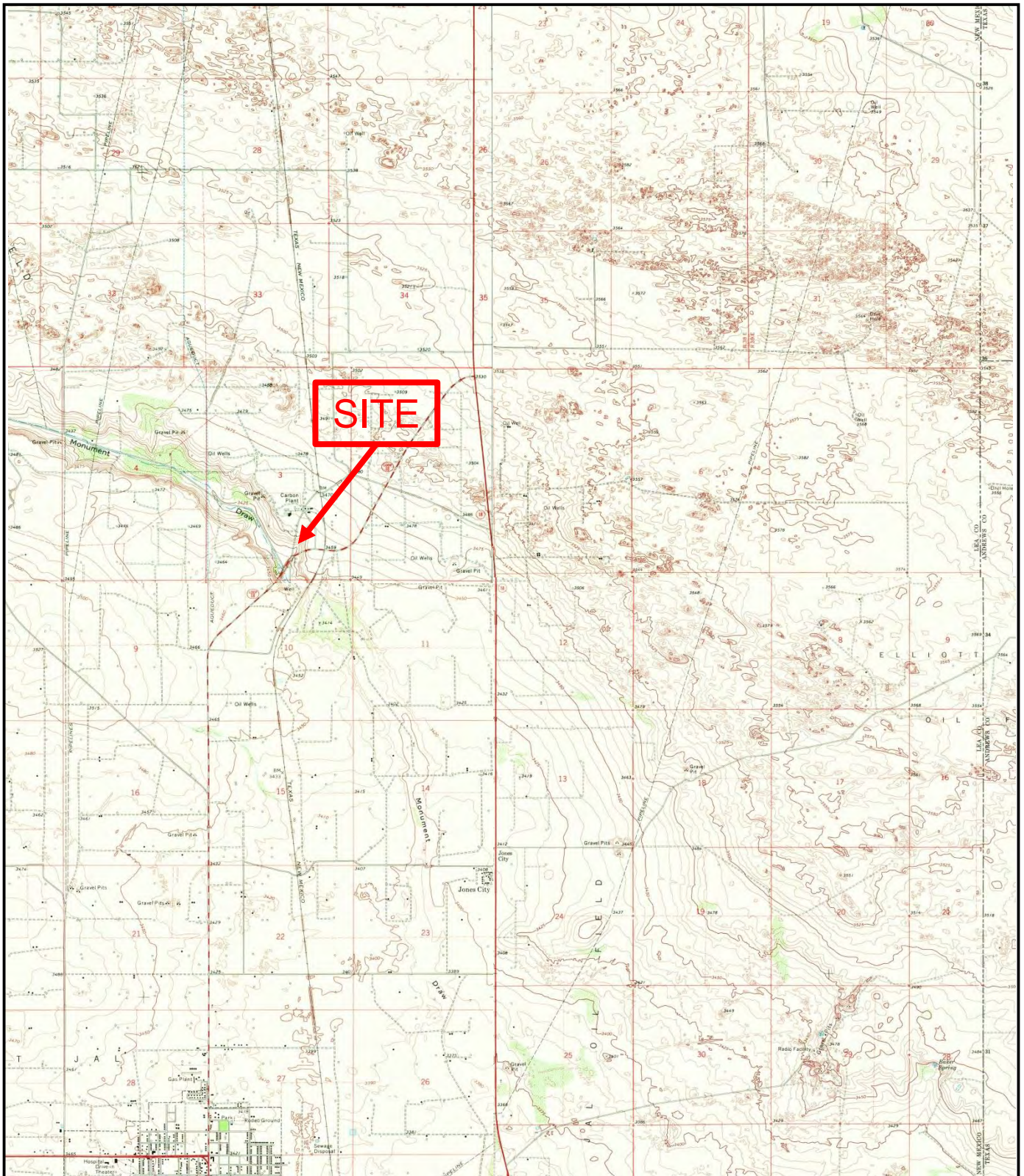
Figure 3d – Groundwater Gradient Map (4Q2017)

Figure 4a – Groundwater Contaminant Concentration Map (1Q2017)

Figure 4b – Groundwater Contaminant Concentration Map (2Q2017)

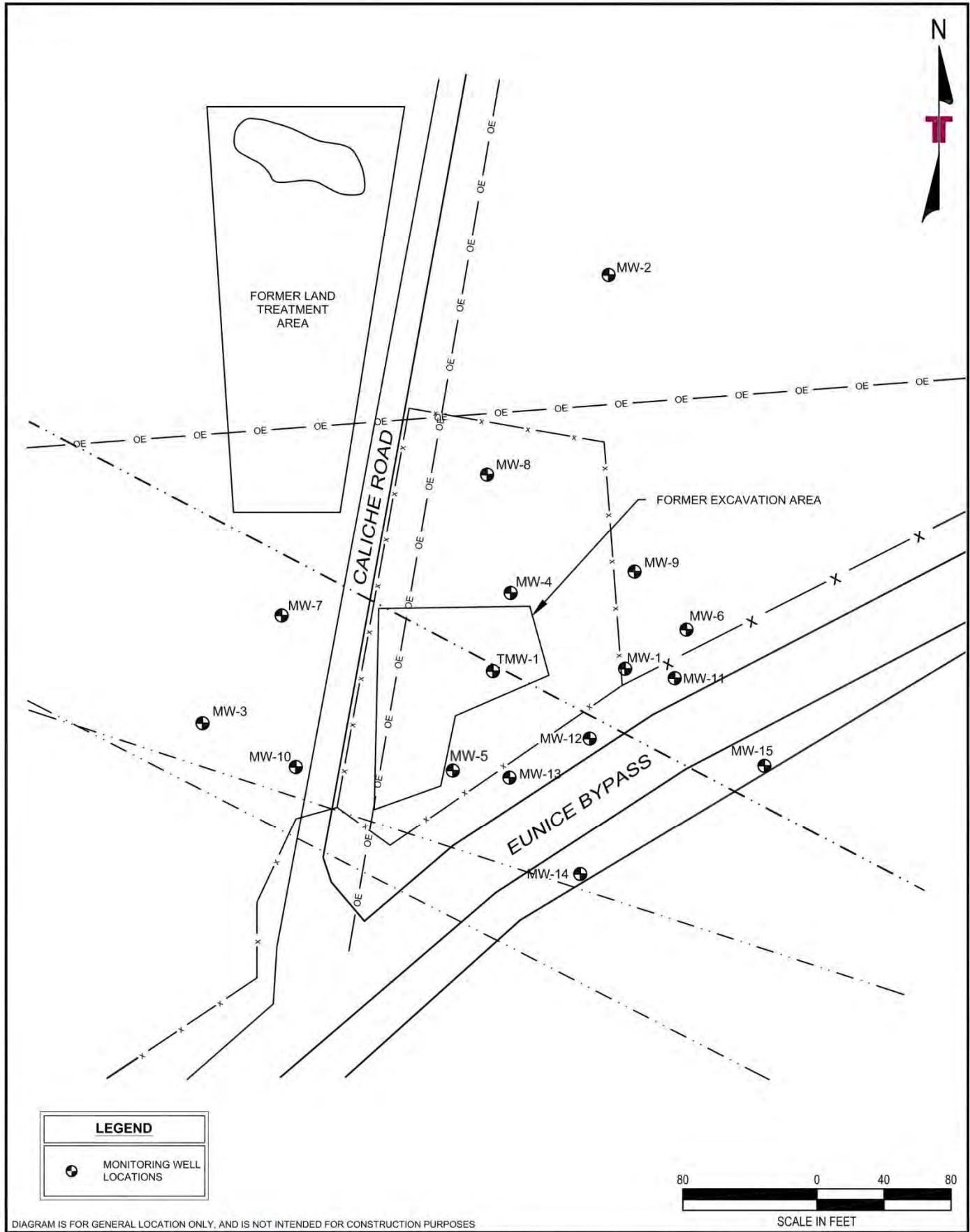
Figure 4c – Groundwater Contaminant Concentration Map (3Q2017)

Figure 4d – Groundwater Contaminant Concentration Map (4Q2017)



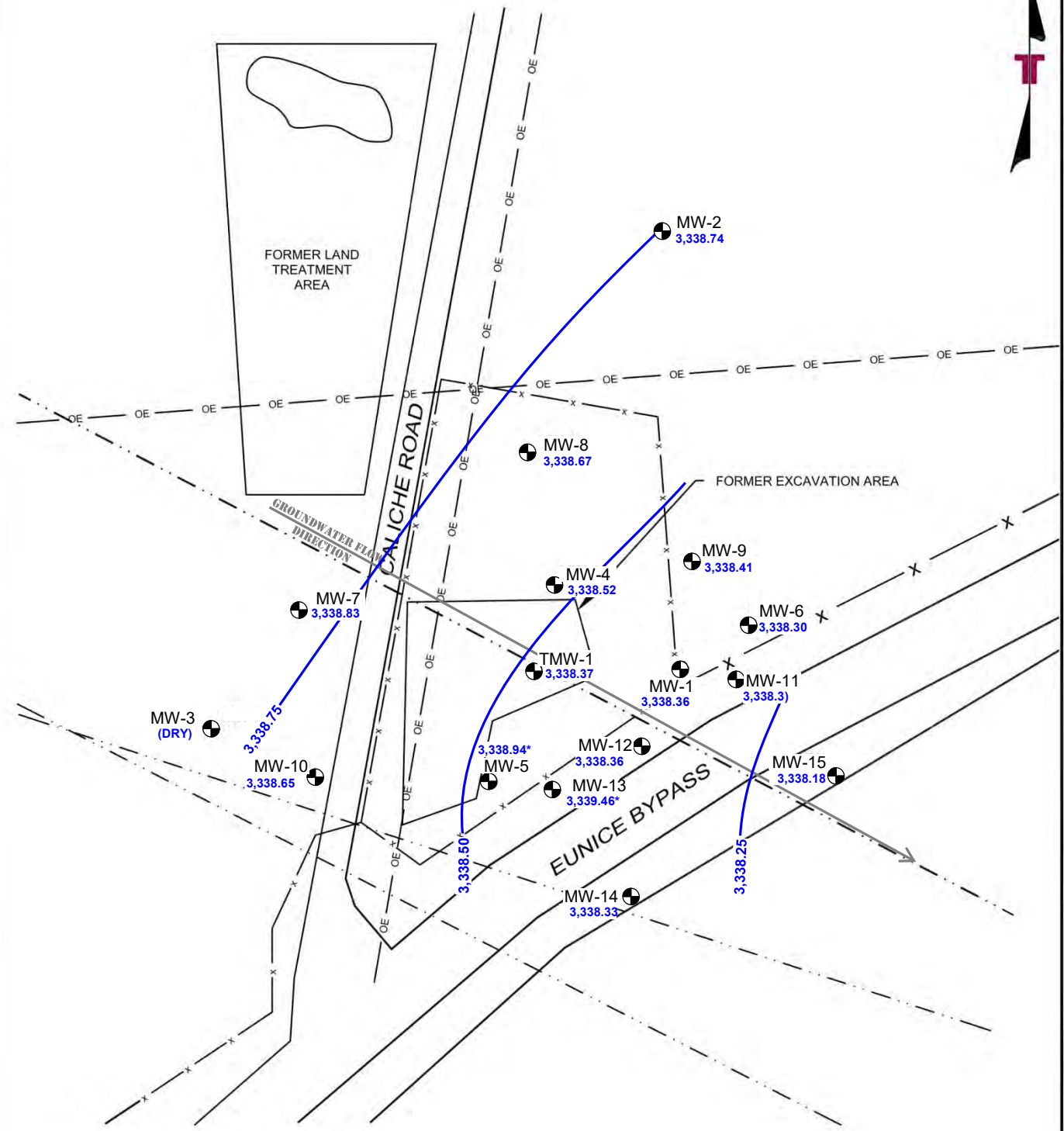
USGS 7.5 MINUTE SERIES TOPOGRAPHIC MAP
STATE OF TX QUADRANGLES

Project No. AR187007 Scale 1"=2000' Date 1969 Quad Hobbs SW, NM	 5827 50th Street, Suite 1 Lubbock, TX 79424 PH. (806) 300-0140 FAX. (806) 797-0947	Topographic Map Livingston Ridge – P. Sims NE ¼ of SE ¼, Sec. 3, T21S, R37E Eunice, Lea County, New Mexico	Figure 1
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DWG. No. A4137008 base map

Project Mng: KW	Project No. AR187007	Terracon Consulting Engineers & Scientists 5827 50th Street, Suite 1 Lubbock, Texas 79424 PH: (806) 300-0140 FAX: (806) 797-0947	Site Map		Figure	
Drawn By: ACS	Scale: 1"=100'		Plains Pipeline, LP			2
Checked By: DH	File Name: Base Map		Livingston Ridge to Hugh P. Sims			
Approved By: EL	Date: 07/21/2017		Lea County, New Mexico			
SRS# 2001-11005, NMOCD File # 1R-0398						



LEGEND	
MONITORING WELL LOCATIONS	2733.06 GROUNDWATER ELEVATION (FT)
GROUNDWATER CONTOUR LINES	* DATA POINT NOT USED TO CONTOUR

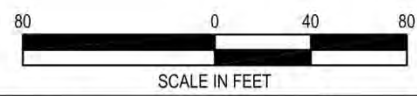
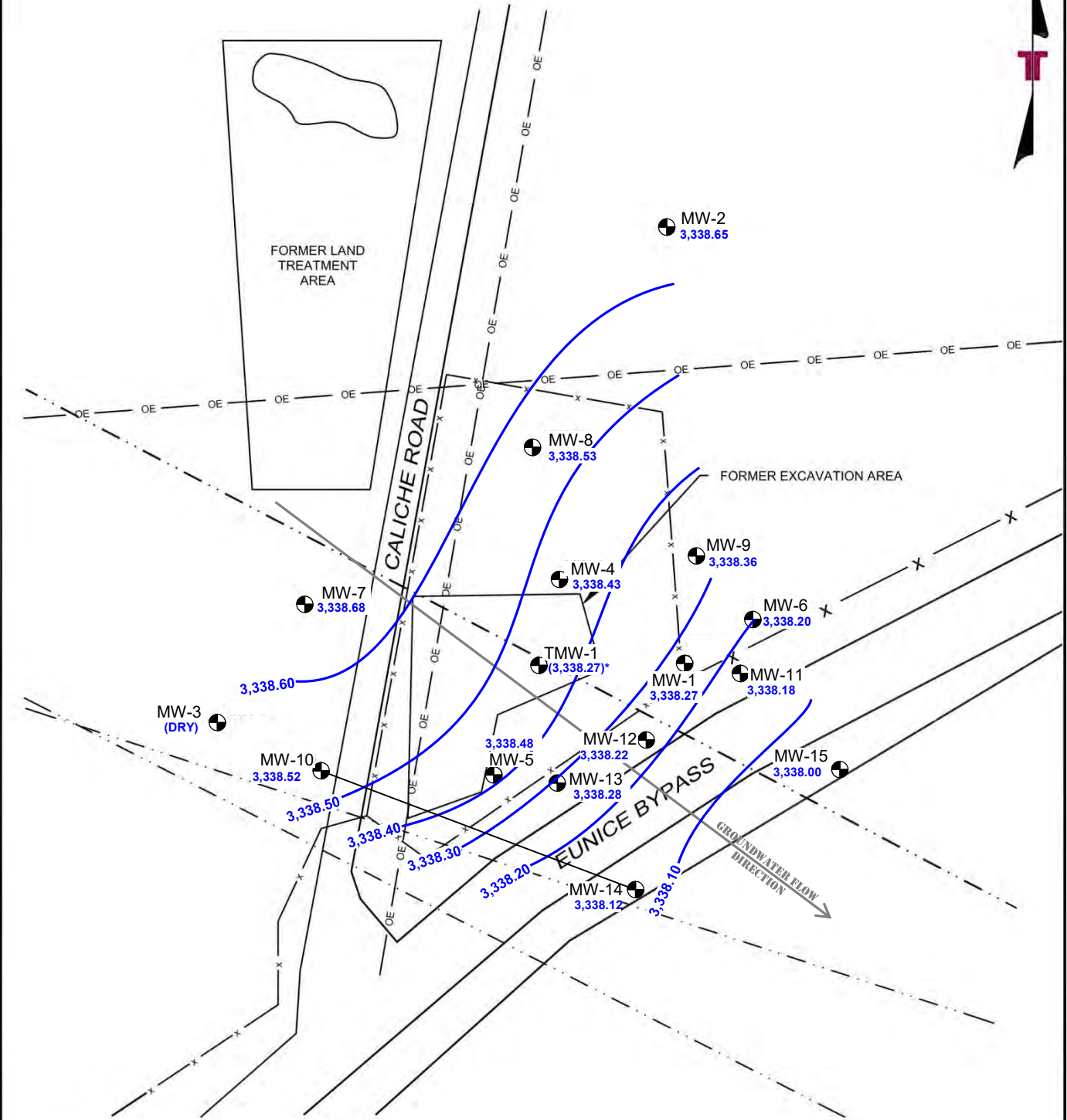


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

DWG. No. A4137008 base map

Project Mng: KW	Project No.AR187007	 Consulting Engineers & Scientists 5827 50th Street, Suite 1 Lubbock, Texas 79424 PH. (806) 300-0140 FAX. (806) 797-0947	Groundwater Gradient Map (1Q2017)	Figure
Drawn By: ACS	Scale: 1"=100'		Plains Pipeline, LP Livingston Ridge to Hugh P. Sims Lea County, New Mexico	3a
Checked By: DH	File Name: 1Q GWGM		SRS# 2001-11005, NMOCD File # 1R-0398	
Approved By: EL	Date: 04/13/2017			



LEGEND		
	MONITORING WELL LOCATIONS	2733.06
	GROUNDWATER CONTOUR LINES	GROUNDWATER ELEVATION (FT)
		* DATA POINT NOT USED TO CONTOUR

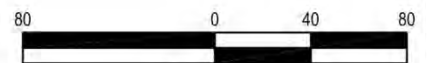
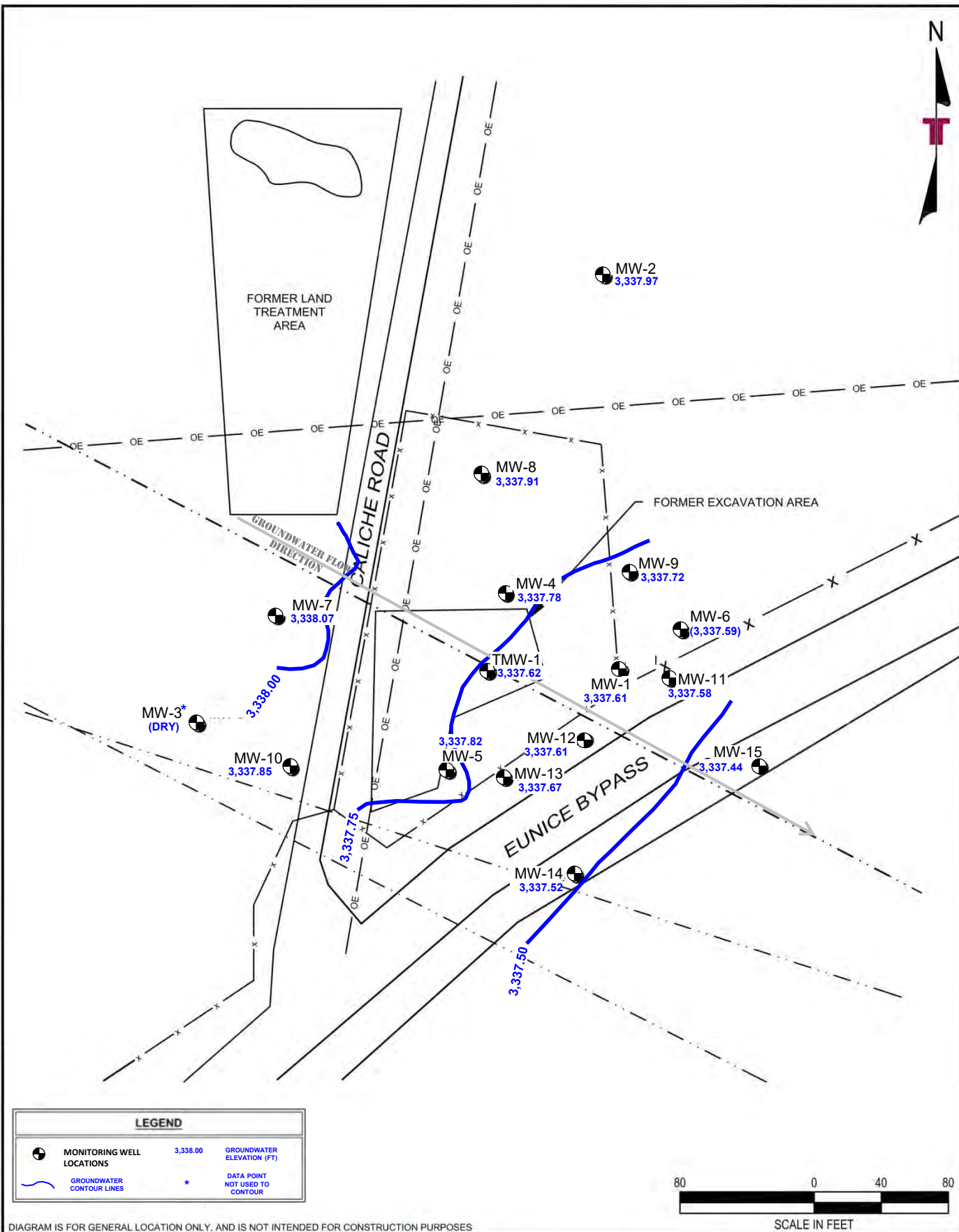


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SCALE IN FEET

DWG. No. A4137008 base map

Project Mng: KW	Project No. AR187007	 Consulting Engineers & Scientists 5827 50th Street, Suite 1 Lubbock, Texas 79424 PH. (806) 300-0140 FAX. (806) 797-0947	Groundwater Gradient Map (2Q2017)	Figure 3b
Drawn By: ACS	Scale: 1"=100'		Plains Pipeline, LP Livingston Ridge to Hugh P. Sims Lea County, New Mexico	
Checked By: DH	File Name: 2Q GWGM		SRS# 2001-11005, NMOCD File # 1R-0398	
Approved By: EL	Date: 05/25/2017			



DWG. No. A4137008 base map

Project Mng: KW	Project No. AR187007
Drawn By: ACS	Scale: 1"=100'
Checked By: RKC	File Name: 3Q GWGM
Approved By: EL	Date: 10/11/2017

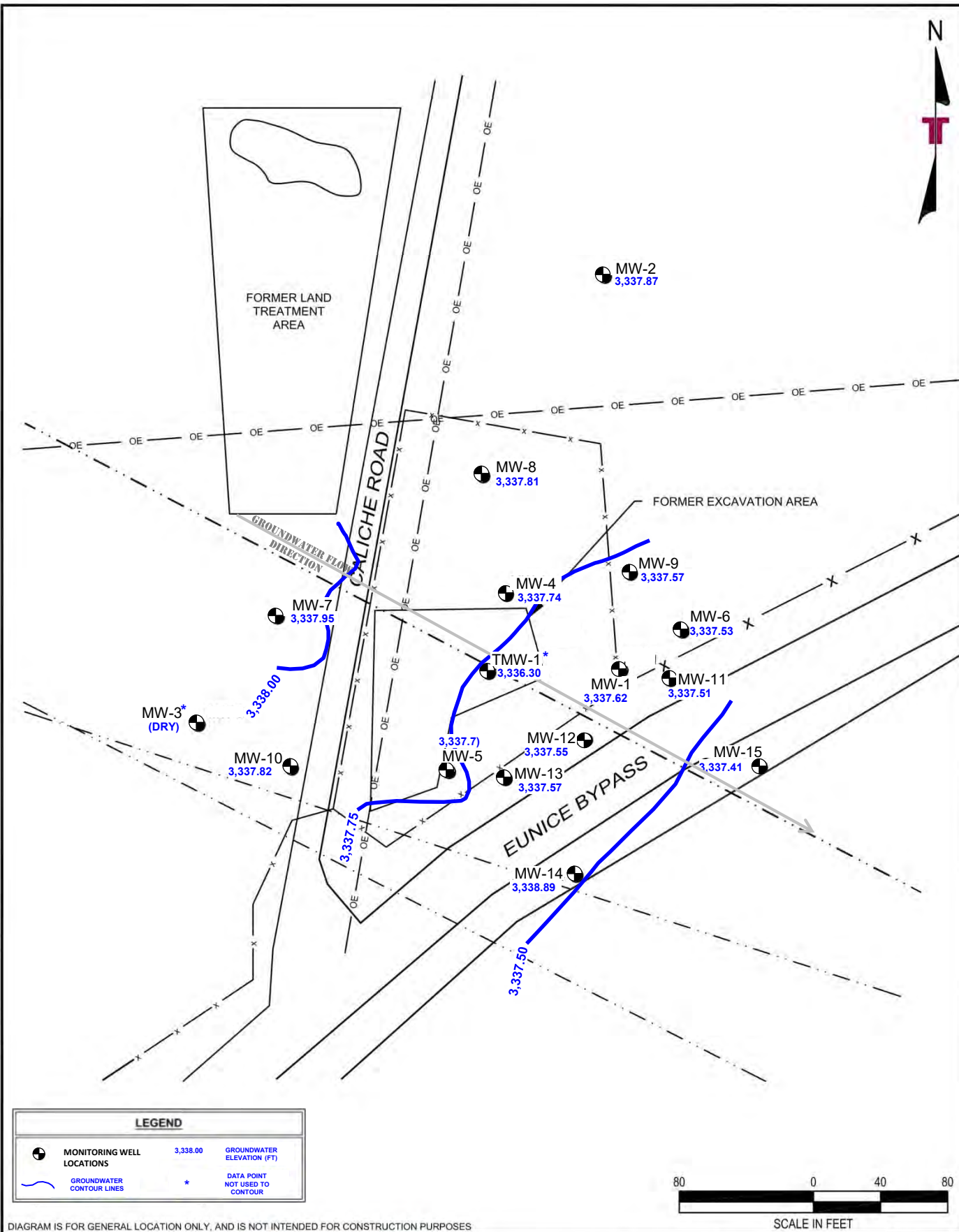
Terracon
Consulting Engineers & Scientists

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Lubbock, Texas 79424
FAX. (806) 797-0197

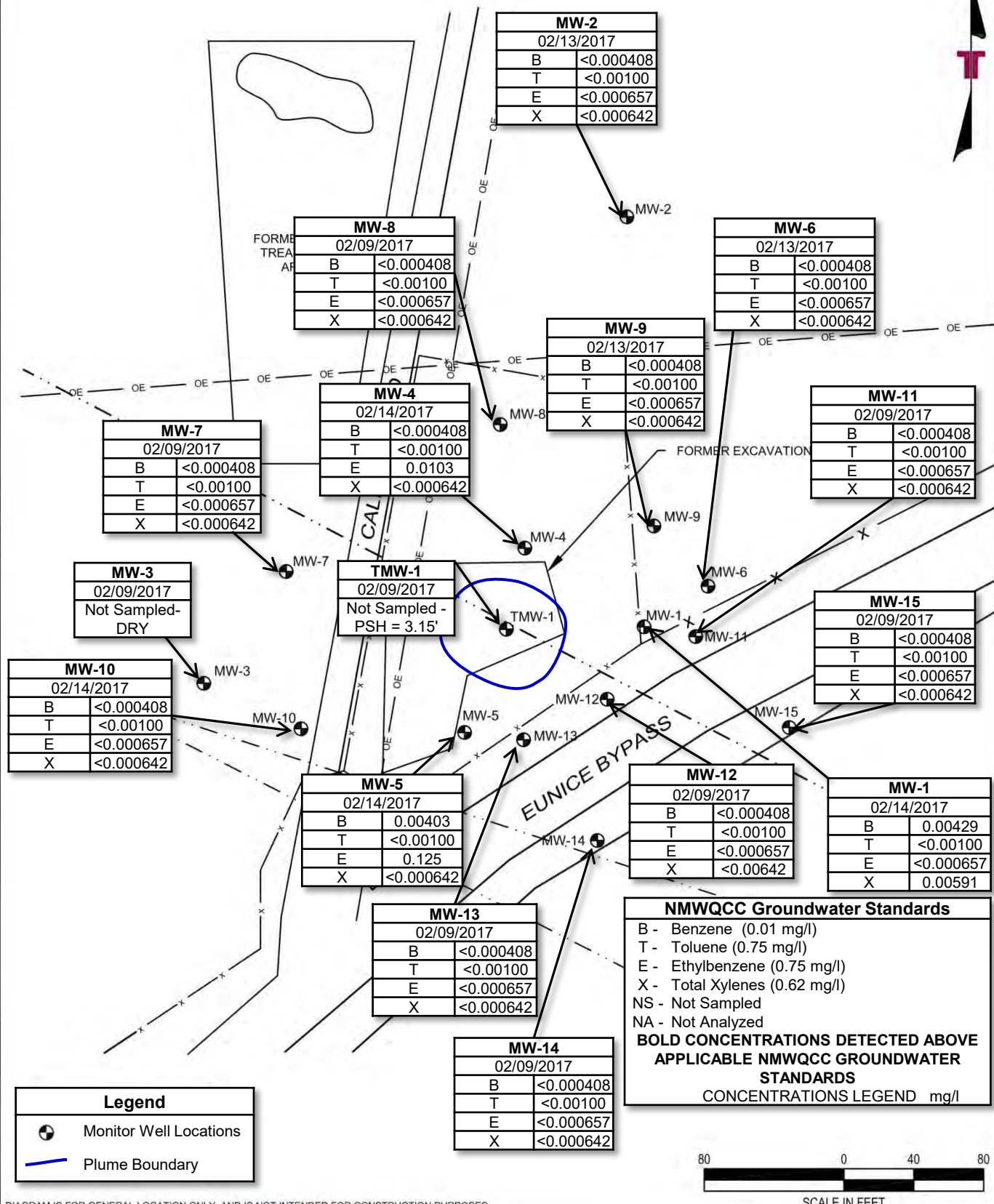
Groundwater Gradient Map (07/15/2017)
Plains Pipeline, LP Livingston Ridge to Hugh P. Sims Lea County, New Mexico SRS# 2001-11005, NMOCDF File # 1R-0398

Figure
3c



DWG. No. A4137008 base map

Project Mng: KW	Project No. AR187007	 Consulting Engineers & Scientists 5827 50th Street, Suite 1Lubbock, Texas 79424 PH. (806) 300-0140FAX. (806) 797-0197	Groundwater Gradient Map (11/08/2017)	Figure 3d
Drawn By: ACS	Scale: 1"=100'		Plains Pipeline, LP Livingston Ridge to Hugh P. Sims Lea County, New Mexico	
Checked By: RKC	File Name: 3Q GWGM		SRS# 2001-11005, NMOCD File # 1R-0398	
Approved By: EL	Date: 10/11/2017			



Project Mng: KW	Project No. AR187007
Drawn By: ACS	Scale: 1"=100'
Checked By: DH	File Name: 1Q GWCCM
Approved By: EL	Date: 03/24/2017

Terracon
Consulting Engineers & Scientists

5827 50th Street, Suite 1 Lubbock, Texas 79424
PH: (806) 300-0140 (806) 797-0947

Groundwater Contaminant Concentration Map (1Q2017)

Plains Pipeline, LP
Livingston Ridge to Hugh P. Sims
Lea County, New Mexico
SRS# 2001-11005, NMOCF File # 1R-0398

Figure

4a

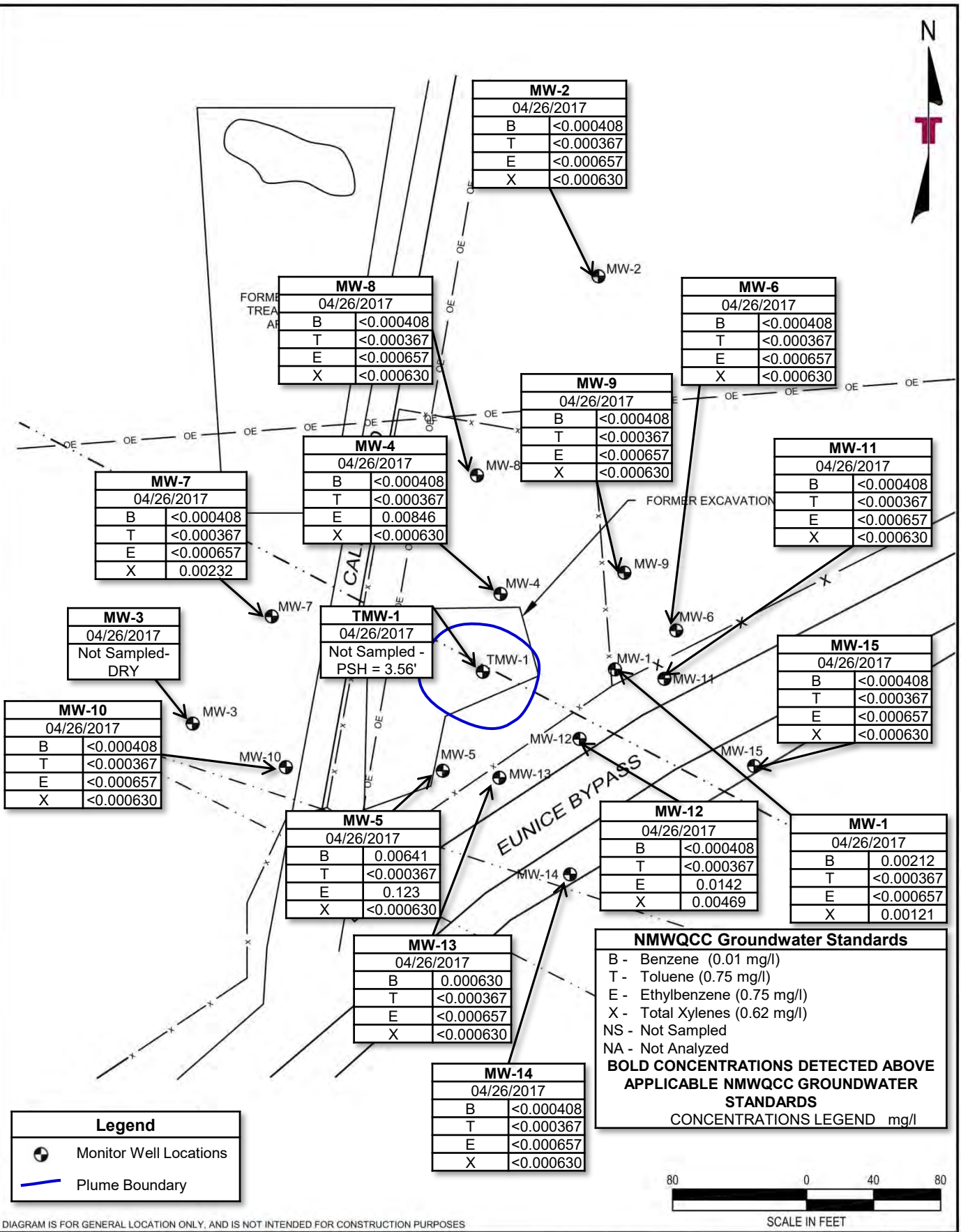


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Plains Pipeline, LP
Livingston Ridge to Hugh P. Sims
Lea County, New Mexico
SRS# 2001-11005. NMOCD File # 1R-0398

4b

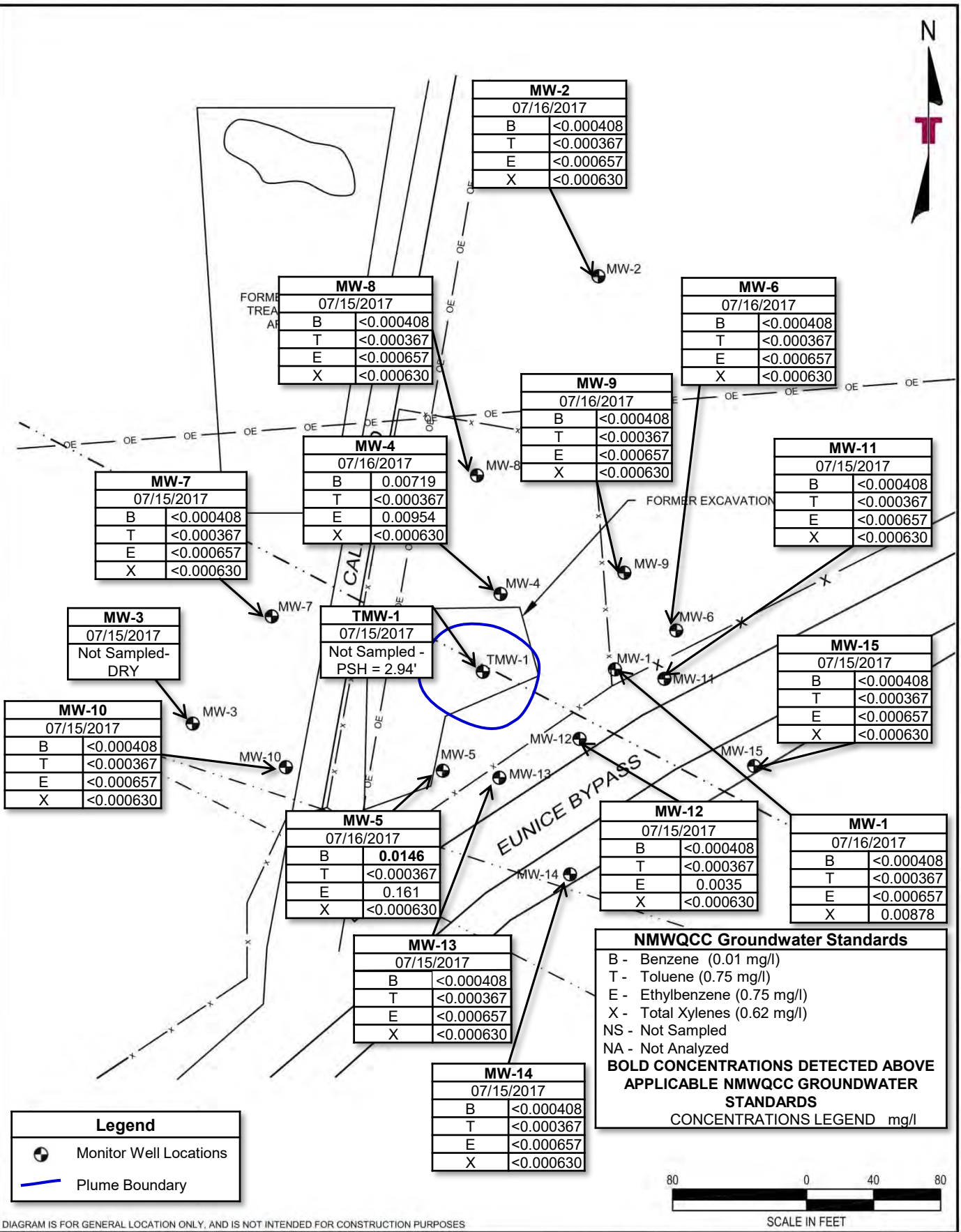


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Plains Pipeline, LP
Livingston Ridge to Hugh P. Sims
Lea County, New Mexico
SRS# 2001-11005. NMOCD File # 1R-0398

4c

N

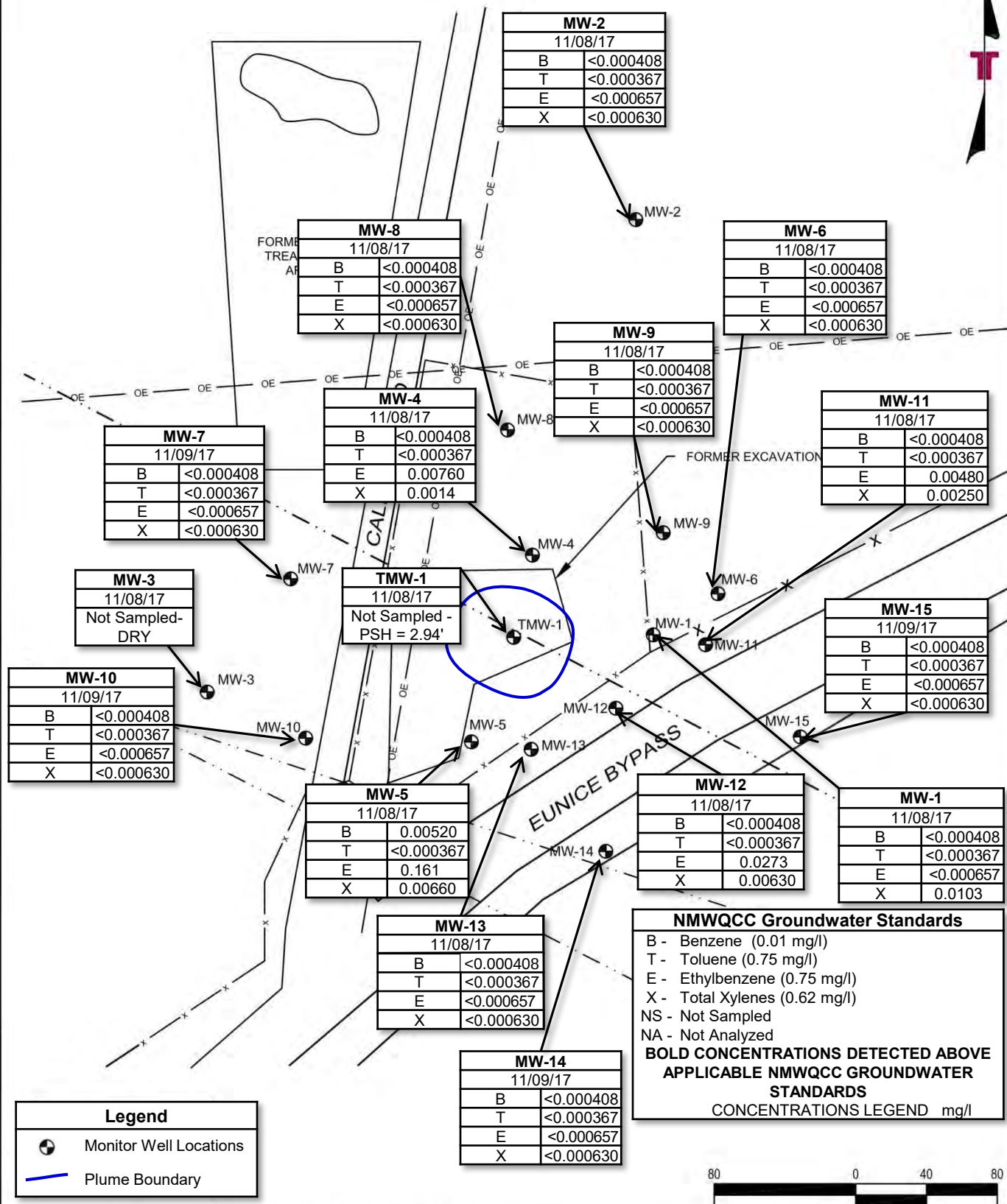


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SCALE IN FEET

DWG. No. A4137008 base map

Project Mng: KW	Project No. AR187007	 5827 50 th Street, Suite 1 Lubbock, Texas 79424 PH. (806) 300-0140 FAX. (806) 797-0947	Groundwater Contaminant Concentration Map (07/16/2017)	Figure
Drawn By: ACS	Scale: 1"=100'		Plains Pipeline, LP Livingston Ridge to Hugh P. Sims Lea County, New Mexico	4d
Checked By: RKC	File Name: 3Q GWCCM		SRS# 2001-11005, NMOCD File # 1R-0398	
Approved By: EL	Date: 10/10/2017			

APPENDIX B

Tables

TABLE 1

GROUNDWATER ELEVATION DATA
 PLAINS ALL AMERICAN PIPELINE, LP
 LIVINGSTON RIDGE - HP SIMS
 LEA COUNTY, NEW MEXICO
 PLAINS SRS #: 2001-11005
 NMOCD REFERENCE #: 1R-0398
 TERRACON PROJECT #: AR187007

