# **AP - 96**

# QUARTERLY MONITORING REPORTS

2013

### Basin Environmental Service Technologies, LLC

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Effective Solutions

2013 MOV - 4 P 2: 22

October 25, 2013

Mr. Edward Hansen New Mexico Oil Conservation Division Environmental Bureau 1220 South St. Francis Drive Santa Fe, New Mexico 87505

 RE: Plains Pipeline, L.P. Lovington Gathering WTI NMOCD Reference # 1R-838 / AP-96 Unit Letter H of Section 6, Township 17 South, Range 37 East Lea County, New Mexico

Dear Mr. Hansen:

Basin Environmental Service Technologies, LLC, on behalf of Plains Pipeline, LP, is pleased to submit the attached Quarterly Monitoring Report, dated October 2013, for the Lovington Gathering WTI release site located in Section 6 of Township 17 South, Range 37 East, in Lea County, New Mexico. The Quarterly Monitoring Report summarizes the status of recent activities performed at the site during the third quarter of 2013 (3Q2013).

Review of laboratory analytical results from groundwater samples collected at the Lovington Gathering WTI site indicate BTEX constituent concentrations in monitor well MW-9 have been both less than the appropriate laboratory MDL and less than NMOCD regulatory standards for twenty-two (22) consecutive months (December 14, 2011 through September 19, 2013). BTEX constituent concentrations in monitor well MW-10 have been both less than the appropriate laboratory MDL and less than NMOCD regulatory standards for nine (9) consecutive months (November 27, 2012 through July 16, 2013). In addition, diminished well volume and recharge in monitor well MW-10 has hampered groundwater recovery efforts and precluded sample collection from the monitor well for two (2) consecutive quarters (2Q2013 and 3Q2013). Based on these facts, Plains hereby requests permission to **cease weekly recovery activities from monitor wells MW-9 and MW-10** and to **reduce the sampling frequency for these wells from monthly to quarterly**. Plains also requests permission to **reduce the sampling frequency for the five (5) locations on/adjacent to 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) from monthly to quarterly. There have been no detections of BTEX constituents at any of the five (5) locations since monthly sampling was initiated in July 2011.

Review of laboratory analytical results indicate BTEX constituent concentrations in monitor wells MW-1, MW-4, MW-5, and MW-8 have been both less than the appropriate laboratory MDL and less than NMOCD regulatory standards for at least eight (8) consecutive quarters (i.e., November 9, 2011 through August 21, 2013, with monitor well MW-4 found to be dry in 3Q2013). Plains hereby requests permission to reduce the sampling frequency for these wells from *quarterly* to *semi-annually*. Review of historical laboratory analytical data indicates the highest BTEX constituent detections at the site have typically occurred during the first and third calendar quarters. Therefore, Plains proposes to sample the monitor wells in the first and third quarters of each calendar year.

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More detailed information regarding the proposed changes is included in the enclosed Quarterly Monitoring Report.

Should you have any questions or comments, please do not hesitate to contact me at (575) 396-2378.

Respectfully,

Ben J. Arguijo Project Manager Basin Environmental Service Technologies, LLC

CC: Geoffrey R. Leking, NMOCD - Hobbs District Office

Enclosure

### Basin Environmental Service Technologies, LLC

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#### QUARTERLY MONITORING REPORT July - September 2013

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 #: 2006-0142 NMOCD Reference #: 1RP-838

Prepared for:



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

Prepared By:

Basin Environmental Service Technologies, LLC P. O. Box 301 Lovington, New Mexico 88260

October 2013

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 *Quarterly Monitoring Report* for the release site known as Lovington Gathering WTI, in compliance with the New Mexico Oil Conservation Division (NMOCD) request of April 5, 2011, requiring submittal of a *Quarterly Monitoring Report* within thirty (30) days of the end of each calendar quarter. 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 the third quarter (July - September) of 2013 only.

#### 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 release on the Lovington Gathering WTI pipeline. Failure of a section of the six-inch (6") steel gathering line during purging resulted in a release of sweet crude oil. The failure was attributed to internal corrosion. The release was immediately reported to the NMOCD Hobbs District Office. The "Release Notification and Corrective Action" (Form C-141) indicated approximately twelve barrels (12 bbls) of crude oil was released from the pipeline, and approximately eight barrels (8 bbls) were recovered, resulting in a net loss of four barrels (4 bbls) of crude oil. The release occurred in a pasture containing various oil and gas production facilities and resulted in a visibly stained surface area measuring approximately one thousand, five hundred square feet (1,500 ft<sup>2</sup>). The Form C-141 is provided as Appendix B.

During initial response activities, the 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. The excavated area was fenced in and is characterized by a Plains pipeline right-of-way adjacent to an idled Plains pump station.

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. A series of eleven (11) soil borings were advanced to depths ranging from 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 sampling 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 phase-separated hydrocarbons (PSH) in any of the collected soil samples. Laboratory analytical results of selected soil samples did not indicate benzene, toluene, ethylbenzene, and total xylene (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 TPH concentrations 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 samples collected from monitor well MW-7 indicated additional monitor wells would be 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 standards 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 Remediation Efforts

Basin Environmental began manual, bi-weekly recovery of hydrocarbon-impacted groundwater from monitor well MW-9 in November 2009 to control the down-gradient migration of the dissolved-phase plume. Bi-weekly 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 *April - June 2012 Quarterly Monitoring Report* (dated July 2012), Plains requested the bi-weekly recovery events from MW-9 and MW-10 be reduced to weekly. On August 2, 2012, the request was granted by an NMOCD representative, and weekly recovery from MW-9 and MW-10 commenced in September 2012.

All recovered fluids are disposed of at an NMOCD-approved disposal facility near Lovington, New Mexico.

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

A quarterly groundwater monitoring event was conducted on August 21, 2013 (3Q2013), to assess the levels and extent of dissolved-phase constituents and PSH. The groundwater monitoring event consisted of measuring static water levels in the ten (10) on-site monitor wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. Monitor wells were purged using a PVC bailer of a minimum of three (3) well volumes of water, or until the wells were dry. 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 the site.

Diminished well volume and recharge in monitor wells MW-2, MW-4, MW-6, and MW-10 attributable to the use of two (2) large-capacity irrigation wells (Goff Dairy Well and Goff Dairy - Ctr. Pivot Well) on property adjacent to the release site precluded sample collection from the monitor wells during the quarterly monitoring event. The monitor wells were gauged in a subsequent site visit on September 19, 2013. However, groundwater conditions at the site had not improved, and no samples could be obtained from the monitor wells at that time.

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 July 16, August 21, and September 19, 2013.

Prior to the July and August 2013 monthly monitoring events, the Ctr. Pivot Well was valved off to facilitate agricultural activities in the Goff Dairy #9 Pivot, precluding sample collection from the well and the two (2) locations on the Goff Dairy Center Pivot (Goff Dairy - Ctr. Pivot Beginning and Goff Dairy - Ctr. Pivot End). The well has not been placed back into service as of the time of this report.

Locations of groundwater monitoring wells and the inferred groundwater gradient, which was constructed from groundwater elevation measurements collected during the 3Q2013 sampling event, are depicted in Figure 2A, "Inferred Groundwater Gradient Map – 3Q2013". Groundwater elevation data is provided as Table 1, "2013 Groundwater Elevation Data". The groundwater gradient map indicates a general gradient of approximately 0.007 feet/foot to the southeast, as

measured between monitor wells MW-1 and MW-9. The corrected groundwater elevation (measured in feet above mean sea level) ranged between 3,713.90 feet in monitor well MW-7 and 3,717.05 feet in monitor well MW-5. No groundwater elevation data was able to be obtained from monitor wells MW-2, MW-4, MW-6, and MW-10.

No PSH was detected in any of the on-site monitor wells during the 3Q2013 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 and quarterly sampling events were delivered to Xenco Laboratories in Odessa, Texas, for determination of BTEX constituent concentrations using EPA Method SW846-8021b. Laboratory analytical results were compared to NMOCD regulatory limits based on 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".

#### 4.1 Quarterly Monitoring Data

Data collected during the 3Q2013 groundwater monitoring event is summarized below. Groundwater contaminant concentrations are depicted in Figure 3A, "Groundwater Concentration Map - 3Q2013".

- Benzene concentrations were both less than the laboratory MDL and less than the New Mexico Water Quality Control Commission (NMWQCC) regulatory standard of 0.010 mg/L in all submitted groundwater samples.
- Toluene concentrations were both less than the laboratory MDL and less than the NMWQCC regulatory standard of 0.750 mg/L in all submitted groundwater samples.
- Ethylbenzene concentrations were both less than the laboratory MDL and less than the NMWQCC regulatory standard of 0.750 mg/L in all submitted groundwater samples.
- Total xylene concentrations were both less than the laboratory MDL and less than the NMWQCC regulatory standard of 0.620 mg/L in all submitted groundwater samples.

#### 4.2 Monthly Monitoring Data

Data collected during the July, August, and September 2013 monthly monitoring events is summarized below. Groundwater contaminant concentrations for the July and September monitoring events are depicted in Figures 3B and 3C, "Groundwater Concentration Map - July 2013" and "Groundwater Concentration Map - September 2013", respectively. Groundwater contaminant concentrations for the August sampling event are included in Figure 3A, "Groundwater Concentration Map - 3Q2013".

#### • 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.

#### • 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.

#### 5.0 QA/QC PROCEDURES

#### 5.1 Groundwater Sampling

Groundwater samples were submitted to Xenco Laboratories in Odessa, Texas, for analysis of BTEX constituent concentrations in accordance with EPA Method SW846-8021b. All samples were analyzed within seven (7) days of the collection date.

#### 5.2 Decontamination of Equipment

Cleaning and decontamination of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

#### 5.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory analytical reports or are on file at the laboratory.

#### 6.0 ANTICIPATED ACTIONS

Review of laboratory analytical results indicate BTEX constituent concentrations in monitor well MW-9 have been both less than the appropriate laboratory MDL and less than NMOCD regulatory standards for twenty-two (22) consecutive months (December 14, 2011 through September 19, 2013). BTEX constituent concentrations in monitor well MW-10 have been both less than the appropriate laboratory MDL and less than NMOCD regulatory standards for nine (9) consecutive months (November 27, 2012 through July 16, 2013). In addition, diminished well volume and recharge in monitor well MW-10 has hampered groundwater recovery efforts and precluded sample collection from the monitor well for two (2) consecutive quarters (2Q2013 and 3Q2013). Based on these facts, Plains hereby requests permission to cease weekly recovery activities from monitor wells MW-9 and MW-10 and to reduce the sampling frequency for these wells from monthly to quarterly. Plains also requests permission to reduce the sampling frequency for the five (5) locations on/adjacent to the Goff Dairy #9 Pivot (Goff Dairy Well, Goff Dairy - Ctr. Pivot Well, Goff Dairy - Ctr. Pivot End, and JW Well) from monthly to quarterly. There have been no detections of BTEX constituents at any of the five (5) locations since monthly sampling was initiated in July 2011.

Review of laboratory analytical results indicate BTEX constituent concentrations in monitor wells MW-1, MW-4, MW-5, and MW-8 have been both less than the appropriate laboratory MDL and less than NMOCD regulatory standards for at least eight (8) consecutive quarters (November 9, 2011 through August 21, 2013, with monitor well MW-4 found to be dry in 3Q2013). Plains hereby requests permission to reduce the sampling frequency for these wells from quarterly to semi-annually. Review of historical laboratory analytical data indicates the highest BTEX constituent detections at the site have typically occurred during the first and third calendar quarters. Therefore, Plains proposes to sample the monitor wells in the first and third quarters of each calendar year.

Monitor well MW-2 has been found to be dry during six (6) of the last eight (8) quarterly monitoring events. Quarterly gauging of the monitor well will continue throughout the 2013 calendar year, and samples will be collected if and when the well exhibits sufficient recharge.

The table on the following page summarizes the proposed sampling schedule changes detailed above.

Location	Current Schedule	Proposed Schedule
MW-1	1/Qtr	2/Yr (1Q,3Q)
MW-2	1/Qtr	No Change
MW-3	1/Qtr	No Change
MW-4	1/Qtr	2/Yr (1Q,3Q)
MW-5	1/Qtr	2/Yr (1Q,3Q)
MW-6	1/Qtr	No Change
MW-7	1/Qtr	No Change
MW-8	1/Qtr	2/Yr (1Q,3Q)
MW-9	1/Mo	1/Qtr
MW-10	1/Mo	1/Qtr
Goff Dairy Well	1/Mo	1/Qtr
JW Well	1/Mo	1/Qtr
Goff Dairy - Ctr. Pivot Well	1/Mo	1/Qtr
Goff Dairy - Ctr. Pivot Beg.	1/Mo	1/Qtr
Goff Dairy - Ctr. Pivot End	1/Mo	1/Qtr

Until the above-referenced changes are approved by the NMOCD, the following schedules will remain in effect: quarterly sampling of monitor wells MW-1 through MW-8; monthly sampling of monitor wells MW-9, MW-10, and the five (5) locations on/adjacent to the Goff Dairy #9 Pivot; and weekly groundwater recovery from monitor wells MW-9 and MW-10.

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.

#### 7.0 LIMITATIONS

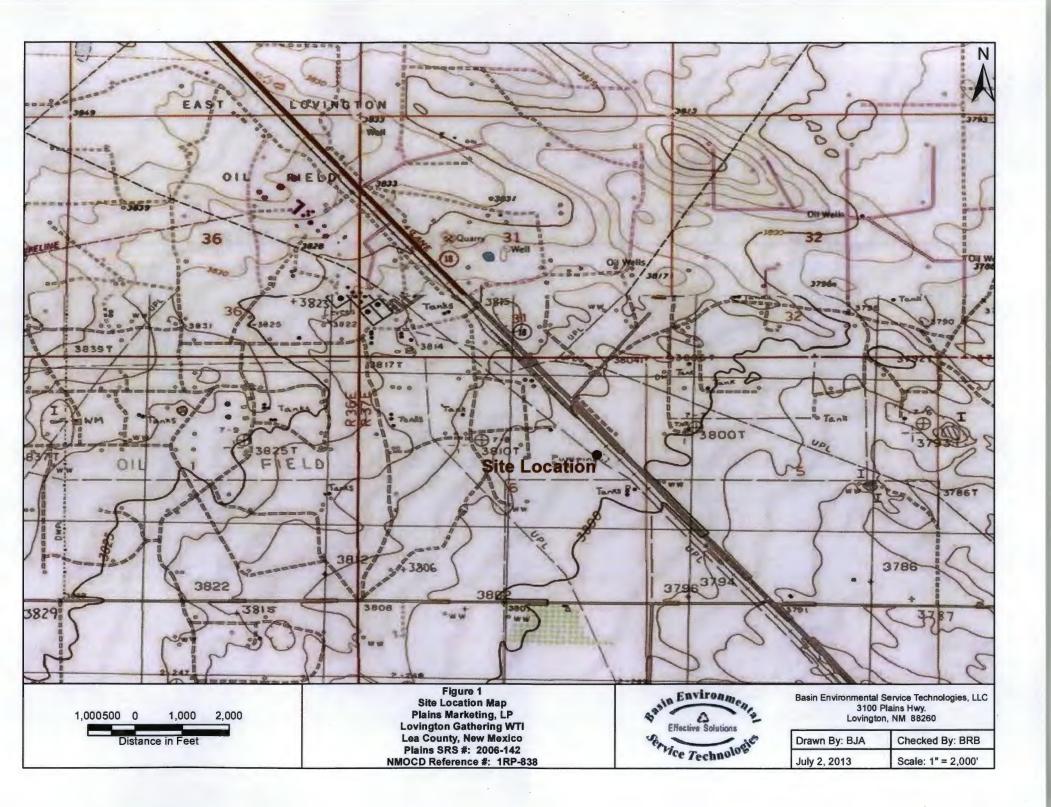
Basin Environmental Service Technologies, LLC, has prepared this *Quarterly Monitoring Report* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain 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.

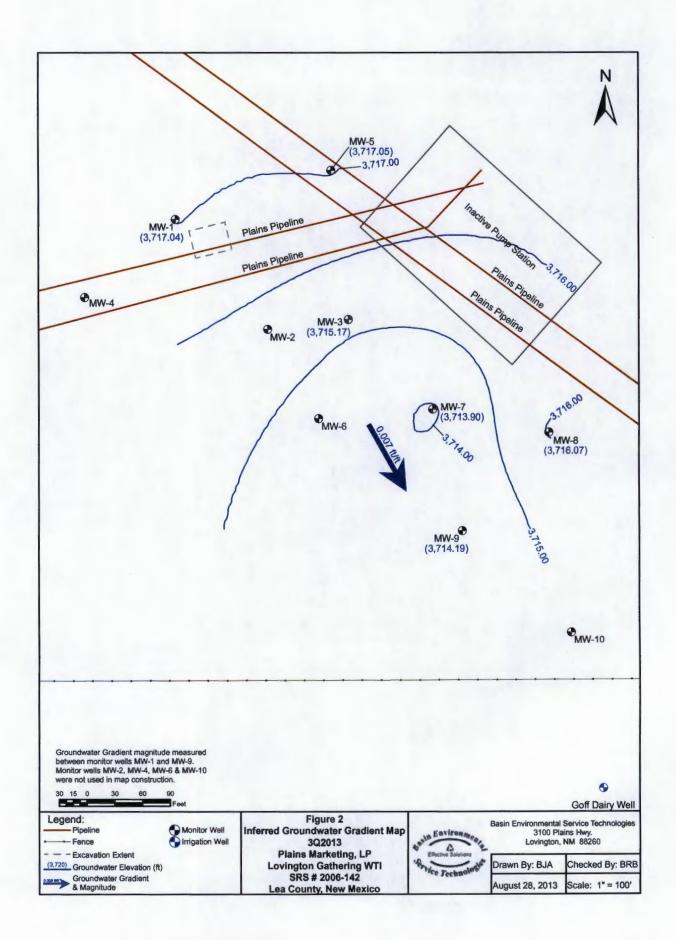
This report has been prepared for the benefit of Plains Marketing, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Marketing, LP.

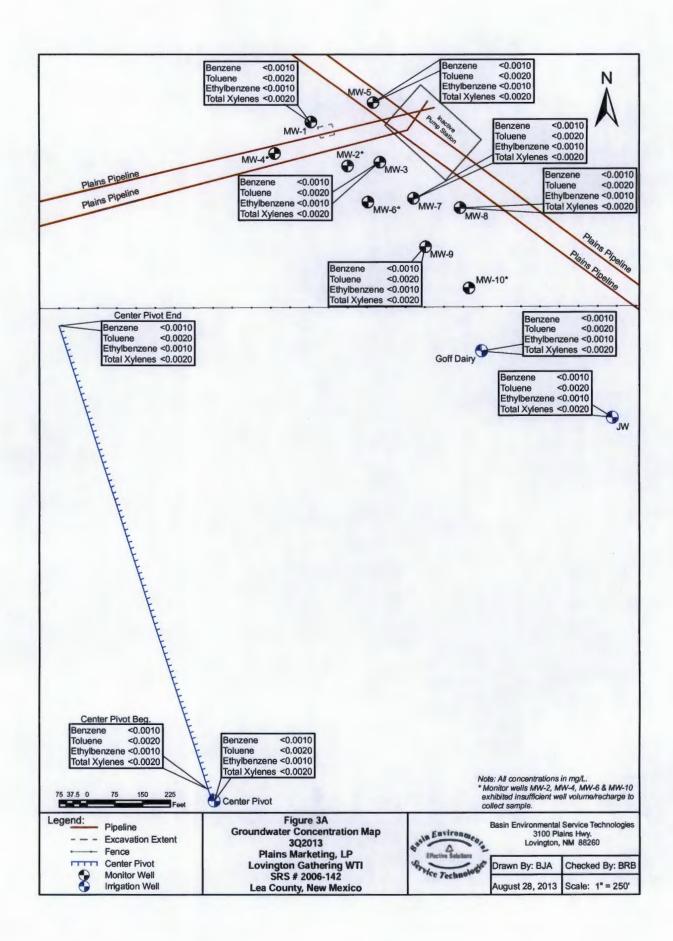
#### **8.0 DISTRIBUTION**

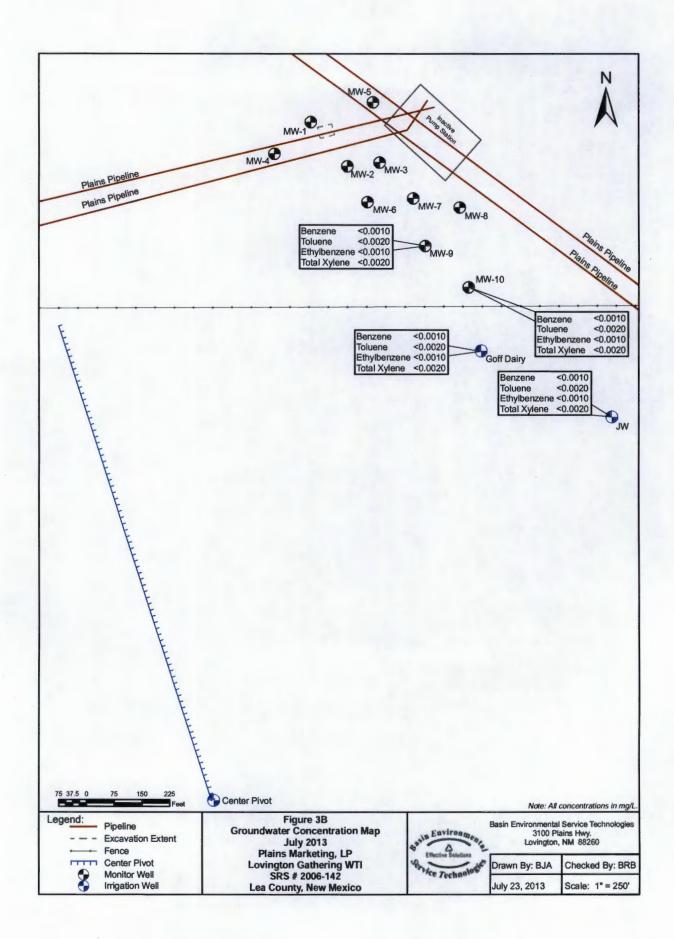
- Copy 1: Edward Hansen New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505 Edwardj.hansen@state.nm.us
- Copy 2: Geoff Leking New Mexico Oil Conservation Division 1625 N. French Drive Hobbs, New Mexico 88240 GeoffreyR.Leking@state.nm.us
- Copy 3: Jeff Dann Plains Marketing, L.P. 333 Clay Street Suite 1600 Houston, Texas 77002 jpdann@paalp.com
- Copy 4: Jason Henry Plains Marketing, L.P. 2530 State Highway 214 Denver City, Texas 79323 jhenry@paalp.com
- Copy 5: Basin Environmental Service Technologies, LLC P. O. Box 301 Lovington, New Mexico 88260 bjarguijo@basinenv.com

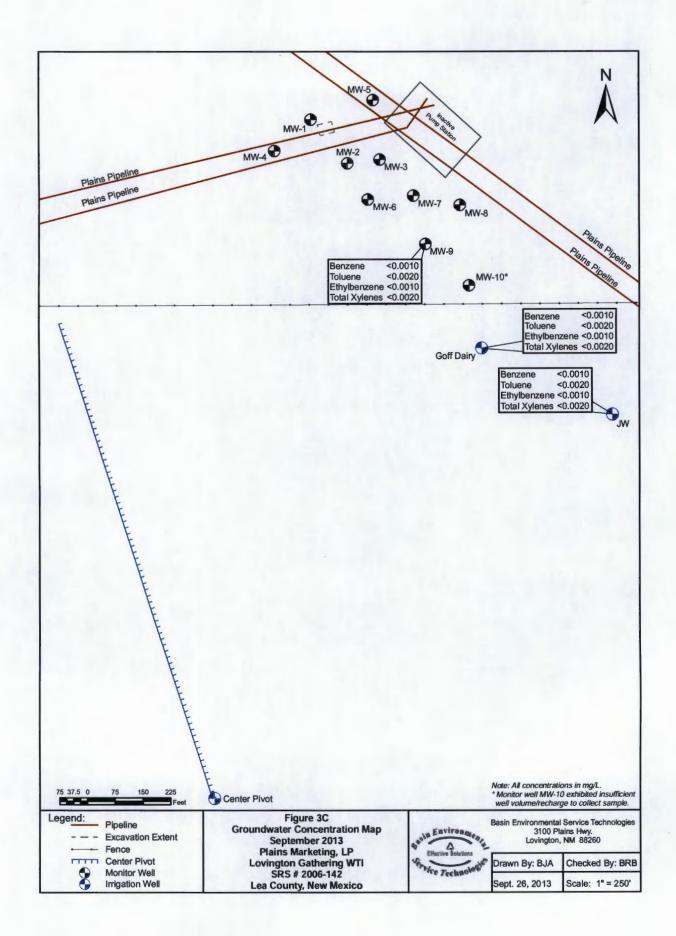
# Figures











# Tables

# TABLE 12013 GROUNDWATER ELEVATION DATA

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
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	-	-
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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
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	-	-
	and the second sec					
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
÷.						
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	-	-
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
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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
					and the second sec	
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

#### 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-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	-	-

Elevations based on the North American Vertical Datum of 1929. - = Not applicable

				300.1	SW846-6010					
SAMPLE LOCATION	SAMPLE DATE	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)	CHROMIUN (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	- 1991 <u>-</u>	
	12/28/06	0.010	<0.0010	<0.0010	0.024	<0.0010	0.024	0.010		<u> </u>
_,	03/16/07	0.161	<0.0010	<0.0010	0.024	<0.0010	0.024	0.169		
		0.005	<0.0010	<0.0010	<0.015	<0.0010	<0.015	0.005	<u> </u>	
	05/31/07	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005		-

				METH	ODS: EPAS	W 846-8021b			300.1	SW846-6010C		
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-		
	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									
- 0 1 <sup>2</sup> -	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						
	「「「「「「「「」」」、「「「「「」」」、「「「」」	中国人民主义	的资源通道		當時間 部分的	所以上、高品牌構			「「「「「「」」	all the second		
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	-	-		

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
	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	-	-
	- TANK OF	一個政治調整了非常				- 1999年後日本語	「いた時間の「とき		n fin e na Brown e C	"新教师教师"的"
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	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
	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				
	1 San Star	和自己的思想。	S. A. A. A. A.			a a saint	an a		나는 신문값을	
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	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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-5	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	-	-
and the state of the state of	1. N AND					しょうそう 防惑				a state and a second
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	-	-
in the second	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	-	-
- 4 <b>1</b>	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	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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				
				and the second			1. 34.435.487.8		11 ST14	and the second s
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	-	-
	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	-	-

	1	METHODS: EPA SW 846-8021b										
SAMPLE LOCATION	SAMPLE DATE	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)	CHROMIUN (mg/L)		
MW-7	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	-	-		
	一、「「「「「「「」」			S. A. C. Mar		的思想的一切						
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	-	-		
	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	-	-		
		建建筑重新的	10 3 3				and a state of the	16.76 96-26	$[-\infty]_{\mu} = [21]_{\mu} = [21]_{\mu}$			
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	-	-		

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
	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	-	-

				300.1	SW846-6010C					
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
	一般的容易	differing filmlad.			内卫 空经联系	14.46.46.464	Source Martine	New Market Constant		Strongen h
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	-	-
11.11. A.	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	-	-

## TABLE 2 CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

SAMPLE LOCATION		METHODS: EPA SW 846-8021b									
	SAMPLE DATE	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	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	-	-	
	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					
	(1) 化增加的 (1)	12 A Contraction	1.06030.3133						19月1日月日日	다 알려 주말 것 같아. 집	
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	-	-	
· /		一些成人的大机		State States	の変化のない	- 1. A. (1981) (1993)		The Martin State	and the second second	al and a second	
Goff Dairy - Ctr. Pivot Well	07/07/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-	
<b>f</b>	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	-	-	

				300.1	SW846-6010C					
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
	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	-	-
13-42 篇章学校 12-22 前子管理			會市 國際	中心的感觉	and all the					ter de la companya d La companya de la comp
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	-	-

	SAMPLE DATE			300.1	SW846-6010C					
SAMPLE LOCATION		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 Beg.	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	-	-
and the second									a da ser este de la composición de la c	
Goff Dairy - Ctr. Pivot End	07/07/11	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
41.41	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	-	-
									and a second	A She was t
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	-	-

## TABLE 2 CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021b								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	09/11/12	<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	-	-
	09/19/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
NMOCD REGULATORY ST	ANDARD	0.01	0.75	0.75	τοτ	AL XYLENES	0.62	n de selection de	1.6	0.05

# Appendices

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# Appendix A Laboratory Analytical Reports

# 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: AZ00989): 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.

