

AP-96

Plains

Lovington Gathering WTI

**Annual Report
2013**

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2013 ANNUAL MONITORING REPORT

LOVINGTON GATHERING WTI

Unit Letter "H" (SE/NE), Section 6, Township 17 South, Range 37 East

Latitude 32° 51' 56.0" North, Longitude 103° 17' 07.2" West

Lea County, New Mexico

Plains SRS Number: 2006-142

NMOCD Reference Number: 1RP-838

Prepared for:



Plains Marketing, LP
333 Clay Street, Suite 1600
Houston, Texas 77002

Prepared By:

Basin Environmental Service Technologies, LLC

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March 2014

Ben J. Arguijo
Project Manager

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1.0 INTRODUCTION

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Plains Marketing, LP (Plains), is pleased to submit this *Annual Monitoring Report* in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an Annual Monitoring Report by April 1 of each year. This report is intended to be viewed as a complete document with text, figures, tables, and appendices. This report presents the results of groundwater monitoring events conducted in calendar year 2013 only.

Groundwater monitoring was conducted during each quarter of 2013 to assess the levels and extent of dissolved phase constituents and Phase-Separated Hydrocarbon (PSH). The groundwater monitoring events consisted of measuring static water levels in the monitor wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge.

2.0 SITE DESCRIPTION & BACKGROUND INFORMATION

The legal description of the Lovington Gathering WTI release site is Unit Letter "H" (SE/NE), Section 6, Township 17 South, Range 37 East, in Lea County, New Mexico. The geographic coordinates of the release site are 32° 51' 56.0" North latitude and 103° 17' 07.2" West longitude. A "Site Location Map" is provided as Figure 1.

On April 21, 2006, Basin Environmental, on behalf of Plains, responded to a pipeline release to repair the pipeline and excavate impacted soil. The Lovington Gathering WTI pipeline was repaired utilizing a pipeline clamp, and visibly stained soil was excavated and placed on plastic sheeting to mitigate any further hydrocarbon impact to the underlying soil. Approximately twelve barrels (12 bbls) of crude oil was released from the pipeline, and eight barrels (8 bbls) were recovered, resulting in a net loss of four barrels (4 bbls) of crude oil. The excavated area was fenced in and is characterized by a Plains pipeline right-of-way adjacent to an idled Plains pump station. The release occurred in a pasture containing various oil and gas production facilities. The release resulted in a visibly stained surface area measuring approximately one thousand, five hundred square feet (1,500 ft²). Excavation activities conducted during the initial response and subsequent remediation of the site covered an area approximately thirty feet (30') in length by twenty-seven feet (27') in width, and ranged from approximately five feet (5') to six feet (6') in depth. Excavated soil was placed on a six (6) mil polyurethane liner for future remedial action. Utilizing olfactory, visual, and photo-ionization detector (PID) technology, it was determined that Volatile Organic Compounds (VOC's) remained in the sidewalls and floor of the excavation.

In July 2006, a soil investigation was conducted to further delineate the horizontal and vertical extent of the on-site hydrocarbon impact. Eleven (11) soil borings were advanced to a depth of thirty feet (30') to seventy-five feet (75') below ground surface (bgs). Based on laboratory analytical results from soil samples collected during advancement of the soil borings, three (3) groundwater monitor wells (MW-1 through MW-3) were installed to evaluate the status of the groundwater.

Based on laboratory analytical results from the initial groundwater monitoring event (October 5, 2006), four (4) additional monitor wells (MW-4 through MW-7) were installed in November 2006.

During installation of the groundwater monitor wells (MW-1 through MW-7), there was no visual evidence of PSH in any of the collected soil samples. Laboratory analytical results of selected soil samples did not indicate benzene, toluene, ethylbenzene, and total xylenes (BTEX) or total petroleum hydrocarbon (TPH) concentrations above the appropriate laboratory method detection limit (MDL), with the exception of soil samples collected from monitor well MW-3, which exhibited a TPH concentration of 2,080 mg/Kg and 121 mg/Kg, at fifty-five feet (55') and seventy-five feet (75') bgs, respectively.

Laboratory analytical results of groundwater monitoring at monitor well MW-7 indicated additional monitor wells were required to fully delineate the down-gradient boundary of the dissolved-phase plume. On February 7, 2007, monitor well MW-8 was installed down-gradient of monitor well MW-7. Laboratory analytical results of soil samples collected during the installation of monitor well MW-8 indicated benzene and BTEX concentrations were both less than the appropriate laboratory MDL and less than the NMOCD regulatory standard of 10 mg/Kg and 50 mg/Kg for benzene and BTEX, respectively. Laboratory analytical results indicated TPH concentrations were both less than the laboratory MDL and less than the NMOCD regulatory standard of 100 mg/Kg for soil samples collected at ten feet (10') and twenty-five feet (25') bgs. Soil samples collected at fifty feet (50') and seventy-five feet (75') bgs exhibited a TPH concentration of 14 mg/Kg (below NMOCD standards) and 101 mg/Kg, respectively.

On August 13, 2007, monitor well MW-9 was installed to further delineate the down-gradient boundary of the dissolved-phase plume. Laboratory analytical results of soil samples collected during the installation of monitor well MW-9 indicated benzene, BTEX, and TPH concentrations were both less than the appropriate laboratory MDL and less than NMOCD regulatory standards in the five (5) submitted soil samples.

On October 28, 2009, monitor well MW-10 was installed to further delineate the down-gradient boundary of the dissolved-phase plume. Laboratory analytical results of soil samples collected during the installation of monitor well MW-10 indicated benzene, BTEX, and TPH concentrations were less than NMOCD regulatory standards in the seven (7) submitted soil samples.

Currently, there are ten (10) groundwater monitoring wells on-site: MW-1 which is up-gradient of the release site; MW-4 and MW-5, which are cross-gradient; and MW-2, MW-3, and MW-6 through MW-10, which are down-gradient of the release site.

3.0 FIELD ACTIVITIES

3.1 Groundwater Recovery Efforts

Basin Environmental began manual recovery of hydrocarbon-impacted groundwater from monitor well MW-9 in November 2009 to control the down-gradient migration of the dissolved-phase plume. Recovery from monitor well MW-10 commenced in April 2011 at the behest of the NMOCD. Based on the reduction in dissolved-phase plume concentrations at the site, in the *July – September 2013 Quarterly Monitoring Report* (dated October 2013), Plains requested permission from the NMOCD to cease groundwater recovery activities. On November 4, 2013, the request

was granted by a representative of the NMOCD's Santa Fe District Office, and weekly recovery from MW-9 and MW-10 ceased on November 8, 2013.

On May 15, 2013, an Oxygen Release Compound (ORC®) filter sock was installed in monitor well MW-3 to facilitate enhanced aerobic biodegradation of the dissolved-phase plume.

3.2 Groundwater Monitoring

The on-site monitor wells were gauged and sampled on February 22 (1Q2013), May 23 (2Q2013), August 21 (3Q2013), and November 8, 2013 (4Q2013). During these quarterly monitoring events, the monitoring wells were purged of a minimum of three (3) well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos pump. Groundwater was allowed to recharge, and samples were obtained using disposable Teflon bailers. Water samples were stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a trailer-mounted polystyrene tank and disposed of at an NMOCD-approved disposal facility near Lovington, New Mexico.

Per NMOCD request, monthly monitoring events were conducted at monitor wells MW-9 and MW-10, as well as five (5) locations (Goff Dairy Well, Goff Dairy - Ctr. Pivot Well, Goff Dairy - Ctr. Pivot Beginning, Goff Dairy - Ctr. Pivot End, and JW Well) on property adjacent to the release site (Goff Dairy #9 Pivot) on January 31, February 28, March 27, April 9, May 23, June 25, July 16, August 21, September 19, October 23, and November 8, 2013.

Diminished well volume and recharge in monitor well MW-2 attributable to the use of a large-capacity irrigation well (Goff Dairy Well) on the adjacent Goff Dairy #9 Pivot precluded sample collection from the monitor well during the 2Q2013, 3Q2013, and 4Q2013 quarterly monitoring events. Similarly, diminished well volume and recharge precluded sample collection from monitor wells MW-4 and MW-6 in 3Q2013 and from monitor well MW-10 during the August and September 2013 monthly monitoring events.

Prior to the January, May, July, August, and November 2013 monthly monitoring events, the Goff Dairy Well and/or Ctr. Pivot Well were valved off to facilitate harvesting activities in the Goff Dairy #9 Pivot.

Access restrictions precluded sample collection from the JW Well by Basin Environmental on January 30, 2013. The well was sampled during a follow-up site visit on January 31, 2013, in which Basin Environmental was accompanied on-site by the landowner, Mr. J. Lynn Walker. Verbal permission for Basin Environmental to access the site on subsequent site visits (without prior approval from the current tenant) was granted by the landowner.

A cross-connection hazard with a chemical storage tank on the Goff Dairy Well precluded sample collection from the irrigation well during the February 2013 monthly monitoring event. A dedicated sample port was installed on the well prior to the March 2013 monthly monitoring event.

Based on the reduction in dissolved-phase plume concentrations at the site, in the *July – September 2013 Quarterly Monitoring Report* (dated October 2013), Plains requested permission from the

NMOCD to reduce the sampling frequency of monitor wells MW-1, MW-4, MW-5, and MW-8 from quarterly to semiannually. It was further requested that the sampling frequency of monitor wells MW-9 and MW-10 and the five (5) locations on the Goff Dairy #9 Pivot be reduced from monthly to quarterly. The requests were granted by a representative of the NMOCD's Santa Fe District Office on November 4, 2013.

Locations of groundwater monitoring wells and inferred groundwater gradients, which were constructed from groundwater elevation measurements collected during each of the quarterly monitoring events, are depicted in Figures 2A through 2D. The groundwater gradient map from the most recent monitoring event, 4Q2013, indicates a general gradient of approximately 0.002 feet/foot to the southeast, as measured between monitor wells MW-1 and MW-10. The corrected groundwater elevation (measured in feet above mean sea level) ranged between 3,713.88 feet in monitor well MW-7 and 3,717.27 feet in monitor well MW-4. Groundwater elevation data is provided in Table 1, "2013 Groundwater Elevation Data".

No PSH was detected in any of the on-site monitor wells during the 2013 reporting period.

4.0 LABORATORY RESULTS

Groundwater samples collected from the on-site monitor wells, the Goff Dairy irrigation wells, and the Goff Dairy Center Pivot during the monthly, quarterly, and yearly monitoring events were delivered to Xenco Laboratories in Odessa, Texas, for determination of BTEX and/or PAH constituent concentrations by EPA Methods SW846-8021b and SW846 8270C, respectively. Laboratory analytical results were compared to NMOCD and New Mexico Water Quality Control Commission (NMWQCC) regulatory limits based on the New Mexico groundwater standards found in Section 20.6.2.3103 of the New Mexico Administrative Code (NMAC). Table 2 summarizes the "Concentrations of BTEX, Fluoride & Chromium in Groundwater". Table 3 summarizes the "Concentrations of Semi-Volatile Compounds in Groundwater".

4.1 Quarterly Monitoring Data

Data collected during the quarterly groundwater monitoring events is summarized below. Groundwater contaminant concentrations for the quarterly monitoring events are depicted in Figures 3A through 3D.

- **Monitor Well MW-1:**

- Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

- **Monitor Well MW-2:**

- In 2Q2013, benzene, ethylbenzene, toluene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards.

- Diminished well volume and recharge precluded sample collection from monitor well MW-2 during the 1Q2013, 3Q2013, and 4Q2013 quarterly monitoring events.
- **Monitor Well MW-3:**
 - Benzene concentrations ranged from less than the laboratory MDL in 2Q2013 and 3Q2013 to 0.0112 mg/L in 1Q2013. Toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL in all submitted groundwater samples. Benzene concentrations exceeded the NMWQCC regulatory standard of 0.010 mg/L in 1Q2013. Toluene, ethylbenzene, and total xylene concentrations were less than NMWQCC regulatory standards in all submitted groundwater samples.
- **Monitor Well MW-4:**
 - Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
 - Diminished well volume and recharge precluded sample collection from monitor well MW-4 during the 3Q2013 quarterly monitoring event.
- **Monitor Well MW-5:**
 - Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
- **Monitor Well MW-6:**
 - Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
 - Diminished well volume and recharge precluded sample collection from monitor well MW-6 during the 3Q2013 quarterly monitoring event.
- **Monitor Well MW-7:**
 - Benzene concentrations ranged from less than the laboratory MDL in 1Q2013, 3Q2013, and 4Q2013 to 0.0087 mg/L in 2Q2013. Toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL in all submitted groundwater samples. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than NMWQCC regulatory standards in all submitted groundwater samples.

- **Monitor Well MW-8:**

- Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

- **Monitor Well MW-9:**

- Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

- **Monitor Well MW-10:**

- Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in the groundwater samples collected from nine (9) of the ten (10) on-site monitor wells during all four quarters of the reporting period. Benzene concentrations in monitor well MW-3 were both less than the laboratory MDL and less than NMWQCC regulatory standards during the last three (3) quarters of the monitoring period (i.e., following the installation of the ORC filter sock on May 15, 2013).

4.2 Monthly Monitoring Data

Data collected during the January 31, February 28, March 27, April 9, May 23, June 25, July 16, August 21, September 19, October 23, and November 8, 2013 monthly monitoring events is summarized below. Groundwater contaminant concentrations for the monthly monitoring events are depicted in Figures 3A through 3K.

- **Monitor Well MW-9:**

- Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

- **Monitor Well MW-10:**

- Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

- Diminished well volume and recharge precluded sample collection from monitor well MW-10 during the August and September monthly monitoring events.
- **Goff Dairy Well:**
 - Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
- **Goff Dairy - Ctr. Pivot Well:**
 - Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
- **Goff Dairy - Ctr. Pivot Beginning:**
 - Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
- **Goff Dairy - Ctr. Pivot End:**
 - Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
- **JW Well:**
 - Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.

ANTICIPATED ACTIONS

Quarterly monitoring and groundwater sampling of monitor wells MW-2, MW-3, MW-6, MW-7, MW-9, and MW-10 and the five (5) locations on the Goff Dairy #9 Pivot (Goff Dairy Well, Goff Dairy - Ctr. Pivot Well, Goff Dairy - Ctr. Pivot Beginning, Goff Dairy - Ctr. Pivot End, and JW Well) will continue throughout the 2014 calendar year. Semi-annual monitoring of monitor wells MW-1, MW-4, MW-5, and MW-8 will continue throughout the 2014 calendar year.

The ORC filter sock installed in monitor well MW-3 to facilitate enhanced aerobic biodegradation of the dissolved-phase plume will be inspected and replaced (if necessary) on a quarterly basis.

Quarterly monitoring reports will be submitted within thirty (30) days of the end of each calendar quarter, unless or until directed otherwise by the NMOCD. A cumulative *Annual Monitoring Report* for the 2013 reporting period will be submitted to the NMOCD by April 1, 2014.

LIMITATIONS

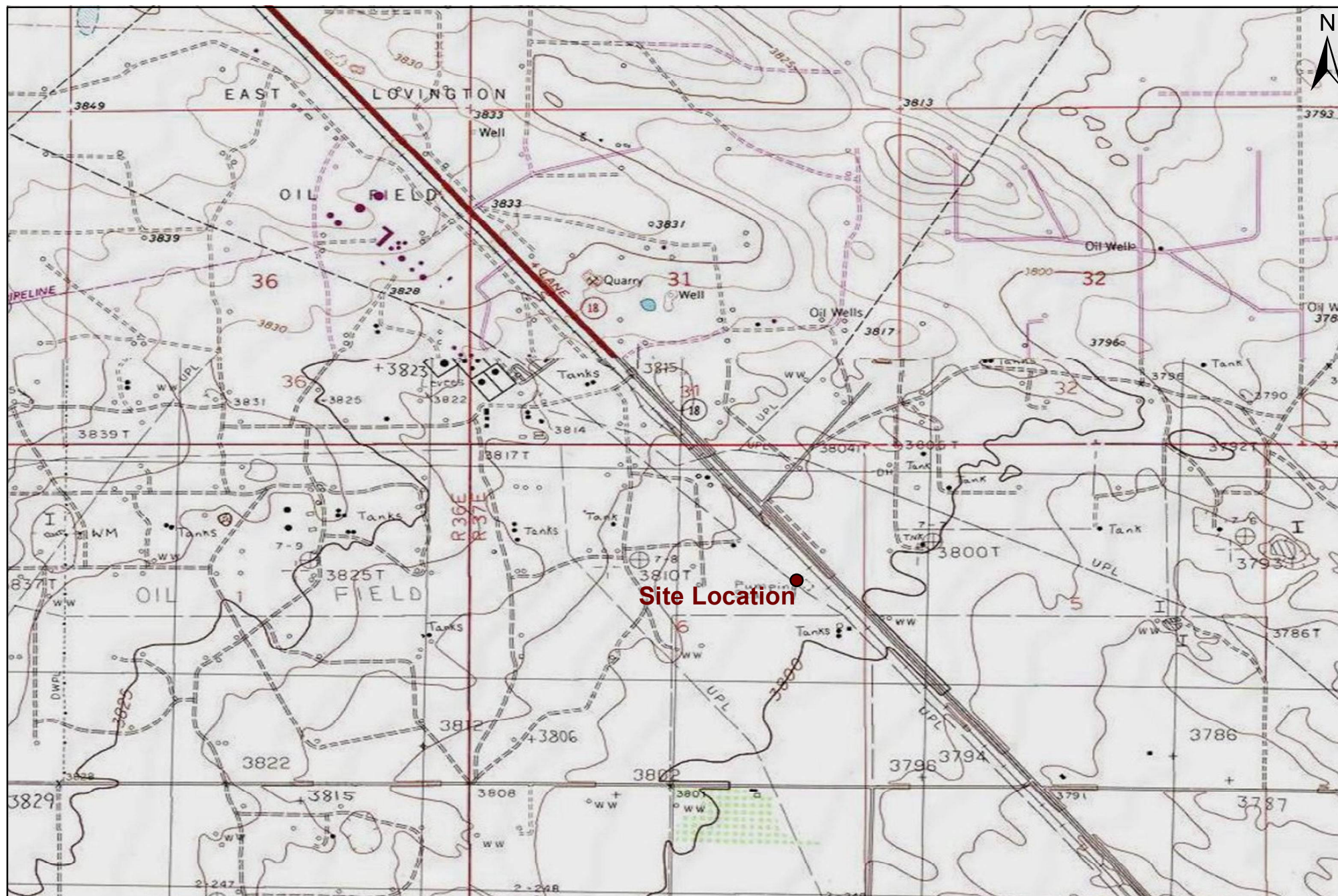
Basin Environmental Service Technologies, LLC, has prepared this *Quarterly Monitoring Report* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. Basin Environmental has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin Environmental has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Plains Marketing, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Marketing, LP.

DISTRIBUTION

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Figures



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 Distance in Feet

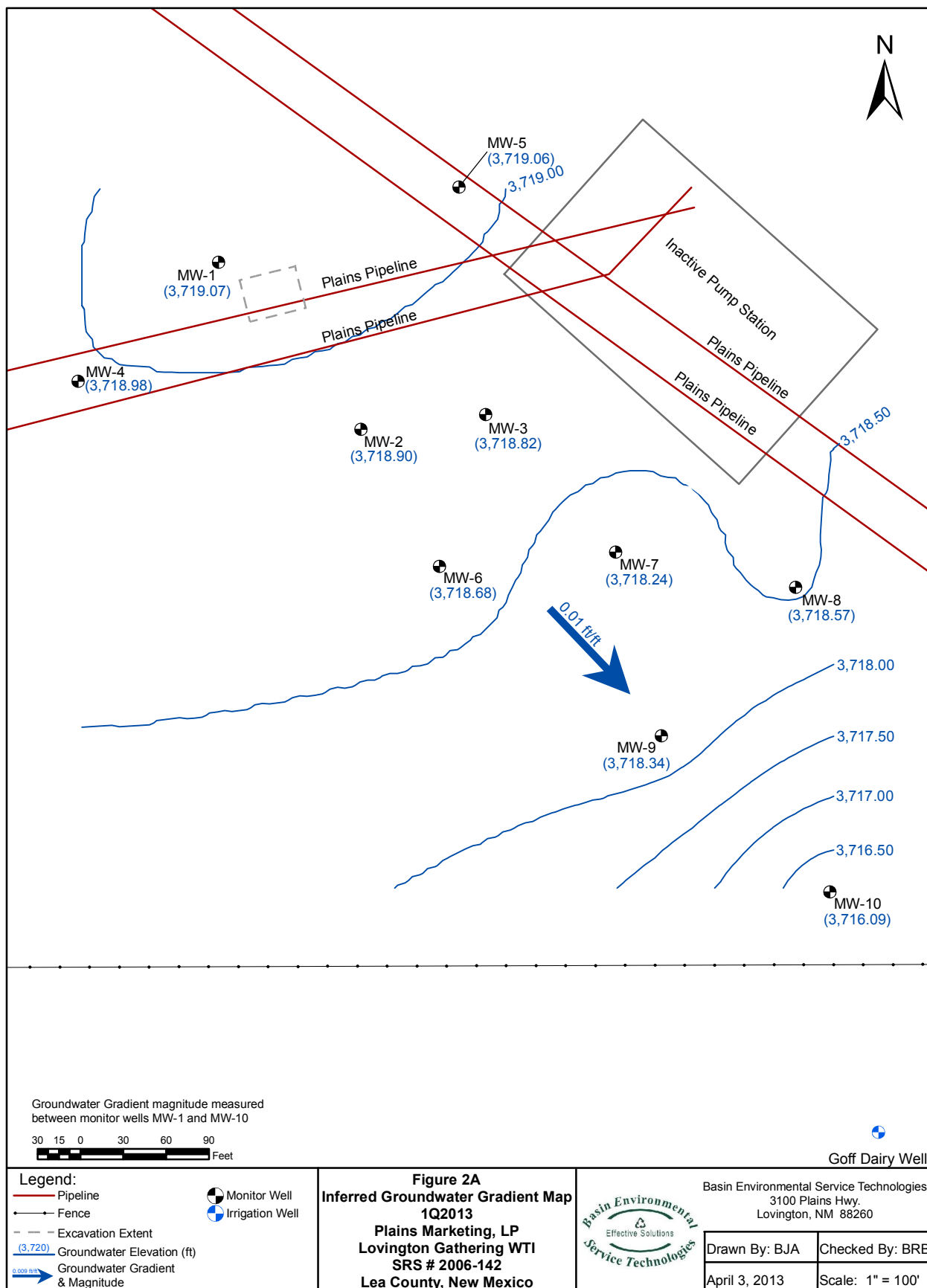
Figure 1
Site Location Map
 Plains Marketing, LP
 Lovington Gathering WTI
 Lea County, New Mexico
 Plains SRS #: 2006-142
 NMOCD Reference #: 1RP-838