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-1	01/20/2016	3,374.23	0.00	37.21	0.00	3,337.02
	04/26/2016	3,374.23	0.00	37.20	0.00	3,337.03
	07/23/2016	3,374.23	0.00	37.87	0.00	3,336.36
	10/06/2016	3,374.23	35.72	35.73	0.01	3,338.51
	02/09/2017	3,374.23	0.00	35.87	0.00	3,338.36
	04/26/2017	3,374.23	0.00	35.96	0.00	3,338.27
	07/15/2017	3,374.23	0.00	36.62	0.00	3,337.61
	11/08/2017	3,374.23	0.00	36.61	0.00	3,337.62
MW-2	01/20/2016	3,378.27	0.00	40.95	0.00	3,337.32
	04/26/2016	3,378.27	0.00	40.92	0.00	3,337.35
	07/23/2016	3,378.27	0.00	41.60	0.00	3,336.67
	10/06/2016	3,378.27	0.00	39.95	0.00	3,338.32
	02/09/2017	3,378.27	0.00	39.53	0.00	3,338.74
	04/26/2017	3,378.27	0.00	39.62	0.00	3,338.65
	07/15/2017	3,378.27	0.00	40.30	0.00	3,337.97
	11/08/2017	3,378.27	0.00	40.40	0.00	3,337.87
MW-3	01/20/2016	3,367.36	Dry			
	04/26/2016	3,367.36				
	07/23/2016	3,367.36				
	10/06/2016	3,367.36				
	02/09/2017	3,367.36				
	04/26/2017	3,367.36				
	07/15/2017	3,367.36				
	11/08/2017	3,367.36				
MW-4	01/20/2016	3,372.73	35.56	35.57	0.01	3,337.17
	04/26/2016	3,372.73	0.00	35.55	0.00	3,337.18
	07/23/2016	3,372.73	36.24	36.25	0.01	3,336.49
	10/06/2016	3,372.73	0.00	34.02	0.00	3,338.71
	02/09/2017	3,372.73	0.00	34.21	0.00	3,338.52
	04/26/2017	3,372.73	0.00	34.30	0.00	3,338.43
	07/15/2017	3,372.73	0.00	34.95	0.00	3,337.78
	11/08/2017	3,372.73	0.00	34.99	0.00	3,337.74
MW-5	01/20/2016	3,370.92	0.00	33.70	0.00	3,337.22
	04/26/2016	3,370.92	0.00	33.65	0.00	3,337.27
	07/23/2016	3,370.92	0.00	34.38	0.00	3,336.54
	10/06/2016	3,370.92	0.00	31.08	0.00	3,339.84
	10/20/2016	3,370.92	0.00	32.05	0.00	3,338.87
	02/09/2017	3,370.92	0.00	31.96	0.00	3,338.94
	04/26/2017	3,370.92	0.00	32.44	0.00	3,338.48
	07/15/2017	3,370.92	0.00	33.10	0.00	3,337.82
MW-6	11/08/2017	3,370.92	0.00	33.13	0.00	3,337.79
	01/20/2016	3,377.02	0.00	40.04	0.00	3,336.98
	04/26/2016	3,377.02	0.00	40.03	0.00	3,336.99
	07/23/2016	3,377.02	0.00	40.70	0.00	3,336.32
	10/06/2016	3,377.02	0.00	38.64	0.00	3,338.38
	02/09/2017	3,377.02	0.00	38.72	0.00	3,338.30
	04/26/2017	3,377.02	0.00	38.82	0.00	3,338.20
	07/15/2017	3,377.02	0.00	39.43	0.00	3,337.59
MW-7	11/08/2017	3,377.02	0.00	39.49	0.00	3,337.53
	01/20/2016	3,369.47	0.00	32.12	0.00	3,337.35
	04/26/2016	3,369.47	0.00	32.04	0.00	3,337.43
	07/23/2016	3,369.47	0.00	32.80	0.00	3,336.67
	10/06/2016	3,369.47	0.00	30.21	0.00	3,339.26
	02/09/2017	3,369.47	0.00	30.64	0.00	3,338.83
	04/26/2017	3,369.47	0.00	30.79	0.00	3,338.68
	07/15/2017	3,369.47	0.00	31.40	0.00	3,338.07
MW-8	11/09/2017	3,369.47	0.00	31.52	0.00	3,337.95
	01/20/2016	3,373.77	0.00	36.52	0.00	3,337.25
	04/26/2016	3,373.77	0.00	36.47	0.00	3,337.30
	07/23/2016	3,373.77	0.00	37.17	0.00	3,336.60
	10/06/2016	3,373.77	0.00	35.03	0.00	3,338.74
	02/09/2016	3,373.77	0.00	35.10	0.00	3,338.67
	04/26/2017	3,373.77	0.00	35.24	0.00	3,338.53
	07/15/2017	3,373.77	1.00	35.86	0.00	3,337.91
MW-9	11/08/2017	3,373.77	1.00	35.96	0.00	3,337.81
	01/20/2016	3,375.92	0.00	38.87	0.00	3,337.05
	04/26/2016	3,375.92	0.00	38.85	0.00	3,337.07
	07/23/2016	3,375.92	0.00	39.53	0.00	3,336.39
	10/06/2016	3,375.92	0.00	37.47	0.00	3,338.45
	02/13/2017	3,375.92	0.00	37.51	0.00	3,338.41
	04/26/2017	3,375.92	0.00	37.56	0.00	3,338.36
MW-9	07/15/2017	3,375.92	0.00	38.20	0.00	3,337.72

TABLE 1

GROUNDWATER ELEVATION DATA
 PLAINS ALL AMERICAN PIPELINE, LP
 LIVINGSTON RIDGE - HP SIMS
 LEA COUNTY, NEW MEXICO
 PLAINS SRS #: 2001-11005
 NMOCD REFERENCE #: 1R-0398
 TERRACON PROJECT #: AR187007

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
	11/08/2017	3,375.92	0.00	38.35	0.00	3,337.57
MW-10	01/21/2016	3,370.17	0.00	32.96	0.00	3,337.21
	04/26/2016	3,370.17	0.00	32.89	0.00	3,337.28
	07/23/2016	3,370.17	0.00	33.66	0.00	3,336.51
	10/06/2017	3,370.17	0.00	30.89	0.00	3,339.28
	02/09/2017	3,370.17	0.00	31.52	0.00	3,338.65
	04/26/2017	3,370.17	0.00	31.65	0.00	3,338.52
	07/15/2017	3,370.17	0.00	32.32	0.00	3,337.85
	11/09/2017	3,370.17	0.00	32.35	0.00	3,337.82
MW-11	01/20/2016	3,373.96	0.00	37.10	0.00	3,336.86
	04/26/2016	3,373.96	0.00	36.99	0.00	3,336.97
	07/23/2016	3,373.96	0.00	37.65	0.00	3,336.31
	10/06/2016	3,373.96	0.00	35.58	0.00	3,338.38
	02/09/2016	3,373.96	0.00	35.65	0.00	3,338.31
	04/26/2017	3,373.96	0.00	35.78	0.00	3,338.18
	07/15/2017	3,373.96	0.00	36.38	0.00	3,337.58
	11/08/2017	3,373.96	0.00	36.45	0.00	3,337.51
MW-12	01/20/2016	3,372.41	0.00	35.50	0.00	3,336.91
	04/26/2016	3,372.41	0.00	35.38	0.00	3,337.03
	07/23/2016	3,372.41	0.00	36.07	0.00	3,336.34
	10/06/2016	3,372.41	0.00	33.81	0.00	3,338.60
	02/09/2016	3,372.41	0.00	34.05	0.00	3,338.36
	04/26/2017	3,372.41	0.00	34.19	0.00	3,338.22
	07/15/2017	3,372.41	0.00	34.80	0.00	3,337.61
	11/08/2017	3,372.41	0.00	34.86	0.00	3,337.55
MW-13	01/20/2016	3,368.91	0.00	31.95	0.00	3,336.96
	04/26/2016	3,368.91	0.00	31.85	0.00	3,337.06
	07/23/2016	3,368.91	0.00	32.54	0.00	3,336.37
	10/06/2016	3,368.91	0.00	30.14	0.00	3,338.77
	02/09/2016	3,368.91	0.00	29.45	0.00	3,339.46
	04/26/2017	3,368.91	0.00	30.63	0.00	3,338.28
	07/15/2017	3,368.91	0.00	31.24	0.00	3,337.67
	11/08/2017	3,368.91	0.00	31.34	0.00	3,337.57
MW-14	01/20/2016	3,371.54	0.00	34.68	0.00	3,336.86
	04/26/2016	3,371.54	0.00	34.58	0.00	3,336.96
	07/23/2016	3,371.54	0.00	35.29	0.00	3,336.25
	10/06/2016	3,371.54	0.00	32.93	0.00	3,338.61
	02/09/2016	3,371.54	0.00	33.21	0.00	3,338.33
	04/26/2017	3,371.54	0.00	33.42	0.00	3,338.12
	07/15/2017	3,371.54	0.00	34.02	0.00	3,337.52
	11/09/2017	3,371.54	0.00	32.65	0.00	3,338.89
MW-15	01/20/2016	3,377.64	0.00	40.87	0.00	3,336.77
	04/26/2016	3,377.64	0.00	40.80	0.00	3,336.84
	07/23/2016	3,377.64	0.00	41.45	0.00	3,336.19
	10/06/2016	3,377.64	0.00	39.42	0.00	3,338.22
	02/09/2016	3,377.64	0.00	39.46	0.00	3,338.18
	04/26/2017	3,377.64	0.00	39.64	0.00	3,338.00
	07/15/2017	3,377.64	0.00	40.20	0.00	3,337.44
	11/09/2017	3,377.64	0.00	40.23	0.00	3,337.41
TMW-1	01/20/2016	3,372.24	34.73	38.40	3.67	3,336.96
	04/26/2016	3,372.24	34.65	38.44	3.79	3,337.02
	07/23/2016	3,372.24	35.60	37.34	1.74	3,336.38
	10/06/2016	3,372.24	33.21	35.53	2.32	3,338.68
	02/09/2016	3,372.24	33.40	36.55	3.15	3,338.37
	04/26/2017	3,372.24	33.44	37.00	3.56	3,338.27
	07/15/2017	3,372.24	34.18	37.12	2.94	3,337.62
	11/08/2017	3,372.24	34.05	38.44	2.94	3,336.30

Elevations based on the North American Vertical Datum of 1988

- = Not applicable

TABLE 2

GROUNDWATER ANALYTICAL SUMMARY - BTEX
 PLAINS ALL AMERICAN PIPELINE, LP
 LIVINGSTON RIDGE - HP SIMS
 LEA COUNTY, NEW MEXICO
 PLAINS SRS #: 2001-11005
 NMOCD REFERENCE #: 1R-0398
 TERRACON PROJECT #: AR187007

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b						
		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	02/14/2017	0.00429	<0.00100	<0.000657	0.00591	<0.000642	0.00591	0.0102
	04/26/2017	0.00212	<0.000367	<0.000657	0.00121	<0.000642	0.00121	0.00333
	07/16/2017	<0.000408	<0.000367	<0.000657	<0.000630	0.00878	0.00878	0.00878
	11/08/2017	<0.000408	<0.000367	<0.000657	0.0064	0.0039	0.0103	0.0103
MW-2	02/13/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	07/16/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/08/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
MW-3	02/09/2017	Dry - Not Sampled						
	04/26/2017							
	07/15/2017							
	11/08/2017							
MW-4	02/14/2017	<0.000408	<0.00100	0.0103	<0.00140	<0.000642	<0.000642	0.0103
	04/26/2017	<0.000408	<0.000367	0.00846	<0.000630	<0.000642	<0.000630	0.00846
	07/16/2017	0.00719	<0.000367	0.00954	<0.000630	<0.000642	<0.000630	0.0167
	11/08/2017	<0.000408	<0.000367	0.0076	0.0014	<0.000642	0.0014	0.009
MW-5	02/14/2017	0.00403	<0.00100	0.125	<0.00140	<0.000642	<0.000642	0.129
	04/26/2017	0.00641	<0.000367	0.123	<0.000630	<0.000642	<0.000630	0.129
	07/16/2017	0.0146	<0.000367	0.161	<0.000630	<0.000642	<0.000630	0.176
	11/08/2017	0.0052	<0.000367	0.161	0.0034	0.0032	0.0066	0.173
MW-6	02/13/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	07/16/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/08/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
MW-7	02/09/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	<0.000657	<0.000630	0.00232	0.00232	0.00232
	07/15/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/09/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
MW-8	02/09/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	07/15/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/08/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
MW-9	02/13/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	07/16/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/08/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
MW-10	02/14/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	07/15/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/09/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
MW-11	02/09/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	07/15/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/08/2017	<0.000408	<0.000367	0.0048	0.0018	0.0007	0.0025	0.0073
MW-12	02/09/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	0.0142	0.00469	<0.000642	0.00469	0.0189
	07/15/2017	<0.000408	<0.000367	0.0035	<0.000630	<0.000642	<0.000630	0.0035
	11/08/2017	<0.000408	<0.000367	0.0273	0.0063	<0.000642	0.0063	0.0336
MW-13	02/09/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	0.000630	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	0.00063
	07/15/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/08/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
MW-14	02/09/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	07/15/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/09/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
MW-15	02/09/2017	<0.000408	<0.00100	<0.000657	<0.00140	<0.000642	<0.000642	<0.000408
	04/26/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	07/15/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	11/09/2017	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
TMW-1	02/09/2017	Not Sampled Due to Phase Separated Hydrocarbons						
	04/26/2017							
	07/15/2017							
	11/08/2017							
NMOCD CRITERIA		0.01	0.75	0.75	TOTAL XYLENES 0.62			NE

Bold denotes concentrations above applicable NMOCD criteria.

NE = Not Established

Table 3

Fluid Recovery Table (TMW-1) AFR¹, Micro-purge, Absorbant Socks and Bailer
Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005

NMOCD File Number: 1R-0398

Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Well ID	Date	Depth to PSH ¹ Below Top of Casing	Depth to Water Below Top of Casing	PSH ² Thickness	Estimated PSH Recovery (bbl)	Total Fluid Recovery (bbl)	Recovery Method
TMW-1	08/05/15	34.48	37.08	2.60	2.5	10	AFR 4.0 hrs
	10/14/15	34.93	37.31	2.38	1.0	5	AFR 2.5 hrs
	12/09/15	34.69	38.34	3.65	3.0	10	AFR 4.0 hrs
	01/21/16	34.73	38.40	3.67	3.0	15	AFR 4.0 hrs
	03/15/16	34.70	38.53	3.83	2.5	20	AFR 4.0 hrs
	06/01/16	34.79	38.94	4.15	5.0	15	AFR 4.0 hrs
	08/23/16	34.33	35.90	1.57	4.0	15	AFR 4.0 hrs
	12/29/16	33.47	38.03	4.56	4.0	18	AFR 5.0 hrs
	01/09/17	33.55	36.54	2.99	2.5*		Bailer
	01/20/17	33.53	36.80	3.27	3*		Bailer
	01/26/17	33.60	35.46	1.86	1*	9	Bailer
	02/09/17	33.40	36.55	3.15	3*	50*	Micro-purge
	02/21/17	33.42	36.27	2.85	10*	60*	Micro-purge
	03/22/17	33.31	37.40	4.09	10*	100*	Micro-purge
	04/06/17	33.47	36.62	3.15	10*	60*	Micro-purge
	04/26/17	33.44	37.00	3.56	10*	60*	Micro-purge
	05/17/17	33.55	37.19	3.64			
	06/02/17	33.70	37.00	3.30	10*	40*	Micro-purge
	06/14/17	33.83	37.01	3.18	0.34*		Absorbant socks
	06/26/17	33.94	37.13	3.19	10*	60*	Micro-purge
	06/30/17	34.03	36.92	2.89	10*	8	AFR 4.0 hrs
	08/25/17	33.44	38.16	4.72	6*	60*	Micro-purge
	09/07/17	34.27	37.73	3.46	15*	8	AFR 4.0 hrs
	10/03/17	-	-	-	1*	5*	Bailer
	11/07/17	-	-	-	1*	5*	Bailer

1. AFR = Aggressive Fluid Recovery

2. PSH = Phase Separated Hydrocarbons

* = Volume reported in Gallons

- = Data not recorded

APPENDIX C

Laboratory Data Sheets

Analytical Report 546232

**for
Terracon Midland**

Project Manager: Dale Moxley

Livingston Ridge-HP Sims

A4177008

21-FEB-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)

Table of Contents

Cover Page	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	6
Explanation of Qualifiers (Flags)	14
SURR_QC_V62	15
LCS / LCSD Recoveries	17
MS / MSD Recoveries	18
Chain of Custody	19
Sample Receipt Conformance Report	21



21-FEB-17

Project Manager: **Dale Moxley**

Terracon Midland

10400 State Hwy 191

Midland, TX 79707

Reference: XENCO Report No(s): **546232**

Livingston Ridge-HP Sims

Project Address:

Dale Moxley:

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) 546232. 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. 546232 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

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Sample Cross Reference 546232



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-7	W	02-09-17 11:40		546232-001
MW-8	W	02-09-17 12:22		546232-002
MW-13	W	02-09-17 13:10		546232-003
MW-12	W	02-09-17 13:52		546232-004
MW-11	W	02-09-17 14:30		546232-005
MW-15	W	02-09-17 15:08		546232-006
MW-14	W	02-09-17 15:50		546232-007
MW-2	W	02-13-17 14:45		546232-008
MW-6	W	02-13-17 16:39		546232-009
MW-9	W	02-13-17 17:25		546232-010
MW-10	W	02-14-17 09:02		546232-011
MW-1	W	02-14-17 09:55		546232-012
MW-5	W	02-14-17 11:00		546232-013
MW-4	W	02-14-17 11:55		546232-014



CASE NARRATIVE

Client Name: Terracon Midland

Project Name: Livingston Ridge-HP Sims

Project ID: A4177008
Work Order Number(s): 546232

Report Date: 21-FEB-17
Date Received: 02/14/2017

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:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results

546232



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: **MW-7** Matrix: Water Sample Depth:
Lab Sample Id: 546232-001 Date Collected: 02.09.17 11.40 Date Received: 02.14.17 15.10
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3010219 Date Prep: 02.15.17 15.00
Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.15.17 23:47	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.15.17 23:47	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.15.17 23:47	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.15.17 23:47	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.15.17 23:47	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.15.17 23:47	U	
Total BTEX		<0.000408		0.000408	mg/L	02.15.17 23:47	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	80 - 120	%		
4-Bromofluorobenzene	96	80 - 120	%		

Sample Id: **MW-8** Matrix: Water Sample Depth:
Lab Sample Id: 546232-002 Date Collected: 02.09.17 12.22 Date Received: 02.14.17 15.10
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3010219 Date Prep: 02.15.17 15.00
Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.16.17 00:02	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.16.17 00:02	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.16.17 00:02	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.16.17 00:02	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.16.17 00:02	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.16.17 00:02	U	
Total BTEX		<0.000408		0.000408	mg/L	02.16.17 00:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	80 - 120	%		
4-Bromofluorobenzene	90	80 - 120	%		



Certificate of Analytical Results

546232



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: **MW-13**

Matrix: Water

Sample Depth:

Lab Sample Id: 546232-003

Date Collected: 02.09.17 13.10

Date Received: 02.14.17 15.10

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010219

Date Prep: 02.15.17 15.00

Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.15.17 21:54	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.15.17 21:54	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.15.17 21:54	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.15.17 21:54	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.15.17 21:54	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.15.17 21:54	U	
Total BTEX		<0.000408		0.000408	mg/L	02.15.17 21:54	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	80 - 120	%		
4-Bromofluorobenzene	93	80 - 120	%		

Sample Id: **MW-12**

Matrix: Water

Sample Depth:

Lab Sample Id: 546232-004

Date Collected: 02.09.17 13.52

Date Received: 02.14.17 15.10

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010219

Date Prep: 02.15.17 15.00

Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.16.17 00:18	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.16.17 00:18	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.16.17 00:18	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.16.17 00:18	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.16.17 00:18	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.16.17 00:18	U	
Total BTEX		<0.000408		0.000408	mg/L	02.16.17 00:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	80 - 120	%		
4-Bromofluorobenzene	95	80 - 120	%		



Certificate of Analytical Results

546232



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: MW-11

Matrix: Water

Sample Depth:

Lab Sample Id: 546232-005

Date Collected: 02.09.17 14.30

Date Received: 02.14.17 15.10

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010219

Date Prep: 02.15.17 15.00

Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.16.17 00:34	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.16.17 00:34	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.16.17 00:34	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.16.17 00:34	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.16.17 00:34	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.16.17 00:34	U	
Total BTEX		<0.000408		0.000408	mg/L	02.16.17 00:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	112	80 - 120	%		
4-Bromofluorobenzene	100	80 - 120	%		

Sample Id: MW-15

Matrix: Water

Sample Depth:

Lab Sample Id: 546232-006

Date Collected: 02.09.17 15.08

Date Received: 02.14.17 15.10

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010219

Date Prep: 02.15.17 15.00

Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.16.17 00:50	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.16.17 00:50	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.16.17 00:50	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.16.17 00:50	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.16.17 00:50	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.16.17 00:50	U	
Total BTEX		<0.000408		0.000408	mg/L	02.16.17 00:50	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	80 - 120	%		
4-Bromofluorobenzene	93	80 - 120	%		



Certificate of Analytical Results

546232



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: MW-14

Matrix: Water

Sample Depth:

Lab Sample Id: 546232-007

Date Collected: 02.09.17 15.50

Date Received: 02.14.17 15.10

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010219

Date Prep: 02.15.17 15.00

Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.16.17 01:07	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.16.17 01:07	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.16.17 01:07	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.16.17 01:07	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.16.17 01:07	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.16.17 01:07	U	
Total BTEX		<0.000408		0.000408	mg/L	02.16.17 01:07	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	101	80 - 120	%		

Sample Id: MW-2

Matrix: Water

Sample Depth:

Lab Sample Id: 546232-008

Date Collected: 02.13.17 14.45

Date Received: 02.14.17 15.10

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010219

Date Prep: 02.15.17 15.00

Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.16.17 01:23	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.16.17 01:23	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.16.17 01:23	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.16.17 01:23	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.16.17 01:23	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.16.17 01:23	U	
Total BTEX		<0.000408		0.000408	mg/L	02.16.17 01:23	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	110	80 - 120	%		



Certificate of Analytical Results

546232



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: **MW-6** Matrix: Water Sample Depth:
Lab Sample Id: 546232-009 Date Collected: 02.13.17 16.39 Date Received: 02.14.17 15.10
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3010219 Date Prep: 02.15.17 15.00
Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.16.17 01:39	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.16.17 01:39	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.16.17 01:39	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.16.17 01:39	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.16.17 01:39	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.16.17 01:39	U	
Total BTEX		<0.000408		0.000408	mg/L	02.16.17 01:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	117	80 - 120	%		
4-Bromofluorobenzene	106	80 - 120	%		

Sample Id: **MW-9** Matrix: Water Sample Depth:
Lab Sample Id: 546232-010 Date Collected: 02.13.17 17.25 Date Received: 02.14.17 15.10
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3010219 Date Prep: 02.15.17 15.00
Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.16.17 01:55	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.16.17 01:55	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.16.17 01:55	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.16.17 01:55	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.16.17 01:55	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.16.17 01:55	U	
Total BTEX		<0.000408		0.000408	mg/L	02.16.17 01:55	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	80 - 120	%		
4-Bromofluorobenzene	100	80 - 120	%		



Certificate of Analytical Results

546232



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: **MW-10**

Matrix: Water

Sample Depth:

Lab Sample Id: 546232-011

Date Collected: 02.14.17 09.02

Date Received: 02.14.17 15.10

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010219

Date Prep: 02.15.17 15.00

Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.16.17 02:11	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.16.17 02:11	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.16.17 02:11	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.16.17 02:11	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.16.17 02:11	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.16.17 02:11	U	
Total BTEX		<0.000408		0.000408	mg/L	02.16.17 02:11	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	80 - 120	%		
4-Bromofluorobenzene	98	80 - 120	%		

Sample Id: **MW-1**

Matrix: Water

Sample Depth:

Lab Sample Id: 546232-012

Date Collected: 02.14.17 09.55

Date Received: 02.14.17 15.10

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010431

Date Prep: 02.17.17 07.45

Prep seq: 720170

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00429	0.00200	0.000408	mg/L	02.17.17 14:34		1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.17.17 14:34	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.17.17 14:34	U	1
m_p-Xylenes	179601-23-1	0.00591	0.00200	0.00140	mg/L	02.17.17 14:34		1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.17.17 14:34	U	1
Total Xylenes	1330-20-7	0.00591		0.000642	mg/L	02.17.17 14:34		
Total BTEX		0.0102		0.000408	mg/L	02.17.17 14:34		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	80 - 120	%		
4-Bromofluorobenzene	114	80 - 120	%		



Certificate of Analytical Results

546232



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: **MW-5** Matrix: Water Sample Depth:
Lab Sample Id: 546232-013 Date Collected: 02.14.17 11.00 Date Received: 02.14.17 15.10
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3010431 Date Prep: 02.17.17 07.45
Prep seq: 720170

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00403	0.00200	0.000408	mg/L	02.17.17 14:51		1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.17.17 14:51	U	1
Ethylbenzene	100-41-4	0.125	0.00200	0.000657	mg/L	02.17.17 14:51		1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.17.17 14:51	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.17.17 14:51	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.17.17 14:51	U	
Total BTEX		0.129		0.000408	mg/L	02.17.17 14:51		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	80 - 120	%		
4-Bromofluorobenzene	116	80 - 120	%		

Sample Id: **MW-4** Matrix: Water Sample Depth:
Lab Sample Id: 546232-014 Date Collected: 02.14.17 11.55 Date Received: 02.14.17 15.10
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3010431 Date Prep: 02.17.17 07.45
Prep seq: 720170

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.17.17 10:49	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.17.17 10:49	U	1
Ethylbenzene	100-41-4	0.0103	0.00200	0.000657	mg/L	02.17.17 10:49		1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.17.17 10:49	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.17.17 10:49	U	1
Total Xylenes	1330-20-7	<0.000642		0.000642	mg/L	02.17.17 10:49	U	
Total BTEX		0.0103		0.000408	mg/L	02.17.17 10:49		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	80 - 120	%		
4-Bromofluorobenzene	109	80 - 120	%		



Certificate of Analytical Results

546232



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: 720138-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 720138-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010219

Date Prep: 02.15.17 15.00

Prep seq: 720138

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.15.17 20:01	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.15.17 20:01	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.15.17 20:01	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.15.17 20:01	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.15.17 20:01	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	80 - 120	%		
4-Bromofluorobenzene	110	80 - 120	%		

Sample Id: 720170-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 720170-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3010431

Date Prep: 02.17.17 07.45

Prep seq: 720170

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	02.17.17 09:59	U	1
Toluene	108-88-3	<0.00100	0.00200	0.00100	mg/L	02.17.17 09:59	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	02.17.17 09:59	U	1
m_p-Xylenes	179601-23-1	<0.00140	0.00200	0.00140	mg/L	02.17.17 09:59	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	02.17.17 09:59	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	104	80 - 120	%		

- 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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(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Livingston Ridge-HP Sims

Work Orders : 546232,

Project ID: A4177008

Lab Batch #: 3010219

Sample: 720138-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 02/15/17 18:41	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0337	0.0300	112	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

Lab Batch #: 3010219

Sample: 720138-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 02/15/17 18:57	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0348	0.0300	116	80-120
4-Bromofluorobenzene		0.0294	0.0300	98	80-120

Lab Batch #: 3010219

Sample: 546339-002 S / MS

Batch: 1 Matrix: Ground Water

Units: mg/L	Date Analyzed: 02/15/17 19:13	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0336	0.0300	112	80-120
4-Bromofluorobenzene		0.0279	0.0300	93	80-120

Lab Batch #: 3010219

Sample: 546339-002 SD / MSD

Batch: 1 Matrix: Ground Water

Units: mg/L	Date Analyzed: 02/15/17 19:30	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0296	0.0300	99	80-120
4-Bromofluorobenzene		0.0308	0.0300	103	80-120

Lab Batch #: 3010219

Sample: 720138-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 02/15/17 20:01	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0328	0.0300	109	80-120
4-Bromofluorobenzene		0.0329	0.0300	110	80-120

* 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: Livingston Ridge-HP Sims

Work Orders : 546232,

Project ID: A4177008

Lab Batch #: 3010431

Sample: 720170-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 02/17/17 08:06	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0303	0.0300	101	80-120
4-Bromofluorobenzene		0.0282	0.0300	94	80-120

Lab Batch #: 3010431

Sample: 720170-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 02/17/17 08:21	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0314	0.0300	105	80-120
4-Bromofluorobenzene		0.0265	0.0300	88	80-120

Lab Batch #: 3010431

Sample: 546232-014 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 02/17/17 09:10	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0281	0.0300	94	80-120
4-Bromofluorobenzene		0.0325	0.0300	108	80-120

Lab Batch #: 3010431

Sample: 546232-014 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 02/17/17 09:26	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0337	0.0300	112	80-120
4-Bromofluorobenzene		0.0340	0.0300	113	80-120

Lab Batch #: 3010431

Sample: 720170-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 02/17/17 09:59	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0358	0.0300	119	80-120
4-Bromofluorobenzene		0.0311	0.0300	104	80-120

* 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: Livingston Ridge-HP Sims

Work Order #: 546232

Project ID: A4177008

Analyst: ALJ

Date Prepared: 02/15/2017

Date Analyzed: 02/15/2017

Lab Batch ID: 3010219

Sample: 720138-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000408	0.100	0.122	122	0.100	0.123	123	1	70-125	25	
Toluene	<0.00100	0.100	0.113	113	0.100	0.112	112	1	70-125	25	
Ethylbenzene	<0.000657	0.100	0.121	121	0.100	0.122	122	1	71-129	25	
m_p-Xylenes	<0.00140	0.200	0.238	119	0.200	0.238	119	0	70-131	25	
o-Xylene	<0.000642	0.100	0.111	111	0.100	0.110	110	1	71-133	25	

Analyst: ALJ

Date Prepared: 02/17/2017

Date Analyzed: 02/17/2017

Lab Batch ID: 3010431

Sample: 720170-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000408	0.100	0.125	125	0.100	0.124	124	1	70-125	25	
Toluene	<0.00100	0.100	0.117	117	0.100	0.113	113	3	70-125	25	
Ethylbenzene	<0.000657	0.100	0.125	125	0.100	0.122	122	2	71-129	25	
m_p-Xylenes	<0.00140	0.200	0.244	122	0.200	0.237	119	3	70-131	25	
o-Xylene	<0.000642	0.100	0.112	112	0.100	0.109	109	3	71-133	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: Livingston Ridge-HP Sims

Work Order # : 546232

Project ID: A4177008

Lab Batch ID: 3010219

QC- Sample ID: 546339-002 S

Batch #: 1 Matrix: Ground Water

Date Analyzed: 02/15/2017

Date Prepared: 02/15/2017

Analyst: ALJ

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	<0.000408	0.100	0.110	110	0.100	0.124	124	12	70-125	25	
Toluene	<0.00100	0.100	0.0999	100	0.100	0.116	116	15	70-125	25	
Ethylbenzene	<0.000657	0.100	0.107	107	0.100	0.125	125	16	71-129	25	
m_p-Xylenes	<0.00140	0.200	0.210	105	0.200	0.245	123	15	70-131	25	
o-Xylene	<0.000642	0.100	0.0962	96	0.100	0.112	112	15	71-133	25	

Lab Batch ID: 3010431

QC- Sample ID: 546232-014 S

Batch #: 1 Matrix: Water

Date Analyzed: 02/17/2017

Date Prepared: 02/17/2017

Analyst: ALJ

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	<0.000408	0.100	0.121	121	0.100	0.110	110	10	70-125	25	
Toluene	<0.00100	0.100	0.111	111	0.100	0.0989	99	12	70-125	25	
Ethylbenzene	0.0103	0.100	0.123	113	0.100	0.116	106	6	71-129	25	
m_p-Xylenes	<0.00140	0.200	0.236	118	0.200	0.213	107	10	70-131	25	
o-Xylene	<0.000642	0.100	0.112	112	0.100	0.100	100	11	71-133	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.

CHAIN OF CUSTODY RECORD

LAB USE ONLY
DUE DATE:

TEMP OF COOLER
WHEN RECEIVED (°C)Page 2 of 2

Temp: IR ID: R-8
CF: + 0.1 1.7
Corrected Temp: 1.8

Lab Sample ID

546237

[illegible]

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

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Terracon Midland

Date/ Time Received: 02/10/2017 05:26:00 PM

Work Order #: 546232

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)?	.9
#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)?	Yes Houston
#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: 02/13/2017

Checklist reviewed by:

Kelsey Brooks

Kelsey Brooks

Date: 02/13/2017

Analytical Report 551825

**for
Terracon Midland**

Project Manager: Dale Moxley

Livingston Ridge-HP Sims

A4177008

03-MAY-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)

Table of Contents

Cover Page	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	6
Explanation of Qualifiers (Flags)	14
SURR_QC_V62	15
LCS / LCSD Recoveries	16
MS / MSD Recoveries	17
Chain of Custody	18
Sample Receipt Conformance Report	20



03-MAY-17

Project Manager: **Dale Moxley**

Terracon Midland

10400 State Hwy 191

Midland, TX 79707

Reference: XENCO Report No(s): **551825**

Livingston Ridge-HP Sims

Project Address:

Dale Moxley:

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) 551825. 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. 551825 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

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Sample Cross Reference 551825



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	04-26-17 18:17		551825-001
MW-2	W	04-26-17 16:17		551825-002
MW-4	W	04-26-17 18:52		551825-003
MW-5	W	04-26-17 19:41		551825-004
MW-6	W	04-26-17 17:37		551825-005
MW-7	W	04-26-17 15:38		551825-006
MW-8	W	04-26-17 09:48		551825-007
MW-9	W	04-26-17 16:53		551825-008
MW-10	W	04-26-17 14:52		551825-009
MW-11	W	04-26-17 12:40		551825-010
MW-12	W	04-26-17 13:21		551825-011
MW-13	W	04-26-17 14:03		551825-012
MW-14	W	04-26-17 10:58		551825-013
MW-15	W	04-26-17 11:51		551825-014



CASE NARRATIVE

Client Name: Terracon Midland

Project Name: Livingston Ridge-HP Sims

Project ID: A4177008
Work Order Number(s): 551825

Report Date: 03-MAY-17
Date Received: 04/27/2017

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

551825



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: MW-1

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-001

Date Collected: 04.26.17 18.17

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00212	0.00200	0.000408	mg/L	04.27.17 13:03		1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 13:03	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 13:03	U	1
m,p-Xylenes	179601-23-1	0.00121	0.00200	0.000630	mg/L	04.27.17 13:03	J	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 13:03	U	1
Total Xylenes	1330-20-7	0.00121		0.000630	mg/L	04.27.17 13:03	J	
Total BTEX		0.00333		0.000367	mg/L	04.27.17 13:03		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	110	80 - 120	%		
4-Bromofluorobenzene	110	80 - 120	%		

Sample Id: MW-2

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-002

Date Collected: 04.26.17 16.17

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 10:52	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 10:52	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 10:52	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 10:52	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 10:52	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 10:52	U	
Total BTEX		<0.000367		0.000367	mg/L	04.27.17 10:52	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	80 - 120	%		
4-Bromofluorobenzene	98	80 - 120	%		



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551825



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: **MW-4**

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-003

Date Collected: 04.26.17 18.52

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 16:23	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 16:23	U	1
Ethylbenzene	100-41-4	0.00846	0.00200	0.000657	mg/L	04.27.17 16:23		1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 16:23	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 16:23	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 16:23	U	
Total BTEX		0.00846		0.000367	mg/L	04.27.17 16:23		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	97	80 - 120	%		
4-Bromofluorobenzene	101	80 - 120	%		

Sample Id: **MW-5**

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-004

Date Collected: 04.26.17 19.41

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00641	0.00200	0.000408	mg/L	04.27.17 12:46		1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 12:46	U	1
Ethylbenzene	100-41-4	0.123	0.00200	0.000657	mg/L	04.27.17 12:46		1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 12:46	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 12:46	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 12:46	U	
Total BTEX		0.129		0.000367	mg/L	04.27.17 12:46		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	116	80 - 120	%		



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551825



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: MW-6

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-005

Date Collected: 04.26.17 17.37

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 11:08	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 11:08	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 11:08	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 11:08	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 11:08	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 11:08	U	
Total BTEX		<0.000367		0.000367	mg/L	04.27.17 11:08	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	114	80 - 120	%		
4-Bromofluorobenzene	116	80 - 120	%		

Sample Id: MW-7

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-006

Date Collected: 04.26.17 15.38

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 11:25	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 11:25	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 11:25	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 11:25	U	1
o-Xylene	95-47-6	0.00232	0.00200	0.000642	mg/L	04.27.17 11:25		1
Total Xylenes	1330-20-7	0.00232		0.000630	mg/L	04.27.17 11:25		
Total BTEX		0.00232		0.000367	mg/L	04.27.17 11:25		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	116	80 - 120	%		
4-Bromofluorobenzene	102	80 - 120	%		



Certificate of Analytical Results

551825



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: **MW-8**

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-007

Date Collected: 04.26.17 09.48

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 11:41	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 11:41	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 11:41	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 11:41	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 11:41	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 11:41	U	
Total BTEX		<0.000367		0.000367	mg/L	04.27.17 11:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	120	80 - 120	%		
4-Bromofluorobenzene	107	80 - 120	%		

Sample Id: **MW-9**

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-008

Date Collected: 04.26.17 16.53

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 11:57	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 11:57	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 11:57	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 11:57	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 11:57	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 11:57	U	
Total BTEX		<0.000367		0.000367	mg/L	04.27.17 11:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	115	80 - 120	%		
4-Bromofluorobenzene	103	80 - 120	%		



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551825



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: **MW-10**

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-009

Date Collected: 04.26.17 14.52

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 12:14	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 12:14	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 12:14	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 12:14	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 12:14	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 12:14	U	
Total BTEX		<0.000367		0.000367	mg/L	04.27.17 12:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	117	80 - 120	%		
4-Bromofluorobenzene	105	80 - 120	%		

Sample Id: **MW-11**

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-010

Date Collected: 04.26.17 12.40

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 12:30	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 12:30	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 12:30	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 12:30	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 12:30	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 12:30	U	
Total BTEX		<0.000367		0.000367	mg/L	04.27.17 12:30	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	80 - 120	%		
4-Bromofluorobenzene	101	80 - 120	%		



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551825



Terracon Midland, Midland, TX

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Sample Id: MW-12

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-011

Date Collected: 04.26.17 13.21

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 14:24	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 14:24	U	1
Ethylbenzene	100-41-4	0.0142	0.00200	0.000657	mg/L	04.27.17 14:24		1
m,p-Xylenes	179601-23-1	0.00469	0.00200	0.000630	mg/L	04.27.17 14:24		1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 14:24	U	1
Total Xylenes	1330-20-7	0.00469		0.000630	mg/L	04.27.17 14:24		
Total BTEX		0.0189		0.000367	mg/L	04.27.17 14:24		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	80 - 120	%		
4-Bromofluorobenzene	109	80 - 120	%		

Sample Id: MW-13

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-012

Date Collected: 04.26.17 14.03

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.000630	0.00200	0.000408	mg/L	04.27.17 14:41	J	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 14:41	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 14:41	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 14:41	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 14:41	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 14:41	U	
Total BTEX		0.000630		0.000367	mg/L	04.27.17 14:41	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	117	80 - 120	%		
4-Bromofluorobenzene	97	80 - 120	%		



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551825



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: **MW-14**

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-013

Date Collected: 04.26.17 10.58

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 14:57	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 14:57	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 14:57	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 14:57	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 14:57	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 14:57	U	
Total BTEX		<0.000367		0.000367	mg/L	04.27.17 14:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	110	80 - 120	%		

Sample Id: **MW-15**

Matrix: Water

Sample Depth:

Lab Sample Id: 551825-014

Date Collected: 04.26.17 11.51

Date Received: 04.27.17 09.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 15:17	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 15:17	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 15:17	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 15:17	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 15:17	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	04.27.17 15:17	U	
Total BTEX		<0.000367		0.000367	mg/L	04.27.17 15:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	113	80 - 120	%		



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551825



Terracon Midland, Midland, TX

Livingston Ridge-HP Sims

Sample Id: 723837-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 723837-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3016151

Date Prep: 04.27.17 08.00

Prep seq: 723837

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	04.27.17 10:19	U	1
Toluene	108-88-3	<0.000367	0.00150	0.000367	mg/L	04.27.17 10:19	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	04.27.17 10:19	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00200	0.000630	mg/L	04.27.17 10:19	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	04.27.17 10:19	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	90	80 - 120	%		
4-Bromofluorobenzene	88	80 - 120	%		

- 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 **SQL** 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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 9701 Harry Hines Blvd , Dallas, TX 75220
 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: Livingston Ridge-HP Sims

Work Orders : 551825,

Project ID: A4177008

Lab Batch #: 3016151

Sample: 723837-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/27/17 08:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 3016151

Sample: 723837-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/27/17 09:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0359	0.0300	120	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 3016151

Sample: 551826-001 S / MS

Batch: 1 Matrix: Ground Water

Units: mg/L

Date Analyzed: 04/27/17 09:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 3016151

Sample: 551826-001 SD / MSD

Batch: 1 Matrix: Ground Water

Units: mg/L

Date Analyzed: 04/27/17 09:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0345	0.0300	115	80-120	
4-Bromofluorobenzene	0.0351	0.0300	117	80-120	

Lab Batch #: 3016151

Sample: 723837-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/27/17 10:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

* 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: Livingston Ridge-HP Sims

Work Order #: 551825

Project ID: A4177008

Analyst: ALJ

Date Prepared: 04/27/2017

Date Analyzed: 04/27/2017

Lab Batch ID: 3016151

Sample: 723837-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000408	0.100	0.108	108	0.100	0.120	120	11	70-125	25	
Toluene	<0.000367	0.100	0.101	101	0.100	0.112	112	10	70-125	25	
Ethylbenzene	<0.000657	0.100	0.110	110	0.100	0.127	127	14	71-129	25	
m,p-Xylenes	<0.000630	0.200	0.219	110	0.200	0.248	124	12	70-131	25	
o-Xylene	<0.000642	0.100	0.104	104	0.100	0.121	121	15	71-133	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: Livingston Ridge-HP Sims

Work Order # : 551825

Project ID: A4177008

Lab Batch ID: 3016151

QC- Sample ID: 551826-001 S

Batch #: 1 Matrix: Ground Water

Date Analyzed: 04/27/2017

Date Prepared: 04/27/2017

Analyst: ALJ

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	<0.000408	0.100	0.121	121	0.100	0.122	122	1	70-125	25	
Toluene	<0.000367	0.100	0.119	119	0.100	0.112	112	6	70-125	25	
Ethylbenzene	<0.000657	0.100	0.126	126	0.100	0.128	128	2	71-129	25	
m,p-Xylenes	<0.000630	0.200	0.238	119	0.200	0.249	125	5	70-131	25	
o-Xylene	<0.000642	0.100	0.110	110	0.100	0.116	116	5	71-133	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.