Ams Roah

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



#### Project Id: 2006-142

#### Contact: Ben Arguijjo

#### **Project Location:**

Certificate of Analysis Summary 466896

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



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

Report Date: 23-JUL-13

Project Manager: Kelsey Brooks

	Lab Id:	466896-001	466896-002	466896-003	466896-004	
Analysis Requested	Field Id:	MW-9	MW-10	Goff Dairy Well	JW Well	
Anuiysis Kequesieu	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	
	Sampled:	Jul-16-13 00:00	Jul-16-13 00:00	Jul-16-13 00:00	Jul-16-13 00:00	
BTEX by EPA 8021	Extracted:	Jul-22-13 16:00	Jul-22-13 16:00	Jul-22-13 16:00	Jul-22-13 16:00	
	Analyzed:	Jul-22-13 21:19	Jul-22-13 21:35	Jul-22-13 21:51	Jul-22-13 22:07	
	Units/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	
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.

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Huns Boah

Kelsey Brooks Project Manager

Final 1.000



# **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.

DI	Vano	rtina	11701	÷ .
INL/	Repo	TUITE	 	L.
		0		

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

PQL Practical Quantitation Limit MQL Method Quantitation Limit

**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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LOQ Limit of Quantitation

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2505 North Falkenburg Rd, Tampa, FL 33619
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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

Vork Orders : 466896, Lab Batch #: 918983	Sample: 466896-001 / SMP	Batch		<b>):</b> 2006-142 Water		
Units: mg/L	Date Analyzed: 07/22/13 21:19	SURROGATE RECOVERY STUDY				
BTEX	X by EPA 8021 Analytes	Amount         True         Control           Found         Amount         Recovery         Limits           [A]         [B]         %R         %R           [D]         [D]         [D]         [D]         [D]				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	SUF	RROGATE RE	COVERY S	STUDY	
	K 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	SUI	RROGATE RE	<b>COVERY</b>	STUDY	
	X 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	SUI	RROGATE RI	ECOVERY	STUDY	
	X 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 / B	LK Batch	: 1 Matrix	Water		
Units: mg/L	Date Analyzed: 07/22/13 21:03		RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene			1, Cato			<u> </u>
, =		0.0284	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

Work Orders : 466896			-	<b>D:</b> 2006-142		
Lab Batch #: 918983	Sample: 641457-1-BKS / B					
Units: mg/L	Date Analyzed: 07/22/13 20:15	SU	RROGATE RE	COVERY	STUDY	
BTE	X 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 / B	SD Batcl	h: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 07/22/13 20:31	SU	RROGATE RE	COVERY S	STUDY	
BTE	EX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Analytes	0.0222	0.0200		00.120	
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0323	0.0300	108	80-120	
		0.0297	0.0300		80-120	
Lab Batch #: 918983	Sample: 466896-001 S / MS					
Units: mg/L	Date Analyzed: 07/22/13 23:59	SU	RROGATE RE	COVERY S	STUDY	
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	VLU	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene		0.0311	0.0300	104	80-120	
Lab Batch #: 918983	Sample: 466896-001 SD / N	MSD Batel	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 07/23/13 00:15	SU	RROGATE RE	<b>COVERY</b>	STUDY	
BTE	X 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.



#### Project Name: Lovington Gathering WTI

8

Work Order #: 466896 Analyst: KEB Lab Batch ID: 918983	Sample: 641457-1-E						Project ID: 2006-142 Date Analyzed: 07/22/2013 Matrix: Water					
Units: mg/L BTEX by EP.	A 8021	[A] Result %R Duplicate %R						RPD %	Control Limits %R	Control Limits %RPD	Flag	
Analytes			(B)	[C]	[D]	[E]	Result [F]	[G]				
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	: 2006-1	42			
Lab Batch ID:	918983	QC- Sample ID:	466896	-001 S	Ba	tch #:	1 Matrix	: Water				
Date Analyzed:	07/22/2013	Date Prepared	07/22/2	.013	An	alyst: H	KEB					
<b>Reporting Units:</b>	mg/L		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	ГЕ REC	OVERY	STUDY		
	BTEX by EPA 8021	Parent Sample Result	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits %R	Control Limits	Flag
	Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%0K	%RPD	
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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Work Order #: 466896

## **XENCO** Laboratories



Prelogin/Nonconformance Report- Sample Log-In

**Client: PLAINS ALL AMERICAN EH&S** 

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

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: Mury Moah Kelsey Brooks Checklist reviewed by: Mury Moah Kelsey Brooks

Date: 07/18/2013

Kelsey Brooks

Date: 07/18/2013

Company	Dean Chynonneniar Service	Technologies, LL	с	Phone:		96-2378		Work D	ays = D	Need	results b		billable H		Tim	ie:		GC Glass Clear ZB Zip Lock PA Plastic Amber PC Plastic o PC Plastic Clear Other	Clear
Address	3100 Plains Hwy.		10: 1 111	Fax:	(575)3	96-1429		Std (	5-7D) 5H	irs 1D	2D 3D	4D <u>5D</u>	<u>70</u> 100	) 14D	Other	2772555500000	11101101010	Size(s) 2oz 4oz 8oz 16oz 32oz 1Gai 40mil 125 mil 250 mil 500 mil 1L, Other	
City:	Lovington		State: NM	Zip:	88260				Address of a second sec					y1				Preservative Type (	Xodes
PM/Attn: Project IE	Ben J. Arguijo		Email	bjarguijo PO#:	@basiner	nv.com			VC	ļ	<u> </u>			<u> </u>	<u> </u>	ļ		A None E. HCL I. Ice B HNO, F MeOH J MCAA	C
-roject iL	Eovington Gathening WTI SRS #2006-142			r 0#.	PAA-J	Henry			E,I	1								H,SO, G Na,S,O, K ZnAc&NaOl D NaOH H NaHSO, L Asbc Ao O	H M&NaOH
nvoice T	Jason Henry Plains All Ame	ican		Quote #								[			1	1			
Samuel	Signature:	1	Event: Daily Annual		Monthly	Quarte		ТРН	BTEX	Chloride								A Matutx Type Cod GW Ground Water S Sol/Sodim WW Wate Water W Wipe DW Dinting Water O OH SW Surface Water O OH OW Ocean-Sea Water T Tosse PL Product-Quid U Unine PS Product-Solid B Blood	ent/Solid
						i l'i Nir hli		Lab O	nty:	I		l		l	l	<u> </u>		SL Sudge Other REMARKS	
_1	MW-9	7/16/13		GW		3			x										
_2	MW-10	7/16/13		GW		3			x								1 1000 A 40		
3	Goff Dairy Well	7/16/13		GW		3			x										
4	JW Well	7/16/13		GW		3			x										
5	,						a salar									1			
6																1			
7								Ξ.	1							1			
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CTLs TF Xher:	RP DW NPDES LPST DryCin	FL TX GA M AL NM OH	IC SC NJ PA		123 NELAC		P AFCEE	QAPP	ADaPT XLS Othe	SEOD E	RPIMS	Match fr Absent	unclear	129	2	31	0	Non-Conformances found?	
	en billingen besternen i der som er biller in som er som er besterne at an som er biller at at at at at at at a		an and a set of the se			an des gans su men aussi des sec	r han de la			netis sieres Successiones		a i trat a North Maria a Maria a sua a					L. Ann	Samples intact upon arrival? Received on Wet ica?	·····
11	in a les	$\sim$			7-1	7-13	8:4	10,	KR:	TIL	ai	$\mathcal{M}$	SI	7/5	2113	X2	13	Received within holding time?	

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. Senal #

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 inverest at 1.5% per month unitipaid 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	Acceptable Tempera	Acceptable Temperature Range: 0 - 6 degC					
Date/ Time Received: 07/17/2013 08:43:00	استبعها المقدالة البيدة بالق	Air and Metal samples Acceptable Range: Ambient					
Work Order #: 466896	Temperature Measu	iring device used :					
	Sample Receipt Checklist	Comments					
#1 *Temperature of cooler(s)?		1					

	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: Mmg Moah Kelsey Brooks Checklist reviewed by: Mmg Moah Kelsey Brooks

Date: 07/18/2013

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: AZ00989): Arizona (AZ0758)



28-AUG-13



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

Reference: XENCO Report No(s): 469081 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) 469081. 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. 469081 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.

Amstroah

Kelsey Brooks Project Manager

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

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



# 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 DAIRYCTR. PIVOT WELL	W	08-21-13 13:40		469097-003
GOFF DAIRYCTR. PIVOT END	W	08-21-13 13:50		469097-004
GOFF DAIRYCTR. 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



#### **Project Id:** SRS# 2006-142

#### Contact: Ben Arguijo

Project Location: NM

# Certificate of Analysis Summary 469081 PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Lovington Gathering WTI** 



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

Report Date: 28-AUG-13

								Project Ma	nager:	Kelsey Brook	S			
	Lab Id:	469081-	469081-001		469081-002		469081-003		004	469081-005		469081-006		
Analysis Paguastad	Field Id:	MW-	MW-1		MW-3		MW-5		7	MW-8		MW-9		
Analysis Requested	Depth:													
	Matrix:	WATE	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	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	Extracted:	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	
	Analyzed:	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	
	Units/RL:	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.

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

Huns Roah

Kelsey Brooks Project Manager



**Project Id:** SRS# 2006-142

Contact: Ben Arguijo

### Certificate of Analysis Summary 469097 PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI

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

Report Date: 28-AUG-13

roject Location:								Report	Date:	28-AUG-13		
oject Docation.								<b>Project Ma</b>	nager:	Kelsey Brook	CS	
	Lab Id:	469097-	001	469097-0	002	469097-	003	469097-0	004	469097-	005	
An alveia Dearcastad	Field Id:	JW WE	JW WELL		Y WELL	GOFF DAIRYC	YCTR. PIVOTOFF DAIRYCTR. PIVO			GOFF DAIRYC	TR. PIVOT	
Analysis Requested	Depth:											
	Matrix:	WATE	R	WATE	WATER		WATER		WATER		R	
	Sampled:	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	Extracted:	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		
	Analyzed:	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	
	Units/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	
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.

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

Huns Roah

Kelsey Brooks Project Manager

Final 1.000



# **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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(602) 437-0330	



# Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Vork Orders: 469081			-	): SRS# 200	6-142					
Lab Batch #: 921619	Sample: 469081-001 / SMP	Batch								
Units: mg/L	Date Analyzed: 08/27/13 14:40	SURROGATE RECOVERY STUDY								
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
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	n: 1 Matrix:	Water						
Units: mg/L	Date Analyzed: 08/27/13 14:57	SU	RROGATE RE	COVERY	STUDY					
BTE	X 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	Batcl	h: <sup>1</sup> Matrix:	Water						
Units: mg/L	Date Analyzed: 08/27/13 15:12	SURROGATE RECOVERY STUDY								
BTE	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1,4-Difluorobenzene	Analytes	0.0303	0.0300	101	80-120					
4-Bromofluorobenzene		0.0303	0.0300	81	80-120					
Lab Batch #: 921619	Sample: 469081-004 / SMP	Batcl								
	- -		RROGATE RE		STUDY					
Units: mg/L BTE	Date Analyzed: 08/27/13 15:28 X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1.4-Difluorobenzene	Analytes	0.0302	0.0200		80.120					
4-Bromofluorobenzene		0.0302	0.0300	101 83	80-120 80-120					
					80-120					
Lab Batch #: 921619	Sample: 469081-005 / SMP	Bate	h: <sup>1</sup> Matrix: RROGATE RI		STUDY					
Units: mg/L	Date Analyzed: 08/27/13 16:45	50	KRUGATE KI							
BTE:	X 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	1				
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, Lab Batch #: 921619	Sample: 469081-006 / SMP	Betal		): SRS# 2000	5-142		
Units: mg/L	Date Analyzed: 08/27/13 17:01	Batel	RROGATE RE		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 / BL	.K Batc	h: 1 Matrix:	Water			
Units: mg/L	Date Analyzed: 08/27/13 13:42	SU	RROGATE RE	ECOVERY S	STUDY		
	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 / BK	KS Bate	h: <sup>1</sup> Matrix:	Water			
Units: mg/L	Date Analyzed: 08/27/13 12:54	SURROGATE RECOVERY STUDY					
	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 / BS	D Batc	h: <sup>1</sup> Matrix:	Water			
Units: mg/L	Date Analyzed: 08/27/13 13:10	SU	RROGATE RI	ECOVERY	STUDY		
	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						
Units: mg/L	Date Analyzed: 08/27/13 15:44	SU	<b>RROGATE RI</b>	ECOVERY	STUDY		
	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 / BAll results are based on MDL and validated for QC purposes.



#### Project Name: Lovington Gathering WTI

8	

Work Order #: 469081 Analyst: JUM Lab Batch ID: 921619	Sample: 643137-1-Bk		-	red: 08/27/201 h #: 1	3		Project ID: SRS# 2006-142 Date Analyzed: 08/27/2013 Matrix: Water									
Units: mg/L		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
BTEX by EP	A 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Bik. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag				
Analytes			[ <b>B</b> ]	[C]	[D]	[E]	Result [F]	[G]								
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





### **Project Name: Lovington Gathering WTI**

Batch #:

1

Work Order #: 469081 Lab Batch #: 921619

Date Analyzed: 08/27/2013

QC- Sample ID: 469081-001 S

Date Prepared: 08/27/2013 Matrix: Water

**Project ID:** SRS# 2006-142 Analyst: JUM

Reporting Units: mg/L	MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
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\*(C-A)/B Relative Percent Difference [E] = 200\*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



# Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 46909	7,		Project II	<b>):</b> SRS# 200	6-142									
Lab Batch #: 921619	Sample: 469097-001 / SMP	Batch												
Units: mg/L	Date Analyzed: 08/27/13 17:17	SU	RROGATE RI	ECOVERY	STUDY									
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags								
	Analytes			[D]										
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	Batcl												
Units: mg/L	Date Analyzed: 08/27/13 17:33	SURROGATE RECOVERY STUDY												
BTE	X 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	Batcl	h: 1 Matrix	Water	•									
Units: mg/L	Date Analyzed: 08/27/13 17:49	SURROGATE RECOVERY STUDY												
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags								
1,4-Difluorobenzene	1 mary cos	0.0302	0.0300	101	80-120	· · · · · · · · · · · · · · · · · · ·								
4-Bromofluorobenzene		0.0255	0.0300	85	80-120									
Lab Batch #: 921619	Sample: 469097-004 / SMP	Batc	h: <sup>1</sup> Matrix:	Water										
Units: mg/L	Date Analyzed: 08/27/13 18:06	SURROGATE RECOVERY STUDY												
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags								
	Analytes	0.0000	0.0200		00.100									
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0300	0.0300	100	80-120									
L		0.0247	0.0300	82	80-120									
Lab Batch #: 921619	Sample: 469097-005 / SMP		h: 1 Matrix		OTUDY									
Units: mg/L	Date Analyzed: 08/27/13 18:22		KRUGATE RI	GATE RECOVERY STUDY										
BTE	X 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	5		Project II	<b>):</b> SRS# 2006	6-142	
Lab Batch #: 921619	Sample: 643137-1-BLK / B	LK Batel	h: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 08/27/13 13:42	SU	RROGATE RE	COVERY S	STUDY	
BTE	X 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 / B	KS Batel	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 08/27/13 12:54	SU	RROGATE RE	COVERY S	STUDY	
BTE	X 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 / B	SD Batcl	h: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 08/27/13 13:10	SU	RROGATE RE	COVERY S	STUDY	
BTE	X 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	and 1997	0.0260	0.0300	87	80-120	
Lab Batch #: 921619	Sample: 469081-001 S / MS	S Batcl	h: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 08/27/13 15:44	SU	RROGATE RE	COVERY S	STUDY	A
BTE	X 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.



#### Project Name: Lovington Gathering WTI

Work Order #: 469097 Analyst: JUM Lab Batch ID: 921619 Units: mg/L	Sample: 643137-1-E	Project ID: SRS# 2006-142         Date Prepared:       08/27/2013       Date Analyzed:       08/27/2013         BKS       Batch #:       1       Matrix:       Water         BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE       RECOVERY STUDY											
BTEX by EPA 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	0.105	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

**Project ID:** SRS# 2006-142

Date Analyzed: 08/27/2013	Date Prepared: 08/2	7/2013	Α	nalyst: J	UM				
QC- Sample ID: 469081-001 S	Batch #: 1		r	Matrix: Water					
Reporting Units: mg/L	MAT	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY			
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  $[D] = 100^{+}(C-A)/B$ Relative Percent Difference  $[E] = 200^{+}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

XE	NCO Houston: 4143 Greenbra Hobbs: 4008 N Grimes H	ar Dr.: Stafford, 1 Hobbs, NM 882	CHAI 1X 77477 (281 40 (575)392-7							432:563-1	800		Page W.O #	-	469	031	VA Vial Amber ES Encore Sampler VC Vial Clear TS TetraCore Sampler VC Vial Clear TS TetraCore Sampler VP Vial Pre-preserved AC Ar Canster GA Glass Amber TB Tectar Bag GC Glass Clear ZB Zip Lock Bag PA Plastic Amber PC Plastic Clear
Company:	Basin Environmental Service Tech	hnologies. LL(	C	Phone:	(575)396	-2378	TAT W	Vork Day	ys = D	Need r	esuits by	ſ:			Time	:	PC Plastic Clear Other
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City:	Lovington		State: NM	Zip:	88260					il il destination	arright and a second	ianthetras		(1) 1174 (prin) (1) 1174 (prin) (1) 1174 (prin)			Preservative Type Codes
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1	MW-1	8/21/13	12:00	GW		3			x							ar a sector de la composition	
2	MW-3	8/21/13	11:00	GW		3		A Sector	X							A CONTRACTOR	
3	MW-5	8/21/13	11:30	GW		3			x	1							
4	MW-7	8/21/13	10:00	GW		3			x		1					1 10 10 10 10 10 10 10 10 10 10 10 10 10	
5	MW-8	8/21/13	09:30	GW		3			X	1							
6	MW-9	8/21/13	14:30	GW		3			x	1						10.00	
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2									ý.	~7				52	5-13	0740	Proper containers used?
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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 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 unit 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. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are 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.

Lab Compar Address			(575)39	6-2378	,	LAB W.O # : Field billable Hrs : TAT Work Days = D Need results by: Time: Std (5-7D) 5firs 1D 2D 3D 4D 5D 7D 10D 14D Other									VP Vial Pre-preserved AC A GA Glass Amber TB T GC Glass Clear ZB 2	FerraCore Sampler for Canster Foldar Bag Zip Look Bag Plastic Clear			
City:	Lovington		State: NM	Zip	88260			A construction of the second s				ARTER ARTER	nessentesteste Followerset	6788 167 199 199 7 6 02 11 6 6 6 19 1	rectation and and and and and and and and and an			Preservative T	rpe Codes
PM/Attn	<sup>t</sup> Ben J. Arguijo		Email		@basinen	w.com			vc								1.22	A.None EHCL the B.HNO, F.MeOH J.M.	ACAA C.
Project	ID: Lovington Gathering WTI SRS #2006-142			PO#:	PAA-J	Henry			E,I									H,SO, G Na,S,O, K ZNA O NaOH H NaHSO, L A	
Invoice				Quote #	:														
Samet	Signature:		Event: Daily Annual		Monthly	Quarter		ТРН	втех	Chloride									ol/Sediment/Solid hpe ir i ssue rine
				an a		4 1983 (1986) - 1	<u>.</u>	Lab Oni	и									REMARI	(S
1	JW Well	8/21/13	2:15	GW		3			x								5. · · ·		
2	Goff Dairy Well	8/21/13	2:00	GW		3			x										
3	Goff Dairy - Ctr. Pivot Well	8/21/13	1:40	GW		3			x										
4	Goff Dairy - Ctr. Pivot End	8/21/13	1:50	GW		3			x										
5	Goff Dairy - Ctr. Pivot Beg.	8/21/13	1:30	GW		3			x								- -	5	
6																			
_7																		·	
8																			
9																			
_0																			
	n na fall an de factoris de la constante de la La constante de la constante de									SEDD E			ncomplete					Non-Conformances found?	
CTLs Other:	TRRP DW NPDES LPST DryCh	AL NM OF		A OK LA	NELAC	DoD-ELA	POther.		XLS Oth				Unclear	17.2	<u>^2</u>	3	5	Samples intact upon arrival?	нарадного странурал жили страно. Раббула странурал жили страног
	Mr. a Jurn		Stilling Party surveys	a marta Albani	3/2	2/13	8:3	нинин 50	11	unth	The	97.9652.807's 54.5	landar (5 pt - 2018)	08-2	2-73	08	57	Labeled with proper preservatives? Received within holding time?	interpretation in a second sec
24	the particular	<u> </u>			1				M	~~~				823	3-13	094		Custody seals intact? VOCs rec'd w/o headspace?	
3			[		T		T		1							V 1	.In	Proper containers used? pH ventiled-acceptable, excl VOCs?	anan ni sherima aaaaaan n

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 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



# **XENCO** Laboratories



Prelogin/Nonconformance Report- Sample Log-In

**Client: PLAINS ALL AMERICAN EH&S** Date/ Time Received: 08/23/2013 09:45:00 AM

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

Comments

Work Order #: 469097

Sample Receipt Checklist

#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: Mrw Noah Kelsey Brooks Checklist reviewed by: Mrw Noah Kelsey Brooks

Date: 08/23/2013

Date: 08/23/2013



### **XENCO** Laboratories



Prelogin/Nonconformance Report- Sample Log-In

**Client: PLAINS ALL AMERICAN EH&S** Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 08/23/2013 09:34:00 AM Temperature Measuring device used : Work Order #: 469081

Comments Sample Receipt Checklist #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 Checklist reviewed by: Kelsey Brooks Kelsey Brooks

Date: 08/23/2013

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: AZ00989): Arizona (AZ0758)



8

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.

Ams Boah

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

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## 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



#### Project Id: SRS#2006-142

#### Contact: Ben Arguijo

#### **Project Location:**

**Certificate of Analysis Summary 470800** PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Lovington Gathering WTI** 



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

Report Date: 26-SEP-13

Project Manager: Kelsey Brooks

	Lab Id:	470800-001	470800-002	470800-003		
Analysis Requested	Field Id:	MW-9	JW Well	Goff Dairy Well		
Analysis Kequesteu	Depth:					
	Matrix:	WATER	WATER	WATER		
	Sampled:	Sep-19-13 15:30	Sep-19-13 10:30	Sep-19-13 10:00		
BTEX by EPA 8021	Extracted:	Sep-25-13 17:00	Sep-25-13 17:00	Sep-25-13 17:00		
	Analyzed:	Sep-25-13 22:44	Sep-25-13 23:00	Sep-25-13 23:16	5	
	Units/RL:	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

Huns Boah

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	

Phone

Fax



## Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 470800 Lab Batch #: 923642	, Sample: 470800-001 / SMP	Batch	. •	<b>):</b> SRS#2006 Water	-142	
Units: mg/L	Date Analyzed: 09/25/13 22:44		ROGATE RI		STUDY	
ВТЕ	X 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				
Units: mg/L	Date Analyzed: 09/25/13 23:00	SUR	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	N81001	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	_	ROGATE RI		STUDY	
	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
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 / Bl	LK Batch	: 1 Matrix	Water		
Units: mg/L	Date Analyzed: 09/25/13 20:53	SUF	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021 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		0.0296	0.0300	99	80-120	
Lab Batch #: 923642	Sample: 644409-1-BKS / BI	KS Batch	: 1 Matrix	Water	1	
Units: mg/L	Date Analyzed: 09/25/13 20:05		ROGATE RI		STUDY	
	X by EPA 8021 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		0.0296	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

ork Orders: 470800	*		-	<b>):</b> SRS#2006	-142						
Lab Batch #: 923642	Sample: 644409-1-BSD / B										
Units: mg/L	Date Analyzed: 09/25/13 20:21	SURROGATE RECOVERY STUDY									
BTE	X 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	5 Bate	h: 1 Matrix	Water							
Units: mg/L	Date Analyzed: 09/26/13 09:00	SURROGATE RECOVERY STUDY									
BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	Analytes			[D]							
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 / N	ASD Bate	h: 1 Matrix	Water							
Units: mg/L	Date Analyzed: 09/26/13 08:44	SU	RROGATE RI	ECOVERY	STUDY						
BTE	X 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.