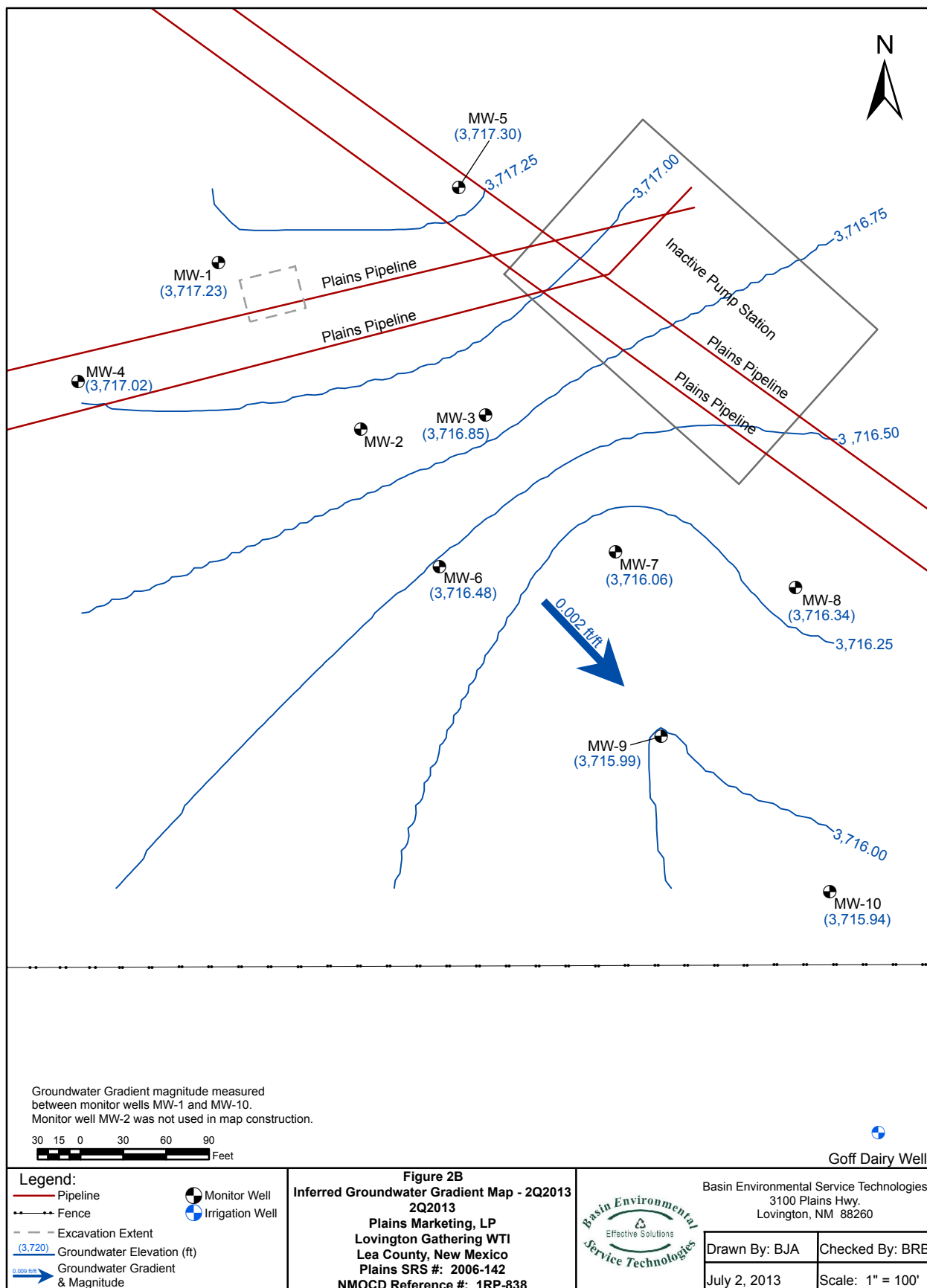


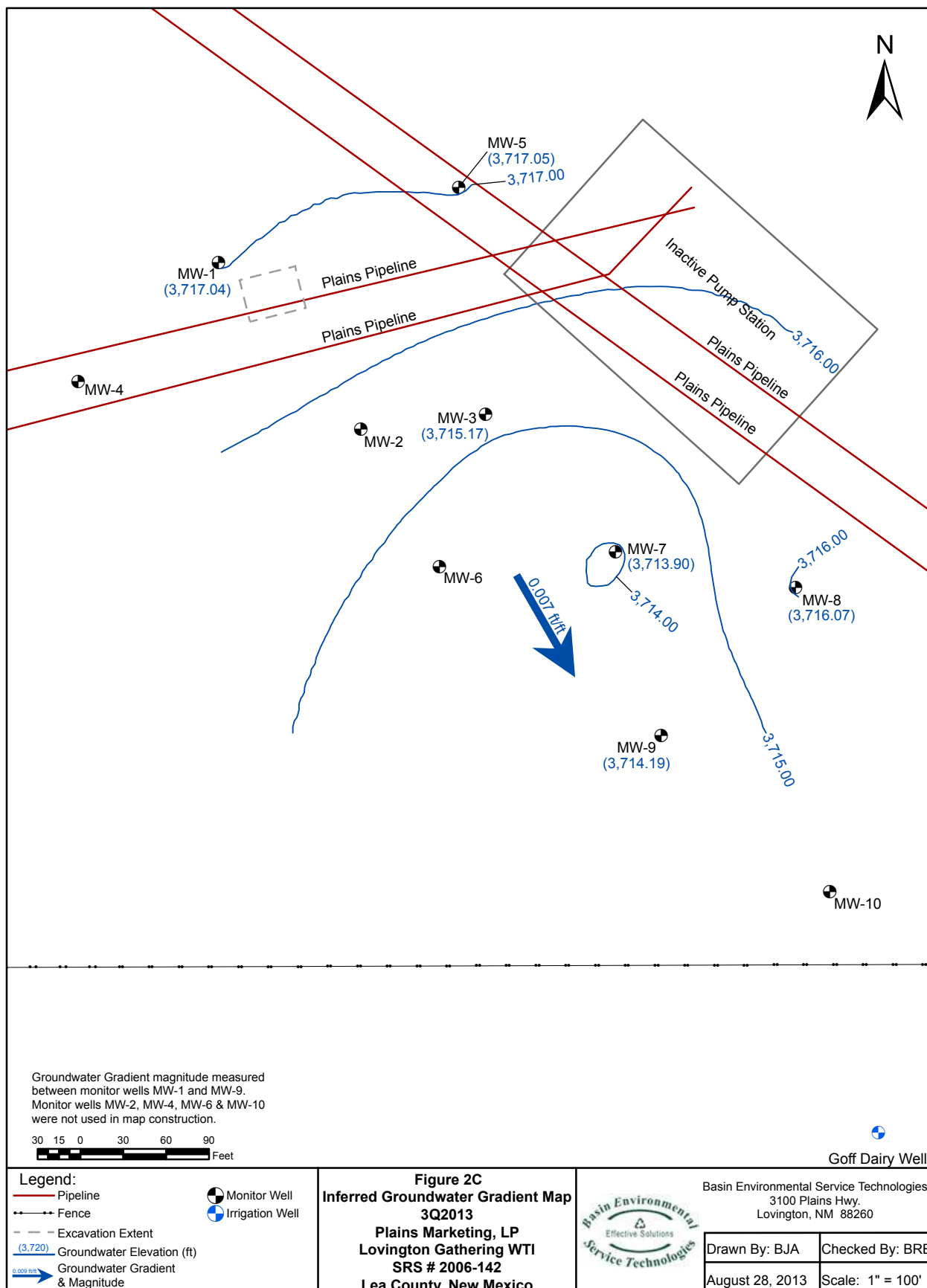
Basin Environmental Service Technologies, LLC
 3100 Plains Hwy.
 Lovington, NM 88260

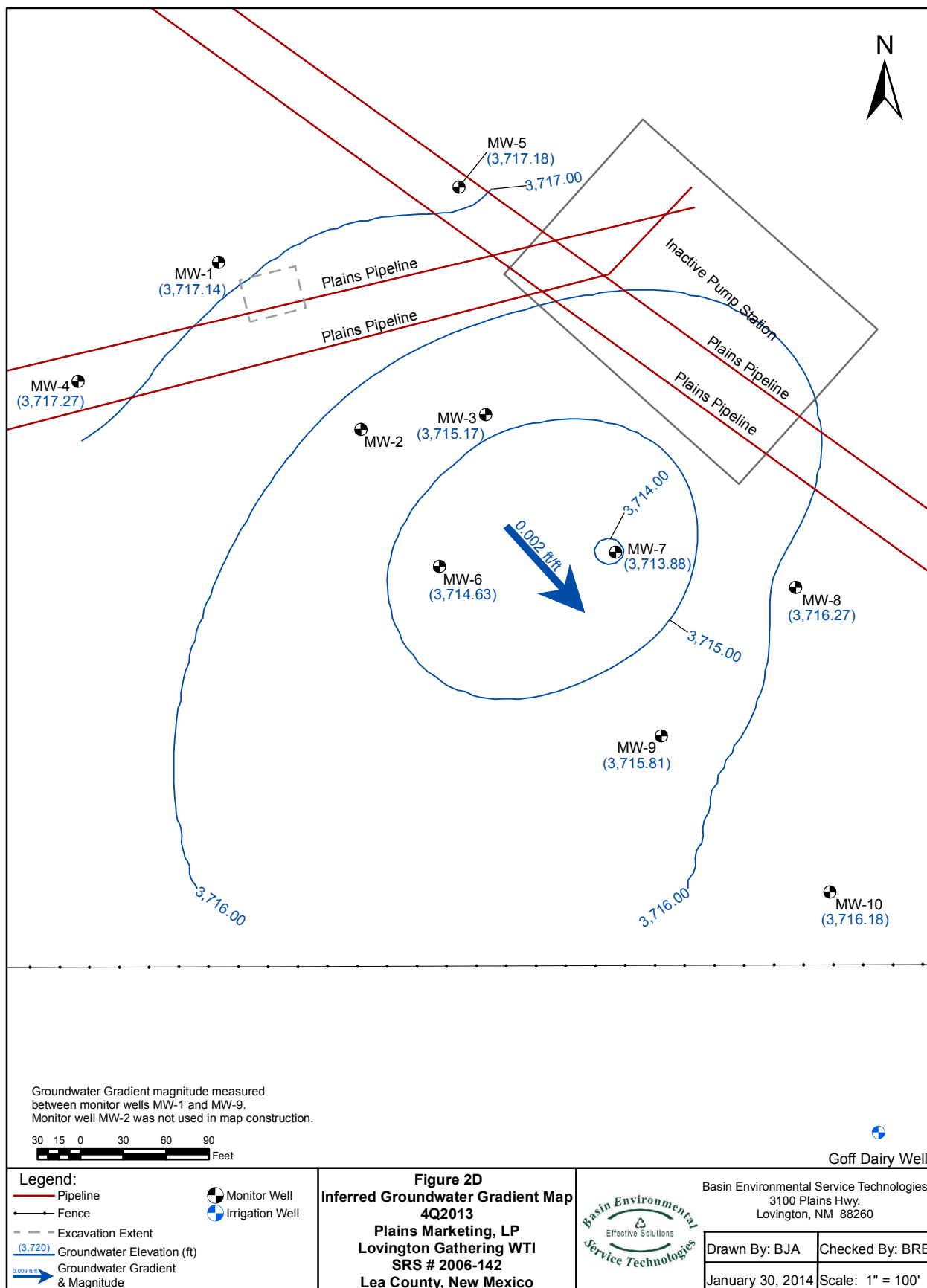
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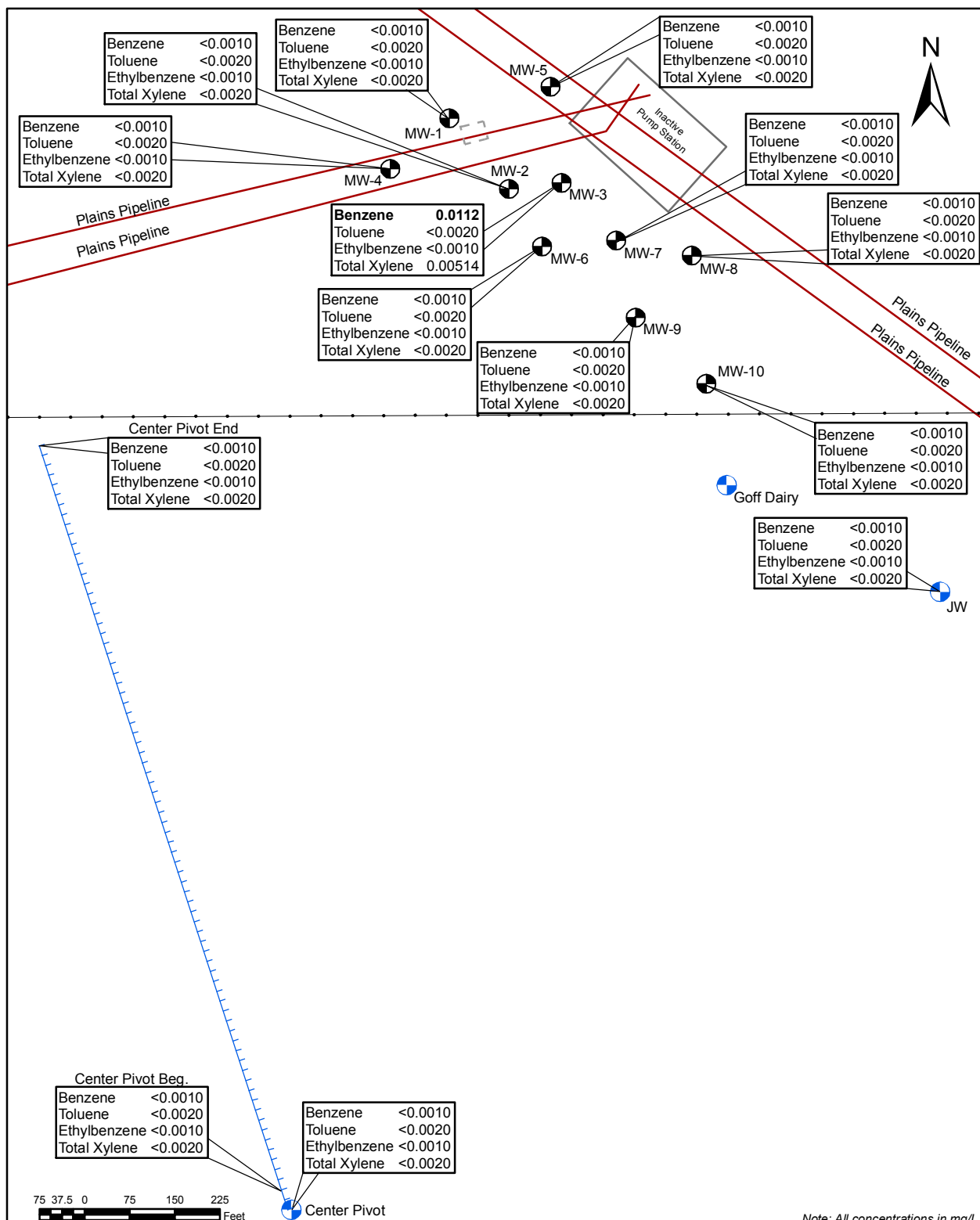
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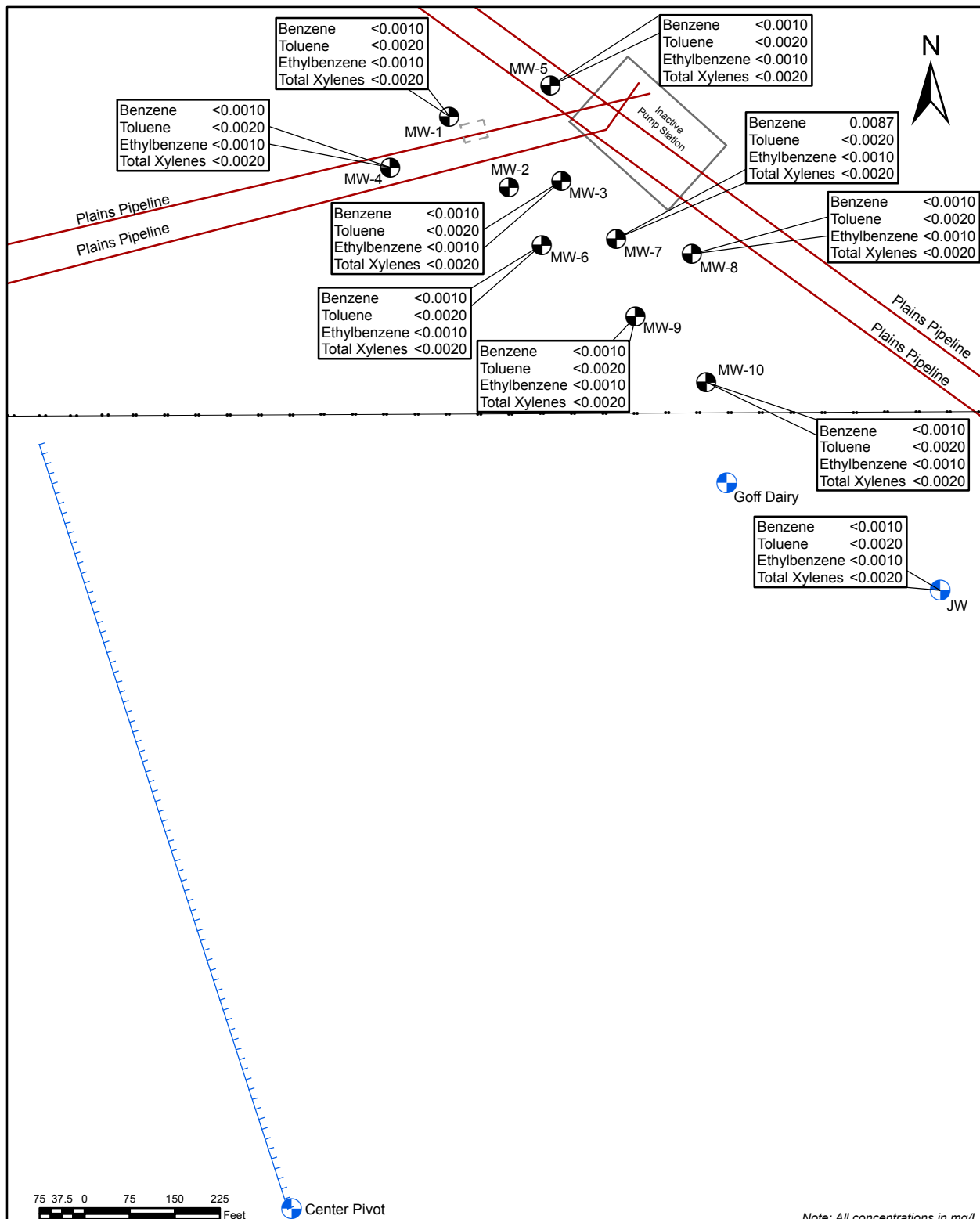
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- Fence
- Center Pivot
- Monitor Well
- Irrigation Well

Figure 3A
Groundwater Concentration Map
1Q2013
Plains Marketing, LP
Lovington Gathering WT1
SRS # 2006-142
Lea County, New Mexico



Basin Environmental Service Technologies
 3100 Plains Hwy.
 Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
April 4, 2013	Scale: 1" = 250'



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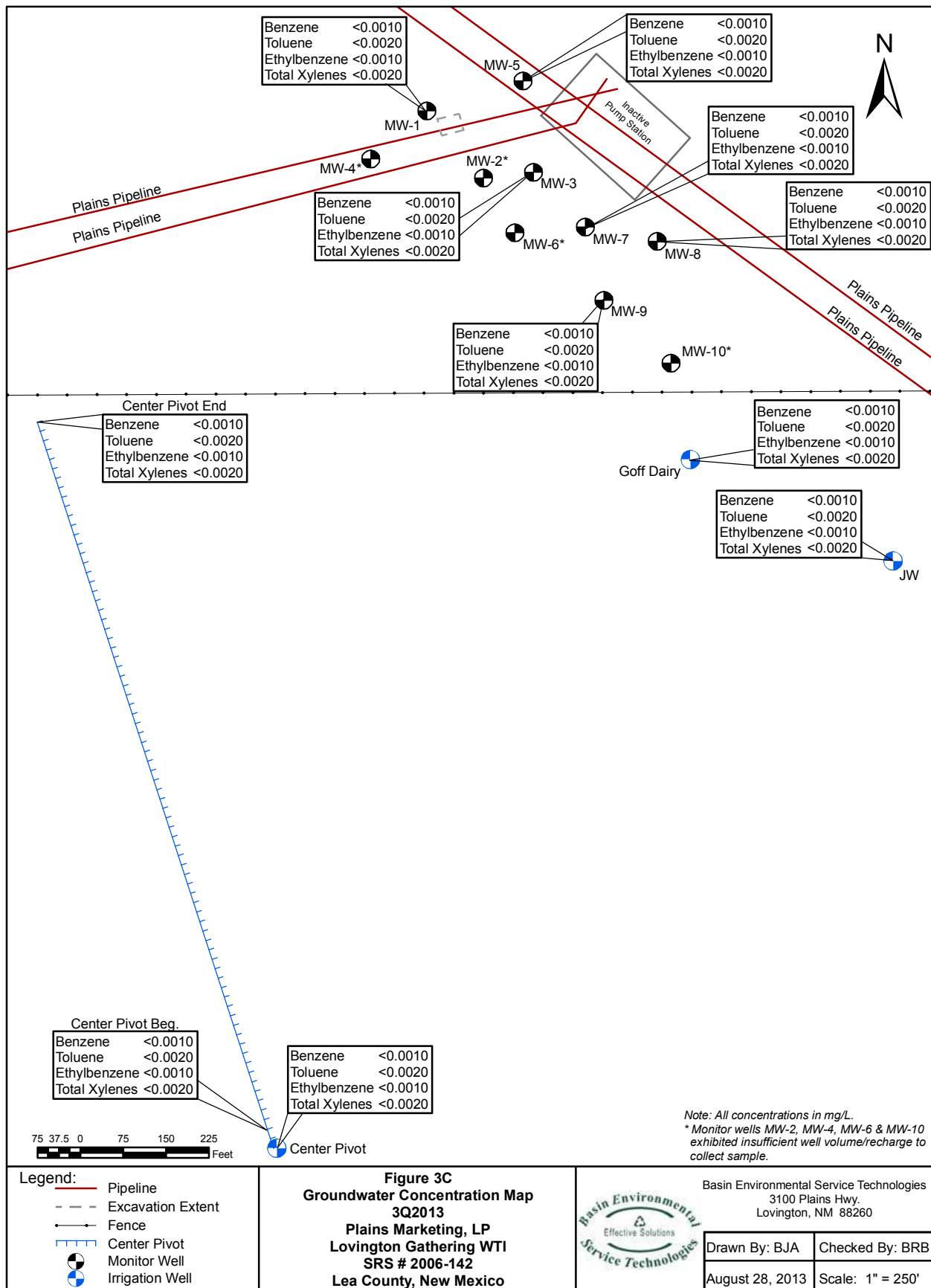
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- Monitor Well
- Irrigation Well

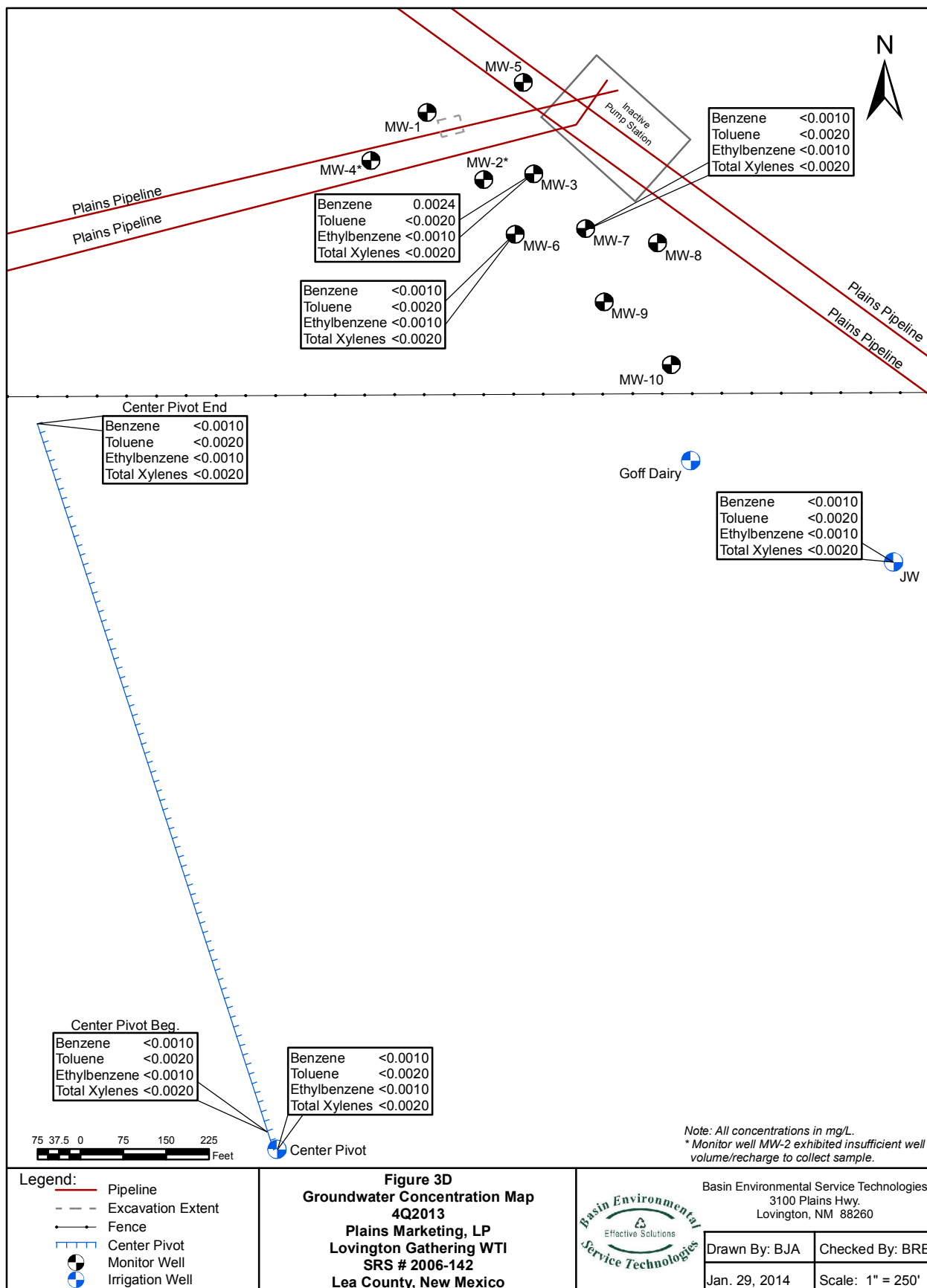
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 Plains Marketing, LP
 Lovington Gathering WT1
 Lea County, New Mexico
 Plains SRS #: 2006-142
 NMOCD Reference #: 1RP-838