CHAIN OF CUSTODY RECORD

C
-
C
q
C

WATERLOO, ONTARIO

Terracon

CHAIN OF CUSTODY RECORD

Office Location Midland

Laboratory: Xenco Laboratories
Address: 1211 West Florida Ave.
Midland, TX 79701

Phone: (432) 563-1800

Contact: Julian Martinez

PO/SO #:

Sampler's Signature

Project Manager: J. Dale Moxley

Sampler's Names: Joe Pinson/Kimble Thrash

Project Number A4177008 Project Name Livingston Ridge - HP Sims (SRS # 2001-11005)

Matrix Identifying Marks of Sample(s) Start Depth 40 ml VOA End Depth 40 ml VOA No. Type of Containers BTX (EPA Method 8021B)

Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers
GW	04/26/17	1321	X	MMW-12			X
GW	04/26/17	1403	X	MMW-13			X
GW	04/26/17	1058	X	MMW-14			X
GW	04/26/17	1151	X	MMW-15			X

*****END OF COC*****

TURNAROUND TIME

☒ Normal

☐ 48-Hour Rush

☐ 24-Hour Rush

TRRP Laboratory Review Checklist

☐ Yes ☐ No

NOTES:

E-MAIL RESULTS TO:
CIBRYANT@PALP.COM

&
JDMOXLEY@TERRACON.COM

&
KATHRASH@TERRACON.COM

Relinquished by (Signature) [Signature] Date: 4/27/17 Time: 0900 Received by (Signature) [Signature] Date: 4/27/17 Time: 0900

Relinquished by (Signature) [Signature] Date: 4/27/17 Time: 0900 Received by (Signature) [Signature] Date: 4/27/17 Time: 0900

Relinquished by (Signature) [Signature] Date: 4/27/17 Time: 0900 Received by (Signature) [Signature] Date: 4/27/17 Time: 0900

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

Midland Office ■ 10400 State Highway 191 ■ Midland, Texas 79707-1497 ■ 432-684-9600

Responsive ■ Resourceful ■ Reliable

LAB USE ONLY
DUE DATE:

TEMP OF COOLER
WHEN RECEIVED (°C) 3.8

Page 2 of 2

Temp: 3.8 IR ID: R-9
CF: (0.6; 0.0°C) (6-23; +0.1°C)
Corrected Temp: 3.8

5510825
Lab Sample ID



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Terracon Midland

Date/ Time Received: 04/27/2017 09:00:00 AM

Work Order #: 551825

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : r9

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.8
#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)?	Yes
#21 VOC samples have zero headspace?	Yes
#22 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ? 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 NaAsO ₂ +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: 04/27/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 04/28/2017

Analytical Report 557699

**for
Terracon Midland**

Project Manager: Kevin Axe

Livingston Ridge - HP Sims (SRS #2001-11005)

A4177008

25-JUL-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)

Table of Contents

Cover Page	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	6
Explanation of Qualifiers (Flags)	14
SURR_QC_V62	15
LCS / LCSD Recoveries	17
MS / MSD Recoveries	18
Chain of Custody	19
Sample Receipt Conformance Report	21



25-JUL-17

Project Manager: **Kevin Axe**

Terracon Midland

10400 State Hwy 191

Midland, TX 79707

Reference: XENCO Report No(s): **557699**

Livingston Ridge - HP Sims (SRS #2001-11005)

Project Address:

Kevin Axe:

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) 557699. 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. 557699 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 557699



Terracon Midland, Midland, TX

Livingston Ridge - HP Sims (SRS #2001-11005)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-14	W	07-15-17 11:02		557699-001
MW-15	W	07-15-17 11:45		557699-002
MW-11	W	07-15-17 12:33		557699-003
MW-12	W	07-15-17 13:20		557699-004
MW-13	W	07-15-17 14:06		557699-005
MW-10	W	07-15-17 15:01		557699-006
MW-7	W	07-15-17 15:48		557699-007
MW-8	W	07-15-17 16:28		557699-008
MW-2	W	07-16-17 09:27		557699-009
MW-6	W	07-16-17 10:08		557699-010
MW-9	W	07-16-17 10:42		557699-011
MW-1	W	07-16-17 11:28		557699-012
MW-5	W	07-16-17 12:12		557699-013
MW-4	W	07-16-17 12:56		557699-014



CASE NARRATIVE

Client Name: Terracon Midland

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

Project ID: A4177008
Work Order Number(s): 557699

Report Date: 25-JUL-17
Date Received: 07/17/2017

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

557699



Terracon Midland, Midland, TX
Livingston Ridge - HP Sims (SRS #2001-11005)

Sample Id: **MW-14** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-001 Date Collected: 07.15.17 11.02 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3022970 Date Prep: 07.20.17 15.30
Prep seq: 728011

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.21.17 01:52	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.21.17 01:52	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.21.17 01:52	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.21.17 01:52	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.21.17 01:52	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.21.17 01:52	U	
Total BTEX		<0.000367		0.000367	mg/L	07.21.17 01:52	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	80 - 120	%		
4-Bromofluorobenzene	102	80 - 120	%		

Sample Id: **MW-15** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-002 Date Collected: 07.15.17 11.45 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3022970 Date Prep: 07.20.17 15.30
Prep seq: 728011

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.21.17 02:10	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.21.17 02:10	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.21.17 02:10	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.21.17 02:10	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.21.17 02:10	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.21.17 02:10	U	
Total BTEX		<0.000367		0.000367	mg/L	07.21.17 02:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	90	80 - 120	%		
4-Bromofluorobenzene	102	80 - 120	%		



Certificate of Analytical Results

557699



Terracon Midland, Midland, TX
Livingston Ridge - HP Sims (SRS #2001-11005)

Sample Id: **MW-11** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-003 Date Collected: 07.15.17 12.33 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3022970 Date Prep: 07.20.17 15.30
Prep seq: 728011

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.21.17 02:28	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.21.17 02:28	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.21.17 02:28	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.21.17 02:28	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.21.17 02:28	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.21.17 02:28	U	
Total BTEX		<0.000367		0.000367	mg/L	07.21.17 02:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	90	80 - 120	%		
4-Bromofluorobenzene	104	80 - 120	%		

Sample Id: **MW-12** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-004 Date Collected: 07.15.17 13.20 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3022970 Date Prep: 07.20.17 15.30
Prep seq: 728011

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.21.17 02:46	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.21.17 02:46	U	1
Ethylbenzene	100-41-4	0.00350	0.00200	0.000657	mg/L	07.21.17 02:46		1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.21.17 02:46	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.21.17 02:46	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.21.17 02:46	U	
Total BTEX		0.00350		0.000367	mg/L	07.21.17 02:46		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	80 - 120	%		
4-Bromofluorobenzene	107	80 - 120	%		



Certificate of Analytical Results

557699



Terracon Midland, Midland, TX
Livingston Ridge - HP Sims (SRS #2001-11005)

Sample Id: **MW-13** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-005 Date Collected: 07.15.17 14.06 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3022970 Date Prep: 07.20.17 15.30
Prep seq: 728011

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.21.17 03:04	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.21.17 03:04	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.21.17 03:04	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.21.17 03:04	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.21.17 03:04	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.21.17 03:04	U	
Total BTEX		<0.000367		0.000367	mg/L	07.21.17 03:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	80 - 120	%		
4-Bromofluorobenzene	106	80 - 120	%		

Sample Id: **MW-10** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-006 Date Collected: 07.15.17 15.01 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3022970 Date Prep: 07.20.17 15.30
Prep seq: 728011

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.21.17 03:23	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.21.17 03:23	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.21.17 03:23	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.21.17 03:23	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.21.17 03:23	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.21.17 03:23	U	
Total BTEX		<0.000367		0.000367	mg/L	07.21.17 03:23	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	80 - 120	%		
4-Bromofluorobenzene	102	80 - 120	%		



Certificate of Analytical Results

557699



Terracon Midland, Midland, TX
Livingston Ridge - HP Sims (SRS #2001-11005)

Sample Id: **MW-7** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-007 Date Collected: 07.15.17 15.48 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3023057 Date Prep: 07.24.17 12.00
Prep seq: 728134

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.25.17 11:08	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.25.17 11:08	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.25.17 11:08	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.25.17 11:08	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.25.17 11:08	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.25.17 11:08	U	
Total BTEX		<0.000367		0.000367	mg/L	07.25.17 11:08	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	80 - 120	%		
4-Bromofluorobenzene	102	80 - 120	%		

Sample Id: **MW-8** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-008 Date Collected: 07.15.17 16.28 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3023057 Date Prep: 07.24.17 12.00
Prep seq: 728134

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.25.17 11:08	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.25.17 11:08	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.25.17 11:08	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.25.17 11:08	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.25.17 11:08	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.25.17 11:08	U	
Total BTEX		<0.000367		0.000367	mg/L	07.25.17 11:08	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	93	80 - 120	%		
4-Bromofluorobenzene	102	80 - 120	%		



Certificate of Analytical Results

557699



Terracon Midland, Midland, TX
Livingston Ridge - HP Sims (SRS #2001-11005)

Sample Id: **MW-2** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-009 Date Collected: 07.16.17 09.27 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3023057 Date Prep: 07.24.17 12.00
Prep seq: 728134

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.25.17 11:08	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.25.17 11:08	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.25.17 11:08	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.25.17 11:08	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.25.17 11:08	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.25.17 11:08	U	
Total BTEX		<0.000367		0.000367	mg/L	07.25.17 11:08	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	80 - 120	%		
4-Bromofluorobenzene	102	80 - 120	%		

Sample Id: **MW-6** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-010 Date Collected: 07.16.17 10.08 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3023057 Date Prep: 07.24.17 12.00
Prep seq: 728134

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.25.17 11:08	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.25.17 11:08	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.25.17 11:08	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.25.17 11:08	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.25.17 11:08	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.25.17 11:08	U	
Total BTEX		<0.000367		0.000367	mg/L	07.25.17 11:08	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	90	80 - 120	%		
4-Bromofluorobenzene	105	80 - 120	%		



Certificate of Analytical Results

557699



Terracon Midland, Midland, TX
Livingston Ridge - HP Sims (SRS #2001-11005)

Sample Id: **MW-9** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-011 Date Collected: 07.16.17 10.42 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3023057 Date Prep: 07.24.17 12.00
Prep seq: 728134

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.25.17 11:08	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.25.17 11:08	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.25.17 11:08	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.25.17 11:08	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.25.17 11:08	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.25.17 11:08	U	
Total BTEX		<0.000367		0.000367	mg/L	07.25.17 11:08	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	91	80 - 120	%		
4-Bromofluorobenzene	104	80 - 120	%		

Sample Id: **MW-1** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-012 Date Collected: 07.16.17 11.28 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3023057 Date Prep: 07.24.17 12.00
Prep seq: 728134

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.25.17 11:08	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.25.17 11:08	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.25.17 11:08	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.25.17 11:08	U	1
o-Xylene	95-47-6	0.00878	0.00200	0.000642	mg/L	07.25.17 11:08		1
Total Xylenes	1330-20-7	0.00878		0.000630	mg/L	07.25.17 11:08		
Total BTEX		0.00878		0.000367	mg/L	07.25.17 11:08		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	90	80 - 120	%		



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557699



Terracon Midland, Midland, TX
Livingston Ridge - HP Sims (SRS #2001-11005)

Sample Id: **MW-5** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-013 Date Collected: 07.16.17 12.12 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3023057 Date Prep: 07.24.17 12.00
Prep seq: 728134

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.0146	0.00200	0.000408	mg/L	07.25.17 11:08		1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.25.17 11:08	U	1
Ethylbenzene	100-41-4	0.161	0.00200	0.000657	mg/L	07.25.17 11:08		1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.25.17 11:08	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.25.17 11:08	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.25.17 11:08	U	
Total BTEX		0.176		0.000367	mg/L	07.25.17 11:08		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	87	80 - 120	%		
4-Bromofluorobenzene	82	80 - 120	%		

Sample Id: **MW-4** Matrix: Ground Water Sample Depth:
Lab Sample Id: 557699-014 Date Collected: 07.16.17 12.56 Date Received: 07.17.17 11.37
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3023057 Date Prep: 07.24.17 12.00
Prep seq: 728134

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00719	0.00200	0.000408	mg/L	07.25.17 11:08		1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.25.17 11:08	U	1
Ethylbenzene	100-41-4	0.00954	0.00200	0.000657	mg/L	07.25.17 11:08		1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.25.17 11:08	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.25.17 11:08	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	07.25.17 11:08	U	
Total BTEX		0.0167		0.000367	mg/L	07.25.17 11:08		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	86	80 - 120	%		
4-Bromofluorobenzene	80	80 - 120	%		



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Terracon Midland, Midland, TX

Livingston Ridge - HP Sims (SRS #2001-11005)

Sample Id: 728011-1-BLK Matrix: Water Sample Depth:
Lab Sample Id: 728011-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3022970 Date Prep: 07.20.17 15.30
Prep seq: 728011

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.20.17 21:13	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.20.17 21:13	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.20.17 21:13	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.20.17 21:13	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.20.17 21:13	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	91	80 - 120	%		
4-Bromofluorobenzene	100	80 - 120	%		

Sample Id: 728134-1-BLK Matrix: Water Sample Depth:
Lab Sample Id: 728134-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021B Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3023057 Date Prep: 07.24.17 12.00
Prep seq: 728134

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	07.25.17 11:08	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	07.25.17 11:08	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	07.25.17 11:08	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	07.25.17 11:08	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	07.25.17 11:08	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	103	80 - 120	%		

- 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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(432) 563-1800	(432) 563-1713
(602) 437-0330	

Form 2 - Surrogate Recoveries

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

Work Orders : 557699,

Project ID: A4177008

Lab Batch #: 3022970

Sample: 728011-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/20/17 19:37		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0315	0.0300	105	80-120
4-Bromofluorobenzene		0.0281	0.0300	94	80-120

Lab Batch #: 3022970

Sample: 728011-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/20/17 19:59		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0314	0.0300	105	80-120
4-Bromofluorobenzene		0.0312	0.0300	104	80-120

Lab Batch #: 3022970

Sample: 557698-001 S / MS

Batch: 1 **Matrix:** Ground Water

Units: mg/L Date Analyzed: 07/20/17 20:18		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0345	0.0300	115	80-120
4-Bromofluorobenzene		0.0306	0.0300	102	80-120

Lab Batch #: 3022970

Sample: 557698-001 SD / MSD

Batch: 1 **Matrix:** Ground Water

Units: mg/L Date Analyzed: 07/20/17 20:37		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0339	0.0300	113	80-120
4-Bromofluorobenzene		0.0311	0.0300	104	80-120

Lab Batch #: 3022970

Sample: 728011-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/20/17 21:13		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0272	0.0300	91	80-120
4-Bromofluorobenzene		0.0299	0.0300	100	80-120

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

Work Orders : 557699,

Project ID: A4177008

Lab Batch #: 3023057

Sample: 557699-007 S / MS

Batch: 1 **Matrix:** Ground Water

Units: mg/L Date Analyzed: 07/25/17 11:08		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0313	0.0300	104	80-120
4-Bromofluorobenzene		0.0304	0.0300	101	80-120

Lab Batch #: 3023057

Sample: 557699-007 SD / MSD

Batch: 1 **Matrix:** Ground Water

Units: mg/L Date Analyzed: 07/25/17 11:08		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0321	0.0300	107	80-120
4-Bromofluorobenzene		0.0296	0.0300	99	80-120

Lab Batch #: 3023057

Sample: 728134-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/25/17 11:08		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0323	0.0300	108	80-120
4-Bromofluorobenzene		0.0309	0.0300	103	80-120

Lab Batch #: 3023057

Sample: 728134-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/25/17 11:08		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0300	0.0300	100	80-120
4-Bromofluorobenzene		0.0310	0.0300	103	80-120

Lab Batch #: 3023057

Sample: 728134-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/25/17 11:08		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1,4-Difluorobenzene		0.0318	0.0300	106	80-120
4-Bromofluorobenzene		0.0291	0.0300	97	80-120

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

Work Order #: 557699

Project ID: A4177008

Analyst: ALJ

Date Prepared: 07/20/2017

Date Analyzed: 07/20/2017

Lab Batch ID: 3022970

Sample: 728011-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000408	0.100	0.107	107	0.100	0.117	117	9	70-125	25	
Toluene	<0.000367	0.100	0.120	120	0.100	0.123	123	2	70-125	25	
Ethylbenzene	<0.000657	0.100	0.116	116	0.100	0.124	124	7	71-129	25	
m,p-Xylenes	<0.000630	0.200	0.225	113	0.200	0.240	120	6	70-131	25	
o-Xylene	<0.000642	0.100	0.112	112	0.100	0.122	122	9	71-133	25	

Analyst: ALJ

Date Prepared: 07/24/2017

Date Analyzed: 07/25/2017

Lab Batch ID: 3023057

Sample: 728134-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000408	0.100	0.115	115	0.100	0.107	107	7	70-125	25	
Toluene	<0.000367	0.100	0.122	122	0.100	0.117	117	4	70-125	25	
Ethylbenzene	<0.000657	0.100	0.123	123	0.100	0.114	114	8	71-129	25	
m,p-Xylenes	<0.000630	0.200	0.240	120	0.200	0.222	111	8	70-131	25	
o-Xylene	<0.000642	0.100	0.120	120	0.100	0.111	111	8	71-133	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: Livingston Ridge - HP Sims (SRS #2001-11005)

Work Order # : 557699

Project ID: A4177008

Lab Batch ID: 3022970

QC- Sample ID: 557698-001 S

Batch #: 1 Matrix: Ground Water

Date Analyzed: 07/20/2017

Date Prepared: 07/20/2017

Analyst: ALJ

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	<0.000408	0.100	0.122	122	0.100	0.113	113	8	70-125	25	
Toluene	<0.000367	0.100	0.125	125	0.100	0.121	121	3	70-125	25	
Ethylbenzene	<0.000657	0.100	0.124	124	0.100	0.119	119	4	71-129	25	
m,p-Xylenes	<0.000630	0.200	0.239	120	0.200	0.231	116	3	70-131	25	
o-Xylene	<0.000642	0.100	0.124	124	0.100	0.115	115	8	71-133	25	

Lab Batch ID: 3023057

QC- Sample ID: 557699-007 S

Batch #: 1 Matrix: Ground Water

Date Analyzed: 07/25/2017

Date Prepared: 07/24/2017

Analyst: ALJ

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	<0.000408	0.100	0.111	111	0.100	0.118	118	6	70-125	25	
Toluene	<0.000367	0.100	0.122	122	0.100	0.122	122	0	70-125	25	
Ethylbenzene	<0.000657	0.100	0.120	120	0.100	0.125	125	4	71-129	25	
m,p-Xylenes	<0.000630	0.200	0.233	117	0.200	0.243	122	4	70-131	25	
o-Xylene	<0.000642	0.100	0.117	117	0.100	0.122	122	4	71-133	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.



CHAIN OF CUSTODY RECORD

Office Location Midland

Project Manager: Kevin Axe

Sampler's Names:

Kimble Thrash

Project Number A4177008

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

Matrix Date Time Comp Grab

Identifying Marks of Sample(s)

Start Depth End Depth

No. Type of Containers

40 ml VOA

BTEX (EPA Method 8021B)

LAB USE ONLY

DUE DATE:

TEMP OF COOLER

WHEN RECEIVED (°C)

Page 1 of 2

557699

Lab Sample ID

Temp: 6.3

CF: (0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 6.1

IR ID: R-8

E-MAIL RESULTS TO:

CIBRYANT@PAALP.COM

& KEVIN.AXE@TERRACON.COM

& KATHRASH@TERRACON.COM

NOTES:

Yes No

TURNAROUND TIME

Relinquished by (Signature)

Relinquished by (Signature)

Relinquished by (Signature)

Relinquished by (Signature)

Matrix Container

WW - Wastewater

VOA - 40 ml Vial

W - Water

A/GS - Amber Glass JL

S - Soil

L - Liquid

A - Air Bag

C - Charcoal tube

SL - Sludge

P/O - Plastic or other

Laboratory: Xenco Laboratories
Address: 1211 West Florida Ave.
Midland, TX 79701

Phone: (432) 563-1800

Contact: Julian Martinez

PO/SO #:

Sampler's Signature

Received by (Signature)

Date:

Time:

Received by (Signature)

Date:

Time:

Received by (Signature)

Date:

Time:

Received by (Signature)

Date:

Time:

Received by (Signature)

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Received by (Signature)

Date:

Time:

Received by (Signature)

Midland Office ■ 10400 State Highway 191 ■ Midland, Texas 79707-1497 ■ 432-684-9600

Responsive ■ Resourceful ■ Reliable



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: Terracon Midland

Date/ Time Received: 07/17/2017 11:37:00 AM

Work Order #: 557699

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
#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

*** 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: 07/17/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 07/17/2017

Analytical Report 568077

for Terracon Lubbock

Project Manager: Kris Williams

Livingston Ridge HP Sim 2001-11005

AR177190

18-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)

Table of Contents

Cover Page	1
Cover Letter	3
Sample ID Cross Reference	4
Case Narrative	5
Certificate of Analysis (Detailed Report)	6
Explanation of Qualifiers (Flags)	15
SURR_QC_V62	16
LCS / LCSD Recoveries	20
MS / MSD Recoveries	22
Chain of Custody	24
Sample Receipt Conformance Report	25



18-NOV-17

Project Manager: **Kris Williams**

Terracon Lubbock

5827 50th st, Suite 1

Lubbock, TX 79424

Reference: XENCO Report No(s): **568077**

Livingston Ridge HP Sim 2001-11005

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) 568077. 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. 568077 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

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 568077

Terracon Lubbock, Lubbock, TX

Livingston Ridge HP Sim 2001-11005

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	11-08-17 13:40		568077-001
MW-2	W	11-08-17 12:55		568077-002
MW-4	W	11-08-17 11:53		568077-003
MW-5	W	11-08-17 11:31		568077-004
MW-6	W	11-08-17 14:05		568077-005
MW-7	W	11-08-17 11:30		568077-006
MW-8	W	11-08-17 12:22		568077-007
MW-9	W	11-08-17 13:15		568077-008
MW-10	W	11-08-17 12:00		568077-009
MW-11	W	11-08-17 15:25		568077-010
MW-12	W	11-08-17 14:55		568077-011
MW-13	W	11-08-17 12:35		568077-012
MW-14	W	11-09-17 12:45		568077-013
MW-15	W	11-09-17 13:10		568077-014



CASE NARRATIVE

Client Name: Terracon Lubbock

Project Name: Livingston Ridge HP Sim 2001-11005

Project ID: AR177190
Work Order Number(s): 568077

Report Date: 18-NOV-17
Date Received: 11/10/2017

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

Analytical non conformances and comments:

Batch: LBA-3033362 BTEX-MTBE by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 568077-004.



Certificate of Analytical Results

568077



Terracon Lubbock, Lubbock, TX

Livingston Ridge HP Sim 2001-11005

Sample Id: **MW-1** Matrix: Ground Water Sample Depth:
Lab Sample Id: 568077-001 Date Collected: 11.08.17 13.40 Date Received: 11.10.17 13.00
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3033288 Date Prep: 11.14.17 11.00
Prep seq: 7634343

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.14.17 21:16	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.14.17 21:16	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.14.17 21:16	U	1
m_p-Xylenes	179601-23-1	0.00640	0.00200	0.000454	mg/L	11.14.17 21:16		1
o-Xylene	95-47-6	0.00390	0.00100	0.000270	mg/L	11.14.17 21:16		1
Xylenes, Total	1330-20-7	0.0103		0.000270	mg/L	11.14.17 21:16		
Total BTEX		0.0103		0.000270	mg/L	11.14.17 21:16		

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

Sample Id: **MW-2** Matrix: Water Sample Depth:
Lab Sample Id: 568077-002 Date Collected: 11.08.17 12.55 Date Received: 11.10.17 13.00
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3033288 Date Prep: 11.14.17 11.00
Prep seq: 7634343

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.14.17 21:42	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.14.17 21:42	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.14.17 21:42	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.14.17 21:42	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.14.17 21:42	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	11.14.17 21:42	U	
Total BTEX		<0.000270		0.000270	mg/L	11.14.17 21:42	U	

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



Certificate of Analytical Results

568077



Terracon Lubbock, Lubbock, TX

Livingston Ridge HP Sim 2001-11005

Sample Id: MW-4

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-003

Date Collected: 11.08.17 11.53

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033362

Date Prep: 11.14.17 11.00

Prep seq: 7634358

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.15.17 10:45	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.15.17 10:45	U	1
Ethylbenzene	100-41-4	0.00760	0.00100	0.000616	mg/L	11.15.17 10:45		1
m_p-Xylenes	179601-23-1	0.00140	0.00200	0.000454	mg/L	11.15.17 10:45	J	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.15.17 10:45	U	1
Xylenes, Total	1330-20-7	0.00140		0.000270	mg/L	11.15.17 10:45		
Total BTEX		0.00900		0.000270	mg/L	11.15.17 10:45		

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

Sample Id: MW-5

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-004

Date Collected: 11.08.17 11.31

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033362

Date Prep: 11.14.17 11.00

Prep seq: 7634358

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00520	0.00100	0.000480	mg/L	11.15.17 11:11		1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.15.17 11:11	U	1
Ethylbenzene	100-41-4	0.161	0.00100	0.000616	mg/L	11.15.17 11:11		1
m_p-Xylenes	179601-23-1	0.00340	0.00200	0.000454	mg/L	11.15.17 11:11		1
o-Xylene	95-47-6	0.00320	0.00100	0.000270	mg/L	11.15.17 11:11		1
Xylenes, Total	1330-20-7	0.00660		0.000270	mg/L	11.15.17 11:11		
Total BTEX		0.173		0.000270	mg/L	11.15.17 11:11		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	105	66 - 120	%		
4-Bromofluorobenzene	139	67 - 120	%		**



Certificate of Analytical Results

568077



Terracon Lubbock, Lubbock, TX

Livingston Ridge HP Sim 2001-11005

Sample Id: MW-6

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-005

Date Collected: 11.08.17 14.05

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033190

Date Prep: 11.13.17 10.00

Prep seq: 7634242

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 21:19	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 21:19	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 21:19	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 21:19	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.13.17 21:19	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	11.13.17 21:19	U	
Total BTEX		<0.000270		0.000270	mg/L	11.13.17 21:19	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	78	66 - 120	%		
4-Bromofluorobenzene	87	67 - 120	%		

Sample Id: MW-7

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-006

Date Collected: 11.08.17 11.30

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033190

Date Prep: 11.13.17 10.00

Prep seq: 7634242

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 21:46	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 21:46	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 21:46	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 21:46	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.13.17 21:46	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	11.13.17 21:46	U	
Total BTEX		<0.000270		0.000270	mg/L	11.13.17 21:46	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	79	66 - 120	%		
4-Bromofluorobenzene	88	67 - 120	%		



Certificate of Analytical Results

568077



Terracon Lubbock, Lubbock, TX

Livingston Ridge HP Sim 2001-11005

Sample Id: **MW-8**

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-007

Date Collected: 11.08.17 12.22

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033190

Date Prep: 11.13.17 10.00

Prep seq: 7634242

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 22:14	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 22:14	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 22:14	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 22:14	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.13.17 22:14	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	11.13.17 22:14	U	
Total BTEX		<0.000270		0.000270	mg/L	11.13.17 22:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	77	66 - 120	%		
4-Bromofluorobenzene	88	67 - 120	%		

Sample Id: **MW-9**

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-008

Date Collected: 11.08.17 13.15

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033190

Date Prep: 11.13.17 10.00

Prep seq: 7634242

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 22:40	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 22:40	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 22:40	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 22:40	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.13.17 22:40	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	11.13.17 22:40	U	
Total BTEX		<0.000270		0.000270	mg/L	11.13.17 22:40	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	78	66 - 120	%		
4-Bromofluorobenzene	87	67 - 120	%		



Certificate of Analytical Results

568077



Terracon Lubbock, Lubbock, TX
Livingston Ridge HP Sim 2001-11005

Sample Id: **MW-10**

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-009

Date Collected: 11.08.17 12.00

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033184

Date Prep: 11.13.17 10.00

Prep seq: 7634248

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 17:37	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 17:37	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 17:37	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 17:37	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.13.17 17:37	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	11.13.17 17:37	U	
Total BTEX		<0.000270		0.000270	mg/L	11.13.17 17:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	99	66 - 120	%		
4-Bromofluorobenzene	100	67 - 120	%		

Sample Id: **MW-11**

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-010

Date Collected: 11.08.17 15.25

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033362

Date Prep: 11.14.17 11.00

Prep seq: 7634358

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.15.17 11:38	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.15.17 11:38	U	1
Ethylbenzene	100-41-4	0.00480	0.00100	0.000616	mg/L	11.15.17 11:38		1
m_p-Xylenes	179601-23-1	0.00180	0.00200	0.000454	mg/L	11.15.17 11:38	J	1
o-Xylene	95-47-6	0.000700	0.00100	0.000270	mg/L	11.15.17 11:38	J	1
Xylenes, Total	1330-20-7	0.00250		0.000270	mg/L	11.15.17 11:38		
Total BTEX		0.00730		0.000270	mg/L	11.15.17 11:38		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	99	66 - 120	%		
4-Bromofluorobenzene	97	67 - 120	%		



Certificate of Analytical Results

568077



Terracon Lubbock, Lubbock, TX
Livingston Ridge HP Sim 2001-11005

Sample Id: **MW-12** Matrix: Water Sample Depth:
Lab Sample Id: 568077-011 Date Collected: 11.08.17 14.55 Date Received: 11.10.17 13.00
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3033362 Date Prep: 11.14.17 11.00
Prep seq: 7634358

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.15.17 12:05	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.15.17 12:05	U	1
Ethylbenzene	100-41-4	0.0273	0.00100	0.000616	mg/L	11.15.17 12:05		1
m_p-Xylenes	179601-23-1	0.00630	0.00200	0.000454	mg/L	11.15.17 12:05		1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.15.17 12:05	U	1
Xylenes, Total	1330-20-7	0.00630		0.000270	mg/L	11.15.17 12:05		
Total BTEX		0.0336		0.000270	mg/L	11.15.17 12:05		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	98	66 - 120	%		
4-Bromofluorobenzene	103	67 - 120	%		

Sample Id: **MW-13** Matrix: Water Sample Depth:
Lab Sample Id: 568077-012 Date Collected: 11.08.17 12.35 Date Received: 11.10.17 13.00
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3033184 Date Prep: 11.13.17 10.00
Prep seq: 7634248

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 18:59	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 18:59	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 18:59	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 18:59	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.13.17 18:59	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	11.13.17 18:59	U	
Total BTEX		<0.000270		0.000270	mg/L	11.13.17 18:59	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	100	66 - 120	%		
4-Bromofluorobenzene	102	67 - 120	%		



Certificate of Analytical Results

568077



Terracon Lubbock, Lubbock, TX

Livingston Ridge HP Sim 2001-11005

Sample Id: **MW-14**

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-013

Date Collected: 11.09.17 12.45

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033184

Date Prep: 11.13.17 10.00

Prep seq: 7634248

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 19:26	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 19:26	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 19:26	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 19:26	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.13.17 19:26	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	11.13.17 19:26	U	
Total BTEX		<0.000270		0.000270	mg/L	11.13.17 19:26	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	102	66 - 120	%		
4-Bromofluorobenzene	103	67 - 120	%		

Sample Id: **MW-15**

Matrix: Water

Sample Depth:

Lab Sample Id: 568077-014

Date Collected: 11.09.17 13.10

Date Received: 11.10.17 13.00

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033184

Date Prep: 11.13.17 10.00

Prep seq: 7634248

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 20:47	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 20:47	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 20:47	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 20:47	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.13.17 20:47	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	11.13.17 20:47	U	
Total BTEX		<0.000270		0.000270	mg/L	11.13.17 20:47	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	97	66 - 120	%		
4-Bromofluorobenzene	105	67 - 120	%		



Certificate of Analytical Results

568077



Terracon Lubbock, Lubbock, TX

Livingston Ridge HP Sim 2001-11005

Sample Id: 7634242-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 7634242-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033190

Date Prep: 11.13.17 10.00

Prep seq: 7634242

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 16:51	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 16:51	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 16:51	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 16:51	U	1
o-Xylene	95-47-6	0.000300	0.00100	0.000270	mg/L	11.13.17 16:51	J	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	81	66 - 120	%		
4-Bromofluorobenzene	88	67 - 120	%		

Sample Id: 7634248-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 7634248-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3033184

Date Prep: 11.13.17 10.00

Prep seq: 7634248

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.13.17 13:32	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.13.17 13:32	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.13.17 13:32	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.13.17 13:32	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.13.17 13:32	U	1

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



Certificate of Analytical Results

568077



Terracon Lubbock, Lubbock, TX
Livingston Ridge HP Sim 2001-11005

Sample Id: **7634343-1-BLK** Matrix: Water Sample Depth:
Lab Sample Id: 7634343-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3033288 Date Prep: 11.14.17 11.00
Prep seq: 7634343

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.14.17 18:07	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.14.17 18:07	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.14.17 18:07	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.14.17 18:07	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.14.17 18:07	U	1

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

Sample Id: **7634358-1-BLK** Matrix: Water Sample Depth:
Lab Sample Id: 7634358-1-BLK Date Collected: Date Received:
Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: MIT % Moist: Tech: MIT
Seq Number: 3033362 Date Prep: 11.14.17 11.00
Prep seq: 7634358

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	11.15.17 08:31	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	11.15.17 08:31	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	11.15.17 08:31	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	11.15.17 08:31	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	11.15.17 08:31	U	1

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

- 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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(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Livingston Ridge HP Sim 2001-11005

Work Orders : 568077,

Project ID: AR177190

Lab Batch #: 3033184

Sample: 7634248-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/13/17 12:11		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.104	0.100	104	66-120
4-Bromofluorobenzene		0.108	0.100	108	67-120

Lab Batch #: 3033184

Sample: 7634248-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/13/17 12:38		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.102	0.100	102	66-120
4-Bromofluorobenzene		0.110	0.100	110	67-120

Lab Batch #: 3033184

Sample: 7634248-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/13/17 13:32		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.0990	0.100	99	66-120
4-Bromofluorobenzene		0.103	0.100	103	67-120

Lab Batch #: 3033184

Sample: 567839-001 S / MS

Batch: 1 **Matrix:** Waste Water

Units: mg/L Date Analyzed: 11/13/17 14:27		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.102	0.100	102	66-120
4-Bromofluorobenzene		0.114	0.100	114	67-120

Lab Batch #: 3033184

Sample: 567839-001 SD / MSD

Batch: 1 **Matrix:** Waste Water

Units: mg/L Date Analyzed: 11/13/17 14:54		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.0987	0.100	99	66-120
4-Bromofluorobenzene		0.102	0.100	102	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: Livingston Ridge HP Sim 2001-11005

Work Orders : 568077,

Project ID: AR177190

Lab Batch #: 3033190

Sample: 7634242-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/13/17 15:30		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
a,a,a-Trifluorotoluene		0.0758	0.100	76	66-120
4-Bromofluorobenzene		0.0883	0.100	88	67-120

Lab Batch #: 3033190

Sample: 7634242-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/13/17 15:58		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
a,a,a-Trifluorotoluene		0.0775	0.100	78	66-120
4-Bromofluorobenzene		0.0871	0.100	87	67-120

Lab Batch #: 3033190

Sample: 7634242-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/13/17 16:51		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
a,a,a-Trifluorotoluene		0.0808	0.100	81	66-120
4-Bromofluorobenzene		0.0877	0.100	88	67-120

Lab Batch #: 3033190

Sample: 568055-001 S / MS

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/13/17 17:45		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
a,a,a-Trifluorotoluene		0.0766	0.100	77	66-120
4-Bromofluorobenzene		0.0879	0.100	88	67-120

Lab Batch #: 3033190

Sample: 568055-001 SD / MSD

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/13/17 18:12		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
a,a,a-Trifluorotoluene		0.0758	0.100	76	66-120
4-Bromofluorobenzene		0.0873	0.100	87	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: Livingston Ridge HP Sim 2001-11005

Work Orders : 568077,

Project ID: AR177190

Lab Batch #: 3033288

Sample: 7634343-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/14/17 16:19		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.0958	0.100	96	66-120
4-Bromofluorobenzene		0.0959	0.100	96	67-120

Lab Batch #: 3033288

Sample: 7634343-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/14/17 16:46		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.100	0.100	100	66-120
4-Bromofluorobenzene		0.0976	0.100	98	67-120

Lab Batch #: 3033288

Sample: 7634343-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/14/17 18:07		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.103	0.100	103	66-120
4-Bromofluorobenzene		0.0993	0.100	99	67-120

Lab Batch #: 3033288

Sample: 568157-002 S / MS

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/14/17 19:28		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.0974	0.100	97	66-120
4-Bromofluorobenzene		0.0949	0.100	95	67-120

Lab Batch #: 3033288

Sample: 568157-002 SD / MSD

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/14/17 19:55		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.101	0.100	101	66-120
4-Bromofluorobenzene		0.0976	0.100	98	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: Livingston Ridge HP Sim 2001-11005

Work Orders : 568077,

Project ID: AR177190

Lab Batch #: 3033362

Sample: 7634358-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/15/17 06:42		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.101	0.100	101	66-120
4-Bromofluorobenzene		0.101	0.100	101	67-120

Lab Batch #: 3033362

Sample: 7634358-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/15/17 07:09		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.100	0.100	100	66-120
4-Bromofluorobenzene		0.0984	0.100	98	67-120

Lab Batch #: 3033362

Sample: 7634358-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L Date Analyzed: 11/15/17 08:31		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.101	0.100	101	66-120
4-Bromofluorobenzene		0.103	0.100	103	67-120

Lab Batch #: 3033362

Sample: 568100-008 S / MS

Batch: 1 **Matrix:** Ground Water

Units: mg/L Date Analyzed: 11/15/17 09:24		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.516	0.500	103	66-120
4-Bromofluorobenzene		0.107	0.100	107	67-120

Lab Batch #: 3033362

Sample: 568100-008 SD / MSD

Batch: 1 **Matrix:** Ground Water

Units: mg/L Date Analyzed: 11/15/17 09:51		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.535	0.500	107	66-120
4-Bromofluorobenzene		0.111	0.100	111	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: Livingston Ridge HP Sim 2001-11005

Work Order #: 568077

Project ID: AR177190

Analyst: MIT

Date Prepared: 11/13/2017

Date Analyzed: 11/13/2017

Lab Batch ID: 3033190

Sample: 7634242-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000480	0.100	0.0868	87	0.100	0.0849	85	2	74-120	20	
Toluene	<0.000512	0.100	0.0882	88	0.100	0.0866	87	2	74-120	20	
Ethylbenzene	<0.000616	0.100	0.0875	88	0.100	0.0870	87	1	74-120	20	
m_p-Xylenes	<0.000454	0.200	0.176	88	0.200	0.176	88	0	73-120	25	
o-Xylene	0.000300	0.100	0.0882	88	0.100	0.0884	88	0	73-120	25	

Analyst: MIT

Date Prepared: 11/13/2017

Date Analyzed: 11/13/2017

Lab Batch ID: 3033184

Sample: 7634248-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000480	0.100	0.109	109	0.100	0.106	106	3	74-120	20	
Toluene	<0.000512	0.100	0.103	103	0.100	0.100	100	3	74-120	20	
Ethylbenzene	<0.000616	0.100	0.107	107	0.100	0.106	106	1	74-120	20	
m_p-Xylenes	<0.000454	0.200	0.213	107	0.200	0.211	106	1	73-120	25	
o-Xylene	<0.000270	0.100	0.107	107	0.100	0.105	105	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



BS / BSD Recoveries



Project Name: Livingston Ridge HP Sim 2001-11005

Work Order #: 568077

Project ID: AR177190

Analyst: MIT

Date Prepared: 11/14/2017

Date Analyzed: 11/14/2017

Lab Batch ID: 3033288

Sample: 7634343-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000480	0.100	0.103	103	0.100	0.105	105	2	74-120	20	
Toluene	<0.000512	0.100	0.0992	99	0.100	0.102	102	3	74-120	20	
Ethylbenzene	<0.000616	0.100	0.103	103	0.100	0.104	104	1	74-120	20	
m_p-Xylenes	<0.000454	0.200	0.204	102	0.200	0.208	104	2	73-120	25	
o-Xylene	<0.000270	0.100	0.103	103	0.100	0.105	105	2	73-120	25	

Analyst: MIT

Date Prepared: 11/14/2017

Date Analyzed: 11/15/2017

Lab Batch ID: 3033362

Sample: 7634358-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000480	0.100	0.110	110	0.100	0.104	104	6	74-120	20	
Toluene	<0.000512	0.100	0.106	106	0.100	0.101	101	5	74-120	20	
Ethylbenzene	<0.000616	0.100	0.109	109	0.100	0.103	103	6	74-120	20	
m_p-Xylenes	<0.000454	0.200	0.217	109	0.200	0.206	103	5	73-120	25	
o-Xylene	<0.000270	0.100	0.109	109	0.100	0.103	103	6	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: Livingston Ridge HP Sim 2001-11005

Work Order #: 568077

Project ID: AR177190

Lab Batch ID: 3033184

QC- Sample ID: 567839-001 S

Batch #: 1 Matrix: Waste Water

Date Analyzed: 11/13/2017

Date Prepared: 11/13/2017

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	<0.000480	0.100	0.109	109	0.100	0.107	107	2	15-147	25	
Toluene	<0.000512	0.100	0.104	104	0.100	0.101	101	3	11-147	25	
Ethylbenzene	<0.000616	0.100	0.107	107	0.100	0.104	104	3	10-149	25	
m_p-Xylenes	<0.000454	0.200	0.214	107	0.200	0.207	104	3	62-124	25	
o-Xylene	<0.000270	0.100	0.107	107	0.100	0.105	105	2	62-124	25	

Lab Batch ID: 3033190

QC- Sample ID: 568055-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 11/13/2017

Date Prepared: 11/13/2017

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	<0.000480	0.100	0.0235	24	0.100	0.0798	80	109	15-147	25	F
Toluene	<0.000512	0.100	0.0229	23	0.100	0.0804	80	111	11-147	25	F
Ethylbenzene	<0.000616	0.100	0.0234	23	0.100	0.0804	80	110	10-149	25	F
m_p-Xylenes	<0.000454	0.200	0.0474	24	0.200	0.162	81	109	62-124	25	XF
o-Xylene	<0.000270	0.100	0.0232	23	0.100	0.0812	81	111	62-124	25	XF

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.