#### Project Name: Lovington Gathering WTI

Work Order #: 470800 Analyst: ARM Lab Batch ID: 923642	<b>Sample:</b> 644409-1-BK		Batc	ed: 09/25/201 h #: 1 K /BLANK S		RI ANK S	PIKEDUPI	Date A	nalyzed: ( Matrix: \			
Units: <sup>mg/L</sup> BTEX by EP Analytes	A 8021	Blank ample 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	0.114	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#2	006-142			
Lab Batch ID: 923642	QC- Sample ID:	470800	-003 S	Ba	tch #:	1 Matrix	: Water				
Date Analyzed: 09/26/2013	Date Prepared:	09/25/2	013	An	alyst: A	ARM					
Reporting Units: mg/L		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA	Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
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  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}[(C-F)/(C+F)]$  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, 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	d by: <u>a decentration</u> Candace James	Date: 09/23/2013
Checklist reviewed	J by: Julian Martinez	Date: <u>09/23/2013</u>

3100 Parks My       Citri Lowington       State: NM       Zitrie: NM       Zitrie	Company:	Houston: 4143 Greenbra Hoobs: 4008 N Grimes Basin Environmental Service Tect				(575)39	6-2378	TAT	Work Da	ys = D	Need r	esults b	Field bi	W.O # Ilable Hr	ns:	Tim	e:		GA Glass Amber 118 Tedar Bag GC Glass Calear 28 Zip Lock Bag PA Plass Calear PC Plastic Clear PC Plastic Clear Other	
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Page 12 of 13

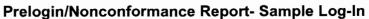
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and lesting 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



Work Order #: 470800

## **XENCO** Laboratories





**Client: PLAINS ALL AMERICAN EH&S** 

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

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/ coole	er? 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 Custod	y? Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ rece	eived? 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 C	ustody? 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, H	2SO4? Yes	
#22 >10 for all samples preserved with NaAsO2+Nat	OH, 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: Audio contract Candace James

Candace James

Date: 09/23/2013

Checklist reviewed by:

Date: 09/23/2013

# Appendix B Release Notification & Corrective Action (Form C-141)

State of New Mexico **Energy Minerals and Natural Resources** 

**Oil Conservation Division** 

Form C-141 Revised October 10, 2003

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

District IV 1220 S. St. Fran	-	-	1220 South St. Francis Dr. Santa Fe, NM 87505							W	with Rule 116 on back side of form		
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			Nen		ativu	OPERA				al Report		Final Report	
Name of Co	mpany Pl	ains Pipeline					nille Reynolds		<u></u>	n report		T blue report	
		Hwy 82, Lov		NM 88260	1	elephone h	lo. 505-441-096	and a second					
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Was Immedi	ate Notice		Yes [	] No 🔲 Not Re	equired	If YES, To Pat Capert	Whom?			6	1223	24 25 26 23 28	
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Printed Nam	e: Camille	Reynolds					District Supervis	юr:					
Title: Remed	liation Coo	rdinator				Approval Da	te:		Expiration	Date:			
		olds@paalp.co	m		(	Conditions o	f Approval:			Attache			
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## RECEIVED OCD

2013 JUL 31 P 2:21

July 5, 2013

Mr. Edward Hansen New Mexico Oil Conservation Division Environmental Bureau 1220 South St. Francis Drive Santa Fe, New Mexico 87505

RE: Plains Pipeline, L.P. Lovington Gathering WTI NMOCD Reference # 1R-838 / AP-96 Unit Letter H of Section 6, Township 17 South, Range 37 East Lea County, New Mexico

Dear Mr. Hansen:

Plains Pipeline, L.P. is pleased to submit the attached *Quarterly Monitoring Report*, dated July 2013, for the Lovington Gathering WTI release site located in Section 6 of Township 17 South, and Range 37 East of Lea County, New Mexico. This document summarizes the status of recent activities performed at this site during the second quarter of 2013.

Should you have any questions or comments, please contact me at (575) 441-1099.

Sincerely,

MU

Jason Henry V Remediation Coordinator Plains Pipeline, L.P.

CC: Geoffrey R. Leking, NMOCD, Hobbs Office

Enclosure

## Basin Environmental Service Technologies, LLCECEMED OCD

3100 Plains Highway P. O. Box 301 Lovington, New Mexico 88260 bjarguijo@basinenv.com Office: (575) 396-2378 Fax: (575) 396-1429

2013 JUL 31 P 2: 21 ćs **Effective Solutions** 

#### QUARTERLY MONITORING REPORT April - June 2013

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 #: 2006-0142 NMOCD Reference #: 1RP-838

Prepared for:



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

Prepared By:

Basin Environmental Service Technologies, LLC P. O. Box 301 Lovington, New Mexico 88260

**July 2013** 

Ben J. Arguijo Project Manager

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3.0	FIELD ACTIVITIES	2
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#### FIGURES

Figure 1 – Site Location Map

Figure 2 - Inferred Groundwater Gradient Map - 2Q2013

- Figure 3A Groundwater Concentration Map 2Q2013
- Figure 3B Groundwater Concentration Map April 2013
- Figure 3C Groundwater Concentration Map June 2013

#### **TABLES**

Table 1 - Groundwater Elevation Data - 2Q2013

Table 2 - Concentrations of BTEX, Fluoride & Chromium in Groundwater

#### **APPENDICES**

Appendix A – Laboratory Analytical Reports Appendix B - Release Notification and Corrective Action (Form C-141)

#### **1.0 INTRODUCTION**

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Plains Marketing, LP (Plains), is pleased to submit this *Quarterly Monitoring Report* for the release site known as Lovington Gathering WTI in compliance with the New Mexico Oil Conservation Division (NMOCD) request of April 5, 2011, requiring submittal of a *Quarterly Monitoring Report* within thirty (30) days of the end of each calendar quarter. 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 the second quarter (April - June) of 2013 only.

#### 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 release on the Lovington Gathering WTI pipeline. Failure of a section of the six-inch (6") steel gathering line during purging resulted in a release of sweet crude oil. The failure was attributed to internal corrosion. The release was immediately reported to the NMOCD Hobbs District Office. The "Release Notification and Corrective Action" (Form C-141) indicated approximately twelve barrels (12 bbls) of crude oil was released from the pipeline, and approximately eight barrels (8 bbls) were recovered, resulting in a net loss of four barrels (4 bbls) of crude oil. The release occurred in a pasture containing various oil and gas production facilities and resulted in a visibly stained surface area measuring approximately one thousand, five hundred square feet (1,500 ft<sup>2</sup>). The Form C-141 is provided as Appendix B.

During initial response activities, the 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. The excavated area was fenced in and is characterized by a Plains pipeline right-of-way adjacent to an idled Plains pump station.

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. A series of eleven (11) soil borings were advanced to depths ranging from 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 sampling 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 phase-separated hydrocarbons (PSH) in any of the collected soil samples. Laboratory analytical results of selected soil samples did not indicate benzene, toluene, ethylbenzene, and total xylene (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 TPH concentrations 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 samples collected from monitor well MW-7 indicated additional monitor wells would be 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 standards 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 Remediation Efforts

Basin Environmental began manual, bi-weekly recovery of hydrocarbon-impacted groundwater from monitor well MW-9 in November 2009 to control the down-gradient migration of the dissolved-phase plume. Bi-weekly 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 *April - June 2012 Quarterly Monitoring Report* (dated July 2012), Plains requested the bi-weekly recovery events from MW-9 and MW-10 be reduced to weekly. On August 2, 2012, the request was granted by an NMOCD representative, and weekly recovery from MW-9 and MW-10 commenced in September 2012.

All recovered fluids are disposed of at an NMOCD-approved disposal facility near Lovington, New Mexico.

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

A quarterly groundwater monitoring event was conducted on May 23, 2013 (2Q2013), to assess the levels and extent of dissolved-phase constituents and PSH. The groundwater monitoring event consisted of measuring static water levels in the ten (10) on-site monitor wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. Monitor wells were purged using a PVC bailer of a minimum of three (3) well volumes of water, or until the wells were dry. 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 the site.

Diminished well volume and recharge in monitor well MW-2 attributable to the use of two (2) large-capacity irrigation wells (Goff Dairy Well and Goff Dairy - Ctr. Pivot Well) on property adjacent to the release site precluded sample collection from the monitor well during the quarterly monitoring event. Inclement weather precluded sample collection from monitor well MW-9. Monitor well MW-9 was sampled in a follow-up site visit on May 29, 2013.

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 April 9, May 29, and June 25, 2013.

Prior to the May 2013 monthly monitoring event, the Goff Dairy Well and Ctr. Pivot Well were valved off to facilitate harvesting/planting activities in the Goff Dairy #9 Pivot, precluding sample collection from the two (2) wells and the two (2) locations on the Goff Dairy Center Pivot (Goff Dairy - Ctr. Pivot Beginning and Goff Dairy - Ctr. Pivot End). The wells were not placed back in service until early to mid-June.

Locations of groundwater monitoring wells and the inferred groundwater gradient, which was constructed from groundwater elevation measurements collected during the 2Q2013 sampling event, are depicted in Figure 2A, "Inferred Groundwater Gradient Map - 2Q2013". The groundwater gradient map 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 3,715.94 feet in monitor well

MW-10 and 3,717.30 feet in monitor well MW-5. Groundwater elevation data is provided as Table 1, "2013 Groundwater Elevation Data".

No PSH was detected in any of the on-site monitor wells during the 2Q2013 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 and quarterly sampling events were delivered to Xenco Laboratories in Odessa, Texas, for determination of BTEX constituent concentrations using EPA Method SW846-8021b. Laboratory analytical results were compared to NMOCD regulatory limits based on 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".

#### 4.1 Quarterly Monitoring Data

Data collected during the 2Q2013 groundwater monitoring event is summarized below. Groundwater contaminant concentrations are depicted in Figure 3A, "Groundwater Concentration Map - 2Q2013".

- Benzene concentrations were less than the laboratory MDL in all submitted groundwater samples, with the exception of the sample collected from monitor well MW-7, which exhibited a benzene concentration of 0.0087 mg/L. Benzene concentrations were less than the New Mexico Water Quality Control Commission (NMWQCC) regulatory standard of 0.010 mg/L in all submitted groundwater samples.
- Toluene concentrations were both less than the laboratory MDL and less than the NMWQCC regulatory standard of 0.750 mg/L in all submitted groundwater samples.
- Ethylbenzene concentrations were both less than the laboratory MDL and less than the NMWQCC regulatory standard of 0.750 mg/L in all submitted groundwater samples.
- Total xylene concentrations were both less than the laboratory MDL and less than the NMWQCC regulatory standard of 0.620 mg/L in all submitted groundwater samples.

#### 4.2 Monthly Monitoring Data

Data collected during the April, May, and June 2013 monthly monitoring events is summarized below. Groundwater contaminant concentrations for the April and June monitoring events are depicted in Figures 3B and 3C, "Groundwater Concentration Map - April 2013" and "Groundwater Concentration Map - June 2013", respectively. Groundwater contaminant concentrations for the May sampling event are included in Figure 3A, "Groundwater Concentration Map - 2Q2013".

#### • 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.

#### • 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.

#### 5.0 QA/QC PROCEDURES

#### 5.1 Groundwater Sampling

Groundwater samples were submitted to Xenco Laboratories in Odessa, Texas, for analysis of BTEX constituent concentrations in accordance with EPA Method SW846-8021b. All samples were analyzed within seven (7) days of the collection date.

#### 5.2 Decontamination of Equipment

Cleaning and decontamination of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

#### 5.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory analytical reports or are on file at the laboratory.

#### 6.0 ANTICIPATED ACTIONS

Quarterly monitoring and groundwater sampling of monitor wells MW-1 through MW-8 will continue throughout the 2013 calendar year. Monthly monitoring of monitor wells MW-9 and MW-10 and five (5) locations on/adjacent to 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 2013 calendar year.

Pursuant to the *April - June 2012 Quarterly Monitoring Report*, dated July 2012, and correspondence from an NMOCD representative, dated August 2, 2012, weekly recovery of hydrocarbon-impacted groundwater from monitor wells MW-9 and MW-10 to control the down-gradient migration of the dissolved-phase plume will continue throughout the 2013 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.

#### 7.0 LIMITATIONS

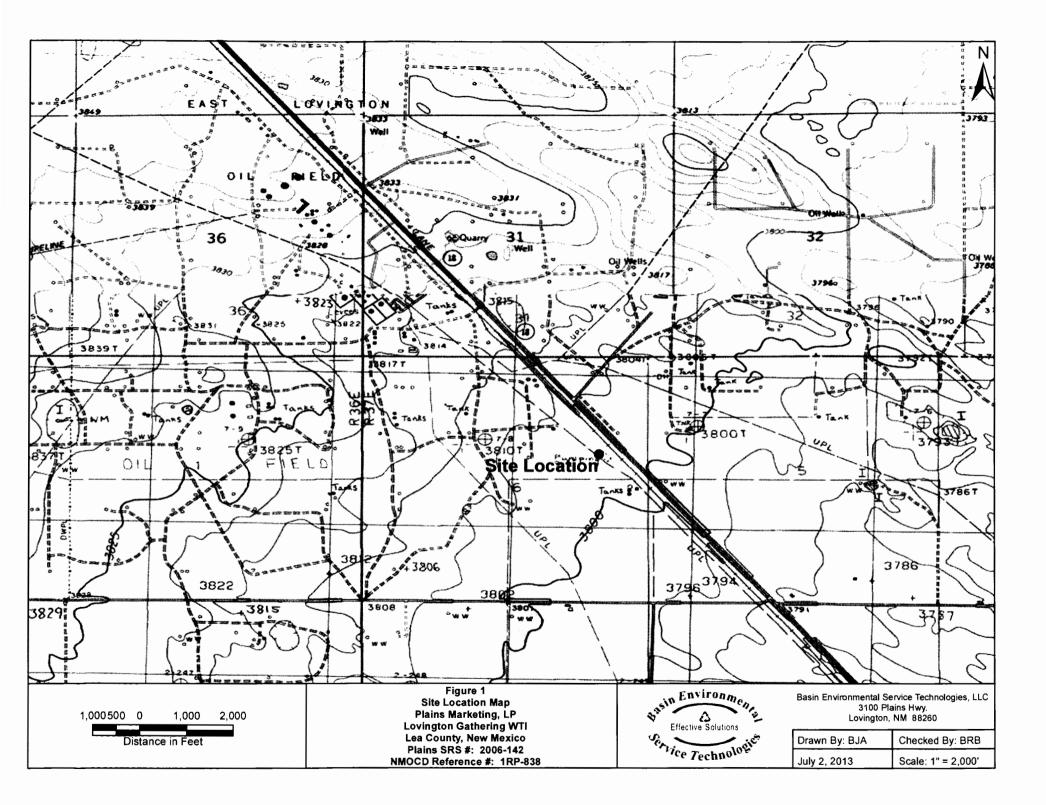
Basin Environmental Service Technologies, LLC, has prepared this *Quarterly Monitoring Report* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain 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.

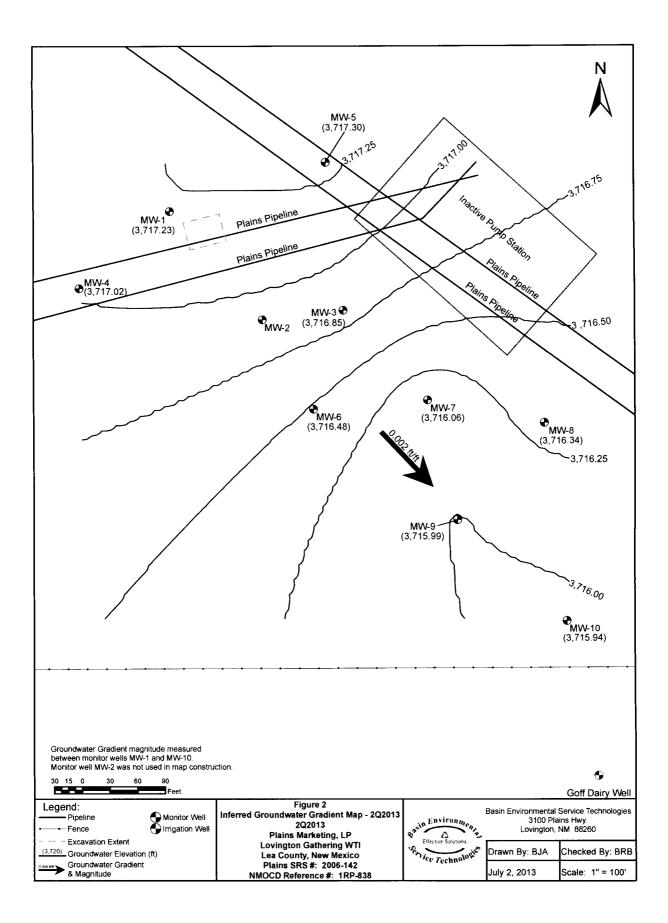
This report has been prepared for the benefit of Plains Marketing, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Marketing, LP.

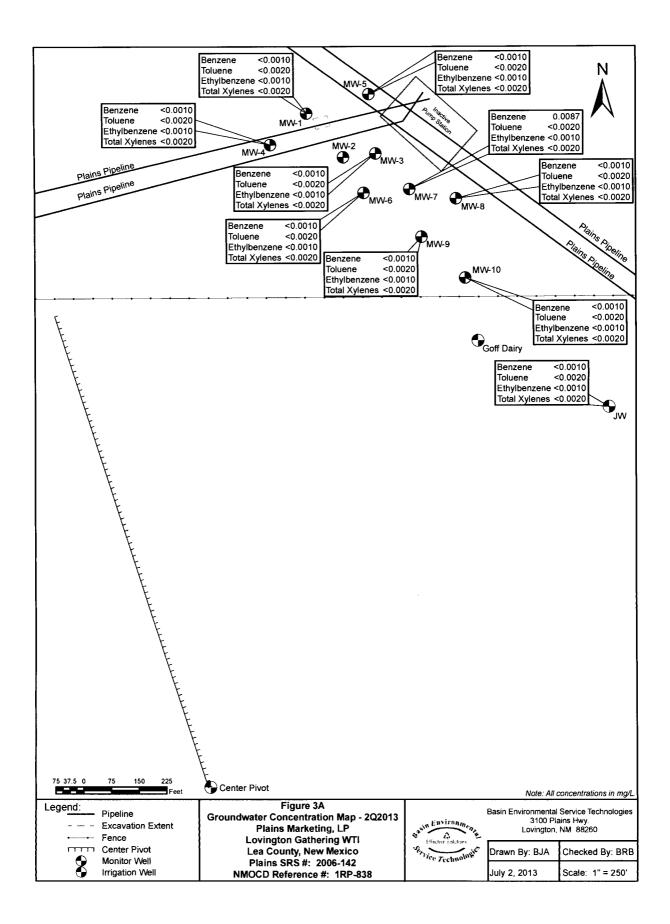
#### **8.0 DISTRIBUTION**

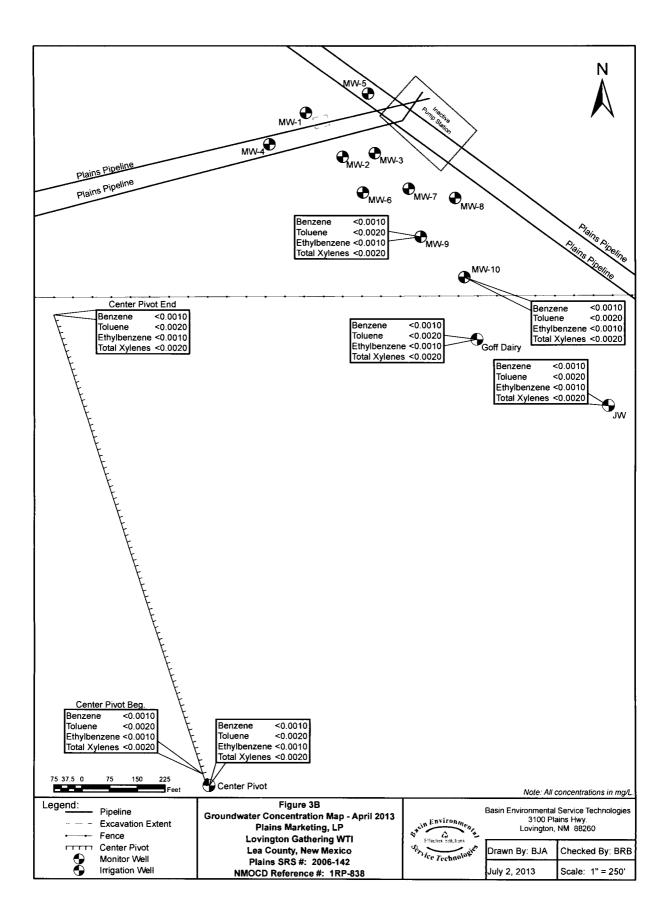
- Copy 1: Edward Hansen New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505 Edwardj.hansen@state.nm.us
- Copy 2: Geoff Leking New Mexico Oil Conservation Division 1625 N. French Drive Hobbs, New Mexico 88240 GeoffreyR.Leking@state.nm.us
- Copy 3: Jeff Dann Plains Marketing, L.P. 333 Clay Street Suite 1600 Houston, Texas 77002 jpdann@paalp.com
- Copy 4: Jason Henry Plains Marketing, L.P. 2530 State Highway 214 Denver City, Texas 79323 jhenry@paalp.com
- Copy 5: Basin Environmental Service Technologies, LLC P. O. Box 301 Lovington, New Mexico 88260 bjarguijo@basinenv.com

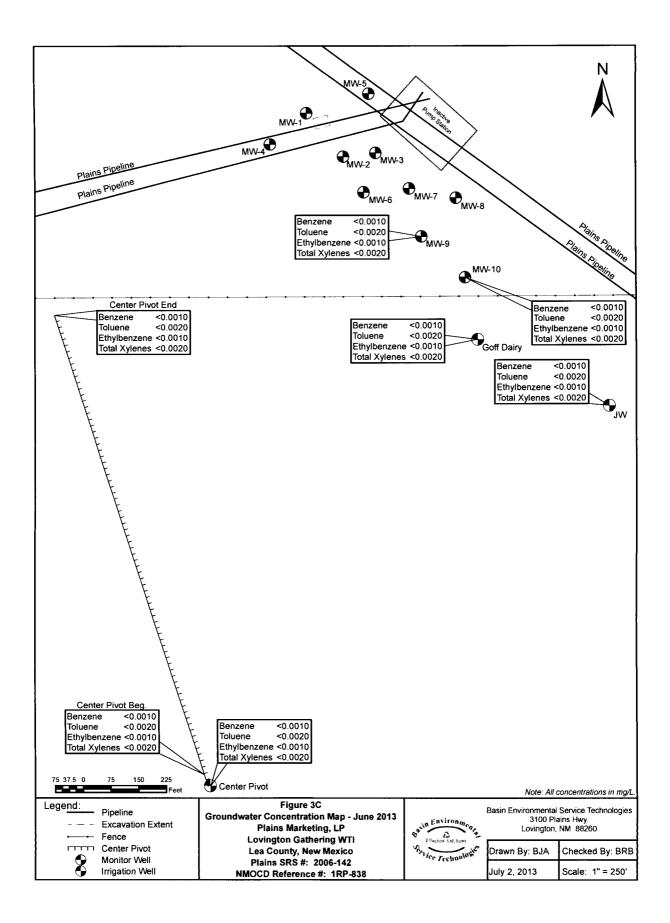
# Figures











## Tables

## TABLE 12013 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
	alan an a			anna a stài		
MW-2	02/22/13	3,806.31	-	87.41	-	3,718.90
	05/23/13	3,806.31	-	Dry	-	-
						n a la san an san a
MW-3	02/22/13	3,806.19	-	87.37	-	3,718.82
	05/23/13	3,806.19	-	89.34	-	3,716.85
					alan gara	
MW-4	02/22/13	3,806.67	-	87.69	-	3,718.98
	05/23/13	3,806.67	-	89.65	-	3,717.02
MW-5	02/22/13	3,806.30	-	87.24	-	3,719.06
	05/23/13	3,806.30	-	89.00	-	3,717.30
MW-6	02/22/13	3,806.08	_	87.40	-	3,718.68
	05/23/13	3,806.08	_	89.60	-	3,716.48
		e s up				
MW-7	02/22/13	3,806.05	_	87.81	-	3,718.24
	05/23/13	3,806.05	-	89.99	-	3,716.06
					a Salahan a shiri a	aliter a com
MW-8	02/22/13	3,805.89	-	87.32	-	3,718.57
	05/23/13	3,805.89	-	89.55	-	3,716.34
	an a					angen an de la sing Maria de la singer an
MW-9	02/22/13	3,806.02	-	87.68	-	3,718.34
	05/23/13	3,806.02	-	90.03	-	3,715.99
1						
MW-10	02/22/13	3,806.08	-	89.99	-	3,716.09
	05/23/13	3,806.08	-	90.14	-	3,715.94

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

	SAMPLE DATE	METHODS: EPA SW 846-8021b							300.1	SW846-6010C
SAMPLE LOCATION		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	<0.0020	<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	-	-
	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		
	05/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<u> </u>		
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	<0.0010	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	<0.0032	<0.0010	<0.0020	0.003	-	•
	09/17/08	0.003 0.159	<0.0020	<0.0010	0.004	<0.0010	0.0020	0.163	-	
	12/02/08	0.050	0.002	<0.0010	0.004	0.001	0.004	0.060	•	
	03/03/09	0.030	<0.002	<0.0010	0.007	<0.001	0.008	0.080		<u> </u>
	06/18/09	0.0097	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.038		
				<0.0010	-			0.010		
	09/01/09	0.084	<0.0020	<0.0010	0.0083	<0.0010	0.0083	0.093		

#### 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

1 hr	SAMPLE DATE	METHODS: EPA SW 846-8021b								SW846-6010C
SAMPLE LOCATION		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	12/18/09	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				
	- 未成時 - 松田		1997 - 1997 -	the second second	Carlo and	1.1 Q.1				
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	-	-
101 <sup>10</sup> 1	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	-	-
	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	-	-
£1	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	-	

				METH	IODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
and the second			1.114.2				and the first	a second and second		
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	-	-
· · · · · · · · · · · · · · · · · · ·	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	•	-
and the state of the second	00/20/10	<u> </u>	<u> </u>	<0.0010	~0.0020	~0.0010		<u> </u>		
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	<0.0010	<0.0010	<0.0010	<0.0020		-
	11/30/07	<0.0010	<0.0010	<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		
18	12/02/08		<0.0020	<0.0010		<0.0010	<0.0020	<0.0020	-	
		<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		
	03/03/09	<0.0010								-
	06/18/09	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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-5	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	-	-
i de la desta de la desta			一些法律的	1997 - Wester B.	「マー酸酸酸」と	전 이상 승규가 가지 않는 것	19-13-18-18-19-19-19-19-19-19-19-19-19-19-19-19-19-	and a head		a second a second
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	-	-
	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	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
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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	-	
	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	-	-
and the second second second			NA THERE				and the second		1	
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	0.0002	0.0165		

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
	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	-	-
	1.25								5.2	11 A. 12
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	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
	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	-	-
									-	
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	-	-

		Γ		METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
			2.52				1999 - S. 1 1999 - S. 1999 - S. 19		1 1 A	get an har
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	-	-
			1992. See 2		A MARINE I					13 4
Goff Dairy - Ctr. Pivot Well	07/07/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
<b>Z</b> 1000 ( <b>B</b> 10)	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	-	-
	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	-	•
м <sup>-</sup>	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		-

······					300.1	SW846-6010C				
SAMPLE LOCATION	SAMPLE DATE	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)	FLUORIĐE (mg/L)	CHROMIUM (mg/L)
Goff Dairy - Ctr. Pivot Well	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	-	
				영상의 이야동	a di Manya	$  v_{i}   \leq  v_{i}  <  v_{i}  <  v_{i}  \leq  v_{i}  \leq  v_{i}  <  v$		a station		
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	-	-
Charles and the		S SHANG T			C. MARCONT. ST	States States			and a strategy w	a dharan a
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	-	-
	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	•	
2	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	-	-
	1.1.1.1.1.1.1.1	a har Tar			· · · · ·			1		
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	-	-

				METH	ODS: EPAS	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	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	•	-
NMOCD REGULATORY ST	ANDARD	0.01	0.75	0.75	тот	AL XYLENES	0.62	1	1.6	0.05

# Appendices

# Appendix A Laboratory Analytical Reports

# 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)





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. Nul Ctr

Nicholas Straccione Project Manager

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

Houston - Dallas - 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



## **Project Id:**

Contact: Ben Arguijo Project Location: Lovington

# Certificate of Analysis Summary 460960

## PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI SRS #2006-142

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

Report Date: 17-APR-13

Toject Location. Lovington								<b>Project Ma</b>	nager:	Nicholas Stra	ccione			
	Lab Id:	460960-0	001	460960-	002	460960-	003	460960-	004	460960-0	005	460960-	-006	
Anglusia Beguarted	Field Id:	Center Pivor	Well	Center Pivot Beg		Center Pivot End		Goff Dairy Well		J.W. Well		MW-	9	
Analysis Requested	Depth:													
	Matrix:	WATE	R	WATER		WATER		WATER		WATER		WATE	ER	
	Sampled:	Apr-09-13	Apr-09-13 08:25		08:30	Apr-09-13	08:35	Apr-09-13 08:45		Apr-09-13	09:00	Apr-09-13	10:05	
BTEX by EPA 8021B	Extracted:	Apr-12-13	Apr-12-13 08:00		08:00	Apr-12-13 08:00		Apr-12-13 08:00		Apr-12-13 08:00		Apr-12-13	08:00	
	Analyzed:	Apr-12-13	Apr-12-13 09:55		Apr-12-13 10:10		Apr-12-13 10:26		Apr-12-13 10:42		Apr-12-13 10:58		Apr-12-13 11:14	
	Units/RL:	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			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.