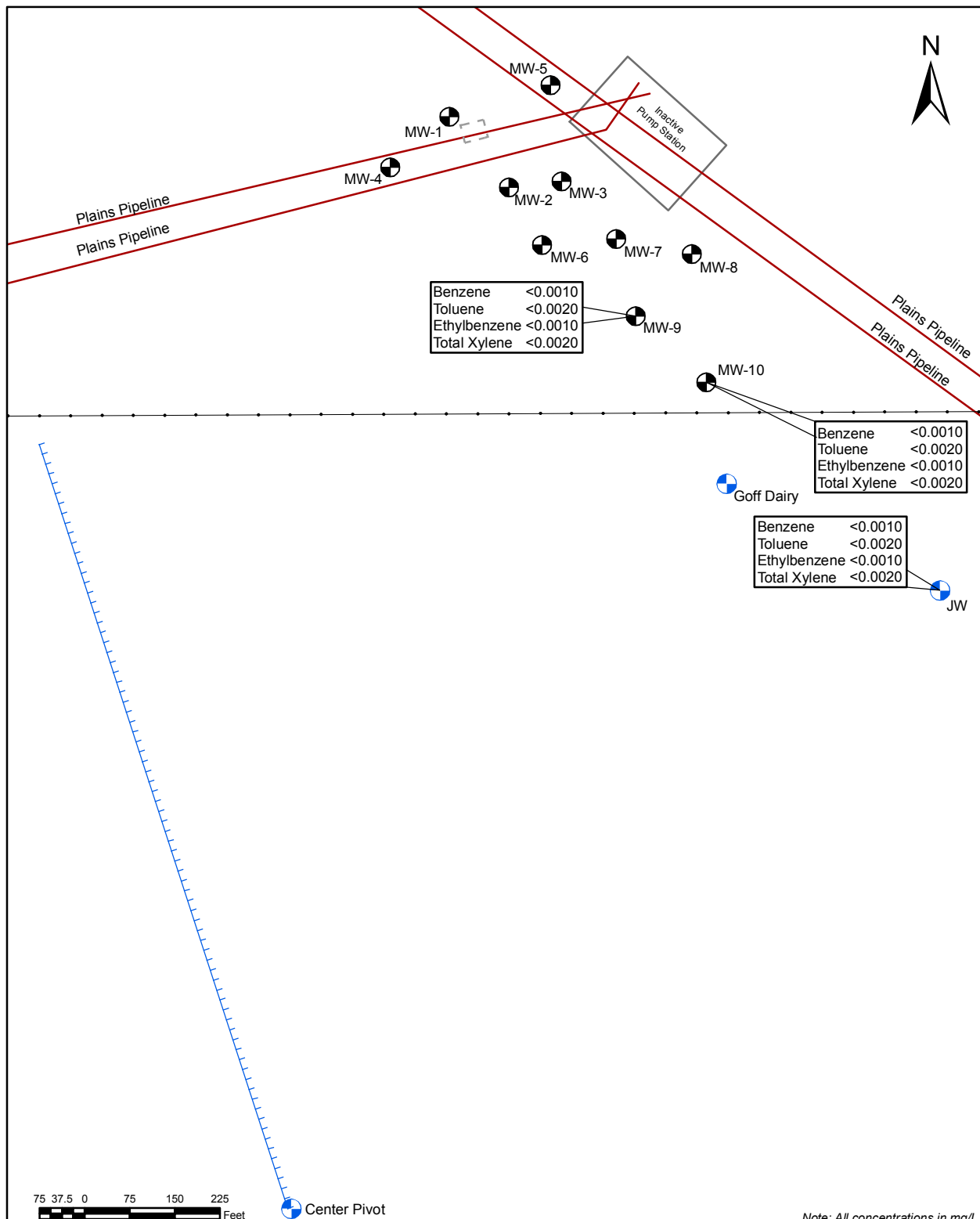


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 3100 Plains Hwy.
 Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
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Note: All concentrations in mg/L.

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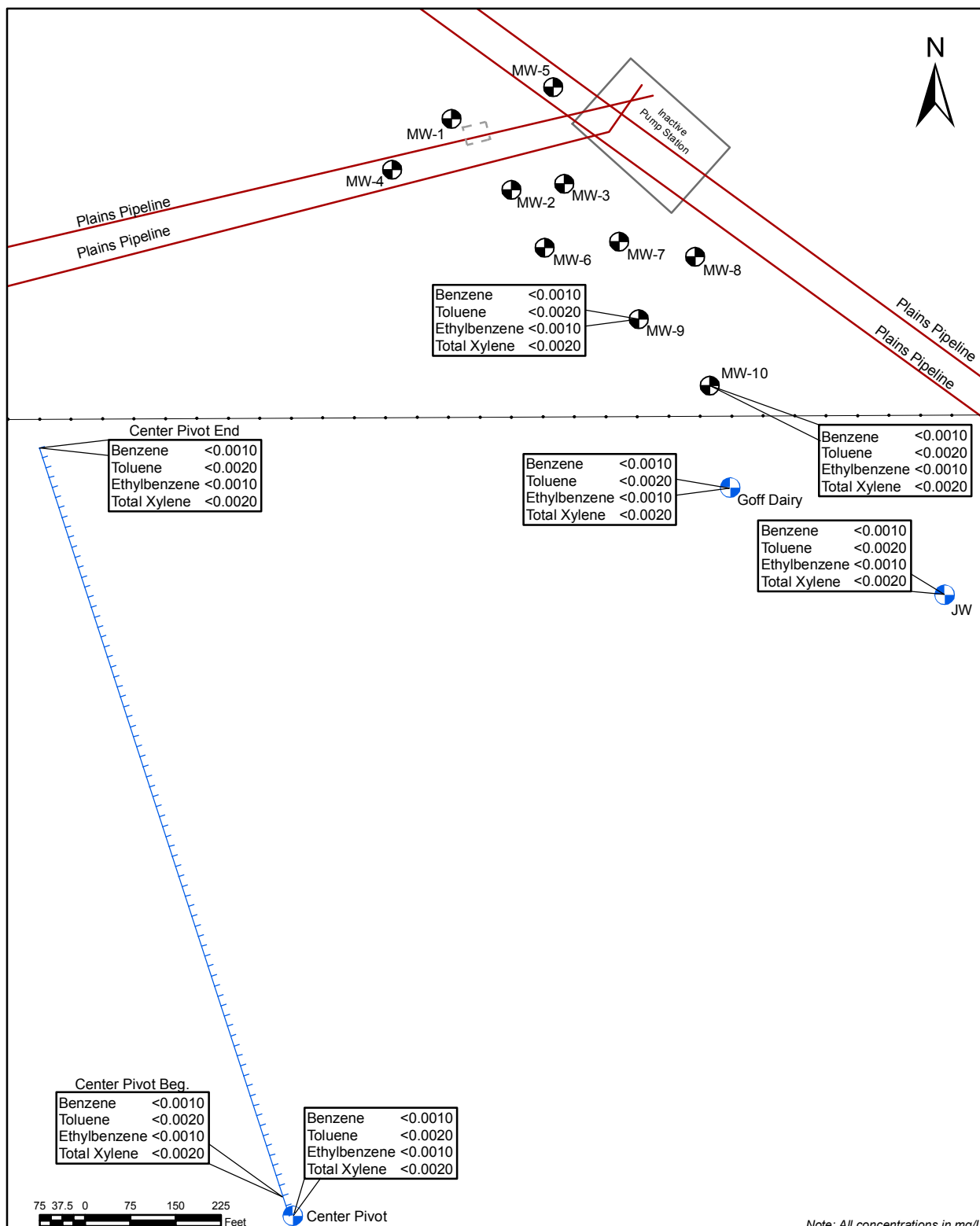
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- +— Fence
- +— Center Pivot
- Monitor Well
- Irrigation Well

Figure 3E
Groundwater Concentration Map
January 2013
Plains Marketing, LP
Lovington Gathering WT1
SRS # 2006-142
Lea County, New Mexico



Basin Environmental Service Technologies
 3100 Plains Hwy.
 Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
April 4, 2013	Scale: 1" = 250'



Legend:

- Pipeline
- - - Excavation Extent
- +— Fence
- Center Pivot
- Monitor Well
- Irrigation Well

Figure 3F
Groundwater Concentration Map
March 2013
Plains Marketing, LP
Lovington Gathering WT1
SRS # 2006-142
Lea County, New Mexico



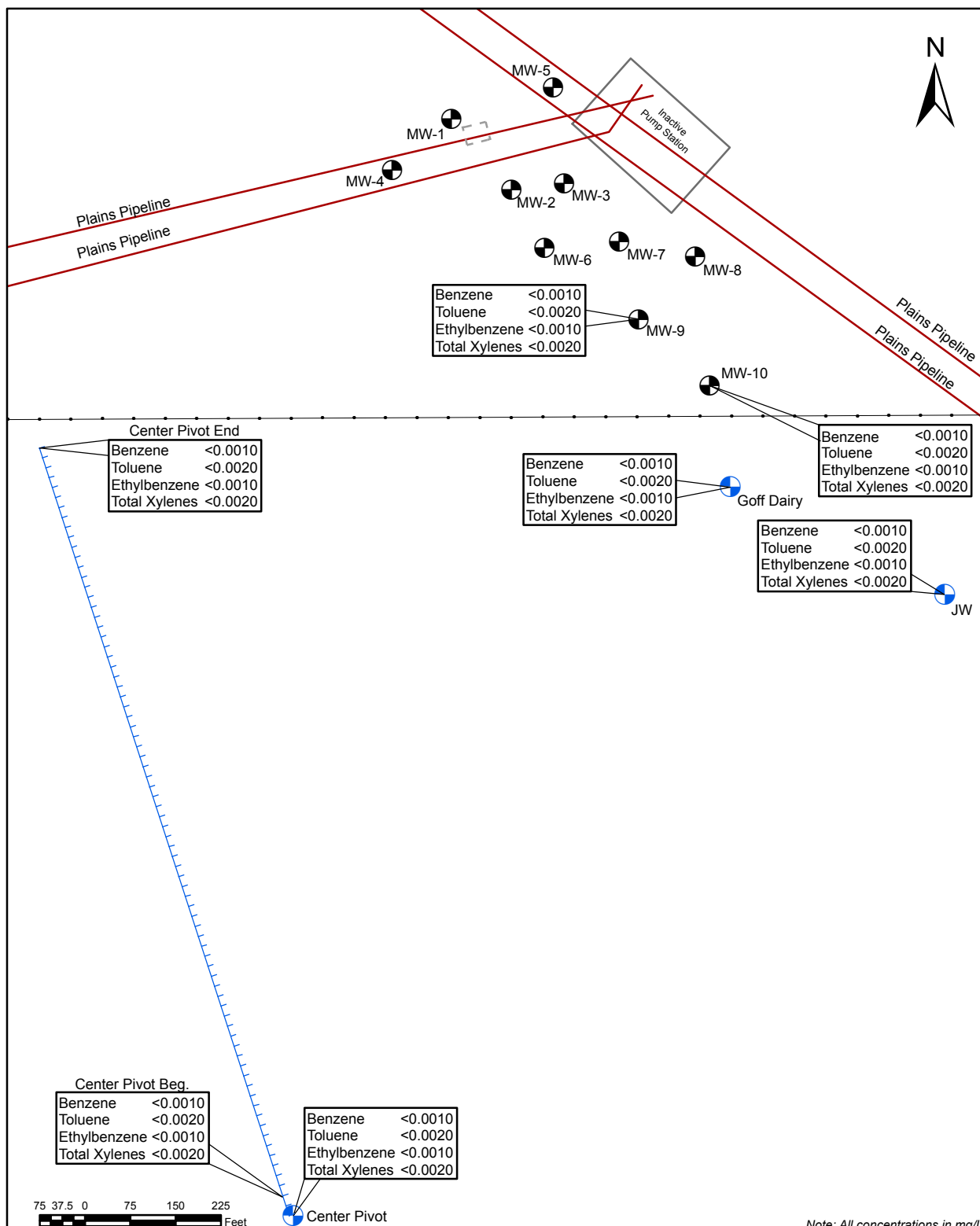
Basin Environmental Service Technologies
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 Lovington, NM 88260

Drawn By: BJA

Checked By: BRB

April 4, 2013

Scale: 1" = 250'



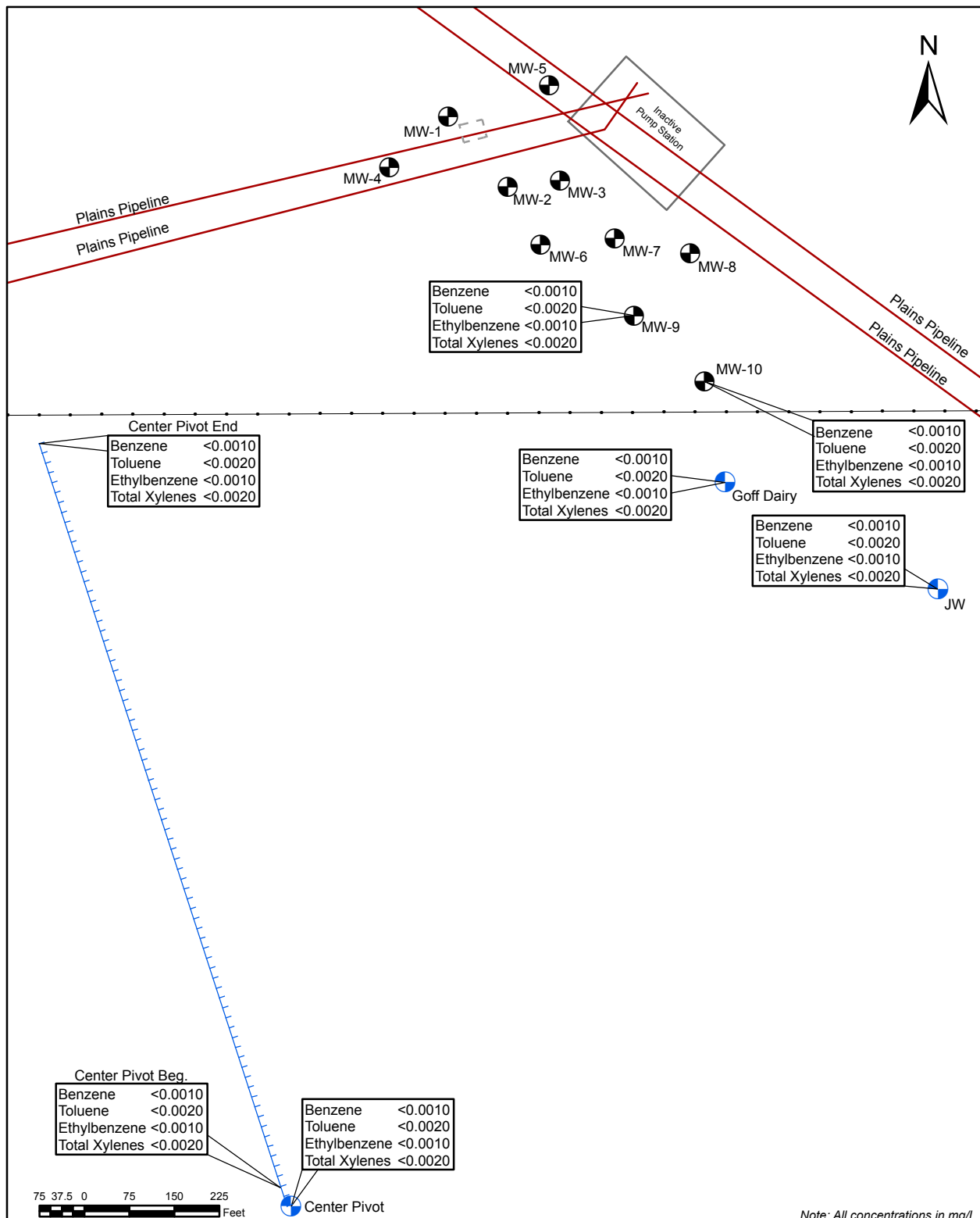
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 - Fence
 - Center Pivot
 - Monitor Well
 - Irrigation Well

Figure 3G
Groundwater Concentration Map - April 2013
 Plains Marketing, LP
 Lovington Gathering WTI
 Lea County, New Mexico
 Plains SRS #: 2006-142
 NMOCD Reference #: 1RP-838

Basin Environmental Service Technologies
Effective Solutions

Basin Environmental Service Technologies
3100 Plains Hwy.
Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
July 2, 2013	Scale: 1" = 250'



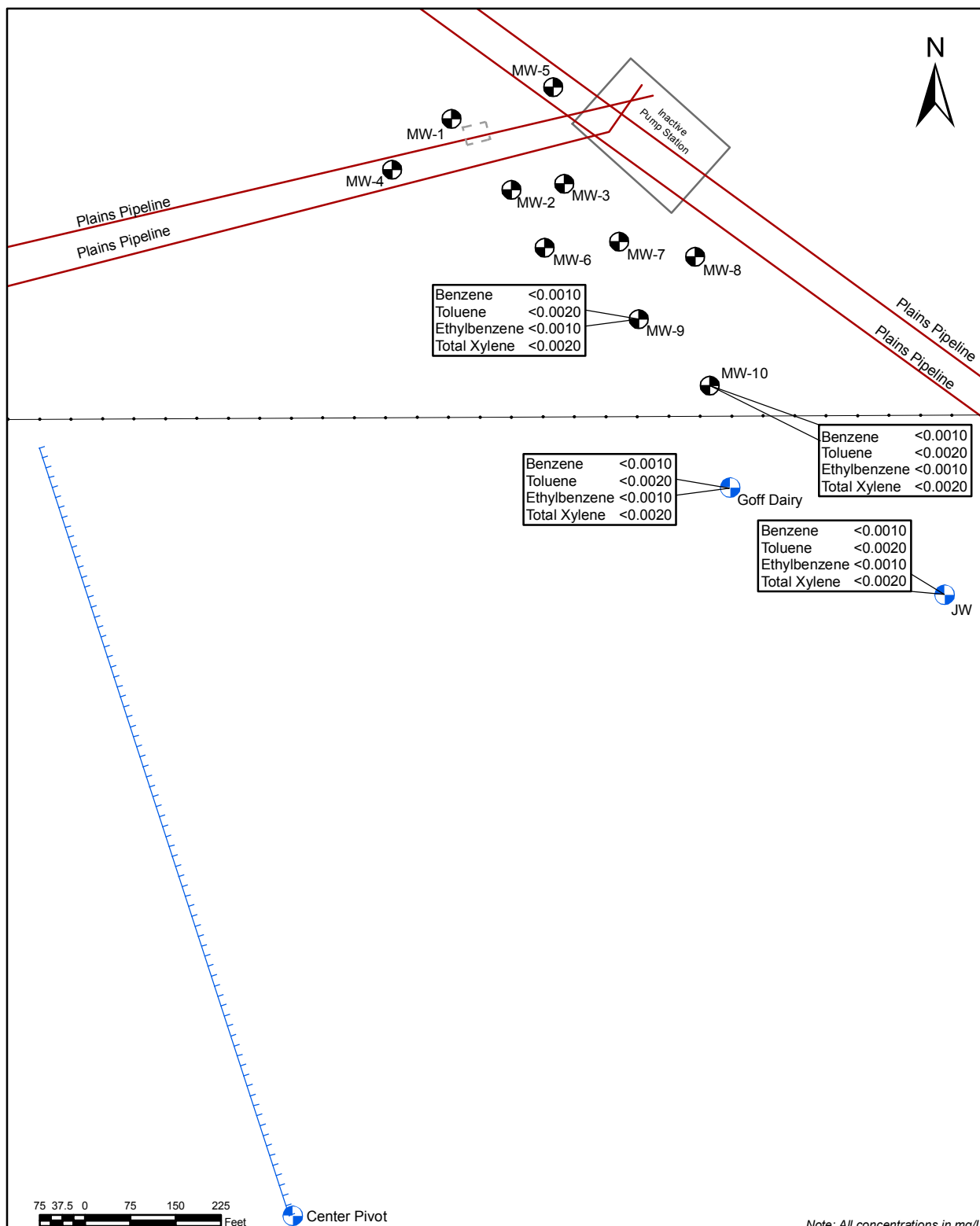
Legend:

- Pipeline
- - - Excavation Extent
- Fence
- Center Pivot
- Monitor Well
- Irrigation Well

Figure 3H
Groundwater Concentration Map - June 2013
 Plains Marketing, LP
 Lovington Gathering WTI
 Lea County, New Mexico
 Plains SRS #: 2006-142
 NMOCD Reference #: 1RP-838

Basin Environmental Service Technologies
 3100 Plains Hwy.
 Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
July 2, 2013	Scale: 1" = 250'



Note: All concentrations in mg/L.