Form 3 - MS / MSD Recoveries

Project Name: Livingston Ridge HP Sim 2001-11005

Work Order #: 568077

Project ID: AR177190

Lab Batch ID: 3033288

QC- Sample ID: 568157-002 S

Batch #: 1 Matrix: Water

Date Analyzed: 11/14/2017

Date Prepared: 11/14/2017

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	<0.000480	0.100	0.103	103	0.100	0.102	102	1	15-147	25	
Toluene	<0.000512	0.100	0.100	100	0.100	0.101	101	1	11-147	25	
Ethylbenzene	<0.000616	0.100	0.103	103	0.100	0.103	103	0	10-149	25	
m_p-Xylenes	<0.000454	0.200	0.206	103	0.200	0.206	103	0	62-124	25	
o-Xylene	<0.000270	0.100	0.103	103	0.100	0.102	102	1	62-124	25	

Lab Batch ID: 3033362

QC- Sample ID: 568100-008 S

Batch #: 1 Matrix: Ground Water

Date Analyzed: 11/15/2017

Date Prepared: 11/14/2017

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	0.607	0.500	1.09	97	0.500	1.13	105	4	15-147	25	
Toluene	0.00800	0.500	0.491	97	0.500	0.536	106	9	11-147	25	
Ethylbenzene	0.0145	0.500	0.502	98	0.500	0.546	106	8	10-149	25	
m_p-Xylenes	0.0575	1.00	1.03	97	1.00	1.12	106	8	62-124	25	
o-Xylene	0.0175	0.500	0.511	99	0.500	0.550	107	7	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: 11/10/2017 01:00:00 PM

Work Order #: 568077

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)?	2.5
#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
Brenda Ward

Date: 11/10/2017

Checklist reviewed by:

Mike Kimmel
Mike Kimmel

Date: 11/12/2017

APPENDIX D

Historical Data Tables

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-1	12/27/07	3,374.23	2 ²	32.44	-	3,341.79		
	01/18/08		-	32.56	-	3,341.67		
	02/20/08		-	32.58	-	3,341.65		
	02/29/08		-	32.57	-	3,341.66		
	03/11/08		-	32.66	-	3,341.57		
	04/30/08		-	32.65	-	3,341.58		
	05/28/08		-	32.78	-	3,341.45		
	06/25/08		-	32.92	-	3,341.31		
	07/02/08		-	32.97	-	3,341.26	0.10	20.00
	07/07/08		-	33.00	-	3,341.23	0.10	10.00
	07/14/08		-	33.07	-	3,341.16	0.10	25.00
	07/22/08		-	33.09	-	3,341.14	0.10	10.00
	07/30/08		-	29.15	-	3,345.08		
	08/05/08		-	29.24	-	3,344.99		15.00
	08/14/08		-	33.25	-	3,340.98	0.10	5.00
	08/21/08		-	33.12	-	3,341.11		
	08/27/08		-	33.13	-	3,341.10		25.00
	09/20/08		-	33.07	-	3,341.16		30.00
	09/29/08		-	33.11	-	3,341.12		40.00
	11/06/08		-	33.08	-	3,341.15		0.00
	11/15/08		-	33.11	-	3,341.12		25.00
	11/24/08		-	33.04	-	3,341.19		50.00
	11/26/08		-	33.04	-	3,341.19		50.00
	12/20/08		-	33.09	-	3,341.14		50.00
	01/16/09		-	33.13	-	3,341.10		
	02/09/09		-	33.10	-	3,341.13		
	04/08/09		-	33.21	-	3,341.02		50.00
	04/16/09		-	33.25	-	3,340.98		50.00
	04/22/09		-	32.32	-	3,341.91		40.00
	04/29/08		-	33.24	-	3,340.99		50.00
	05/06/09		-	33.85	-	3,340.38		50.00
	05/14/09		-	33.33	-	3,340.90		
	07/08/09		-	33.51	-	3,340.72		30.00
	07/24/09		-	33.53	-	3,340.70		
	08/04/09		-	34.35	-	3,339.88		55.00
	08/13/09		-	33.58	-	3,340.65		
	08/19/09		-	33.24	-	3,340.99		45.00
	09/01/09		33.68	33.72	0.04	3,340.54	5.00	49.50
	09/22/09		33.79	33.81	0.02	3,340.44	0.25	5.00
	10/12/09		-	33.85	-	3,340.39		23.00
	10/30/09		-	33.94	-	3,340.29		
	11/10/09		-	33.97	-	3,340.26	1.00	24.00
	01/08/10		-	33.93	-	3,340.30		15.00
	01/22/10		-	33.94	-	3,340.29		10.00
	01/26/10		-	33.09	-	3,341.14		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-1	02/03/10	3,374.23	-	34.08	-	3,340.15		
	02/10/10		-	33.97	-	3,340.26		30.00
	02/22/10		-	33.92	-	3,340.31		30.00
	03/09/10		-	33.95	-	3,340.28		50.00
	03/24/10		-	34.00	-	3,340.23		50.00
	04/12/10		-	33.92	-	3,340.31		50.00
	04/27/10		-	34.93	-	3,339.30		50.00
	05/27/10		-	34.09	-	3,340.14		
	06/21/10		-	34.15	-	3,340.08		45.00
	07/07/10		-	34.13	-	3,340.10		50.00
	07/20/10		-	34.00	-	3,340.23		55.00
	08/03/10		-	34.16	-	3,340.07		50.00
	08/16/10		-	34.23	-	3,340.00		45.00
	09/02/10		-	34.28	-	3,339.95		30.00
	09/17/10		-	34.36	-	3,339.87		30.00
	10/05/10		-	34.43	-	3,339.80		20.00
	11/11/10		-	34.55	-	3,339.68		
	12/15/10		34.39	34.42	0.03	3,339.84		
	12/29/10		34.36	34.40	0.04	3,339.86		20.00
	02/18/11		34.44	34.50	0.06	3,339.78		
	03/02/11		34.45	34.65	0.20	3,339.75	0.10	25.00
	03/16/11		34.57	34.64	0.07	3,339.65	0.10	20.00
	03/29/11		34.51	34.54	0.03	3,339.72		30.00
	04/15/11		-	34.57	-	3,339.67		20.00
	04/18/11		-	34.53	-	3,339.70		25.00
	04/29/11		-	34.58	-	3,339.65		20.00
	05/06/11		-	34.58	-	3,339.65		20.00
	05/20/11		-	34.65	-	3,339.58		25.00
	05/25/11		-	34.69	-	3,339.54		
	06/01/11		-	34.75	-	3,339.48		20.00
	06/14/11		-	25.60	-	3,348.63		
	07/30/11		-	35.24	-	3,338.99		
	09/20/11		-	35.60	-	3,338.64		
	10/03/11		35.75	36.05	0.30	3,338.44		
	10/28/11		35.80	35.88	0.08	3,338.42		
	11/10/11		35.80	35.87	0.07	3,338.42		20.00
	12/09/11		-	36.30	-	3,337.93		20.00
	02/24/12		-	36.02	-	3,338.21		20.00
	02/29/12		-	36.11	-	3,338.12		
	03/27/12		-	36.21	-	3,338.02		20.00
	04/12/12		-	36.33	-	3,337.90		20.00
	04/19/12		-	36.28	-	3,337.95		20.00
	05/05/12		-	36.35	-	3,337.88		20.00
	05/17/12		-	36.40	-	3,337.83		
	06/21/12		-	36.40	-	3,337.83		20.00

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-1	07/09/12	3,374.23	-	36.53	-	3,337.70		25.00
	08/02/12		-	36.60	-	3,337.63		
	08/15/12		-	36.72	-	3,337.51		
	08/28/12		-	36.80	-	3,337.43		
	09/12/12		-	37.12	-	3,337.11		25.00
	09/26/12		-	37.10	-	3,337.13		
	10/10/12		-	37.07	-	3,337.16		25.00
	10/26/12		-	37.08	-	3,337.15		
	11/06/12		-	37.12	-	3,337.11		
	11/07/12		-	37.11	-	3,337.12		5.00
	11/20/12		-	37.16	-	3,337.07		25.00
	01/11/13		-	37.18	-	3,337.05		25.00
	01/25/13		-	37.20	-	3,337.03		25.00
	02/22/13		-	37.36	-	3,336.87		
	02/07/13		37.17	37.20	0.03	3,337.06		25.00
	03/08/13		-	37.20	-	3,337.03		25.00
	03/21/13		-	37.25	-	3,336.98		25.00
	04/04/13		37.35	37.38	0.03	3,336.88		25.00
	04/17/13		-	37.24	-	3,337.01		25.00
	05/01/13		-	37.35	-	3,336.89		25.00
	05/23/13		-	37.29	-	3,336.95		25.00
	06/13/13		-	37.42	-	3,336.81		25.00
	06/28/13		-	37.52	-	3,336.72		25.00
	07/10/13		-	37.60	-	3,336.63		25.00
	07/24/13		-	37.67	-	3,336.56		
	08/08/13		-	37.76	-	3,336.47		
	08/22/13		-	37.90	-	3,336.33		
	09/05/13		-	38.01	-	3,336.23		
	09/19/13		-	38.11	-	3,336.13		5.00
	10/07/13		-	38.19	-	3,336.05		25.00
	10/17/13		-	38.19	-	3,336.05		35.00
	10/31/13		-	38.07	-	3,336.17		25.00
	11/13/13		-	38.06	-	3,336.17		
	11/27/13		-	38.04	-	3,336.20		25.00
	12/11/13		-	38.05	-	3,336.19		25.00
	12/22/13		-	38.06	-	3,336.18		25.00
	01/09/14		-	38.02	-	3,336.22	0.10	25.00
	01/23/14		-	38.07	-	3,336.17	0.10	25.00
	02/05/14		-	38.06	-	3,336.18	0.10	25.00
	02/20/14		-	38.03	-	3,336.20	0.10	
	03/05/14		-	38.02	-	3,336.22	0.10	
	03/19/14		-	38.04	-	3,336.20	0.10	25.00
	04/02/14		-	38.00	-	3,336.24	0.10	25.00
	04/16/14		-	37.99	-	3,336.25		
	05/01/14		-	38.03	-	3,336.21	0.25	25.00

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-1	05/13/14	3,374.23	-	38.06	-	3,336.18	0.10	25.00
	05/28/14		-	38.13	-	3,336.11	0.05	30.00
	06/10/14		-	38.26	-	3,335.98	0.10	30.00
	06/24/14		-	38.37	-	3,335.87	0.15	30.00
	07/08/14		-	38.46	-	3,335.77		
	07/23/14		-	38.59	-	3,335.65		30.00
	08/05/14		-	38.74	-	3,335.50		30.00
	08/12/14		-	38.78	-	3,335.46		30.00
	09/03/14		-	38.94	-	3,335.30		30.00
	09/16/14		-	38.72	-	3,335.52		30.00
	09/30/14		-	35.87	-	3,338.37	0.13	30.00
	10/04/14		-	35.52	-	3,338.72	0.13	
	10/21/14		-	35.11	-	3,339.13		30.00
	10/28/14		-	35.11	-	3,339.13	0.15	30.00
	11/13/14		-	35.12	-	3,339.11		30.00
	11/25/14		-	35.21	-	3,339.02	0.23	30.00
	12/10/14		-	35.28	-	3,338.96		30.00
	12/21/14		-	35.33	-	3,338.90		30.00
	01/14/15		-	35.56	-	3,338.67		30.00
	01/21/15		-	35.61	-	3,338.62		30.00
	02/17/15		-	35.83	-	3,338.40		30.00
	03/04/15		-	35.90	-	3,338.33		
	03/20/15		-	35.98	-	3,338.25		30.00
	04/01/15		-	35.99	-	3,338.24		
	04/15/15		-	36.02	-	3,338.21		
	04/28/15		-	36.13	-	3,338.10		30.00
	05/12/15		-	36.19	-	3,338.04		30.00
	05/27/15		-	36.22	-	3,338.01		30.00
	06/09/15		-	36.30	-	3,337.93		30.00
	06/23/15		-	36.39	-	3,337.84		30.00
	07/14/15		-	36.57	-	3,337.66		30.00
	08/04/15		-	36.82	-	3,337.41		
	08/18/15		-	36.93	-	3,337.30		
	09/12/15		-	37.16	-	3,337.07		
	10/01/15		-	37.27	-	3,336.96		30.00
	10/13/15		-	37.29	-	3,336.94		
	10/27/15		-	37.26	-	3,336.97		30.00
	11/12/15		-	37.25	-	3,336.98		
	11/24/15		-	37.21	-	3,337.02		
	12/09/15		-	37.22	-	3,337.01		
	12/22/15		-	37.19	-	3,337.04		
	01/06/16		-	37.23	-	3,337.00		
	01/20/16		-	37.21	-	3,337.02		
	03/01/16		-	37.30	-	3,336.94		
	03/15/16		-	37.29	-	3,336.94		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-1	03/30/16	3,374.23	-	37.24	-	3,336.99		
	04/26/16		-	37.20	-	3,337.03		
	05/17/16		Partial Gauging					
	06/01/16		-	37.39	-	3,336.84		
	06/14/16		-	37.47	-	3,336.76		
	06/28/16		-	37.60	-	3,336.63		
	07/23/16		-	37.87	-	3,336.36		
	08/11/16		-	38.07	-	3,336.17		
	08/23/16		-	38.14	-	3,336.10		
	09/06/16		-	38.03	-	3,336.21		
	09/20/16		-	36.93	-	3,337.31		
	10/06/16		-	35.73	-	3,338.51		
	10/17/16		-	35.65	-	3,338.59		
	10/31/16		-	35.76	-	3,338.47		
	11/17/16		-	35.87	-	3,338.36		
	12/01/16		-	35.96	-	3,338.27		
	12/21/16		-	35.92	-	3,338.31		
MW-2	08/15/02	3,378.27	-	41.67	-	3,336.60		
	09/30/02		-	42.46	-	3,335.81		
	11/06/02		-	41.88	-	3,336.39		
	02/27/03		-	41.31	-	3,336.96		
	03/18/03		-	41.37	-	3,336.90		
	05/12/03		-	41.60	-	3,336.67		
	08/20/03		-	42.53	-	3,335.74		
	11/10/03		-	42.02	-	3,336.25		
	02/17/04		-	43.19	-	3,335.08		
	05/06/04		-	39.43	-	3,338.84		
	08/18/04		-	37.87	-	3,340.40		
	09/10/04		-	37.63	-	3,340.64		
	09/21/04		-	37.67	-	3,340.60		
	10/05/04		-	36.00	-	3,342.27		
	10/19/04		-	33.67	-	3,344.60		
	11/02/04		-	33.95	-	3,344.32		
	11/15/04		-	33.10	-	3,345.17		
	12/06/04		-	33.13	-	3,345.14		
	12/21/04		-	33.04	-	3,345.23		
	01/03/05		-	33.27	-	3,345.00		
	01/18/05		-	33.50	-	3,344.77		
	02/01/05		-	33.63	-	3,344.64		
	02/22/05		-	34.05	-	3,344.22		
	04/21/05		-	34.34	-	3,343.93		
	05/05/05		-	34.38	-	3,343.89		
	05/17/05		-	34.41	-	3,343.86		
	06/08/05		-	34.62	-	3,343.65		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-2	06/22/05	3,378.27	-	34.78	-	3,343.49		
	07/20/05		-	35.01	-	3,343.26		
	08/15/05		-	34.73	-	3,343.54		
	08/31/05		-	34.64	-	3,343.63		
	09/14/05		-	34.60	-	3,343.67		
	09/28/05		-	34.71	-	3,343.56		
	11/09/05		-	35.18	-	3,343.09		
	11/18/05		-	34.92	-	3,343.35		
	11/30/05		-	35.29	-	3,342.98		
	12/14/05		-	35.46	-	3,342.81		
	12/28/05		-	35.51	-	3,342.76		
	01/11/06		-	35.59	-	3,342.68		
	01/25/06		-	35.77	-	3,342.50		
	02/08/06		-	35.80	-	3,342.47		
	02/16/06		-	35.24	-	3,343.03		
	02/22/06		-	35.83	-	3,342.44		
	03/08/06		-	35.84	-	3,342.43		
	04/10/06		-	35.42	-	3,342.85		
	05/22/06		-	35.51	-	3,342.76		
	07/12/06		-	35.74	-	3,342.53		
	08/07/06		-	36.10	-	3,342.17		
	10/17/06		-	35.57	-	3,342.70		
	11/21/06		-	35.72	-	3,342.55		
	12/13/06		-	35.79	-	3,342.48		
	01/09/07		-	35.96	-	3,342.31		
	02/14/07		-	35.93	-	3,342.34		
	02/28/07		-	35.88	-	3,342.39		
	03/13/07		-	35.94	-	3,342.33		
	05/11/07		-	35.73	-	3,342.54		
	08/20/07		-	35.51	-	3,342.76		
	11/16/07		-	35.88	-	3,342.39		
	02/29/08		-	36.04	-	3,342.23		
	05/28/08		-	36.15	-	3,342.12		
	08/21/08		-	36.65	-	3,341.62		
	11/06/08		-	36.49	-	3,341.78		
	02/09/09		-	36.55	-	3,341.72		
	05/14/09		-	36.70	-	3,341.57		
	08/12/09		-	37.05	-	3,341.22		
	11/10/09		-	37.34	-	3,340.93		
	02/03/10		-	37.35	-	3,340.92		
	05/27/10		-	37.43	-	3,340.84		
	08/16/10		-	37.64	-	3,340.63		
	11/11/10		-	37.81	-	3,340.46		
	02/18/11		-	37.86	-	3,340.41		
	05/25/11		-	38.11	-	3,340.16		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-2	10/03/11	3,378.27	-	39.14	-	3,339.13		
	10/28/11		-	39.22	-	3,339.05		
	11/10/11		-	39.25	-	3,339.02		
	12/09/11		-	39.38	-	3,338.89		
	02/24/12		-	39.40	-	3,338.87		
	02/29/12		-	39.41	-	3,338.86		
	03/27/12		-	39.49	-	3,338.78		
	04/12/12		-	39.65	-	3,338.62		
	04/19/12		-	39.64	-	3,338.63		
	05/05/12		-	39.64	-	3,338.63		
	05/17/12		-	39.63	-	3,338.64		
	06/21/12		-	39.83	-	3,338.44		
	07/09/12		-	39.90	-	3,338.37		
	08/02/12		-	40.11	-	3,338.16		
	08/15/12		-	40.23	-	3,338.04		
	08/28/12		-	40.35	-	3,337.92		
	09/12/12		-	40.56	-	3,337.71		
	09/26/12		-	40.62	-	3,337.65		
	10/10/12		-	40.60	-	3,337.67		
	10/26/12		-	40.65	-	3,337.62		
	11/06/12		-	40.66	-	3,337.61		5.00
	11/07/12		-	40.67	-	3,337.60		5.00
	11/20/12		-	40.73	-	3,337.54		
	01/11/13		-	40.61	-	3,337.66		
	01/25/13		-	40.78	-	3,337.49		
	02/07/13		-	40.79	-	3,337.48		
	02/22/13		-	40.90	-	3,337.37		
	03/08/13		-	41.78	-	3,336.49		
	03/21/13		-	40.80	-	3,337.47		
	04/04/13		-	40.95	-	3,337.32		
	04/17/13		-	40.89	-	3,337.38		
	05/01/13		-	40.98	-	3,337.29		
	05/23/13		-	40.94	-	3,337.33		
	06/13/13		-	41.02	-	3,337.25		
	06/28/13		-	41.10	-	3,337.18		
	07/10/13		41.20	41.22	0.02	3,337.07		
	07/24/13		-	41.27	-	3,337.00		
	08/08/13		-	41.39	-	3,336.88		
	08/22/13		-	41.50	-	3,336.77		
	09/05/13		-	41.62	-	3,336.66		
	09/19/13		-	41.73	-	3,336.55		5.00
	10/07/13		-	41.81	-	3,336.47		
	10/17/13		-	41.83	-	3,336.45		
	10/31/13		-	41.77	-	3,336.51		
	11/13/13		-	41.75	-	3,336.53		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-2	11/27/13	3,378.27	-	41.74	-	3,336.54		
	12/11/13		-	41.74	-	3,336.54		
	12/22/13		-	41.74	-	3,336.54		
	01/09/14		-	41.72	-	3,336.56		
	01/23/14		-	41.74	-	3,336.54		
	02/05/14		-	41.74	-	3,336.54		
	02/20/14		-	41.73	-	3,336.55		
	03/05/14		-	41.71	-	3,336.57		
	03/19/14		-	41.72	-	3,336.56		
	04/02/14		-	41.71	-	3,336.57		
	04/16/14		-	41.72	-	3,336.56		
	05/01/14		-	41.74	-	3,336.54		
	05/13/14		-	41.75	-	3,336.53		
	05/28/14		-	41.81	-	3,336.46		
	06/10/14		-	41.91	-	3,336.36		
	06/24/14		-	42.01	-	3,336.26		
	07/08/14		-	42.11	-	3,336.17		
	07/23/14		-	42.24	-	3,336.03		
	08/05/14		-	42.37	-	3,335.91		
	08/12/14		-	42.42	-	3,335.86		
	09/03/14		-	42.57	-	3,335.70		
	09/16/14		-	42.51	-	3,335.76		
	09/30/14		-	40.78	-	3,337.49		
	10/04/14		-	40.34	-	3,337.93		
	10/21/14		-	39.50	-	3,338.77		
	10/28/14		-	39.37	-	3,338.90		
	11/13/14		-	39.20	-	3,339.07		
	11/25/14		-	39.11	-	3,339.16		
	12/10/14		-	39.13	-	3,339.14		
	12/21/14		-	39.16	-	3,339.11		
	01/14/15		-	39.39	-	3,338.88		
	01/21/15		-	39.36	-	3,338.91		
	02/17/15		-	39.52	-	3,338.75		
	03/04/15		-	39.61	-	3,338.66		
	03/20/15		-	39.67	-	3,338.60		
	04/01/15		-	39.67	-	3,338.60		
	04/15/15		-	39.74	-	3,338.53		
	04/28/15		-	39.80	-	3,338.47		
	05/12/15		-	39.87	-	3,338.40		
	05/27/15		-	39.91	-	3,338.36		
	06/09/15		-	40.00	-	3,338.27		
	06/23/15		-	40.12	-	3,338.15		
	07/14/15		-	40.30	-	3,337.97		
	08/04/15		-	40.57	-	3,337.70		
	08/18/15		-	40.67	-	3,337.60		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-2	09/12/15	3,378.27	-	40.86	-	3,337.41		
	10/01/15		-	40.97	-	3,337.30		
	10/13/15		-	41.00	-	3,337.27		
	10/27/15		-	40.98	-	3,337.29		
	11/12/15		-	40.96	-	3,337.31		
	11/24/15		-	40.93	-	3,337.34		
	12/09/15		-	40.93	-	3,337.34		
	12/22/15		-	40.92	-	3,337.35		
	01/06/16		-	40.95	-	3,337.32		
	01/20/16		-	40.95	-	3,337.32		
	03/01/16		-	40.98	-	3,337.29		
	03/15/16		-	40.97	-	3,337.30		
	03/30/16		-	40.94	-	3,337.33		
	04/26/16		-	40.92	-	3,337.35		
	05/17/16		Partial Gauging					
	06/01/16		-	41.10	-	3,337.17		
	06/14/16		-	41.19	-	3,337.08		
	06/28/16		-	41.32	-	3,336.95		
	07/23/16		-	41.60	-	3,336.67		
	08/11/16		-	41.77	-	3,336.50		
	08/23/16		-	41.84	-	3,336.43		
	09/06/16		-	41.77	-	3,336.50		
	09/20/16		-	41.26	-	3,337.01		
	10/06/16		-	39.95	-	3,338.32		
	10/17/16		-	39.70	-	3,338.57		
	10/31/16		-	39.64	-	3,338.63		
	11/17/16		-	39.60	-	3,338.67		
	12/01/16		-	39.63	-	3,338.64		
	12/21/16		-	39.69	-	3,338.58		
MW-3	08/15/02	3,367.36	-	36.22	-	3,336.51		
	09/30/02		-	37.13	-	3,335.60		
	11/06/02		-	35.72	-	3,337.01		
	02/27/03		36.11	36.34	0.23	3,336.59		
	03/06/03		35.97	37.06	1.09	3,336.60		
	03/18/03		-	36.00	-	3,336.73		
	03/20/03		-	36.05	-	3,336.68		
	03/27/03		-	36.02	-	3,336.71		
	04/16/03		-	36.18	-	3,336.55		
	05/12/03		-	36.24	-	3,336.49		
	05/21/03		-	36.34	-	3,336.39		
	06/03/03		-	36.36	-	3,336.37		
	07/31/03		-	35.47	-	3,337.26		
	08/06/03		-	37.39	-	3,335.34		
	08/20/03		-	37.66	-	3,335.07		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-3	10/02/03	3,367.36	-	37.71	-	3,335.02		
	10/07/03		-	38.69	-	3,334.05		
	10/16/03		-	38.00	-	3,334.73		
	10/22/03		-	38.09	-	3,334.64		
	10/28/03		-	38.09	-	3,334.64		
	11/06/03		-	38.19	-	3,334.54		
	11/10/03		-	38.21	-	3,334.52		
	11/18/03		-	37.93	-	3,334.80		
	11/25/03		-	32.35	-	3,335.01		
	12/04/03		-	37.93	-	3,334.80		
	12/17/03		-	37.95	-	3,334.78		
	12/22/03		-	38.63	-	3,334.11		
	01/02/04		-	37.85	-	3,334.88		
	01/19/04		-	38.31	-	3,334.42		
	01/27/04		-	38.24	-	3,334.49		
	02/02/04		-	38.34	-	3,334.39		
	02/17/04		-	37.87	-	3,334.86		
	02/25/04		-	37.86	-	3,334.87		
	03/01/04		-	37.84	-	3,334.89		
	03/10/04		-	37.87	-	3,334.86		
	03/15/04		-	37.99	-	3,334.74		
	03/17/04		-	38.27	-	3,334.46		
	03/22/04		-	38.20	-	3,334.53		
	03/24/04		-	37.81	-	3,334.92		
	03/29/04		-	38.29	-	3,334.44		
	03/31/04		-	38.30	-	3,334.43		
	04/12/04		36.30	37.94	1.64	3,336.18		
	04/15/04		-	33.87	-	3,338.86		
	04/19/04		-	33.29	-	3,339.44		
	05/06/04		-	33.66	-	3,339.07		
	06/23/04		33.52	33.57	0.05	3,339.20		
	06/25/04		33.49	33.56	0.07	3,339.23		
	06/30/04		33.47	33.52	0.05	3,339.25		
	08/18/04		-	32.41	-	3,340.32		
	09/10/04		-	31.95	-	3,340.78		
	09/21/04		-	32.19	-	3,340.54		
	10/05/04		-	29.12	-	3,343.61		
	10/19/04		-	27.05	-	3,345.68		
	11/02/04		-	27.14	-	3,345.59		
	11/15/04		-	27.37	-	3,345.36		
	12/06/04		-	27.62	-	3,345.11		
	12/21/04		-	27.63	-	3,345.10		
	01/03/05		-	28.02	-	3,344.71		
	01/18/05		-	28.25	-	3,344.48		
	02/01/05		-	28.46	-	3,344.27		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-3	02/22/05	3,367.36	-	29.00	-	3,343.73		
	04/21/05		-	29.24	-	3,343.49		
	05/05/05		-	29.24	-	3,343.49		
	05/17/05		-	31.34	-	3,341.39		
	06/08/05		-	29.56	-	3,343.17		
	06/15/05		-	29.61	-	3,343.12		
	06/22/05		-	29.69	-	3,343.04		
	07/20/05		-	29.96	-	3,342.77		
	08/15/05		-	29.54	-	3,343.19		
	08/31/05		-	29.40	-	3,343.33		
	09/14/05		-	29.44	-	3,343.29		
	09/28/05		-	29.66	-	3,343.07		
	11/09/05		-	30.14	-	3,342.59		
	11/18/05		-	29.86	-	3,342.87		
	11/30/05		-	30.23	-	3,342.50		
	12/14/05		-	30.39	-	3,342.34		
	12/28/05		-	30.44	-	3,342.29		
	01/11/06		-	30.48	-	3,342.25		
	01/25/06		-	30.65	-	3,342.08		
	02/08/06		-	30.71	-	3,342.02		
	02/16/06		-	30.17	-	3,342.56		
	02/22/06		-	30.74	-	3,341.99		
	03/08/06		-	30.76	-	3,341.97		
	04/10/06		-	30.33	-	3,342.40		
	05/22/06		-	30.53	-	3,342.20		
	07/12/06		-	30.62	-	3,342.11		
	08/07/06		-	31.00	-	3,341.73		
	10/17/06		-	30.36	-	3,342.37		
	11/21/06		-	30.50	-	3,342.23		
	12/13/06		-	30.61	-	3,342.12		
	01/09/07		-	30.91	-	3,341.82		
	02/14/07		-	30.68	-	3,342.05		
	02/28/07		-	30.65	-	3,342.08		
	03/13/07		-	30.69	-	3,342.04		
	05/11/07		-	30.09	-	3,342.64		
	05/29/07		-	29.58	-	3,343.15		
	06/06/07		-	29.59	-	3,343.14		
	06/21/07		-	29.75	-	3,342.98		
	07/12/07		-	29.93	-	3,342.80		
	07/25/07		-	30.18	-	3,342.55		
	08/08/07		-	32.00	-	3,340.73		
	08/20/07		-	30.33	-	3,342.40		
	09/07/07		-	30.48	-	3,342.25		
	09/19/07		-	32.55	-	3,340.18		
	10/01/07		-	30.59	-	3,342.14		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-3	10/15/07	3,367.36	-	30.61	-	3,342.12		
	11/02/07		-	30.69	-	3,342.04		
	11/16/07		-	30.68	-	3,342.05		
	11/29/07		-	30.28	-	3,342.45		
	02/29/08		-	25.44	-	3,341.92		
	05/28/08		-	25.55	-	3,341.81		
	08/21/08		-	26.11	-	3,341.25		
	11/06/08		-	25.89	-	3,341.47		
	02/09/09		-	25.98	-	3,341.38		
	05/14/09		-	26.18	-	3,341.18		
	08/13/09		-	26.48	-	3,340.88		
	11/10/09		-	26.83	-	3,340.53		
	02/03/10		-	26.80	-	3,340.56		
	05/27/10		-	26.88	-	3,340.48		
	08/16/10		-	27.13	-	3,340.23		
	11/11/10		-	27.15	-	3,340.21		
	05/25/11		-	30.79	-	3,336.57		
	09/20/11		Dry					
	10/03/11		Dry					
	10/28/11		Dry					
	11/10/11		Dry					
	12/09/11		Dry					
	02/24/12		Dry					
	02/29/12		Dry					
	03/27/12		Dry					
	04/12/12		Dry					
	04/19/12		Dry					
	05/05/12		Dry					
	05/17/12		Dry					
	06/21/12		Dry					
	07/09/12		Dry					
	08/02/12		Dry					
	08/15/12		Dry					
	08/28/12		Dry					
	09/12/12		Dry					
	09/26/12		Dry					
	10/10/12		Dry					
	10/26/12		Dry					
	11/07/12		Dry					
	11/20/12		Dry					
	01/11/13		Dry					
	01/25/13		Dry					
	02/07/13		Dry					
	02/22/13		Dry					
	03/08/13		Dry					

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-3	03/21/13	3,367.36	Dry					
	04/04/13		Dry					
	04/17/13		Dry					
	05/01/13		Dry					
	05/23/13		Dry					
	06/13/13		Dry					
	06/28/13		Dry					
	07/10/13		Dry					
	07/24/13		Dry					
	08/08/13		Dry					
	08/22/13		Dry					
	09/05/13		Dry					
	09/19/13		Dry					
	10/07/13		Dry					
	10/17/13		Dry					
	10/31/13		Dry					
	11/13/13		Dry					
	11/27/13		Dry					
	12/11/13		Dry					
	12/22/13		Dry					
	01/09/14		Dry					
	01/23/14		Dry					
	02/05/14		Dry					
	02/20/14		Dry					
	03/05/14		Dry					
	03/19/14		Dry					
	04/02/14		Dry					
	04/16/14		Dry					
	05/01/14		Dry					
	05/13/14		Dry					
	05/28/14		Dry					
	06/10/14		Dry					
	06/24/14		Dry					
	07/08/14		Dry					
	07/23/14		Dry					
	08/05/14		Dry					
	08/12/14		Dry					
	09/03/14		Dry					
	09/16/14		Dry					
	09/30/14		-	26.74	-	3,346.00		
	10/04/14		-	26.87	-	3,345.87		
	10/21/14		Dry					
	10/28/14		Dry					
	11/13/14		Dry					
	11/25/14		Dry					

1. PSH = Phase Separated Hydrocarbons

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2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
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Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
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All elevations are measured in feet above mean sea level

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MW-3	12/10/14	3,367.36				Dry		
	12/21/14					Dry		
	01/14/15					Dry		
	01/21/15					Dry		
	02/17/15					Dry		
	03/04/15					Dry		
	03/20/15					Dry		
	04/01/15					Dry		
	04/15/15					Dry		
	04/28/15					Dry		
	05/12/15					Dry		
	05/27/15					Dry		
	06/09/15					Dry		
	06/23/15					Dry		
	07/14/15					Dry		
	08/04/15					Dry		
	08/18/15					Dry		
	09/12/15					Dry		
	10/01/15					Dry		
	10/13/15					Dry		
	10/27/15					Dry		
	11/12/15					Dry		
	11/24/15					Dry		
	12/09/15					Dry		
	12/22/15					Dry		
	01/06/16					Dry		
	01/20/16					Dry		
	03/01/16					Dry		
	03/15/16					Dry		
	03/30/16					Dry		
	04/26/16					Dry		
	05/17/16					Partial Gauging		
	06/01/16					Dry		
	06/14/16					Dry		
	06/28/16					Dry		
	07/23/16					Dry		
	08/11/16					Dry		
	08/23/16					Dry		
	09/06/16					Dry		
	09/20/16					Dry		
	10/06/16					Dry		
	10/17/16					Dry		
	10/31/16					Dry		
	11/17/16					Dry		
	12/01/16					Dry		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
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Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-3	12/21/16	3,367.36	Dry					
MW-4	08/15/02	3,370.92	34.52	34.85	0.33	3,338.16		
	08/23/02		34.77	35.20	0.43	3,337.90		
	08/27/02		34.84	35.19	0.35	3,337.84		
	08/29/02		34.90	35.20	0.30	3,337.79		
	09/04/02		35.03	35.05	0.02	3,337.70		
	09/30/02		35.48	35.88	0.40	3,337.19		
	10/02/02		35.39	35.85	0.46	3,337.27		
	10/03/02		34.51	34.86	0.35	3,338.17		
	10/08/02		35.57	36.02	0.45	3,337.09		
	10/15/02		35.65	35.97	0.32	3,337.03		
	11/06/02		33.72	33.80	0.08	3,339.00		
	12/27/02		33.79	33.92	0.13	3,338.92		
	01/07/03		-	34.19	-	3,338.54		
	01/27/03		-	34.21	-	3,338.52		
	02/27/03		34.53	34.66	0.13	3,338.18		
	03/06/03		-	34.56	-	3,338.17		
	03/18/03		-	34.63	-	3,338.10		
	03/20/03		-	34.64	-	3,338.09		
	03/27/03		-	34.48	-	3,338.25		
	04/16/03		-	34.81	-	3,337.92		
	05/12/03		-	34.66	-	3,338.07		
	05/21/03		-	34.94	-	3,337.79		
	06/03/03		-	34.92	-	3,337.81		
	07/31/03		-	35.47	-	3,337.26		
	08/06/03		-	35.82	-	3,336.91		
	08/20/03		-	36.03	-	3,336.70		
	10/02/03		-	36.16	-	3,336.57		
	10/07/03		-	36.29	-	3,336.44		
	10/16/03		-	36.54	-	3,336.19		
	10/22/03		-	36.59	-	3,336.14		
	10/28/03		-	36.63	-	3,336.10		
	11/06/03		-	36.75	-	3,335.98		
	11/10/03		-	36.79	-	3,335.94		
	11/18/03		-	36.48	-	3,336.25		
	12/04/03		-	36.76	-	3,335.97		
	12/17/03		-	36.49	-	3,336.24		
	12/22/03		-	36.26	-	3,336.48		
	01/02/04		36.82	36.84	0.02	3,335.91		
	01/19/04		37.22	37.27	0.05	3,335.50		
	01/27/04		37.25	37.28	0.03	3,335.48		
	02/02/04		37.21	37.23	0.02	3,335.52		
	02/17/04		-	36.35	-	3,336.38		
	02/25/04		-	36.36	-	3,336.37		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
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Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-4	03/01/04	3,370.92	-	36.38	-	3,336.35		
	03/10/04		-	36.39	-	3,336.34		
	03/15/04		-	36.60	-	3,336.14		
	03/17/04		-	36.83	-	3,335.90		
	03/22/04		-	37.50	-	3,335.23		
	03/24/04		-	36.43	-	3,336.31		
	03/29/04		-	36.97	-	3,335.76		
	03/31/04		-	37.00	-	3,335.73		
	04/12/04		-	31.34	-	3,341.39		
	04/15/04		-	31.42	-	3,341.31		
	04/19/04		-	31.09	-	3,341.64		
	05/06/04		-	31.74	-	3,340.99		
	08/18/04		-	29.70	-	3,343.03		
	09/10/04		-	30.15	-	3,342.58		
	09/21/04		-	30.46	-	3,342.27		
	10/05/04		-	26.47	-	3,346.26		
	10/19/04		-	24.59	-	3,348.14		
	11/02/04		-	24.95	-	3,347.78		
	11/15/04		-	25.48	-	3,347.25		
	12/06/04		-	25.81	-	3,346.92		
	12/21/04		-	25.87	-	3,346.86		
	01/03/05		-	26.28	-	3,346.45		
	01/18/05		-	26.59	-	3,346.14		
	02/01/05		-	26.75	-	3,345.98		
	02/22/05		-	27.38	-	3,345.35		
	04/21/05		-	27.71	-	3,345.02		
	05/05/05		-	27.10	-	3,345.63		
	05/17/05		-	27.81	-	3,344.92		
	06/08/05		-	28.05	-	3,344.68		
	06/15/05		-	28.13	-	3,344.60		
	06/22/05		-	28.17	-	3,344.56		
	07/20/05		-	28.45	-	3,344.28		
	08/15/05		-	28.01	-	3,344.72		
	08/31/05		-	27.80	-	3,344.93		
	09/14/05		-	27.88	-	3,344.85		
	09/28/05		-	28.11	-	3,344.62		
	11/09/05		-	28.63	-	3,344.10		
	11/18/05		-	28.35	-	3,344.38		
	11/30/05		-	28.73	-	3,344.00		
	12/14/05		-	28.81	-	3,343.92		
	12/28/05		-	28.87	-	3,343.86		
	01/11/06		-	28.94	-	3,343.79		
	01/25/06		-	29.09	-	3,343.64		
	02/08/06		-	29.14	-	3,343.59		
	02/16/06		-	28.62	-	3,344.11		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-4	02/22/06	3,370.92	-	29.20	-	3,343.53		
	03/08/06		-	29.20	-	3,343.53		
	04/10/06		-	28.82	-	3,343.91		
	05/22/06		-	28.97	-	3,343.76		
	07/12/06		-	29.04	-	3,343.69		
	08/07/06		-	29.81	-	3,342.92		
	10/17/06		-	28.79	-	3,343.94		
	11/21/06		-	28.94	-	3,343.79		
	12/13/06		-	29.07	-	3,343.66		
	01/09/07		-	29.41	-	3,343.32		
	02/14/07		-	29.07	-	3,343.66		
	02/28/07		-	29.01	-	3,343.72		
	03/13/07		-	29.06	-	3,343.67		
	04/09/07		-	29.10	-	3,343.63		
	05/11/07		-	28.52	-	3,344.21		
	05/16/07		-	28.12	-	3,344.61		
	05/29/07		-	28.02	-	3,344.71		
	06/06/07		-	28.04	-	3,344.69		
	06/21/07		-	28.24	-	3,344.49		
	07/12/07		-	28.42	-	3,344.31		
	07/25/07		-	28.56	-	3,344.17		
	08/08/07		-	28.67	-	3,344.06		
	08/20/07		-	28.80	-	3,343.93		
	09/07/07		-	28.98	-	3,343.75		
	09/19/07		-	29.08	-	3,343.65		
	10/01/07		-	29.09	-	3,343.64		
	10/15/07		-	29.22	-	3,343.51		
	11/02/07		-	29.28	-	3,343.45		
	11/16/07		-	29.32	-	3,343.41		
	11/29/07		-	29.36	-	3,343.37		
	12/27/07		-	30.69	-	3,342.04		
	01/18/08		-	30.78	-	3,341.95		
	02/20/08		-	31.83	-	3,340.90		
	02/29/08		-	30.86	-	3,341.87		
	04/30/08		-	30.82	-	3,341.91		
	05/28/08		-	31.09	-	3,341.64		
	06/25/08		-	37.66	-	3,335.07		
	07/02/08		-	31.28	-	3,341.45		20.00
	07/07/08		-	31.34	-	3,341.39		10.00
	07/14/08		-	34.51	-	3,338.22		25.00
	07/22/08		-	31.39	-	3,341.34		10.00
	07/30/08		-	31.40	-	3,341.33		10.00
	08/05/08		-	31.50	-	3,341.23		10.00
	08/14/08		-	31.55	-	3,341.18		5.00
	08/21/08		-	31.43	-	3,341.30		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-4	08/27/08	3,370.92	-	31.42	-	3,341.31		25.00
	09/20/08		-	31.34	-	3,341.39		30.00
	09/29/08		-	31.34	-	3,341.39		40.00
	11/06/08		-	31.38	-	3,341.35		
	11/15/08		-	31.40	-	3,341.33		50.00
	11/24/08		-	31.35	-	3,341.38		25.00
	11/26/08		-	31.34	-	3,341.39		25.00
	12/20/08		-	31.39	-	3,341.34		50.00
	01/16/09		-	31.42	-	3,341.31		
	02/09/09		-	31.39	-	3,341.34		
	04/08/09		-	31.10	-	3,341.63		50.00
	04/16/09		-	31.50	-	3,341.23		35.00
	04/22/09		-	31.57	-	3,341.16		50.00
	05/14/09		-	31.58	-	3,341.15		
	07/08/09		-	31.79	-	3,340.94		35.00
	07/24/09		-	31.85	-	3,340.88		
	08/04/09		-	31.85	-	3,340.88		55.00
	08/12/09		-	31.96	-	3,340.77		
	08/19/09		-	31.90	-	3,340.83		32.00
	09/01/09		-	32.00	-	3,340.73		53.50
	09/22/09		-	32.08	-	3,340.65		10.00
	10/12/09		-	32.13	-	3,340.60		17.00
	10/30/09		-	32.27	-	3,340.46		
	11/10/09		-	32.22	-	3,340.51		25.00
	01/08/10		-	32.23	-	3,340.50		5.00
	01/22/10		-	32.17	-	3,340.56		10.00
	01/26/10		-	32.26	-	3,340.47		
	02/03/10		-	32.25	-	3,340.48		
	02/10/10		-	32.28	-	3,340.45		50.00
	03/09/10		-	32.20	-	3,340.53		30.00
	03/24/10		-	32.24	-	3,340.49		30.00
	04/12/10		-	32.24	-	3,340.49		30.00
	04/27/10		-	32.25	-	3,340.48		30.00
	05/27/10		-	32.28	-	3,340.45		
	06/21/10		-	32.50	-	3,340.23		40.00
	07/07/10		-	32.40	-	3,340.33		50.00
	07/20/10		-	32.43	-	3,340.30		50.00
	08/03/10		-	32.44	-	3,340.29		50.00
	08/16/10		-	32.53	-	3,340.20		45.00
	09/02/10		-	32.67	-	3,340.06		50.00
	09/17/10		-	32.65	-	3,340.08		50.00
	10/05/10		-	32.70	-	3,340.03		20.00
	11/10/10		-	32.73	-	3,340.00		20.00
	12/15/10		-	32.71	-	3,340.02		20.00
	12/29/10		-	32.68	-	3,340.05		30.00

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-4	02/18/11	3,370.92	-	32.76	-	3,339.97		
	03/02/11		-	32.74	-	3,339.99		25.00
	03/16/11		-	32.73	-	3,340.00		20.00
	03/29/11		-	32.70	-	3,340.03		25.00
	04/15/11		-	32.88	-	3,339.85		30.00
	04/18/11		-	32.85	-	3,339.88		30.00
	04/29/11		-	32.85	-	3,339.88		30.00
	05/06/11		-	32.91	-	3,339.82		25.00
	05/20/11		-	32.98	-	3,339.75		25.00
	05/25/11		-	33.00	-	3,339.73		
	06/01/11		-	32.95	-	3,339.78		20.00
	07/30/11		-	33.53	-	3,339.20		20.00
	09/20/11		-	33.95	-	3,338.79		
	10/03/11		34.06	35.10	1.04	3,338.51		
	10/28/11		34.12	34.23	0.11	3,338.59		
	11/10/11		34.12	34.30	0.18	3,338.58	1.00	20.00
	12/09/11		34.21	34.38	0.17	3,338.49	1.00	20.00
	02/24/12		34.20	34.40	0.20	3,338.50	1.00	20.00
	03/27/12		34.30	34.50	0.20	3,338.40	1.00	20.00
	04/12/12		34.45	34.60	0.15	3,338.26	1.00	20.00
	04/19/12		34.47	34.60	0.13	3,338.24	1.00	20.00
	05/05/12		34.50	34.80	0.30	3,338.19	1.00	20.00
	05/17/12		34.55	34.70	0.15	3,338.16		
	06/21/12		34.75	35.06	0.31	3,337.93	2.00	23.00
	07/09/12		34.92	35.11	0.19	3,337.78		25.00
	08/02/12		29.50	30.00	0.50	3,343.16		
	08/15/12		35.04	35.17	0.13	3,337.67		
	08/28/12		35.14	35.35	0.21	3,337.56		
	09/12/12		35.47	35.70	0.23	3,337.23		25.00
	09/26/12		35.60	35.66	0.06	3,337.12		
	10/10/12		35.39	35.53	0.14	3,337.32		25.00
	10/26/12		35.46	35.50	0.04	3,337.26		
	11/06/12		35.49	35.75	0.26	3,337.20		5.00
	11/20/12		35.56	35.70	0.14	3,337.15	2.00	23.00
	01/11/13		-	35.48	-	3,337.25		25.00
	01/25/13		-	35.50	-	3,337.23		25.00
	02/07/13		-	35.52	-	3,337.21		25.00
	02/22/13		35.70	35.76	0.06	3,337.02		
	03/08/13		-	35.65	-	3,337.08		25.00
	03/21/13		-	35.54	-	3,337.19		25.00
	04/04/13		-	35.58	-	3,337.15		25.00
	04/17/13		-	35.57	-	3,337.16		25.00
	05/01/13		-	35.60	-	3,337.13		25.00
	05/23/13		-	35.60	-	3,337.13		25.00
	06/13/13		-	35.71	-	3,337.02		25.00