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

Nul Ct

Nicholas Straccione Project Manager



### **Project Id:**

Contact: Ben Arguijo Project Location: Lovington

# Certificate of Analysis Summary 460960

# PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



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

Report Date: 17-APR-13

Project Manager: Nicholas Straccione

	Lab Id:	460960-007			
Analysis Requested	Field Id:	MW-10			
Analysis Requested	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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Nul Ctr

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 LimitSDL Sample Detection LimitLOD 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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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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(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Phone

Final 1.000

Fax



Project Name: Lovington Gathering WTI SRS #2006-142

'ork Orders : 460960 Lab Batch #: 911347	), Sample: 460960-001 / SMP	Batch	Project II n: 1 Matrix		,	
Units: mg/L	Date Analyzed: 04/12/13 09:55		RROGATE R	-	STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
140.0	Analytes		1.00144			
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0344	0.0300	81	80-120 80-120	
	~ (0000 000 / SMD	-		1	80-120	
Lab Batch #: 911347	Sample: 460960-002 / SMP	Batch	n: 1 Matrix		TUNY	
Units: mg/L	Date Analyzed: 04/12/13 10:10	50	KRUGATE K			
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
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	Batcl	n: 1 Matrix	:Water	L	
Units: mg/L	Date Analyzed: 04/12/13 10:26	SU	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.4-Difluorobenzene	Analytes	0.0338	0.0300	113	80-120	<u>.</u>
4-Bromofluorobenzene		0.0338	0.0300	83	80-120	
Lab Batch #: 911347	Sample: 460960-004 / SMP	Batch			00 120	
Units: mg/L	Date Analyzed: 04/12/13 10:42		RROGATE R		STUDY	
_	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
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	Batcl	h: <sup>1</sup> Matrix	:Water		
Units: mg/L	Date Analyzed: 04/12/13 10:58	SU	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0331	0.0300	110	80-120	
4-Bromofluorobenzene		0.0241	0.0300	80	80-120	i

\* 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

Vork Orders : 460960 Lab Batch #: 911347	, Sample: 460960-006 / SMP	Batch	Project II n: 1 Matrix:			
Units: mg/L	Date Analyzed: 04/12/13 11:14	SUI	RROGATE RE	COVERY S	STUDY	
BTEX	X 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	n: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 04/12/13 11:30	SU	RROGATE RI	ECOVERY	STUDY	
BTEX	X 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 / BI	.K Batch	n: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 04/12/13 09:39	SU	RROGATE RI	ECOVERY S	STUDY	
BTE	X 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 / Bk	KS Batch	h: 1 Matrix	Water		
Units: mg/L	Date Analyzed: 04/12/13 08:51	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X 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 / BS					
Units: mg/L	Date Analyzed: 04/12/13 09:07	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0207	0.0200	102	80-120	T
· · · · · · · · · · · · · · · · · · ·		0.0307	0.0300	102	00-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 460960 Lab Batch #: 911347 Units: mg/L	, Sample: 460960-001 S / MS Date Analyzed: 04/12/13 12:33		Project I h: 1 Matri RROGATE R	<b>x:</b> Water	STUDY	
BTE	K 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 Lab Batch ID: 911347 Samp	Da le: 636546-1-BKS	-	red: 04/12/201 h #: 1	13			Date A	ject ID: nalyzed: ( Matrix: \	04/12/2013 Water		
Units: mg/L		BLAN	K/BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUD	PΥ	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[ <b>B</b> ]	[C]	[D]	[E]	Result [F]	[G]				
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

Data Analyzadi 04/12/2013

**Project ID:** 

Date Analyzed: 04/12/2013	Date Prepared: 04/12	/2013	Analyst: DYV								
QC- Sample ID: 460960-001 S	Batch #: 1		7	Matrix: W	ater						
Reporting Units: mg/L	MATRIX / MATRIX SPIKE RECOVERY STUDY										
BTEX by EPA 8021B	Parent Sample Result [A]	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag					
Analytes		[B]									
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  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference  $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

ompany:	Hobbs: 4008 N Grimes H	•		Phone:	(575)	396-2	378	TAT W	/ork De	ys = D	Need	Asulte h		illable H		Tim	e.			Clear Ic Amber Clear	ZB Zip L PC Plas	lar Bag Lock Bag stic Clear
dress:	3100 Plains Hwy.			Fax:	(575)					-ZD) 5H							<b>.</b>			z, 4oz, 8oz, 16 ml, 250 ml, 50	ioz, 320z, 14	Gal
ty:	Lovington		State: NM	Zip:	88260			,	Qiato	-11-4 011		·····					ana a an an an					n Codes
V/Attn:	Ben Arguijo		Email:	J bjarguijo(	@basin	env.co	m	in an		VC						Γ			Á: None		G.C.	>
oject ID:	Lovington Gathering WTI SRS #2006-142			PO#:	PAA-J	I. Henr	Ŋ			E.)									H <sub>2</sub> SO <sub>4</sub> (	F. MeOH G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> H. NaHSO	J. MCA K. Znác&N L Asbo	NaOH c Acid&NaOH
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	nter Pivot Beg.	4.9.13	08:30				3			X												
_3 ( e	nter Pillot End	4.913	08:35				3			X							:		1			
_4 (7)	roff Dairy Well	4.9.13	08:45	<b>1</b>			3			X												-
_5	J.W. Well	4.9.13	09:00			.: E:	С			$\times$	-											
_6	MNW-9	4913	10:05	-			3			X									•			
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3	And al -they		Basiv		4-			3:2		WVD	STIL		$\sim$		πá	(2		25		ainers used? acceptable, exc		

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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





Comments

## Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 04/09/2013 03:25:00 PM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 460960	Temperature Measuring device used :

Sample Receipt Checklist	
#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: AZ00989): 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, Respection, Roah

Kelsey Brooks Project Manager

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## 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



## CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Lovington Gathering WTI

Project ID: 20 Work Order Number(s): 46

2006-142 464134 Report 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



**Project Id:** 2006-142

Contact: Ben Arguijo

# Certificate of Analysis Summary 464134 PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI

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

Report Date: 05-JUN-13

oject Location: Lovington,NM								Report	Date:	05-JUN-13			
								Project Ma	nager:	Kelsey Brook	s		
	Lab Id:	464134-	464134-001		464134-002		464134-003		004	464134-	005	464134-	-006
Anglusia Degradad	Field Id:	MW-	1	MW-	3	MW-	4	MW-	5	MW-	6	MW-	7
Analysis Requested	Depth:												
	Matrix:	WATE	R	WATER		WATE	WATER		R	WATE	R	WATE	ER
	Sampled:	May-23-13	14:45	May-23-13	14:00	May-23-13 15:00		May-23-13	14:25	May-23-13	14:40	May-23-13	11:30
BTEX by EPA 8021B	Extracted:	May-31-13 11:00		May-31-13 11:00		May-31-13 11:00		Jun-04-13 11:30		May-31-13 11:00		Jun-04-13 11:30	
	Analyzed:	May-31-13 12:35		May-31-13 12:52		May-31-13 13:08		Jun-04-13 13:18		May-31-13 20:08		Jun-04-13 13:34	
	Units/RL:	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	0.00868	0.0010
Toluene		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.0020
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.0010
m,p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.0020
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.0010
Total Xylenes		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.0010
Total BTEX		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	0.00868	0.0010

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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Huns Boah

Kelsey Brooks Project Manager

Final 1.000



Project Id: 2006-142

Project Location: Lovington,NM

Contact: Ben Arguijo

# **Certificate of Analysis Summary 464134** PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI

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

Report Date: 05-JUN-13

Troject Manager, Relievy Drooks	<b>Project Manager:</b>	Kelsey Brooks
---------------------------------	-------------------------	---------------

	Lab Id:	464134-0	007	464134-	008	464134-	009	464134-0				
Analysis Requested	Field Id:	MW-8	3	MW-9	•	MW-1	MW-10		-11			
Analysis Requested	Depth:											1
	Matrix:	WATE	R	WATE	R	WATE	R	WATE	R			
	Sampled:	May-23-13	11:10	May-29-13	10:20	May-23-13	10:35	May-29-13	11:40			
BTEX by EPA 8021B	Extracted:	May-31-13	11:00	May-31-13	11:00	May-31-13	11:00	May-31-13	11:00			
	Analyzed:	May-31-13	14:13	May-31-13	20:57	May-31-13	14:46	May-31-13	21:13			
	Units/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			
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	1.24		
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		 2	
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.

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Huns Boah

Kelsey Brooks Project Manager

Final 1.000



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

Final 1.000



# Project Name: Lovington Gathering WTI

Vork Orders: 464134	, Sample: 464134-001 / SMP	Batch	-	2006-142 Water		
Lab Batch #: 915160 Units: mg/L	Date Analyzed: 05/31/13 12:35		RROGATE RE		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
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	h: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 05/31/13 12:52	SU	RROGATE RE	COVERY S	STUDY	
BTEX	X 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	Batc	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 05/31/13 13:08		RROGATE RE	COVERY	STUDY	
BTE	X 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	Batc	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 05/31/13 14:13	SU	RROGATE RE		STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Analytes					
1,4-Difluorobenzene		0.0251	0.0300	84 108	80-120 80-120	
4-Bromofluorobenzene					80-120	
Lab Batch #: 915160	Sample: 464134-009 / SMP	Bate	h: 1 Matrix: RROGATE RI		STUDY	
Units: mg/L	Date Analyzed: 05/31/13 14:46	50	RROGATE RI	LCOVERY		
BTE.	X 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



Project Name: Lovington Gathering WTI

<b>Vork Orders :</b> 464134 Lab Batch #: 915160	, Sample: 464134-005 / SMP	Batc		D: 2006-142 ; Water		
Units: mg/L	Date Analyzed: 05/31/13 20:08		RROGATE RI	ECOVERY	STUDY	
BTE	X 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	Batc	h: <sup>1</sup> Matrix	:Water		
Units: mg/L	Date Analyzed: 05/31/13 20:57	SU	<b>RROGATE R</b>	ECOVERY	STUDY	
BTE	X 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	Batc	h: <sup>1</sup> Matrix	:Water		
Units: mg/L	Date Analyzed: 05/31/13 21:13	SU	RROGATE R	ECOVERY	STUDY	•
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	<b>5 - -</b>	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene		0.0293	0.0300	98	80-120	
Lab Batch #: 915358	Sample: 464134-004 / SMP	Batc	h: 1 Matrix	:Water	<u> </u>	
Units: mg/L	Date Analyzed: 06/04/13 13:18	SU	RROGATE R	ECOVERY	STUDY	
BTE	X 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	Batc				
Units: mg/L	Date Analyzed: 06/04/13 13:34	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X 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	
	I	0.0552	0.0300	1	00120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution



Project Name: Lovington Gathering WTI

<b>ork Orders :</b> 464134				: 2006-142		
Lab Batch #: 915160 Units: mg/L	Sample: 639030-1-BLK / B Date Analyzed: 05/31/13 12:03		RROGATE RE		STUDY	
_	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene	1	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene		0.0344	0.0300	115	80-120	
Lab Batch #: 915358	Sample: 639146-1-BLK / B	LK Batch	n: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 06/04/13 13:01	SU	RROGATE RE	COVERY	STUDY	
BTE	X 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 / B	KS Batcl	h: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 05/31/13 11:30	SU	RROGATE RE	COVERY	STUDY	
BTE	X 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 / B	KS Bate	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 06/04/13 12:29	SU	RROGATE RE	COVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene	Analytes	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene		0.0273	0.0300	91	80-120	
Lab Batch #: 915160	Sample: 639030-1-BSD / E	BSD Batc	h: 1 Matrix:	Water	<u> </u>	L
Units: mg/L	Date Analyzed: 05/31/13 11:46		<b>RROGATE RI</b>	ECOVERY	STUDY	
_	X 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



**Project Name: Lovington Gathering WTI** 

Work Orders : 464134				2006-142		
Lab Batch #: 915358	Sample: 639146-1-BSD / B		RROGATE RE		STUDY	
Units: mg/L BTE	Date Analyzed: 06/04/13 12:45 X 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	n: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 05/31/13 21:30	SUI	RROGATE RE	COVERY S	STUDY	
BTE	X 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	5 Batch	n: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 06/04/13 14:56	SUI	RROGATE RE	COVERY S	STUDY	
BTE	X 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 / N	ASD Batch	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 05/31/13 21:46	SU	RROGATE RE	<b>ECOVERY</b>	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene	Analytes	0.0253	0.0300	84	80-120	
4-Bromofluorobenzene		0.0332	0.0300	111	80-120	
Lab Batch #: 915358	Sample: 464200-004 SD / N	ASD Batcl	h: 1 Matrix	Water		
Units: mg/L	Date Analyzed: 06/04/13 15:12		RROGATE RI		STUDY	
	X 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								ject ID: 2			
Analyst: DYV	Da	ite Prepar	ed: 05/31/201	.3			Date A	nalyzed: (	)5/31/2013		
Lab Batch ID: 915160 San	nple: 639030-1-BKS	Bate	<b>h #:</b> 1					Matrix: \	Nater		
Units: mg/L		BLAN	K /BLANK S	SPIKE / B	LANK S	PIKE DUPI	JCATE	RECOVE	ERY STUD	ŶŶ	
BTEX by EPA 8021 Analytes	B 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	0.112	112	0.100	0.105	105	6	70-125	25	1
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	Da	te Prepar	red: 06/04/201	3	ı		Date A	nalyzed: ()	6/04/2013		
•	Da nple: 639146-1-BKS		red: 06/04/201 h #: 1	3				nalyzed: () Matrix: V		1	
•		Batch			LANKS	PIKE DUPL		Matrix: V	Water	Y	
Lab Batch ID: 915358 San Units: mg/L BTEX by EPA 8021	nple: 639146-1-BKS	Batch BLAN Spike Added	h #: 1 K /BLANK S Blank Spike Result	SPIKE / B Blank Spike %R	Spike Added	Blank Spike Duplicate	LICATE   Bik. Spk Dup. %R	Matrix: V	Water	Control Limits %RPD	Flag
Lab Batch ID: 915358 San Units: mg/L BTEX by EPA 8021 Analytes	nple: 639146-1-BKS Blank Sample Result [A]	Batch BLAN Spike Added [B]	h #: 1 K /BLANK S Blank Spike Result [C]	Blank Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	JCATE J Blk. Spk Dup. %R [G]	Matrix: W RECOVE RPD	Water ERY STUD Control Limits %R	Control Limits %RPD	Flag
Lab Batch ID: 915358 San Units: mg/L BTEX by EPA 8021 Analytes Benzene	B Blank [A] (A) (A)	Batch BLAN Spike Added [B] 0.100	h #: 1 K /BLANK S Blank Spike Result [C] 0.107	Blank Spike %R [D] 107	Spike Added [E] 0.100	Blank Spike Duplicate Result [F] 0.106	Bik. Spk Dup. %R [G] 106	Matrix: V RECOVE RPD %	Water CRY STUD Control Limits %R 70-125	Control Limits %RPD 25	Flag
Lab Batch ID: 915358 San Units: mg/L BTEX by EPA 80211 Analytes Benzene Toluenc	mple: 639146-1-BKS  B Blank Sample Result [A] <-0.00100 <-0.00200	Batch BLAN Spike Added [B] 0.100 0.100	h #: 1 K /BLANK S Blank Spike Result [C] 0.107 0.106	<b>Blank</b> <b>Spike</b> %R [D] 107 106	Spike Added [E] 0.100 0.100	Blank Spike Duplicate Result [F] 0.106 0.111	<b>BIK. Spk</b> <b>Dup.</b> %R [G] 106 111	Matrix: V RECOVE % 1 5	Water CRY STUD Control Limits %R 70-125 70-125	Control Limits %RPD 25 25	Flag
Lab Batch ID: 915358 San Units: mg/L BTEX by EPA 8021 Analytes Benzene Toluenc Ethylbenzene	mple: 639146-1-BKS  B Blank Sample Result [A]    Sample Result [A]    <0.00100	Batch BLAN Spike Added [B] 0.100 0.100 0.100	h #: 1 K /BLANK S Blank Spike Result [C] 0.107 0.106 0.118	<b>Blank</b> Spike %R [D] 107 106 118	Spike Added [E] 0.100 0.100 0.100	Blank Spike Duplicate Result [F] 0.106 0.111 0.118	Bik. Spk           Dup.           %R           [G]           106           111           118	Matrix: V RECOVE % 1 5 0	Water CRY STUD Control Limits %R 70-125 70-125 71-129	Control Limits %RPD 25 25 25	Flag
Lab Batch ID: 915358 San Units: mg/L BTEX by EPA 80211 Analytes Benzene Toluenc	mple: 639146-1-BKS  B Blank Sample Result [A] <-0.00100 <-0.00200	Batch BLAN Spike Added [B] 0.100 0.100	h #: 1 K /BLANK S Blank Spike Result [C] 0.107 0.106	<b>Blank</b> <b>Spike</b> %R [D] 107 106	Spike Added [E] 0.100 0.100	Blank Spike Duplicate Result [F] 0.106 0.111	<b>BIK. Spk</b> <b>Dup.</b> %R [G] 106 111	Matrix: V RECOVE % 1 5	Water CRY STUD Control Limits %R 70-125 70-125	Control Limits %RPD 25 25	Flag

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

# XENCO Laboratorics

# Form 3 - MS / MSD Recoveries

## **Project Name: Lovington Gathering WTI**



<b>Work Order # :</b> 464134						Project II	): 2006-1	42			
Lab Batch ID: 915160	QC- Sample ID:	464134	-010 S	Ba	tch #:	1 Matrix	K: Water				
Date Analyzed: 05/31/2013	Date Prepared:	05/31/2	013	An	alyst: I	DYV					
Reporting Units: mg/L		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[D]	[E]		[G]				
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	Ba	tch #:	1 Matrix	K: Water				
Date Analyzed: 06/04/2013	Date Prepared:	06/04/2	013	An	alyst: I	DYV					
Reporting Units: mg/L		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[ <b>D</b> ]	[E]		[G]				
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	<u> </u>

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.

576	NCO		CHAI									p	Page	e1of_	1			VA Vial Amber ES Encore Sempler	
Labo	Houston: 4143 Greenbrias Hobbs: 4008 N Grimes H				00 Ode	issa: 12600	West I-20	East Odess	a, TX 79765	(432)563-1	300		W.O # illable Hr		164	132	{	VC Vial Clear TS TerraCore Sampler VP Vial Pre-preserved AC Air Canister GA Glass Amber TB Tediar Bag GC Glass Clear ZB Zip Lock Bag PA Plastic Amber PC Plastic Clear	
Company	Basin Environmental Service Tech	nologies, LL	C	Phone	<sup>a:</sup> (575	5)396-237	8 TA	T Work	ans=0	Need n	esults b			<u>.</u>	Time	):		PC Plastic Clear Other	
Address:	3100 Plains Hwy.			Fax:	(575	5)396-142	9	Std	(5-7D) 5	trs 1D 2	D 3D	4D <u>5D</u>	7D 10D	14D C	- Ither			Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other	
City:	Lovington		State: NM	Zip:	882	60												** Preservative Type Codes	
PM/Attn:	Ben Arguijo		Email:	bjargu	ijo@basi	inenv.com	n gentari A e Cres Millery		VC								All AND	A. None E. HCL I. Ice B. HNO <sub>3</sub> F. MeOH J. MCAA	
Project IC	Lovington Gathering WTI SRS #2006-142			PO#:	PAA	J. Henry			E,I								And a second sec	H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZhAc&NaOH D. NaOH H. NaHSO <sub>4</sub> L. Asbc Acid&NaOH	1 000
Invoice T		·····	<u></u>	Quote	<b>; #</b> :					1		<b> </b>							
Sampler	ignature:	Circle One Semi-Annua		N/A	Jy Mon	thiy Quar	tely	TPH		Chloride								A Matrix Type Codes           GW Ground Water         S Soil/Sediment/Soild           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
					ių (ik			Lab	Only:				·······					REMARKS	
_1	MW-1	5/23/13	1445	61	/		3		X										
2	MW-3	5/23/13	1400				3		x										15
_3	MW-4	5/23/13	1500				3		x										6
4	MW-5	5/23/13	1425				3	e dur 1944 Alfa	x										Page 14
_5	MW-6	5/23/13	1440				3		x										ے ت
6	MW-7	5/23/13	1130				3		x										
7	MW-8	5/23/13	1110				3		x										
8	MW-9	5/29/13	10.20				3		x										
9	MW-10	5/23/13	1035	$\mathbf{V}$	/	1 1	3	A contract of the second	x										
0	JW Well	5/24/13	1140			-	3		X										
				spirit Blint											uunija Hittiida				
CTLS TH Other:	RP DW NPDES LPST DryCh	FL TX GA AL NM OU	NC SC NJ P Ner:	PAOK	LA 1 NEL/	2 3 4 0 AC DoD-EI	CLP AFC	EE QAPP	ADaPT XLS Oth	SEDD E Ner:	RPIMS		ncomplete Unclear	12	2	<u>ع /۲</u>	·.b	Non-Conformances found?	-
					1	74.7			4Ω-				atvesia			1/1		Received on Wet ice? Labeled with proper preservatives?	
1	aren y E m				+	29-13		100	ALL I	uner		Xen	1	<u>5-79-</u> 5.30-		$\frac{740}{1120}$	$\frac{\mathcal{O}}{\mathcal{O}}$	Received within holding time?	
3	<u> </u>							<u></u>	- prv	mall	YIAM	Ner			<u> </u>	1		VOCs rec'd w/o headspace? Proper containers used? pH venfied-acceptable, excl VOCs?	+
4																		Received on time to meet HTs?	
L	Landarian Habbe 575 302 755	D-8 24	4 002 020	0 11-11	1	04 742	1200 0	10000 422	B 562 4000	. Co. A.	tonia 2	10.500	2224 0		1 427	0220		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 C.0 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



# **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



**Client: PLAINS ALL AMERICAN EH&S** 

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

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

Comments

Work Order #: 464134

Sample Receipt Checklist

Sample Receipt Check	
#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 Checklist reviewed by: Kelsey Brooks Kelsey Brooks

Date: 05/30/2013

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: AZ00989): 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. Respection, Rogah

Kelsey Brooks Project Manager

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

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



# Sample Cross Reference 465764



# PLAINS ALL AMERICAN EH&S, Midland, TX

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



### Project Id: 2006-142 Contact: Ben Arguijo

Project Location: Lovington

# Certificate of Analysis Summary 465764

# PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI

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

Report Date: 03-JUL-13

								Project Ma	nager:	Kelsey Brook	s		
	Lab Id:	465764-	001	465764-	465764-002		003	465764-	004	465764-0	005	465764-006	
Aughoria Paguantad	Field Id:	MW-9	MW-9		0	Goff Dairy Well		JW Well		Goff Dairy-Ctr. Pivot Well		Goff Dairy-Ctr.	Pivot Beg.
Analysis Requested	Depth:												
	Matrix:	WATE	R	WATE	R	WATER		WATER		WATER		WATE	ER
	Sampled:	Jun-25-13	-25-13 09:40 Ju		09:30	Jun-25-13 10:00		Jun-25-13 10:15		Jun-25-13 10:30		Jun-25-13	10:45
BTEX by EPA 8021B	Extracted:	Jul-02-13	u1-02-13 08:30 J		08:30	Jul-02-13 08:30		Jul-02-13 08:30		Jul-02-13 08:30		Jul-02-13	08:30
	Analyzed:	Jul-02-13	ul-02-13 11:56		Jul-02-13 12:12		Jul-02-13 12:28		12:44	Jul-02-13 13:00		Jul-02-13	13:16
	Units/RL:	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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Huns Boah

Kelsey Brooks Project Manager



Project Id: 2006-142

Project Location: Lovington

Contact: Ben Arguijo

# Certificate of Analysis Summary 465764

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI

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

Report Date: 03-JUL-13

Project Manager: Kelsey Brooks

	Lab Id:	465764-007			
Analysis Requested	Field Id:	Goff Dairy-Ctr. Pivot End			
Anulysis Requested	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. 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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Huns Boah

Kelsey Brooks Project Manager





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# PLAINS ALL AMERICAN EH&S, Midland, TX

Sample Id: Lab Sample I	<b>MW-9</b> Id: 465764-001		Matrix: Date Col	Water lected: 06.25.13 09.40	Date Received:06.26.13 15.43					
Analytical M Tech: Analyst:	ethod: BTEX by EP DYV DYV	A 8021B	Date Pre	n: 07.02.13 08.30		Prep Method: SW % Moisture:	5030B			
Seq Number:			Date Fle	p. 07.02.15 08.50						
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		

1,4-Difluorobe	nzene	540-36-3	119 84	% %	80-120 80-120	07.02.13 11.56 07.02.13 11.56	
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Total BTEX		NE	0.00100		mg/L	07.02.13 11.56	U
Total Xylenes	1330-	20-7 NE	0.00100		mg/L	07.02.13 11.56	U
o-Xylene	95-47	-6 NE	0.00100		mg/L	07.02.13 11.56	U
m,p-Xylenes	17960	)1-23-1 NE	0.00200		mg/L	07.02.13 11.56	U
Ethylbenzene	100-4	1-4 NC	0.00100		mg/L	07.02.13 11.56	U
Toluene	108-8	8-3 NE	0.00200		mg/L	07.02.13 11.56	U
					0		





# PLAINS ALL AMERICAN EH&S, Midland, TX

Sample Id:	<b>MW-10</b> 465764-002	Matrix: Date Collec	Water eted: 06.25.13 09.30	Date Received:06.26.13 15.43						
Tech: D Analyst: D	od: BTEX by EPA 802 DYV DYV	1B	Date Prep:	07.02.13 08.30		Prep Method: SW5 % Moisture:	030B			
Seq Number: 9 Parameter	917642	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil		

1 al ameter	Cus Humber	ittojuit			Cinta	Analysis Ducc	1146	Dir
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
			%	¥ 1 \$4	1	Anglasta Data	Flag	
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		



4-Bromofluorobenzene

# **Certificate of Analytical Results 465764**



# PLAINS ALL AMERICAN EH&S, Midland, TX

%

80-120

07.02.13 12.28

81

Lovington Gathering WTI

Sample Id:Goff Dairy WellLab Sample Id:465764-003		Matrix: Date Co	Water llected: 06.25.		Date Received:06.26.13 15.43					
Analytical Method: BTEX by EP Tech: DYV Analyst: DYV Seq Number: 917642	A 8021B	Date Pre	p: 07.02.	13 08.30		Prep Method: SW % Moisture:	5030B			
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		
<b>Surrogate</b> 1,4-Difluorobenzene		<b>Cas Number</b> 540-36-3	% Recovery 119	Units %	<b>Limits</b> 80-120	<b>Analysis Date</b> 07.02.13 12.28	Flag			