Legend:

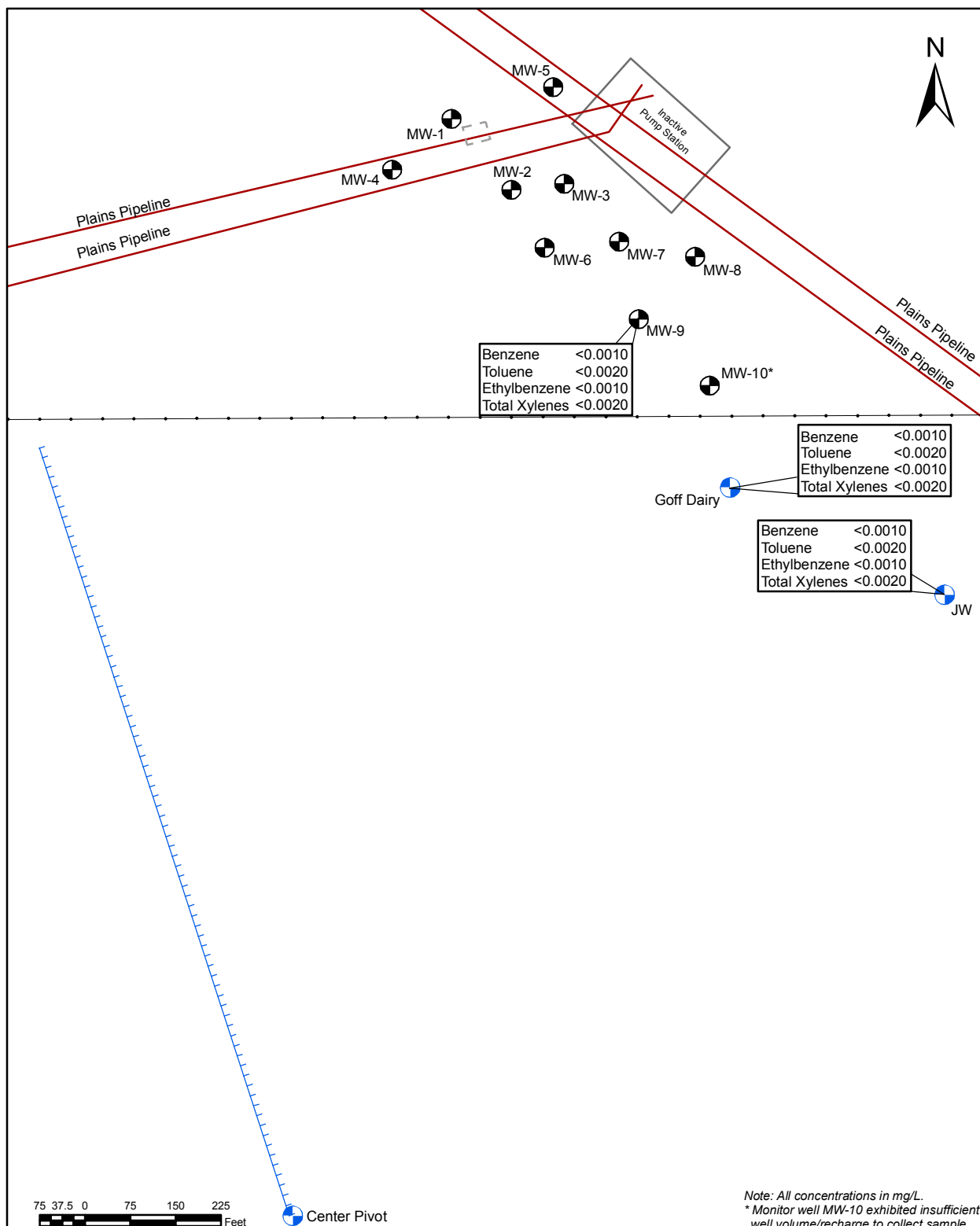
- Pipeline
- - - Excavation Extent
- +— Fence
- ⊕ Center Pivot
- ⊗ Monitor Well
- ⊕ Irrigation Well

Figure 3I
Groundwater Concentration Map
July 2013
Plains Marketing, LP
Lovington Gathering WT1
SRS # 2006-142
Lea County, New Mexico



Basin Environmental Service Technologies
 3100 Plains Hwy.
 Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
July 23, 2013	Scale: 1" = 250'



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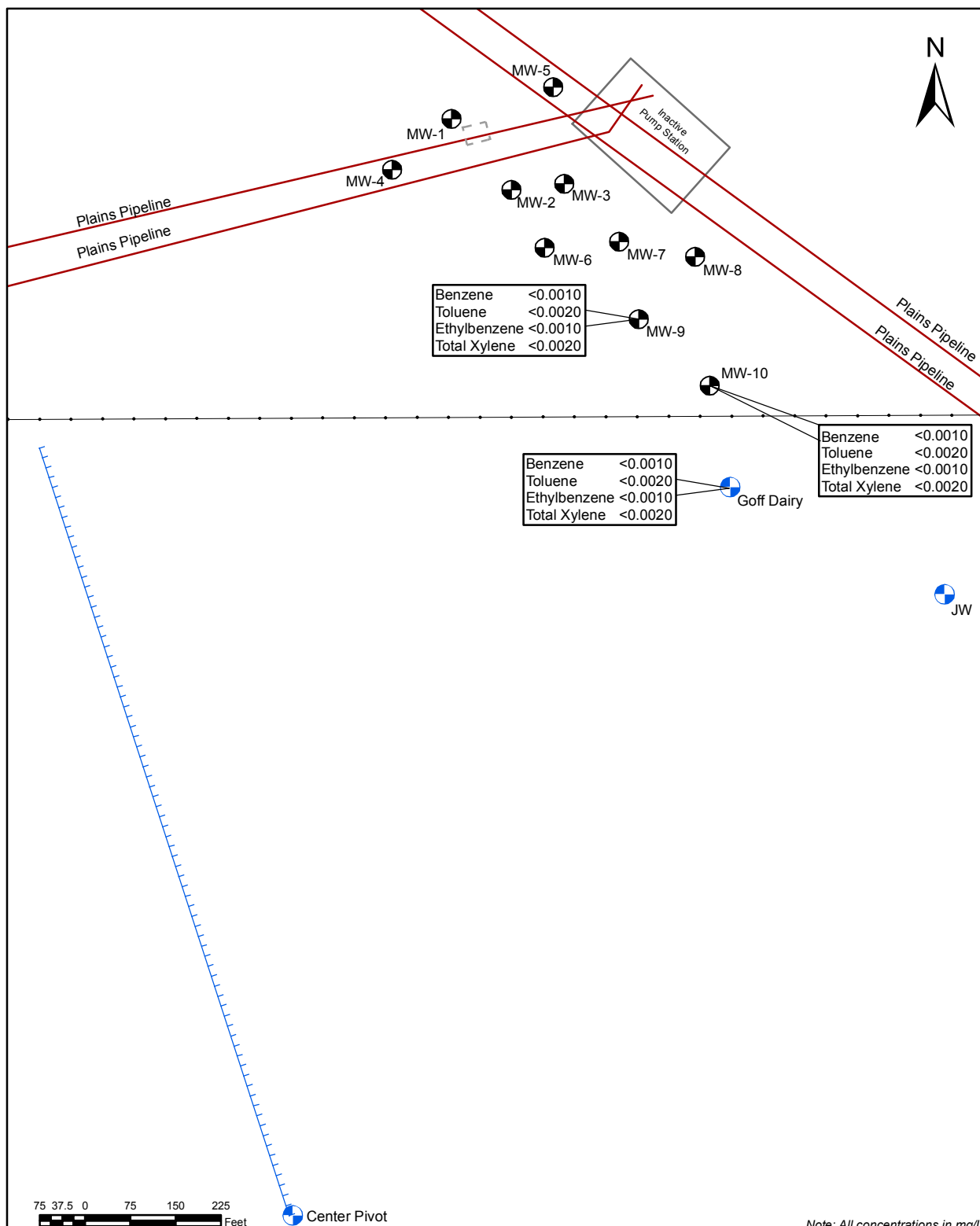
- Pipeline
- Excavation Extent
- Fence
- Center Pivot
- Monitor Well
- Irrigation Well

Figure 3J
Groundwater Concentration Map
September 2013
Plains Marketing, LP
Lovington Gathering WT1
SRS # 2006-142
Lea County, New Mexico



Basin Environmental Service Technologies
 3100 Plains Hwy.
 Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
Sept. 26, 2013	Scale: 1" = 250'



Note: All concentrations in mg/L.

Legend:

- Pipeline
- - - Excavation Extent
- +— Fence
- Center Pivot
- ⊙ Monitor Well
- ⊙ Irrigation Well

Figure 3K
Groundwater Concentration Map
October 2013
Plains Marketing, LP
Lovington Gathering WTI
SRS # 2006-142
Lea County, New Mexico



Basin Environmental Service Technologies
 3100 Plains Hwy.
 Lovington, NM 88260

Drawn By: BJA

Checked By: BRB

Nov. 11, 2013

Scale: 1" = 250'

Tables

TABLE 1
2013 GROUNDWATER ELEVATION DATA

PLAINS MARKETING, LP
LOVINGTON GATHERING WTI
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-1	02/22/13	3,806.60	-	87.53	-	3,719.07
	05/23/13	3,806.60	-	89.37	-	3,717.23
	08/21/13	3,806.60	-	89.56	-	3,717.04
	11/08/13	3,806.60	-	89.47	-	3,717.14
MW-2	02/22/13	3,806.31	-	87.41	-	3,718.90
	05/23/13	3,806.31	-	Dry	-	-
	08/21/13	3,806.31	-	Dry	-	-
	11/08/13	3,806.31	-	Dry	-	-
MW-3	02/22/13	3,806.19	-	87.37	-	3,718.82
	05/23/13	3,806.19	-	89.34	-	3,716.85
	08/21/13	3,806.19	-	91.02	-	3,715.17
	11/08/13	3,806.19	-	91.02	-	3,715.17
MW-4	02/22/13	3,806.67	-	87.69	-	3,718.98
	05/23/13	3,806.67	-	89.65	-	3,717.02
	08/21/13	3,806.67	-	Dry	-	-
	11/08/13	3,806.67	-	89.40	-	3,717.27
MW-5	02/22/13	3,806.30	-	87.24	-	3,719.06
	05/23/13	3,806.30	-	89.00	-	3,717.30
	08/21/13	3,806.30	-	89.25	-	3,717.05
	11/08/13	3,806.30	-	89.13	-	3,717.18
MW-6	02/22/13	3,806.08	-	87.40	-	3,718.68
	05/23/13	3,806.08	-	89.60	-	3,716.48
	08/21/13	3,806.08	-	Dry	-	-
	11/08/13	3,806.08	-	91.45	-	3,714.63
MW-7	02/22/13	3,806.05	-	87.81	-	3,718.24
	05/23/13	3,806.05	-	89.99	-	3,716.06
	08/21/13	3,806.05	-	92.15	-	3,713.90
	11/08/13	3,806.05	-	92.17	-	3,713.88

TABLE 1
2013 GROUNDWATER ELEVATION DATA

PLAINS MARKETING, LP
LOVINGTON GATHERING WTI
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-8	02/22/13	3,805.89	-	87.32	-	3,718.57
	05/23/13	3,805.89	-	89.55	-	3,716.34
	08/21/13	3,805.89	-	89.82	-	3,716.07
	11/08/13	3,805.89	-	89.62	-	3,716.27
MW-9	02/22/13	3,806.02	-	87.68	-	3,718.34
	05/23/13	3,806.02	-	90.03	-	3,715.99
	08/21/13	3,806.02	-	91.83	-	3,714.19
	11/08/13	3,806.02	-	90.21	-	3,715.81
MW-10	02/22/13	3,806.08	-	89.99	-	3,716.09
	05/23/13	3,806.08	-	90.14	-	3,715.94
	08/21/13	3,806.08	-	Dry	-	-
	11/08/13	3,806.08	-	89.90	-	3,716.18

Elevations based on the North American Vertical Datum of 1929.

- = Not applicable

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
LOVINGTON GATHERING WT
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-1	10/05/06	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	12/28/06	<0.0010	<0.0010	<0.0010	0.002	<0.0010	0.002	0.002	-	-
	03/16/07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	05/31/07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	09/25/07	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/30/07	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/11/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/14/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/17/08	0.020	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.020	-	-
	12/02/08	0.035	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.035	-	-
	03/03/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/01/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/04/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/25/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/30/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/11/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/22/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/27/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-2	10/05/06	0.010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.010	-	-
	12/28/06	0.161	<0.0010	<0.0010	0.024	<0.0010	0.024	0.185	-	-
	03/16/07	0.154	<0.0010	<0.0010	0.015	<0.0010	0.015	0.169	-	-
	05/31/07	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	-	-
	09/25/07	0.050	<0.0010	<0.0010	0.003	<0.0010	0.003	0.053	-	-
	11/30/07	0.928	<0.0010	<0.005	0.036	<0.005	0.036	0.964	-	-
	03/11/08	0.095	<0.0020	<0.0010	0.0032	<0.0010	0.0032	0.098	-	-
	06/14/08	0.003	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.003	-	-
	09/17/08	0.159	<0.0020	<0.0010	0.004	<0.0010	0.004	0.163	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
LOVINGTON GATHERING WT
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-2	12/02/08	0.050	0.002	<0.0010	0.007	0.001	0.008	0.060	-	-
	03/03/09	0.036	<0.0020	<0.0010	0.0026	<0.0010	0.0026	0.038	-	-
	06/18/09	0.0097	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.010	-	-
	09/01/09	0.084	<0.0020	<0.0010	0.0083	<0.0010	0.0083	0.093	-	-
	12/18/09	0.0129	<0.0020	<0.0010	0.0095	<0.0010	0.0095	0.022	-	-
	03/04/10	0.0026	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0026	-	-
	05/25/10	0.0023	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0023	-	-
	08/30/10	0.0406	<0.0020	<0.0010	0.0132	<0.0010	0.0132	0.0538	-	-
	11/11/10	0.0087	<0.0020	<0.0010	0.091	<0.0010	0.091	0.0997	-	-
	03/22/11	0.0361	<0.0020	<0.0010	0.0605	0.0011	0.0616	0.0977	-	-
	05/27/11	0.00222	<0.0020	<0.0010	0.00297	<0.0010	0.00297	0.00519	-	-
	09/30/11	0.179	<0.0020	0.00275	0.00345	0.00212	0.00557	0.187	-	-
	11/09/11	Dry								
	02/06/12	0.00187	<0.0020	<0.0010	0.00212	0.00102	0.00314	0.00501	-	-
	05/23/12	Dry								
	08/28/12	Dry								
	11/27/12	Dry								
	02/28/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	Dry								
	08/21/13	Dry								
	11/08/13	Dry								
MW-3	10/05/06	6.60	<0.0010	<0.0010	0.072	<0.0010	0.072	6.67	-	-
	12/28/06	1.02	<0.0010	0.005	0.028	<0.0010	0.028	1.05	-	-
	03/16/07	1.48	<0.0010	0.013	0.034	<0.0010	0.034	1.53	-	-
	05/31/07	1.66	0.010	0.034	0.029	0.012	0.041	1.75	-	-
	09/25/07	0.494	0.023	0.020	0.014	0.007	0.021	0.56	-	-
	11/30/07	5.93	0.027	0.273	0.141	0.074	0.215	6.45	-	-
	03/11/08	1.159	0.107	0.177	0.066	0.139	0.205	1.65	-	-
	06/14/08	0.214	0.002	0.007	0.012	0.005	0.017	0.24	-	-
	09/17/08	0.026	<0.0020	<0.0010	0.002	<0.0010	0.002	0.03	-	-
	12/02/08	0.024	<0.0020	<0.0010	0.004	0.001	0.005	0.03	-	-
	03/03/09	1.367	0.0305	0.0251	0.0173	0.0158	0.0331	1.46	-	-
	06/18/09	0.0031	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/01/09	0.0073	0.0033	<0.0010	0.0028	0.0015	0.0043	0.01	-	-
	12/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/04/10	0.0011	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0011	-	-
	05/25/10	0.0109	0.0033	<0.0010	0.0048	0.0027	0.0075	0.0217	-	-
	08/30/10	0.0092	0.0036	<0.0010	0.006	0.0033	0.0093	0.0221	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
LOVINGTON GATHERING WT
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-3	11/11/10	0.0033	<0.0020	<0.0010	0.0023	0.0013	0.0036	0.0069	-	-
	03/22/11	0.00904	0.00283	<0.0010	0.00815	0.00375	0.0119	0.0238	-	-
	05/27/11	0.0205	<0.0020	<0.0010	0.00308	0.00116	0.00424	0.0247	-	-
	08/24/11	0.0262	0.00333	<0.0010	0.00827	0.00312	0.0114	0.0409	-	-
	11/09/11	0.00211	<0.0020	<0.0010	0.00231	0.00114	0.00345	0.00556	-	-
	02/06/12	0.0214	0.00306	0.00126	0.00751	0.00345	0.0110	0.0367	-	-
	05/23/12	0.00929	0.00201	<0.0010	0.00584	0.00261	0.00845	0.0198	-	-
	08/28/12	0.00747	<0.0020	<0.0010	<0.0020	0.00136	0.00136	0.00883	-	-
	11/27/12	0.0120	0.00284	0.00109	0.00710	0.00252	0.00962	0.0256	-	-
	02/22/13	0.0112	<0.0020	<0.0010	0.00302	0.00212	0.00514	0.0163	-	-
	05/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/08/13	0.00241	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00241	-	-
MW-4	12/28/06	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	03/16/07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	05/30/07	<0.0010	0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.001	-	-
	09/25/07	<0.0010	0.001	<0.0010	<0.0020	<0.0010	<0.0020	0.001	-	-
	11/30/07	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/11/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/14/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/17/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/02/08	<0.0010	0.006	<0.0010	<0.0020	<0.0010	<0.0020	0.006	-	-
	03/03/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/01/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/04/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/25/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/30/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/11/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/22/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/27/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	4.76	<0.0050
	08/24/11	0.00119	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00119	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
LOVINGTON GATHERING WT
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-4	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	Dry								
MW-5	12/28/06	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	03/16/07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	05/30/07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	09/25/07	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/30/07	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/11/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/14/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/17/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/02/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/03/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/01/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/04/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/25/10	0.0014	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0014	-	-
	08/30/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/11/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/22/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/27/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-6	12/28/06	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	03/16/07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	05/30/07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	09/25/07	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/30/07	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/11/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
 LOVINGTON GATHERING WT
 LEA COUNTY, NEW MEXICO
 PLAINS SRS #: 2006-142
 NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-6	06/14/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/17/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/02/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/03/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/18/09	0.0044	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0044	-	-
	09/01/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/18/09	0.013	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0130	-	-
	03/04/10	0.0063	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0063	-	-
	05/25/10	0.0059	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0059	-	-
	08/30/10	0.0053	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0053	-	-
	11/11/10	0.0082	<0.0020	<0.0010	0.0035	<0.0010	0.0035	0.0117	-	-
	03/22/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/27/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/24/11	0.105	<0.0020	<0.0010	0.0597	0.00309	0.0628	0.168	-	-
	11/09/11	0.00356	<0.0020	<0.0010	0.0388	<0.0010	0.0388	0.0424	-	-
	02/06/12	0.0129	<0.0020	0.00106	0.133	<0.0010	0.133	0.147	-	-
	05/23/12	0.00768	<0.0010	<0.0010	0.157	<0.0010	0.157	0.165	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	0.0026	<0.0010	0.0026	0.0026	-	-
	11/27/12	0.00121	<0.0020	<0.0010	0.0414	<0.0010	0.0414	0.0426	-	-
	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	Dry								
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-7	12/28/06	0.047	<0.0010	<0.0010	0.001	<0.0010	0.001	0.0480	-	-
	03/16/07	0.047	<0.0010	<0.0010	0.015	<0.0010	0.015	0.0620	-	-
	05/31/07	0.039	<0.0010	<0.0010	0.005	<0.0010	0.005	0.0440	-	-
	09/25/07	0.037	<0.0010	<0.0010	0.030	<0.0010	0.03	0.0670	-	-
	11/30/07	0.026	<0.0020	<0.0010	0.022	<0.0010	0.022	0.0480	-	-
	03/11/08	0.095	<0.0020	<0.0010	0.0032	<0.0010	0.0032	0.0982	-	-
	06/14/08	0.138	<0.0020	<0.0010	0.016	<0.0010	0.016	0.1540	-	-
	09/17/08	0.353	<0.0020	<0.0010	0.003	<0.0010	0.003	0.3560	-	-
	12/02/08	0.036	<0.0020	<0.0010	0.003	0.002	0.005	0.0410	-	-
	03/03/09	0.0775	<0.0020	<0.0010	0.0327	<0.0010	0.0327	0.1102	-	-
	06/18/09	0.057	<0.0020	<0.0010	0.0329	<0.0010	0.0329	0.0899	-	-
	09/01/09	0.012	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0120	-	-
	12/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/04/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/25/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
LOVINGTON GATHERING WT
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-7	08/30/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/11/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/22/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/27/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/24/11	0.00192	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00192	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	0.0087	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0087	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-8	03/16/07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	05/31/07	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	09/25/07	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/30/07	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/11/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/14/08	0.008	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.008	-	-
	09/17/08	0.568	<0.0100	<0.005	<0.0100	<0.005	<0.0100	0.568	-	-
	12/02/08	0.234	0.046	0.008	0.041	0.013	0.054	0.342	-	-
	03/03/09	0.0284	<0.0020	<0.0010	0.0068	<0.0010	0.0068	0.0352	-	-
	06/18/09	0.0045	<0.0020	0.0016	0.0032	<0.0010	0.0032	0.0093	-	-
	09/01/09	0.0013	<0.0020	0.0011	0.0141	<0.0010	0.0141	0.0165	-	-
	12/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/04/10	<0.0010	<0.0020	0.0011	<0.0020	<0.0010	<0.0020	0.0011	-	-
	05/25/10	0.0012	<0.0020	0.001	<0.0020	<0.0010	<0.0020	0.0022	-	-
	08/30/10	<0.0010	<0.0020	0.0014	<0.0020	<0.0010	<0.0020	0.0014	-	-
	11/11/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/22/11	<0.0010	<0.0020	<0.0010	<0.0020	0.00154	0.00154	0.00154	-	-
	05/27/11	<0.0010	<0.0020	<0.0010	<0.0020	0.00260	0.00260	0.00260	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
LOVINGTON GATHERING WT
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-8	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-9	09/25/07	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/30/07	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/11/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/14/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/17/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/02/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/03/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/01/09	0.9717	0.0641	<0.0100	0.0867	0.0422	0.1289	1.1647	-	-
	09/10/09	1.838	<0.0200	<0.0100	0.0537	<0.0100	0.0537	1.8917	-	-
	10/05/09	0.985	<0.0020	<0.0010	0.0442	<0.0010	0.0442	1.0292	-	-
	12/18/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/04/10	0.0192	<0.0020	<0.0010	0.0027	<0.0010	0.0027	0.0219	-	-
	05/25/10	0.0421	<0.0020	<0.0010	0.0063	<0.0010	0.0063	0.0484	-	-
	08/30/10	0.1259	<0.0020	<0.0010	0.0344	<0.0010	0.0344	0.1603	-	-
	11/11/10	0.0265	<0.0020	<0.0010	0.0097	<0.0010	0.0097	0.0362	-	-
	03/22/11	0.00335	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00335	-	-
	05/27/11	0.00406	<0.0020	<0.0010	0.00326	<0.0010	0.00326	0.00732	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	0.00237	<0.0010	0.00237	0.00237	-	-
	11/09/11	0.00179	<0.0020	<0.0010	0.00349	<0.0010	0.00349	0.00528	-	-
	12/14/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	01/05/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/01/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/19/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/30/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/19/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	01/30/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
LOVINGTON GATHERING WT
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-9	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/29/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/16/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/19/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-10	11/02/09	<0.005	<0.005	<0.005	<0.010	<0.005	<0.010	<0.010	-	-
	03/04/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/25/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/30/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/11/10	0.0350	<0.0020	<0.0010	0.0035	<0.0010	0.0035	0.0385	-	-
	03/22/11	0.0568	<0.0020	<0.0010	0.00333	<0.0010	0.00333	0.0601	-	-
	05/27/11	1.52	<0.0020	0.00107	0.0113	<0.0010	0.0113	1.53	-	-
	07/11/11	3.00	0.00265	0.00365	0.0248	0.00232	0.0271	3.03	-	-
	08/24/11	0.654	<0.0020	0.00158	0.0177	0.00262	0.0203	0.676	-	-
	10/10/11	0.183	<0.0020	<0.0010	0.121	<0.0010	0.121	0.304	-	-
	10/31/11	0.053	<0.0020	0.0014	0.0944	0.00222	0.0966	0.151	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/14/11	0.00846	0.00226	<0.0010	0.0261	<0.0010	0.0261	0.0368	-	-
	01/05/12	0.00432	<0.0020	<0.0010	0.0126	<0.0010	0.0126	0.0169	-	-
	02/06/12	0.00233	<0.0020	<0.0010	0.00644	<0.0010	0.00644	0.00877	-	-
	03/01/12	0.00134	<0.0020	<0.0010	0.00423	<0.0010	0.00423	0.00557	-	-
	04/18/12	0.00338	<0.0020	<0.0010	0.0175	<0.0010	0.0175	0.0209	-	-
	05/23/12	0.00387	<0.0010	<0.0010	0.103	<0.0010	0.103	0.107	-	-
	06/19/12	<0.0010	<0.0010	<0.0010	0.0157	<0.0010	0.0157	0.0157	-	-
	07/30/12				Dry					
	08/28/12	<0.0010	<0.0020	<0.0010	0.0134	0.00138	0.0148	0.0148	-	-
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/12	<0.0010	<0.0020	0.00124	0.00308	0.00149	0.00457	0.00581	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/19/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	01/30/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
 LOVINGTON GATHERING WT
 LEA COUNTY, NEW MEXICO
 PLAINS SRS #: 2006-142
 NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-10	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/16/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	Dry								
	09/19/13	Dry								
	10/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
Goff Dairy Well	05/27/11	0.00125	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00123	-	-
	07/11/11	0.00262	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00262	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/10/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/14/11	<0.0010	<0.0020	0.00111	<0.0020	<0.0010	<0.0020	0.00111	-	-
	01/05/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	0.00111	0.00201	<0.0010	0.00201	0.00201	-	-
	03/01/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/30/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/16/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/19/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
Goff Dairy - Ctr. Pivot Well	07/07/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/10/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/14/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	01/05/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/01/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
 LOVINGTON GATHERING WT
 LEA COUNTY, NEW MEXICO
 PLAINS SRS #: 2006-142
 NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
Goff Dairy - Ctr. Pivot Well	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/19/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/30/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/19/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/28/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
Goff Dairy - Ctr. Pivot Beg.	07/07/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/10/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/01/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/19/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/30/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/28/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
Goff Dairy - Ctr. Pivot End	07/07/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/10/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
LOVINGTON GATHERING WT
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2006-142
NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
Goff Dairy - Ctr. Pivot End	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/01/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/19/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/30/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/28/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
JW Well	07/14/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/10/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/01/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/19/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/30/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/19/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	01/31/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/28/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/29/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/16/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

PLAINS MARKETING, LP
 LOVINGTON GATHERING WTI
 LEA COUNTY, NEW MEXICO
 PLAINS SRS #: 2006-142
 NMOCD REFERENCE #: 1RP-838

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
		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)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
JW Well	09/19/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
NMOCD REGULATORY STANDARD		0.01	0.75	0.75	TOTAL XYLENES 0.62				1.6	0.05

Appendices

Appendix A

Laboratory Analytical Reports

Analytical Report 456861,456863

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI SRS #2006-142

08-FEB-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



08-FEB-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **456861,456863**
Lovington Gathering WTI SRS #2006-142
Project Address: Lovington

Ben Arguijo:

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) 456861,456863. 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. 456861 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,

Alejandro Montoya

New Mexico Laboratory Director

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Sample Cross Reference 456861,456863



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI SRS #2006-142

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-9	W	01-30-13 14:05		456861-001
MW-10	W	01-30-13 14:20		456861-002
JW Well	W	01-31-13 12:50		456863-001



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI SRS #2006-142



Project ID:

Work Order Number(s): 456861,456863

Report Date: 08-FEB-13

Date Received: 02/01/2013

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 456861,456863



PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142

Project Id:

Contact: Ben Arguijo

Project Location: Lovington

Date Received in Lab: Fri Feb-01-13 12:40 pm

Report Date: 08-FEB-13

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	456861-001	456861-002				
	<i>Field Id:</i>	MW-9	MW-10				
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER				
	<i>Sampled:</i>	Jan-30-13 14:05	Jan-30-13 14:20				
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-06-13 09:00	Feb-06-13 09:00				
	<i>Analyzed:</i>	Feb-06-13 11:44	Feb-06-13 12:01				
	<i>Units/RL:</i>	mg/L RL	mg/L RL				
Benzene		ND 0.00100	ND 0.00100				
Toluene		ND 0.00200	ND 0.00200				
Ethylbenzene		ND 0.00100	ND 0.00100				
m_p-Xylenes		ND 0.00200	ND 0.00200				
o-Xylene		ND 0.00100	ND 0.00100				
Total Xylenes		ND 0.00100	ND 0.00100				
Total BTEX		ND 0.00100	ND 0.00100				

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

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Alejandro Montoya
New Mexico Laboratory Director

Certificate of Analysis Summary 456861,456863



PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142

Project Id:

Contact: Ben Arguijo

Project Location: Lovington

Date Received in Lab: Fri Feb-01-13 12:40 pm

Report Date: 08-FEB-13

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	Lab Id: 456863-001 Field Id: JW Well Depth: Matrix: WATER Sampled: Jan-31-13 12:50					
BTEX by EPA 8021B	Extracted: Feb-06-13 09:00 Analyzed: Feb-06-13 10:55 Units/RL: mg/L RL					
Benzene	ND 0.00100					
Toluene	ND 0.00200					
Ethylbenzene	ND 0.00100					
m_p-Xylenes	ND 0.00200					
o-Xylene	ND 0.00100					
Total Xylenes	ND 0.00100					
Total BTEX	ND 0.00100					

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

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Alejandro Montoya
New Mexico Laboratory Director

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

PQL Practical Quantitation Limit **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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 5332 Blackberry Drive, San Antonio TX 78238
 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
 3725 E. Atlanta Ave, Phoenix, AZ 85040

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(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 456861, 456861, 456863

Project ID:

Lab Batch #: 906400

Sample: 456863-001 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 02/06/13 10:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 906400

Sample: 456861-001 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 02/06/13 11:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 906400

Sample: 456861-002 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 02/06/13 12:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 906400

Sample: 633456-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 02/06/13 10:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0254	0.0300	85	80-120	
4-Bromofluorobenzene	0.0252	0.0300	84	80-120	

Lab Batch #: 906400

Sample: 633456-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 02/06/13 10:21

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	0.0312	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.