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-4	06/28/13	3,370.92	-	35.81	-	3,336.93		25.00
	07/10/13		35.90	35.93	0.03	3,336.83		25.00
	07/24/13		35.99	36.03	0.04	3,336.73		
	08/08/13		36.13	36.20	0.07	3,336.59		
	08/22/13		-	36.24	-	3,336.50		25.00
	09/05/13		-	36.34	-	3,336.39		5.00
	09/19/13		-	36.46	-	3,336.28		
	10/07/13		36.51	36.55	0.04	3,336.21	0.25	25.00
	10/17/13		36.49	36.52	0.03	3,336.24	1.00	25.00
	10/31/13		-	36.41	-	3,336.33		25.00
	11/13/13		-	36.38	-	3,336.36		
	11/27/13		-	36.38	-	3,336.36		25.00
	12/11/13		-	36.39	-	3,336.35		25.00
	12/22/13		-	36.40	-	3,336.34		25.00
	01/09/14		-	36.36	-	3,336.38	0.15	25.00
	01/23/14		-	36.40	-	3,336.34	0.10	25.00
	02/05/14		-	36.39	-	3,336.35	0.15	25.00
	02/20/14		-	36.35	-	3,336.38	0.10	
	03/05/14		-	36.36	-	3,336.38	0.10	
	03/19/14		-	36.38	-	3,336.36	0.10	25.00
	04/02/14		-	36.34	-	3,336.40	0.10	25.00
	04/16/14		-	36.37	-	3,336.37		
	05/01/14		-	36.37	-	3,336.37	0.15	25.00
	05/13/14		-	36.40	-	3,336.34	0.10	25.00
	05/28/14		-	36.48	-	3,336.26	0.20	25.00
	06/10/14		-	36.61	-	3,336.13	0.10	30.00
	06/24/14		-	36.76	-	3,335.98	0.10	30.00
	07/08/14		-	36.84	-	3,335.90		
	07/23/14		-	37.00	-	3,335.74	0.50	30.00
	08/05/14		-	37.11	-	3,335.63		30.00
	08/12/14		-	37.13	-	3,335.61	0.15	30.00
	09/03/14		-	37.30	-	3,335.44		30.00
	09/16/14		-	37.07	-	3,335.67		30.00
	09/30/14		-	34.06	-	3,338.68	0.25	30.00
	10/04/14		-	33.79	-	3,338.95	0.40	
	10/21/14		-	33.43	-	3,339.31		30.00
	10/28/14		-	33.44	-	3,339.30	0.40	30.00
	11/13/14		-	33.47	-	3,339.26		30.00
	11/25/14		-	33.54	-	3,339.19	0.53	30.00
	12/10/14		-	33.63	-	3,339.10		30.00
	12/21/14		-	33.67	-	3,339.06		30.00
	01/14/15		-	33.93	-	3,338.80		
	01/21/15		-	33.98	-	3,338.75		30.00
	02/17/15		-	34.20	-	3,338.53		30.00
	03/04/15		-	34.27	-	3,338.46		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-4	03/20/15	3,370.92	-	34.32	-	3,338.41		30.00
	04/01/15		-	34.36	-	3,338.37		
	04/15/15		-	34.35	-	3,338.38		
	04/28/15		-	34.49	-	3,338.24		30.00
	05/12/15		-	34.55	-	3,338.18		30.00
	05/27/15		-	34.56	-	3,338.17		30.00
	06/09/15		-	34.64	-	3,338.09		30.00
	06/23/15		-	34.74	-	3,337.99		30.00
	07/14/15		-	34.93	-	3,337.80		30.00
	08/04/15		-	35.16	-	3,337.57		
	08/18/15		-	35.19	-	3,337.54		
	09/12/15		-	35.51	-	3,337.22		
	10/01/15		-	35.63	-	3,337.10		
	10/13/15		-	35.67	-	3,337.06		
	10/27/15		-	35.64	-	3,337.09		
	11/12/15		-	35.60	-	3,337.14		
	11/24/15		-	35.56	-	3,337.18		
	12/09/15		-	35.58	-	3,337.16		
	12/22/15		-	35.54	-	3,337.20		
	01/06/16		-	35.57	-	3,337.17		
	01/20/16		-	35.57	-	3,337.17		
	03/01/16		-	35.61	-	3,337.13		
	03/15/16		-	35.62	-	3,337.12		
	03/30/16		-	35.59	-	3,337.15		
	04/26/16		-	35.55	-	3,337.18		
	05/17/16		Partial Gauging					
	06/01/16		-	35.75	-	3,336.99		
	06/14/16		-	35.83	-	3,336.91		
	06/28/16		-	35.96	-	3,336.78		
	07/23/16		-	36.25	-	3,336.49		
	08/11/16		-	36.44	-	3,336.30		
	08/23/16		-	36.51	-	3,336.23		
	09/06/16		-	36.38	-	3,336.36		
	09/20/16		-	35.14	-	3,337.60		
	10/06/16		-	34.02	-	3,338.71		
	10/17/16		-	33.97	-	3,338.77		
	10/31/16		-	34.13	-	3,338.60		
	11/17/16		-	34.19	-	3,338.54		
	12/01/16		-	34.20	-	3,338.53		
	12/21/16		-	34.33	-	3,338.40		
MW-5	08/15/02	3,377.02	-	40.82	-	3,330.10		
	09/30/02		-	41.69	-	3,329.23		
	11/06/02		-	40.45	-	3,330.47		
	02/27/03		-	40.48	-	3,330.44		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-5	03/18/03	3,370.92	-	40.48	-	3,330.44		
	05/12/03		-	40.75	-	3,330.17		
	08/20/03		-	41.78	-	3,329.14		
	11/10/03		-	42.29	-	3,328.63		
	02/17/04		-	42.35	-	3,328.57		
	05/06/04		-	38.00	-	3,332.92		
	08/18/04		-	37.12	-	3,333.80		
	09/10/04		-	36.59	-	3,334.33		
	09/21/04		-	36.77	-	3,334.15		
	10/05/04		-	34.50	-	3,336.42		
	10/19/04		-	32.34	-	3,338.58		
	11/02/04		-	32.09	-	3,338.83		
	11/15/04		-	32.16	-	3,338.76		
	12/06/04		-	32.32	-	3,338.60		
	12/21/04		-	32.29	-	3,338.63		
	01/03/05		-	32.62	-	3,338.30		
	01/18/05		-	32.83	-	3,338.09		
	02/01/05		-	33.00	-	3,337.92		
	02/22/05		-	33.49	-	3,337.43		
	04/21/05		-	33.72	-	3,337.20		
	05/05/05		-	33.73	-	3,337.19		
	05/17/05		-	33.82	-	3,337.10		
	06/08/05		-	34.05	-	3,336.87		
	06/22/05		-	34.16	-	3,336.76		
	07/20/05		-	34.40	-	3,336.52		
	08/15/05		-	34.03	-	3,336.89		
	08/31/05		-	33.97	-	3,336.95		
	09/14/05		-	33.97	-	3,336.95		
	09/28/05		-	34.14	-	3,336.78		
	11/09/05		-	34.60	-	3,336.32		
	11/18/05		-	34.35	-	3,336.57		
	11/30/05		-	34.68	-	3,336.24		
	12/14/05		-	34.84	-	3,336.08		
	12/28/05		-	34.88	-	3,336.04		
	01/11/06		-	34.97	-	3,335.95		
	01/25/06		-	35.13	-	3,335.79		
	02/08/06		-	35.17	-	3,335.75		
	02/16/06		-	34.61	-	3,336.31		
	02/22/06		-	35.29	-	3,335.63		
	03/08/06		-	35.21	-	3,335.71		
	04/10/06		-	34.77	-	3,336.15		
	05/22/06		-	34.98	-	3,335.94		
	07/12/06		-	35.08	-	3,335.84		
	08/07/06		-	35.62	-	3,335.30		
	10/17/06		-	34.85	-	3,336.07		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-5	11/21/06	3,370.92	-	34.89	-	3,336.03		
	12/13/06		-	35.09	-	3,335.83		
	01/09/07		-	35.57	-	3,335.35		
	02/14/07		-	35.18	-	3,335.74		
	02/28/07		-	35.16	-	3,335.76		
	03/13/07		-	35.21	-	3,335.71		
	05/11/07		-	34.89	-	3,336.03		
	08/10/07		-	34.77	-	3,336.15		
	08/20/07		-	34.85	-	3,336.07		
	12/27/07		-	29.29	-	3,341.63		
	01/18/08		-	29.40	-	3,341.52		
	02/20/08		-	29.43	-	3,341.49		
	02/29/08		-	29.43	-	3,341.49		
	03/11/08		-	29.87	-	3,341.05		
	04/30/08		-	29.45	-	3,341.47		
	05/28/08		-	29.55	-	3,341.37		
	06/25/08		-	29.70	-	3,341.22		
	07/02/08		-	29.75	-	3,341.17		20.00
	07/07/08		-	28.83	-	3,342.09		10.00
	07/14/08		-	29.82	-	3,341.10		25.00
	07/22/08		-	29.87	-	3,341.05		10.00
	07/30/08		-	29.93	-	3,340.99		15.00
	08/05/08		-	29.94	-	3,340.98		15.00
	08/14/08		-	30.06	-	3,340.86		5.00
	08/21/08		-	29.83	-	3,341.09		
	08/27/08		-	29.69	-	3,341.23		25.00
	09/20/08		-	29.75	-	3,341.17		30.00
	09/29/08		-	29.74	-	3,341.18		40.00
	11/06/08		-	29.75	-	3,341.17		
	11/15/08		-	29.89	-	3,341.03		50.00
	11/24/08		-	29.76	-	3,341.16		25.00
	11/26/08		-	29.74	-	3,341.18		25.00
	12/20/08		-	29.79	-	3,341.13		50.00
	01/16/09		-	29.84	-	3,341.08		
	02/09/09		-	29.78	-	3,341.14		
	04/08/09		-	29.91	-	3,341.01		50.00
	04/16/09		-	29.90	-	3,341.02		45.00
	04/22/09		-	30.02	-	3,340.90		30.00
	04/29/08		-	29.92	-	3,341.00		50.00
	05/14/09		-	30.06	-	3,340.86		
	07/08/09		-	30.19	-	3,340.73		30.00
	07/24/09		-	30.23	-	3,340.69		
	08/04/09		-	30.28	-	3,340.64		55.00
	08/12/09		-	29.30	-	3,341.62		
	08/19/09		-	30.31	-	3,340.61		42.00

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-5	09/01/09	3,370.92	-	30.39	-	3,340.53		52.30
	09/22/09		-	30.49	-	3,340.44		10.00
	10/12/09		-	30.54	-	3,340.38		23.00
	10/30/09		-	29.63	-	3,341.29		
	11/10/09		-	30.61	-	3,340.31		30.00
	01/08/10		-	30.62	-	3,340.30		5.00
	01/22/10		-	30.56	-	3,340.37		10.00
	01/26/10		-	30.68	-	3,340.24		
	02/03/10		-	30.75	-	3,340.17		
	02/10/10		-	30.66	-	3,340.26		30.00
	02/22/10		-	30.60	-	3,340.32		30.00
	03/09/10		-	30.56	-	3,340.36		30.00
	03/24/10		-	30.60	-	3,340.32		30.00
	04/12/10		-	30.60	-	3,340.32		30.00
	04/27/10		-	30.61	-	3,340.31		30.00
	05/27/10		-	30.90	-	3,340.02		
	06/21/10		-	30.85	-	3,340.07		18.00
	07/07/10		-	30.75	-	3,340.17		20.00
	07/20/10		-	30.67	-	3,340.25		50.00
	08/03/10		-	30.85	-	3,340.07		20.00
	08/16/10		-	30.94	-	3,339.98		20.00
	09/02/10		-	30.97	-	3,339.95		30.00
	09/17/10		-	31.03	-	3,339.89		30.00
	10/05/10		-	31.13	-	3,339.79		25.00
	11/11/10		-	31.12	-	3,339.80		20.00
	12/15/10		-	31.00	-	3,339.92		30.00
	12/29/10		-	31.08	-	3,339.84		20.00
	02/18/11		-	31.16	-	3,339.76		
	03/02/11		-	31.12	-	3,339.80		30.00
	03/16/11		-	31.31	-	3,339.61		20.00
	03/29/11		-	31.15	-	3,339.77		30.00
	04/15/11		-	31.23	-	3,339.69		20.00
	04/18/11		-	31.11	-	3,339.81		20.00
	04/29/11		-	31.16	-	3,339.76		20.00
	05/06/11		-	31.17	-	3,339.75		25.00
	05/20/11		-	31.26	-	3,339.66		25.00
	05/25/11		-	31.30	-	3,339.62		
	06/01/11		-	31.34	-	3,339.58		25.00
	08/18/11		-	32.05	-	3,338.87		
	09/20/11		-	32.23	-	3,338.69		
	10/03/11		-	32.35	-	3,338.57		
	10/28/11		-	32.45	-	3,338.47		
	11/10/11		-	32.42	-	3,338.50		20.00
	12/09/11		-	32.50	-	3,338.42		20.00
	02/24/12		-	32.45	-	3,338.47		20.00

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-5	02/29/12	3,370.92	-	32.48	-	3,338.44		
	03/27/12		-	32.59	-	3,338.33		20.00
	04/12/12		-	32.73	-	3,338.19		20.00
	04/19/12		-	32.85	-	3,338.07		20.00
	05/05/12		-	32.81	-	3,338.11		20.00
	05/17/12		-	32.87	-	3,338.05		
	06/21/12		-	33.01	-	3,337.91		20.00
	07/09/12		-	32.24	-	3,338.68		25.00
	08/02/12		-	33.17	-	3,337.75		
	08/15/12		-	33.27	-	3,337.65		
	08/28/12		-	33.37	-	3,337.55		
	09/12/12		-	33.77	-	3,337.15		25.00
	09/26/12		-	33.86	-	3,337.06		
	10/10/12		-	33.60	-	3,337.32		25.00
	10/26/12		-	33.67	-	3,337.25		
	11/06/12		-	33.65	-	3,337.27		
	11/07/12		-	33.65	-	3,337.27		5.00
	11/20/12		-	33.82	-	3,337.10		25.00
	01/11/13		-	33.82	-	3,337.10		25.00
	01/25/13		-	35.87	-	3,335.05		25.00
	02/07/13		-	33.86	-	3,337.06		25.00
	02/22/13		-	33.94	-	3,336.98		
	03/08/13		-	33.82	-	3,337.10		25.00
	03/21/13		-	33.90	-	3,337.02		25.00
	04/04/13		-	33.97	-	3,336.95		25.00
	04/17/13		-	33.90	-	3,337.02		25.00
	05/01/13		-	34.03	-	3,336.89		25.00
	05/23/13		-	33.92	-	3,337.00		25.00
	06/13/13		-	33.94	-	3,336.99		25.00
	06/28/13		-	34.06	-	3,336.87		25.00
	07/10/13		-	34.13	-	3,336.79		25.00
	07/24/13		-	34.20	-	3,336.72		5.00
	08/08/13		-	34.28	-	3,336.64		
	08/22/13		-	34.12	-	3,336.80		25.00
	09/05/13		-	34.54	-	3,336.39		
	09/19/13		-	34.63	-	3,336.29		5.00
	10/07/13		-	34.72	-	3,336.21		15.00
	10/17/13		-	34.69	-	3,336.24		8.00
	10/31/13		-	34.55	-	3,336.38		7.00
	11/13/13		-	34.55	-	3,336.38		
	11/27/13		-	34.52	-	3,336.41		7.00
	12/11/13		-	34.52	-	3,336.41		7.00
	12/22/13		-	34.53	-	3,336.40		7.00
	01/09/14		-	34.49	-	3,336.44	0.15	7.00
	01/23/14		-	34.53	-	3,336.40	0.10	7.00

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-5	02/05/14	3,370.92	-	34.52	-	3,336.41	0.15	7.00
	02/20/14		-	34.55	-	3,336.37	0.10	
	03/05/14		-	34.49	-	3,336.44	0.10	
	03/19/14		-	34.51	-	3,336.42	0.10	7.00
	04/02/14		-	34.47	-	3,336.46	0.10	7.00
	04/16/14		-	34.52	-	3,336.41		
	05/01/14		-	34.48	-	3,336.45	0.25	6.00
	05/13/14		-	34.54	-	3,336.39	0.15	4.00
	05/28/14		-	34.62	-	3,336.31	0.10	3.50
	06/10/14		-	34.78	-	3,336.15	0.10	3.50
	06/24/14		-	34.88	-	3,336.05	0.15	3.50
	07/08/14		-	35.08	-	3,335.85		
	07/23/14		-	35.12	-	3,335.80		3.50
	08/05/14		-	35.25	-	3,335.68	0.15	4.00
	08/12/14		-	35.31	-	3,335.62		4.00
	09/03/14		-	35.48	-	3,335.45		4.00
	09/16/14		-	35.12	-	3,335.81		4.50
	09/30/14		-	31.47	-	3,339.46	0.35	30.00
	10/04/14		-	31.35	-	3,339.58		
	10/21/14		-	31.21	-	3,339.72		30.00
	10/28/14		-	31.29	-	3,339.64	0.30	30.00
	11/13/14		-	31.41	-	3,339.51		30.00
	11/25/14		-	31.54	-	3,339.38	0.31	15.00
	12/10/14		-	31.65	-	3,339.27		30.00
	12/21/14		-	31.74	-	3,339.18		30.00
	01/14/15		-	32.03	-	3,338.89		
	01/21/15		-	32.04	-	3,338.88		30.00
	02/17/15		-	32.25	-	3,338.67		30.00
	03/04/15		-	32.43	-	3,338.49		
	03/20/15		-	32.44	-	3,338.48		30.00
	04/01/15		-	32.46	-	3,338.46		
	04/15/15		-	32.48	-	3,338.44		
	04/28/15		-	32.58	-	3,338.34		30.00
	05/12/15		-	32.64	-	3,338.28		30.00
	05/27/15		-	32.68	-	3,338.24		30.00
	06/09/15		-	32.77	-	3,338.15		30.00
	06/23/15		-	32.87	-	3,338.05		30.00
	07/14/15		-	33.06	-	3,337.86		30.00
	08/04/15		-	33.31	-	3,337.61		
	08/18/15		-	33.43	-	3,337.49		
	09/12/15		-	33.65	-	3,337.27		
	10/01/15		-	33.76	-	3,337.16		
	10/13/15		-	33.76	-	3,337.16		
	10/27/15		-	33.73	-	3,337.19		
	11/12/15		-	33.70	-	3,337.22		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-5	11/24/15	3,370.92	-	33.68	-	3,337.25		
	12/09/15		-	33.70	-	3,337.23		
	12/22/15		-	33.66	-	3,337.26		
	01/06/16		-	33.69	-	3,337.23		
	01/20/16		-	33.70	-	3,337.22		
	03/01/16		-	33.74	-	3,337.19		
	03/15/16		-	33.74	-	3,337.19		
	03/30/16		-	33.70	-	3,337.22		
	04/26/16		-	33.65	-	3,337.27		
	05/17/16		Partial Gauging					
	06/01/16		-	33.87	-	3,337.05		
	06/14/16		-	33.95	-	3,336.97		
	06/28/16		-	34.09	-	3,336.83		
	07/23/16		-	34.38	-	3,336.54		
	08/11/16		-	34.57	-	3,336.35		
	08/23/16		-	34.65	-	3,336.28		
	09/06/16		-	34.49	-	3,336.44		
	09/20/16		-	32.82	-	3,338.11		
	10/06/16		-	31.08	-	3,339.84		
	10/17/16		-	31.93	-	3,338.99		
	10/31/16		-	32.12	-	3,338.80		
	11/17/16		-	32.27	-	3,338.65		
	12/01/16		-	32.29	-	3,338.63		
	12/21/16		-	32.37	-	3,338.55		
MW-6	11/16/07	3,377.02	-	35.22	-	3,341.80		
	02/29/08		-	35.36	-	3,341.66		
	03/11/08		-	35.37	-	3,341.65		
	05/28/08		-	35.46	-	3,341.56		
	08/21/08		-	35.99	-	3,341.03		
	11/06/08		-	35.94	-	3,341.08		
	02/09/09		-	35.91	-	3,341.11		
	05/14/09		-	35.96	-	3,341.06		
	08/12/09		-	36.53	-	3,340.49		
	11/10/09		-	36.77	-	3,340.25		
	02/03/10		-	36.77	-	3,340.25		
	05/27/10		-	36.83	-	3,340.19		
	08/16/10		-	37.12	-	3,339.90		
	11/11/10		-	37.29	-	3,339.73		
	02/18/11		-	37.61	-	3,339.41		
	05/25/11		-	37.51	-	3,339.51		
	08/18/11		-	38.25	-	3,338.77		
	09/20/11		-	38.40	-	3,338.62		
	10/03/11		-	38.54	-	3,338.48		
	10/28/11		-	38.60	-	3,338.42		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-6	11/10/11	3,377.02	-	38.60	-	3,338.42		
	12/09/11		-	38.70	-	3,338.32		
	02/24/12		-	38.68	-	3,338.34		
	02/29/12		-	38.73	-	3,338.29		
	03/27/12		-	38.79	-	3,338.23		
	04/12/12		-	38.88	-	3,338.14		
	04/19/12		-	38.90	-	3,338.12		
	05/05/12		-	38.90	-	3,338.12		
	05/17/12		-	38.95	-	3,338.07		
	06/21/12		-	39.14	-	3,337.88		
	07/09/12		-	39.26	-	3,337.76		
	08/02/12		-	39.40	-	3,337.62		
	08/15/12		-	39.53	-	3,337.49		5.00
	08/28/12		-	39.61	-	3,337.41		
	09/12/12		-	39.84	-	3,337.18		
	09/26/12		-	39.92	-	3,337.10		
	10/10/12		-	39.90	-	3,337.12		
	10/26/12		-	39.92	-	3,337.10		
	11/07/12		-	39.92	-	3,337.10		5.00
	11/20/12		-	39.95	-	3,337.07		
	01/11/13		-	39.96	-	3,337.06		
	01/25/13		-	39.98	-	3,337.04		
	02/07/13		-	40.00	-	3,337.02		
	02/22/13		-	40.10	-	3,336.92		
	03/08/13		-	38.86	-	3,338.16		
	03/21/13		-	39.96	-	3,337.06		
	04/04/13		-	40.14	-	3,336.88		
	04/17/13		-	40.07	-	3,336.95		
	05/01/13		-	40.17	-	3,336.85		
	05/23/13		-	40.10	-	3,336.92		
	06/13/13		-	40.19	-	3,336.83		
	06/28/13		-	40.30	-	3,336.73		
	07/10/13		-	40.40	-	3,336.62		
	07/24/13		-	40.45	-	3,336.57		
	08/08/13		-	40.56	-	3,336.46		
	08/22/13		-	40.69	-	3,336.33		
	09/05/13		-	40.82	-	3,336.21		
	09/19/13		-	40.92	-	3,336.10		5.00
	10/07/13		-	41.00	-	3,336.03		
	10/17/13		-	41.00	-	3,336.03		
	10/31/13		-	41.00	-	3,336.03		
	11/13/13		-	40.89	-	3,336.14		
	11/27/13		-	40.86	-	3,336.17		
	12/11/13		-	40.86	-	3,336.16		
	12/22/13		-	40.88	-	3,336.15		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-6	01/09/14	3,377.02	-	40.85	-	3,336.18		
	01/23/14		-	40.89	-	3,336.14		
	02/05/14		-	40.89	-	3,336.14		
	02/20/14		-	40.86	-	3,336.16		
	03/05/14		-	40.84	-	3,336.19		
	03/19/14		-	40.86	-	3,336.17		
	04/02/14		-	40.83	-	3,336.20		
	04/16/14		-	40.83	-	3,336.20		
	05/01/14		-	40.86	-	3,336.16		
	05/13/14		-	40.89	-	3,336.14		
	05/28/14		-	40.96	-	3,336.07		
	06/10/14		-	41.07	-	3,335.95		
	06/24/14		-	41.20	-	3,335.83		
	07/08/14		-	41.28	-	3,335.75		
	07/23/14		-	41.42	-	3,335.60		
	08/05/14		-	41.54	-	3,335.48		
	08/12/14		-	41.58	-	3,335.45		
	09/03/14		-	41.75	-	3,335.28		
	09/16/14		-	41.55	-	3,335.47		
	09/30/14		-	38.95	-	3,338.08		
	10/04/14		-	38.54	-	3,338.48		
	10/21/14		-	38.03	-	3,338.99		
	10/28/14		-	38.01	-	3,339.01		
	11/13/14		-	38.00	-	3,339.02		
	11/25/14		-	38.07	-	3,338.95		
	12/10/14		-	38.13	-	3,338.89		
	12/21/14		-	38.17	-	3,338.85		
	01/14/15		-	38.39	-	3,338.63		
	01/21/15		-	38.43	-	3,338.59		
	02/17/15		-	38.65	-	3,338.37		
	03/04/15		-	38.73	-	3,338.29		
	03/20/15		-	38.81	-	3,338.21		
	04/01/15		-	38.83	-	3,338.19		
	04/15/15		-	38.88	-	3,338.14		
	04/28/15		-	38.95	-	3,338.07		
	05/12/15		-	39.01	-	3,338.01		
	05/27/15		-	39.05	-	3,337.97		
	06/09/15		-	39.12	-	3,337.90		
	06/23/15		-	39.22	-	3,337.80		
	07/14/15		-	39.40	-	3,337.62		
	08/04/15		-	39.67	-	3,337.35		
	08/18/15		-	39.75	-	3,337.27		
	09/12/15		-	39.97	-	3,337.05		
	10/01/15		-	40.09	-	3,336.93		
	10/13/15		-	40.14	-	3,336.88		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-6	10/27/15	3,377.02	-	40.08	-	3,336.94		
	11/12/15		-	40.08	-	3,336.94		
	11/24/15		-	40.04	-	3,336.98		
	12/09/15		-	40.03	-	3,336.99		
	12/22/15		-	40.02	-	3,337.00		
	01/06/16		-	40.05	-	3,336.97		
	01/20/16		-	40.04	-	3,336.98		
	03/01/16		-	40.11	-	3,336.91		
	03/15/16		-	40.10	-	3,336.92		
	03/30/16		-	40.06	-	3,336.96		
	04/26/16		-	40.03	-	3,336.99		
	05/17/16		Partial Gauging					
	06/01/16		-	40.21	-	3,336.81		
	06/14/16		-	40.29	-	3,336.73		
	06/28/16		-	40.43	-	3,336.59		
	07/23/16		-	40.70	-	3,336.32		
	08/11/16		-	40.88	-	3,336.14		
	08/23/16		-	40.94	-	3,336.08		
	09/06/16		-	40.84	-	3,336.18		
	09/20/16		-	39.89	-	3,337.13		
	10/06/16		-	38.64	-	3,338.38		
	10/17/16		-	38.53	-	3,338.49		
	10/31/16		-	31.64	-	3,345.38		
	11/17/16		-	38.65	-	3,338.37		
	12/01/16		-	38.71	-	3,338.31		
	12/21/16		-	38.56	-	3,338.46		
MW-7	08/15/02	3,369.47	-	32.73	-	3,336.74		
	09/30/02		-	33.65	-	3,335.82		
	11/06/02		-	31.70	-	3,337.77		
	02/27/03		-	32.45	-	3,337.02		
	03/18/03		-	32.48	-	3,336.99		
	05/12/03		-	32.71	-	3,336.76		
	08/20/03		-	33.82	-	3,335.65		
	11/10/03		-	34.35	-	3,335.12		
	02/17/04		-	34.33	-	3,335.14		
	05/06/04		-	29.40	-	3,340.07		
	08/18/04		-	28.47	-	3,341.00		
	09/10/04		-	28.27	-	3,341.20		
	09/21/04		-	28.59	-	3,340.88		
	10/05/04		-	23.93	-	3,345.54		
	10/19/04		-	22.28	-	3,347.19		
	11/02/04		-	22.32	-	3,347.15		
	11/15/04		-	23.54	-	3,345.93		
	12/06/04		-	23.91	-	3,345.56		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-7	12/21/04	3,369.47	-	24.03	-	3,345.44		
	01/03/05		-	24.47	-	3,345.00		
	01/18/05		-	24.75	-	3,344.72		
	02/01/05		-	24.94	-	3,344.53		
	02/22/05		-	25.57	-	3,343.90		
	04/21/05		-	25.80	-	3,343.67		
	05/05/05		-	25.79	-	3,343.68		
	05/17/05		-	25.93	-	3,343.54		
	06/08/05		-	26.16	-	3,343.31		
	06/22/05		-	26.26	-	3,343.21		
	07/20/05		-	26.54	-	3,342.93		
	08/15/05		-	26.09	-	3,343.38		
	08/31/05		-	25.87	-	3,343.60		
	09/14/05		-	25.90	-	3,343.57		
	09/28/05		-	26.22	-	3,343.25		
	11/09/05		-	26.75	-	3,342.72		
	11/18/05		-	26.45	-	3,343.02		
	11/30/05		-	26.87	-	3,342.60		
	12/14/05		-	26.99	-	3,342.48		
	12/28/05		-	27.04	-	3,342.43		
	01/11/06		-	27.08	-	3,342.39		
	01/25/06		-	27.23	-	3,342.24		
	02/08/06		-	27.28	-	3,342.19		
	02/16/06		-	26.80	-	3,342.67		
	02/22/06		-	27.32	-	3,342.15		
	03/08/06		-	27.34	-	3,342.13		
	04/10/06		-	27.01	-	3,342.46		
	05/22/06		-	27.17	-	3,342.30		
	07/12/06		-	27.20	-	3,342.27		
	08/07/06		-	27.61	-	3,341.86		
	10/17/06		-	26.97	-	3,342.50		
	11/21/06		-	27.14	-	3,342.33		
	12/13/06		-	27.20	-	3,342.27		
	01/09/07		-	27.49	-	3,341.98		
	02/14/07		-	27.31	-	3,342.16		
	02/28/07		-	27.22	-	3,342.25		
	03/13/07		-	27.27	-	3,342.20		
	05/11/07		-	26.35	-	3,343.12		
	08/20/07		-	27.92	-	3,341.55		
	11/16/07		-	27.26	-	3,342.21		
	02/29/08		-	27.43	-	3,342.04		
	05/28/08		-	27.54	-	3,341.93		
	08/21/08		-	28.09	-	3,341.38		
	11/06/08		-	27.89	-	3,341.58		
	02/09/09		-	27.97	-	3,341.50		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-7	05/14/09	3,369.47	-	28.29	-	3,341.18		
	08/13/09		-	28.46	-	3,341.01		
	11/10/09		-	28.80	-	3,340.67		
	02/03/10		-	28.80	-	3,340.67		
	05/27/10		-	28.87	-	3,340.60		
	08/16/10		-	29.12	-	3,340.35		
	11/11/10		-	29.31	-	3,340.16		
	02/18/11		-	29.33	-	3,340.14		
	05/25/11		-	29.58	-	3,339.89		
	09/20/11		-	30.56	-	3,338.91		
	10/03/11		-	30.66	-	3,338.81		
	10/28/11		-	30.73	-	3,338.74		
	11/10/11		-	30.74	-	3,338.73		
	12/09/11		-	30.77	-	3,338.70		
	02/24/12		-	30.75	-	3,338.72		
	02/29/12		-	30.79	-	3,338.68		
	03/27/12		-	30.90	-	3,338.57		
	04/12/12		-	31.02	-	3,338.45		
	04/19/12		-	31.06	-	3,338.41		
	05/05/12		-	31.13	-	3,338.34		
	05/17/12		-	31.18	-	3,338.29		
	06/21/12		-	31.15	-	3,338.32		
	07/09/12		-	31.59	-	3,337.88		
	08/02/12		-	31.53	-	3,337.94		
	08/15/12		-	31.65	-	3,337.82		5.00
	08/28/12		-	31.76	-	3,337.71		
	09/12/12		-	32.16	-	3,337.31		
	09/26/12		-	32.23	-	3,337.24		
	10/26/12		-	31.99	-	3,337.48		
	11/06/12		-	32.03	-	3,337.44		5.00
	10/10/12		-	31.98	-	3,337.49		
	11/20/12		-	32.02	-	3,337.45		
	01/11/13		-	32.02	-	3,337.45		
	01/25/13		-	32.04	-	3,337.43		
	02/07/13		-	32.04	-	3,337.43		
	02/22/13		-	33.33	-	3,336.14		
	03/08/13		-	32.04	-	3,337.43		
	03/21/13		-	32.11	-	3,337.36		
	04/04/13		-	32.17	-	3,337.30		
	04/17/13		-	32.10	-	3,337.37		
	05/01/13		-	32.19	-	3,337.28		
	05/23/13		-	32.15	-	3,337.32		
	06/13/13		-	32.27	-	3,337.21		
	06/28/13		-	32.38	-	3,337.10		
	07/10/13		-	32.46	-	3,337.02		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-7	07/24/13	3,369.47	-	32.54	-	3,336.93		
	08/08/13		-	32.66	-	3,336.81		
	08/22/13		-	32.81	-	3,336.66		
	09/05/13		-	32.93	-	3,336.55		
	09/19/13		-	33.01	-	3,336.46		5.00
	10/07/13		-	33.08	-	3,336.39		
	10/17/13		-	33.07	-	3,336.40		
	10/31/13		-	32.94	-	3,336.53		
	11/13/13		-	32.91	-	3,336.56		
	11/27/13		-	32.90	-	3,336.58		
	12/11/13		-	32.90	-	3,336.58		
	12/22/13		-	32.89	-	3,336.59		
	01/09/14		-	32.88	-	3,336.60		
	01/23/14		-	32.90	-	3,336.58		
	02/05/14		-	32.90	-	3,336.58		
	02/20/14		-	32.87	-	3,336.61		
	03/05/14		-	32.88	-	3,336.60		
	03/19/14		-	32.88	-	3,336.60		
	04/02/14		-	32.85	-	3,336.63		
	04/16/14		-	32.83	-	3,336.65		
	05/01/14		-	32.87	-	3,336.60		
	05/13/14		-	32.89	-	3,336.58		
	05/28/14		-	33.00	-	3,336.48		
	06/10/14		-	33.16	-	3,336.32		
	06/24/14		-	33.26	-	3,336.21		
	07/08/14		-	33.39	-	3,336.09		
	07/23/14		-	33.53	-	3,335.94		
	08/05/14		-	33.63	-	3,335.84		
	08/12/14		-	33.69	-	3,335.78		
	09/03/14		-	33.87	-	3,335.61		
	09/16/14		-	33.51	-	3,335.96		
	09/30/14		-	29.61	-	3,339.87		
	10/04/14		-	29.49	-	3,339.98		
	10/21/14		-	29.64	-	3,339.83		
	10/28/14		-	29.73	-	3,339.74		
	11/13/14		-	29.86	-	3,339.61		
	11/25/14		-	29.97	-	3,339.50		
	12/10/14		-	30.08	-	3,339.39		
	12/21/14		-	30.14	-	3,339.33		
	01/14/15		-	30.38	-	3,339.09		
	01/21/15		-	30.44	-	3,339.03		
	02/17/15		-	30.66	-	3,338.81		
	03/04/15		-	30.73	-	3,338.74		
	03/20/15		-	30.82	-	3,338.65		
	04/01/15		-	30.83	-	3,338.64		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-7	04/15/15	3,369.47	-	30.89	-	3,338.58		
	04/28/15		-	30.97	-	3,338.50		
	05/12/15		-	31.02	-	3,338.45		
	05/27/15		-	31.07	-	3,338.40		
	06/09/15		-	31.15	-	3,338.32		
	06/23/15		-	31.27	-	3,338.20		
	07/14/15		-	31.47	-	3,338.00		
	08/04/15		-	31.72	-	3,337.75		
	08/18/15		-	31.84	-	3,337.63		
	09/12/15		-	32.05	-	3,337.42		
	10/01/15		-	32.16	-	3,337.31		
	10/13/15		-	32.18	-	3,337.29		
	10/27/15		-	32.11	-	3,337.36		
	11/12/15		-	32.09	-	3,337.38		
	11/24/15		-	32.06	-	3,337.41		
	12/09/15		-	32.07	-	3,337.40		
	12/22/15		-	32.05	-	3,337.42		
	01/06/16		-	32.08	-	3,337.39		
	01/20/16		-	32.12	-	3,337.35		
	03/01/16		-	32.12	-	3,337.35		
	03/15/16		-	32.11	-	3,337.36		
	03/30/16		-	32.09	-	3,337.38		
	04/26/16		-	32.04	-	3,337.43		
	05/17/16		Partial Gauging					
	06/01/16		-	32.26	-	3,337.21		
	06/14/16		-	32.35	-	3,337.12		
	06/28/16		-	32.50	-	3,336.97		
	07/23/16		-	32.80	-	3,336.67		
	08/11/16		-	32.99	-	3,336.48		
	08/23/16		-	33.05	-	3,336.42		
	09/06/16		-	32.88	-	3,336.59		
	09/20/16		-	30.96	-	3,338.51		
	10/06/16		-	30.21	-	3,339.26		
	10/17/16		-	30.31	-	3,339.16		
	10/31/16		-	30.53	-	3,338.94		
	11/17/16		-	30.62	-	3,338.85		
	12/01/16		-	30.67	-	3,338.80		
	12/21/16		-	30.76	-	3,338.71		
MW-8	08/15/02	3,373.77	-	37.15	-	3,336.62		
	09/30/02		-	37.95	-	3,335.82		
	11/06/02		-	36.70	-	3,337.07		
	02/27/03		-	36.83	-	3,336.94		
	03/18/03		-	36.85	-	3,336.92		
	05/12/03		-	37.09	-	3,336.68		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-8	08/20/03	3,373.77	-	38.11	-	3,335.66		
	11/10/03		-	38.67	-	3,335.10		
	02/17/04		-	38.71	-	3,335.06		
	05/06/04		-	34.26	-	3,339.51		
	08/18/04		-	33.38	-	3,340.39		
	09/10/04		-	32.86	-	3,340.91		
	09/21/04		-	33.10	-	3,340.67		
	10/05/04		-	30.25	-	3,343.52		
	10/19/04		-	28.05	-	3,345.72		
	11/02/04		-	28.15	-	3,345.62		
	11/15/04		-	28.32	-	3,345.45		
	12/06/04		-	28.51	-	3,345.26		
	12/21/04		-	28.54	-	3,345.23		
	01/03/05		-	28.89	-	3,344.88		
	01/18/05		-	29.14	-	3,344.63		
	02/01/05		-	29.32	-	3,344.45		
	02/22/05		-	29.78	-	3,343.99		
	04/21/05		-	30.10	-	3,343.67		
	05/05/05		-	30.07	-	3,343.70		
	05/17/05		-	30.19	-	3,343.58		
	06/08/05		-	30.39	-	3,343.38		
	06/22/05		-	30.52	-	3,343.25		
	07/20/05		-	30.78	-	3,342.99		
	08/15/05		-	30.40	-	3,343.37		
	08/31/05		-	30.24	-	3,343.53		
	09/14/05		-	30.27	-	3,343.50		
	09/28/05		-	30.45	-	3,343.32		
	11/09/05		-	30.98	-	3,342.79		
	11/18/05		-	30.70	-	3,343.07		
	11/30/05		-	31.06	-	3,342.71		
	12/14/05		-	31.21	-	3,342.56		
	12/28/05		-	31.26	-	3,342.51		
	01/11/06		-	31.31	-	3,342.46		
	01/25/06		-	31.48	-	3,342.29		
	02/08/06		-	31.54	-	3,342.23		
	02/16/06		-	31.00	-	3,342.77		
	02/22/06		-	31.57	-	3,342.20		
	03/08/06		-	31.58	-	3,342.19		
	04/10/06		-	31.18	-	3,342.59		
	05/22/06		-	31.36	-	3,342.41		
	07/12/06		-	31.42	-	3,342.35		
	08/07/06		-	31.83	-	3,341.94		
	10/17/06		-	31.22	-	3,342.55		
	11/21/06		-	31.37	-	3,342.40		
	12/13/06		-	31.45	-	3,342.32		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-8	01/09/07	3,373.77	-	31.73	-	3,342.04		
	02/14/07		-	31.55	-	3,342.22		
	02/28/07		-	31.53	-	3,342.24		
	03/13/07		-	31.58	-	3,342.19		
	05/11/07		-	31.10	-	3,342.67		
	08/20/07		-	31.21	-	3,342.56		
	11/16/07		-	31.58	-	3,342.19		
	02/29/08		-	31.72	-	3,342.05		
	05/28/08		-	31.96	-	3,341.81		
	08/21/08		-	32.33	-	3,341.44		
	11/06/08		-	32.19	-	3,341.58		
	02/09/09		-	32.27	-	3,341.50		
	05/14/09		-	32.52	-	3,341.25		
	08/12/09		-	32.78	-	3,340.99		
	11/10/09		-	33.09	-	3,340.68		
	02/03/10		-	33.09	-	3,340.68		
	05/27/10		-	33.16	-	3,340.61		
	08/16/10		-	33.39	-	3,340.38		
	11/11/10		-	33.59	-	3,340.18		
	02/18/11		-	33.63	-	3,340.14		
	05/25/11		-	33.85	-	3,339.92		
	09/20/11		-	34.80	-	3,338.97		
	10/03/11		-	34.92	-	3,338.85		
	10/28/11		-	35.00	-	3,338.77		
	11/10/11		-	35.30	-	3,338.47		
	12/09/11		-	35.10	-	3,338.67		
	02/24/12		-	35.06	-	3,338.71		
	02/29/12		-	35.02	-	3,338.75		
	03/27/12		-	35.21	-	3,338.56		
	04/12/12		-	35.33	-	3,338.44		
	04/19/12		-	35.35	-	3,338.42		
	05/05/12		-	35.40	-	3,338.37		
	05/17/12		-	35.45	-	3,338.32		
	06/21/12		-	35.63	-	3,338.14		
	07/09/12		-	35.79	-	3,337.98		
	08/02/12		-	35.82	-	3,337.95		
	08/15/12		-	35.93	-	3,337.84		5.00
	08/28/12		-	36.06	-	3,337.71		
	09/12/12		-	36.37	-	3,337.40		
	09/26/12		-	36.44	-	3,337.33		
	10/10/12		-	36.28	-	3,337.49		
	10/26/12		-	36.33	-	3,337.44		
	11/06/12		-	36.36	-	3,337.41		5.00
	11/20/12		-	36.39	-	3,337.38		
	01/11/13		-	36.40	-	3,337.37		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-8	01/25/13	3,373.77	-	38.75	-	3,335.02		
	02/07/13		-	36.40	-	3,337.37		
	02/22/13		-	36.58	-	3,337.19		
	03/08/13		-	36.44	-	3,337.33		
	03/21/13		-	36.40	-	3,337.37		
	04/04/13		-	36.54	-	3,337.23		
	04/17/13		-	36.47	-	3,337.30		
	05/01/13		-	36.61	-	3,337.16		
	05/23/13		-	36.53	-	3,337.24		
	06/13/13		-	36.64	-	3,337.14		
	06/28/13		-	36.74	-	3,337.04		
	07/10/13		-	36.83	-	3,336.94		
	07/24/13		-	36.89	-	3,336.88		
	08/08/13		-	36.97	-	3,336.80		
	08/22/13		-	37.14	-	3,336.63		
	09/05/13		-	37.25	-	3,336.53		
	09/19/13		-	37.36	-	3,336.42		5.00
	10/07/13		-	37.43	-	3,336.34		
	10/17/13		-	37.45	-	3,336.33		
	10/31/13		-	37.34	-	3,336.44		
	11/13/13		-	37.30	-	3,336.47		
	11/27/13		-	37.31	-	3,336.47		
	12/11/13		-	37.29	-	3,336.48		
	12/22/13		-	37.32	-	3,336.46		
	01/09/14		-	37.28	-	3,336.50		
	01/23/14		-	37.31	-	3,336.47		
	02/05/14		-	37.32	-	3,336.46		
	02/20/14		-	37.30	-	3,336.48		
	03/05/14		-	37.28	-	3,336.50		
	03/19/14		-	37.30	-	3,336.48		
	04/02/14		-	37.28	-	3,336.50		
	04/16/14		-	37.24	-	3,336.54		
	05/01/14		-	37.25	-	3,336.52		
	05/13/14		-	37.33	-	3,336.45		
	05/28/14		-	37.40	-	3,336.38		
	06/10/14		-	37.53	-	3,336.25		
	06/24/14		-	37.59	-	3,336.18		
	07/08/14		-	37.72	-	3,336.06		
	07/23/14		-	37.86	-	3,335.91		
	08/05/14		-	37.97	-	3,335.80		
	08/12/14		-	38.04	-	3,335.74		
	09/03/14		-	38.19	-	3,335.58		
	09/16/14		-	38.01	-	3,335.76		
	09/30/14		-	35.22	-	3,338.55		
	10/04/14		-	34.85	-	3,338.92		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-8	10/21/14	3,373.77	-	34.48	-	3,339.29		
	10/28/14		-	34.48	-	3,339.29		
	11/13/14		-	34.46	-	3,339.31		
	11/25/14		-	34.53	-	3,339.24		
	12/10/14		-	34.57	-	3,339.20		
	12/21/14		-	34.63	-	3,339.14		
	01/14/15		-	34.87	-	3,338.90		
	01/21/15		-	34.88	-	3,338.89		
	02/17/15		-	35.08	-	3,338.69		
	03/04/15		-	35.16	-	3,338.61		
	03/20/15		-	35.24	-	3,338.53		
	04/01/15		-	35.26	-	3,338.51		
	04/15/15		-	35.30	-	3,338.47		
	04/28/15		-	35.38	-	3,338.39		
	05/12/15		-	35.44	-	3,338.33		
	05/27/15		-	35.49	-	3,338.28		
	06/09/15		-	35.57	-	3,338.20		
	06/23/15		-	35.67	-	3,338.10		
	07/14/15		-	35.86	-	3,337.91		
	08/04/15		-	36.10	-	3,337.67		
	08/18/15		-	36.22	-	3,337.55		
	09/12/15		-	36.44	-	3,337.33		
	10/01/15		-	36.56	-	3,337.21		
	10/13/15		-	36.56	-	3,337.21		
	10/27/15		-	36.54	-	3,337.23		
	11/12/15		-	36.52	-	3,337.25		
	11/24/15		-	36.49	-	3,337.28		
	12/09/15		-	36.47	-	3,337.30		
	12/22/15		-	36.47	-	3,337.30		
	01/06/16		-	36.49	-	3,337.28		
	01/20/16		-	36.52	-	3,337.25		
	03/01/16		-	36.54	-	3,337.23		
	03/15/16		-	36.54	-	3,337.23		
	03/30/16		-	36.54	-	3,337.23		
	04/26/16		-	36.47	-	3,337.30		
	05/17/16		Partial Gauging					
	06/01/16		-	36.67	-	3,337.10		
	06/14/16		-	36.76	-	3,337.01		
	06/28/16		-	36.89	-	3,336.88		
	07/23/16		-	37.17	-	3,336.60		
	08/11/16		-	37.36	-	3,336.41		
	08/23/16		-	37.43	-	3,336.34		
	09/06/16		-	37.31	-	3,336.46		
	09/20/16		-	36.23	-	3,337.54		
	10/06/16		-	35.03	-	3,338.74		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-8	10/17/16	3,373.77	-	34.96	-	3,338.81		
	10/31/16		-	35.02	-	3,338.75		
	11/17/16		-	35.07	-	3,338.70		
	12/01/16		-	35.15	-	3,338.62		
	12/21/16		-	35.21	-	3,338.56		
MW-9	08/15/02	3,375.92	-	39.60	-	3,336.32		
	09/30/02		-	40.46	-	3,335.46		
	11/06/02		-	39.30	-	3,336.62		
	02/27/03		-	39.18	-	3,336.74		
	03/18/03		-	39.30	-	3,336.62		
	05/12/03		-	39.53	-	3,336.39		
	10/02/03		-	40.50	-	3,335.42		
	11/10/03		-	41.00	-	3,334.92		
	02/17/04		-	41.12	-	3,334.80		
	05/06/04		-	36.71	-	3,339.21		
	08/18/04		-	35.89	-	3,340.03		
	09/10/04		-	35.33	-	3,340.59		
	09/21/04		-	35.55	-	3,340.37		
	10/05/04		-	33.03	-	3,342.89		
	10/19/04		-	30.96	-	3,344.96		
	11/02/04		-	31.78	-	3,344.14		
	11/15/04		-	30.98	-	3,344.94		
	12/06/04		-	31.12	-	3,344.80		
	12/21/04		-	31.08	-	3,344.84		
	01/03/05		-	31.37	-	3,344.55		
	01/18/05		-	31.62	-	3,344.30		
	02/01/05		-	31.78	-	3,344.14		
	02/22/05		-	32.24	-	3,343.68		
	04/21/05		-	32.57	-	3,343.35		
	05/05/05		-	32.57	-	3,343.35		
	05/17/05		-	32.65	-	3,343.27		
	06/08/05		-	32.85	-	3,343.07		
	06/22/05		-	32.98	-	3,342.94		
	07/20/05		-	33.20	-	3,342.72		
	08/15/05		-	32.85	-	3,343.07		
	08/31/05		-	32.71	-	3,343.21		
	09/14/05		-	32.73	-	3,343.19		
	09/28/05		-	32.91	-	3,343.01		
	11/09/05		-	33.38	-	3,342.54		
	11/18/05		-	33.14	-	3,342.78		
	11/30/05		-	33.48	-	3,342.44		
	12/14/05		-	33.46	-	3,342.46		
	12/28/05		-	33.69	-	3,342.23		
	01/11/06		-	33.76	-	3,342.16		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-9	01/25/06	3,375.92	-	33.93	-	3,341.99		
	02/08/06		-	33.96	-	3,341.96		
	02/16/06		-	33.45	-	3,342.47		
	02/22/06		-	34.01	-	3,341.91		
	03/08/06		-	34.01	-	3,341.91		
	04/10/06		-	33.61	-	3,342.31		
	05/22/06		-	33.78	-	3,342.14		
	07/12/06		-	33.85	-	3,342.07		
	08/07/06		-	34.23	-	3,341.69		
	10/17/06		-	33.68	-	3,342.24		
	11/21/06		-	33.83	-	3,342.09		
	12/13/06		-	33.93	-	3,341.99		
	01/09/07		-	34.18	-	3,341.74		
	02/14/07		-	33.99	-	3,341.93		
	02/28/07		-	33.96	-	3,341.96		
	03/13/07		-	34.01	-	3,341.91		
	05/11/07		-	33.64	-	3,342.28		
	08/10/07		-	33.54	-	3,342.38		
	08/20/07		-	33.65	-	3,342.27		
	11/16/07		-	34.02	-	3,341.90		
	02/29/08		-	34.18	-	3,341.74		
	05/28/08		-	34.45	-	3,341.47		
	08/21/08		-	34.79	-	3,341.13		
	11/06/08		-	34.84	-	3,341.08		
	02/09/09		-	34.71	-	3,341.21		
	05/14/09		-	34.23	-	3,341.69		
	08/12/09		-	35.16	-	3,340.76		
	11/10/09		-	35.51	-	3,340.41		
	02/03/10		-	35.51	-	3,340.41		
	05/27/10		-	35.58	-	3,340.34		
	08/16/10		-	35.03	-	3,340.89		
	11/11/10		-	35.98	-	3,339.94		
	05/25/11		-	36.35	-	3,339.57		
	08/18/11		-	36.95	-	3,338.97		
	09/20/11		-	37.20	-	3,338.72		
	10/03/11		-	37.33	-	3,338.59		
	10/28/11		-	37.38	-	3,338.54		
	11/10/11		-	37.40	-	3,338.52		
	12/09/11		-	37.48	-	3,338.44		
	02/24/12		-	37.52	-	3,338.40		
	02/29/12		-	37.59	-	3,338.33		
	03/27/12		-	37.59	-	3,338.33		
	04/12/12		-	37.68	-	3,338.24		
	04/19/12		-	37.71	-	3,338.21		
	05/05/12		-	37.73	-	3,338.19		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-9	05/17/12	3,375.92	-	37.76	-	3,338.16		
	06/21/12		-	37.94	-	3,337.98		
	07/09/12		-	38.09	-	3,337.83		
	08/02/12		-	38.17	-	3,337.75		
	08/15/12		-	38.28	-	3,337.64		5.00
	08/28/12		-	38.40	-	3,337.52		
	09/12/12		-	38.52	-	3,337.40		
	09/26/12		-	38.75	-	3,337.17		
	10/10/12		-	38.68	-	3,337.24		
	10/26/12		-	38.72	-	3,337.20		
	11/06/12		-	38.71	-	3,337.21		5.00
	11/20/12		-	38.76	-	3,337.16		
	01/11/13		-	38.73	-	3,337.19		
	01/25/13		-	36.40	-	3,339.52		
	02/07/13		-	38.78	-	3,337.14		
	02/22/13		-	39.95	-	3,335.97		
	03/08/13		-	38.78	-	3,337.14		
	03/21/13		-	38.81	-	3,337.11		
	04/04/13		-	38.99	-	3,336.93		
	04/17/13		-	38.82	-	3,337.10		
	05/01/13		-	38.96	-	3,336.96		
	05/23/13		-	38.90	-	3,337.02		
	06/13/13		-	39.01	-	3,336.92		
	06/28/13		-	39.10	-	3,336.83		
	07/10/13		-	39.19	-	3,336.73		
	07/24/13		-	39.25	-	3,336.67		
	08/08/13		-	39.35	-	3,336.57		
	08/22/13		-	39.50	-	3,336.42		
	09/05/13		-	39.61	-	3,336.32		
	09/19/13		-	39.72	-	3,336.21		5.00
	10/07/13		-	39.80	-	3,336.13		
	10/17/13		-	39.81	-	3,336.12		
	10/31/13		-	39.70	-	3,336.23		
	11/13/13		-	39.70	-	3,336.23		
	11/27/13		-	39.68	-	3,336.25		
	12/11/13		-	39.68	-	3,336.25		
	12/22/13		-	39.69	-	3,336.24		
	01/09/14		-	39.66	-	3,336.27		
	01/23/14		-	39.69	-	3,336.24		
	02/05/14		-	39.70	-	3,336.23		
	02/20/14		-	39.65	-	3,336.27		
	03/05/14		-	39.70	-	3,336.23		
	03/19/14		-	39.68	-	3,336.25		
	04/02/14		-	39.63	-	3,336.29		
	04/16/14		-	39.64	-	3,336.28		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-9	05/01/14	3,375.92	-	39.64	-	3,336.29		
	05/13/14		-	39.70	-	3,336.23		
	05/28/14		-	39.77	-	3,336.16		
	06/10/14		-	39.88	-	3,336.04		
	06/24/14		-	39.96	-	3,335.96		
	07/08/14		-	40.10	-	3,335.83		
	07/23/14		-	40.22	-	3,335.70		
	08/05/14		-	40.33	-	3,335.59		
	08/12/14		-	40.40	-	3,335.53		
	09/03/14		-	40.56	-	3,335.36		
	09/16/14		-	40.37	-	3,335.55		
	09/30/14		-	37.78	-	3,338.15		
	10/04/14		-	37.38	-	3,338.54		
	10/21/14		-	36.88	-	3,339.04		
	10/28/14		-	36.85	-	3,339.07		
	11/13/14		-	36.83	-	3,339.09		
	11/25/14		-	36.90	-	3,339.02		
	12/10/14		-	36.94	-	3,338.98		
	12/21/14		-	37.00	-	3,338.92		
	01/14/15		-	37.18	-	3,338.74		
	01/21/15		-	37.25	-	3,338.67		
	02/17/15		-	37.46	-	3,338.46		
	03/04/15		-	37.54	-	3,338.38		
	03/20/15		-	37.63	-	3,338.29		
	04/01/15		-	37.63	-	3,338.29		
	04/15/15		-	37.72	-	3,338.20		
	04/28/15		-	37.76	-	3,338.16		
	05/12/15		-	37.83	-	3,338.09		
	05/27/15		-	37.87	-	3,338.05		
	06/09/15		-	37.94	-	3,337.98		
	06/23/15		-	38.04	-	3,337.88		
	07/14/15		-	38.23	-	3,337.69		
	08/04/15		-	38.45	-	3,337.47		
	08/18/15		-	38.58	-	3,337.34		
	09/12/15		-	38.80	-	3,337.12		
	10/01/15		-	38.92	-	3,337.00		
	10/13/15		-	38.95	-	3,336.97		
	10/27/15		-	38.90	-	3,337.02		
	11/12/15		-	38.89	-	3,337.03		
	11/24/15		-	38.86	-	3,337.06		
	12/09/15		-	38.85	-	3,337.07		
	12/22/15		-	38.84	-	3,337.08		
	01/06/16		-	38.87	-	3,337.05		
	01/20/16		-	38.87	-	3,337.05		
	03/01/16		-	38.93	-	3,336.99		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-9	03/15/16	3,375.92	-	38.92	-	3,337.00		
	03/30/16		-	38.89	-	3,337.03		
	04/26/16		-	38.85	-	3,337.07		
	05/17/16		Partial Gauging					
	06/01/16		-	39.04	-	3,336.88		
	06/14/16		-	39.13	-	3,336.79		
	06/28/16		-	39.26	-	3,336.66		
	07/23/16		-	39.53	-	3,336.39		
	08/11/16		-	39.71	-	3,336.21		
	08/23/16		-	39.77	-	3,336.15		
	09/06/16		-	39.67	-	3,336.25		
	09/20/16		-	38.71	-	3,337.21		
	10/06/16		-	37.47	-	3,338.45		
	10/17/16		-	37.35	-	3,338.57		
	10/31/16		-	37.44	-	3,338.48		
	11/17/16		-	37.46	-	3,338.46		
	12/01/16		-	37.52	-	3,338.40		
	12/21/16		-	37.57	-	3,338.35		
MW-10	08/15/02	3,370.17	-	33.66	-	3,336.51		
	09/30/02		-	34.59	-	3,335.58		
	11/06/02		-	32.40	-	3,337.77		
	02/27/03		-	33.35	-	3,336.82		
	03/18/03		-	33.37	-	3,336.80		
	05/12/03		-	33.65	-	3,336.52		
	08/20/03		-	34.70	-	3,335.47		
	11/10/03		-	35.27	-	3,334.90		
	02/17/04		-	35.27	-	3,334.90		
	05/06/04		-	30.04	-	3,340.13		
	08/18/04		-	29.13	-	3,341.04		
	09/10/04		-	29.08	-	3,341.09		
	09/21/04		-	29.48	-	3,340.69		
	10/05/04		-	24.20	-	3,345.97		
	10/19/04		-	22.80	-	3,347.37		
	11/02/04		-	22.98	-	3,347.19		
	11/15/04		-	24.31	-	3,345.86		
	12/06/04		-	24.74	-	3,345.43		
	12/21/04		-	24.85	-	3,345.32		
	01/03/05		-	25.31	-	3,344.86		
	01/18/05		-	25.63	-	3,344.54		
	02/01/05		-	25.84	-	3,344.33		
	02/22/05		-	26.45	-	3,343.72		
	04/21/05		-	26.74	-	3,343.43		
	05/05/05		-	26.75	-	3,343.42		
	05/17/05		-	26.85	-	3,343.32		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-10	06/08/05	3,370.17	-	27.07	-	3,343.10		
	06/22/05		-	27.21	-	3,342.96		
	07/20/05		-	27.46	-	3,342.71		
	08/15/05		-	26.96	-	3,343.21		
	08/31/05		-	26.76	-	3,343.41		
	09/14/05		-	26.90	-	3,343.27		
	09/28/05		-	27.16	-	3,343.01		
	11/09/05		-	27.68	-	3,342.49		
	11/18/05		-	27.43	-	3,342.74		
	11/30/05		-	27.75	-	3,342.42		
	12/14/05		-	27.93	-	3,342.24		
	12/28/05		-	27.98	-	3,342.19		
	01/11/06		-	28.01	-	3,342.16		
	01/25/06		-	28.17	-	3,342.00		
	02/08/06		-	28.23	-	3,341.94		
	02/16/06		-	27.80	-	3,342.37		
	02/22/06		-	28.27	-	3,341.90		
	03/08/06		-	28.26	-	3,341.91		
	04/10/06		-	27.93	-	3,342.24		
	05/22/06		-	28.05	-	3,342.12		
	07/12/06		-	28.13	-	3,342.04		
	08/07/06		-	28.51	-	3,341.66		
	10/17/06		-	27.87	-	3,342.30		
	11/21/06		-	28.06	-	3,342.11		
	12/13/06		-	28.15	-	3,342.02		
	01/09/07		-	28.41	-	3,341.76		
	02/14/07		-	28.22	-	3,341.95		
	02/28/07		-	28.14	-	3,342.03		
	03/13/07		-	28.20	-	3,341.97		
	05/11/07		-	27.31	-	3,342.86		
	08/10/07		-	27.76	-	3,342.41		
	08/20/07		-	27.88	-	3,342.29		
	11/16/07		-	28.20	-	3,341.97		
	02/29/08		-	28.42	-	3,341.75		
	05/28/08		-	28.48	-	3,341.69		
	08/21/08		-	29.04	-	3,341.13		
	11/06/08		-	28.82	-	3,341.35		
	02/09/09		-	28.91	-	3,341.26		
	05/14/09		-	29.07	-	3,341.10		
	08/12/09		-	29.34	-	3,340.83		
	11/10/09		-	29.77	-	3,340.40		
	02/03/10		-	29.75	-	3,340.42		
	05/27/10		-	29.82	-	3,340.35		
	08/16/10		-	30.06	-	3,340.11		
	11/11/10		-	30.32	-	3,339.85		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-10	02/18/11	3,370.17	-	30.30	-	3,339.87		
	05/25/11		-	30.51	-	3,339.66		
	08/18/11		-	32.05	-	3,338.12		
	09/20/11		-	31.50	-	3,338.67		
	10/03/11		-	31.61	-	3,338.56		
	10/28/11		-	31.66	-	3,338.51		
	11/10/11		-	31.66	-	3,338.51		
	12/09/11		-	31.69	-	3,338.48		
	02/24/12		-	31.68	-	3,338.49		
	02/29/12		-	31.70	-	3,338.47		
	03/27/12		-	31.70	-	3,338.47		
	04/12/12		-	31.91	-	3,338.26		
	04/19/12		-	31.97	-	3,338.20		
	05/05/12		-	32.04	-	3,338.13		
	05/17/12		-	32.07	-	3,338.10		
	06/21/12		-	32.03	-	3,338.14		
	07/09/12		-	32.46	-	3,337.71		
	08/02/12		-	32.43	-	3,337.74		
	08/15/12		-	32.55	-	3,337.62		5.00
	08/28/12		-	32.67	-	3,337.50		
	09/12/12		-	32.80	-	3,337.37		
	09/26/12		-	33.13	-	3,337.04		
	10/10/12		-	32.87	-	3,337.30		
	10/26/12		-	32.92	-	3,337.25		
	11/06/12		-	32.89	-	3,337.28		5.00
	11/20/12		-	32.91	-	3,337.26		
	01/11/13		-	32.38	-	3,337.79		
	01/25/13		-	32.09	-	3,338.08		
	02/07/13		-	32.92	-	3,337.25		
	02/22/13		-	33.18	-	3,336.99		
	03/08/13		-	32.90	-	3,337.27		
	03/21/13		-	33.00	-	3,337.17		
	04/04/13		-	33.05	-	3,337.12		
	04/17/13		-	32.90	-	3,337.27		
	05/01/13		-	33.08	-	3,337.09		
	05/23/13		-	33.07	-	3,337.10		
	06/13/13		-	33.12	-	3,337.05		
	06/28/13		-	33.25	-	3,336.93		
	07/10/13		-	33.36	-	3,336.82		
	07/24/13		-	33.45	-	3,336.73		
	08/08/13		-	33.55	-	3,336.62		
	08/22/13		-	33.69	-	3,336.48		
	09/05/13		-	33.81	-	3,336.37		
	09/19/13		-	33.90	-	3,336.27		5.00
	10/07/13		-	33.99	-	3,336.19		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-10	10/17/13	3,370.17	-	33.95	-	3,336.23		
	10/31/13		-	33.79	-	3,336.39		
	11/13/13		-	33.77	-	3,336.41		
	11/27/13		-	33.75	-	3,336.43		
	12/11/13		-	33.76	-	3,336.42		
	12/22/13		-	33.75	-	3,336.43		
	01/09/14		-	33.73	-	3,336.45		
	01/23/14		-	33.75	-	3,336.43		
	02/05/14		-	33.76	-	3,336.42		
	02/20/14		-	33.71	-	3,336.46		
	03/05/14		-	33.73	-	3,336.45		
	03/19/14		-	33.74	-	3,336.44		
	04/02/14		-	33.71	-	3,336.47		
	04/16/14		-	33.72	-	3,336.46		
	05/01/14		-	33.72	-	3,336.46		
	05/13/14		-	33.75	-	3,336.43		
	05/28/14		-	33.87	-	3,336.31		
	06/10/14		-	34.03	-	3,336.15		
	06/24/14		-	34.16	-	3,336.02		
	07/08/14		-	34.24	-	3,335.94		
	07/23/14		-	34.38	-	3,335.79		
	08/05/14		-	34.53	-	3,335.64		
	08/12/14		-	34.57	-	3,335.60		
	09/03/14		-	34.75	-	3,335.43		
	09/16/14		-	34.29	-	3,335.88		
	09/30/14		-	29.94	-	3,340.23		
	10/04/14		-	29.94	-	3,340.23		
	10/21/14		-	30.26	-	3,339.91		
	10/28/14		-	30.39	-	3,339.78		
	11/13/14		-	30.59	-	3,339.58		
	11/25/14		-	30.73	-	3,339.44		
	12/10/14		-	30.87	-	3,339.30		
	12/21/14		-	30.95	-	3,339.22		
	01/14/15		-	31.24	-	3,338.93		
	01/21/15		-	31.28	-	3,338.89		
	02/17/15		-	31.50	-	3,338.67		
	03/04/15		-	31.56	-	3,338.61		
	03/20/15		-	31.67	-	3,338.50		
	04/01/15		-	31.69	-	3,338.48		
	04/15/15		-	31.75	-	3,338.42		
	04/28/15		-	31.82	-	3,338.35		
	05/12/15		-	31.89	-	3,338.28		
	05/27/15		-	31.92	-	3,338.25		
	06/09/15		-	32.01	-	3,338.16		
	06/23/15		-	32.11	-	3,338.06		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-10	07/14/15	3,370.17	-	32.31	-	3,337.86		
	08/04/15		-	32.59	-	3,337.58		
	08/18/15		-	32.69	-	3,337.48		
	09/12/15		-	32.91	-	3,337.26		
	10/01/15		-	33.03	-	3,337.14		
	10/13/15		-	33.02	-	3,337.15		
	10/27/15		-	32.94	-	3,337.23		
	11/12/15		-	32.92	-	3,337.25		
	11/24/15		-	32.91	-	3,337.26		
	12/09/15		-	32.91	-	3,337.26		
	12/22/15		-	32.90	-	3,337.27		
	01/06/16		-	32.92	-	3,337.25		
	01/20/16		-	32.96	-	3,337.21		
	03/01/16		-	32.97	-	3,337.20		
	03/15/16		-	32.97	-	3,337.20		
	03/30/16		-	32.96	-	3,337.21		
	04/26/16		-	32.89	-	3,337.28		
	05/17/16		Partial Gauging					
	06/01/16		-	33.11	-	3,337.06		
	06/14/16		-	33.20	-	3,336.97		
	06/28/16		-	33.35	-	3,336.82		
	07/23/16		-	33.66	-	3,336.51		
	08/11/16		-	33.84	-	3,336.33		
	08/23/16		-	33.90	-	3,336.27		
	09/06/16		-	33.69	-	3,336.48		
	09/20/16		-	31.33	-	3,338.84		
	10/06/16		-	30.89	-	3,339.28		
	10/17/16		-	31.05	-	3,339.12		
	10/31/16		-	31.31	-	3,338.86		
	11/17/16		-	31.44	-	3,338.73		
	12/01/16		-	31.51	-	3,338.66		
	12/21/16		-	31.60	-	3,338.57		
MW-11	05/12/03	3,373.96	-	37.72	-	3,336.24		
	08/20/03		-	38.70	-	3,335.26		
	11/10/03		-	39.21	-	3,334.75		
	02/17/04		-	39.31	-	3,334.65		
	05/06/04		-	34.82	-	3,339.14		
	08/18/04		-	34.05	-	3,339.91		
	09/10/04		-	33.56	-	3,340.40		
	09/21/04		-	33.72	-	3,340.24		
	10/05/04		-	31.25	-	3,342.71		
	10/19/04		-	29.25	-	3,344.71		
	11/02/04		-	29.02	-	3,344.94		
	11/15/04		-	29.21	-	3,344.75		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-11	12/06/04	3,373.96	-	29.31	-	3,344.65		
	12/21/04		-	29.25	-	3,344.71		
	01/03/05		-	29.59	-	3,344.37		
	01/18/05		-	29.83	-	3,344.13		
	02/01/05		-	29.98	-	3,343.98		
	02/22/05		-	30.50	-	3,343.46		
	04/21/05		-	30.75	-	3,343.21		
	05/05/05		-	29.75	-	3,344.21		
	05/17/05		-	30.81	-	3,343.15		
	06/08/05		-	31.03	-	3,342.93		
	06/22/05		-	31.15	-	3,342.81		
	07/20/05		-	31.43	-	3,342.53		
	08/15/05		-	31.04	-	3,342.92		
	08/31/05		-	30.87	-	3,343.09		
	09/14/05		-	30.16	-	3,343.80		
	09/28/05		-	31.13	-	3,342.83		
	11/09/05		-	31.61	-	3,342.35		
	11/18/05		-	31.35	-	3,342.61		
	11/30/05		-	31.71	-	3,342.25		
	12/14/05		-	31.83	-	3,342.13		
	12/28/05		-	31.89	-	3,342.07		
	01/11/06		-	31.95	-	3,342.01		
	01/25/06		-	32.10	-	3,341.86		
	02/08/06		-	32.15	-	3,341.81		
	02/16/06		-	31.63	-	3,342.33		
	02/22/06		-	32.20	-	3,341.76		
	03/08/06		-	32.21	-	3,341.75		
	04/10/06		-	31.77	-	3,342.19		
	05/22/06		-	31.95	-	3,342.01		
	07/12/06		-	32.03	-	3,341.93		
	08/07/06		-	32.27	-	3,341.69		
	10/17/06		-	31.85	-	3,342.11		
	11/21/06		-	31.91	-	3,342.05		
	12/13/06		-	31.96	-	3,342.00		
	01/09/07		-	32.23	-	3,341.73		
	02/14/07		-	32.15	-	3,341.81		
	02/16/07		-	32.12	-	3,341.84		
	02/28/07		-	32.12	-	3,341.84		
	03/13/07		-	32.17	-	3,341.79		
	05/11/07		-	31.82	-	3,342.14		
	08/10/07		-	31.74	-	3,342.22		
	08/20/07		-	31.80	-	3,342.16		
	11/16/07		-	29.69	-	3,344.27		
	02/29/08		-	29.30	-	3,344.66		
	05/28/08		-	32.41	-	3,341.55		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-11	08/21/08	3,373.96	-	32.98	-	3,340.98		
	11/06/08		-	32.85	-	3,341.11		
	02/09/09		-	32.91	-	3,341.05		
	05/14/09		-	33.01	-	3,340.95		
	08/12/09		-	33.35	-	3,340.61		
	11/10/09		-	33.71	-	3,340.25		
	02/03/10		-	33.74	-	3,340.22		
	05/27/10		-	33.78	-	3,340.18		
	08/16/10		-	34.11	-	3,339.85		
	11/11/10		-	34.19	-	3,339.77		
	02/18/11		-	34.26	-	3,339.70		
	05/25/11		-	34.51	-	3,339.45		
	08/18/11		-	35.25	-	3,338.71		
	10/03/11		-	35.55	-	3,338.41		
	10/28/11		-	35.58	-	3,338.38		
	11/10/11		-	35.65	-	3,338.31		
	12/09/11		-	35.70	-	3,338.26		
	02/24/12		-	35.78	-	3,338.18		
	02/29/12		-	35.68	-	3,338.28		
	03/27/12		-	35.70	-	3,338.26		
	04/12/12		-	35.69	-	3,338.27		
	04/19/12		-	35.90	-	3,338.06		
	05/05/12		-	36.00	-	3,337.96		
	05/17/12		-	35.99	-	3,337.97		
	06/21/12		-	36.00	-	3,337.96		
	07/09/12		-	36.32	-	3,337.64		
	08/02/12		-	36.36	-	3,337.60		
	08/15/12		-	36.50	-	3,337.46		5.00
	08/28/12		-	36.60	-	3,337.36		
	09/12/12		-	36.87	-	3,337.09		
	09/26/12		-	36.95	-	3,337.01		
	10/10/12		-	36.85	-	3,337.11		
	10/26/12		-	36.90	-	3,337.06		
	11/06/12		-	36.90	-	3,337.06		5.00
	11/20/12		-	36.94	-	3,337.02		
	01/11/13		-	36.95	-	3,337.01		
	01/25/13		-	37.00	-	3,336.96		
	02/07/13		-	36.98	-	3,336.98		
	02/22/13		-	37.10	-	3,336.86		
	03/08/13		-	36.80	-	3,337.16		
	03/21/13		-	36.92	-	3,337.04		
	04/04/13		-	37.10	-	3,336.86		
	04/17/13		-	36.80	-	3,337.16		
	05/01/13		-	37.00	-	3,336.96		
	05/23/13		-	37.10	-	3,336.86		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-11	06/13/13	3,373.96	-	37.15	-	3,336.81		
	06/28/13		-	37.27	-	3,336.70		
	07/10/13		-	37.36	-	3,336.60		
	07/24/13		-	37.43	-	3,336.53		
	08/08/13		-	37.54	-	3,336.42		
	08/22/13		-	37.67	-	3,336.29		
	09/05/13		-	37.78	-	3,336.18		5.00
	09/19/13		-	37.88	-	3,336.08		
	10/07/13		-	37.97	-	3,336.00		
	10/17/13		-	37.98	-	3,335.99		
	10/31/13		-	37.85	-	3,336.12		
	11/13/13		-	37.81	-	3,336.16		
	11/27/13		-	37.83	-	3,336.13		
	12/11/13		-	37.85	-	3,336.11		
	12/22/13		-	37.85	-	3,336.12		
	01/09/14		-	37.82	-	3,336.15		
	01/23/14		-	37.86	-	3,336.11		
	02/05/14		-	37.86	-	3,336.11		
	02/20/14		-	37.82	-	3,336.15		
	03/05/14		-	37.83	-	3,336.14		
	03/19/14		-	37.82	-	3,336.15		
	04/02/14		-	37.77	-	3,336.20		
	04/16/14		-	37.80	-	3,336.17		
	05/01/14		-	37.82	-	3,336.14		
	05/13/14		-	37.86	-	3,336.11		
	05/28/14		-	37.94	-	3,336.03		
	06/10/14		-	38.06	-	3,335.91		
	06/24/14		-	38.15	-	3,335.82		
	07/08/14		-	38.27	-	3,335.70		
	07/23/14		-	38.38	-	3,335.58		
	08/05/14		-	38.50	-	3,335.46		
	08/12/14		-	38.56	-	3,335.41		
	09/03/14		-	38.72	-	3,335.24		
	09/16/14		-	38.50	-	3,335.46		
	09/30/14		-	35.79	-	3,338.18		
	10/04/14		-	35.44	-	3,338.52		
	10/21/14		-	34.94	-	3,339.02		
	10/28/14		-	34.93	-	3,339.03		
	11/13/14		-	34.94	-	3,339.02		
	11/25/14		-	35.02	-	3,338.94		
	12/10/14		-	35.06	-	3,338.90		
	12/21/14		-	35.13	-	3,338.83		
	01/14/15		-	35.39	-	3,338.57		
	01/21/15		-	35.41	-	3,338.55		
	02/17/15		-	35.62	-	3,338.34		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)		
MW-11	03/04/15	3,373.96	-	35.70	-	3,338.26				
	03/20/15		-	35.79	-	3,338.17				
	04/01/15		-	35.79	-	3,338.17				
	04/15/15		-	35.86	-	3,338.10				
	04/28/15		-	35.92	-	3,338.04				
	05/12/15		-	35.98	-	3,337.98				
	05/27/15		-	36.02	-	3,337.94				
	06/09/15		-	36.10	-	3,337.86				
	06/23/15		-	36.18	-	3,337.78				
	07/14/15		-	36.36	-	3,337.60				
	08/04/15		-	36.60	-	3,337.36				
	08/18/15		-	36.71	-	3,337.25				
	09/12/15		-	36.94	-	3,337.02				
	10/01/15		-	37.06	-	3,336.90				
	10/13/15		-	37.08	-	3,336.88				
	10/27/15		-	37.05	-	3,336.91				
	11/12/15		-	37.04	-	3,336.92				
	11/24/15		-	37.01	-	3,336.95				
	12/09/15		-	36.99	-	3,336.97				
	12/22/15		-	37.00	-	3,336.96				
	01/06/16		-	37.03	-	3,336.93				
	01/20/16		-	37.10	-	3,336.86				
	03/01/16		-	37.08	-	3,336.88				
	03/15/16		-	37.08	-	3,336.88				
	03/30/16		-	37.04	-	3,336.92				
	04/26/16		-	36.99	-	3,336.97				
	05/17/16		Partial Gauging							
	06/01/16		-	37.19	-	3,336.77				
	06/14/16		-	37.25	-	3,336.71				
	06/28/16		-	37.38	-	3,336.58				
	07/23/16		-	37.65	-	3,336.31				
	08/11/16		-	37.85	-	3,336.11				
	08/23/16		-	37.92	-	3,336.04				
	09/06/16		-	37.81	-	3,336.15				
	09/20/16		-	36.79	-	3,337.17				
	10/06/16		-	35.58	-	3,338.38				
	10/17/16		-	35.46	-	3,338.50				
	10/31/16		-	35.54	-	3,338.42				
	11/17/16		-	35.61	-	3,338.35				
	12/01/16		-	35.60	-	3,338.36				
	12/21/16		-	35.76	-	3,338.20				
MW-12	10/22/02	3,372.41	-	33.77	-	3,338.64				
	11/06/02		-	31.84	-	3,340.57				
	03/18/03		-	35.89	-	3,336.52				