460-00-4





# PLAINS ALL AMERICAN EH&S, Midland, TX

Sample Id: <b>JW Well</b> Lab Sample Id: 465764-004		Matrix: Date Colle	Water ected: 06.25.13 10.15	Date Received:06.26.13 15.43						
Analytical Method: BTEX by EPA 80	021B				Prep Method: SW	5030B				
Tech: DYV Analyst: DYV		Date Prep:	07.02.13 08.30		% Moisture:					
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			

Benzene	/1-43-	Z NL	0.00100		mg/L	07.02.13 12.44	U	1	
Toluene	108-88	8-3 NE	0.00200		mg/L	07.02.13 12.44	U	1	
Ethylbenzene	100-41	-4 NE	0.00100		mg/L	07.02.13 12.44	U	1	
m,p-Xylenes	17960	1-23-1 NE	0.00200		mg/L	07.02.13 12.44	U	1	
o-Xylene	95-47-	6 NE	0.00100		mg/L	07.02.13 12.44	U	1	
Total Xylenes	1330-2	20-7 NE	0.00100		mg/L	07.02.13 12.44	U	1	
Total BTEX		NE	0.00100		mg/L	07.02.13 12.44	U	1	
			%	TT-24	<b>I</b> 2	tarahasia Data	El		
Surrogate		Cas Number	Recovery	Units	Limits	Analysis Date	Flag		
1,4-Difluoro	benzene	540-36-3	117	%	80-120	07.02.13 12.44			
4-Bromofluo	robenzene	460-00-4	82	%	80-120	07.02.13 12.44			





# PLAINS ALL AMERICAN EH&S, Midland, TX

Sample Id: Goff Dairy-Ctr. Pivot Lab Sample Id: 465764-005	Well	Matrix: Date Collected	Water d: 06.25.13 10.30	Ι	Date Received:06.2	6.13 15.43	
Analytical Method: BTEX by EPA 802 Tech: DYV Analyst: DYV Seq Number: 917642	21B	Date Prep:	07.02.13 08.30		Prep Method: SW5 % Moisture:	030B	
Parameter	Cas Number	Result R	L	Units	Analysis Date	Flag	Dil

I as anicici	Cas Humber	Result	RL		Units	Analysis Date	riag	UII
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

Sample Id: <b>Goff Dairy-Ctr. Pivo</b> Lab Sample Id: 465764-006	t Beg.	Matrix: Date Collecte	Water cd: 06.25.13 10.45	I	Date Received:06.2	26.13 15.43	3
Analytical Method: BTEX by EPA 80 Tech: DYV Analyst: DYV Sea Number: 917642	021B	Date Prep:	07.02.13 08.30		Prep Method: SW: % Moisture:	5030B	
Seq Number: 917642 Parameter	Cas Number	Result F	RL	Units	Analysis Date	Flag	Dil

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		





# PLAINS ALL AMERICAN EH&S, Midland, TX

Sample Id: Lab Sample Id	Goff Dairy-Ctr. Pive	ot End	Matrix: Date Col	Water lected: 06.25.13 11.00	]	Date Received:06.2	26.13 15.4	3
Analytical Me Tech: Analyst: Seq Number:	ethod: BTEX by EPA 8 DYV DYV 917642	021B	Date Pre	p: 07.02.13 08.30		Prep Method: SW % Moisture:	5030B	
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

roluene	100-00-5	110	0.00200		mg/ D	07102115 15152	•	•
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		



# **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 LimitSDL Sample Detection LimitLOD 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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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	





## PLAINS ALL AMERICAN EH&S

Analytical Method	BTEX by EPA 8021B
Analytical Methou:	DIEA DY EFA OV21D

Analytical Method: Seq Number: MB Sample Id:	BTEX by EPA 802 917642 640592-1-BLK	1B		Matrix: nple Id:	Water 640592-1	-BKS			rep Meth Date Pr D Sample	ep: 07.0	5030B 12.13 592-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSÐ 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		CS Rec	LCS Flag	LCSI %Re			imits	Units	Analysis Date	
1,4-Difluorobenzene	118		1	04		107		80	)-120	%	07.02.13 10:36	
4-Bromofluorobenzene	80		:	87		80		80	)-120	%	07.02.13 10:36	

<b>Analytical Method:</b> Seq Number: Parent Sample Id:	<b>BTEX by EPA 802</b> 917642 465764-002	1B		Matrix: nple Id:	Water 465764-00	02 S			ep Methe Date Pre D Sample	ep: 07.0	5030B )2.13 764-002 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				1S Rec	MS Flag	MSD %Ree			imits	Units	Analysis Date	
1,4-Difluorobenzene			1	03		94		80	-120	%	07.02.13 14:52	
4-Bromofluorobenzene			8	81		83		80	-120	%	07.02.13 14:52	

	Houston: 4143 Greenbrian Hobbs: 4098 N Grimes H			)240-4200						432)563-1	800	LAB V	W.O #	•	4	576	VA Val Amb VC Val Clea VP Val Pre- GA Glass Am GC Glass Ck PA Plastic A	r TS preserved AC loter TB tar ZB mber PC	Encore Sampler TerraCore Sampler Air Canister Tedlar Bag Zip Lock Bag Plastic Citear
Comp	any: Basin Environmental Service Tech	nologies, LL	.C	Phone:	(575)396	-2378	TAT W	ork Day	s = D	Need	results b	y:			Tim	e:	PC Plastic Ck	:8r	
Addre	ss: 3100 Plains Hwy.			Fax:	(575)396-	1429		Std (5-						D 14D			Size(s): 20z, 4 40ml, 125 ml,	oz, 8oz, 16oz, 3 250 ml, 500 ml,	20z.1Gal 1L.Other
City:	Lovington		State: NM	Zip:	88260		A september of the second seco				ingranjeers: Elevendense:		ee nomministasi				Pre	servative	Type Codes
PM/At	Deir S. Aiguijo		Email:		@basinenv.	com		214 T-1 14	vc							donadi - viv d donadi - viv d	A. None E B. HNO, F		ICB MCAA C.
Projec	t ID: Lovington Gathering WTI SRS #2006-142			PO#:	PAA-J. He	nry		erst bedea tealer	E,I							And Andrewson States	H <sub>2</sub> SO <sub>4</sub> G. M D. NaOH H	la₂S₂O₃ K.Z	ASDC ACID&NaOH
Invoice	e To: Jason Henry Plains All American			Quote #	:			1 Jacobie						11	••••		0	latrix Typ	
Sampl		Circle One Semi-Annua	Event: Daily Annual	Weekty N/A	Monthiy	Quartely		НЧТ	BTEX	Chloride						and a state of the	GW Groun WW Waste DW Drinki SW Surfac OW Ocean PL Produ PS Produ	d Water S Water W Ig Water A e Water O /Sea Water T ct-Liquid U ct-Solid B	Soil/Sediment/Solid Wipe Air Oil
								Lab Onl	<u>Г</u>		L			11		All	Other	REMA	RKS
1	MW-9	6/25/13	9:40	GW		3			x							1. 2.			
_2	MW-10	6/25/13	9:30	GW		3		-	x										
_3	Goff Dairy Well	6/25/13	[0;10]	GW		3			x						****				
_4	JW Well	6/25/13	10:15	GW		3			x		[					81.14 4 1.1			
_5	Goff Dairy - Ctr. Pivot Well	6/25/13	10:30	GW		3.			x							A CONTRACTOR			
6	Goff Dairy - Ctr. Pivot Beg.	6/25/13	17:45	GW		3.			x							And the second se			
7	Goff Dairy - Ctr. Pivot End	6/25/13	11:00	GW		3			x										
8							Manufactures Manuf												
_9							Annual Control of Cont									All American Andread			
_0																			
									Allowed K. (* 1996) State of the second sec	1111111111111	1003000000000000								
CTLs Other:	TRRP DW NPDES LPST DryCin	FLITX GAN ALINMI ONN	WC SC NJ PA Br:	OK LA	1 <u>2</u> 3 NELAC Do	4 CLP D-ELAP	AFCEE Q/ Other:	\₽₽	ADaPT XLS Othe		ERPIMS	Match In Absent	complete Unclear	18.5	2	3	Non-Conformant Samples intact u	pon arrival?	and a feature and the second s
1	Que ( I and		and the second		6-26	-/3	(.:4	3	an	P. 6.1		inde terner	de succession de la compañía de la c	6-26-	3	6:45	Received on We Labeled with pro Received within	per preservatives	2
2 3	Uni of eillo				6-26	-13	3:4	10	ØS	ut	Se .	m:	Ś	loðk	13	3112	Custody seals in VOCs rec'd w/o I Proper container	act? eadspace? sused? ptable, excl VOCs	3 <sup>2</sup>
4																	in the second of the		- and the second second

Final 1.000

Page 16 of 17

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



# **XENCO Laboratories** Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

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

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

Comments

Work Order #: 465764

Sample Receipt Checklist

		ĺ
#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 Checklist reviewed by: Kelsey Brooks Kelsey Brooks

Date: 06/27/2013

Date: 06/27/2013

# Appendix B Release Notification & Corrective Action (Form C-141)

State of New Mexico **Energy Minerals and Natural Resources** 

**Oil Conservation Division** 

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

District IV 1220 S. St. Fran	-	-	;	1220 South St. Francis Santa Fe, NM 87503				with Rule 116 on back side of form				
			Rele	ase Notific				ction				
<b>OPERATOR</b> x Initial Report  Final Report												
Name of Co	ompany Pla	ains Pipeline			(	Contact Camille Reynolds						
Address 3112 W. US Hwy 82, Lovington, NM 88260						Telephone No. 505-441-0965						
Facility Na	Facility Name Lovington Gathering WTI Facility Type 6"Steel Pipeline											
Surface Ow	mer Rober	t Rice		Mineral C	)wner			Lease N	lo.			
				LOCA	TION	OF RE	LEASE					
Unit Letter H	Section 6	Township 17S	Range 37E	Feet from the	North/	orth/South Line Feet from the East/West Line County Lea						
		Latitud	e_32° 51	' 56.0"		Longitude	2 103° 17' 07.2	21			·····	
				NAT	URE	OF REL	EASE					
Type of Rele						Volume of	Release 12 barre		Recovered 8	barrel	S	
Source of Re	elease 6" Sta	el Pipeline				Date and F 4-21-2006	lour of Occurrenc @ 13-00		Hour of Di 6 @ 13:15			
Was Immedi	iate Notice (					If YES, To	Whom?	14-21-200	0 10 15.15		24.02	
D 110 0	0 11 5		Yes ∟	] No 🗌 Not R	equired	Pat Capert				225	242526233 Te	
By Whom? Was a Water	Camille Rey	ched?		·····		Date and H	lour 4-21-2006 @	2) 15:35				
			Yes 🛛	No		. 120, 1	same impacting	ale watercourse.	181		ł	
If a Waterco	□ Yes ⊠ No □ The Watercourse was Impacted, Describe Fully.*											
									ALC: C	·.		
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 H <sub>2</sub> S content of <10 ppm. The line was approximately 1.5 feet bgs at the release point.												
		-						ponn.				
Describe Are	ca Affected	and Cleanup	Action Tal	en * The impact	d soil w	as excavated	and stocknilled or	n plastic. Aerial ex				
approximate	ly 1,500 ft <sup>2</sup> .	•					and sucception of	i plasue. Aeriai ex	tent of surra	ace imp	act was	
I hereby cert	ify that the	Information al									4	
regulations a	ul operators	are required t	o report ar	d/or file certain r	elease no	tifications a	knowledge and u	nderstand that purs	uant to NM	IOCD 1	ules and	
public health	or the envi	ronment. The	acceptanc	c of a C-141 repo	ort by the	NMOCD m	arked as "Final R	tive actions for relicions for	eases which eve the one	may c	ndanger f liability	
or the enviro	nment. In a	ddition, NMC	CD accen	investigate and r stance of a C-141	cmediate	contaminati	on that pose a thr	eport" does not reli eat to ground water responsibility for c	, surface w	ater, hu	man health	
federal, state	, or local lav	ws and/or regu	lations.				e the operator of i	responsibility for c	ompliance	with an	y other	
Signature amille Keynolds												
Printed Name: Camille Reynolds Approved by District Supervisor:												
Title: Remediation Coordinator						Approval Dat	c:	Expiration	Expiration Date:			
		lds@paalp.com	<u>מ</u>			Conditions of	Approval:			_		
Date: 4/26/20	06			Phone:505-441	-				Attached			



April 9, 2013

Mr. Edward Hansen New Mexico Oil Conservation Division Environmental Bureau 1220 South St. Francis Drive Santa Fe, New Mexico 87505

RE:

Plains Pipeline, L.P. Lovington Gathering WTI NMOCD Reference # 1R-838 / AP-96 Unit Letter H of Section 6, Township 17 South, Range 37 East Lea County, New Mexico

Dear Mr. Hansen:

Plains Pipeline, L.P. is pleased to submit the attached *Quarterly Monitoring Report*, dated April 2013, for the Lovington Gathering WTI release site located in Section 6 of Township 17 South, and Range 37 East of Lea County, New Mexico. This document summarizes the status of recent activities performed at this site during the first quarter of 2013.

Should you have any questions or comments, please contact me at (575) 441-1099.

Sincerely,

Jáson Henry Remediation Coordinator Plains Pipeline, L.P.

CC: Geoffrey R. Leking, NMOCD, Hobbs Office

Enclosure

THIS NOR 30 P 2: RECEIVED UCE 20

1

Basin Environmental Service Technologies, LLC

3100 Plains Highway
P. O. Box 301
Lovington, New Mexico 88260
bjarguijo@basinenv.com
Office: (575) 396-2378
Fax: (575) 396-1429



## QUARTERLY MONITORING REPORT January - March 2013

## 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: 2006-0142 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 P. O. Box 301 Lovington, New Mexico 88260

April 2013

Ben J. Arguijo Project Manager

## **TABLE OF CONTENTS**

1.0	INTRODUCTION
2.0	SITE DESCRIPTION & BACKGROUND INFORMATION
3.0	FIELD ACTIVITIES
	3.1 Groundwater Recovery Efforts
	3.2 Groundwater Monitoring
4.0	LABORATORY RESULTS.
	4.1 Quarterly Monitoring Data
	4.2 Monthly Monitoring Data
5.0	ANTICIPATED ACTIONS.
6.0	LIMITATIONS
7.0	DISTRIBUTION

## **FIGURES**

Figure 1 – Site Location Map

Figure 2 – Inferred Groundwater Gradient Map – 1Q2013

Figure 3A – Groundwater Concentration Map – 1Q2013

Figure 3B – Groundwater Concentration Map – January 2013

Figure 3C - Groundwater Concentration Map - March 2013

## **TABLES**

Table 1 – Groundwater Elevation Data - 1Q2013 Table 2 – Concentrations of BTEX, Fluoride & Chromium in Groundwater

## APPENDICES

Appendix A – Laboratory Analytical Reports Appendix B - Release Notification and Corrective Action (Form C-141)

#### **1.0 INTRODUCTION**

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Plains Marketing, LP (Plains), is pleased to submit this *Quarterly Monitoring Report* for the release site known as Lovington Gathering WTI in compliance with the New Mexico Oil Conservation Division (NMOCD) request of April 5, 2011, requiring submittal of a *Quarterly Monitoring Report* within thirty (30) days of the end of each calendar quarter. 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 during the first quarter (January - March) of 2013 only.

#### 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 ft<sup>2</sup>). 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 sampling 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 phase-separated hydrocarbons (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 TPH concentrations 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 sampling 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, bi-weekly recovery of hydrocarbon-impacted groundwater from monitor well MW-9 in November 2009 to control the down-gradient migration of the dissolved-phase plume. Bi-weekly 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 *April - June 2012 Quarterly Monitoring Report* (dated July 2012), Plains requested the bi-weekly recovery events from MW-9 and MW-10 be reduced to weekly. On August 2, 2012, the request was granted by an NMOCD representative, and weekly recovery from MW-9 and MW-10 commenced in September 2012.

2

All recovered fluids are disposed of at an NMOCD-approved disposal facility near Lovington, New Mexico.

## 3.2 Groundwater Monitoring

A quarterly groundwater monitoring event was conducted on February 22, 2013 (1Q2013), to assess the levels and extent of dissolved-phase constituents and PSH. The groundwater monitoring event consisted of measuring static water levels in the ten (10) on-site monitor wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. Monitor wells were purged using a PVC bailer of a minimum of three (3) well volumes of water, or until the wells were dry. 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 the site.

Diminished well volume and recharge in monitor well MW-2 attributable to the use of two (2) large-capacity irrigation wells (Goff Dairy Well and Goff Dairy - Ctr. Pivot Well) on property adjacent to the release site precluded sample collection from the monitor well during the quarterly monitoring event. The well was sampled during a follow-up site visit on February 28, 2013.

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 30, February 28, and March 27, 2013.

Prior to the January 2013 monthly monitoring event, the Goff Dairy Well and Ctr. Pivot Well were valved off to facilitate harvesting activities in the Goff Dairy #9 Pivot, precluding sample collection from the two (2) wells and the two (2) locations on the Goff Dairy Center Pivot (Goff Dairy - Ctr. Pivot Beginning and Goff Dairy - Ctr. Pivot End). The wells were not placed back in service until early to mid-February.

Access restrictions precluded sample collection from the JW Well by the Environmental Technician on January 30, 2013. The well was sampled during a follow-up site visit on January 31, 2013, in which the Project Manager 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.

Locations of groundwater monitoring wells and the inferred groundwater gradient, which was constructed from groundwater elevation measurements collected during the 1Q2013 sampling event, are depicted in Figure 2A, "Inferred Groundwater Gradient Map - 1Q2013". The groundwater gradient map indicates a general gradient of approximately 0.01 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 3,716.09 feet in monitor well MW-10 and 3,719.07 feet in monitor well MW-1. Groundwater elevation data is provided as Table 1, "Groundwater Elevation Data - 1Q2013".

No PSH was detected in any of the on-site monitor wells during the 1Q2013 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 and quarterly sampling events were delivered to Xenco Laboratories in Odessa, Texas, for determination of BTEX constituent concentrations by EPA Method SW846-8021b. Laboratory analytical results were compared to NMOCD regulatory limits based on 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".

#### 4.1 Quarterly Monitoring Data

Data collected during the 1Q2013 groundwater monitoring event is summarized below. Groundwater contaminant concentrations are depicted in Figure 3A, "Groundwater Concentration Map - 1Q2013".

- Benzene concentrations ranged from less than the laboratory MDL in the groundwater samples collected from monitor wells MW-1, MW-2, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, and MW-10 to 0.0112 mg/L in the groundwater sample collected from monitor well MW-3. Benzene concentrations were less than the New Mexico Water Quality Control Commission (NMWQCC) regulatory standard of 0.010 mg/L in all submitted groundwater samples, with the exception of the sample collected from monitor well MW-3.
- Toluene concentrations were both less than the laboratory MDL and less than the NMWQCC regulatory standard of 0.750 mg/L in all submitted groundwater samples.
- Ethylbenzene concentrations were both less than the laboratory MDL and less than the NMWQCC regulatory standard of 0.750 mg/L in all submitted groundwater samples.
- Total xylene concentrations ranged from less than the laboratory MDL in the groundwater samples collected from monitor wells MW-1, MW-2, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, and MW-10 to 0.00514 mg/L in the groundwater sample collected from monitor well MW-3. Total xylene concentrations were less than the NMWQCC regulatory standard of 0.620 mg/L in all submitted groundwater samples.

#### 4.2 Monthly Monitoring Data

Data collected during the January, February, and March 2013 monthly monitoring events is summarized below. Groundwater contaminant concentrations for the January and March monitoring events are depicted in Figures 3B and 3C, "Groundwater Concentration Map -

January 2013" and "Groundwater Concentration Map - March 2013", respectively. Groundwater contaminant concentrations for the February sampling event are included in Figure 3A, "Groundwater Concentration Map - 1Q2013".

#### • 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.

#### • 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.

## **5.0 ANTICIPATED ACTIONS**

Quarterly monitoring and groundwater sampling of monitor wells MW-1 through MW-8 will continue throughout the 2013 calendar year. Monthly monitoring of monitor wells MW-9 and MW-10 and five (5) locations on/adjacent to 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 2013 calendar year.

Pursuant to the *April - June 2012 Quarterly Monitoring Report*, dated July 2012, and correspondence from an NMOCD representative, dated August 2, 2012, weekly recovery of hydrocarbon-impacted groundwater from monitor wells MW-9 and MW-10 to control the down-gradient migration of the dissolved-phase plume will continue throughout the 2013 calendar year.

In April 2013, an Oxygen Release Compound (ORC®) filter sock will be installed in monitor well MW-3 to facilitate enhanced aerobic biodegradation of the dissolved-phase plume. The filter sock will be inspected and replaced 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.

## 6.0 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.

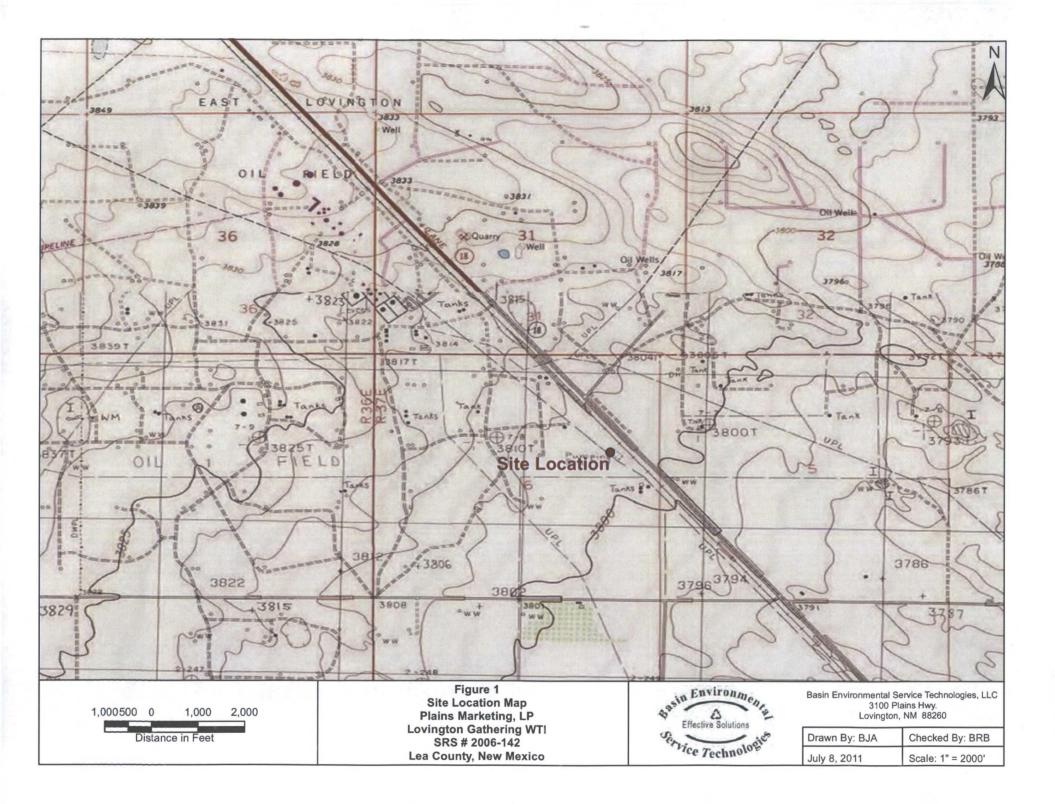
## 7.0 DISTRIBUTION

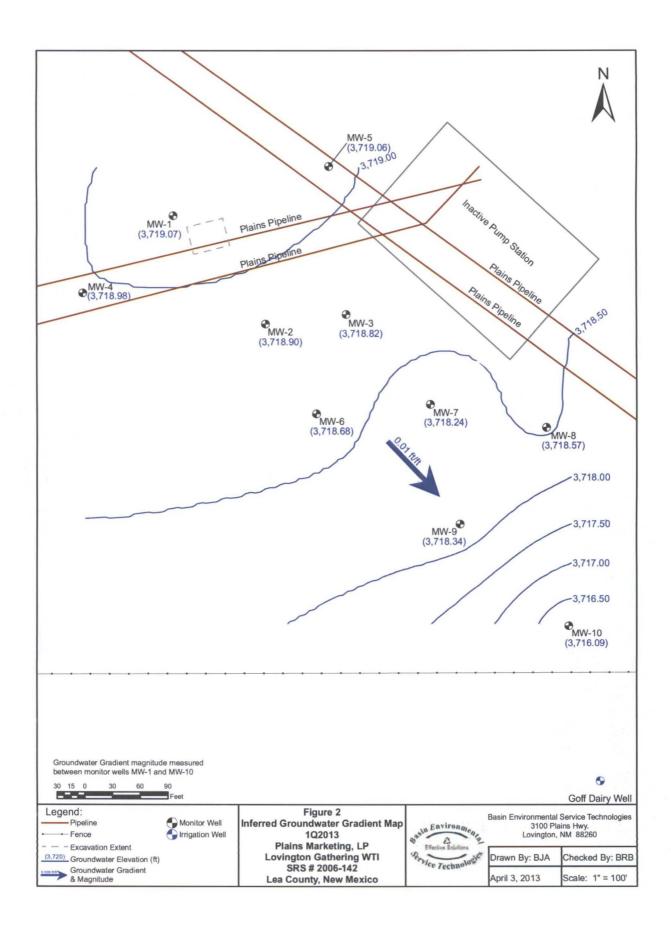
Copy 1: Edward Hansen New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505 Edwardj.hansen@state.nm.us

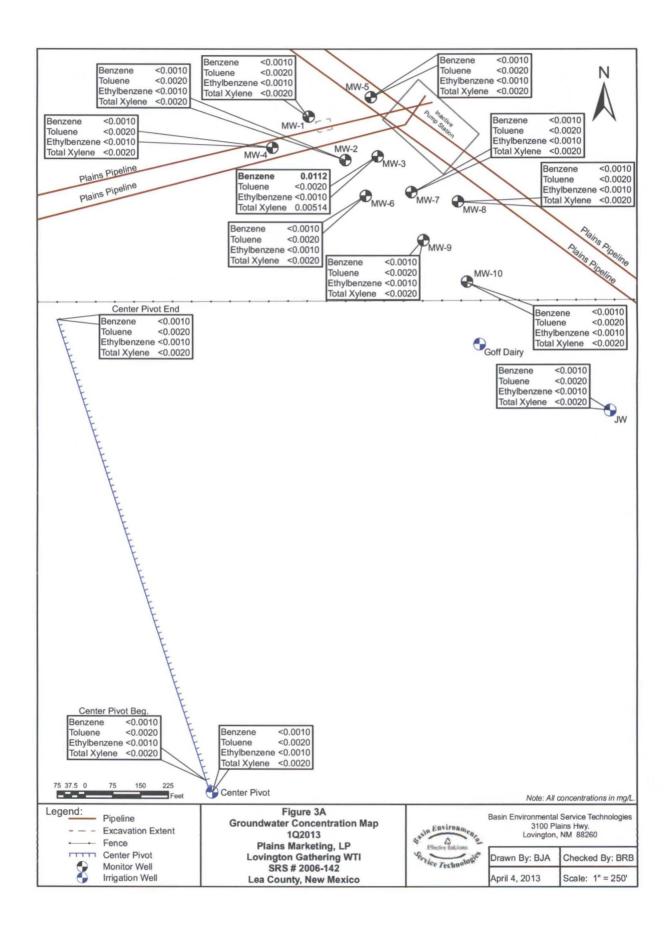
Copy 2: Geoff Leking New Mexico Oil Conservation Division 1625 N. French Drive Hobbs, New Mexico 88240 GeoffreyR.Leking@state.nm.us