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 456861, 456861,456863

Project ID:

Lab Batch #: 906400

Sample: 633456-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 02/06/13 10:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 906400

Sample: 456863-001 S / MS

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 02/06/13 11:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 906400

Sample: 456863-001 SD / MSD

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 02/06/13 11:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0313	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.

Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 456861, 456861, 456863

Analyst: KEB

Date Prepared: 02/06/2013

Project ID:

Date Analyzed: 02/06/2013

Lab Batch ID: 906400

Sample: 633456-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.106	106	0.100	0.0849	85	22	70-125	25	
Toluene	<0.00200	0.100	0.107	107	0.100	0.0846	85	23	70-125	25	
Ethylbenzene	<0.00100	0.100	0.108	108	0.100	0.0846	85	24	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.213	107	0.200	0.166	83	25	70-131	25	
o-Xylene	<0.00100	0.100	0.105	105	0.100	0.0842	84	22	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: Lovington Gathering WTI SRS #2006-142

Work Order # : 456861

Project ID:

Lab Batch ID: 906400

QC- Sample ID: 456863-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 02/06/2013

Date Prepared: 02/06/2013

Analyst: KEB

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	<0.00100	0.100	0.0886	89	0.100	0.102	102	14	70-125	25	
Toluene	<0.00200	0.100	0.0840	84	0.100	0.104	104	21	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0854	85	0.100	0.103	103	19	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.165	83	0.200	0.199	100	19	70-131	25	
o-Xylene	<0.00100	0.100	0.0818	82	0.100	0.102	102	22	71-133	25	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/01/2013 12:40:00 PM

Work Order #: 456861

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

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

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

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____



Page 1 of 1

LAB W.O #:

456813

Field billable Hrs :

Container Type Codes

VA	Vial Amber	ES	Encore Sampler
VC	Vial Clear	TS	TerraCore Sampler
VP	Vial Pre-preserved	AC	Air Canister
GA	Glass Amber	TB	Tedlar Bag
GC	Glass Clear	ZB	Zip Lock Bag
PA	Plastic Amber	PC	Plastic Clear

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other

** Preservative Type Codes

A. None E. HCL I. Ice
B. HNO_3 F. MeOH J. MCAA
 H_2SO_4 G. $\text{Na}_2\text{S}_2\text{O}_3$ K. ZnAc&NaOH
D. NaOH H. NaHSO_4 L. Asbc Acid&NaOH

^ Matrix Type Codes

GW	Ground Water	S	Soil/Sediment/Solid
WW	Waste Water	W	Wipe
DW	Drinking Water	A	Air
SW	Surface Water	O	Oil
OW	Ocean/Sea Water	T	Tissue
PL	Product-Liquid	U	Urine
PS	Product-Solid	B	Blood
SL	Sludge		
Other			

REMARKS

3rd sample set from 11/30/11

TAT Work_Days = D

Need results by:

Time:

Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other

ANALYSES REQUESTED

[illegible]

Old Sample	(2/20/01)	Remedial
10/10/01	10/10/01	10/10/01

[illegible]

C.O.C. Serial #

FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

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Page 14 of 14

Final 1.000

Revision Date: Nov 12, 2009

Analytical Report 458445

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Lovington Gathering WTI SRS #2006-142

04-MAR-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



04-MAR-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **458445**
Lovington Gathering WTI SRS #2006-142
Project Address: Lovington

Ben Arguijo:

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) 458445. 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. 458445 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,

Nicholas Straccione

Project Manager

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Sample Cross Reference 458445



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI SRS #2006-142

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	02-22-13 11:30		458445-001
MW-3	W	02-22-13 11:55		458445-002
MW-4	W	02-22-13 12:10		458445-003
MW-5	W	02-22-13 13:05		458445-004
MW-6	W	02-22-13 13:25		458445-005
MW-7	W	02-22-13 13:40		458445-006
MW-8	W	02-22-13 14:00		458445-007
MW-9	W	02-22-13 15:10		458445-008
MW-10	W	02-22-13 14:15		458445-009



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI SRS #2006-142



Project ID:

Work Order Number(s): 458445

Report Date: 04-MAR-13

Date Received: 02/27/2013

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 458445

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



Project Id:

Contact: Ben Arguijo

Project Location: Lovington

Date Received in Lab: Wed Feb-27-13 10:20 am

Report Date: 04-MAR-13

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	458445-001 MW-1 WATER Feb-22-13 11:30	458445-002 MW-3 WATER Feb-22-13 11:55	458445-003 MW-4 WATER Feb-22-13 12:10	458445-004 MW-5 WATER Feb-22-13 13:05	458445-005 MW-6 WATER Feb-22-13 13:25	458445-006 MW-7 WATER Feb-22-13 13:40
BTEX by EPA 8021B	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	Mar-01-13 07:50 Mar-01-13 14:20 mg/L RL	Mar-01-13 07:50 Mar-01-13 14:04 mg/L RL	Mar-01-13 07:50 Mar-01-13 13:48 mg/L RL	Mar-01-13 07:50 Mar-01-13 13:32 mg/L RL	Mar-01-13 07:50 Mar-01-13 13:15 mg/L RL	Mar-01-13 07:50 Mar-01-13 12:26 mg/L RL
Benzene		ND 0.00100	0.0112 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
m_p-Xylenes		ND 0.00200	0.00302 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00100	0.00212 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total Xylenes		ND 0.00100	0.00514 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total BTEX		ND 0.00100	0.0163 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100

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

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



Nicholas Straccione
Project Manager

Certificate of Analysis Summary 458445

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



Project Id:

Contact: Ben Arguijo

Project Location: Lovington

Date Received in Lab: Wed Feb-27-13 10:20 am

Report Date: 04-MAR-13

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	458445-007	458445-008	458445-009			
	<i>Field Id:</i>	MW-8	MW-9	MW-10			
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER			
	<i>Sampled:</i>	Feb-22-13 14:00	Feb-22-13 15:10	Feb-22-13 14:15			
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-01-13 07:50	Mar-01-13 07:50	Mar-01-13 07:50			
	<i>Analyzed:</i>	Mar-01-13 12:09	Mar-01-13 11:53	Mar-01-13 12:59			
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL			
Benzene		ND 0.00100	ND 0.00100	ND 0.00100			
Toluene		ND 0.00200	ND 0.00200	ND 0.00200			
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100			
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200			
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100			
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100			
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Nicholas Straccione
Project Manager

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

PQL Practical Quantitation Limit **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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 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
 3725 E. Atlanta Ave, Phoenix, AZ 85040

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(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 458445,

Project ID:

Lab Batch #: 908039

Sample: 458445-008 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 11:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0263	0.0300	88	80-120	

Lab Batch #: 908039

Sample: 458445-007 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 12:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 908039

Sample: 458445-006 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 12:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 908039

Sample: 458445-009 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 12:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 908039

Sample: 458445-005 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 13:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	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: Lovington Gathering WTI SRS #2006-142

Work Orders : 458445,

Project ID:

Lab Batch #: 908039

Sample: 458445-004 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 13:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

Lab Batch #: 908039

Sample: 458445-003 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 13:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 908039

Sample: 458445-002 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 14:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	

Lab Batch #: 908039

Sample: 458445-001 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 14:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0269	0.0300	90	80-120	

Lab Batch #: 908039

Sample: 634479-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 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	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	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: Lovington Gathering WTI SRS #2006-142

Work Orders : 458445,

Project ID:

Lab Batch #: 908039

Sample: 634479-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 08:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0338	0.0300	113	80-120	

Lab Batch #: 908039

Sample: 634479-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 08:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0328	0.0300	109	80-120	

Lab Batch #: 908039

Sample: 458187-001 S / MS

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 10:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 908039

Sample: 458187-001 SD / MSD

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/01/13 10:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	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.

Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 458445

Analyst: KEB

Date Prepared: 03/01/2013

Project ID:

Date Analyzed: 03/01/2013

Lab Batch ID: 908039

Sample: 634479-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0936	94	0.100	0.0997	100	6	70-125	25	
Toluene	<0.00200	0.100	0.0925	93	0.100	0.0973	97	5	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0943	94	0.100	0.0962	96	2	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.187	94	0.200	0.194	97	4	70-131	25	
o-Xylene	<0.00100	0.100	0.0936	94	0.100	0.0967	97	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: Lovington Gathering WTI SRS #2006-142

Work Order #: 458445

Project ID:

Lab Batch ID: 908039

QC- Sample ID: 458187-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 03/01/2013

Date Prepared: 03/01/2013

Analyst: KEB

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	<0.00100	0.100	0.107	107	0.100	0.106	106	1	70-125	25	
Toluene	<0.00200	0.100	0.109	109	0.100	0.102	102	7	70-125	25	
Ethylbenzene	<0.00100	0.100	0.109	109	0.100	0.108	108	1	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.205	103	0.200	0.208	104	1	70-131	25	
o-Xylene	<0.00100	0.100	0.102	102	0.100	0.104	104	2	71-133	25	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



CHAIN OF CUSTODY RECORD

Page 1 of 1

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East, Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

LAB W.O.#:

458445

Field billable Hrs :

Container Type Codes

VA Vial Amber	ES Encore Sampler
VC Vial Clear	TS TerraCore Sampler
VP Vial Pre-preserved	AC Air Canister
GA Glass Amber	TB Tedlar Bag
GC Glass Clear	ZB Zip Lock Bag
PA Plastic Amber	PC Plastic Clear
PC Plastic Clear	

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other

Preservative Type Codes

A. None	E. HCL	I. Ice
B. HNO ₃	F. MeOH	J. MCAA
H ₂ SO ₄	G. Na ₂ S ₂ O ₃	K. ZnAc&NaOH
D. NaOH	H. NaHSO ₄	L. Asbc Acid&NaOH
O.		


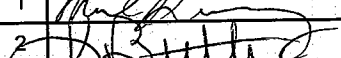
Matrix Type Codes

GW Ground Water	S Soil/Sediment/Solid
WW Waste Water	W Wipe
DW Drinking Water	A Air
SW Surface Water	O Oil
OW Ocean/Sea Water	T Tissue
PL Product-Liquid	U Urine
PS Product-Solid	B Blood
SL Sludge	
Other	

REMARKS

Company: Basin Environmental Service Technologies, LLC	Phone: (575)396-2378
Address: 3100 Plains Hwy.	Fax: (575)396-1429
City: Lovington	State: NM Zip: 88260
PM/Attn: Ben Arguijo	Email: bjarguijo@basinenv.com
Project ID: Lovington Gathering WTI SRS #2006-142	PO#: PAA-J. Henry
Invoice To: Jason Henry Plains All American	Quote #:
Sampler Signature:	Circle One Event: Daily Weekly Monthly Quarterly Semi-Annual Annual N/A

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code	Field Blank	Memory (s)	Total for Location
1	MW-1	2/22/13	11:30				3
2	MW-3	2/22/13	11:55				3
3	MW-4	2/22/13	12:10				3
4	MW-5	2/22/13	13:05				3
5	MW-6	2/22/13	13:25				3
6	MW-7	2/22/13	13:40				3
7	MW-8	2/22/13	14:00				3
8	MW-9	2/22/13	15:10				3
9	MW-10	2/22/13	14:15				3
0							

Reg. Program / Cleanup Std		STATE for Certs & Regs		Q/VOS Level & Certification	
CTLs	TRRP DW NPDES LPST DryCln	FL TX GA NC SC NJ PA OK LA		1 2 3 4 CLP	
Other:		AL NM Other:		NELAC DoD-ELAP	
Relinquished by:		Affiliation:		Date:	
1		Basin Env.		2-27-13	
2		MS		2-27-13	
3					
4					

Non-Conformances found? ☒

Samples intact upon arrival? ☒

Received on Wet Ice? ☒

Labeled with proper preservatives? ☒

Received within holding time? ☒

Custody seals intact? ☒

VOCs rec'd w/o headspace? ☒

Proper containers used? ☒

pH verified-acceptable, excl VOCs? ☒

Received on time to meet HTs? ☒

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov 12, 2009



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/27/2013 10:20:00 AM

Work Order #: 458445

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ?	Yes
#22 >10 for all samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH?	Yes

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

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

Analytical Report 458587

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Lovington Gathering WTI SRS #2006-142

06-MAR-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



06-MAR-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **458587**
Lovington Gathering WTI SRS #2006-142
Project Address: Lovington

Ben Arguijo:

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) 458587. 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. 458587 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,

Nicholas Straccione

Project Manager

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Sample Cross Reference 458587



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI SRS #2006-142

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Goff Dairy - Ctr. Pivot Well	W	02-28-13 09:30		458587-001
Goff Dairy - Ctr. Pivot Beg.	W	02-28-13 09:45		458587-002
Goff Dairy - Ctr. Pivot End	W	02-28-13 10:00		458587-003
J.W. Well	W	02-28-13 10:15		458587-004
MW-2	W	02-28-13 10:45		458587-005



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI SRS #2006-142



Project ID:

Work Order Number(s): 458587

Report Date: 06-MAR-13

Date Received: 03/01/2013

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 458587

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



Project Id:

Contact: Ben Arguijo

Project Location: Lovington

Date Received in Lab: Fri Mar-01-13 03:45 pm

Report Date: 06-MAR-13

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	458587-001	458587-002	458587-003	458587-004	458587-005	
	<i>Field Id:</i>	Goff Dairy - Ctr. Pivot Well	Goff Dairy - Ctr. Pivot Beg.	Goff Dairy - Ctr. Pivot End	J.W. Well	MW-2	
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER	WATER	
	<i>Sampled:</i>	Feb-28-13 09:30	Feb-28-13 09:45	Feb-28-13 10:00	Feb-28-13 10:15	Feb-28-13 10:45	
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-05-13 10:45	Mar-05-13 10:45	Mar-05-13 10:45	Mar-05-13 10:45	Mar-05-13 10:45	
	<i>Analyzed:</i>	Mar-05-13 16:18	Mar-05-13 16:34	Mar-05-13 16:51	Mar-05-13 17:07	Mar-05-13 17:24	
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	

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

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Nicholas Straccione
Project Manager

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

PQL Practical Quantitation Limit **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
 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
 3725 E. Atlanta Ave, Phoenix, AZ 85040

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 458587, 458587

Project ID:

Lab Batch #: 908315

Sample: 458587-001 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 16:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0245	0.0300	82	80-120	

Lab Batch #: 908315

Sample: 458587-002 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 16:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 908315

Sample: 458587-003 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 16:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0264	0.0300	88	80-120	

Lab Batch #: 908315

Sample: 458587-004 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 17:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 908315

Sample: 458587-005 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 17:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0328	0.0300	109	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: Lovington Gathering WTI SRS #2006-142

Work Orders : 458587, 458587

Project ID:

Lab Batch #: 908315

Sample: 634671-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 12:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 908315

Sample: 634671-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 12:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 908315

Sample: 634671-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 12:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0244	0.0300	81	80-120	

Lab Batch #: 908315

Sample: 458482-002 S / MS

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 17:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 908315

Sample: 458482-002 SD / MSD

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/05/13 17:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	80-120	
4-Bromofluorobenzene	0.0300	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.

Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 458587, 458587

Analyst: KEB

Date Prepared: 03/05/2013

Project ID:

Date Analyzed: 03/05/2013

Lab Batch ID: 908315

Sample: 634671-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.108	108	0.100	0.0926	93	15	70-125	25	
Toluene	<0.00200	0.100	0.105	105	0.100	0.0856	86	20	70-125	25	
Ethylbenzene	<0.00100	0.100	0.109	109	0.100	0.0880	88	21	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.209	105	0.200	0.171	86	20	70-131	25	
o-Xylene	<0.00100	0.100	0.107	107	0.100	0.0857	86	22	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: Lovington Gathering WTI SRS #2006-142

Work Order #: 458587

Project ID:

Lab Batch ID: 908315

QC- Sample ID: 458482-002 S

Batch #: 1 Matrix: Water

Date Analyzed: 03/05/2013

Date Prepared: 03/05/2013

Analyst: KEB

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	<0.00100	0.100	0.101	101	0.100	0.0922	92	9	70-125	25	
Toluene	<0.00200	0.100	0.0948	95	0.100	0.0912	91	4	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0976	98	0.100	0.0910	91	7	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.187	94	0.200	0.175	88	7	70-131	25	
o-Xylene	<0.00100	0.100	0.0937	94	0.100	0.0843	84	11	71-133	25	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 03/01/2013 03:45:00 PM

Work Order #: 458587

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

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

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

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

Analytical Report 460151

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Lovington Gathering WTI SRS #2006-142

01-APR-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



01-APR-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **460151**
Lovington Gathering WTI SRS #2006-142
Project Address: Lovington

Ben Arguijo:

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) 460151. 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. 460151 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,

Nicholas Straccione

Project Manager

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Sample Cross Reference 460151



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI SRS #2006-142

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
J.W. Well	W	03-27-13 08:15		460151-001
Goff Dairy Well	W	03-27-13 08:35		460151-002
Center Pivot Well	W	03-27-13 08:45		460151-003
Center Pivot Well Beg.	W	03-27-13 08:55		460151-004
Center Pivot Well End	W	03-27-13 09:15		460151-005
MW-9	W	03-27-13 13:30		460151-006
MW-10	W	03-27-13 13:45		460151-007



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI SRS #2006-142



Project ID:

Work Order Number(s): 460151

Report Date: 01-APR-13

Date Received: 03/28/2013

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 460151

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



Project Id:

Contact: Ben Arguijo

Project Location: Lovington

Date Received in Lab: Thu Mar-28-13 02:04 pm

Report Date: 01-APR-13

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	460151-001	460151-002	460151-003	460151-004	460151-005	460151-006
	<i>Field Id:</i>	J.W. Well	Goff Dairy Well	Center Pivot Well	Center Pivot Well Beg.	Center Pivot Well End	MW-9
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER	WATER	WATER
	<i>Sampled:</i>	Mar-27-13 08:15	Mar-27-13 08:35	Mar-27-13 08:45	Mar-27-13 08:55	Mar-27-13 09:15	Mar-27-13 13:30
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-28-13 16:10	Mar-28-13 16:10	Mar-28-13 16:10	Mar-28-13 16:10	Mar-28-13 16:10	Mar-28-13 16:10
	<i>Analyzed:</i>	Mar-28-13 21:28	Mar-28-13 22:17	Mar-28-13 22:33	Mar-28-13 22:50	Mar-29-13 07:23	Mar-28-13 23:22
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100

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

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Version: 1.0%



Nicholas Straccione
Project Manager



Certificate of Analysis Summary 460151

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



Project Id:

Contact: Ben Arguijo

Date Received in Lab: Thu Mar-28-13 02:04 pm

Report Date: 01-APR-13

Project Location: Lovington

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	460151-007 MW-10 WATER Mar-27-13 13:45					
BTEX by EPA 8021B	Extracted: Analyzed: Units/RL:	Mar-28-13 16:10 Mar-28-13 23:39 mg/L RL					
Benzene		ND 0.00100					
Toluene		ND 0.00200					
Ethylbenzene		ND 0.00100					
m_p-Xylenes		ND 0.00200					
o-Xylene		ND 0.00100					
Total Xylenes		ND 0.00100					
Total BTEX		ND 0.00100					

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

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Version: 1.0%

Nicholas Straccione
Project Manager

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

PQL Practical Quantitation Limit **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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 5332 Blackberry Drive, San Antonio TX 78238
 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
 3725 E. Atlanta Ave, Phoenix, AZ 85040

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 460151,

Project ID:

Lab Batch #: 910140

Sample: 460151-001 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/28/13 21:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 910140

Sample: 460151-002 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/28/13 22:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 910140

Sample: 460151-003 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/28/13 22:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 910140

Sample: 460151-004 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/28/13 22:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 910140

Sample: 460151-006 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/28/13 23:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	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: Lovington Gathering WTI SRS #2006-142

Work Orders : 460151,

Project ID:

Lab Batch #: 910140

Sample: 460151-007 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/28/13 23:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 910140

Sample: 460151-005 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/29/13 07:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0256	0.0300	85	80-120	

Lab Batch #: 910140

Sample: 635836-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/28/13 21:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0257	0.0300	86	80-120	

Lab Batch #: 910140

Sample: 635836-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/28/13 20:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 910140

Sample: 635836-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 03/28/13 20:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0300	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: Lovington Gathering WTI SRS #2006-142

Work Orders : 460151,

Project ID:

Lab Batch #: 910140

Sample: 460151-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/28/13 21:44

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	0.0302	0.0300	101	80-120	

Lab Batch #: 910140

Sample: 460151-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/28/13 22:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	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.

Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 460151

Analyst: KEB

Date Prepared: 03/28/2013

Project ID:

Date Analyzed: 03/28/2013

Lab Batch ID: 910140

Sample: 635836-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0933	93	0.100	0.0971	97	4	70-125	25	
Toluene	<0.00200	0.100	0.0901	90	0.100	0.0963	96	7	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0830	83	0.100	0.0866	87	4	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.169	85	0.200	0.178	89	5	70-131	25	
o-Xylene	<0.00100	0.100	0.0930	93	0.100	0.0941	94	1	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: Lovington Gathering WTI SRS #2006-142

Work Order #: 460151

Project ID:

Lab Batch ID: 910140

QC- Sample ID: 460151-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 03/28/2013

Date Prepared: 03/28/2013

Analyst: KEB

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	<0.00100	0.100	0.0891	89	0.100	0.0905	91	2	70-125	25	
Toluene	<0.00200	0.100	0.0906	91	0.100	0.0880	88	3	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0816	82	0.100	0.0779	78	5	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.163	82	0.200	0.151	76	8	70-131	25	
o-Xylene	<0.00100	0.100	0.0910	91	0.100	0.0844	84	8	71-133	25	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not
ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



CHAIN OF CUSTODY RECORD

Page 1 of 1

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

LAB W.O #:

460151

Field billable Hrs :

Container Type Codes			
VA	Vial Amber	ES	Encore Sampler
VC	Vial Clear	TS	TerraCore Sampler
VP	Vial Pre-preserved	AC	Air Canister
GA	Glass Amber	TB	Tedlar Bag
GC	Glass Clear	ZB	Zip Lock Bag
PA	Plastic Amber	PC	Plastic Clear
PC	Plastic Clear		
Other _____			

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

Preservative Type Codes

A.	None	F.	MeOH	J.	MCAA	C.	
B.	HNO ₃	G.	Na ₂ S ₂ O ₃	K.	ZnAc&NaOH		
D.	NaOH	H.	NaHSO ₄	L.	Asbc Acid&NaOH		
O.							

Matrix Type Codes

GW	Ground Water	S	Soil/Sediment/Solid
WW	Waste Water	W	Wipe
DW	Drinking Water	A	Air
SW	Surface Water	O	Oil
OW	Ocean/Sea Water	T	Tissue
PL	Product-Liquid	U	Urine
PS	Product-Solid	B	Blood
SL	Sludge		
Other			

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State:	NM
PM/Attn:	Ben Arguijo	Zip:	88260
Project ID:	Lovington Gathering WTI SRS #2006-142	Email:	bjarguijo@basinenv.com
Invoice To:	Jason Henry Plains All American	PO#:	PAA-J. Henry
		Quote #:	

TAT Work Days = D Need results by: _____ Time: _____
Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other _____

ANALYSES REQUESTED

Sample ID	TPH	BTEX	Chloride	Volatiles by 8260	Lab Only
1		X			
2		X			
3		X			
4		X			
5		X			
6		X			
7		X			
8					
9					
0					

Lab Only:

Sample ID	Collect Date	Collect Time	Matrix Code	Field Filter	Integrity OK (N/A)	Seal Intact	Containers
1	3-27-13	08:15					3
2	3-27-13	08:35					3
3	3-27-13	08:45					3
4	3-17-13	08:55					3
5	3-17-13	09:15					1
6	3-17-13	13:30					3
7	3-17-13	13:45					3
8							
9							
0							

Reg. Program / Clean-up Std	STATE for Certs & Regs	QA/QC Level & Certification	EDDs	QC & Labels	Coolest Temp °C	Lab Use Only
CTLs TRRP DW NPDES LPST DryCin	FL TX GA NC SC NJ PA OK LA	1 2 3 4 CLP AFCEE QAPP	ADaPT SEDD ERPIMS	Match Incomplete	1 2 3 1.0	Non-Conformances found?
Other:	AL NM Other:	NELAC DoD-ELAP Other:	XLS Other:	Absent Unclear		Samples intact upon arrival?
Relinquished by:	Affiliation	Date	Time	Received by:	Affiliation	Date
1	Basin Env.	3-27-13	14:28	Shane	MS	3/27/13
2				Shane	Xenco	3/28/13
3						
4						

C.O.C. Serial #

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full.
Revision Date: Nov 12, 2009

Final 1.000

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Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 03/28/2013 02:04:00 PM

Work Order #: 460151

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

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 Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

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

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

Analytical Report 460960

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Lovington Gathering WTI SRS #2006-142

17-APR-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



17-APR-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **460960**
Lovington Gathering WTI SRS #2006-142
Project Address: Lovington

Ben Arguijo:

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) 460960. 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. 460960 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,

Nicholas Straccione

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 460960



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI SRS #2006-142

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Center Pivot Well	W	04-09-13 08:25		460960-001
Center Pivot Beg	W	04-09-13 08:30		460960-002
Center Pivot End	W	04-09-13 08:35		460960-003
Goff Dairy Well	W	04-09-13 08:45		460960-004
J.W. Well	W	04-09-13 09:00		460960-005
MW-9	W	04-09-13 10:05		460960-006
MW-10	W	04-09-13 10:00		460960-007



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI SRS #2006-142



Project ID:

Work Order Number(s): 460960

Report Date: 17-APR-13

Date Received: 04/09/2013

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 460960

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



Project Id:

Contact: Ben Arguijo

Project Location: Lovington

Date Received in Lab: Tue Apr-09-13 03:25 pm

Report Date: 17-APR-13

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	460960-001 Center Pivot Well WATER Apr-09-13 08:25	460960-002 Center Pivot Beg WATER Apr-09-13 08:30	460960-003 Center Pivot End WATER Apr-09-13 08:35	460960-004 Goff Dairy Well WATER Apr-09-13 08:45	460960-005 J.W. Well WATER Apr-09-13 09:00	460960-006 MW-9 WATER Apr-09-13 10:05
BTEX by EPA 8021B	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	Apr-12-13 08:00 Apr-12-13 09:55 mg/L RL	Apr-12-13 08:00 Apr-12-13 10:10 mg/L RL	Apr-12-13 08:00 Apr-12-13 10:26 mg/L RL	Apr-12-13 08:00 Apr-12-13 10:42 mg/L RL	Apr-12-13 08:00 Apr-12-13 10:58 mg/L RL	Apr-12-13 08:00 Apr-12-13 11:14 mg/L RL
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Nicholas Straccione
Project Manager

Certificate of Analysis Summary 460960

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



Project Id:

Contact: Ben Arguijo

Project Location: Lovington

Date Received in Lab: Tue Apr-09-13 03:25 pm

Report Date: 17-APR-13

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	Lab Id: 460960-007 Field Id: MW-10 Depth: Matrix: WATER Sampled: Apr-09-13 10:00					
BTEX by EPA 8021B	Extracted: Apr-12-13 08:00 Analyzed: Apr-12-13 11:30 Units/RL: mg/L RL					
Benzene	ND 0.00100					
Toluene	ND 0.00200					
Ethylbenzene	ND 0.00100					
m_p-Xylenes	ND 0.00200					
o-Xylene	ND 0.00100					
Total Xylenes	ND 0.00100					
Total BTEX	ND 0.00100					

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

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Nicholas Straccione
Project Manager

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

PQL Practical Quantitation Limit **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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(214) 902 0300	(214) 351-9139
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(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 460960,

Project ID:

Lab Batch #: 911347

Sample: 460960-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/12/13 09:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	80-120	
4-Bromofluorobenzene	0.0243	0.0300	81	80-120	

Lab Batch #: 911347

Sample: 460960-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/12/13 10:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 911347

Sample: 460960-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/12/13 10:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	80-120	
4-Bromofluorobenzene	0.0248	0.0300	83	80-120	

Lab Batch #: 911347

Sample: 460960-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/12/13 10:42

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	0.0252	0.0300	84	80-120	

Lab Batch #: 911347

Sample: 460960-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/12/13 10:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0241	0.0300	80	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: Lovington Gathering WTI SRS #2006-142

Work Orders : 460960,

Project ID:

Lab Batch #: 911347

Sample: 460960-006 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 04/12/13 11:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0244	0.0300	81	80-120	

Lab Batch #: 911347

Sample: 460960-007 / SMP

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 04/12/13 11:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0244	0.0300	81	80-120	

Lab Batch #: 911347

Sample: 636546-1-BLK / BLK

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 04/12/13 09:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0251	0.0300	84	80-120	

Lab Batch #: 911347

Sample: 636546-1-BKS / BKS

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 04/12/13 08:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 911347

Sample: 636546-1-BSD / BSD

Batch: 1 **Matrix:** Water

Units: mg/L

Date Analyzed: 04/12/13 09:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	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: Lovington Gathering WTI SRS #2006-142

Work Orders : 460960,

Project ID:

Lab Batch #: 911347

Sample: 460960-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/12/13 12:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	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.

Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 460960

Analyst: DYV

Date Prepared: 04/12/2013

Project ID:

Date Analyzed: 04/12/2013

Lab Batch ID: 911347

Sample: 636546-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0921	92	0.100	0.0952	95	3	70-125	25	
Toluene	<0.00200	0.100	0.0815	82	0.100	0.0836	84	3	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0829	83	0.100	0.0854	85	3	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.167	84	0.200	0.172	86	3	70-131	25	
o-Xylene	<0.00100	0.100	0.0845	85	0.100	0.0877	88	4	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 Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 460960

Lab Batch #: 911347

Date Analyzed: 04/12/2013

Date Prepared: 04/12/2013

Project ID:

Analyst: DYV

QC- Sample ID: 460960-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

BTEX by EPA 8021B		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes							
Benzene		<0.00100	0.100	0.0884	88	70-125	
Toluene		<0.00200	0.100	0.0782	78	70-125	
Ethylbenzene		<0.00100	0.100	0.0810	81	71-129	
m_p-Xylenes		<0.00200	0.200	0.163	82	70-131	
o-Xylene		<0.00100	0.100	0.0823	82	71-133	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Page 13 of 14



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 04/09/2013 03:25:00 PM

Work Order #: 460960

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

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

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

Analytical Report 464134

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

2006-142

05-JUN-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

05-JUN-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **464134**
Lovington Gathering WTI
Project Address: Lovington, NM

Ben Arguijo:

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) 464134. 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. 464134 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 464134



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	05-23-13 14:45		464134-001
MW-3	W	05-23-13 14:00		464134-002
MW-4	W	05-23-13 15:00		464134-003
MW-5	W	05-23-13 14:25		464134-004
MW-6	W	05-23-13 14:40		464134-005
MW-7	W	05-23-13 11:30		464134-006
MW-8	W	05-23-13 11:10		464134-007
MW-9	W	05-29-13 10:20		464134-008
MW-10	W	05-23-13 10:35		464134-009
JW Well	W	05-29-13 11:40		464134-010

*Client Name: PLAINS ALL AMERICAN EH&S**Project Name: Lovington Gathering WTI*Project ID: 2006-142
Work Order Number(s): 464134Report Date: 05-JUN-13
Date Received: 05/29/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:Batch: LBA-915358 BTEX by EPA 8021B
SW8021BM

Batch 915358, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 464134-004, -006.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Certificate of Analysis Summary 464134

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: 2006-142

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI

Date Received in Lab: Wed May-29-13 02:00 pm

Report Date: 05-JUN-13

Project Location: Lovington, NM

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	464134-001 MW-1 WATER May-23-13 14:45	464134-002 MW-3 WATER May-23-13 14:00	464134-003 MW-4 WATER May-23-13 15:00	464134-004 MW-5 WATER May-23-13 14:25	464134-005 MW-6 WATER May-23-13 14:40	464134-006 MW-7 WATER May-23-13 11:30
BTEX by EPA 8021B	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	May-31-13 11:00 May-31-13 12:35 mg/L RL	May-31-13 11:00 May-31-13 12:52 mg/L RL	May-31-13 11:00 May-31-13 13:08 mg/L RL	Jun-04-13 11:30 Jun-04-13 13:18 mg/L RL	May-31-13 11:00 May-31-13 20:08 mg/L RL	Jun-04-13 11:30 Jun-04-13 13:34 mg/L RL
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	0.00868 0.00100
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
m,p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	0.00868 0.00100

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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager

Certificate of Analysis Summary 464134

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: 2006-142

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI

Date Received in Lab: Wed May-29-13 02:00 pm

Report Date: 05-JUN-13

Project Location: Lovington, NM

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	464134-007 MW-8 WATER May-23-13 11:10	464134-008 MW-9 WATER May-29-13 10:20	464134-009 MW-10 WATER May-23-13 10:35	464134-010 JW Well WATER May-29-13 11:40		
BTEX by EPA 8021B	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	May-31-13 11:00 May-31-13 14:13 mg/L RL	May-31-13 11:00 May-31-13 20:57 mg/L RL	May-31-13 11:00 May-31-13 14:46 mg/L RL	May-31-13 11:00 May-31-13 21:13 mg/L RL		
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200		
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
m,p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200		
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Kelsey Brooks
Project Manager

- 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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(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 464134,

Project ID: 2006-142

Lab Batch #: 915160

Sample: 464134-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 12:35

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	0.0288	0.0300	96	80-120	

Lab Batch #: 915160

Sample: 464134-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 12:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 915160

Sample: 464134-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 13:08

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 915160

Sample: 464134-007 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 14:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0323	0.0300	108	80-120	

Lab Batch #: 915160

Sample: 464134-009 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 14:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	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: Lovington Gathering WTI

Work Orders : 464134,

Project ID: 2006-142

Lab Batch #: 915160

Sample: 464134-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 20:08

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

Lab Batch #: 915160

Sample: 464134-008 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 20:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 915160

Sample: 464134-010 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 21:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 915358

Sample: 464134-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/04/13 13:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 915358

Sample: 464134-006 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/04/13 13:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0245	0.0300	82	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: Lovington Gathering WTI

Work Orders : 464134,

Project ID: 2006-142

Lab Batch #: 915160

Sample: 639030-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 12:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0344	0.0300	115	80-120	

Lab Batch #: 915358

Sample: 639146-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/04/13 13:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 915160

Sample: 639030-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 11:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 915358

Sample: 639146-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/04/13 12:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0273	0.0300	91	80-120	

Lab Batch #: 915160

Sample: 639030-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 11:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0358	0.0300	119	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	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: Lovington Gathering WTI

Work Orders : 464134,

Project ID: 2006-142

Lab Batch #: 915358

Sample: 639146-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/04/13 12:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 915160

Sample: 464134-010 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 21:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 915358

Sample: 464200-004 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/04/13 14:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 915160

Sample: 464134-010 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/31/13 21:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 915358

Sample: 464200-004 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/04/13 15:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0347	0.0300	116	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.

Project Name: Lovington Gathering WTI

Work Order #: 464134

Analyst: DYV

Date Prepared: 05/31/2013

Project ID: 2006-142

Date Analyzed: 05/31/2013

Lab Batch ID: 915160

Sample: 639030-1-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	<0.00100	0.100	0.112	112	0.100	0.105	105	6	70-125	25	
Toluene	<0.00200	0.100	0.108	108	0.100	0.112	112	4	70-125	25	
Ethylbenzene	<0.00100	0.100	0.109	109	0.100	0.113	113	4	71-129	25	
m,p-Xylenes	<0.00200	0.200	0.233	117	0.200	0.225	113	3	70-131	25	
o-Xylene	<0.00100	0.100	0.113	113	0.100	0.104	104	8	71-133	25	

Analyst: DYV

Date Prepared: 06/04/2013

Date Analyzed: 06/04/2013

Lab Batch ID: 915358

Sample: 639146-1-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	<0.00100	0.100	0.107	107	0.100	0.106	106	1	70-125	25	
Toluene	<0.00200	0.100	0.106	106	0.100	0.111	111	5	70-125	25	
Ethylbenzene	<0.00100	0.100	0.118	118	0.100	0.118	118	0	71-129	25	
m,p-Xylenes	<0.00200	0.200	0.215	108	0.200	0.220	110	2	70-131	25	
o-Xylene	<0.00100	0.100	0.107	107	0.100	0.106	106	1	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: Lovington Gathering WTI

Work Order # : 464134

Project ID: 2006-142

Lab Batch ID: 915160

QC- Sample ID: 464134-010 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/31/2013

Date Prepared: 05/31/2013

Analyst: DYV

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	<0.00100	0.100	0.0834	83	0.100	0.0884	88	6	70-125	25	
Toluene	<0.00200	0.100	0.0821	82	0.100	0.0998	100	19	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0912	91	0.100	0.106	106	15	71-129	25	
m,p-Xylenes	<0.00200	0.200	0.163	82	0.200	0.188	94	14	70-131	25	
o-Xylene	<0.00100	0.100	0.0814	81	0.100	0.0861	86	6	71-133	25	

Lab Batch ID: 915358

QC- Sample ID: 464200-004 S

Batch #: 1 Matrix: Water

Date Analyzed: 06/04/2013

Date Prepared: 06/04/2013

Analyst: DYV

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	0.0201	0.100	0.117	97	0.100	0.118	98	1	70-125	25	
Toluene	<0.00200	0.100	0.105	105	0.100	0.109	109	4	70-125	25	
Ethylbenzene	<0.00100	0.100	0.112	112	0.100	0.114	114	2	71-129	25	
m,p-Xylenes	<0.00200	0.200	0.211	106	0.200	0.226	113	7	70-131	25	
o-Xylene	<0.00100	0.100	0.103	103	0.100	0.113	113	9	71-133	25	

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

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

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



Page 1 of 1

LAB W.O # :

Field billable Hrs :

464134

VA	Vial Amber	ES	Encore Sampler
VC	Vial Clear	TS	TerraCore Sampler
VP	Vial Pre-preserved	AC	Air Canister
GA	Glass Amber	TB	Tedlar Bag
GC	Glass Clear	ZB	Zip Lock Bag
PA	Plastic Amber	PC	Plastic Clear
PC	Plastic Clear		
Other			

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other

A. None E. HCL I. Ice
B. HNO_3 F. MeOH J. MCAA
 H_2SO_4 G. $\text{Na}_2\text{S}_2\text{O}_3$ K. ZnAc&NaOH
D. NaOH H. NaHSO_4 L. Asbc Acid&NaOH
O.

GW	Ground Water	S	Soil/Sediment/Solid
WW	Waste Water	W	Wipe
DW	Drinking Water	A	Air
SW	Surface Water	O	Oil
OW	Ocean/Sea Water	T	Tissue
PL	Product-Liquid	U	Urine
PS	Product-Solid	B	Blood
SL	Sludge		
Other			

Final 1.000

C.O.C. Serial #

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/29/2013 02:00:00 PM

Work Order #: 464134

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

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 Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

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

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:

Kelsey Brooks
Kelsey Brooks

Date: 05/30/2013

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 05/30/2013

Analytical Report 465764

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

2006-142

03-JUL-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

03-JUL-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **465764**
Lovington Gathering WTI
Project Address: Lovington

Ben Arguijo:

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) 465764. 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. 465764 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 465764



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-9	W	06-25-13 09:40		465764-001
MW-10	W	06-25-13 09:30		465764-002
Goff Dairy Well	W	06-25-13 10:00		465764-003
JW Well	W	06-25-13 10:15		465764-004
Goff Dairy-Ctr. Pivot Well	W	06-25-13 10:30		465764-005
Goff Dairy-Ctr. Pivot Beg.	W	06-25-13 10:45		465764-006
Goff Dairy-Ctr. Pivot End	W	06-25-13 11:00		465764-007



CASE NARRATIVE



Client Name: *PLAINS ALL AMERICAN EH&S*

Project Name: *Lovington Gathering WTI*

Project ID: 2006-142
Work Order Number(s): 465764

Report Date: 03-JUL-13
Date Received: 06/26/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 465764

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI



Project Id: 2006-142

Contact: Ben Arguijo

Project Location: Lovington

Date Received in Lab: Wed Jun-26-13 03:43 pm

Report Date: 03-JUL-13

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	465764-001 MW-9 WATER Jun-25-13 09:40	465764-002 MW-10 WATER Jun-25-13 09:30	465764-003 Goff Dairy Well WATER Jun-25-13 10:00	465764-004 JW Well WATER Jun-25-13 10:15	465764-005 Goff Dairy-Ctr. Pivot Well WATER Jun-25-13 10:30	465764-006 Goff Dairy-Ctr. Pivot Beg. WATER Jun-25-13 10:45
BTEX by EPA 8021B	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	Jul-02-13 08:30 Jul-02-13 11:56 mg/L RL	Jul-02-13 08:30 Jul-02-13 12:12 mg/L RL	Jul-02-13 08:30 Jul-02-13 12:28 mg/L RL	Jul-02-13 08:30 Jul-02-13 12:44 mg/L RL	Jul-02-13 08:30 Jul-02-13 13:00 mg/L RL	Jul-02-13 08:30 Jul-02-13 13:16 mg/L RL
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
m,p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100

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

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Kelsey Brooks
Project Manager

Certificate of Analysis Summary 465764

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: 2006-142

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI

Date Received in Lab: Wed Jun-26-13 03:43 pm

Report Date: 03-JUL-13

Project Location: Lovington

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	465764-007					
	Field Id:	Goff Dairy-Ctr. Pivot End					
	Depth:						
	Matrix:	WATER					
	Sampled:	Jun-25-13 11:00					
BTEX by EPA 8021B	Extracted:	Jul-02-13 08:30					
	Analyzed:	Jul-02-13 13:32					
	Units/RL:	mg/L RL					
Benzene		ND 0.00100					
Toluene		ND 0.00200					
Ethylbenzene		ND 0.00100					
m,p-Xylenes		ND 0.00200					
o-Xylene		ND 0.00100					
Total Xylenes		ND 0.00100					
Total BTEX		ND 0.00100					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Kelsey Brooks
Project Manager

PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id: **MW-9**
Lab Sample Id: 465764-001

Matrix: Water
Date Collected: 06.25.13 09.40

Date Received: 06.26.13 15.43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DYV

% Moisture:

Analyst: DYV

Date Prep: 07.02.13 08.30

Seq Number: 917642

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	07.02.13 11.56	U	1
Toluene	108-88-3	ND	0.00200	mg/L	07.02.13 11.56	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	07.02.13 11.56	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	07.02.13 11.56	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	07.02.13 11.56	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	07.02.13 11.56	U	1
Total BTEX		ND	0.00100	mg/L	07.02.13 11.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	119	%	80-120	07.02.13 11.56		
4-Bromofluorobenzene	460-00-4	84	%	80-120	07.02.13 11.56		



Certificate of Analytical Results 465764



PLAINS ALL AMERICAN EH&S, Midland, TX Lovington Gathering WTI

Sample Id: **MW-10**
Lab Sample Id: 465764-002

Matrix: Water
Date Collected: 06.25.13 09.30

Date Received: 06.26.13 15.43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DYV

% Moisture:

Analyst: DYV

Date Prep: 07.02.13 08.30

Seq Number: 917642

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	07.02.13 12.12	U	1
Toluene	108-88-3	ND	0.00200	mg/L	07.02.13 12.12	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	07.02.13 12.12	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	07.02.13 12.12	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	07.02.13 12.12	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	07.02.13 12.12	U	1
Total BTEX		ND	0.00100	mg/L	07.02.13 12.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	119	%	80-120	07.02.13 12.12		
4-Bromofluorobenzene	460-00-4	85	%	80-120	07.02.13 12.12		



Certificate of Analytical Results 465764



PLAINS ALL AMERICAN EH&S, Midland, TX Lovington Gathering WTI

Sample Id: **Goff Dairy Well**

Matrix: Water

Date Received: 06.26.13 15.43

Lab Sample Id: 465764-003

Date Collected: 06.25.13 10.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DYV

% Moisture:

Analyst: DYV

Date Prep: 07.02.13 08.30

Seq Number: 917642

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	07.02.13 12.28	U	1
Toluene	108-88-3	ND	0.00200	mg/L	07.02.13 12.28	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	07.02.13 12.28	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	07.02.13 12.28	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	07.02.13 12.28	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	07.02.13 12.28	U	1
Total BTEX		ND	0.00100	mg/L	07.02.13 12.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	119	%	80-120	07.02.13 12.28		
4-Bromofluorobenzene	460-00-4	81	%	80-120	07.02.13 12.28		



Certificate of Analytical Results 465764



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id: **JW Well**
Lab Sample Id: 465764-004

Matrix: **Water**
Date Collected: 06.25.13 10.15

Date Received: 06.26.13 15.43

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: **DYV**

% Moisture:

Analyst: **DYV**

Date Prep: 07.02.13 08.30

Seq Number: 917642

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	07.02.13 12.44	U	1
Toluene	108-88-3	ND	0.00200	mg/L	07.02.13 12.44	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	07.02.13 12.44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	07.02.13 12.44	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	07.02.13 12.44	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	07.02.13 12.44	U	1
Total BTEX		ND	0.00100	mg/L	07.02.13 12.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	117	%	80-120	07.02.13 12.44		
4-Bromofluorobenzene	460-00-4	82	%	80-120	07.02.13 12.44		



Certificate of Analytical Results 465764



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id: **Goff Dairy-Ctr. Pivot Well**

Matrix: Water

Date Received: 06.26.13 15.43

Lab Sample Id: 465764-005

Date Collected: 06.25.13 10.30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DYV

% Moisture:

Analyst: DYV

Date Prep: 07.02.13 08.30

Seq Number: 917642

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	07.02.13 13.00	U	1
Toluene	108-88-3	ND	0.00200	mg/L	07.02.13 13.00	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	07.02.13 13.00	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	07.02.13 13.00	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	07.02.13 13.00	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	07.02.13 13.00	U	1
Total BTEX		ND	0.00100	mg/L	07.02.13 13.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	120	%	80-120	07.02.13 13.00		
4-Bromofluorobenzene	460-00-4	83	%	80-120	07.02.13 13.00		

PLAINS ALL AMERICAN EH&S, Midland, TX Lovington Gathering WTI

Sample Id: **Goff Dairy-Ctr. Pivot Beg.**

Matrix: Water

Date Received: 06.26.13 15.43

Lab Sample Id: 465764-006

Date Collected: 06.25.13 10.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DYV

% Moisture:

Analyst: DYV

Date Prep: 07.02.13 08.30

Seq Number: 917642

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	07.02.13 13.16	U	1
Toluene	108-88-3	ND	0.00200	mg/L	07.02.13 13.16	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	07.02.13 13.16	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	07.02.13 13.16	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	07.02.13 13.16	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	07.02.13 13.16	U	1
Total BTEX		ND	0.00100	mg/L	07.02.13 13.16	U	1
Surrogate							
	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	120	%	80-120	07.02.13 13.16		
4-Bromofluorobenzene	460-00-4	84	%	80-120	07.02.13 13.16		