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-12	05/12/03	3,372.41	-	36.09	-	3,336.32		
	08/20/03		-	37.17	-	3,335.24		
	11/10/03		-	37.72	-	3,334.69		
	02/17/04		-	37.73	-	3,334.68		
	05/06/04		-	33.08	-	3,339.33		
	08/18/04		-	32.32	-	3,340.09		
	09/10/04		-	32.09	-	3,340.32		
	09/21/04		-	32.24	-	3,340.17		
	10/05/04		-	29.21	-	3,343.20		
	10/19/04		-	27.05	-	3,345.36		
	11/02/04		-	27.09	-	3,345.32		
	11/15/04		-	27.23	-	3,345.18		
	12/06/04		-	27.67	-	3,344.74		
	12/21/04		-	27.64	-	3,344.77		
	01/03/05		-	28.03	-	3,344.38		
	01/18/05		-	28.26	-	3,344.15		
	02/01/05		-	28.46	-	3,343.95		
	02/22/05		-	29.00	-	3,343.41		
	04/21/05		-	29.25	-	3,343.16		
	05/05/05		-	29.29	-	3,343.12		
	05/17/05		-	29.31	-	3,343.10		
	06/08/05		-	29.55	-	3,342.86		
	06/22/05		-	30.74	-	3,341.67		
	07/20/05		-	29.94	-	3,342.47		
	08/15/05		-	29.54	-	3,342.87		
	08/31/05		-	29.41	-	3,343.00		
	09/14/05		-	29.45	-	3,342.96		
	09/28/05		-	29.66	-	3,342.75		
	11/09/05		-	30.14	-	3,342.27		
	11/18/05		-	29.88	-	3,342.53		
	11/30/05		-	30.22	-	3,342.19		
	12/14/05		-	30.37	-	3,342.04		
	12/28/05		-	30.41	-	3,342.00		
	01/11/06		-	30.45	-	3,341.96		
	01/25/06		-	30.62	-	3,341.79		
	02/08/06		-	30.67	-	3,341.74		
	02/16/06		-	30.13	-	3,342.28		
	02/22/06		-	30.71	-	3,341.70		
	03/08/06		-	30.74	-	3,341.67		
	04/10/06		-	29.30	-	3,343.11		
	05/22/06		-	30.47	-	3,341.94		
	07/12/06		-	30.55	-	3,341.86		
	08/07/06		-	30.92	-	3,341.49		
	10/17/06		-	30.35	-	3,342.06		
	11/21/06		-	30.52	-	3,341.89		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-12	12/13/06	3,372.41	-	27.02	-	3,345.39		
	01/09/07		-	30.71	-	3,341.70		
	02/14/07		-	30.63	-	3,341.78		
	02/16/07		-	30.56	-	3,341.85		
	03/13/07		-	27.11	-	3,345.30		
	05/11/07		-	30.20	-	3,342.21		
	08/10/07		-	26.67	-	3,345.74		
	08/20/07		-	26.33	-	3,346.08		
	11/16/07		-	33.32	-	3,339.09		
	02/29/08		-	27.29	-	3,345.12		
	05/28/08		-	27.35	-	3,345.06		
	08/21/08		-	27.92	-	3,344.49		
	11/06/08		-	27.74	-	3,344.67		
	02/09/09		-	27.83	-	3,344.58		
	05/14/09		-	27.96	-	3,344.45		
	08/13/09		-	28.26	-	3,344.15		
	11/10/09		-	28.66	-	3,343.75		
	02/03/10		-	28.69	-	3,343.72		
	05/27/10		-	28.71	-	3,343.70		
	08/16/10		-	28.95	-	3,343.46		
	11/11/10		-	32.69	-	3,339.72		
	02/18/11		-	29.16	-	3,343.25		
	05/25/11		-	32.92	-	3,339.49		
	08/18/11		-	33.67	-	3,338.74		
	10/03/11		-	35.45	-	3,336.96		
	10/28/11		-	34.10	-	3,338.31		
	11/10/11		-	34.23	-	3,338.18		
	12/09/11		-	34.32	-	3,338.09		
	02/24/12		-	34.40	-	3,338.01		
	02/29/12		-	34.11	-	3,338.30		
	03/27/12		-	34.24	-	3,338.17		
	04/12/12		-	34.21	-	3,338.20		
	04/19/12		-	34.40	-	3,338.01		
	05/05/12		-	34.43	-	3,337.98		
	05/17/12		-	34.47	-	3,337.94		
	06/21/12		-	34.45	-	3,337.96		
	07/09/12		-	34.81	-	3,337.60		
	08/02/12		-	34.85	-	3,337.56		
	08/15/12		-	34.95	-	3,337.46		
	08/28/12		-	35.06	-	3,337.35		
	09/12/12		-	36.40	-	3,336.01		
	09/26/12		-	35.48	-	3,336.93		
	10/10/12		-	35.28	-	3,337.13		
	10/26/12		-	35.35	-	3,337.06		
	11/06/12		-	35.34	-	3,337.07		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-12	11/20/12	3,372.41	-	35.39	-	3,337.02		
	01/11/13		-	37.38	-	3,335.03		
	01/25/13		-	35.36	-	3,337.05		
	02/07/13		-	35.40	-	3,337.01		
	02/22/13		-	35.60	-	3,336.81		
	03/08/13		-	35.40	-	3,337.01		
	03/21/13		-	35.35	-	3,337.06		
	04/04/13		-	35.50	-	3,336.91		
	04/17/13		-	35.40	-	3,337.01		
	05/01/13		-	35.47	-	3,336.94		
	05/23/13		-	36.50	-	3,335.91		
	06/13/13		-	35.59	-	3,336.82		
	06/28/13		-	35.68	-	3,336.73		
	07/10/13		-	35.80	-	3,336.61		
	07/24/13		-	35.88	-	3,336.53		
	08/08/13		-	35.98	-	3,336.43		
	08/22/13		-	36.10	-	3,336.31		
	09/05/13		-	36.22	-	3,336.19		5.00
	09/19/13		-	36.32	-	3,336.09		
	10/07/13		-	36.40	-	3,336.01		
	10/17/13		-	36.40	-	3,336.01		
	10/31/13		-	36.25	-	3,336.16		
	11/13/13		-	36.21	-	3,336.20		
	11/27/13		-	36.25	-	3,336.16		
	12/11/13		-	36.27	-	3,336.14		
	12/22/13		-	36.26	-	3,336.15		
	01/09/14		-	36.23	-	3,336.18		
	01/23/14		-	36.27	-	3,336.14		
	02/05/14		-	36.28	-	3,336.13		
	02/20/14		-	36.22	-	3,336.19		
	03/05/14		-	36.23	-	3,336.18		
	03/19/14		-	36.23	-	3,336.18		
	04/02/14		-	36.19	-	3,336.22		
	04/16/14		-	36.20	-	3,336.21		
	05/01/14		-	36.23	-	3,336.18		
	05/13/14		-	36.26	-	3,336.15		
	05/28/14		-	36.35	-	3,336.06		
	06/10/14		-	36.48	-	3,335.93		
	06/24/14		-	36.57	-	3,335.84		
	07/08/14		-	36.68	-	3,335.73		
	07/23/14		-	36.79	-	3,335.62		
	08/05/14		-	36.93	-	3,335.48		
	08/12/14		-	37.00	-	3,335.41		
	09/03/14		-	37.17	-	3,335.24		
	09/16/14		-	36.88	-	3,335.53		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-12	09/30/14	3,372.41	-	33.78	-	3,338.63		
	10/04/14		-	33.47	-	3,338.94		
	10/21/14		-	33.16	-	3,339.25		
	10/28/14		-	33.19	-	3,339.22		
	11/13/14		-	33.25	-	3,339.16		
	11/25/14		-	33.37	-	3,339.04		
	12/10/14		-	33.44	-	3,338.97		
	12/21/14		-	33.51	-	3,338.90		
	01/14/15		-	33.76	-	3,338.65		
	01/21/15		-	33.81	-	3,338.60		
	02/17/15		-	34.01	-	3,338.40		
	03/04/15		-	34.10	-	3,338.31		
	03/20/15		-	34.19	-	3,338.22		
	04/01/15		-	34.19	-	3,338.22		
	04/15/15		-	34.25	-	3,338.16		
	04/28/15		-	34.32	-	3,338.09		
	05/12/15		-	34.38	-	3,338.03		
	05/27/15		-	34.43	-	3,337.98		
	06/09/15		-	34.50	-	3,337.91		
	06/23/15		-	34.59	-	3,337.82		
	07/14/15		-	34.77	-	3,337.64		
	08/04/15		-	35.02	-	3,337.39		
	08/18/15		-	35.13	-	3,337.28		
	09/12/15		-	35.35	-	3,337.06		
	10/01/15		-	35.46	-	3,336.95		
	10/13/15		-	35.48	-	3,336.94		
	10/27/15		-	35.44	-	3,336.98		
	11/12/15		-	35.45	-	3,336.96		
	11/24/15		-	35.42	-	3,336.99		
	12/09/15		-	35.40	-	3,337.01		
	12/22/15		-	35.40	-	3,337.01		
	01/06/16		-	35.43	-	3,336.98		
	01/20/16		-	35.50	-	3,336.91		
	03/01/16		-	35.47	-	3,336.95		
	03/15/16		-	35.48	-	3,336.94		
	03/30/16		-	35.44	-	3,336.98		
	04/26/16		-	35.38	-	3,337.03		
	05/17/16		Partial Gauging					
	06/01/16		-	35.58	-	3,336.84		
	06/14/16		-	35.67	-	3,336.75		
	06/28/16		-	35.80	-	3,336.62		
	07/23/16		-	36.07	-	3,336.35		
	08/11/16		-	36.27	-	3,336.15		
	08/23/16		-	36.35	-	3,336.07		
	09/06/16		-	36.21	-	3,336.21		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-12	09/20/16	3,372.41	-	34.93	-	3,337.48		
	10/06/16		-	33.81	-	3,338.61		
	10/17/16		-	33.77	-	3,338.65		
	10/31/16		-	33.92	-	3,338.50		
	11/17/16		-	34.05	-	3,338.36		
	12/01/16		-	34.09	-	3,338.33		
	12/21/16		-	34.16	-	3,338.26		
MW-13	10/22/02	3,368.91	-	31.30	-	3,337.61		
	11/06/02		-	31.60	-	3,337.31		
	02/27/03		-	32.31	-	3,336.60		
	03/18/03		-	32.35	-	3,336.56		
	05/12/03		-	32.60	-	3,336.31		
	08/20/03		-	33.62	-	3,335.29		
	11/10/03		-	34.20	-	3,334.71		
	02/17/04		-	34.18	-	3,334.73		
	05/06/04		-	29.29	-	3,339.62		
	08/18/04		-	28.51	-	3,340.40		
	09/10/04		-	28.23	-	3,340.68		
	09/21/04		-	28.54	-	3,340.37		
	10/05/04		-	24.88	-	3,344.03		
	10/19/04		-	22.96	-	3,345.95		
	11/02/04		-	23.26	-	3,345.65		
	11/15/04		-	23.61	-	3,345.30		
	12/06/04		-	24.05	-	3,344.86		
	12/21/04		-	24.03	-	3,344.88		
	01/03/05		-	24.41	-	3,344.50		
	01/18/05		-	24.71	-	3,344.20		
	02/01/05		-	24.90	-	3,344.01		
	02/22/05		-	25.42	-	3,343.49		
	04/21/05		-	25.73	-	3,343.18		
	05/05/05		-	25.82	-	3,343.09		
	05/17/05		-	25.81	-	3,343.10		
	06/08/05		-	26.03	-	3,342.88		
	06/22/05		-	26.18	-	3,342.73		
	07/20/05		-	26.44	-	3,342.47		
	08/15/05		-	26.00	-	3,342.91		
	08/31/05		-	25.85	-	3,343.06		
	09/14/05		-	25.92	-	3,342.99		
	09/28/05		-	26.14	-	3,342.77		
	11/09/05		-	26.63	-	3,342.28		
	11/18/05		-	26.35	-	3,342.56		
	11/30/05		-	26.73	-	3,342.18		
	12/14/05		-	26.86	-	3,342.05		
	12/28/05		-	26.92	-	3,341.99		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-13	01/11/06	3,368.91	-	26.95	-	3,341.96		
	01/25/06		-	27.13	-	3,341.78		
	02/08/06		-	27.16	-	3,341.75		
	02/16/06		-	26.63	-	3,342.28		
	02/22/06		-	27.20	-	3,341.71		
	03/08/06		-	27.19	-	3,341.72		
	04/10/06		-	26.81	-	3,342.10		
	05/22/06		-	26.97	-	3,341.94		
	07/12/06		-	27.02	-	3,341.89		
	08/07/06		-	32.35	-	3,336.56		
	10/17/06		-	26.71	-	3,342.20		
	11/21/06		-	32.02	-	3,336.89		
	12/13/06		-	27.02	-	3,341.89		
	01/09/07		-	27.42	-	3,341.49		
	02/14/07		-	27.10	-	3,341.81		
	02/16/07		-	27.08	-	3,341.83		
	03/13/07		-	30.63	-	3,338.28		
	05/11/07		-	26.41	-	3,342.50		
	08/10/07		-	30.17	-	3,338.74		
	08/20/07		-	30.28	-	3,338.63		
	11/16/07		-	27.11	-	3,341.80		
	02/29/08		-	30.80	-	3,338.11		
	05/28/08		-	30.28	-	3,338.63		
	08/21/08		-	31.43	-	3,337.48		
	11/06/08		-	31.26	-	3,337.65		
	02/09/09		-	31.36	-	3,337.55		
	05/14/09		-	31.51	-	3,337.40		
	08/12/09		-	31.81	-	3,337.10		
	11/10/09		-	32.17	-	3,336.74		
	02/03/10		-	33.19	-	3,335.72		
	05/27/10		-	33.23	-	3,335.68		
	08/16/10		-	32.47	-	3,336.44		
	11/11/10		-	29.14	-	3,339.77		
	02/18/11		-	32.71	-	3,336.20		
	05/25/11		-	29.40	-	3,339.51		
	08/18/11		-	30.15	-	3,338.76		
	10/03/11		-	34.00	-	3,334.91		
	10/28/11		-	30.57	-	3,338.34		
	11/10/11		-	30.62	-	3,338.29		
	12/09/11		-	30.75	-	3,338.16		
	02/24/12		-	30.67	-	3,338.24		
	02/29/12		-	30.66	-	3,338.25		
	03/27/12		-	30.65	-	3,338.26		
	04/12/12		-	30.64	-	3,338.27		
	04/19/12		-	30.25	-	3,338.66		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-13	05/05/12	3,368.91	-	29.98	-	3,338.93		
	05/17/12		-	30.04	-	3,338.87		
	06/21/12		-	30.90	-	3,338.01		
	07/09/12		-	31.34	-	3,337.57		
	08/02/12		-	31.27	-	3,337.64		
	08/15/12		-	31.44	-	3,337.47		5.00
	08/28/12		-	31.55	-	3,337.36		
	09/12/12		-	31.98	-	3,336.93		
	09/26/12		-	32.05	-	3,336.86		
	10/10/12		-	31.77	-	3,337.14		
	10/26/12		-	31.84	-	3,337.07		
	11/06/12		-	31.78	-	3,337.13		5.00
	11/20/12		-	31.86	-	3,337.05		
	01/11/13		-	31.83	-	3,337.08		
	01/25/13		-	31.84	-	3,337.07		
	02/07/13		-	31.86	-	3,337.05		
	02/22/13		-	32.15	-	3,336.76		
	03/08/13		-	31.86	-	3,337.05		
	03/21/13		-	31.85	-	3,337.06		
	04/04/13		-	31.96	-	3,336.95		
	04/17/13		-	31.86	-	3,337.05		
	05/01/13		-	31.75	-	3,337.16		
	05/23/13		-	32.08	-	3,336.83		
	06/13/13		-	32.06	-	3,336.85		
	06/28/13		-	32.18	-	3,336.74		
	07/10/13		-	32.21	-	3,336.70		
	07/24/13		-	32.32	-	3,336.60		
	08/08/13		-	32.45	-	3,336.46		
	08/22/13		-	32.59	-	3,336.32		
	09/05/13		-	32.71	-	3,336.21		
	09/19/13		-	32.81	-	3,336.11		5.00
	10/07/13		-	32.89	-	3,336.03		
	10/17/13		-	32.87	-	3,336.05		
	10/31/13		-	32.73	-	3,336.19		
	11/13/13		-	32.69	-	3,336.22		
	11/27/13		-	32.70	-	3,336.22		
	12/11/13		-	32.71	-	3,336.21		
	12/22/13		-	32.72	-	3,336.20		
	01/09/14		-	32.68	-	3,336.24		
	01/23/14		-	32.72	-	3,336.20		
	02/05/14		-	32.72	-	3,336.20		
	02/20/14		-	31.68	-	3,337.23		
	03/05/14		-	32.68	-	3,336.24		
	03/19/14		-	32.68	-	3,336.24		
	04/02/14		-	32.66	-	3,336.26		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-13	04/16/14	3,368.91	-	32.66	-	3,336.26		
	05/01/14		-	32.66	-	3,336.26		
	05/13/14		-	32.71	-	3,336.21		
	05/28/14		-	32.80	-	3,336.12		
	06/10/14		-	32.95	-	3,335.97		
	06/24/14		-	33.03	-	3,335.89		
	07/08/14		-	33.14	-	3,335.78		
	07/23/14		-	33.29	-	3,335.62		
	08/05/14		-	33.40	-	3,335.51		
	08/12/14		-	33.47	-	3,335.45		
	09/03/14		-	33.64	-	3,335.28		
	09/16/14		-	33.30	-	3,335.61		
	09/30/14		-	29.90	-	3,339.02		
	10/04/14		-	29.65	-	3,339.26		
	10/21/14		-	29.47	-	3,339.44		
	10/28/14		-	29.52	-	3,339.39		
	11/13/14		-	29.64	-	3,339.27		
	11/25/14		-	29.76	-	3,339.15		
	12/10/14		-	29.85	-	3,339.06		
	12/21/14		-	29.94	-	3,338.97		
	01/14/15		-	30.19	-	3,338.72		
	01/21/15		-	30.24	-	3,338.67		
	02/17/15		-	30.45	-	3,338.46		
	03/04/15		-	30.55	-	3,338.36		
	03/20/15		-	30.63	-	3,338.28		
	04/01/15		-	30.63	-	3,338.28		
	04/15/15		-	30.71	-	3,338.20		
	04/28/15		-	30.75	-	3,338.16		
	05/12/15		-	30.83	-	3,338.08		
	05/27/15		-	30.87	-	3,338.04		
	06/09/15		-	30.95	-	3,337.96		
	06/23/15		-	31.05	-	3,337.86		
	07/14/15		-	31.24	-	3,337.67		
	08/04/15		-	31.46	-	3,337.45		
	08/18/15		-	31.60	-	3,337.31		
	09/12/15		-	31.82	-	3,337.09		
	10/01/15		-	31.94	-	3,336.97		
	10/13/15		-	31.94	-	3,336.97		
	10/27/15		-	31.91	-	3,337.00		
	11/12/15		-	31.89	-	3,337.02		
	11/24/15		-	31.86	-	3,337.05		
	12/09/15		-	31.87	-	3,337.04		
	12/22/15		-	31.85	-	3,337.06		
	01/06/16		-	31.88	-	3,337.03		
	01/20/16		-	31.95	-	3,336.96		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-13	03/01/16	3,368.91	-	31.93	-	3,336.98		
	03/15/16		-	31.93	-	3,336.98		
	03/30/16		-	31.88	-	3,337.03		
	04/26/16		-	31.85	-	3,337.06		
	05/17/16		Partial Gauging					
	06/01/16		-	32.05	-	3,336.86		
	06/14/16		-	32.12	-	3,336.79		
	06/28/16		-	32.26	-	3,336.65		
	07/23/16		-	32.54	-	3,336.37		
	08/11/16		-	32.74	-	3,336.17		
	08/23/16		-	32.81	-	3,336.10		
	09/06/16		-	32.66	-	3,336.25		
	09/20/16		-	31.15	-	3,337.76		
	10/06/16		-	30.14	-	3,338.77		
	10/17/16		-	30.14	-	3,338.77		
	10/31/16		-	30.31	-	3,338.60		
	11/17/16		-	30.45	-	3,338.46		
	12/01/16		-	30.52	-	3,338.39		
	12/21/16		-	30.54	-	3,338.37		
MW-14	10/22/02	3,371.54	-	36.56	-	3,334.98		
	11/06/02		-	34.68	-	3,336.86		
	02/27/03		-	35.09	-	3,336.45		
	03/18/03		-	35.14	-	3,336.40		
	05/12/03		-	35.32	-	3,336.22		
	08/20/03		-	36.42	-	3,335.12		
	11/10/03		-	36.97	-	3,334.57		
	02/17/04		-	37.00	-	3,334.54		
	05/06/04		-	32.17	-	3,339.37		
	08/18/04		-	31.42	-	3,340.12		
	09/10/04		-	31.05	-	3,340.49		
	09/21/04		-	31.31	-	3,340.23		
	10/05/04		-	28.16	-	3,343.38		
	10/19/04		-	26.10	-	3,345.44		
	11/02/04		-	26.20	-	3,345.34		
	11/15/04		-	26.46	-	3,345.08		
	12/06/04		-	26.82	-	3,344.72		
	12/21/04		-	26.79	-	3,344.75		
	01/03/05		-	27.17	-	3,344.37		
	01/18/05		-	27.49	-	3,344.05		
	02/01/05		-	27.65	-	3,343.89		
	02/22/05		-	28.20	-	3,343.34		
	04/21/05		-	28.50	-	3,343.04		
	05/05/05		-	28.60	-	3,342.94		
	05/17/05		-	28.60	-	3,342.94		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-14	06/08/05	3,371.54	-	28.83	-	3,342.71		
	06/22/05		-	28.91	-	3,342.63		
	07/20/05		-	29.17	-	3,342.37		
	08/15/05		-	28.80	-	3,342.74		
	08/31/05		-	26.80	-	3,344.74		
	09/14/05		-	28.69	-	3,342.85		
	09/28/05		-	28.91	-	3,342.63		
	11/09/05		-	29.39	-	3,342.15		
	11/18/05		-	29.12	-	3,342.42		
	11/30/05		-	29.48	-	3,342.06		
	12/14/05		-	29.60	-	3,341.94		
	12/28/05		-	29.63	-	3,341.91		
	01/11/06		-	29.71	-	3,341.83		
	01/25/06		-	29.85	-	3,341.69		
	02/08/06		-	29.91	-	3,341.63		
	02/16/06		-	29.41	-	3,342.13		
	02/22/06		-	29.96	-	3,341.58		
	03/08/06		-	29.96	-	3,341.58		
	04/10/06		-	29.58	-	3,341.96		
	05/22/06		-	29.76	-	3,341.78		
	07/12/06		-	29.79	-	3,341.75		
	08/07/06		-	30.22	-	3,341.32		
	10/17/06		-	29.53	-	3,342.01		
	11/21/06		-	29.71	-	3,341.83		
	12/13/06		-	29.87	-	3,341.67		
	01/09/07		-	29.97	-	3,341.57		
	02/14/07		-	31.91	-	3,339.63		
	02/16/07		-	29.83	-	3,341.71		
	02/28/07		-	29.85	-	3,341.69		
	03/13/07		-	29.90	-	3,341.64		
	05/11/07		-	29.47	-	3,342.07		
	08/10/07		-	29.43	-	3,342.11		
	08/20/07		-	29.57	-	3,341.97		
	11/16/07		-	29.94	-	3,341.60		
	02/29/08		-	30.08	-	3,341.46		
	05/28/08		-	30.27	-	3,341.27		
	08/21/08		-	30.70	-	3,340.84		
	11/06/08		-	30.55	-	3,340.99		
	02/09/09		-	30.65	-	3,340.89		
	05/14/09		-	30.75	-	3,340.79		
	08/12/09		-	31.11	-	3,340.43		
	11/10/09		-	31.46	-	3,340.08		
	02/03/10		-	31.48	-	3,340.06		
	05/27/10		-	31.52	-	3,340.02		
	08/16/10		-	31.76	-	3,339.78		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-14	11/11/10	3,371.54	-	31.97	-	3,339.57		
	02/18/11		-	31.99	-	3,339.55		
	05/25/11		-	32.20	-	3,339.34		
	08/18/11		-	32.95	-	3,338.59		
	10/03/11		-	33.30	-	3,338.24		
	10/28/11		-	33.32	-	3,338.22		
	11/10/11		-	33.53	-	3,338.01		
	12/09/11		-	33.82	-	3,337.72		
	02/24/12		-	33.93	-	3,337.61		
	02/29/12		-	33.41	-	3,338.13		
	03/27/12		-	33.44	-	3,338.10		
	04/12/12		-	33.48	-	3,338.06		
	04/19/12		-	33.60	-	3,337.94		
	05/05/12		-	33.68	-	3,337.86		
	05/17/12		-	33.75	-	3,337.79		
	06/21/12		-	33.70	-	3,337.84		
	07/09/12		-	31.10	-	3,340.44		
	08/02/12		-	34.09	-	3,337.45		
	08/15/12		-	34.21	-	3,337.33		
	08/28/12		-	34.32	-	3,337.22		
	09/12/12		-	34.67	-	3,336.87		
	09/26/12		-	34.74	-	3,336.80		
	10/10/12		-	34.54	-	3,337.00		
	10/26/12		-	34.58	-	3,336.96		
	11/06/12		-	34.59	-	3,336.95		
	11/20/12		-	34.65	-	3,336.89		
	01/11/13		-	34.56	-	3,336.98		
	01/25/13		-	34.60	-	3,336.94		
	02/07/13		-	34.60	-	3,336.94		
	02/22/13		-	34.85	-	3,336.69		
	03/08/13		-	34.60	-	3,336.94		
	03/21/13		-	34.60	-	3,336.94		
	04/04/13		-	34.73	-	3,336.81		
	04/17/13		-	34.60	-	3,336.94		
	05/01/13		-	34.77	-	3,336.77		
	05/23/13		-	34.78	-	3,336.76		
	06/13/13		-	34.82	-	3,336.73		
	06/28/13		-	34.93	-	3,336.62		
	07/10/13		-	35.02	-	3,336.52		
	07/24/13		-	35.11	-	3,336.43		
	08/08/13		-	35.20	-	3,336.34		
	08/22/13		-	35.34	-	3,336.20		
	09/05/13		-	35.44	-	3,336.10		5.00
	09/19/13		-	35.56	-	3,335.98		
	10/07/13		-	35.64	-	3,335.91		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-14	10/17/13	3,371.54	-	35.61	-	3,335.94		
	10/31/13		-	35.49	-	3,336.06		
	11/13/13		-	35.47	-	3,336.07		
	11/27/13		-	35.45	-	3,336.10		
	12/11/13		-	35.46	-	3,336.09		
	12/22/13		-	35.46	-	3,336.09		
	01/09/14		-	35.43	-	3,336.12		
	01/23/14		-	35.46	-	3,336.09		
	02/05/14		-	35.47	-	3,336.08		
	02/20/14		-	35.44	-	3,336.11		
	03/05/14		-	35.42	-	3,336.12		
	03/19/14		-	35.44	-	3,336.11		
	04/02/14		-	35.41	-	3,336.14		
	04/16/14		-	35.41	-	3,336.14		
	05/01/14		-	35.44	-	3,336.10		
	05/13/14		-	35.46	-	3,336.09		
	05/28/14		-	35.55	-	3,336.00		
	06/10/14		-	35.70	-	3,335.84		
	06/24/14		-	35.80	-	3,335.74		
	07/08/14		-	35.91	-	3,335.63		
	07/23/14		-	36.03	-	3,335.51		
	08/05/14		-	36.14	-	3,335.40		
	08/12/14		-	36.22	-	3,335.32		
	09/03/14		-	36.39	-	3,335.15		
	09/16/14		-	36.03	-	3,335.51		
	09/30/14		-	32.78	-	3,338.77		
	10/04/14		-	32.49	-	3,339.06		
	10/21/14		-	32.22	-	3,339.32		
	10/28/14		-	32.26	-	3,339.28		
	11/13/14		-	32.26	-	3,339.28		
	11/25/14		-	32.51	-	3,339.03		
	12/10/14		-	32.61	-	3,338.93		
	12/21/14		-	32.69	-	3,338.85		
	01/14/15		-	32.97	-	3,338.57		
	01/21/15		-	33.00	-	3,338.54		
	02/17/15		-	33.22	-	3,338.32		
	03/04/15		-	33.30	-	3,338.24		
	03/20/15		-	33.38	-	3,338.16		
	04/01/15		-	33.40	-	3,338.14		
	04/15/15		-	33.48	-	3,338.06		
	04/28/15		-	33.52	-	3,338.02		
	05/12/15		-	33.58	-	3,337.96		
	05/27/15		-	33.62	-	3,337.92		
	06/09/15		-	33.70	-	3,337.84		
	06/23/15		-	33.80	-	3,337.74		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-14	07/14/15	3,371.54	-	33.98	-	3,337.56		
	08/04/15		-	34.23	-	3,337.31		
	08/18/15		-	34.34	-	3,337.20		
	09/12/15		-	34.57	-	3,336.97		
	10/01/15		-	34.69	-	3,336.85		
	10/13/15		-	34.71	-	3,336.83		
	10/27/15		-	34.66	-	3,336.88		
	11/12/15		-	34.65	-	3,336.89		
	11/24/15		-	34.60	-	3,336.94		
	12/09/15		-	34.61	-	3,336.93		
	12/22/15		-	34.60	-	3,336.94		
	01/06/16		-	34.62	-	3,336.92		
	01/20/16		-	34.68	-	3,336.86		
	03/01/16		-	34.67	-	3,336.87		
	03/15/16		-	34.66	-	3,336.88		
	03/30/16		-	34.62	-	3,336.92		
	04/26/16		-	34.58	-	3,336.96		
	05/17/16		Partial Gauging					
	06/01/16		-	34.79	-	3,336.75		
	06/14/16		-	34.87	-	3,336.67		
	06/28/16		-	35.00	-	3,336.54		
	07/23/16		-	35.29	-	3,336.25		
	08/11/16		-	35.48	-	3,336.06		
	08/23/16		-	35.55	-	3,335.99		
	09/06/16		-	35.40	-	3,336.14		
	09/20/16		-	34.00	-	3,337.54		
	10/06/16		-	32.93	-	3,338.61		
	10/17/16		-	32.92	-	3,338.62		
	10/31/16		-	33.13	-	3,338.41		
	11/17/16		-	33.22	-	3,338.32		
	12/01/16		-	33.28	-	3,338.26		
	12/21/16		-	33.38	-	3,338.16		
MW-15	10/22/02	3,377.64	-	42.74	-	3,334.90		
	11/06/02		-	41.32	-	3,336.32		
	02/27/03		-	41.29	-	3,336.35		
	03/18/03		-	41.26	-	3,336.38		
	05/12/03		-	41.52	-	3,336.12		
	08/20/03		-	42.54	-	3,335.10		
	11/10/03		-	43.12	-	3,334.52		
	03/10/04		-	43.18	-	3,334.46		
	05/06/04		-	38.79	-	3,338.85		
	08/18/04		-	37.93	-	3,339.71		
	09/10/04		-	37.45	-	3,340.19		
	09/21/04		-	37.67	-	3,339.97		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-15	10/05/04	3,377.64	-	35.37	-	3,342.27		
	10/19/04		-	33.50	-	3,344.14		
	11/02/04		-	33.10	-	3,344.54		
	11/15/04		-	33.12	-	3,344.52		
	12/06/04		-	33.26	-	3,344.38		
	12/21/04		-	33.21	-	3,344.43		
	01/03/05		-	33.49	-	3,344.15		
	01/18/05		-	33.75	-	3,343.89		
	02/01/05		-	33.88	-	3,343.76		
	02/22/05		-	34.35	-	3,343.29		
	04/21/05		-	34.61	-	3,343.03		
	05/05/05		-	34.65	-	3,342.99		
	05/17/05		-	34.65	-	3,342.99		
	06/08/05		-	34.87	-	3,342.77		
	06/22/05		-	35.02	-	3,342.62		
	07/20/05		-	35.25	-	3,342.39		
	08/15/05		-	34.95	-	3,342.69		
	08/31/05		-	34.83	-	3,342.81		
	09/14/05		-	34.83	-	3,342.81		
	09/28/05		-	35.02	-	3,342.62		
	11/09/05		-	35.41	-	3,342.23		
	11/18/05		-	35.19	-	3,342.45		
	11/30/05		-	35.52	-	3,342.12		
	12/14/05		-	35.66	-	3,341.98		
	12/28/05		-	35.73	-	3,341.91		
	01/11/06		-	35.79	-	3,341.85		
	01/25/06		-	35.97	-	3,341.67		
	02/08/06		-	35.98	-	3,341.66		
	02/16/06		-	35.44	-	3,342.20		
	02/22/06		-	36.01	-	3,341.63		
	03/08/06		-	36.13	-	3,341.51		
	04/10/06		-	35.62	-	3,342.02		
	05/22/06		-	35.78	-	3,341.86		
	07/12/06		-	35.88	-	3,341.76		
	08/07/06		-	36.17	-	3,341.47		
	10/17/06		-	35.68	-	3,341.96		
	11/21/06		-	29.71	-	3,347.93		
	12/13/06		-	35.95	-	3,341.69		
	01/09/07		-	36.05	-	3,341.59		
	02/14/07		-	36.02	-	3,341.62		
	02/16/07		-	35.97	-	3,341.67		
	02/28/07		-	35.98	-	3,341.66		
	03/13/07		-	36.05	-	3,341.59		
	05/11/07		-	35.77	-	3,341.87		
	08/10/07		-	35.60	-	3,342.04		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-15	08/20/07	3,377.64	-	35.70	-	3,341.94		
	11/16/07		-	36.09	-	3,341.55		
	02/29/08		-	36.20	-	3,341.44		
	05/28/08		-	36.31	-	3,341.33		
	08/21/08		-	36.80	-	3,340.84		
	11/06/08		-	36.69	-	3,340.95		
	02/09/09		-	36.77	-	3,340.87		
	05/14/09		-	36.91	-	3,340.73		
	08/12/09		-	37.21	-	3,340.43		
	11/10/09		-	37.57	-	3,340.07		
	02/03/10		-	37.60	-	3,340.04		
	05/27/10		-	37.61	-	3,340.03		
	08/16/10		-	37.87	-	3,339.77		
	11/11/10		-	38.09	-	3,339.55		
	02/18/11		-	38.08	-	3,339.56		
	05/25/11		-	38.35	-	3,339.29		
	08/18/11		-	39.06	-	3,338.58		
	10/03/11		-	39.38	-	3,338.26		
	10/28/11		-	39.42	-	3,338.22		
	11/10/11		-	39.47	-	3,338.17		
	12/09/11		-	39.43	-	3,338.21		
	02/24/12		-	39.43	-	3,338.21		
	02/29/12		-	39.53	-	3,338.11		
	03/27/12		-	39.57	-	3,338.07		
	04/12/12		-	39.32	-	3,338.32		
	04/19/12		-	39.67	-	3,337.97		
	05/05/12		-	39.71	-	3,337.93		
	05/17/12		-	39.75	-	3,337.89		
	06/21/12		-	39.80	-	3,337.84		
	07/09/12		-	40.05	-	3,337.59		
	08/02/12		-	40.21	-	3,337.43		
	08/15/12		-	40.33	-	3,337.31		5.00
	08/28/12		-	40.45	-	3,337.19		
	09/12/12		-	40.65	-	3,336.99		
	09/26/12		-	40.69	-	3,336.95		
	10/10/12		-	40.69	-	3,336.95		
	10/26/12		-	40.73	-	3,336.91		
	11/06/12		-	40.73	-	3,336.91		5.00
	11/20/12		-	40.75	-	3,336.89		
	01/11/13		-	40.73	-	3,336.91		
	01/25/13		-	39.76	-	3,337.88		
	02/07/13		-	40.79	-	3,336.85		
	02/22/13		-	40.87	-	3,336.77		
	03/08/13		-	40.79	-	3,336.85		
	03/21/13		-	39.70	-	3,337.94		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-15	04/04/13	3,377.64	-	40.91	-	3,336.73		
	04/17/13		-	40.79	-	3,336.85		
	05/01/13		-	40.98	-	3,336.66		
	05/23/13		-	40.91	-	3,336.73		
	06/13/13		-	40.98	-	3,336.67		
	06/28/13		-	41.10	-	3,336.55		
	07/10/13		-	41.19	-	3,336.45		
	07/24/13		-	41.26	-	3,336.38		
	08/08/13		-	41.36	-	3,336.28		
	08/22/13		-	41.50	-	3,336.14		
	09/05/13		-	41.61	-	3,336.03		5.00
	09/19/13		-	41.71	-	3,335.93		
	10/07/13		-	41.79	-	3,335.86		
	10/17/13		-	41.77	-	3,335.88		
	10/31/13		-	41.68	-	3,335.97		
	11/13/13		-	41.66	-	3,335.99		
	11/27/13		-	41.62	-	3,336.02		
	12/11/13		-	41.64	-	3,336.00		
	12/22/13		-	41.67	-	3,335.98		
	01/09/14		-	41.63	-	3,336.02		
	01/23/14		-	41.68	-	3,335.97		
	02/05/14		-	41.67	-	3,335.98		
	02/20/14		-	41.64	-	3,336.01		
	03/05/14		-	41.59	-	3,336.05		
	03/19/14		-	41.64	-	3,336.01		
	04/02/14		-	41.61	-	3,336.04		
	04/16/14		-	41.61	-	3,336.04		
	05/01/14		-	41.64	-	3,336.00		
	05/13/14		-	41.68	-	3,335.97		
	05/28/14		-	41.75	-	3,335.90		
	06/10/14		-	41.87	-	3,335.77		
	06/24/14		-	41.93	-	3,335.72		
	07/08/14		-	42.04	-	3,335.60		
	07/23/14		-	42.20	-	3,335.44		
	08/05/14		-	42.32	-	3,335.32		
	08/12/14		-	42.37	-	3,335.27		
	09/03/14		-	42.53	-	3,335.11		
	09/16/14		-	42.31	-	3,335.33		
	09/30/14		-	39.71	-	3,337.94		
	10/04/14		-	39.32	-	3,338.32		
	10/21/14		-	38.75	-	3,338.89		
	10/28/14		-	38.74	-	3,338.90		
	11/13/14		-	38.76	-	3,338.88		
	11/25/14		-	38.84	-	3,338.80		
	12/10/14		-	38.89	-	3,338.75		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
MW-15	12/21/14	3,377.64	-	38.95	-	3,338.69		
	01/14/15		-	39.21	-	3,338.43		
	01/21/15		-	39.24	-	3,338.40		
	02/17/15		-	39.44	-	3,338.20		
	03/04/15		-	39.50	-	3,338.14		
	03/20/15		-	39.60	-	3,338.04		
	04/01/15		-	39.60	-	3,338.04		
	04/15/15		-	39.68	-	3,337.96		
	04/28/15		-	39.73	-	3,337.91		
	05/12/15		-	39.79	-	3,337.85		
	05/27/15		-	39.83	-	3,337.81		
	06/09/15		-	39.91	-	3,337.73		
	06/23/15		-	40.00	-	3,337.64		
	07/14/15		-	40.17	-	3,337.47		
	08/04/15		-	40.41	-	3,337.23		
	08/18/15		-	40.52	-	3,337.12		
	09/12/15		-	40.75	-	3,336.89		
	10/01/15		-	40.86	-	3,336.78		
	10/13/15		-	40.90	-	3,336.74		
	10/27/15		-	40.86	-	3,336.78		
	11/12/15		-	40.84	-	3,336.80		
	11/24/15		-	40.81	-	3,336.83		
	12/09/15		-	40.80	-	3,336.84		
	12/22/15		-	40.81	-	3,336.83		
	01/06/16		-	40.84	-	3,336.80		
	01/20/16		-	40.87	-	3,336.77		
	03/01/16		-	40.89	-	3,336.75		
	03/15/16		-	40.89	-	3,336.75		
	03/30/16		-	40.84	-	3,336.80		
	04/26/16		-	40.80	-	3,336.84		
	05/17/16		Partial Gauging					
	06/01/16		-	41.00	-	3,336.64		
	06/14/16		-	41.06	-	3,336.58		
	06/28/16		-	41.19	-	3,336.45		
	07/23/16		-	41.45	-	3,336.19		
	08/11/16		-	41.62	-	3,336.02		
	08/23/16		-	41.72	-	3,335.92		
	09/06/16		-	41.62	-	3,336.02		
	09/20/16		-	40.67	-	3,336.97		
	10/06/16		-	39.42	-	3,338.22		
	10/17/16		-	39.28	-	3,338.36		
	10/31/16		-	39.39	-	3,338.25		
	11/17/16		-	39.46	-	3,338.18		
	12/01/16		-	39.51	-	3,338.13		
	12/21/16		-	39.58	-	3,338.06		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
TMW-1	08/15/02	3,372.24	20.18	25.22	5.04	3,336.39		
	08/23/02		20.53	25.04	4.51	3,336.12		
	08/27/02		20.61	24.97	4.36	3,336.07		
	08/29/02		20.68	24.79	4.11	3,336.03		
	09/04/02		20.86	24.87	4.01	3,335.87		
	10/02/02		21.28	24.95	3.67	3,335.50		
	10/03/02		20.18	25.24	5.06	3,336.39		
	10/08/02		21.49	25.02	3.53	3,335.31		
	10/15/02		20.24	25.23	4.99	3,336.34		
	12/27/02		19.57	23.72	4.15	3,337.14		
	01/07/03		19.71	23.79	4.08	3,337.01		
	01/27/03		19.98	23.42	3.44	3,336.83		
	02/27/03		20.07	24.16	4.09	3,336.65		
	03/06/03		20.12	24.17	4.05	3,336.60		
	03/18/03		20.09	24.24	4.15	3,336.62		
	03/20/03		20.21	24.09	3.88	3,336.54		
	03/27/03		20.15	24.18	4.03	3,336.58		
	04/16/03		20.33	24.24	3.91	3,336.41		
	05/12/03		20.59	23.13	2.54	3,336.36		
	05/21/03		20.48	24.27	3.79	3,336.28		
	06/03/03		20.52	24.39	3.87	3,336.23		
	07/31/03		21.22	24.84	3.62	3,335.57		
	08/06/03		21.51	25.10	3.59	3,335.28		
	08/20/03		21.78	25.28	3.50	3,335.03		
	10/02/03		22.00	25.35	3.35	3,334.83		
	10/07/03		21.91	25.23	3.32	3,334.92		
	10/16/03		22.29	25.64	3.35	3,334.54		
	10/22/03		22.31	25.66	3.35	3,334.52		
	10/28/03		22.35	25.72	3.37	3,334.47		
	11/06/03		22.46	25.77	3.31	3,334.37		
	11/10/03		22.46	25.81	3.35	3,334.37		
	11/18/03		22.21	25.51	3.30	3,334.63		
	12/04/03		22.22	25.51	3.29	3,334.62		
	12/17/03		22.22	25.50	3.28	3,334.62		
	12/22/03		21.84	25.19	3.35	3,334.99		
	01/02/04		22.07	25.31	3.24	3,334.77		
	01/19/04		22.55	25.81	3.26	3,334.29		
	01/27/04		22.59	25.96	3.37	3,334.23		
	02/02/04		22.20	26.04	3.84	3,334.55		
	02/17/04		22.10	24.33	2.23	3,334.90		
	02/25/04		22.11	24.30	2.19	3,334.89		
	03/01/04		22.12	24.27	2.15	3,334.89		
	03/10/04		22.11	24.29	2.18	3,334.89		
	03/15/04		22.26	25.23	2.97	3,334.62		
	03/17/04		20.60	25.73	5.13	3,335.96		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
TMW-1	03/22/04	3,372.24	22.67	25.58	2.91	3,334.22		
	03/24/04		22.13	24.96	2.83	3,334.78		
	03/29/04		22.61	25.67	3.06	3,334.26		
	03/31/04		22.60	25.62	3.02	3,334.28		
	05/06/04		17.52	22.97	5.45	3,338.99		
	08/18/04		15.44	20.72	5.28	3,341.10		
	09/21/04		16.31	20.00	3.69	3,340.47		
	10/19/04		10.69	15.95	5.26	3,345.85		
	11/02/04		11.05	14.62	3.57	3,345.74		
	11/15/04		11.43	15.92	4.49	3,345.23		
	12/06/04		11.87	14.65	2.78	3,345.04		
	12/21/04		11.41	15.40	3.99	3,345.32		
	01/03/05		12.68	13.54	0.86	3,344.52		
	01/18/05		12.90	13.31	0.41	3,344.37		
	02/01/05		13.17	13.46	0.29	3,344.12		
	02/22/05		12.97	13.40	0.43	3,344.30		
	05/05/05		13.89	14.96	1.07	3,343.28		
	05/17/05		13.92	14.95	1.03	3,343.26		
	06/08/05		14.30	14.59	0.29	3,342.99		
	06/22/05		14.47	14.57	0.10	3,342.85		
	07/20/05		14.68	14.96	0.28	3,342.61		
	08/15/05		14.22	14.24	0.02	3,343.11		
	08/31/05		14.05	14.15	0.10	3,343.27		
	09/14/05		14.09	14.21	0.12	3,343.22		
	09/28/05		14.28	14.36	0.08	3,343.04		
	11/09/05		14.75	14.88	0.13	3,342.56		
	11/18/05		14.67	14.69	0.02	3,342.66		
	11/30/05		14.91	14.96	0.05	3,342.41		
	12/14/05		-	15.11	-	3,342.22		
	12/28/05		-	15.22	-	3,342.11		
	01/11/06		-	15.15	-	3,342.18		
	01/25/06		-	15.31	-	3,342.02		
	02/08/06		-	15.35	-	3,341.98		
	02/16/06		-	15.06	-	3,342.27		
	02/22/06		-	15.33	-	3,342.00		
	03/08/06		-	15.34	-	3,341.99		
	04/10/06		-	15.24	-	3,342.09		
	05/22/06		-	15.47	-	3,341.86		
	07/12/06		15.54	15.61	0.07	3,341.78		
	02/14/07		15.33	15.85	0.52	3,341.92		
	02/16/07		15.34	15.46	0.12	3,341.97		
	02/28/07		15.32	15.48	0.16	3,341.99	1.00	30.00
	03/13/07		15.38	15.74	0.36	3,341.90	1.00	25.00
	04/09/07		15.53	16.00	0.47	3,341.73		
	05/11/07		14.84	14.88	0.04	3,342.48		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
TMW-1	05/29/07	3,372.24	14.25	14.38	0.13	3,343.06		
	06/06/07		-	14.45	-	3,342.88		
	06/21/07		-	14.53	-	3,342.80		
	08/20/07		29.95	30.20	0.25	3,342.25		
	09/07/07		30.09	30.42	0.33	3,342.10	1.00	30.00
	09/19/07		30.18	30.30	0.12	3,342.04		
	10/01/07		-	30.62	-	3,341.62		
	10/15/07		-	30.53	-	3,341.71		
	11/02/07		-	30.55	-	3,341.69		
	11/16/07		-	30.66	-	3,341.58		
	11/29/07		29.47	29.54	0.07	3,342.76		
	12/27/07		30.28	30.60	0.32	3,341.91	2.00	20.00
	01/18/08		30.51	30.59	0.08	3,341.72	0.10	20.00
	02/20/08		30.59	30.78	0.19	3,341.62	0.50	20.00
	02/29/08		30.53	30.55	0.02	3,341.71		
	03/11/08		30.56	30.66	0.10	3,341.67	0.10	20.00
	04/30/08		30.42	30.93	0.51	3,341.74	0.20	20.00
	05/28/08		30.83	31.07	0.24	3,341.37		
	06/25/08		30.84	31.22	0.38	3,341.34	1.10	20.00
	07/02/08		29.90	31.64	1.74	3,342.08	0.10	20.00
	07/07/08		31.24	31.32	0.08	3,340.99	0.10	10.00
	07/14/08		31.00	32.00	1.00	3,341.09	1.00	25.00
	07/22/08		31.00	31.28	0.28	3,341.20	0.50	10.00
	07/30/08		31.03	31.43	0.40	3,341.15	0.10	10.00
	08/05/08		31.24	31.50	0.26	3,340.96	0.10	15.00
	08/14/08		31.18	31.58	0.40	3,341.00	0.25	5.00
	08/21/08		31.00	31.61	0.61	3,341.15		
	08/27/08		31.06	31.39	0.33	3,341.13	0.25	25.00
	09/20/08		30.91	31.43	0.52	3,341.25	0.50	30.00
	09/29/08		30.88	31.55	0.67	3,341.26	0.50	40.00
	11/06/08		30.84	32.00	1.16	3,341.23		
	11/15/08		30.94	31.82	0.88	3,341.17	0.50	50.00
	11/24/08		30.93	31.30	0.37	3,341.25	0.10	25.00
	11/26/08		30.91	31.43	0.52	3,341.25	0.10	25.00
	01/16/09		30.96	31.70	0.74	3,341.17		
	02/09/09		30.85	32.15	1.30	3,341.20		
	04/08/09		31.10	31.80	0.70	3,341.04	0.50	50.00
	04/16/09		30.92	31.99	1.07	3,341.16	1.00	50.00
	04/22/09		31.01	31.80	0.79	3,341.11	0.50	50.00
	04/29/08		31.01	32.02	1.01	3,341.08	0.30	50.00
	05/14/09		31.56	32.09	0.53	3,340.60		
	07/08/09		31.14	33.46	2.32	3,340.75	1.50	48.50
	07/24/09		31.35	32.35	1.00	3,340.74	1.00	49.00
	08/04/09		31.42	32.18	0.76	3,340.71	1.00	55.00
	08/12/09		31.41	32.36	0.95	3,340.69		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
TMW-1	08/19/09	3,372.24	31.41	32.55	1.14	3,340.66	3.00	15.00
	09/01/09		32.23	32.83	0.60	3,339.92	11.00	47.00
	09/22/09		31.52	33.27	1.75	3,340.46	10.00	
	10/12/09		31.64	32.42	0.78	3,340.48	4.00	41.00
	10/30/09		31.78	31.80	0.02	3,340.46	0.25	25.00
	11/10/09		31.96	32.06	0.10	3,340.27	1.00	25.00
	01/08/10		31.86	32.49	0.63	3,340.29	1.00	15.00
	01/22/10		31.70	32.55	0.85	3,340.41	8.00	5.00
	01/26/10		32.65	32.80	0.15	3,339.57	0.10	10.00
	02/03/10		31.75	32.49	0.74	3,340.38	0.10	10.00
	02/10/10		31.75	32.77	1.02	3,340.34	0.10	20.00
	02/22/10		31.64	33.07	1.43	3,340.39	4.00	50.00
	03/09/10		31.65	32.87	1.22	3,340.41	4.00	50.00
	03/09/10		31.65	32.87	1.22	3,340.41	4.00	50.00
	03/24/10		31.65	33.07	1.42	3,340.38	4.00	30.00
	04/12/10		31.57	33.61	2.04	3,340.36	4.00	30.00
	04/27/10		31.66	33.02	1.36	3,340.38	4.00	50.00
	05/27/10		31.70	33.45	1.75	3,340.28		
	06/21/10		31.70	34.24	2.54	3,340.16	2.50	50.00
	07/07/10		31.87	32.96	1.09	3,340.21		
	07/20/10		31.81	32.94	1.13	3,340.26		
	08/03/10		32.00	33.09	1.09	3,340.08		
	08/16/10		32.02	33.61	1.59	3,339.98	2.00	30.00
	09/02/10		32.02	33.74	1.72	3,339.96	2.00	50.00
	09/17/10		32.15	33.24	1.09	3,339.93	2.00	50.00
	10/05/10		32.12	33.94	1.82	3,339.85	2.00	30.00
	11/11/10		32.23	33.39	1.16	3,339.84		30.00
	12/15/10		32.16	33.56	1.40	3,339.87		
	12/29/10		32.05	33.93	1.88	3,339.91		
	02/18/11		32.12	34.10	1.98	3,339.82		
	03/02/11		31.16	34.68	3.52	3,340.55		
	03/16/11		32.14	33.12	0.98	3,339.95		
	03/29/11		32.05	34.55	2.50	3,339.82		
	04/15/11		31.96	36.09	4.13	3,339.66		
	04/18/11		31.92	36.08	4.16	3,339.70	4.00	30.00
	04/29/11		31.85	31.87	0.02	3,340.39		
	05/06/11		31.93	36.40	4.47	3,339.64	5.00	20.00
	05/20/11		32.26	34.97	2.71	3,339.57	5.00	20.00
	05/25/11		32.30	34.95	2.65	3,339.54	2.50	20.00
	06/01/11		32.43	34.20	1.77	3,339.54	5.00	20.00
	06/14/11		32.56	34.16	1.60	3,339.44	5.00	20.00
	06/30/11		32.65	34.49	1.84	3,339.31	5.00	20.00
	07/30/11		32.79	35.75	2.96	3,339.01	4.00	40.00
	09/20/11		33.53	34.00	0.47	3,338.64		
	09/23/11		33.53	34.50	0.97	3,338.56		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
TMW-1	10/03/11	3,372.24	33.41	35.71	2.30	3,338.49		
	10/28/11		33.25	37.20	3.95	3,338.40	5.00	20.00
	11/10/11		33.20	37.50	4.30	3,338.40	5.00	20.00
	12/09/11		33.33	37.43	4.10	3,338.30	5.00	20.00
	02/17/12		33.53	35.30	1.77	3,338.44		
	02/24/12		33.45	36.50	3.05	3,338.33	5.00	20.00
	03/27/12		33.70	36.60	2.90	3,338.11	5.00	20.00
	04/12/12		33.60	37.00	3.40	3,338.13	5.00	20.00
	04/19/12		33.55	37.50	3.95	3,338.10	8.00	60.00
	05/05/12		33.68	37.10	3.42	3,338.05	5.00	20.00
	05/17/12		33.73	37.00	3.27	3,338.02		
	06/21/12		33.56	38.47	4.91	3,337.94		
	07/09/12		33.91	38.61	4.70	3,337.63		
	08/02/12		34.52	34.85	0.33	3,337.67		
	08/15/12		34.26	37.50	3.24	3,337.49	10.00	20.00
	08/28/12		34.33	37.70	3.37	3,337.40	5.00	75.00
	09/12/12		34.62	38.10	3.48	3,337.10	10.00	25.00
	09/26/12		34.77	38.03	3.26	3,336.98	13.00	75.00
	10/10/12		34.60	37.74	3.14	3,337.17	3.00	25.00
	10/26/12		34.58	38.13	3.55	3,337.13	8.00	75.00
	11/06/12		34.68	37.53	2.85	3,337.13		
	11/20/12		34.57	38.04	3.47	3,337.15	8.00	18.00
	01/11/13		34.54	38.64	4.10	3,337.09		
	01/25/13		34.56	38.34	3.78	3,337.11	4.75	25.00
	02/07/13		34.51	37.90	3.39	3,337.22	4.25	25.00
	02/22/13		34.80	38.55	3.75	3,336.88	4.75	25.00
	03/08/13		34.55	38.90	4.35	3,337.04	5.50	25.00
	03/21/13		34.55	38.24	3.69	3,337.14	4.75	25.00
	04/04/13		34.64	39.12	4.48	3,336.93	5.50	25.00
	04/17/13		34.85	36.95	2.10	3,337.08	3.00	25.00
	05/01/13		34.74	38.53	3.79	3,336.93	4.75	25.00
	05/23/13		34.66	38.62	3.96	3,336.99	5.00	25.00
	06/13/13		34.65	38.66	4.01	3,336.99	5.00	25.00
	06/28/13		34.93	38.50	3.57	3,336.77	4.50	25.00
	07/10/13		34.95	39.12	4.17	3,336.66	5.25	25.00
	07/24/13		35.06	39.01	3.95	3,336.59	10.00	25.00
	08/08/13		35.28	38.40	3.12	3,336.49	10.00	25.00
	08/22/13		35.48	38.17	2.69	3,336.36	9.50	25.00
	09/05/13		35.61	38.06	2.45	3,336.26		
	09/19/13		35.61	39.15	3.54	3,336.10		
	10/07/13		36.08	36.52	0.44	3,336.09	1.00	25.00
	10/17/13		35.93	37.35	1.42	3,336.10	3.00	25.00
	10/31/13		35.77	37.44	1.67	3,336.22	4.00	25.00
	11/13/13		35.84	36.78	0.94	3,336.26	3.00	25.00
	11/27/13		35.78	37.12	1.34	3,336.26	3.50	25.00