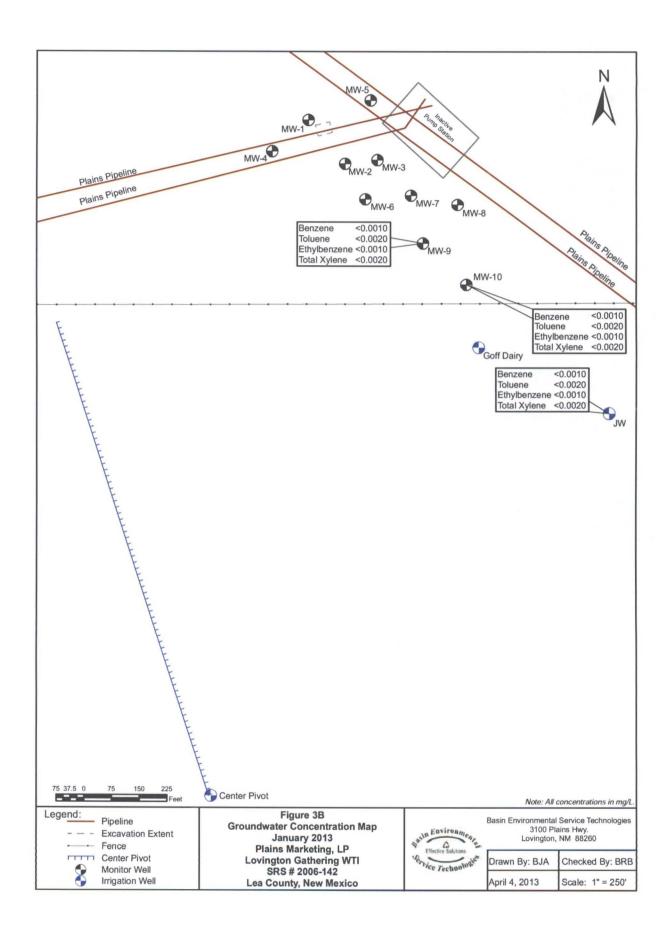
- Copy 3: Jeff Dann Plains Marketing, L.P. 333 Clay Street Suite 1600 Houston, Texas 77002 jpdann@paalp.com
- Copy 4: Jason Henry Plains Marketing, L.P. 2530 State Highway 214 Denver City, Texas 79323 jhenry@paalp.com
- Copy 5: Basin Environmental Service Technologies, LLC P. O. Box 301 Lovington, New Mexico 88260 bjarguijo@basinenv.com

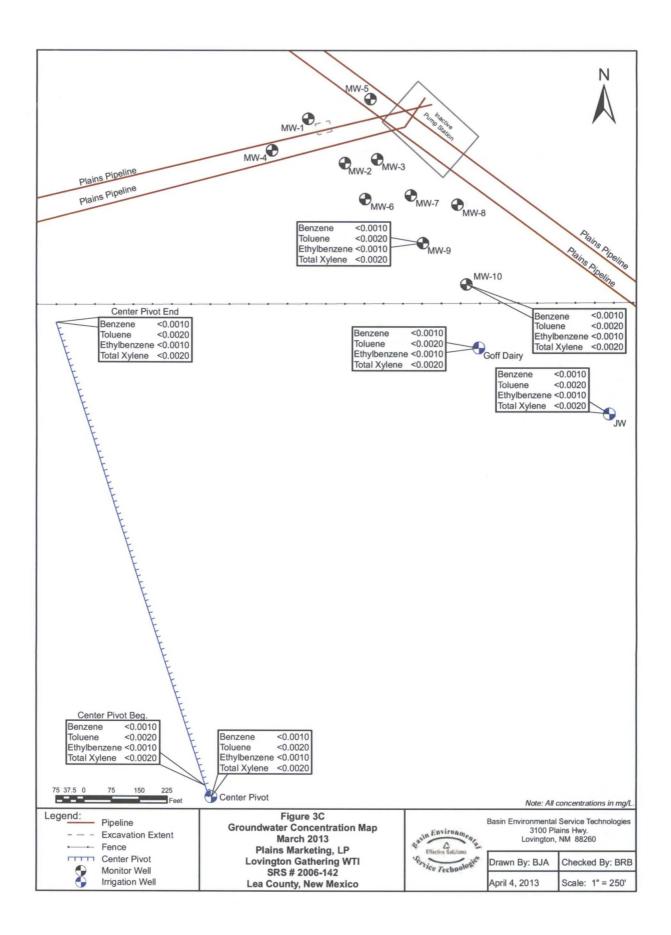
# Figures











# Tables

# TABLE 1GROUNDWATER ELEVATION DATA - 1Q2013

### PLAINS MARKETING, L.P. LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS NO: 2006-142 NMOCD REF NO: 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
MW-2	02/22/13	3,806.31	-	87.41	_	3,718.90
MW-3	02/22/13	3,806.19	-	87.37	_	3,718.82
MW-4	02/22/13	3,806.67	-	87.69	-	3,718.98
MW-5	02/22/13	3,806.30	-	87.24	. –	3,719.06
MW-6	02/22/13	3,806.08	-	87.40	_	3,718.68
MW-7	02/22/13	3,806.05	-	87.81	_	3,718.24
MW-8	02/22/13	3,805.89	-	87.32	_	3,718.57
MW-9	02/22/13	3,806.02	-	87.68	-	3,718.34
MW-10	02/22/13	3,806.08	-	89.99	-	3,716.09
				1. A.		

Elevations based on the North American Vertical Datum of 1929.

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	(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	10/5/2006	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	•	-
и	12/28/2006	<0.0010	<0.0010	<0.0010	0.002	<0.0010	0.002	0.002	-	
11	3/16/2007	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
*1	5/31/2007	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
67	9/25/2007	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/30/2007	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	3/11/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
t <b>r</b>	6/14/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
U.	9/17/2008	0.020	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.020	•	-
41	12/2/2008	0.035	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.035	-	-
91	3/3/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
¥8	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
*1	9/1/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
77	12/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	3/4/2010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
17	5/25/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		-
17	8/30/2010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	11/11/2010	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
"	3/22/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	5/27/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	8/24/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	11/9/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		-
"	2/6/2012	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0020	•	-
	5/23/2012	<0.0010	<0.0010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	8/28/2012	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020	-	-
25	11/27/2012	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020		
"	2/22/2013	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020	-	•
										·
MW-2	10/5/2006	0.010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.010	-	-
74	12/28/2006	0.161	<0.0010	<0.0010	0.024	<0.0010	0.024	0.185	-	-
**	3/16/2007	0.154	<0.0010	<0.0010	0.015	< 0.0010	0.015	0.169	-	•
	5/31/2007	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	-	-
"	9/25/2007	0.050	<0.0010	<0.0010	0.003	<0.0010	0.003	0.053	-	•
"	11/30/2007	0.928	<0.0010	<0.005	0.036	< 0.005	0.036	0.964	-	-
м	3/11/2008	0.095	<0.0020	<0.0010	0.0032	<0.0010	0.0032	0.098	-	•
"	6/14/2008	0.003	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	0.003	-	-
"	9/17/2008	0.159	<0.0020	< 0.0010	0.004	<0.0010	0.004	0.163	-	-
	12/2/2008	0.050	0.002	<0.0010	0.007	0.001	0.008	0.060	-	• ·
11	3/3/2009	0.036	<0.0020	<0.0010	0.0026	<0.0010	0.0026	0.038		1 .

# TABLE 2 CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

#### PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS NO: 2006-142 NMOCD REF NO: 1RP-838

· · · · · ·				METH	ODS: EPA S	W 846-8021b		÷	300.1	SW846-6010C	
SAMPLE LOCATION	SAMPLE DATE	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	6/18/2009	0.0097	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.010	-	-	
u	9/1/2009	0.084	<0.0020	<0.0010	0.0083	<0.0010	0.0083	0.093	-	-	
**	12/18/2009	0.0129	<0.0020	<0.0010	0.0095	<0.0010	0.0095	0.022	-	-	
**	3/4/2010	0.0026	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0026	-	-	
	5/25/2010	0.0023	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0023	-	•	
10	8/30/2010	0.0406	<0.0020	<0.0010	0.0132	<0.0010	0.0132	0.0538	-	-	
**	11/11/2010	0.0087	<0.0020	<0.0010	0.091	<0.0010	0.091	0.0997	-	•	
**	3/22/2011	0.0361	<0.0020	<0.0010	0.0605	0.0011	0.0616	0.0977	-	-	
11	5/27/2011	0.00222	<0.0020	<0.0010	0.00297	<0.0010	0.00297	0.00519	-	-	
11	9/30/2011	0.179	<0.0020	0.00275	0.00345	0.00212	0.00557	0.187	-	-	
"	11/9/2011					Dry				•	
**	2/6/2012	0.00187	<0.0020	<0.0010	0.00212	0.00102	0.00314	0.00501	-	-	
**	5/23/2012					Dry					
**	8/28/2012		Dry								
	11/27/2012					Dry					
**	2/28/2013	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-	
MW-3	10/5/2006	6.60	< 0.0010	<0.0010	0.072	<0.0010	0.072	6.67	-	-	
**	12/28/2006	1.02	<0.0010	0.005	0.028	<0.0010	0.028	1.05	-	-	
**	3/16/2007	1.48	< 0.0010	0.013	0.034	<0.0010	0.034	1.53	-		
u	5/31/2007	1.66	0.010	0.034	0.029	0.012	0.041	1,75	-	-	
"	9/25/2007	0.494	0.023	0.020	0.014	0.007	0.021	0.56	-	-	
	11/30/2007	5.93	0.027	0.273	0.141	0.074	0.215	6.45	-	-	
ut	3/11/2008	1.159	0.107	0.177	0.066	0.139	0.205	1.65	-	-	
	6/14/2008	0.214	0.002	0.007	0.012	0.005	0.017	0.24	-	-	
"	9/17/2008	0.026 -	<0.0020	<0.0010	0.002	<0.0010	0.002	0.03	-	-	
н	12/2/2008	0.024	<0.0020	<0.0010	0.004	0.001	0.005	0.03	-	-	
	3/3/2009	1.367	0.0305	0.0251	0.0173	0.0158	0.0331	1.46	-	-	
"	6/18/2009	0.0031	<0.0020	<0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020		-	
	9/1/2009	0.0073	0.0033	<0.0010	0.0028	0.0015	0.0043	0.01	-		
	12/18/2009	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0020	-	-	
"	3/4/2010	0.0011	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	0.0011	-		
"	5/25/2010	0.0109	0.0033	<0.0010	0.0048	0.0027	0.0075	0.0217	-	-	
n	8/30/2010	0.0092	0.0036	<0.0010	0.006	0.0033	0.0093	0.0221	-	-	
	11/11/2010	0.0033	<0.0020	< 0.0010	0.0023	0.0013	0.0036	0.0069	-	-	
"	3/22/2011	0.00904	0.00283	<0.0010	0.00815	0.00375	0.0119	0.0238	-	-	
	5/27/2011	0.0205	< 0.0020	< 0.0010	0.00308	0.00116	0.00424	0.0247	-	-	
	8/24/2011	0.0262	0.00333	< 0.0010	0.00827	0.00312	0.0114	0.0409	-	-	
ti	11/9/2011	0.00211	< 0.0020	< 0.0010	0.00231	0.00012	0.00345	0.00556	· · ·		

Page 2 of 10

#### TABLE 2 CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

				METH	ODS: EPA S	W 846-8021b	•		300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	(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	2/6/2012	0.0214	0.00306	0.00126	0.00751	0.00345	0.0110	0.0367	-	-
11	5/23/2012	0.00929	0.00201	<0.0010	0.00584	0.00261	0.00845	0.0198	-	-
n	8/28/2012	0.00747	<0.0020	<0.0010	<0.0020	0.00136	0.00136	0.00883	•	•
41	11/27/2012	0.0120	0.00284	0.00109	0.00710	0.00252	0.00962	0.0256	-	-
	2/22/2013	0.0112	<0.0020	<0.0010	0.00302	0.00212	0.00514	0.0163	-	-
	· ·									
MW-4	12/28/2006	<0.0010	< 0.0010	<0.0010	<0.0010	<0.0010	< 0.0010	<0.0010	-	-
11	3/16/2007	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-
	5/30/2007	<0.0010	0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.001	-	-
	9/25/2007	<0.0010	0.001	<0.0010	<0.0020	< 0.0010	<0.0020	0.001	-	-
**	11/30/2007	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
*	3/11/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
19	6/14/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
re	9/17/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	12/2/2008	<0.0010	0.006	<0.0010	<0.0020	< 0.0010	<0.0020	0.006	-	•
"	3/3/2009	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	•	-
11	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	•
11	9/1/2009	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	•
	3/4/2010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	5/25/2010	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
to	8/30/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	11/11/2010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	3/22/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	
	5/27/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	4.76	< 0.0050
u	8/24/2011	0.00119	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	0.00119	-	
u u	11/9/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	2/6/2012	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0020	-	
n	5/23/2012	< 0.0010	< 0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	
#	8/28/2012	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	11/27/2012	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	•	
"	2/22/2013	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-5	12/28/2006	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	< 0.0010	<0.0010	-	-
"	3/16/2007	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	< 0.0010	<0.0010	-	-
"	5/30/2007	<0.0010	<0.0010	< 0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	
II II	9/25/2007	<0.0010	<0.0010	< 0.0010	<0.0020	<0.0010	< 0.0020	<0.0020	-	•
. <u> </u>	11/30/2007	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	•	-
• •	3/11/2008	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

			•	METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	(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-5	6/14/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	9/17/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/2/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	3/3/2009	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020		-
	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	9/1/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	12/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	3/4/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
14	5/25/2010	0.0014	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0014	-	-
	8/30/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/11/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	3/22/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	5/27/2011	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	8/24/2011	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	•
"	11/9/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	2/6/2012	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	· -	-
11	5/23/2012	<0.0010	< 0.0010	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020	-	-
n	8/28/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		
14	11/27/2012	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	•	-
"	2/22/2013	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	
MW-6	12/28/2006	<0.0010	< 0.0010	<0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
"	3/16/2007	<0.0010	<0.0010	< 0.0010	<0.0010	< 0.0010	<0.0010	<0.0010	-	-
	5/30/2007	<0.0010	< 0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	
0	9/25/2007	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
U U	11/30/2007	<0.0010	<0.0020	<0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	
0	3/11/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	
	6/14/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	
	9/17/2008	<0.0010	< 0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020	-	•
	12/2/2008	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	
	3/3/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	6/18/2009	0.0044	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0044	-	-
	9/1/2009	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	
	12/18/2009	0.013	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0130	· _	-
	3/4/2010	0.0063	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	0.0063	-	
	5/25/2010	0.0059	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	0.0059	<u> </u>	
	8/30/2010	0.0053	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	0.0053		
	11/11/2010	0.0082	<0.0020	< 0.0010	0.0035	<0.0010	0.0035	0.0117	-	
	3/22/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<u> </u>	l

#### TABLE 2 CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

	SAMPLE DATE			ODS: EPA S	W 846-8021b		300.1	SW846-6010C		
SAMPLE LOCATION		BENZENE (mg/L)	(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	5/27/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	8/24/2011	0.105	<0.0020	<0.0010	0.0597	0.00309	0.0628	0.168	-	-
	11/9/2011	0.00356	<0.0020	<0.0010	0.0388	<0.0010	0.0388	0.0424	-	-
"	2/6/2012	0.0129	<0.0020	0.00106	0.133	<0.0010	0.133	0.147	-	-
51	5/23/2012	0.00768	<0.0010	<0.0010	0.157	<0.0010	0.157	0.165	-	-
"	8/28/2012	<0.0010	<0.0020	<0.0010	0.0026	<0.0010	0.0026	0.0026		-
11	11/27/2012	0.00121	<0.0020	<0.0010	0.0414	<0.0010	0.0414	0.0426	-	-
H	2/22/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	•	-
MW-7	12/28/2006	0.047	<0.0010	<0.0010	0.001	<0.0010	0.001	0.0480		-
N	3/16/2007	0.047	< 0.0010	< 0.0010	0.015	<0.0010	0.015	0.0620		
FI	5/31/2007	0.039	<0.0010	<0.0010	0.005	<0.0010	0.005	0.0440	-	-
**	9/25/2007	0.037	< 0.0010	<0.0010	0.030	< 0.0010	0.03	0.0670	_	
R	11/30/2007	0.026	<0.0020	<0.0010	0.022	<0.0010	0.022	0.0480	-	
18	3/11/2008	0.095	<0.0020	<0.0010	0.0032	< 0.0010	0.0032	0.0982	-	-
"	6/14/2008	0.138	<0.0020	< 0.0010	0.016	<0.0010	0.016	0.1540		-
11	9/17/2008	0.353	< 0.0020	< 0.0010	0.003	<0.0010	0.003	0.3560	-	
11	12/2/2008	0.036	<0.0020	<0.0010	0.003	0.002	0.005	0.0410	_	
11	3/3/2009	0.0775	<0.0020	<0.0010	0.0327	< 0.0010	0.0327	0.1102	-	-
t)	6/18/2009	0.057	<0.0020	< 0.0010	0.0329	<0.0010	0.0329	0.0899	-	_
0	9/1/2009	0.012	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	0.0120		-
n	12/18/2009	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
0	3/4/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	5/25/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
51	8/30/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/11/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	3/22/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0020	-	-
11	5/27/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	8/24/2011	0.00192	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	0.00192	-	-
14	11/9/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	2/6/2012	< 0.0010	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	5/23/2012	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	8/28/2012	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020	-	-
11	11/27/2012	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	2/22/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-8	3/16/2007	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
	5/31/2007	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
	9/25/2007	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	-	

TABLE 2
<b>CONCENTRATIONS OF BTEX, FLUORIDE &amp; CHROMIUM IN GROUNDWATER</b>

· · · · · · · · · · · · · · · · · · ·				~ METH	ODS: EPA S	W 846-8021b		* T	300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	(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	11/30/2007	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
14	3/11/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	6/14/2008	0.008	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.008	-	-
	9/17/2008	0.568	<0.0100	<0.005	<0.0100	<0.005	<0.0100	0.568	•	-
	12/2/2008	0.234	0.046	0.008	0.041	0.013	0.054	0.342	-	•
	3/3/2009	0.0284	<0.0020	<0.0010	0.0068	<0.0010	0.0068	0.0352	-	-
u	6/18/2009	0.0045	<0.0020	0.0016	0.0032	<0.0010	0.0032	0.0093	-	-
si	9/1/2009	0.0013	<0.0020	0.0011	0.0141	<0.0010	0.0141	0.0165	-	-
91	12/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	3/4/2010	< 0.0010	<0.0020	0.0011	<0.0020	<0.0010	<0.0020	0.0011	-	-
ti .	5/25/2010	0.0012	<0.0020	0.001	<0.0020	<0.0010	<0.0020	0.0022	-	-
Ŋ	8/30/2010	<0.0010	<0.0020	0.0014	<0.0020	<0.0010	<0.0020	0.0014	-	-
(r	11/11/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	3/22/2011	<0.0010	<0.0020	<0.0010	<0.0020	0.00154	0.00154	0.00154	-	-
11	5/27/2011	<0.0010	<0.0020	<0.0010	<0.0020	0.00260	0.00260	0.00260	-	-
"	8/24/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	11/9/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	2/6/2012	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	5/23/2012	<0.0010	<0.0010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	
"	8/28/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
51	11/27/2012	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
n	2/22/2013	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	*						NIAM		•	
MW-9	9/25/2007	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
*1	11/30/2007	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
11	3/11/2008	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
14	6/14/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
10	9/17/2008	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
te	12/2/2008	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
10 II	3/3/2009	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
11	6/18/2009	<0.0010	<0.0020	<0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
11	9/1/2009	0.9717	0.0641	< 0.0100	0.0867	0.0422	0.1289	1.1647	-	-
11	9/10/2009	1.838	<0.0200	<0.0100	0.0537	< 0.0100	0.0537	1.8917	-	
11	10/5/2009	0.985	<0.0020	<0.0010	0.0442	< 0.0010	0.0442	1.0292	-	-
11	12/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
H	3/4/2010	0.0192	<0.0020	<0.0010	0.0027	< 0.0010	0.0027	0.0219	•	
"	5/25/2010	0.0421	<0.0020	<0.0010	0.0063	< 0.0010	0.0063	0.0484	-	-
	8/30/2010	0.1259	<0.0020	<0.0010	0.0344	<0.0010	0.0344	0.1603	•	-
	11/11/2010	0.0265	< 0.0020	< 0.0010	0.0097	<0.0010	0.0097	0.0362	-	

TABLE 2										
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER										

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	(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	3/22/2011	0.00335	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00335	-	-
	5/27/2011	0.00406	<0.0020	<0.0010	0.00326	<0.0010	0.00326	0.00732	-	-
	8/24/2011	<0.0010	<0.0020	<0.0010	0.00237	<0.0010	0.00237	0.00237	-	-
ii ii	11/9/2011	0.00179	<0.0020	<0.0010	0.00349	<0.0010	0.00349	0.00528	-	-
	12/14/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
n	1/5/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
**	2/6/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	3/1/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
	4/18/2012	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		-
	5/23/2012	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
u *	6/19/2012	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
u	7/30/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
n	8/28/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	9/11/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	•	-
**	10/31/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	11/27/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	- '
	12/19/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
*	1/30/2013	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
"	2/22/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	3/27/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
								1 .		
MW-10	11/2/2009	<0.005	<0.005	<0.005	< 0.010	<0.005	<0.010	<0.010	-	-
н	3/4/2010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
и н	5/25/2010	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	8/30/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		-
"	11/11/2010	0.0350	<0.0020	<0.0010	0.0035	<0.0010	0.0035	0.0385	•	-
н	3/22/2011	0.0568	<0.0020	<0.0010	0.00333	<0.0010	0.00333	0.0601	-	-
11	5/27/2011	1.52	<0.0020	0.00107	0.0113	<0.0010	0.0113	1.53	-	-
	7/11/2011	3.00	0.00265	0.00365	0.0248	0.00232	0.0271	3.03	-	-
57	8/24/2011	0.654	<0.0020	0.00158	0.0177	0.00262	0.0203	0.676	-	-
11	10/10/2011	0.183	<0.0020	< 0.0010	0.121	<0.0010	0.121	0.304		-
**	10/31/2011	0.053	<0.0020	0.0014	0.0944	0.00222	0.0966	0.151	-	-
"	11/9/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		-
"	12/14/2011	0.00846	0.00226	<0.0010	0.0261	< 0.0010	0.0261	0.0368	-	-
P	1/5/2012	0.00432	<0.0020	<0.0010	0.0126	< 0.0010	0.0126	0.0169	-	
u	2/6/2012	0.00233	< 0.0020	< 0.0010	0.00644	<0.0010	0.00644	0.00877	-	-
	3/1/2012	0.00134	<0.0020	<0.0010	0.00423	<0.0010	0.00423	0.00557		-
u	4/18/2012	0.00338	<0.0020	<0.0010	0.0175	< 0.0010	0.0175	0.0209	-	
"	5/23/2012	0.00387	<0.0010	< 0.0010	0.103	<0.0010	0.103	0.107		-

TABLE 2
<b>CONCENTRATIONS OF BTEX, FLUORIDE &amp; CHROMIUM IN GROUNDWATER</b>

.