Certificate of Analytical Results 465764



PLAINS ALL AMERICAN EH&S, Midland, TX Lovington Gathering WTI

Sample Id: **Goff Dairy-Ctr. Pivot End**

Matrix: Water

Date Received: 06.26.13 15.43

Lab Sample Id: 465764-007

Date Collected: 06.25.13 11.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DYV

% Moisture:

Analyst: DYV

Date Prep: 07.02.13 08.30

Seq Number: 917642

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00100	mg/L	07.02.13 13.32	U	1
Toluene	108-88-3	ND	0.00200	mg/L	07.02.13 13.32	U	1
Ethylbenzene	100-41-4	ND	0.00100	mg/L	07.02.13 13.32	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	mg/L	07.02.13 13.32	U	1
o-Xylene	95-47-6	ND	0.00100	mg/L	07.02.13 13.32	U	1
Total Xylenes	1330-20-7	ND	0.00100	mg/L	07.02.13 13.32	U	1
Total BTEX		ND	0.00100	mg/L	07.02.13 13.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	119	%	80-120	07.02.13 13.32		
4-Bromofluorobenzene	460-00-4	86	%	80-120	07.02.13 13.32		

- 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
(770) 449-8800	(770) 449-5477
(602) 437-0330	



PLAINS ALL AMERICAN EH&S

Lovington Gathering WTI

Analytical Method: BTEX by EPA 8021B

Seq Number: 917642

MB Sample Id: 640592-1-BLK

Matrix: Water

LCS Sample Id: 640592-1-BKS

Prep Method: SW5030B

Date Prep: 07.02.13

LCSD Sample Id: 640592-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.109	109	0.114	114	70-125	4	25	mg/L	07.02.13 10:36	
Toluene	<0.00200	0.100	0.0928	93	0.0920	92	70-125	1	25	mg/L	07.02.13 10:36	
Ethylbenzene	<0.00100	0.100	0.0805	81	0.0820	82	71-129	2	25	mg/L	07.02.13 10:36	
m,p-Xylenes	<0.00200	0.200	0.161	81	0.164	82	70-131	2	25	mg/L	07.02.13 10:36	
o-Xylene	<0.00100	0.100	0.0829	83	0.0846	85	71-133	2	25	mg/L	07.02.13 10:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	118		104		107		80-120	%	07.02.13 10:36
4-Bromofluorobenzene	80		87		80		80-120	%	07.02.13 10:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 917642

Parent Sample Id: 465764-002

Matrix: Water

MS Sample Id: 465764-002 S

Prep Method: SW5030B

Date Prep: 07.02.13

MSD Sample Id: 465764-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.120	120	0.117	117	70-125	3	25	mg/L	07.02.13 14:52	
Toluene	<0.00200	0.100	0.0910	91	0.0933	93	70-125	2	25	mg/L	07.02.13 14:52	
Ethylbenzene	<0.00100	0.100	0.0804	80	0.0837	84	71-129	4	25	mg/L	07.02.13 14:52	
m,p-Xylenes	<0.00200	0.200	0.162	81	0.166	83	70-131	2	25	mg/L	07.02.13 14:52	
o-Xylene	<0.00100	0.100	0.0830	83	0.0842	84	71-133	1	25	mg/L	07.02.13 14:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		94		80-120	%	07.02.13 14:52
4-Bromofluorobenzene	81		83		80-120	%	07.02.13 14:52



CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Page 1 of 1

LAB W.O # :

465764

Field billable Hrs :

* Container Type Codes

VA Vial Amber ES Encore Sampler
VC Vial Clear TS TerraCore Sampler
VP Vial Pre-preserved AC Air Canister
GA Glass Amber TB Tedlar Bag
GC Glass Clear ZB Zip Lock Bag
PA Plastic Amber PC Plastic Clear
PC Plastic Clear

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other

** Preservative Type Codes

A. None E. HCL I. Ice
B. HNO₃ F. MeOH J. MCAA C.
H₂SO₄ G. Na₂S₂O₃ K. ZnAc&NaOH
D. NaOH H. NaHSO₄ L. Asbc Acid&NaOH
O.

^ Matrix Type Codes

GW Ground Water S Soil/Sediment/Solid
WW Waste Water W Wipe
DW Drinking Water A Air
SW Surface Water O Oil
OW Ocean/Sea Water T Tissue
PL Product-Liquid U Urine
PS Product-Solid B Blood
SL Sludge
Other

REMARKS

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State:	NM
PM/Attn:	Ben J. Arguijo	Email:	bjarguijo@basinenv.com
Project ID:	Lovington Gathering WTI SRS #2006-142	PO#:	PAA-J. Henry
Invoice To:	Jason Henry Plains All American	Quote #:	
Sampler Signature:	Circle One Event: Daily Weekly Monthly Quarterly Semi-Annual Annual N/A		

TAT Work Days = D Need results by: Time:

Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other

ANALYSES REQUESTED

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260	TPH	BTEX	Chloride	Hold Sample (CALL) Run PAH on Highest TPH Only if
# Cont	Lab Only:											
1	MW-9	6/25/13	9:40	GW			3		X			
2	MW-10	6/25/13	9:30	GW			3		X			
3	Goff Dairy Well	6/25/13	10:10	GW			3		X			
4	JW Well	6/25/13	10:15	GW			3		X			
5	Goff Dairy - Ctr. Pivot Well	6/25/13	10:30	GW			3		X			
6	Goff Dairy - Ctr. Pivot Beg.	6/25/13	10:45	GW			3		X			
7	Goff Dairy - Ctr. Pivot End	6/25/13	11:00	GW			3		X			
8												
9												
0												

Reg. Program / Clean-up Std	STATE for Certs & Regs	QA/QC Level & Certification	EDDs	COC & Labels	Coolers Temp °C	Lab Use Only	YES NO N/A
CTLs TRRP DW NPDES LPST DryCln Other:	FL TX GA NC SC NJ PA OK LA AL NM Other:	1 2 3 4 CLP AFCEE QAPP NELAC DoD-ELAP Other:	ADaPT SEDD ERPIMS XLS Other:	Match Incomplete Absent Unclear	18.52 3	Non-Conformances found? Samples intact upon arrival?	— — —
Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	Joel Janssen	6-26-13	6:45	Adrian S. Janssen		6-26-13	6:45
2	Ben J. Arguijo	6-26-13	3:40	Ben J. Arguijo	MS	6-26-13	3:43
3							
4							

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov 12, 2009



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/26/2013 03:43:00 PM

Work Order #: 465764

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

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

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

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:

Kelsey Brooks

Date: 06/27/2013

Checklist reviewed by:

Kelsey Brooks

Date: 06/27/2013

Analytical Report 466896

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijjo

Lovington Gathering WTI

2006-142

23-JUL-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



23-JUL-13

Project Manager: **Ben Arguijjo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **466896**
Lovington Gathering WTI
Project Address:

Ben Arguijjo:

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) 466896. 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. 466896 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 466896



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-9	W	07-16-13 00:00		466896-001
MW-10	W	07-16-13 00:00		466896-002
Goff Dairy Well	W	07-16-13 00:00		466896-003
JW Well	W	07-16-13 00:00		466896-004



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI

Project ID: 2006-142
Work Order Number(s): 466896

Report Date: 23-JUL-13
Date Received: 07/17/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 466896

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: 2006-142

Contact: Ben Arguijjo

Project Name: Lovington Gathering WTI

Date Received in Lab: Wed Jul-17-13 08:43 am

Report Date: 23-JUL-13

Project Location:

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	466896-001	466896-002	466896-003	466896-004		
	<i>Field Id:</i>	MW-9	MW-10	Goff Dairy Well	JW Well		
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER		
	<i>Sampled:</i>	Jul-16-13 00:00	Jul-16-13 00:00	Jul-16-13 00:00	Jul-16-13 00:00		
BTEX by EPA 8021	<i>Extracted:</i>	Jul-22-13 16:00	Jul-22-13 16:00	Jul-22-13 16:00	Jul-22-13 16:00		
	<i>Analyzed:</i>	Jul-22-13 21:19	Jul-22-13 21:35	Jul-22-13 21:51	Jul-22-13 22:07		
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL		
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200		
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200		
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
Xylenes, Total		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100		

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

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

Kelsey Brooks
Project Manager

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 5332 Blackberry Drive, San Antonio TX 78238
 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
 3725 E. Atlanta Ave, Phoenix, AZ 85040

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 466896,

Project ID: 2006-142

Lab Batch #: 918983

Sample: 466896-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 07/22/13 21:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 918983

Sample: 466896-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 07/22/13 21:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

Lab Batch #: 918983

Sample: 466896-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 07/22/13 21:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 918983

Sample: 466896-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 07/22/13 22:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0253	0.0300	84	80-120	

Lab Batch #: 918983

Sample: 641457-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 07/22/13 21:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0251	0.0300	84	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: Lovington Gathering WTI

Work Orders : 466896,

Project ID: 2006-142

Lab Batch #: 918983

Sample: 641457-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 07/22/13 20:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 918983

Sample: 641457-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 07/22/13 20:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 918983

Sample: 466896-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 07/22/13 23:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 918983

Sample: 466896-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 07/23/13 00:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0301	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.



BS / BSD Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 466896

Analyst: KEB

Date Prepared: 07/22/2013

Project ID: 2006-142

Date Analyzed: 07/22/2013

Lab Batch ID: 918983

Sample: 641457-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.101	101	0.100	0.101	101	0	70-125	25	
Toluene	<0.00200	0.100	0.0964	96	0.100	0.0973	97	1	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0979	98	0.100	0.100	100	2	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.193	97	0.200	0.198	99	3	70-131	25	
o-Xylene	<0.00100	0.100	0.0956	96	0.100	0.0981	98	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: Lovington Gathering WTI

Work Order # : 466896

Project ID: 2006-142

Lab Batch ID: 918983

QC- Sample ID: 466896-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 07/22/2013

Date Prepared: 07/22/2013

Analyst: KEB

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.111	111	0.100	0.105	105	6	70-125	25	
Toluene	<0.00200	0.100	0.107	107	0.100	0.102	102	5	70-125	25	
Ethylbenzene	<0.00100	0.100	0.111	111	0.100	0.106	106	5	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.218	109	0.200	0.207	104	5	70-131	25	
o-Xylene	<0.00100	0.100	0.109	109	0.100	0.104	104	5	71-133	25	

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

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

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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 07/17/2013 08:43:00 AM

Work Order #: 466896

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

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 Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

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

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:


Kelsey Brooks

Date: 07/18/2013

Checklist reviewed by:


Kelsey Brooks

Date: 07/18/2013



CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Page 1 of 1

LAB W.O #:

466896

Field billable Hrs :

* Container Type Codes

VA Vial Amber	ES	Encore Sampler
VC Vial Clear	TS	TerraCore Sampler
VP Vial Pre-preserved	AC	Air Canister
GA Glass Amber	TB	Tedlar Bag
GC Glass Clear	ZB	Zip Lock Bag
PA Plastic Amber	PC	Plastic Clear
PC Plastic Clear		

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other

** Preservative Type Codes

A. None	E. HCL	I. Ice
B. HNO ₃	F. MeOH	J. MCAA
H ₂ SO ₄	G. Na ₂ S ₂ O ₃	K. ZnAc&NaOH
D. NaOH	H. NaHSO ₄	L. Asbc Acid&NaOH
O.		

^ Matrix Type Codes

GW Ground Water	S Soil/Sediment/Solid
WW Waste Water	W Wipe
DW Drinking Water	A Air
SW Surface Water	O Oil
OW Ocean/Sea Water	T Tissue
PL Product-Liquid	U Urine
PS Product-Solid	B Blood
SL Sludge	
Other	

Company: Basin Environmental Service Technologies, LLC		Phone: (575)396-2378
Address: 3100 Plains Hwy.		Fax: (575)396-1429
City: Lovington	State: NM	Zip: 88260
PM/Attn: Ben J. Arguijo	Email: bjarguijo@basinenv.com	
Project ID: Lovington Gathering WTI SRS #2006-142		PO#: PAA-J. Henry
Invoice To: Jason Henry Plains All American		Quote #:

Sampler Signature: *Ben J. Arguijo*

Circle One Event: Daily Weekly Monthly Quarterly
Semi-Annual Annual N/A

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260	TPH	BTEX	Chloride	Hold Sample (CALL on Highest TPH)	Run PAH Only if
1	MW-9	7/16/13		GW			3			X			
2	MW-10	7/16/13		GW			3			X			
3	Goff Dairy Well	7/16/13		GW			3			X			
4	JW Well	7/16/13		GW			3			X			
5													
6													
7													
8													
9													
0													

Reg. Program / Clean-up Std	STATE for Certs & Regs	QA/QC Level & Certification	EDDs	COC & Labels	Coolers Temp °C	Lab Use Only	YES NO N/A
CTLs TRRP DW NPDES LPST DryCln Other:	FL TX GA NC SC NJ PA OK LA AL NM Other:	1 2 3 4 CLP AFCEE QAPP NELAC DoD-ELAP Other:	ADaPT SEDD ERPIMS XLS Other:	Match Incomplete Absent Unclear	15.2 31.0	Non-Conformances found? Samples intact upon arrival? Received on Wet Ice? Labeled with proper preservatives? Received within holding time? Custody seals intact? VOCs rec'd w/o headspace? Proper containers used? pH verified-acceptable, excl VOCs? Received on time to meet HTs?	
Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1 <i>Ben J. Arguijo</i>		7-17-13	8:40	<i>KB...</i>	MS	7/17/13	8:43
2							
3							
4				<i>Shaun...</i>	Xenco	7-18-13	9:40

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full.

Revision Date: Nov 12, 2009

C.O.C. Serial #

Final 1.000

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 07/17/2013 08:43:00 AM

Work Order #: 466896

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

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 Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

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

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:

Kelsey Brooks

Date: 07/18/2013

Checklist reviewed by:

Kelsey Brooks

Date: 07/18/2013

Analytical Report 469081, 469097

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

SRS# 2006-142

28-AUG-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





Sample Cross Reference 469081



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	08-21-13 12:00		469081-001
MW-3	W	08-21-13 11:00		469081-002
MW-5	W	08-21-13 11:30		469081-003
MW-7	W	08-21-13 10:00		469081-004
MW-8	W	08-21-13 09:30		469081-005
MW-9	W	08-21-13 14:30		469081-006



Sample Cross Reference 469097



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
JW WELL	W	08-21-13 14:15		469097-001
GOFF DAIRY WELL	W	08-21-13 14:00		469097-002
GOFF DAIRY--CTR. PIVOT WELL	W	08-21-13 13:40		469097-003
GOFF DAIRY--CTR. PIVOT END	W	08-21-13 13:50		469097-004
GOFF DAIRY--CTR. PIVOT BEG.	W	08-21-13 13:30		469097-005



CASE NARRATIVE



Client Name: *PLAINS ALL AMERICAN EH&S*

Project Name: *Lovington Gathering WTI*

Project ID: *SRS# 2006-142*
Work Order Number(s): *469081*

Report Date: *28-AUG-13*
Date Received: *08/23/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



CASE NARRATIVE



Client Name: *PLAINS ALL AMERICAN EH&S*

Project Name: *Lovington Gathering WTI*

Project ID: *SRS# 2006-142*
Work Order Number(s): *469097*

Report Date: *28-AUG-13*
Date Received: *08/23/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 469081

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS# 2006-142

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI

Date Received in Lab: Fri Aug-23-13 09:34 am

Report Date: 28-AUG-13

Project Location: NM

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	469081-001	469081-002	469081-003	469081-004	469081-005	469081-006
	<i>Field Id:</i>	MW-1	MW-3	MW-5	MW-7	MW-8	MW-9
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER	WATER	WATER
	<i>Sampled:</i>	Aug-21-13 12:00	Aug-21-13 11:00	Aug-21-13 11:30	Aug-21-13 10:00	Aug-21-13 09:30	Aug-21-13 14:30
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-27-13 10:00	Aug-27-13 10:00	Aug-27-13 10:00	Aug-27-13 10:00	Aug-27-13 10:00	Aug-27-13 10:00
	<i>Analyzed:</i>	Aug-27-13 14:40	Aug-27-13 14:57	Aug-27-13 15:12	Aug-27-13 15:28	Aug-27-13 16:45	Aug-27-13 17:01
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
m,p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 469097

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS# 2006-142

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI

Date Received in Lab: Fri Aug-23-13 09:45 am

Report Date: 28-AUG-13

Project Location:

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	469097-001	469097-002	469097-003	469097-004	469097-005	
	<i>Field Id:</i>	JW WELL	GOFF DAIRY WELL	GOFF DAIRY--CTR. PIVO	GOFF DAIRY--CTR. PIVO	GOFF DAIRY--CTR. PIVO	
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER	WATER	
	<i>Sampled:</i>	Aug-21-13 14:15	Aug-21-13 14:00	Aug-21-13 13:40	Aug-21-13 13:50	Aug-21-13 13:30	
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-27-13 10:00	Aug-27-13 10:00	Aug-27-13 10:00	Aug-27-13 10:00	Aug-27-13 10:00	
	<i>Analyzed:</i>	Aug-27-13 17:17	Aug-27-13 17:33	Aug-27-13 17:49	Aug-27-13 18:06	Aug-27-13 18:22	
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
m,p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	

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

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Kelsey Brooks
Project Manager



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 469081,

Project ID: SRS# 2006-142

Lab Batch #: 921619

Sample: 469081-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 14:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 921619

Sample: 469081-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 14:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0247	0.0300	82	80-120	

Lab Batch #: 921619

Sample: 469081-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 15:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0244	0.0300	81	80-120	

Lab Batch #: 921619

Sample: 469081-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 15:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 921619

Sample: 469081-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 16:45

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	0.0241	0.0300	80	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: Lovington Gathering WTI

Work Orders : 469081,

Project ID: SRS# 2006-142

Lab Batch #: 921619

Sample: 469081-006 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 17:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0247	0.0300	82	80-120	

Lab Batch #: 921619

Sample: 643137-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 13:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Lab Batch #: 921619

Sample: 643137-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 12:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 921619

Sample: 643137-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 13:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

Lab Batch #: 921619

Sample: 469081-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 15:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	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: Lovington Gathering WTI

Work Order #: 469081

Analyst: JUM

Date Prepared: 08/27/2013

Project ID: SRS# 2006-142

Date Analyzed: 08/27/2013

Lab Batch ID: 921619

Sample: 643137-1-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	<0.00100	0.100	0.105	105	0.100	0.104	104	1	70-125	25	
Toluene	<0.00200	0.100	0.0976	98	0.100	0.0962	96	1	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0939	94	0.100	0.0929	93	1	71-129	25	
m,p-Xylenes	<0.00200	0.200	0.185	93	0.200	0.184	92	1	70-131	25	
o-Xylene	<0.00100	0.100	0.0926	93	0.100	0.0916	92	1	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 Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 469081

Lab Batch #: 921619

Date Analyzed: 08/27/2013

Date Prepared: 08/27/2013

Project ID: SRS# 2006-142

Analyst: JUM

QC- Sample ID: 469081-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzene	<0.00100	0.100	0.119	119	70-125	
Toluene	<0.00200	0.100	0.110	110	70-125	
Ethylbenzene	<0.00100	0.100	0.107	107	71-129	
m,p-Xylenes	<0.00200	0.200	0.210	105	70-131	
o-Xylene	<0.00100	0.100	0.105	105	71-133	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 469097,

Project ID: SRS# 2006-142

Lab Batch #: 921619

Sample: 469097-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 17:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0249	0.0300	83	80-120	

Lab Batch #: 921619

Sample: 469097-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 17:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0246	0.0300	82	80-120	

Lab Batch #: 921619

Sample: 469097-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 17:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 921619

Sample: 469097-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 18:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0247	0.0300	82	80-120	

Lab Batch #: 921619

Sample: 469097-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 18:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0252	0.0300	84	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: Lovington Gathering WTI

Work Orders : 469097,

Project ID: SRS# 2006-142

Lab Batch #: 921619

Sample: 643137-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 13:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Lab Batch #: 921619

Sample: 643137-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 12:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 921619

Sample: 643137-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 13:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

Lab Batch #: 921619

Sample: 469081-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/27/13 15:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	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: Lovington Gathering WTI

Work Order #: 469097

Analyst: JUM

Date Prepared: 08/27/2013

Project ID: SRS# 2006-142

Date Analyzed: 08/27/2013

Lab Batch ID: 921619

Sample: 643137-1-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	<0.00100	0.100	0.105	105	0.100	0.104	104	1	70-125	25	
Toluene	<0.00200	0.100	0.0976	98	0.100	0.0962	96	1	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0939	94	0.100	0.0929	93	1	71-129	25	
m,p-Xylenes	<0.00200	0.200	0.185	93	0.200	0.184	92	1	70-131	25	
o-Xylene	<0.00100	0.100	0.0926	93	0.100	0.0916	92	1	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 Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 469097

Lab Batch #: 921619

Date Analyzed: 08/27/2013

Date Prepared: 08/27/2013

Project ID: SRS# 2006-142

Analyst: JUM

QC- Sample ID: 469081-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

BTEX by EPA 8021B		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes							
Benzene		<0.00100	0.100	0.119	119	70-125	
Toluene		<0.00200	0.100	0.110	110	70-125	
Ethylbenzene		<0.00100	0.100	0.107	107	71-129	
m,p-Xylenes		<0.00200	0.200	0.210	105	70-131	
o-Xylene		<0.00100	0.100	0.105	105	71-133	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Page 1 of 1

LAB W.O # :

Field billable Hrs :

* Container Type Codes

VA	Vial Amber	ES	Encore Sampler
VC	Vial Clear	TS	TerraCore Sampler
VP	Vial Pre-preserved	AC	Air Canister
GA	Glass Amber	TB	Tedlar Bag
GC	Glass Clear	ZB	Zip Lock Bag
PA	Plastic Amber	PC	Plastic Clear
PC	Plastic Clear		
Other			

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other

** Preservative Type Codes

A. None E. HCL I. Ice
B. HNO₃ F. MeOH J. MCAA
H₂SO₄ G. Na₂S₂O₃ K. ZnAc&NaOH
D. NaOH H. NaHSO₄ L. Asbc Acid&NaOH
Q.

^ Matrix Type Codes

GW	Ground Water	S	Soil/Sediment/Solid
WW	Waste Water	W	Wipe
DW	Drinking Water	A	Air
SW	Surface Water	O	Oil
OW	Ocean/Sea Water	T	Tissue
PL	Product-Liquid	U	Urine
PS	Product-Solid	B	Blood
SL	Sludge		
Other			

REMARKS

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330

C.O.C. Serial #

FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov 12, 2009



CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Page 1 of 1

LAB W.O # :

Field billable Hrs :

469097

* Container Type Codes

VA Vial Amber ES Encore Sampler
VC Vial Clear TS TerraCore Sampler
VP Vial Pre-preserved AC Air Canister
GA Glass Amber TB Tedlar Bag
GC Glass Clear ZB Zip Lock Bag
PA Plastic Amber PC Plastic Clear
Other _____

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

** Preservative Type Codes

A. None E. HCL I. Ice C.
B. HNO₃ F. MeOH J. MCAA
H₂SO₄ G. Na₂S₂O₅ K. ZnAc&NaOH
D. NaOH H. NaHSO₄ L. Asbc Acid&NaOH
O. _____

^ Matrix Type Codes

GW Ground Water S Soil/Sediment/Solid
WW Waste Water W Wipe
DW Drinking Water A Air
SW Surface Water O Oil
OW Ocean/Sea Water T Tissue
PL Product-Liquid U Urine
PS Product-Solid B Blood
SL Sludge
Other _____