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
TMW-1	12/11/13	3,372.24	35.83	36.99	1.16	3,336.24	4.00	25.00
	12/22/13		35.84	36.96	1.12	3,336.23	4.00	25.00
	01/09/14		35.79	37.22	1.43	3,336.24	4.00	25.00
	01/23/14		35.69	37.85	2.16	3,336.23	5.00	25.00
	02/05/14		35.78	37.23	1.45	3,336.24	4.50	25.00
	02/20/14		35.73	37.33	1.60	3,336.27	1.10	
	03/05/14		35.64	37.84	2.20	3,336.27	1.00	
	03/19/14		35.62	38.05	2.43	3,336.26	4.50	25.00
	04/02/14		35.70	37.34	1.64	3,336.29	4.00	25.00
	04/16/14		35.72	36.90	1.18	3,336.34		
	05/01/14		35.64	37.83	2.19	3,336.27	5.00	25.00
	05/13/14		35.76	37.39	1.63	3,336.24	4.50	25.00
	05/28/14		35.92	37.02	1.10	3,336.16	4.00	30.00
	06/10/14		36.02	37.36	1.34	3,336.02	4.00	30.00
	06/24/14		36.39	37.55	1.16	3,335.68	4.00	30.00
	07/08/14		36.59	37.41	0.82	3,335.53		
	07/23/14		36.59	37.57	0.98	3,335.50	4.60	30.00
	08/05/14		36.52	37.64	1.12	3,335.55	6.40	30.00
	08/12/14		36.64	37.44	0.80	3,335.48	5.80	30.00
	09/03/14		36.73	37.94	1.21	3,335.33	6.10	30.00
	09/16/14		36.52	37.21	0.69	3,335.62	5.10	30.00
	09/30/14		33.28	33.85	0.57	3,338.87	6.80	30.00
	10/04/14		33.05	33.22	0.17	3,339.16		
	10/21/14		32.78	33.49	0.71	3,339.35	6.23	30.00
	10/28/14		32.84	33.46	0.62	3,339.31	7.02	30.00
	11/13/14		32.77	33.38	0.61	3,339.38	7.58	30.00
	11/25/14		32.84	34.75	1.91	3,339.11	9.02	30.00
	12/10/14		32.82	35.42	2.60	3,339.03	9.26	30.00
	12/21/14		32.92	35.40	2.48	3,338.95	9.65	30.00
	01/14/15		32.98	36.54	3.56	3,338.73		
	01/21/15		33.07	35.21	2.14	3,338.85	6.33	30.00
	02/17/15		33.22	37.15	3.93	3,338.43	8.96	30.00
	03/04/15		33.47	35.61	2.14	3,338.45		
	03/20/15		33.29	37.14	3.85	3,338.37	6.01	30.00
	04/01/15		33.59	36.11	2.52	3,338.27		
	04/15/15		33.56	36.46	2.90	3,338.25		
	04/28/15		33.60	37.00	3.40	3,338.13	6.00	30.00
	05/12/15		33.78	36.28	2.50	3,338.09	6.00	30.00
	05/27/15		33.81	36.49	2.68	3,338.03	9.00	30.00
	06/09/15		33.97	36.04	2.07	3,337.96	8.00	30.00
	06/23/15		34.07	36.07	2.00	3,337.87	8.00	30.00
	07/14/15		34.17	36.90	2.73	3,337.66	9.00	30.00
	08/04/15		34.46	36.92	2.46	3,337.41		
	08/05/15		34.48	37.08	2.60	3,337.37		
	08/11/15		34.73	35.79	1.06	3,337.35		