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	(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	6/19/2012	<0.0010	<0.0010	<0.0010	0.0157	<0.0010	0.0157	0.0157	-	-
"	7/30/2012					Dry				
	8/28/2012	<0.0010	<0.0020	<0.0010	0.0134	0.00138	0.0148	0.0148	-	-
n	9/11/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	10/31/2012	<0.0010	<0.0020	0.00124	0.00308	0.00149	0.00457	0.00581	-	-
*	11/27/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
*	12/19/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	1/30/2013	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	2/22/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
19	3/27/2013	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
Goff Dairy Well	5/27/2011	0.00125	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00123	-	-
*	7/11/2011	0.00262	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00262	-	-
	8/24/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
19	10/10/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
н	10/31/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	11/9/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
"	12/14/2011	<0.0010	<0.0020	0.00111	<0.0020	< 0.0010	<0.0020	0.00111	-	
	1/5/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	2/6/2012	< 0.0010	<0.0020	0.00111	0.00201	<0.0010	0.00201	0.00201	- 1	-
······································	3/1/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
*1	4/18/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	5/23/2012	<0.0010	< 0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	7/30/2012	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020		-
	8/28/2012	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	· -
	9/11/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
44	3/27/2013	<0.0010	<0.0020	< 0.0010	< 0.0020	<0.0010	<0.0020	<0.0020	-	-
Goff Dairy - Ctr. Pivot Well	7/7/2011	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020	-	-
"	8/24/2011	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020	-	-
u	10/10/2011	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020		-
и	10/31/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	11/9/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
	12/14/2011	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	< 0.0020	<0.0020	-	-
u	1/5/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
u	2/6/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
n .	3/1/2012	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	4/18/2012	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	_
11	5/23/2012	< 0.0010	<0.0010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

۰.

		r		300.1	SW846-6010C					
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	(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	6/19/2012	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	7/30/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	8/28/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	9/11/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	•	-
**	10/31/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	11/27/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
и	12/19/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
57	2/28/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	3/27/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
Goff Dairy - Ctr. Pivot Beg.	7/7/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		-
	8/24/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
51	10/10/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
13	10/31/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	•	-
"	11/9/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
······································	3/1/2012	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	•	-
n	4/18/2012	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	< 0.0020	<0.0020	-	-
ut	5/23/2012	<0.0010	<0.0010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	6/19/2012	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	7/30/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0020	•	-
11	9/11/2012	<0.0010	<0.0020	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
71	11/27/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
en	2/28/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	3/27/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
			·							2
Goff Dairy - Ctr. Pivot End	7/7/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
17	8/24/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
	10/10/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
n	10/31/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
u	11/9/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	3/1/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
"	4/18/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	
*1	5/23/2012	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
H	6/19/2012	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
H	7/30/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
17	9/11/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
10	10/31/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
14	11/27/2012	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

TABLE 2
CONCENTRATIONS OF BTEX, FLUORIDE & CHROMIUM IN GROUNDWATER

		METHODS: EPA SW 846-8021b							300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	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	2/28/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	3/27/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
JW Well	7/14/2011	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	8/24/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
10	10/10/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
R.	10/31/2011	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
n	11/9/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	3/1/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	· -	•
*1	4/18/2012	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
17	5/23/2012	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
"	6/19/2012	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	7/30/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	•
n	8/28/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
11	9/11/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	10/31/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
*	11/27/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
**	12/19/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
ę,	1/31/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
n	2/28/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	•	-
11	3/27/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
NMOCD CRITER	I	0.01	0.75	0.75	тот	AL 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: AZ00989): 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

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

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



## 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



**Project Id:** 

**Project Location:** Lovington

Contact: Ben Arguijo

## Certificate of Analysis Summary 456861,456863

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



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

Report Date: 08-FEB-13

Project Manager: Nicholas Straccione

Id:	456861-	001	456861-	002						
Id:	MW-	9	MW-I	0						
oth:										
rix:	WATER		WATE	R				-		
led:	Jan-30-13	14:05	Jan-30-13	14:20						
ted:	Feb-06-13	09:00	Feb-06-13	09:00						
zed:	Feb-06-13 11:44		Feb-06-13	12:01						
RL:	mg/L	RL	mg/L	RL						
	ND	0.00100	ND	0.00100						
	ND	0.00200	ND	0.00200						
	ND	0.00100	ND	0.00100					-	
	ND	0.00200	ND	0.00200					-	
	ND	0.00100	ND	0.00100						
	ND	0.00100	ND	0.00100						
	ND	0.00100	ND	0.00100						
	5 Id: 1	# Id:       MW-         pth:	# Id:       MW-9         pth:	# Id:     MW-9     MW-1       pth:     MW-9     MW-1       pth:     WATER     WATE       ptd:     WATER     WATE       ptd:     Jan-30-13     14:05     Jan-30-13       ptd:     Jan-30-13     14:05     Jan-30-13       ptd:     Feb-06-13     09:00     Feb-06-13       ptd:     mg/L     RL     mg/L       MD     0.00100     ND       ND     0.00100     ND	# Id:       MW-9       MW-10         pth:       MW-10         trix:       WATER       WATER         idd:       Jan-30-13 14:05       Jan-30-13 14:20         sted:       Feb-06-13 09:00       Feb-06-13 09:00         rzed:       Feb-06-13 11:44       Feb-06-13 12:01         ////////////////////////////////////	# Id:       MW-9       MW-10         pth:       MW-10         pth:       WATER         trix:       WATER       WATER         pled:       Jan-30-13 14:05       Jan-30-13 14:20         sted:       Feb-06-13 09:00       Feb-06-13 09:00         rzed:       Feb-06-13 11:44       Feb-06-13 12:01         //RL:       mg/L       RL       mg/L       RL         ND       0.00100       ND       0.00100         ND       0.00200       ND       0.00200         ND       0.00100       ND       0.00100         ND       0.00100       ND       0.00100	# Id:       MW-9       MW-10         pth:       MW-10         pth:       WATER         trix:       WATER         Jan-30-13 14:05       Jan-30-13 14:20         sted:       Feb-06-13 09:00         rzed:       Feb-06-13 11:44         Feb-06-13 11:44       Feb-06-13 12:01         //RL:       mg/L       RL         MD       0.00100       ND         ND       0.00100       ND	# Id:       MW-9       MW-10         pth:        MW-9         trix:       WATER       WATER         ided:       Jan-30-13 14:05       Jan-30-13 14:20         sted:       Feb-06-13 09:00       Feb-06-13 09:00         rzed:       Feb-06-13 11:44       Feb-06-13 12:01         // RL:       mg/L       RL       mg/L         ND       0.00100       ND       0.00100         ND       0.00200       ND       0.00200         ND       0.00100       ND       0.00100         ND       0.00100       ND       0.00100	# Id:       MW-9       MW-10       MW-10         pth:       MATER       WATER         trix:       WATER       Jan-30-13 14:05       Jan-30-13 14:20         sted:       Jan-30-13 14:05       Jan-30-13 09:00       Feb-06-13 09:00         rzed:       Feb-06-13 09:00       Feb-06-13 12:01       Feb-06-13 12:01         rRL:       mg/L       RL       mg/L       RL         MD       0.00100       ND       0.00100         ND       0.00100       ND       0.00100	# Id:       MW-9       MW-10       MW-10         pth:       MATER       WATER         trix:       WATER       Jan-30-13 14:05       Jan-30-13 14:20         sted:       Jan-30-13 14:05       Jan-30-13 14:20       Image: Sted:

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

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## 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

456863-001					
JW Well					
WATER					
Jan-31-13 12:50					
: Feb-06-13 09:00					
Feb-06-13 10:55					
mg/L RL					
ND 0.00100					
ND 0.00200					
ND 0.00100					
ND 0.00200					
ND 0.00100					
ND 0.00100					
ND 0.00100					
d h. x. d d	d: JW Well h: x: WATER d: Jan-31-13 12:50 d: Feb-06-13 09:00 d: Feb-06-13 10:55 L: mg/L RL ND 0.00100 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00100 ND 0.00100	d:     JW Well       h:	d:     JW Well       h:     VATER       d:     Jan-31-13 12:50       d:     Feb-06-13 09:00       d:     Feb-06-13 10:55       L:     mg/L       ND     0.00100       ND     0.00200       ND     0.00200       ND     0.00100       ND     0.00100       ND     0.00100       ND     0.00100	d:       JW Well         h:       WATER         x:       WATER         d:       Jan-31-13 12:50         d:       Feb-06-13 09:00         d:       Feb-06-13 10:55         L:       mg/L       RL         ND       0.00100         ND       0.00200         ND       0.00200         ND       0.00100         ND       0.00100         ND       0.00100         ND       0.00100         ND       0.00100	d:       JW Well

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

PQL Practical Quantitation Limit MQL Method Quantitation Limit

LOD Limit of Detection

**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) 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
 (210) 509-3335



## Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI SRS #2006-142

Vork Orders: 456861	, 456861,456863	Project ID:							
Lab Batch #: 906400	Sample: 456863-001 / SMP								
Units: mg/L	Date Analyzed: 02/06/13 10:55	SU	RROGATE RE	COVERY S	STUDY				
ВТЕХ	K 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	Batcl	h: <sup>1</sup> Matrix:	Water					
Units: mg/L	Date Analyzed: 02/06/13 11:44	SU	RROGATE RE	COVERY	STUDY				
ВТЕХ	K 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	Batel	h:   Matrix:	Water	Ļ,				
Units: mg/L	Date Analyzed: 02/06/13 12:01		RROGATE RE		STUDY				
BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene	· · · · ·	0.0322	0.0300	107	80-120				
4-Bromofluorobenzene		0.0288	0.0300	96	80-120				
Lab Batch #: 906400	<b>Sample:</b> 633456-1 BLK / B	LK Bate	h: l Matrix:	Water		1			
Units: mg/L	Date Analyzed: 02/06/13 10:38	SU	RROGATE RE	ECOVERY	STUDY				
BTE	K 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	<b>Sample:</b> 633456-1 <sup> </sup> <sub>1</sub> BKS / B								
Units: mg/L	Date Analyzed: 02/06/13 10:21	SU	RROGATE RI	ECOVERY	STUDY				
BTE	K 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				

\* 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

ork Orders: 456861	, 456861,456863		Project I	D:						
Lab Batch #: 906400	Sample: 633456-1-BSD / B	BSD Batch: 1 Matrix:Water SURROGATE RECOVERY STUDY								
Units: mg/L	Date Analyzed: 02/06/13 10:04									
BTEX	K 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 <sub>.</sub>					
Lab Batch #: 906400	Sample: 456863-001 S / M	S Bato	h: 1 Matrix	:Water						
Units: mg/L	Date Analyzed: 02/06/13 11:11	SURROGATE RECOVERY STUDY								
BTEX	k 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 / N	MSD Bate	h: 1 Matrix	:Water						
Units: mg/L	Date Analyzed: 02/06/13 11:28	SU	RROGATE R	ECOVERY	STUDY					
BTEX	K 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, 4	456861,456863							. Proj	ect ID:				
Analyst: KEB		Date Prepared: 02/06/2013					Date Analyzed: 02/06/2013						
Lab Batch ID: 906400	Sample: 633456-1-BKS	<b>1-BKS Batch #:</b> 1				Matrix: Water							
Units: mg/L		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY								<u></u>			
BTEX by EP	A 8021B	Blank ple Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Bik. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Analytes			[ <b>B</b> ]	[C]	[D]	[E]	Result [F]	[G]					
Benzene	<0	0.00100	0.100	0.106	106	0.100	0.0849	85	22	70-125	25		
Toluene	<0	0.00200	0.100	0.107	107	0.100	0.0846	85	23	70-125	25		
Ethylbenzene	<0	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

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## Form 3 - MS / MSD Recoveries



## Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 456861 **Project ID:** Lab Batch ID: 906400 Matrix: Water QC- Sample ID: 456863-001 S Batch #: 1 Date Prepared: 02/06/2013 Analyst: KEB Date Analyzed: 02/06/2013 **Reporting Units:** mg/L **MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY** Parent Spiked Sample Spiked Duplicate Spiked Control Control BTEX by EPA 8021B Sample Spike Result Sample Spike Spiked Sample Dup. RPD Limits Limits Flag Result %R Result [F] % %R %RPD Added [C] Added %R Analytes [A] **[B]** [D] [E] [G] < 0.00100 0.100 0.0886 89 0.100 0.102 102 14 70-125 25 Benzene 0.100 25 0.100 84 104 21 Toluene < 0.00200 0.0840 0.104 70-125 Ethylbenzene < 0.00100 0.100 0.0854 85 0.100 0.103 103 19 71-129 25 83 100 25 < 0.00200 0.200 0.165 0.200 0.199 19 70-131 m\_p-Xylenes < 0.00100 0.100 0.0818 82 0.100 0.102 102 22 71-133 25 o-Xylene

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

Final 1.000

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Compa	ny: Basin Environmental Service Tech	nologies, LL	c :	Phone:	(575)3	96-2378		ork Day	s = D	Need r	esults b	ру:	~	· · · · ·	Tim	le:	PC Plastic Clear Other
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City:	Lovington	11 J.	State: NM	Zip:	88260							5) 19	Q0183	(ED		10 A 1	Reservative Type Cod
PM/Attn	<sup>n:</sup> Ben Arguijo	:	Email:	- bjarguijo(	@basine	inv.com	20200-2025-4 1-12						· :				A. None E. HCL I. Ice
Project	SRS #2006-142			PO#:	PAA-J.	Henry	littler TryBet B 1	s 									B. HNO <sub>3</sub> F. MeOH J. MCAA H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAc&NaOH D. NaOH H. NaHSO <sub>4</sub> L Asbc Acid&Na O.
nvoice	To: Jason Henry Plains All American			Quote #											·		Markaype Codes
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		بر وی <sup>ند</sup> و رود و م					99.000	Lab Only	r:	·	<u> </u>		•				REMARKS
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2	Illusted humo	.:	Basin	1	1.31	13	-13.4	5	AT.		1	La sij	TAK.	1/2	13	13.45	Received within holding time?
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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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Work Order #: 456861

## **XENCO** Laboratories



## Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

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

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

#### Temperature Measuring device used :

Sample Receipt Chec	klist 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?	Νο
#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+NaOI	H? 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:

	Houston: 4143 Greenbria Hobbs: 4008 N Grimes H	lobbs, NM 882	240 (575)392-7		• •	· · ·	· .	:.				Field b	W.O # illable H	ie <u>1</u> : irs:	45	<u> </u>	03	VC Vial Clear TS Te VP Vial Pre-preserved AC Ait GA Glass Amber TB Te GC Glass Clear ZB Zi PA Plastic Amber PC P PC Plastic Clear	Icore Sampler arraCore Sample Ir Canister ediar Bag Ip Lock Bag Plastic Clear
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	3100 Plains Hwy.	· · · · · · · · · · · · · · · · · · ·	State: NM	Zip:		396-1429	- (	Std (5-	7D) /6H	rs 1D 2	2D 3D	4D <u>5D</u>	<u>7D</u> /10[	D 14D	Other_			Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 40ml, 125 ml, 250 ml, 500 ml, 11, 2000, 125 ml, 250 ml, 500 ml, 11,	
Attn:		· · ·	Email:	]	88260 Shaain		Bontras		1	i zaini						T T		Preservative Ty	
ject ID:	Ben Arguijo : Lovington Gathering WTI	-	· ·	bjarguijo PO#:	-		nie Elice Fridi					1			• •			A. None E. HCL I. Ice B. HNO <sub>3</sub> F. MeOH J. MC $H_2SO_4$ G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAci	CAA
	SRS #2006-142		:			I. Henry						9. S	<u>:</u>		:			D. NaOH H. NaHSO, L As	Sbc Acid&NaOF
bice To	): Jason Henry Plains All Americar	,   -	•	Quote #		.: \	(i) (i)				н. н. П						104 104 1		Codes
npler S	Signature	Circle One Semi-Annua	Event: Daily	Weekiy   N/A	Month	Quar	tely	Ţ		ride		. ·		1. ÷				GW Ground Water S Soll WW Waste Water W Wip	I/Sediment/Solid
								Нал	BTEX	Chloride	•		:		·:: :	· .:		DW Drinking Water A Air SW Surface Water O Oil OW Ocean/Sea Water T Tiss	sue
	Sangia B	Collega Dette	l Gellad Time	Neith Ràinn R		(New Teacherst	Wale				<u>.</u> .:			: :			ANT.	PL Product-Liquid U Unit PS Product-Solid B Bloc SL Sludge	
							- Veen	Lab Ont	<u>у</u> :	Ļ								Cother	<u> </u>
1	JW Well	1/31/13	1250	GW			3	· · ·	x	: .		1							
<u></u>		1/51/15	10,0				-			· · ·			:	 				3rd sample set	<u>YW1113</u>
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TRF	RP DW NPDES LPST DryCln	FL TX GA NA Oth	NC SC NJ P. Ier:	A OK LA		340 DoD-EL	AFCEE Q		ADaPT XLS Othe	SEDD E	RPIMS		Complete . Unclear	189	_2	3	Ş	Non-Conformances found? Samples intact upon arrival?	
				1012: Ca.1	,/	210	14	10 N		100110000 -+								Received on Wet ice? Labeled with proper preservatives?	<u></u>
	<u> </u>		125111	nvę		11/2			h c		her	Vena	$\sum_{\alpha}$	1.1	<u>dito</u>	đ.		Received within holding time? Custody seals intact?	<u>~</u> _
ļ-		·							AU	mu		1X-enti	<u>v</u>	atit	<u>S.</u>	Id.	40	VOCs rec'd w/o headspace? Proper containers used?	5
		·			<u> </u>			· · · ·			· · ·	<u> </u>					_	pH verified-acceptable, excl VOCs? Received on time to meet HTs?	~

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

1.0

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. Page 14 of 14 Final 1.000

# 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: AZ00989): 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. Val C

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



#### Project Id:

Contact: Ben Arguijo

Project Location: Lovington

## Certificate of Analysis Summary 458445 PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI SRS #2006-142

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

Report Date: 04-MAR-13

Toject Location. Lovington								Project Ma	nager:	Nicholas Stra	ccione					
	Lab Id:	458445-001		458445-002		458445-003		458445-0	004	458445-005		458445-006				
Amelusia Degregated	Field Id:	MW-	I	MW-3	3	MW-4	4	MW-:	5	MW-6	5	MW-	7			
Analysis Requested	Depth:															
	Måtrix:	WATE	R	WATE	R	WATE	R	WATE	R	WATE	R	WATI	ER			
	Sampled:	Feb-22-13	11:30	Feb-22-13	11:55	Feb-22-13	12:10	Feb-22-13	13:05	Feb-22-13	13:25	Feb-22-13	13:40			
BTEX by EPA 8021B	Extracted:	Mar-01-13	07:50	Mar-01-13	07:50	Mar-01-13	07:50	Mar-01-13	07:50	Mar-01-13	07:50	Mar-01-13	8 07:50			
	Analyzed:	Mar-01-13			ar-01-13 14:20 Mar-01		Mar-01-13 14:04		Mar-01-13 13:48		Mar-01-13 13:32		Mar-01-13 13:15		Mar-01-13 12:26	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	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.

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Nicholas Straccione Project Manager

Final 1.000



**Project Id:** 

Project Location: Lovington

Contact: Ben Arguijo

# Certificate of Analysis Summary 458445

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



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

Report Date: 04-MAR-13

Project Manager: Nicholas Straccione

	Lab Id:	458445-	007	458445-	008	458445-0	009			
Analysis Requested	Field Id:	MW-8		MW-9		MW-10				
Analysis Requesieu	Depth:						l			
M		WATER		WATER		WATER				
	Sampled:	mpled: Feb-22-13 14:00		Feb-22-13 15:10		Feb-22-13 14:15				
BTEX by EPA 8021B Extracted:		Mar-01-13 07:50		Mar-01-13 07:50		Mar-01-13 07:50				
	Analyzed:	Mar-01-13 12:09		Mar-01-13 11:53		Mar-01-13 12:59				ĺ
	Units/RL:	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. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our fiability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Nul

Nicholas Straccione Project Manager

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# **Flagging Criteria**

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or R 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.

LOD Limit of Detection

LOO Limit of Ouantitation

Pł

\* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit

PQL Practical Quantitation Limit MQL Method Quantitation Limit

**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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(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Project Name: Lovington Gathering WTI SRS #2006-142

Vork Orders: 458445, Project ID:									
Lab Batch #: 908039	Sample: 458445-0	08 / SMP_	Batch	n: 1 Matrix:	Water				
Units: mg/L	Date Analyzed: 03/01/13	11:53	SU	RROGATE RE	COVERY	STUDY			
BTE	X 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: 458445-0	07 / SMP	Batch	h: 1 Matrix:	Water				
Units: mg/L	Date Analyzed: 03/01/13	12:09	SU	RROGATE RE	COVERY S	STUDY			
BTE	X 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		<u>-</u>	0.0280	0.0300	93	80-120			
Lab Batch #: 908039	Sample: 458445-0	 06 / SMP	Batch	n: 1 Matrix:	Water	<u> </u>			
Units: mg/L	Date Analyzed: 03/01/13	г	SURROGATE RECOVERY STUDY						
BTE	X 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: 458445-0	09 / SMP	Batcl	h: <sup>1</sup> Matrix:	Water				
Units: mg/L		Г							
BTF	Date Analyzed: 03/01/13	12:59	SU	RROGATE RE	<b>COVERY</b> S	STUDY			
	Date Analyzed: 03/01/13 X by EPA 8021B Analytes	12:59	SU Amount Found [A]	RROGATE RE True Amount [B]	Recovery %R [D]	STUDY Control Limits %R	Flags		
1,4-Difluorobenzene	X by EPA 8021B	12:59	Amount Found	True Amount	Recovery %R	Control Limits	Flags		
	X by EPA 8021B	12:59	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	X by EPA 8021B		Amount Found [A] 0.0280 0.0310 Batcl	True Amount [B] 0.0300 0.0300 h: 1 Matrix:	Recovery %R [D] 93 103 Water	Control Limits %R 80-120 80-120	Flags		
1,4-Difluorobenzene 4-Bromofluorobenzene	X by EPA 8021B Analytes	05 / SMP	Amount Found [A] 0.0280 0.0310 Batcl	True Amount [B] 0.0300 0.0300	Recovery %R [D] 93 103 Water	Control Limits %R 80-120 80-120	Flags		
1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 908039 Units: mg/L	X by EPA 8021B Analytes Sample: 458445-0	05 / SMP	Amount Found [A] 0.0280 0.0310 Batcl	True Amount [B] 0.0300 0.0300 h: 1 Matrix:	Recovery %R [D] 93 103 Water	Control Limits %R 80-120 80-120	Flags		
1,4-Difluorobenzene 4-Bromofluorobenzene Lab Batch #: 908039 Units: mg/L	X by EPA 8021B Analytes Sample: 458445-0 Date Analyzed: 03/01/13 X by EPA 8021B	05 / SMP	Amount Found [A] 0.0280 0.0310 Batcl SU Amount Found	True Amount [B] 0.0300 0.0300 h: 1 Matrix: RROGATE RE True Amount	Recovery %R [D] 93 103 Water ECOVERY S Recovery %R	Control Limits %R 80-120 80-120 STUDY Control Limits			

\* 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 Orders : 458445 Lab Batch #: 908039	, Sample: 458445-004 / SMP	Batch	Project II n: 1 Matrix			
Units: mg/L	Date Analyzed: 03/01/13 13:32		RROGATE RI		STUDY	
BTEX	K 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	n: 1 Matrix	:Water	1	
Units: mg/L	Date Analyzed: 03/01/13 13:48	SUI	RROGATE RI	ECOVERY	STUDY	
BTE	K 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	n: 1 Matrix	Water		
Units: mg/L	Date Analyzed: 03/01/13 14:04	SUI	RROGATE RI	ECOVERY	STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	-	0.0264	<sup>-</sup> 0.0300	88	80-120	
4-Bromofluorobenzene		0.0274	0.0300	91	80-120	
Lab Batch #: 908039	Sample: 458445-001 / SMP	Batch	n: 1 Matrix	:Water		
Units: mg/L	Date Analyzed: 03/01/13 14:20	SUI	RROGATE RI	ECOVERY	STUDY	
BTEX	K 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 / BI	.K Batch	n: l Matrix	:Water		
Units: mg/L	Date Analyzed: 03/01/13 09:10	SUI	RROGATE R	ECOVERY	STUDY	
BTEX	K 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 / BAll results are based on MDL and validated for QC purposes.



Project Name: Lovington Gathering WTI SRS #2006-142

ork Orders: 45844	5,			Project II	D:				
Lab Batch #: 908039	Sample: 634479-1	-BKS / BKS	Batcl						
Units: mg/L	Date Analyzed: 03/01/13	08:38	SU	RROGATE R	ECOVERY S	STUDY			
BTE	X 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	-	<u> </u>	0.0338	0.0300	113	80-120			
Lab Batch #: 908039	Sample: 634479-1	-BSD / BSD	Batel	h: <sup> </sup> Matrix	:Water				
Units: mg/L	Date Analyzed: 03/01/13	08:54	SU	RROGATE R	ECOVERY S	STUDY			
BTE	X by EPA 8021B Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		<u> </u> 	0.0268	0.0300	89	80-120			
4-Bromofluorobenzene			0.0328	0.0300	109	80-120			
Lab Batch #: 908039	Sample: 458187-0	01 S / MS	Batcl	h: <sup>1</sup> Matrix	Water	<u></u>			
Units: mg/L	Date Analyzed: 03/01/13	10:15	SURROGATE RECOVERY STUDY						
BTE	X 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	i		
Lab Batch #: 908039	Sample: 458187-0	01 SD / MSE	) Batel	h: <sup>1</sup> Matrix	:Water	<u> </u>			
Units: mg/L	Date Analyzed: 03/01/13	10:31	SU	RROGATE R	ECOVERY S	STUDY	,		
			Amount	True	1	Control			
BIE	X by EPA 8021B Analytes		Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags		
<b>BTE</b> 1,4-Difluorobenzene			Found	Amount	%R	Limits	Flags		

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.

. . . . . . .





### Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 458445 Analyst: KEB Lab Batch ID: 908039	Sample: 634479-1-E	Project ID: Date Prepared: 03/01/2013 Date Analyzed: 03/01/2013 BKS Batch #: 1 Matrix: Water BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Units: mg/L			BLAN	K /BLANK S	SPIKE / E	BLANK S	PIKE DUPI		RECOVE	CRY STUD	•Y	
BTEX by EPA	A 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
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 II	<b>)</b> :				
Lab Batch ID: 908039 Date Analyzed: 03/01/2013 Reporting Units: mg/L	QC- Sample ID: Date Prepared:	03/01/2	013	An	tch #: alyst: RIX SPI		: Water				
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  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}[(C-F)/(C+F)]$ 

- - - -

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

Page 12 of 14

	Houston: 4143 Greenbriar Houston: 4143 Greenbriar Hobbs: 4008 N Grimes Ho exter todocnewsty		TX 77477 (28	1)240-4200 /550	:			RECC		(432)563-	1800		Pag W.O # illable H			844	15	VA Vial Amber ES VC Vial Clear TS VP Vial Pre-preserved AC GA Glass Amber TB GC Gless Clear ZB PA Plastic Amber PC	Encore Sampler TerraCore Sample Air Canister Tedlar Bag Zip Lock Bag Plastic Clear
mpany:	Basin Environmental Service Techr	nologies, LL(	c : :	Phone:	(575)3	396-237	8 ТА	T Work D		1.1.1.1						ne:	<u> </u>	PC Plastic Clear Other	····
dress:	3100 Plains Hwy.			Fax:		396-142	9	Std (	5-7D) 5I	irs 1D	2D 3D	4D 5D	70 00	0 14D	Other_			Size(s): 20z, 40z, 80z, 160z, 32 40ml, 125 ml, 250 ml, 500 ml,	1L, Other
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ject (D:	Ben Arguijo	<u> </u>		bjarguljo	@basine	env.com				<u> </u>		<u> </u>			ļ	ļ	: : :	B. HNO3 F. MeOH J.	ICE MCAA
	SRS #2006-142		<u> </u>			. Henry		72			:								Ac&NaOH Asbc Acid&NaOH
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2	MW-3	2/22/13	11:55				3		X	ļ				· · ·					<u> </u>
3	MW-4	2/22/13	12:10				3		X	<u> -</u>									· · · ·
4	MW-5	2/22/13	13:05				3		X			<u></u>							· · · ·
5	MW-6	2/22/13	13:25	L			3		X		:					: 1	 		
6	MW-7	2/22/13	13:40				3	* ; 	X							:			
7	MW-8	2/22/13	14:00				3		X							· · · · · · · · · · · · · · · · · · ·			
8	MW-9	2/22/13	15:10			· · · .	3		X	; ·	:				÷		1		
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1/2	exemptions reserves		Basin é	Erv	2.0	77.j	3 10	<u>p.10</u>									Pic :	Received on Wet Ice? Labeled with proper preservatives Received within holding time?	· · · · · · · · · · · · · · · · · · ·
$\mathbb{P}$	Butter		m	3	26	271-	3 I K	): <i>2</i> 0	_pn	auna	<u>Yni</u>	Xen	0	2,28	<u>113</u>	13:	16	Custody seals intact? VOCs rec'ti w/o headspace? Proper containers used? htt vertfied-accentable, excl VOC	
4		<u> </u>		• 		<u>.: : : : : : : : : : : : : : : : : : : </u>	<u>.</u>	<u> </u>							<u>.</u>	: ···		pH verified-acceptable, excl VOC: Received on time to meet HTs?	a

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



## **XENCO** Laboratories



### Prelogin/Nonconformance Report- Sample Log-In

#### **Client: PLAINS ALL AMERICAN EH&S** Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 02/27/2013 10:20:00 AM **Temperature Measuring device used :** Work Order #: 458445 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 relinguished/ 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 Yes #17 Sufficient sample amount for indicated test(s)? #18 All samples received within hold time? Yes Yes #19 Subcontract of sample(s)? #20 VOC samples have zero headspace (less than 1/4 inch bubble)? Yes

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

#21 <2 for all samples preserved with HNO3,HCL, H2SO4?

#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?

Analyst:	PH Device/Lo	ot#:		
Checklist con	npleted by:		 Date:	
Checklist rev	viewed by:		Date:	
			· ·	

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Yes

Yes

# 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: AZ00989): 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 None	comments:
Sample receipt non conformances and	comments per sample:
None	
	Y Y
·	



#### Project Id:

Contact: Ben Arguijo Project Location: Lovington

# Certificate of Analysis Summary 458587 PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI SRS #2006-142

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

Report Date: 06-MAR-13

								Project Ma	nager:	Nicholas Stra	ccione	
· ·	Lab Id:	458587-	001	458587-	002	458587-	003	458587-	004	458587-	005	
Anglusis Passasted	Field Id:	Goff Dairy - Ctr.	Pivot Well	Goff Dairy - Ctr.	Pivot Beg.	Goff Dairy - Ctr.	Pivot End	J.W. W	ell	MW-	2	
Analysis Requested	Depth:			}								
	Matrix:	WATE	R	WATE	R	WATE	R	WATE	R	WATE	R	
	Sampled:	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	Extracted:	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	
	Analyzed:	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	
	Units/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	 
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 tiability 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.