REMARKS

Final 1.000

Page 1J of 4J

Company: Basin Environmental Service Technologies, LLC		Phone: (575)396-2378		TAT Work-Days = D Need results by: _____ Time: _____																					
Address: 3100 Plains Hwy.		Fax: (575)396-1429		Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other _____																					
City: Lovington		State: NM		Zip: 88260		ANALYSES REQUESTED																			
PM/Attn: Ben J. Arguijo		Email: bjarguijo@basinenv.com		PO#: PAA-J. Henry		Cont Type * VC																			
Project ID: Lovington Gathering WTI SRS #2006-142		Quote #: _____		Pres Type ** E, I		VC																			
Invoice To: Jason Henry Plains All American		Example Volatiles by 8260		TPH		BTX		Chloride		Hold Sample (CALL) Run PAH on Highest TPH Only if _____															
Sampler Signature:		Circle One Event: Daily Weekly Monthly Quarterly Semi-Annual Annual N/A		Sample #		Sample ID		Collect Date		Collect Time		Matrix Code ^		Field Filtered		Integrity OK (Y/N)		Total # of containers		# Cont		Lab Only:		REMARKS	
1		JW Well		8/21/13		2:15		GW																	
2		Goff Dairy Well		8/21/13		2:00		GW																	
3		Goff Dairy - Ctr. Pivot Well		8/21/13		1:40		GW																	
4		Goff Dairy - Ctr. Pivot End		8/21/13		1:50		GW																	
5		Goff Dairy - Ctr. Pivot Beg.		8/21/13		1:30		GW																	
6																									
7																									
8																									
9																									
0																									
Reg. Program / Clean-up Std		STATE for Certs & Regs		QA/QC Level & Certification		EDDs		COC & Labels		Coolers Temp °C		Lab Use Only		YES NO N/A											
CTLs TRRP DW NPDES LPST DryCln		FL TX GA NC SC NJ PA OK LA		1 2 3 4 CLP AFCEE QAPP		ADaPT SEDD ERPIMS		Match Incomplete		17.2 2 3 15		Non-Conformances found?													
Other:		AL NM Other:		NELAC DoD-ELAP Other:		XLS Other:		Absent Unclear				Samples intact upon arrival?													
Relinquished by		Affiliation		Date		Time		Received by		Affiliation		Date		Time											
1				8/21/13		8:30		Steve Butler				08-22-13		0837											
2								Gomez				8-23-13		0945											
3												Via FedEx													
4																									

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330

FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov 12, 2009



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 08/23/2013 09:45:00 AM

Work Order #: 469097

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ?	Yes
#22 >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:

Kelsey Brooks
Kelsey Brooks

Date: 08/23/2013

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 08/23/2013



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 08/23/2013 09:34:00 AM

Work Order #: 469081

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient


Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >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:


Kelsey Brooks

Date: 08/23/2013

Checklist reviewed by:


Kelsey Brooks

Date: 08/23/2013

Analytical Report 470800

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

SRS#2006-142

26-SEP-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-13-15-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



26-SEP-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **470800**
Lovington Gathering WTI
Project Address:

Ben Arguijo:

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) 470800. 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. 470800 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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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 470800



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-9	W	09-19-13 15:30		470800-001
JW Well	W	09-19-13 10:30		470800-002
Goff Dairy Well	W	09-19-13 10:00		470800-003



CASE NARRATIVE



Client Name: *PLAINS ALL AMERICAN EH&S*

Project Name: *Lovington Gathering WTI*

Project ID: *SRS#2006-142*
Work Order Number(s): *470800*

Report Date: *26-SEP-13*
Date Received: *09/20/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 470800

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS#2006-142

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI

Date Received in Lab: Fri Sep-20-13 08:40 am

Report Date: 26-SEP-13

Project Location:

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	470800-001	470800-002	470800-003			
	<i>Field Id:</i>	MW-9	JW Well	Goff Dairy Well			
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER			
	<i>Sampled:</i>	Sep-19-13 15:30	Sep-19-13 10:30	Sep-19-13 10:00			
BTEX by EPA 8021	<i>Extracted:</i>	Sep-25-13 17:00	Sep-25-13 17:00	Sep-25-13 17:00			
	<i>Analyzed:</i>	Sep-25-13 22:44	Sep-25-13 23:00	Sep-25-13 23:16			
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL			
Benzene		ND 0.00100	ND 0.00100	ND 0.00100			
Toluene		ND 0.00200	ND 0.00200	ND 0.00200			
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100			
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200			
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100			
Xylenes, Total		ND 0.00100	ND 0.00100	ND 0.00100			
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100			

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

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

Kelsey Brooks
Project Manager

- 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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 5332 Blackberry Drive, San Antonio TX 78238
 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
 3725 E. Atlanta Ave, Phoenix, AZ 85040

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(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 470800,

Project ID: SRS#2006-142

Lab Batch #: 923642

Sample: 470800-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/25/13 22:44

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 923642

Sample: 470800-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/25/13 23:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 923642

Sample: 470800-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/25/13 23:16

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 923642

Sample: 644409-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/25/13 20:53

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 923642

Sample: 644409-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/25/13 20:05

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	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: Lovington Gathering WTI

Work Orders : 470800,

Project ID: SRS#2006-142

Lab Batch #: 923642

Sample: 644409-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/25/13 20:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 923642

Sample: 470800-003 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/26/13 09:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 923642

Sample: 470800-003 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/26/13 08:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0331	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.



BS / BSD Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 470800

Analyst: ARM

Date Prepared: 09/25/2013

Project ID: SRS#2006-142

Date Analyzed: 09/25/2013

Lab Batch ID: 923642

Sample: 644409-1-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	<0.00100	0.100	0.108	108	0.100	0.114	114	5	70-125	25	
Toluene	<0.00200	0.100	0.106	106	0.100	0.113	113	6	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0988	99	0.100	0.105	105	6	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.198	99	0.200	0.210	105	6	70-131	25	
o-Xylene	<0.00100	0.100	0.0992	99	0.100	0.106	106	7	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: Lovington Gathering WTI

Work Order # : 470800

Project ID: SRS#2006-142

Lab Batch ID: 923642

QC- Sample ID: 470800-003 S

Batch #: 1 Matrix: Water

Date Analyzed: 09/26/2013

Date Prepared: 09/25/2013

Analyst: ARM

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.117	117	0.100	0.125	125	7	70-125	25	
Toluene	<0.00200	0.100	0.115	115	0.100	0.124	124	8	70-125	25	
Ethylbenzene	<0.00100	0.100	0.109	109	0.100	0.115	115	5	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.219	110	0.200	0.231	116	5	70-131	25	
o-Xylene	<0.00100	0.100	0.108	108	0.100	0.115	115	6	71-133	25	

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

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

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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 09/20/2013 08:40:00 AM

Work Order #: 470800

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	7.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >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:

Candace James

Candace James

Date: 09/23/2013

Checklist reviewed by:

Julian Martinez

Julian Martinez

Date: 09/23/2013



Page 12 of 13



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 09/20/2013 08:40:00 AM

Work Order #: 470800

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	7.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ?	Yes
#22 >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:

Candace James

Candace James

Date: 09/23/2013

Checklist reviewed by:

Date: 09/23/2013

Analytical Report 472835

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

SRS#2006-142

31-OCT-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-13-15-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



31-OCT-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **472835**
Lovington Gathering WTI
Project Address:

Ben Arguijo:

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) 472835. 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. 472835 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 472835



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-9	W	10-23-13 15:00		472835-001
MW-10	W	10-23-13 09:00		472835-002
Goff Dairy Well	W	10-23-13 08:30		472835-003



CASE NARRATIVE



Client Name: *PLAINS ALL AMERICAN EH&S*

Project Name: *Lovington Gathering WTI*

Project ID: *SRS#2006-142*
Work Order Number(s): *472835*

Report Date: *31-OCT-13*
Date Received: *10/24/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 472835

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS#2006-142

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI

Date Received in Lab: Thu Oct-24-13 08:33 am

Report Date: 31-OCT-13

Project Location:

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	472835-001	472835-002	472835-003			
	<i>Field Id:</i>	MW-9	MW-10	Goff Dairy Well			
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER			
	<i>Sampled:</i>	Oct-23-13 15:00	Oct-23-13 09:00	Oct-23-13 08:30			
BTEX by EPA 8021	<i>Extracted:</i>	Oct-28-13 18:00	Oct-28-13 18:00	Oct-28-13 18:00			
	<i>Analyzed:</i>	Oct-30-13 17:34	Oct-30-13 17:50	Oct-30-13 18:06			
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL			
Benzene		ND 0.00100	ND 0.00100	ND 0.00100			
Toluene		ND 0.00200	ND 0.00200	ND 0.00200			
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100			
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200			
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100			
Xylenes, Total		ND 0.00100	ND 0.00100	ND 0.00100			
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100			

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

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



Kelsey Brooks
Project Manager

- 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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 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
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Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 472835,

Project ID: SRS#2006-142

Lab Batch #: 926390

Sample: 472835-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/30/13 17:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0248	0.0300	83	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 926390

Sample: 472835-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/30/13 17:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 926390

Sample: 472835-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/30/13 18:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 926390

Sample: 646115-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/13 02:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 926390

Sample: 646115-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/13 01:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	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: Lovington Gathering WTI

Work Orders : 472835,

Lab Batch #: 926390

Sample: 646115-1-BSD / BSD

Project ID: SRS#2006-142

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/13 01:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 926390

Sample: 472835-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/13 11:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 926390

Sample: 472835-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/13 11:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0312	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: Lovington Gathering WTI

Work Order #: 472835

Project ID: SRS#2006-142

Analyst: ARM

Date Prepared: 10/28/2013

Date Analyzed: 10/29/2013

Lab Batch ID: 926390

Sample: 646115-1-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	<0.00100	0.100	0.0897	90	0.100	0.0899	90	0	70-125	25	
Toluene	<0.00200	0.100	0.0901	90	0.100	0.0909	91	1	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0933	93	0.100	0.0942	94	1	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.190	95	0.200	0.191	96	1	70-131	25	
o-Xylene	<0.00100	0.100	0.0976	98	0.100	0.0983	98	1	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: Lovington Gathering WTI

Work Order # : 472835

Project ID: SRS#2006-142

Lab Batch ID: 926390

QC- Sample ID: 472835-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 10/29/2013

Date Prepared: 10/28/2013

Analyst: ARM

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0938	94	0.100	0.0964	96	3	70-125	25	
Toluene	<0.00200	0.100	0.0937	94	0.100	0.0968	97	3	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0993	99	0.100	0.103	103	4	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.202	101	0.200	0.209	105	3	70-131	25	
o-Xylene	<0.00100	0.100	0.101	101	0.100	0.105	105	4	71-133	25	

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

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

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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 10/24/2013 08:33:00 AM

Work Order #: 472835

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	5.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ?	Yes
#22 >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:

Candace James

Date: 10/25/2013

Checklist reviewed by:

Kelsey Brooks

Date: 10/25/2013



CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Page 1 of 1

LAB W.O #:

Field billable Hrs:

TAT Work Days = D Need results by: Time:

Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other

* Container Type Codes

VA Vial Amber ES Encore Sampler
VC Vial Clear TS TerraCore Sampler
VP Vial Pre-preserved AC Air Canister
GA Glass Amber TB Tedlar Bag
GC Glass Clear ZB Zip Lock Bag
PA Plastic Amber PC Plastic Clear
PC Plastic Clear

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other

** Preservative Type Codes

A. None E. HCL I. Ice
B. HNO₃ F. MeOH J. MCAA C.
H₂SO₄ G. Na₂S₂O₃ K. ZnAc&NaOH
D. NaOH H. NaHSO₄ L. Asbc Acid&NaOH
O.

^ Matrix Type Codes

GW Ground Water S Soil/Sediment/Solid
WW Waste Water W Wipe
DW Drinking Water A Air
SW Surface Water O Oil
OW Ocean/Sea Water T Tissue
PL Product-Liquid U Urine
PS Product-Solid B Blood
SL Sludge
Other

REMARKS

Company: Basin Environmental Service Technologies, LLC Phone: (575)396-2378
Address: 3100 Plains Hwy. Fax: (575)396-1429
City: Lovington State: NM Zip: 88260
PM/Attn: Ben J. Arguijo Email: bjarguijo@basinenv.com

Project ID: Lovington Gathering WTI SRS #2006-142 PO#: PAA-C. Bryant

Invoice To: Camille Bryant Plains All American Quote #:

Sampler Signature: Circle One Event: Daily Weekly Monthly Quarterly
Semi-Annual Annual N/A

Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260	TPH	BTEX	Chloride	Hold Sample (CALL on Highest TPH) Run PAH Only if
1	MW-9	10/23/13	1500	GW			3			X		
2	MW-10	10/23/13	0900	GW			3			X		
3	Goff Dairy Well	10/23/13	0830	GW			3			X		
4												
5												
6												
7												
8												
9												
0												

Cont Type * VC

Pres Type ** E, I

Example Volatiles by 8260

Cont Lab Only:

Reg. Program / Clean-up Std

STATE for Certs & Regs

QA/QC Level & Certification

EDDs

COC & Labels

Coolers Temp °C

Lab Use Only

YES NO N/A

CTLs TRRP DW NPDES LPST DryCln
Other:

FL TX GA NC SC NJ PA OK LA
AL NM Other:

1 2 3 4 CLP AFCEE QAPP
NELAC DoD-ELAP Other:

ADaPT SEDD ERPIMS
XLS Other:

Match Incomplete
Absent Unclear

1 5.1 2 3

Non-Conformances found?
Samples intact upon arrival?

Relinquished by	Affiliation	Date	Time
1	Basin	10/24/13	8:35
2			
3			
4			

Received by	Affiliation	Date	Time
1	Xenco	10-24-13	0833
2	Basin	10-25-13	1:30
3			
4			

Received on Wet Ice?
Labeled with proper preservatives?
Received within holding time?
Custody seals intact?
VOCs rec'd w/o headspace?
Proper containers used?
pH verified-acceptable, excl VOCs?
Received on time to meet HTs?

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full.

Revision Date: Nov 12, 2009



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 10/24/2013 08:33:00 AM

Work Order #: 472835

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	5.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
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#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
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#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ?	Yes
#22 >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:

Candace James

Candace James

Date: 10/25/2013

Checklist reviewed by:

Kelsey Brooks

Kelsey Brooks

Date: 10/25/2013

Analytical Report 473757

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

SRS#2006-142

18-NOV-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-13-15-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

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

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

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



18-NOV-13

Project Manager: **Ben Arguijo**
PLAINS ALL AMERICAN EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **473757**
Lovington Gathering WTI
Project Address: NM

Ben Arguijo:

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) 473757. 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. 473757 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 473757



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-3	W	11-08-13 08:00		473757-001
MW-6	W	11-08-13 08:30		473757-002
MW-7	W	11-08-13 09:00		473757-003
JW Well	W	11-08-13 09:30		473757-004
Goff Dairy--Ctr. Puet Well	W	11-08-13 10:00		473757-005
Goff Dairy--Ctr Piret Beg	W	11-08-13 10:15		473757-006
Goff Dairy--Ctr Piver End	W	11-08-13 10:30		473757-007



CASE NARRATIVE



Client Name: *PLAINS ALL AMERICAN EH&S*

Project Name: *Lovington Gathering WTI*

Project ID: *SRS#2006-142*
Work Order Number(s): *473757*

Report Date: *18-NOV-13*
Date Received: *11/08/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 473757

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS#2006-142

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI

Date Received in Lab: Fri Nov-08-13 01:50 pm

Report Date: 18-NOV-13

Project Location: NM

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	473757-001	473757-002	473757-003	473757-004	473757-005	473757-006
	<i>Field Id:</i>	MW-3	MW-6	MW-7	JW Well	Goff Dairy--Ctr. Puet Well	Goff Dairy--Ctr Piret Beg
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER	WATER	WATER
	<i>Sampled:</i>	Nov-08-13 08:00	Nov-08-13 08:30	Nov-08-13 09:00	Nov-08-13 09:30	Nov-08-13 10:00	Nov-08-13 10:15
BTEX by EPA 8021	<i>Extracted:</i>	Nov-11-13 14:00	Nov-11-13 14:00	Nov-11-13 14:00	Nov-11-13 14:00	Nov-11-13 14:00	Nov-11-13 14:00
	<i>Analyzed:</i>	Nov-11-13 18:15	Nov-11-13 18:31	Nov-11-13 18:47	Nov-11-13 19:03	Nov-11-13 19:19	Nov-11-13 20:07
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL
Benzene		0.00241 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Xylenes, Total		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total BTEX		0.00241 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100

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

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



Kelsey Brooks
Project Manager

Certificate of Analysis Summary 473757

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS#2006-142

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI

Date Received in Lab: Fri Nov-08-13 01:50 pm

Report Date: 18-NOV-13

Project Location: NM

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id: 473757-007 Field Id: Goff Dairy--Ctr Piver End Depth: Matrix: WATER Sampled: Nov-08-13 10:30					
BTEX by EPA 8021	Extracted: Nov-11-13 14:00 Analyzed: Nov-11-13 20:23 Units/RL: mg/L RL					
Benzene	ND 0.00100					
Toluene	ND 0.00200					
Ethylbenzene	ND 0.00100					
m_p-Xylenes	ND 0.00200					
o-Xylene	ND 0.00100					
Xylenes, Total	ND 0.00100					
Total BTEX	ND 0.00100					

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

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



Kelsey Brooks
Project Manager

- 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** Sample Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 5332 Blackberry Drive, San Antonio TX 78238
 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
 3725 E. Atlanta Ave, Phoenix, AZ 85040

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 473757,

Lab Batch #: 927505

Sample: 473757-001 / SMP

Project ID: SRS#2006-142

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 18:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 927505

Sample: 473757-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 18:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 927505

Sample: 473757-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 18:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

Lab Batch #: 927505

Sample: 473757-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 19:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 927505

Sample: 473757-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 19:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	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: Lovington Gathering WTI

Work Orders : 473757,

Lab Batch #: 927505

Sample: 473757-006 / SMP

Project ID: SRS#2006-142

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 20:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 927505

Sample: 473757-007 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 20:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0263	0.0300	88	80-120	

Lab Batch #: 927505

Sample: 646758-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 16:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

Lab Batch #: 927505

Sample: 646758-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 15:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 927505

Sample: 646758-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 15:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	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: Lovington Gathering WTI

Work Orders : 473757,

Lab Batch #: 927505

Sample: 473756-001 S / MS

Project ID: SRS#2006-142

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 927505

Sample: 473756-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/11/13 16:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	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: Lovington Gathering WTI

Work Order #: 473757

Project ID: SRS#2006-142

Analyst: ARM

Date Prepared: 11/11/2013

Date Analyzed: 11/11/2013

Lab Batch ID: 927505

Sample: 646758-1-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	<0.00100	0.100	0.0897	90	0.100	0.0929	93	4	70-125	25	
Toluene	<0.00200	0.100	0.0918	92	0.100	0.0944	94	3	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0983	98	0.100	0.101	101	3	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.200	100	0.200	0.205	103	2	70-131	25	
o-Xylene	<0.00100	0.100	0.101	101	0.100	0.103	103	2	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: Lovington Gathering WTI

Work Order # : 473757

Project ID: SRS#2006-142

Lab Batch ID: 927505

QC- Sample ID: 473756-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 11/11/2013

Date Prepared: 11/11/2013

Analyst: ARM

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	0.00516	0.100	0.0977	93	0.100	0.0969	92	1	70-125	25	
Toluene	<0.00200	0.100	0.0961	96	0.100	0.0984	98	2	70-125	25	
Ethylbenzene	<0.00100	0.100	0.102	102	0.100	0.106	106	4	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.208	104	0.200	0.216	108	4	70-131	25	
o-Xylene	<0.00100	0.100	0.104	104	0.100	0.109	109	5	71-133	25	

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

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

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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 11/08/2013 01:50:00 PM

Work Order #: 473757

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ?	Yes
#22 >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:

Candace James

Date: 11/11/2013

Checklist reviewed by:

Kelsey Brooks

Date: 11/11/2013

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Page 1 of 1

LAB W.O # :

Field billable Hrs :

47375

* Container Type Codes

VA	Vial Amber	ES	Encore Sampler
VC	Vial Clear	TS	TerraCore Sampler
VP	Vial Pre-preserved	AC	Air Canister
GA	Glass Amber	TB	Tedlar Bag
GC	Glass Clear	ZB	Zip Lock Bag
PA	Plastic Amber	PC	Plastic Clear
PC	Plastic Clear		
Other			

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal
40ml, 125 ml, 250 ml, 500 ml, 1L, Other

** Preservative Type Codes

A. None E. HCL I. Ice
B. HNO₃ F. MeOH J. MCAA
H₂SO₄ G. Na₂S₂O₃ K. ZnAc&NaOH
D. NaOH H. NaHSO₄ L. Asbc Acid&NaOH
O

^ Matrix Type Codes

GW	Ground Water	S	Soil/Sediment/Solid
WW	Waste Water	W	Wipe
DW	Drinking Water	A	Air
SW	Surface Water	O	Oil
OW	Ocean/Sea Water	T	Tissue
PL	Product-Liquid	U	Urine
PS	Product-Solid	B	Blood
SL	Sludge		
Other			

REMARKS

Company: Basin Environmental Service Technologies, LLC

Address: 3100 Plains Hwy.

City: Lovington

PM/Attn: Ben J. Arguijo

Project ID: Lovington Gathering WTI SRS #2006-142

Invoice To: Camille Bryant Plains All American

Sampler Signature:

Phone: (575)396-2378

Fax: (575)396-1429

State: NM

Email: bjarguijo@basinenv.com

PO#: PAA-C. Bryant

Quote #:

Circle One Event: ☒ Daily ☐ Weekly ☐ Monthly ☐ Quarterly

Semi-Annual ☐ Annual ☐ N/A ☐

Sample #

Sample ID

Collect Date

Collect Time

Matrix Code ^

Field Filtered

Integrity OK (Y/N)

Total # of containers

Example Volatiles by 8260

1

MW-3

11/8

8:00

GW

3

2

MW-6

11/8

8:30

GW

3

3

MW-7

11/8

9:00

GW

3

4

JW Well

11/8

9:30

GW

3

5

Goff Dairy - Ctr. pivot well

11/8

10:00

GW

3

6

Goff Dairy - Ctr. pivot Beg.

11/8

10:15

GW

3

7

Goff Dairy - Ctr. pivot End.

11/8

10:30

GW

3

8

9

0

Reg. Program / Clean-up Std

TLs TRRP DW NPDES LPST DryCln

Other:

STATE for Certs & Regs

FL TX GA NC SC NJ PA OK LA

AL NM Other:

QA/QC Level & Certification

1 2 3 4 CLP AFCEE QAPP

NELAC DoD-ELAP Other:

EDDs

ADAPT SEDD ERPIMS

XLS Other:

COC & Labels

Match Incomplete Absent Unclear

Coolers Temp °C

1 3.0 2 3 8.0

Lab Use Only

YES NO N/A

Relinquished by

Affiliation

Date

Time

Received by

Affiliation

Date

Time

1

ET

11/8/13

1:50

Verla Resendiz

MS

11-8-13

1:50

2

XENV

11/8/13

12:30

3

4

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-427-0200

FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8500 Tampa 813-971-1111

Lab W.O. #: 473151

Field billable Hrs: _____

TAT Work Days = D Need results by: _____ Time: _____

Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other _____

ANALYSES REQUESTED

Cont Type * VC

Pres Type ** E, I

Hold Sample (CALL) on Highest TPH

Run PAH Only if

** Preservative Type Codes

A. None B. HNO3 C. H2SO4 D. NaOH E. HCL F. MeOH G. Na2S2O3 H. NaHSO4 I. Ice J. MCAA K. ZnAc&NaOH L. Asbc Acid&NaOH O.

^ Matrix Type Codes

GW Ground Water WW Waste Water DW Drinking Water SW Surface Water OW Ocean/Sea Water PL Product-Liquid PS Product-Solid SL Sludge Other

S Soil/Sediment/Solid W Wipe A Air O Oil T Tissue U Urine B Blood

C.O.C. Serial #

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full.

Revision Date: Nov 12, 2009



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

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#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >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:

Candace James

Candace James

Date: 11/11/2013

Checklist reviewed by:

Kelsey Brooks

Kelsey Brooks

Date: 11/11/2013

Appendix B

Release Notification &

Corrective Action (Form C-141)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Plains Pipeline	Contact Camille Reynolds	
Address 3112 W. US Hwy 82, Lovington, NM 88260	Telephone No. 505-441-0965	
Facility Name Lovington Gathering WTI	Facility Type 6" Steel Pipeline	
Surface Owner Robert Rice	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter H	Section 6	Township 17S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude 32° 51' 56.0"

Longitude 103° 17' 07.2"

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 12 barrels	Volume Recovered 8 barrels
Source of Release 6" Steel Pipeline	Date and Hour of Occurrence 4-21-2006 @ 13:00	Date and Hour of Discovery 4-21-2006 @ 13:15
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Pat Caperton	
By Whom? Camille Reynolds	Date and Hour 4-21-2006 @ 15:35	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken Internal corrosion while purging the line resulted in release of sweet crude oil. The line has been purged. The line is an idle 6-inch steel gathering line. The pressure on the line was approximately 50 psi and the gravity of the sweet crude oil was 34. The sweet crude has an H₂S content of <10 ppm. The line was approximately 1.5 feet bgs at the release point.

Describe Area Affected and Cleanup Action Taken.* The impacted soil was excavated and stockpiled on plastic. Aerial extent of surface impact was approximately 1,500 ft².

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature <i>Camille Reynolds</i>	OIL CONSERVATION DIVISION	
Printed Name: Camille Reynolds	Approved by District Supervisor:	
Title: Remediation Coordinator	Approval Date:	Expiration Date:
E-mail Address: cjreynolds@paalp.com	Conditions of Approval:	
Date: 4/26/2006 0066	Phone: 505-441-	Attached <input type="checkbox"/>