1. PSH = Phase Separated Hydrocarbons

Table 4
2017 Annual Report

GROUNDWATER ELEVATION AND PSH¹ DATA

Livingston Ridge to Hugh - P. Sims Pipeline Leak
Lea County, New Mexico
NMOCD File Number 1R-0398
Plains Pipeline, L P SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Monitor Well	Date Gauged	Relative Top of Casing Elevation (TOC)	Depth to PSH Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Corrected Relative Groundwater Elevation	PSH Recovered (gallons)	Volume Purged (gallons)
TMW-1	08/18/15	3,372.24	34.64	36.67	2.03	3,337.30		
	09/12/15		34.66	38.11	3.45	3,337.06		
	10/01/15		34.78	38.31	3.53	3,336.93		
	10/13/15		34.93	37.31	2.38	3,336.95		
	10/27/15		34.90	37.09	2.19	3,337.01		
	11/12/15		34.75	38.03	3.28	3,337.00		
	11/24/15		34.69	38.12	3.43	3,337.04		
	12/09/15		34.69	38.34	3.65	3,337.00		
	12/22/15		34.83	37.00	2.17	3,337.08		
	01/06/16		34.72	38.04	3.32	3,337.02		
	01/21/16		34.73	38.40	3.67	3,336.96	126.00	630.00
	03/01/16		34.72	38.41	3.69	3,336.97		
	03/15/16		34.70	38.53	3.83	3,336.97	105.00	840.00
	03/30/16		34.86	37.24	2.38	3,337.02		
	04/26/16		34.65	38.44	3.79	3,337.02		
	05/17/16		Partial Gauging					
	06/01/16		34.79	38.94	4.15	3,336.83	210.00	630.00
	06/14/16		35.10	37.49	2.39	3,336.78		
	06/28/16		35.10	38.52	3.42	3,336.63		
	07/23/16		35.60	37.34	1.74	3,336.38		
	08/11/16		35.65	38.50	2.85	3,336.16		
	08/23/16		35.66	38.98	3.32	3,336.08	168.00	630.00
	09/06/16		35.81	36.89	1.08	3,336.27		
	09/20/16		34.33	35.90	1.57	3,337.67		
	10/06/16		33.21	35.53	2.32	3,338.68		
	10/17/16		33.12	36.00	2.88	3,338.69		
	10/31/16		33.21	36.80	3.59	3,338.49		
	11/17/16		33.22	37.59	4.37	3,338.36		
	12/01/16		33.27	37.88	4.61	3,338.28		
	12/21/16		33.36	38.05	4.69	3,338.18		
	12/29/16		33.47	38.03	4.56	3,338.09	168.00	756.00

1. PSH = Phase Separated Hydrocarbons

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-1	11/02/04	0.7250	0.3210	0.9950	0.5370
	03/22/05	Not Sampled Due to the Presence of PSH ³			
	05/17/05				
	08/15/05				
	11/18/05	0.1040	<0.001	0.0328	0.0074
	02/16/06	1.0800	<0.001	0.4000	0.0838
	05/22/06	1.0600	<0.005	1.1000	0.0732
	08/07/06	1.1500	<0.001	0.3230	0.0276
	11/21/06	Not Sampled Due to the Presence of PSH			
	02/28/07	0.7140	<0.02	0.4390	0.4980
	05/11/07	0.9660	0.0309	0.2880	0.0397
	08/10/07	1.0310	<0.05	0.1670	<0.05
	11/15/07	Not Sampled Due to the Presence of PSH			
	02/29/08	0.0033	<0.002	<0.001	<0.001
	05/28/08	Not Sampled Due to the Presence of PSH			
	08/21/08				
	11/08/08				
	02/10/09	0.4048	0.0022	0.0436	<0.001
	05/15/09	0.5686	<0.002	0.0719	<0.001
	08/13/09	0.2665	<0.02	0.0628	<0.1
	11/11/09	Not Sampled Due to the Presence of PSH			
	02/05/10	0.6889	0.0139	0.0796	0.0278
	05/27/10	Not Sampled Due to the Presence of PSH			
	08/16/10				
	11/11/10				
	02/29/12				
	05/18/12				
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-1	08/15/12	Not Sampled Due to the Presence of PSH			
	11/07/12	0.1110	<0.02	0.0695	<0.02
	02/21/13	Not Sampled Due to the Presence of PSH			
	05/23/13	0.5780	0.0203	0.3680	0.2080
	08/08/13	0.0966	0.0070	0.0879	0.0411
	11/13/13	0.0553	<0.001	0.0105	0.0020
	02/20/14	0.0217	<0.001	0.0055	0.0036
	04/16/14	0.0375	<0.0012	0.0075	<0.0007
	07/08/14	0.0085	<0.0012	0.0028	<0.0007
	10/04/14	0.0066	<0.0012	0.0015	<0.0007
	01/15/15	0.0222	0.00844	0.00636	0.00986
	04/14/15	0.00808	<0.0012	0.00315	<0.0007
	08/04/15	0.00146	<0.0012	0.00122	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/20/16	<0.0008	<0.0012	<0.0008	<0.0007
	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	0.00984	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
 Lea County, New Mexico
 Plains Pipeline, LP SRS Number 2001-1005
 NMOCD File Number: 1R-0398
 Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-2	09/30/02	<0.001	<0.001	<0.001	<0.001
	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	<0.001	<0.001	<0.001	<0.001
	11/10/03	<0.001	<0.001	<0.001	<0.001
	02/17/04	<0.001	<0.001	<0.001	<0.001
	05/06/04	<0.001	<0.001	<0.001	<0.001
	03/22/05	Not Sampled Due to the Presence of PSH			
	05/17/05				
	08/15/05	<0.001	<0.001	<0.001	<0.001
	11/18/05	Not Sampled Due to the Presence of PSH			
	02/16/06	<0.001	<0.001	<0.001	<0.001
	05/22/06	Not Sampled Due to the Presence of PSH			
	08/07/06				
	02/28/07	<0.001	<0.001	<0.001	<0.001
	05/11/07	Not Sampled Due to the Presence of PSH			
	08/10/07				
	11/15/07				
	02/29/08	<0.001	<0.002	0.0010	<0.001
	05/28/08	Not Sampled Due to the Presence of PSH			
	08/21/08				
	11/08/08				
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	Not Sampled Due to the Presence of PSH			
	08/12/09				
	11/11/09				
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-2	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	Not Sampled Due to the Presence of PSH			
	08/16/10				
	11/11/10	<0.001	<0.001	<0.001	<0.001
	02/29/12	Not Sampled Due to the Presence of PSH			
	05/18/12				
	08/15/12				
	11/06/12	<0.001	<0.001	<0.001	<0.001
	02/21/13	<0.001	<0.002	<0.001	<0.001
	05/23/13	<0.0005	<0.001	<0.0007	<0.0007
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	<0.0005	<0.001	<0.0007	<0.0007
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/20/16	<0.0008	<0.0012	<0.0008	<0.0007
	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

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Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
 Lea County, New Mexico
 Plains Pipeline, LP SRS Number 2001-1005
 NMOCD File Number: 1R-0398
 Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-3	09/30/02	<0.001	<0.001	<0.001	<0.001
	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	<0.001	<0.001	<0.001	<0.001
	11/10/03	0.0050	<0.001	<0.001	<0.001
	11/25/03	0.0010	<0.001	<0.001	<0.001
	02/17/04	<0.001	<0.001	<0.001	<0.001
	05/06/04	<0.001	<0.001	<0.001	<0.001
	03/22/05	Not Sampled Due to the Presence of PSH			
	05/17/05				
	08/15/05	0.0098	0.0019	<0.001	<0.001
	11/18/05	Not Sampled Due to the Presence of PSH			
	02/16/06	0.0082	<0.001	<0.001	<0.001
	05/22/06	Not Sampled Due to the Presence of PSH			
	08/07/06				
	11/21/06				
	02/28/07	<0.001	<0.001	<0.001	<0.001
	05/11/07	Not Sampled Due to the Presence of PSH			
	08/10/07				
	11/15/07				
	02/29/08	<0.001	<0.002	<0.001	<0.001
	05/28/08	Not Sampled Due to the Presence of PSH			
	08/21/08				
	11/08/08				
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	Not Sampled Due to the Presence of PSH			
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

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Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-3	08/12/09	Not Sampled Due to the Presence of PSH			
	11/11/09				
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	Not Sampled Due to the Presence of PSH			
	08/16/10				
	11/11/10	Dry - Not Sampled			
	11/17/11				
	02/29/12				
	05/18/12				
	08/15/12				
	11/06/12				
	02/21/13				
	05/23/13				
	08/08/13				
	11/13/13				
	02/20/14				
	04/16/14				
	07/08/14				
	10/04/14				
	01/14/15				
	04/14/15				
	08/04/15				
	10/13/15				
	01/20/16				
	04/26/16				
	07/23/16				
	10/06/16				
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

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2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-4	09/30/02	2.4300	0.7400	0.4660	0.2840
	11/06/02	3.9600	0.0150	0.1740	0.1080
	02/27/03	Not Sampled Due to the Presence of PSH			
	05/12/03	1.8800	0.0040	0.7230	0.0560
	08/20/03	Not Sampled Due to the Presence of PSH			
	11/10/03	0.4080	0.0010	0.0110	0.0010
	02/17/04	0.0690	0.0010	0.0030	0.0010
	05/06/04	0.5490	0.2130	0.3940	0.1940
	08/18/04	Not Sampled Due to the Presence of PSH			
	11/02/04	0.7450	<0.001	0.0086	0.0036
	03/22/05	Not Sampled Due to the Presence of PSH			
	05/17/05				
	08/15/05	0.0038	<0.001	0.0200	0.0084
	11/18/05	0.1030	<0.001	0.0909	<0.001
	02/16/06	0.0282	<0.001	0.1220	<0.001
	05/22/06	0.0854	<0.001	0.3550	<0.001
	08/07/06	0.0331	<0.001	0.1390	<0.001
	11/21/06	0.0361	<0.005	0.2520	<0.005
	02/28/07	0.0221	<0.001	0.0142	0.1160
	05/11/07	0.0390	0.0063	0.3360	0.0073
	08/10/07	0.0171	<0.01	0.3113	<0.01
	11/15/07	0.0108	<0.002	<0.001	0.0031
	02/29/08	0.0578	<0.002	0.0650	<0.001
	05/28/08	Not Sampled Due to the Presence of PSH			
	08/21/08	0.0232	<0.002	0.0303	0.0147
	11/08/08	0.0374	<0.002	0.0041	<0.001
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
 Lea County, New Mexico
 Plains Pipeline, LP SRS Number 2001-1005
 NMOCD File Number: 1R-0398
 Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-4	02/10/09	0.0539	<0.002	0.0206	<0.001
	05/15/09	0.0632	0.0043	0.1016	<0.001
	08/12/09	0.0322	<0.002	0.0350	0.0025
	11/11/09	0.0725	<0.002	0.0414	<0.001
	02/05/10	0.0198	<0.002	0.0175	<0.001
	05/27/10	0.0787	<0.002	0.0595	<0.001
	08/16/10	0.2080	<0.1	0.1350	<0.05
	11/11/10	0.0335	<0.002	0.0196	<0.001
	02/29/12	Not Sampled Due to the Presence of PSH			
	05/18/12				
	08/15/12				
	11/06/12				
	02/21/13				
	05/23/13	0.0347	<0.001	0.0162	0.0062
	08/08/13	0.0659	<0.001	0.0572	0.0179
	11/13/13	0.0106	<0.001	0.0050	0.0018
	02/20/14	0.0012	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	0.0146	<0.0012	0.0080	0.0021
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/15/15	0.00442	0.00283	0.00718	0.00328
	04/14/15	0.00713	<0.0012	0.00911	0.00467
	08/04/15	<0.0008	<0.0012	0.00115	<0.0007
	10/13/15	<0.0008	<0.0010	0.00428	<0.0007
	01/20/16	<0.0008	0.00278	0.0058	<0.0007
	04/26/16	<0.000408	<0.000367	0.00706	<0.000630
	07/23/16	<0.000408	<0.000367	0.00503	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

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Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
 Lea County, New Mexico
 Plains Pipeline, LP SRS Number 2001-1005
 NMOCD File Number: 1R-0398
 Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-4	10/06/16	0.00208	<0.000367	0.00372	0.00117
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

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Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
 Lea County, New Mexico
 Plains Pipeline, LP SRS Number 2001-1005
 NMOCD File Number: 1R-0398
 Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-5	09/30/02	Not Sampled Due to the Presence of PSH			
	11/06/02				
	02/27/03				
	05/12/03	0.2260	0.0100	0.3990	0.5670
	11/10/03	0.5110	<0.001	1.0700	0.0200
	02/17/04	0.4450	0.0480	3.3300	0.1530
	05/06/04	0.0744	0.0207	0.2220	0.1480
	08/24/04	0.1560	0.0039	0.2320	0.1240
	11/02/04	0.3710	<0.001	0.0209	0.0010
	03/22/05	Not Sampled Due to the Presence of PSH			
	05/17/05				
	08/15/05				
	11/18/05	0.0886	<0.001	0.0448	0.0180
	02/16/06	0.0108	<0.001	0.0086	0.0020
	05/22/06	<0.001	<0.001	0.0015	<0.001
	08/07/06	0.0386	<0.001	0.0619	0.0204
	11/21/06	Not Sampled Due to the Presence of PSH			
	02/28/07				
	05/11/07				
	08/10/07	0.2765	<0.025	0.2858	0.1315
	11/15/07	0.0039	<0.002	<0.001	<0.001
	02/29/08	0.0030	<0.002	0.0036	0.0018
	05/28/08	Not Sampled Due to the Presence of PSH			
	08/21/08				
	11/08/08				
	02/10/09	0.2425	<0.01	0.2885	0.1170
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-5	05/15/09	0.2339	0.0234	0.1006	0.0782
	08/12/09	0.2247	<0.01	0.2958	0.1264
	11/11/09	Not Sampled Due to the Presence of PSH			
	02/05/10	0.7078	<0.01	0.4458	0.1105
	05/27/10	Not Sampled Due to the Presence of PSH			
	08/16/10				
	11/11/10	0.2260	<0.001	0.2402	0.1087
	02/17/11	0.1650	<0.001	0.2020	0.0906
	08/18/11	0.1280	0.0034	0.1620	0.0413
	02/29/12	Not Sampled Due to the Presence of PSH			
	05/18/12				
	08/15/12				
	11/07/12	0.1250	<0.005	0.3370	0.1770
	02/21/13	Not Sampled Due to the Presence of PSH			
	05/23/13	0.0833	<0.001	0.1400	0.0680
	08/08/13	0.0637	0.0028	0.0714	0.0384
	11/13/13	0.0380	<0.001	0.1130	0.0139
	02/20/14	0.0308	<0.001	0.0707	0.0087
	04/16/14	0.0259	<0.0012	0.0714	0.0086
	07/08/14	0.0069	<0.0012	0.0296	<0.0007
	10/04/14	0.0811	<0.0012	0.1350	0.2240
	01/15/15	0.00968	0.00412	0.0639	0.0179
	04/14/15	0.00614	<0.0012	0.0441	0.00606
	08/04/15	<0.0008	<0.0012	0.0113	<0.0007
	10/13/15	0.0043	<0.0010	0.0131	<0.0007
	01/20/16	0.00602	<0.0012	0.0977	<0.0007
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-5	04/26/16	<0.000408	<0.000367	0.0695	<0.000630
	07/23/16	0.00376	<0.000367	0.0408	<0.000630
	10/06/16	0.0207	0.0589	0.0162	0.0232
	10/20/16	0.00772	<0.000367	0.0327	0.00458
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-6	09/30/02	<0.001	<0.001	<0.001	<0.001
	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	<0.001	<0.001	<0.001	<0.001
	11/10/03	<0.001	<0.001	<0.001	<0.001
	02/17/04	<0.001	<0.001	<0.001	<0.001
	05/06/04	0.0043	<0.001	<0.001	0.0013
	11/02/04	<0.001	<0.001	<0.001	<0.001
	03/22/05	Not Sampled Due to the Presence of PSH			
	08/15/05	<0.001	<0.001	<0.001	<0.001
	11/18/05	Not Sampled Due to the Presence of PSH			
	02/16/06	0.0013	<0.001	0.0030	<0.001
	05/22/06	Not Sampled Due to the Presence of PSH			
	08/07/06				
	11/21/06				
	02/28/07	<0.001	<0.001	<0.001	0.0027
	05/11/07	0.0007	0.0007	0.0021	0.0067
	08/10/07	0.0012	<0.001	0.0059	0.0014
	11/15/07	<0.001	<0.002	0.0010	<0.001
	02/29/08	<0.001	<0.002	<0.001	<0.001
	05/28/08	<0.001	<0.002	<0.001	<0.001
	08/21/08	0.0017	<0.002	<0.001	<0.001
	11/08/08	<0.001	<0.002	<0.001	<0.001
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/15/09	<0.001	<0.002	<0.001	<0.001
	08/13/09	<0.001	<0.002	<0.001	<0.001
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

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Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-6	11/11/09	<0.001	<0.002	<0.001	<0.001
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	<0.001	<0.002	<0.001	<0.001
	08/16/10	<0.001	<0.002	<0.001	<0.001
	11/11/10	<0.001	<0.002	<0.001	<0.001
	02/17/11	<0.001	<0.002	<0.001	<0.001
	05/25/11	<0.001	<0.002	<0.001	<0.001
	08/18/11	<0.001	<0.002	<0.001	<0.001
	11/17/11	<0.001	<0.002	<0.001	<0.001
	02/29/12	<0.001	<0.002	<0.001	<0.001
	05/18/12	<0.001	<0.001	<0.001	<0.001
	08/15/12	<0.001	<0.001	<0.001	<0.001
	11/06/12	<0.001	<0.001	<0.001	<0.001
	02/22/13	<0.001	<0.002	<0.001	<0.001
	05/23/13	<0.0005	<0.001	<0.0007	<0.0007
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	<0.0005	<0.001	<0.0007	<0.0007
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/14/15	0.00458	<0.0012	0.00946	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/20/16	<0.0008	<0.0012	<0.0008	<0.0007
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-6	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

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Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-7	09/30/02	<0.001	<0.001	<0.001	<0.001
	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	<0.001	<0.001	<0.001	<0.001
	11/10/03	<0.001	<0.001	<0.001	<0.001
	02/17/04	<0.001	<0.001	<0.001	<0.001
	05/06/04	<0.001	<0.001	<0.001	<0.001
	03/22/05	Not Sampled Due to the Presence of PSH			
	05/17/05				
	08/15/05	0.0059	<0.001	<0.001	<0.001
	11/18/05	Not Sampled Due to the Presence of PSH			
	02/16/06	<0.001	<0.001	<0.001	<0.001
	05/22/06	Not Sampled Due to the Presence of PSH			
	08/07/06				
	11/21/06				
	02/28/07	<0.001	<0.001	<0.001	
	05/11/07	Not Sampled Due to the Presence of PSH			
	08/10/07				
	11/15/07				
	02/29/08	<0.001	<0.002	<0.001	<0.001
	05/28/08	Not Sampled Due to the Presence of PSH			
	08/21/08				
	11/08/08				
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	Not Sampled Due to the Presence of PSH			
	08/12/09				
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

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2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-7	11/11/09	Not Sampled Due to the Presence of PSH			
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	Not Sampled Due to the Presence of PSH			
	08/16/10				
	11/11/10	<0.001	<0.002	<0.001	<0.001
	11/17/11	<0.001	<0.002	<0.001	<0.001
	02/29/12	<0.001	<0.002	<0.001	<0.001
	05/18/12	<0.001	<0.001	<0.001	<0.001
	08/15/12	<0.001	<0.001	<0.001	<0.001
	11/07/12	<0.001	<0.001	<0.001	<0.001
	02/22/13	<0.001	<0.002	<0.001	<0.001
	05/23/13	<0.0005	<0.001	<0.0007	<0.0007
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	<0.0005	<0.001	<0.0007	<0.0007
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/21/16	<0.0008	<0.0012	<0.0008	<0.0007
	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

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Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-8	09/30/02	<0.001	<0.001	<0.001	<0.001
	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	<0.001	<0.001	<0.001	<0.001
	11/10/03	<0.001	<0.001	<0.001	<0.001
	02/17/04	<0.001	<0.001	<0.001	<0.001
	05/06/04	<0.001	<0.001	<0.001	<0.001
	03/22/05	Not Sampled Due to the Presence of PSH			
	05/17/05				
	08/15/05	<0.001	<0.001	<0.001	<0.001
	11/18/05	Not Sampled Due to the Presence of PSH			
	02/16/06	<0.001	<0.001	<0.001	<0.001
	05/22/06	Not Sampled Due to the Presence of PSH			
	08/07/06				
	11/21/06				
	02/28/07	<0.001	<0.001	<0.001	<0.001
	05/11/07	Not Sampled Due to the Presence of PSH			
	08/10/07				
	11/15/07				
	02/29/08	<0.001	<0.002	<0.001	<0.001
	05/28/08	Not Sampled Due to the Presence of PSH			
	08/21/08				
	11/08/08				
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	Not Sampled Due to the Presence of PSH			
	08/12/09				
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

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2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-8	11/11/09	Not Sampled Due to the Presence of PSH			
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	Not Sampled Due to the Presence of PSH			
	08/16/10				
	11/11/10	<0.001	<0.002	<0.001	<0.001
	11/17/11	<0.001	<0.002	<0.001	<0.001
	02/29/12	Not Sampled Due to the Presence of PSH			
	05/18/12	<0.001	<0.001	<0.001	<0.001
	08/15/12	<0.001	<0.001	<0.001	<0.001
	11/06/12	<0.001	<0.001	<0.001	<0.001
	02/22/13	<0.001	<0.001	<0.001	<0.001
	05/23/13	<0.0005	<0.001	<0.0007	<0.0007
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	<0.0005	<0.001	<0.0007	<0.0007
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/15/15	<0.0008	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/20/16	<0.0008	<0.0012	<0.0008	<0.0007
	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

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Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-9	09/30/02	<0.001	<0.001	<0.001	<0.001
	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	<0.001	<0.001	<0.001	<0.001
	11/10/03	<0.001	<0.001	<0.001	<0.001
	02/17/04	0.0030	<0.001	<0.001	<0.001
	05/06/04	0.0027	<0.001	<0.001	<0.001
	11/02/04	0.1360	<0.001	<0.001	0.0095
	03/22/05	0.0146	<0.001	<0.001	<0.001
	05/17/05	0.0036	<0.001	<0.001	<0.001
	08/15/05	<0.001	<0.001	<0.001	<0.001
	11/18/05	<0.001	<0.001	<0.001	<0.001
	02/16/06	<0.001	<0.001	<0.001	<0.001
	05/22/06	<0.001	<0.001	<0.001	<0.001
	08/07/06	<0.001	<0.001	<0.001	<0.001
	11/21/06	<0.001	<0.001	<0.001	<0.001
	02/28/07	<0.001	<0.001	<0.001	<0.001
	05/11/07	<0.001	<0.001	<0.001	<0.001
	08/10/07	<0.001	<0.001	<0.001	<0.001
	11/15/07	<0.001	<0.002	<0.001	<0.001
	02/29/08	<0.001	<0.002	<0.001	<0.001
	05/28/08	<0.001	<0.002	<0.001	<0.001
	08/21/08	<0.001	<0.002	<0.001	<0.001
	11/08/08	<0.001	<0.002	<0.001	<0.001
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/15/09	<0.001	<0.002	<0.001	<0.001
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

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Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
 Lea County, New Mexico
 Plains Pipeline, LP SRS Number 2001-1005
 NMOCD File Number: 1R-0398
 Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-9	0813/09	<0.001	<0.002	<0.001	<0.001
	11/11/09	<0.001	<0.002	<0.001	<0.001
	02/05/10	0.0016	<0.002	<0.001	<0.001
	05/27/10	<0.001	<0.002	<0.001	<0.001
	08/16/10	<0.001	<0.002	<0.001	<0.001
	11/11/10	<0.001	<0.002	<0.001	<0.001
	02/17/11	<0.001	<0.002	<0.001	<0.001
	05/25/11	<0.001	<0.002	<0.001	<0.001
	08/18/11	<0.001	<0.002	<0.001	<0.001
	11/17/11	<0.001	<0.002	<0.001	<0.001
	02/29/12	<0.001	<0.002	<0.001	<0.001
	05/18/12	<0.001	<0.001	<0.001	<0.001
	08/15/12	<0.001	<0.001	<0.001	<0.001
	11/06/12	<0.001	<0.001	<0.001	<0.001
	02/22/13	<0.001	<0.001	<0.001	<0.001
	05/23/13	Not Sampled Due to the Presence of PSH			
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	<0.0005	<0.001	<0.0007	<0.0007
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/20/16	<0.0008	<0.0012	<0.0008	<0.0007
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

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Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-9	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-10	09/30/02	<0.001	<0.001	<0.001	<0.001
	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	<0.001	<0.001	<0.001	<0.001
	11/10/03	<0.001	<0.001	<0.001	<0.001
	02/17/04	<0.001	<0.001	<0.001	<0.001
	05/06/04	<0.001	<0.001	<0.001	<0.001
	03/22/05	Not Sampled Due to the Presence of PSH			
	05/17/05				
	08/15/05	0.0251	0.0106	0.0020	0.0010
	11/18/05	Not Sampled Due to the Presence of PSH			
	02/16/06	0.0361	<0.001	0.0032	<0.001
	05/22/06	0.1510	<0.001	0.0028	<0.001
	08/07/06	0.0247	<0.001	<0.001	<0.001
	11/21/06	0.0056	<0.001	<0.001	<0.001
	02/28/07	<0.001	<0.001	<0.001	<0.001
	05/11/07	0.0015	<0.001	0.0004	<0.001
	08/10/07	0.0020	<0.001	0.0028	<0.001
	11/15/07	0.0040	<0.002	<0.001	<0.001
	02/29/08	<0.001	<0.002	<0.001	<0.001
	05/28/08	<0.001	<0.002	<0.001	<0.001
	08/21/08	<0.001	<0.002	<0.001	<0.001
	11/08/08	<0.001	<0.002	<0.001	<0.001
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	<0.001	<0.002	<0.001	<0.001
	08/12/09	<0.001	<0.002	<0.001	<0.001
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

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Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-10	11/11/09	<0.001	<0.002	<0.001	<0.001
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	<0.001	<0.002	<0.001	<0.001
	08/16/10	0.0011	<0.002	<0.001	<0.001
	11/11/10	<0.001	<0.002	<0.001	<0.001
	02/17/11	<0.001	<0.002	0.0012	<0.001
	05/25/11	<0.001	<0.002	0.0012	<0.001
	08/18/11	<0.001	<0.002	<0.001	<0.001
	11/17/11	<0.001	<0.002	<0.001	<0.001
	02/29/12	<0.001	<0.002	<0.001	<0.001
	05/18/12	<0.001	<0.001	<0.001	<0.001
	08/15/12	<0.001	<0.001	<0.001	<0.001
	11/06/12	<0.001	<0.001	<0.001	<0.001
	02/22/13	<0.001	<0.001	<0.001	<0.001
	05/24/13	<0.0005	<0.001	<0.0007	<0.0007
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	<0.0005	<0.001	<0.0007	<0.0007
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/15/15	<0.0008	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/21/16	<0.0008	<0.0012	<0.0008	<0.0007
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

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Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-10	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-11	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	0.1470	<0.001	0.0690	0.0330
	11/10/03	0.5260	<0.001	<0.001	0.0470
	02/17/04	0.1030	<0.001	<0.001	0.0070
	05/06/04	2.0500	<0.005	0.2530	0.1190
	08/18/04	0.0973	<0.001	<0.001	0.0014
	11/02/04	0.0870	<0.001	0.0016	<0.001
	03/22/05	0.0246	<0.001	0.0016	<0.001
	05/17/05	0.0263	<0.001	0.0035	<0.001
	08/15/05	0.0127	<0.001	<0.001	<0.001
	11/18/05	0.0092	<0.001	0.0012	<0.001
	02/16/06	0.0028	<0.001	<0.001	<0.001
	05/22/06	0.0017	<0.001	<0.001	<0.001
	08/07/06	<0.001	<0.001	<0.001	<0.001
	11/21/06	0.0017	<0.001	<0.001	<0.001
	02/28/07	<0.001	<0.001	<0.001	0.0039
	05/11/07	0.0035	0.0009	0.0005	0.0003
	08/10/07	<0.001	<0.001	<0.001	0.0011
	11/15/07	0.0021	<0.002	0.0014	0.0076
	02/29/08	<0.001	<0.002	<0.001	<0.001
	05/28/08	<0.001	<0.002	<0.001	<0.001
	08/21/08	<0.001	<0.002	<0.001	<0.001
	11/08/08	0.0012	<0.002	<0.001	<0.001
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	<0.001	<0.002	<0.001	<0.001
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-11	08/12/09	<0.001	<0.002	<0.001	<0.001
	11/11/09	<0.001	<0.002	<0.001	<0.001
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	<0.001	<0.002	<0.001	<0.001
	08/16/10	<0.001	<0.002	<0.001	<0.001
	11/11/10	<0.001	<0.002	<0.001	<0.001
	02/17/11	<0.001	<0.002	<0.001	<0.001
	05/25/11	<0.001	<0.002	<0.001	<0.001
	08/18/11	<0.001	<0.002	<0.001	<0.001
	11/17/11	<0.001	<0.002	<0.001	<0.001
	02/29/12	<0.001	<0.002	<0.001	<0.001
	05/18/12	<0.001	<0.001	<0.001	<0.001
	08/15/12	<0.001	<0.001	<0.001	<0.001
	11/06/12	<0.001	<0.001	<0.001	<0.001
	02/22/13	<0.001	<0.001	<0.001	<0.001
	05/23/13	Not Sampled Due to the Presence of PSH			
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	<0.0005	<0.001	<0.0007	<0.0007
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/15/15	0.00543	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-11	01/21/16	<0.0008	<0.0012	<0.0008	<0.0007
	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-12	11/06/02	2.3000	0.0120	0.0050	0.0920
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	0.2400	<0.001	<0.001	0.0150
	08/20/03	0.2570	<0.001	<0.001	0.0130
	11/10/03	0.5440	<0.001	<0.001	0.0100
	02/17/04	1.2100	<0.001	<0.001	0.0020
	05/06/04	1.1700	<0.002	0.0659	0.0304
	08/18/04	0.0612	<0.001	0.0222	<0.001
	11/02/04	0.0322	<0.001	0.0025	<0.001
	03/22/05	0.0055	<0.001	0.0037	<0.001
	05/17/05	0.0010	<0.001	<0.001	<0.001
	08/15/05	<0.001	<0.001	<0.001	<0.001
	11/18/05	<0.001	<0.001	<0.001	<0.001
	02/16/06	<0.001	<0.001	<0.001	<0.001
	05/22/06	<0.001	<0.001	<0.001	<0.001
	08/07/06	<0.001	<0.001	<0.001	<0.001
	11/21/06	<0.001	<0.001	<0.001	<0.001
	02/28/07	<0.001	<0.001	<0.001	0.0031
	05/11/07	0.0021	0.0009	0.0005	0.0004
	08/10/07	<0.005	<0.005	<0.005	<0.005
	11/15/07	<0.001	<0.002	<0.001	<0.001
	02/29/08	0.0011	<0.002	<0.001	0.0030
	05/28/08	<0.001	<0.002	<0.001	0.0020
	08/21/08	0.0518	<0.002	0.0398	<0.001
	11/08/08	0.0033	<0.002	<0.001	<0.001
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	<0.001	<0.002	<0.001	<0.001
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-12	08/12/09	<0.001	<0.002	<0.001	<0.001
	11/11/09	0.0020	<0.002	0.0020	0.0071
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	0.0010	<0.002	<0.001	<0.001
	08/16/10	<0.001	<0.002	<0.001	0.0017
	11/11/10	<0.001	<0.002	<0.001	<0.001
	02/17/11	<0.001	<0.002	<0.001	0.0026
	05/25/11	0.0022	<0.002	<0.001	0.0027
	08/18/11	0.0248	<0.002	0.0074	<0.001
	11/17/11	0.0024	<0.002	<0.001	0.0028
	02/29/12	<0.001	<0.002	<0.001	<0.001
	05/18/12	0.0052	<0.001	0.0026	<0.001
	08/15/12	0.1320	<0.001	0.0432	0.0065
	11/06/12	<0.001	<0.001	<0.001	0.0014
	02/22/13	<0.001	<0.001	<0.001	0.0014
	05/23/13	Not Sampled Due to the Presence of PSH			
	08/08/13	0.0121	<0.001	0.0037	0.0009
	11/13/13	<0.0005	<0.001	<0.0007	<0.0007
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	0.0200	<0.0012	0.0166	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/15/15	0.0016	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	0.0104
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-12	01/21/16	<0.0008	<0.0012	<0.0008	0.00413
	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-13	11/06/02	0.0800	<0.001	<0.001	0.0010
	02/27/03	2.1400	0.0010	0.0950	0.1110
	05/12/03	1.6500	0.0010	0.2020	0.1700
	08/20/03	1.7100	<0.001	0.1380	0.5110
	11/10/03	1.5500	<0.001	0.0840	0.0020
	02/17/04	0.0430	<0.001	0.0150	<0.001
	05/06/04	0.0873	<0.001	<0.001	0.0024
	08/18/04	0.0903	<0.001	0.0098	<0.001
	11/02/04	0.2330	<0.001	0.0035	0.0038
	03/22/05	0.1800	<0.001	0.0024	<0.001
	05/17/05	0.0758	<0.001	0.0028	<0.001
	08/15/05	0.0067	<0.001	0.0012	<0.001
	11/18/05	0.0013	<0.001	0.0012	<0.001
	02/16/06	<0.001	<0.001	<0.001	<0.001
	05/22/06	<0.001	<0.001	<0.001	<0.001
	08/07/06	0.0013	<0.001	<0.001	<0.001
	11/21/06	0.0021	<0.001	<0.001	<0.001
	02/28/07	<0.001	0.0022	0.0049	0.1120
	05/11/07	0.0007	0.0004	0.0029	0.0063
	08/10/07	<0.005	<0.005	<0.005	0.0079
	11/15/07	0.0013	<0.002	<0.001	0.0070
	02/29/08	<0.001	<0.002	<0.001	0.0028
	05/28/08	<0.001	<0.002	<0.001	0.0018
	08/21/08	<0.001	<0.002	<0.001	<0.001
	11/08/08	<0.001	<0.002	<0.001	<0.001
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	<0.001	<0.002	<0.001	<0.001
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-13	08/12/09	<0.001	<0.002	<0.001	<0.001
	11/11/09	<0.001	<0.002	<0.001	<0.001
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	<0.001	<0.002	<0.001	<0.001
	08/16/10	0.0014	<0.002	<0.001	0.0020
	11/11/10	<0.001	<0.002	<0.001	<0.001
	02/17/11	<0.001	<0.002	<0.001	<0.001
	05/25/11	<0.001	<0.002	<0.001	0.0037
	08/18/11	<0.001	<0.002	0.0014	<0.001
	11/17/12	0.0012	<0.002	<0.001	<0.001
	02/29/12	<0.001	<0.002	<0.001	<0.001
	05/18/12	<0.001	<0.001	<0.001	<0.001
	08/15/12	<0.001	<0.001	<0.001	<0.001
	11/06/12	<0.001	<0.001	<0.001	<0.001
	02/22/13	<0.001	<0.001	<0.001	<0.001
	05/24/13	<0.0005	<0.001	<0.0007	<0.0007
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	<0.0005	<0.001	<0.0007	<0.0007
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/15/15	0.00563	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/21/16	<0.0008	<0.0012	<0.0008	<0.0007
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-13	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-14	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	<0.001	<0.001	<0.001	<0.001
	11/10/03	<0.001	<0.001	<0.001	<0.001
	02/17/04	<0.001	<0.001	<0.001	<0.001
	05/06/04	<0.001	<0.001	<0.001	<0.001
	08/18/04	<0.001	<0.001	<0.001	0.0080
	11/02/04	0.0106	<0.001	<0.001	0.0054
	03/22/05	<0.001	<0.001	<0.001	<0.001
	05/17/05	0.0091	<0.001	<0.001	<0.001
	08/15/05	<0.001	<0.001	<0.001	<0.001
	11/18/05	0.0049	<0.001	<0.001	<0.001
	02/16/06	<0.001	<0.001	<0.001	<0.001
	05/22/06	<0.001	<0.001	<0.001	<0.001
	08/07/06	<0.001	<0.001	<0.001	<0.001
	11/21/06	<0.001	<0.001	<0.001	<0.001
	02/28/07	<0.001	<0.001	<0.001	<0.001
	05/11/07	0.0008	<0.001	<0.001	<0.001
	08/10/07	<0.001	<0.001	<0.001	<0.001
	11/15/07	0.0012	<0.002	<0.001	<0.001
	02/29/08	<0.001	<0.002	<0.001	<0.001
	05/28/08	<0.001	<0.002	<0.001	<0.001
	08/21/08	<0.001	<0.002	<0.001	<0.001
	11/08/08	<0.001	0.0023	0.0010	0.0012
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	<0.001	<0.002	<0.001	<0.001
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-14	08/12/09	<0.001	<0.002	<0.001	<0.001
	11/11/09	<0.001	<0.002	<0.001	<0.001
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	<0.001	<0.002	<0.001	<0.001
	08/16/10	<0.001	<0.002	<0.001	<0.001
	11/11/10	<0.001	<0.002	<0.001	<0.001
	02/17/11	<0.001	<0.002	<0.001	<0.001
	05/25/11	<0.001	<0.002	<0.001	<0.001
	08/18/11	<0.001	<0.002	<0.001	<0.001
	11/17/11	<0.001	<0.002	<0.001	<0.001
	02/29/12	<0.001	<0.002	<0.001	0.0012
	05/18/12	<0.001	<0.001	<0.001	<0.001
	08/15/12	<0.001	<0.001	<0.001	<0.001
	11/06/12	<0.001	<0.001	<0.001	<0.001
	02/22/13	<0.001	<0.001	<0.001	<0.001
	05/24/13	Not Sampled Due to the Presence of PSH			
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	0.0220	<0.001	0.0093	0.0037
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/15/15	<0.0008	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/21/16	<0.0008	<0.0012	<0.0008	<0.0007
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-14	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-15	11/06/02	<0.001	<0.001	<0.001	<0.001
	02/27/03	<0.001	<0.001	<0.001	<0.001
	05/12/03	<0.001	<0.001	<0.001	<0.001
	08/20/03	<0.001	<0.001	<0.001	<0.001
	11/10/03	<0.001	<0.001	<0.001	<0.001
	02/17/04	<0.001	<0.001	<0.001	<0.001
	05/06/04	<0.001	<0.001	<0.001	<0.001
	08/24/04	<0.001	<0.001	<0.001	<0.001
	03/22/05	Not Sampled Due to the Presence of PSH			
	05/17/05				
	08/15/05	0.1370	<0.001	<0.001	0.0102
	11/18/05	Not Sampled Due to the Presence of PSH			
	02/16/06	0.0693	<0.001	<0.001	<0.001
	05/22/06	0.0183	<0.001	<0.001	<0.001
	08/07/06	0.0096	<0.001	<0.001	<0.001
	11/21/06	0.0055	<0.001	<0.001	<0.001
	02/28/07	<0.001	<0.001	<0.001	<0.001
	05/11/07	0.0005	<0.001	<0.001	<0.001
	08/10/07	<0.001	<0.001	<0.001	<0.001
	11/15/07	<0.001	<0.002	<0.001	<0.001
	02/29/08	<0.001	<0.002	<0.001	<0.001
	05/28/08	<0.001	<0.002	<0.001	<0.001
	08/21/08	0.0041	<0.002	<0.001	<0.001
	11/08/08	<0.001	<0.002	<0.001	<0.001
	02/10/09	<0.001	<0.002	<0.001	<0.001
	05/14/09	<0.001	<0.002	<0.001	<0.001
	08/12/09	<0.001	<0.002	<0.001	<0.001
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-15	11/11/09	<0.001	<0.002	<0.001	<0.001
	02/05/10	<0.001	<0.002	<0.001	<0.001
	05/27/10	<0.001	<0.002	<0.001	<0.001
	08/16/10	<0.001	<0.002	<0.001	<0.001
	11/11/10	<0.001	<0.002	<0.001	<0.001
	02/17/11	<0.001	<0.002	<0.001	<0.001
	05/25/11	<0.001	<0.002	<0.001	<0.001
	08/18/11	<0.001	<0.002	<0.001	<0.001
	11/17/11	<0.001	<0.002	<0.001	<0.001
	02/29/12	<0.001	<0.002	<0.001	<0.001
	05/18/12	<0.001	<0.001	<0.001	<0.001
	08/15/12	<0.001	<0.001	<0.001	<0.001
	11/06/12	<0.001	<0.001	<0.001	<0.001
	02/22/13	<0.001	<0.001	<0.001	<0.001
	05/24/13	Not Sampled Due to the Presence of PSH			
	08/08/13	<0.0005	<0.001	<0.0007	<0.0007
	11/13/13	0.0132	<0.001	0.0074	0.0275
	02/20/14	<0.0005	<0.001	<0.0007	<0.0007
	04/16/14	<0.0008	<0.0012	<0.0008	<0.0007
	07/08/14	<0.0008	<0.0012	<0.0008	<0.0007
	10/04/14	<0.0008	<0.0012	<0.0008	<0.0007
	01/15/15	<0.0008	<0.0012	<0.0008	<0.0007
	04/14/15	<0.0008	<0.0012	<0.0008	<0.0007
	08/04/15	<0.0008	<0.0012	<0.0008	<0.0007
	10/13/15	<0.0008	<0.0010	<0.0008	<0.0007
	01/21/16	<0.0008	<0.0012	<0.0008	<0.0007
	04/26/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
 Lea County, New Mexico
 Plains Pipeline, LP SRS Number 2001-1005
 NMOCD File Number: 1R-0398
 Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-15	07/23/16	<0.000408	<0.000367	<0.000657	<0.000630
	10/06/16	<0.000408	<0.000367	<0.000657	<0.000630
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

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2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
TMW-1	11/02/04	4.9500	2.7800	1.7200	0.7830
	11/18/05	1.8600	<0.002	1.0600	0.4350
	02/16/06	1.6900	<0.002	1.0300	0.6040
	05/22/06	Not Sampled Due to the Presence of PSH			
	08/07/06				
	11/21/06				
	02/28/07	1.6600	<0.05	0.7770	1.6000
	05/11/07	0.8430	0.3340	1.0300	0.4390
	08/10/07	Not Sampled Due to the Presence of PSH			
	11/15/07				
	02/29/08	3.0040	<0.04	1.0460	0.0402
	05/28/08	Not Sampled Due to the Presence of PSH			
	08/21/08				
	11/08/08				
	02/25/09	2.0440	<2.0	<1.0	<1.0
	05/14/09	Not Sampled Due to the Presence of PSH			
	08/12/09				
	11/11/09				
	02/05/10				
	05/27/10				
	08/16/10				
	11/11/10				
	02/29/12				
	05/18/12				
	08/15/12				
	11/06/12				
	02/21/13				
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 5
2017 Annual Groundwater Monitoring Report

Groundwater Analytical Summary - BTEX¹

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

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

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8021B			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
TMW-1	05/24/13	Not Sampled Due to the Presence of PSH			
	08/08/13				
	11/13/13				
	02/20/14				
	04/16/14				
	07/08/14				
	10/04/14				
	01/15/15				
	04/14/15				
	08/04/15				
	10/13/15				
	01/21/16				
	04/26/16				
	07/23/16				
	10/06/16				
NMWQCC⁴ Groundwater Standards		0.01	0.75	0.75	0.62

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NA = Not Analyzed

3. PSH = Phase Separated Hydrocarbons

4. NMWQCC = New Mexico Water Quality Control Commission

Bold text indicates a concentration exceeding the NMWQCC Delineation and Remediation Limits

Table 6
2017 Annual Report

AFR¹ Table (TMW-1)
Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains Pipeline, LP SRS Number 2001-1005
NMOCD File Number: 1R-0398
Terracon Project Number AR187007

All elevations are measured in feet above mean sea level

Well ID	Date	Depth to PSH ¹ Below Top of Casing	Depth to Water Below Top of Casing	PSH ² Thickness	Estimated PSH Recovery (bbl)	Total Fluid Recovery (bbl)	Comments
TMW-1	08/05/15	34.48	37.08	2.60	2.5	10	AFR 4.0 hrs
	10/14/15	34.93	37.31	2.38	1.0	5	AFR 2.5 hrs
	12/09/15	34.69	38.34	3.65	3.0	10	AFR 4.0 hrs
	01/21/16	34.73	38.40	3.67	3.0	15	AFR 4.0 hrs
	03/15/16	34.70	38.53	3.83	2.5	20	AFR 4.0 hrs
	06/01/16	34.79	38.94	4.15	5.0	15	AFR 4.0 hrs
	08/23/16	34.33	35.90	1.57	4.0	15	AFR 4.0 hrs
	12/29/16	33.47	38.03	4.56	4.0	18	AFR 5.0 hrs

1. AFR = Aggressive Fluid Recovery

2. PSH = Phase Separated Hydrocarbons

APPENDIX E

CD of the 2017 Annual Groundwater Monitoring Report