LOD Limit of Detection

LOQ Limit of Quantitation

- \* Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit
- MDL Method Detection Limit SDL Sample Detection Limit
- PQL Practical Quantitation Limit MQL Method Quantitation Limit
- **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
 (432) 563-1713



### Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 458587	·		Project II			
Lab Batch #: 908315	Sample: 458587-001 / SMP	Batcl				
Units: mg/L	Date Analyzed: 03/05/13 16:18	SU	RROGATE RE	COVERY S	STUDY	
BTE	К by ЕРА 8021В	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
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	Bate	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 03/05/13 16:34	SU	RROGATE RE	COVERY	STUDY	
BTEX	K 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	Batcl	h: <sup>1</sup> Matrix:	Water	· · · · · · · · · · · · · · · · · · ·	
Units: mg/L	Date Analyzed: 03/05/13 16:51	SU	RROGATE RE	COVERY	STUÐY	
BTE	K 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	<b>Sample:</b> 458587-004 / SMP	Batc	h: <sup>1</sup> Matrix:	Water		
Units: mg/L	Date Analyzed: 03/05/13 17:07	SU	RROGATE RE		STUDY	
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	5	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene		0.0272	0.0300	91	80-120	<i></i>
Lab Batch #: 908315	Sample: 458587-005 / SMP	Batc	h: 1 Matrix:	Water	r	
Units: mg/L	Date Analyzed: 03/05/13 17:24	SU	RROGATE RI	COVERY	STUDY	
BTEX	K 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 / BAll results are based on MDL and validated for QC purposes.



Project Name: Lovington Gathering WTI SRS #2006-142

Date         Date <thdate< th="">         Date         Date         <thd< th=""><th>Vork Orders : 458587 Lab Batch #: 908315</th><th>, 458587 Sample: 634671-1</th><th>BLK / BL</th><th>K Batcl</th><th>Project II</th><th></th><th></th><th></th></thd<></thdate<>	Vork Orders : 458587 Lab Batch #: 908315	, 458587 Sample: 634671-1	BLK / BL	K Batcl	Project II			
Found [A]         Analytes         Found [A]         Anount [B]         Recovery 5% R         Limits [P]         Flags 5% R           1.4-Driftworbenzene         0.0343         0.0300         114         80-120         -           4-Bronoffluorbenzene         0.0343         0.0300         114         80-120         -           4-Bronoffluorbenzene         0.0305         86         80-120         -         -           Lab Batch #: 908315         Sample: 634671-1         BKS / BKS         Batch:         1         Matrix: Water           Units: mg/L         Date Analyzed: 03/05/13         [2:11         SURROGATE RECOVERY STUDY         -           Analytes         1/A1         IB1         % Recovery 5% R         5% R         Flags           1.4-Difluorbenzene         0.0319         0.0300         106         80-120         -           Lab Batch #: 908315         Sample: 634671-1-BSD / BSD         Batch:         1         Matrix: Water         -           Units: mg/L         Date Analyzed: 03/05/13         [2:27         SURROGATE RECOVERY STUDY         -           Analytes         0.0324         0.0300         18         80-120         -           1.4-Difluorbenzene         0.0324         0.0300         18 <th></th> <th>-</th> <th>r</th> <th></th> <th></th> <th></th> <th>STUDY</th> <th></th>		-	r				STUDY	
1.4-Difhuorobenzene         0.0343         0.0300         114         80-120           4-Bromefluorobenzene         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         Amount Analytes         True 1A1         Moont 1A1         Recovery 1B1         Control Limits         Flags           1.4-Difhuorobenzene         0.0319         0.0300         106         80-120         Limits         Flags           1.4-Difhuorobenzene         0.0319         0.0300         106         80-120         Limits         Flags           1.4-Difhuorobenzene         0.0319         0.0300         93         80-120         Limits         Flags           1.4-Difhuorobenzene         0.0324         0.0300         106         80-120         Limits         Flags           1.4-Difhuorobenzene         0.0324         0.0300         108         80-120         Limits         Flags           1.4-Difhuorobenzene         0.0324         0.0300         108         80-120         Limits         Flags	BTE			Found	Amount	%R	Limits	Flags
4-Bromofluorobenzene         0.0259         0.0300         86         80-120           Lab Batch #: 908315         Sample: 634671-1         BKS / BKS         Batch: 1         Matrix: Water         Image: Wa	1 4-Difluorobenzene			0.0343	0.0300	114	80-120	
Units: mg/L         Date Analyzed: 03/05/13         12:11         SURROGATE RECOVERY STUDY           BTEX by EPA 8021B Analytes         Amount [A]         True Amount [B]         Recovery %R [D]         Control Limits %R [D]         Flags           1.4-Diffuorobenzene         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         Found [B]         Flags           1.4-Diffuorobenzene         0.0324         0.0300         108         80-120         Imits: mg/L         Flags           1.4-Diffuorobenzene         0.0324         0.0300         108         80-120         Imits: mg/L         Flags           1.4-Diffuorobenzene         0.0324         0.0300         108         80-120         Imits: mg/L         Flags           1.4-Diffuorobenzene         0.0286         0.0300         81         80-120         Imits: mg/L         Flags           1.4-Diffuorobenzene         0.0324         0.0300         101         80-120         Imits: mg/L		}						
Units: mg/L         Date Analyzed: 03/05/13         12:11         SURROGATE RECOVERY STUDY           BTEX by EPA 8021B Analytes         Amount [A]         True Amount [B]         Recovery %R [D]         Control Limits %R [D]         Flags           1.4-Diffuorobenzene         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         Found [B]         Flags           1.4-Diffuorobenzene         0.0324         0.0300         108         80-120         Imits: mg/L         Flags           1.4-Diffuorobenzene         0.0324         0.0300         108         80-120         Imits: mg/L         Flags           1.4-Diffuorobenzene         0.0324         0.0300         108         80-120         Imits: mg/L         Flags           1.4-Diffuorobenzene         0.0286         0.0300         81         80-120         Imits: mg/L         Flags           1.4-Diffuorobenzene         0.0324         0.0300         101         80-120         Imits: mg/L	Lah Batch #: 908315	Sample: 634671-1-	BKS/BK	S Batcl	h· 1 Matrix	Water	<u> </u>	
DTEX by ETA 8021DFound [A]Amount [B]Recovery (B)Limits (M)Flags1.4-Diffuorobenzene0.03190.030010680-1204-Bromoffuorobenzene0.02800.03009380-120Lab Batch #; 908315Sample: 634671-1-BSD / BSDBatch:1Matrix: WaterUnits: mg/LDate Analyzed: 03/05/1312:27SURROGATEControl LimitsFlagsMatrix: mg/LDate Analyzed: 03/05/1312:27SURROGATEControl LimitsFlags1.4-Diffuorobenzene0.03240.030010880-1204-Bromoffuorobenzene0.03240.030010880-1201.4-Diffuorobenzene0.02440.03008180-1201.4-Diffuorobenzene0.02440.03008180-120Lab Batch #; 908315Sample: 458482-002 S / MSBatch:1Matrix: WaterUnits: mg/LDate Analyzed:03/05/137:40SURROGATEControl LimitsBTEX by EPA 8021BAmount [A]True [B]Recovery % R [D]Control LimitsFlags1.4-Diffuorobenzene0.02860.03009580-120Lab Batch #; 908315Sample: 458482-002 SD / MSD AnalytesBatch:1Matrix: WaterLab Batch #; 908315Sample: 458482-002 SD / MSD AnalytesBatch:1Matrix: Water1.4-Diffuorobenzene0.03020.030010180-120Lab Batch #; 908315Sample: 458482-002 SD / MSD AnalytesBatch: <td></td> <td>•</td> <td>Г</td> <td></td> <td></td> <td></td> <td>STUDY</td> <td></td>		•	Г				STUDY	
I.4-Diffuorobenzene         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         Amount [A]         True [B]         Recovery %R         Control Limits         Flags           1.4-Diffuorobenzene         0.0324         0.0300         108         80-120            1.4-Diffuorobenzene         0.0324         0.0300         108         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         Amount [A]         True Analytes         Recovery %R         Control Limits         Flags           1.4-Diffuorobenzene         0.0286         0.0300         95         80-120            1.4-Diffuorobenzene         0.0302         0.0300         101         80-120	BTEX			Found	Amount	%R	Limits	Flags
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       Amount [A]       True Amount [A]       Recovery (B]       Control Limits %R       Flags         1.4-Difluorobenzene       0.0324       0.0300       108       80-120	1,4-Difluorobenzene			0.0319	0.0300	106	80-120	
Units: mg/L         Date Analyzed: 03/05/13         12:27         SURROGATE         RECOVERY STUDY           BTEX by EPA 8021B         Amount [A]         True Amount [B]         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 %R [D]         Control 81         Flags           1.4-Difluorobenzene         0.0286         0.0300         95         80-120           BTEX by EPA 8021B         Amount [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         SURO	4-Bromofluorobenzene			0.0280	0.0300	93	80-120	
Units: mg/L         Date Analyzed: 03/05/13         12:27         SURROGATE RECOVERY STUDY           BTEX by EPA 8021B         Amount [A]         True Amount [B]         Recovery %R [D]         Control Limits %R [D]         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         Flags           BTEX by EPA 8021B         Amount [A]         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           1.4-Difluorobenzene         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 <t< td=""><td>Lab Batch #: 908315</td><td>Sample: 634671-1-</td><td>BSD / BSI</td><td>D Batcl</td><td>h: 1 Matrix</td><td>Water</td><td>,</td><td></td></t<>	Lab Batch #: 908315	Sample: 634671-1-	BSD / BSI	D Batcl	h: 1 Matrix	Water	,	
DTEX by ETA 0021BFound [A]Amount [B]Recovery %R [D]Limits %R %R [D]Flags1.4-Difluorobenzene0.03240.030010880-1204-Bromofluorobenzene0.02440.03008180-120Lab Batch #: 908315Sample: 458482-002 S / MS Date Analyzed: 03/05/13Batch:1Matrix: WaterUnits: mg/LDate Analyzed: 03/05/1317:40SURROGATE RECOVERY STUDYBTEX by EPA 8021BAmount [A]True Amount [B]Recovery %R [D]Control Limits %R [D]1.4-Difluorobenzene0.02860.03009580-1201.4-Difluorobenzene0.03020.030010180-120Lab Batch #: 908315Sample: 458482-002 SD / MSD 4-BromofluorobenzeneBatch:1Matrix: WaterUnits: mg/LDate Analyzed: 03/05/1317:57SURROGATE RECOVERY STUDYLab Batch #: 908315Sample: 458482-002 SD / MSD 4-BromofluorobenzeneBatch:1Matrix: WaterUnits: mg/LDate Analyzed: 03/05/1317:57SURROGATE RECOVERY STUDYI.imits %R [D]BTEX by EPA 8021BAmount [A]Amount [B]Recovery Amount [B]Control Limits %R [D]Flags1,4-Difluorobenzene0.03150.030010580-120	Units: mg/L	•			RROGATE RI	COVERY	STUDY	
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       Amount [A]       Amount [B]       Recovery %R       Control Limits %R       Flags         1,4-Difluorobenzene       0.0286       0.0300       95       80-120         Lab Batch #: 908315       Sample: 458482-002 SD / MSD       Batch:       1       Matrix: Water         Lab Batch #: 908315       Sample: 458482-002 SD / MSD       Batch:       1       Matrix: Water         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       Amount [A]       Flags       Control Limits       Flags         J.4-Difluorobenzene       0.0315       0.0300       105       80-120	BTE			Found	Amount	%R	Limits	Flags
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       Amount [A]       True [B]       Recovery %R [D]       Control Limits %R       Flags         1.4-Difluorobenzene       0.0286       0.0300       95       80-120	1,4-Difluorobenzene			0.0324	0.0300	108	80-120	
Units: mg/LDate Analyzed: 03/05/1317:40SURROGATERECOVERY STUDYBTEX by EPA 8021BAmount Found [A]True Amount [B]Recovery %R [D]Control Limits %RFlags1,4-Difluorobenzene0.02860.03009580-1204-Bromofluorobenzene0.03020.030010180-1204-Bromofluorobenzene0.03020.030010180-120Lab Batch #: 908315Sample: 458482-02 SD / MSDBatch:1Matrix: WaterUnits: mg/LDate Analyzed: 03/05/1317:57SURROGATE RECOVERY STUDYBTEX by EPA 8021BAmount Found [A]True Amount [B]Control Matrix: WaterFlags1,4-Difluorobenzene0.03150.030010580-120	4-Bromofluorobenzene			0.0244	0.0300	81	80-120	
BTEX by EPA 8021B       Amount [A]       True Amount [A]       Recovery (B]       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       Amount Found [A]       True Amount [A]       True Amount [B]       Recovery %R       Control Limits %R       Flags         1,4-Difluorobenzene       0.0315       0.0300       105       80-120	Lab Batch #: 908315	Sample: 458482-00	02 S / MS	Bate	h: 1 Matrix	Water		
BTEX by EFA 8021BFound [A]Amount [B]Recovery %R [D]Limits %RFlags1,4-Difluorobenzene0.02860.03009580-1204-Bromofluorobenzene0.03020.030010180-1204-Bromofluorobenzene0.03020.030010180-120Lab Batch #: 908315Sample: 458482-002 SD / MSDBatch:1Matrix: WaterUnits: mg/LDate Analyzed: 03/05/1317:57SURFOGATE RECOVERY STUDYBTEX: by EPA 8021BAmount Found [A]True (B]Recovery %R (B]Control Limits %RFlags1,4-Difluorobenzene0.03150.030010580-120	Units: mg/L	Date Analyzed: 03/05/13 1	17:40	SU	RROGATE RI	COVERY	STUDY	
I.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         Amount [A]         True Amount [A]         Recovery %R [D]         Control Limits %R         Flags           1,4-Difluorobenzene         0.0315         0.0300         105         80-120	BTE			Found	Amount	%R	Limits	Flags
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       Amount [A]       True [B]       Recovery %R       Control Limits       Flags         1,4-Difluorobenzene       0.0315       0.0300       105       80-120	1 4-Difluorobenzene	Anarytes		0 0286	0.0300		80-120	
Units: mg/LDate Analyzed: 03/05/1317:57SURROGATERECOVERYSTUDYBTEX by EPA 8021BAmount [A]True Amount [B]Recovery %R [D]Control Limits %R [D]Flags1,4-Difluorobenzene0.03150.030010580-120	· · · · · · · · · · · · · · · · · · ·	*** 					· · · · · · · · · · · · · · · · · · ·	
Units: mg/LDate Analyzed: 03/05/1317:57SURROGATERECOVERYSTUDYBTEX by EPA 8021BAmount [A]True Amount [B]Recovery %R [D]Control Limits %R [D]Flags1,4-Difluorobenzene0.03150.030010580-120	Lab Batch #: 908315	Sample: 458482-00	02 SD / M	SD Bate	h: 1 Matrix	Water	I	
Found [A]Amount [B]Recovery %R [D]Limits %R %RFlags1,4-Difluorobenzene0.03150.030010580-120		•	г <sup>.</sup>				STUDY	• .
1,4-Difluorobenzene         0.0315         0.0300         105         80-120	r			Found	Amount	%R	Limits	Flags
	1.4-Difluorobenzene			0.0315	0.0300		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

<b>Work Order #:</b> 458587, 458587							Pro	ject ID:			
Analyst: KEB	Da	ate Prepar	ed: 03/05/201	.3			Date A	nalyzed: (	3/05/2013		
Lab Batch ID: 908315 Sample: 634671-1-E	BKS	Batel	h#: 1					Matrix: \	Vater		
Units: mg/L		BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPI	<b>JICATE</b>	RECOVE	ERY STUD	Y	
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		נשן			10	Result [1]	[0]				
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 II	):				
Lab Batch ID: 908315 Date Analyzed: 03/05/2013 Reporting Units: mg/L	QC- Sample ID: Date Prepared:	03/05/2	013	An	5	1 Matrix KEB KE DUPLICA	Water	OVERV	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]		Spiked Sample Result [C]		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)/BRelative 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

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Houston: 4143 Greenbric Hobbs: 4008 N Grimes I Hobbs: 4008 N Grimes I	10005, NM 882	240 (575)392-7	)240-4200 550	Odes	sa: 120	600 We				(432)563-	1800		Pag W.O # illable H	· · ·		858	<u>n</u>	VA Vial Amber ES Encore Sampler VC Vial Clear TS TerraCore Sampler VC Vial Clear TS TerraCore Sampler VP Vial Pre-preserved AC Air Carlster GA Glass Amber TB Tedlar Bag GC Glass Clear ZB Zip Lock Bag PA Plastic Amber PC Plastic Clear PC Plastic Clear
ompany: Basin Environmental Service Tecl	nnologies, LL	c	Phone:	(575	396-2	378	TAT V	Vork Da								ne:		Other
Idress: 3100 Plains Hwy.		10	Fax;	(575	396-1	429	Frank Greek P - 1	Std (5	7D) 5H	rs 1D	2D 3D	4D ᡚ		) 14D	Other		و در این ا م تر <u>ویو ایک ا</u>	Size(s): 20z, 40z, 80z, 160z, 320z , 1Gel 40ml, 125 ml, 250 ml, 500 ml, 1L, Other
y: Lovington		State: NM	Zip:	8826	0					AN	ALYS	es Re	oues	11:10)				** Preservative Lype:Codes
//Attn: Ben Arguijo		Email:	bjarguijo	@basir	iènv.co	m	Cont Type VC <sup>4</sup>											A. None EHCD CCC B. HNO3 F. MeOH
ject ID: Lovington Gathering WTI SRS #2006-142			PO#:	PAA-	J. Henr	y	Pres Type	A CONTRACTOR OF										H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAc&NaOH D. NaOH H. NaHSO <sub>4</sub> L Asbc Acid&NaOH
bice To: Jason Henry Plains All American	1		Quote #				6									13		0
ppier Signature)		Event: Daily I Annual		Montl	ıly 🧕	arte	unde) SVB26	HdT	втех	Chloride							al Bampie	Matrix Type Codes
Sample (D. 1997)	Collect	Collect.	Mahu	Tield 2 X -	(NA) No	otal Mor. Ontainers	Volaille			ភ							CALC: N	SW: Surface Water O Oll OW Ocean/Sea Water T Tissue PL. Product-Liquid U, Urine PS Product-Solid B Blood SL. Sludge Other
							di Cont	Lab Onl	y.						•			REMARKS
1 Center Piret Well	2-29.12	09:3				3			X			· · · · ·						
2 Center Print Wall (Bes.)	3-22-12	09:15				3			V	All the								
Einfer Must Well Cond						3			$\overline{\mathbf{v}}$									
4 J.W. Well	2.08.1					3			X							1 1		
- 1911 - 9	2.28		s pri s c	: :		Ž			1 X							na ang tang tang tang tang tang tang tan		
	0° 081	<u>5 10, 45</u>																
6																		
1		4									*. * * ** * *			· · ·				
8								C										
9																1.50		
0																		
Reg Program // Clean-Up Std		for Certs &	AND A CAPACITY	1 2	- CONSS	CLP	& Certifi AFCEE Q	I COFFERENCE	-5.00 M - 0.00	SEDDS	RPIMS	ICOC & Match I Absent	Labels ncomplete Unclear	113.7	adlers:	1emp	о; О	Non-Conformances found?
Relinquished by		Affilia	1.14 Jul - P. 200 - 1		Date		e di	ñe de la		<b>Welved</b>	by	ALSA TOU					ne 👘	Samples Intact upon arrival?
Marlitans	<u></u>	Basin	Env.	3.	1.12	7	15	30		<u>"D</u>	Цb			311	13	34	5	Lebeled with proper preservatives?
	2								tha	ime	Ime	ler	ice	<u>3/4//</u>	13	10:00	)	Custody seats intact? VOCs rec'd w/o headspace?
					• • • • •			<u>.</u>									× . * * *	Proper containers used? pH verified-acceptable, excl VOCs?
A Laboratories: Hobbs 575-392-755	n na		sea d'		an inst Carlos Anno	•					· ·		1 11 11				·. · · · ·	Received on time to meet HTs?

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

5 e 4

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 1.001



Work Order #: 458587

# **XENCO** Laboratories



### Prelogin/Nonconformance Report- Sample Log-In

#### Client: PLAINS ALL AMERICAN EH&S

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

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

#### Temperature Measuring device used :

Sam	ble 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/ c	ooler? 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 Cus	tody? 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	)? <b>Yes</b>	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of	f 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 that	an 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 comple	ted by:		Date:	
Checklist review	ed 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 (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. Nul C

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	• <b>W</b>	03-27-13 09:15		460151-005
MW-9	W	03-27-13 13:30		460151-006
. <b>MW-10</b>	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



Report Date: 01-APR-13 Date Received: 03/28/2013

Project ID: Work Order Number(s): 460151

Sample	receipt non	conformances	and	comments:
None				

None

Sample receipt non conformances and comments per sample:

None



**Project Id:** 

Project Location: Lovington

Contact: Ben Arguijo

## Certificate of Analysis Summary 460151 PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI SRS #2006-142

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

Report Date: 01-APR-13

roject Location: Lovington								•					
								Project Ma	nager:	Nicholas Stra	iccione		
	Lab Id:	460151-	001	460151-	002	460151-	003	460151-	004	460151-	005	460151-	-006
Anglusis Deguasted	Field Id:	J.W. W	ell	Goff Dairy	well	Center Pivo	t Well	Center Pivot V	Vell Beg.	Center Pivot	Well End	MW-	.9
Analysis Requested	Depth:												
	Matrix:	WATE	R	WATE	R	WATE	R	WATE	R	WATE	R	WATE	ER
	Sampled:	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	Extracted:	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
	Analyzed:	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
	Units/RL:	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.%

Nicholas Straccione Project Manager

#### Page 5 of 14



**Project Id:** 

Project Location: Lovington

Contact: Ben Arguijo

# Certificate of Analysis Summary 460151

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI SRS #2006-142



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

Report Date: 01-APR-13

Project Manager: Nicholas Straccione

	Lab Id:	460151-007			
Analysis Requested	Field Id:	MW-10			
Anuiysis Kequesieu	Depth:				
	Matrix:	WATER			
	Sampled:	Mar-27-13 13:45			
BTEX by EPA 8021B	Extracted:	Mar-28-13 16:10			
	Analyzed:	Mar-28-13 23:39			
	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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Version: 1.%

Nicholas Straccione Project Manager

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# **Flagging Criteria**

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

\* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit

PQL Practical Quantitation Limit MQL Method Quantitation Limit

LOD Limit of Detection

mit 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
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	



Project Name: Lovington Gathering WTI SRS #2006-142

Vork Orders: 460151	•		Project II			
Lab Batch #: 910140	Sample: 460151-001 / SMP	Bate	h: 1 Matrix		TUDV	
Units: mg/L	Date Analyzed: 03/28/13 21:28	30				
ВТЕХ	К by ЕРА 8021В	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
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	Bate	h: l Matrix	:Water		
Units: mg/L	Date Analyzed: 03/28/13 22:17	SU	RROGATE RI	ECOVERY S	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
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	Bate				
Units: mg/L	Date Analyzed: 03/28/13 22:33	SU	RROGATE RI	ECOVERY	STUDY	
BTE	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Analytes	0.0316	0.0300		80-120	
4-Bromofluorobenzene		0.0310	0.0300	105	80-120	
	· · · · · · · · · · · · · · · · · · ·				00-120	
Lab Batch #: 910140	Sample: 460151-004 / SMP	Bato	h: 1 Matrix	-	TUDY	
Units: mg/L	Date Analyzed: 03/28/13 22:50					
BTE	K 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	Bato	ch: 1 Matrix	:Water		
Units: mg/L	Date Analyzed: 03/28/13 23:22	SL	JRROGATE R	ECOVERY	STUDY	
BTE	X 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.



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 460151			Project II								
Lab Batch #: 910140	Sample: 460151-007 / SMP Г	Batel	h: 1 Matrix: RROGATE RE		CTUDV						
Units: mg/L	Date Analyzed: 03/28/13 23:39	50.	KRUGATE RE								
ВТЕХ	К by ЕРА 8021В	Amount Found [A]	True Amount [Bj	Recovery %R	Control Limits %R	Flags					
	Analytes			[D]							
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	Batcl	h: 1 Matrix:	Water							
Units: mg/L	Date Analyzed: 03/29/13 07:23	SU	RROGATE RH	COVERY	STUDY						
ΒΤΕΣ	K 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 / BI	.K Batcl	h: <sup>1</sup> Matrix:	Water							
Units: mg/L	Date Analyzed: 03/28/13 21:11	SURROGATE RECOVERY STUDY									
BTEX	K 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 / BF	KS Bate	h: 1 Matrix:	Water	1						
Units: mg/L	Date Analyzed: 03/28/13 20:39	SURROGATE RECOVERY STUDY									
	K 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 / BS	SD Batel	h: l Matrix	Water							
Units: mg/L	Date Analyzed: 03/28/13 20:55	SU	RROGATE RI	ECOVERY	STUDY						
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount  Bj	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.



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 460151	, ,		Project I	D:							
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	k 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 / N	ASD Batc	h: <sup>1</sup> Matrix	:Water							
Units: mg/L	Date Analyzed: 03/28/13 22:00	SU	RROGATE R	ECOVERY	STUDY	i					
BTE	K 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

	Sample: 635836-1-BKS	Project ID: Date Prepared: 03/28/2013         Date Prepared: 03/28/2013       Date Analyzed: 03/28/2013         B6-1-BKS       Batch #: 1       Matrix: Water         BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
Units: mg/L BTEX by EPA 80 Analytes	21B Blank Sample Resu [A]	Spike	Blank Spike Result [C]	Blank Spike %R [D]	ak Spike Blank Blk. Spk Control Con Ke Added Spike Dup. RPD Limits Lin R Duplicate %R % %R %R						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 · .

Version: 1.%



# Form 3 - MS / MSD Recoveries



### Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 460151 Project ID:											
Lab Batch ID: 910140 Date Analyzed: 03/28/2013 Reporting Units: mg/L	QC- Sample ID: Date Prepared:	03/28/2	013	An	tch #: alyst: RIX SPI		: Water	OVERY	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	<u>.</u> 82	0.200	0.151	76	8 _	_ 7.0=131	. 25 -	
o-Xylene	<0.00100	0.100	0.0910	. 91	0.100	0.0844	84	8	71-133	25	

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

Version: 1.%

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CENCO Houston: 4143 Greenbrid Hobbs: 4008 N Grimes H		TX 77477 (28	1)240-4200	·		DY RE est I-20 East C			(432)563-1	1800	LAB	Pag W.O #	je <u>1</u>	1.1.	019	51	VC Vial Clear : TS Te VP Vial Pre-preserved AC At GA Glass Amber TB Te	core Sampler maCore Sampler r Canister dar Bag
Managemental Autoritas Eucliochemistry			Phone	(575)39	0.0070	· · · · · · · · · · · · · · · · · · ·			·			illable H					GC Glass Clear ZB ZI	p Lock Bag lastic Clear
ompany: Basin Environmental Service Tech ddress: 3100 Plains Hwy.	nologies, LL	<u> </u>	Fax:	(575)39		TAT Wo	-		: 1			-				· · · · ·	Other Size(s): 202, 402, 802, 1602, 3202	 1Gal
ty: Lovington		State: NM		88260	- 1429		Std (5-	7D) 5H	Irs 1D	2D 3D	4D <u>5D</u>	7D) 10[	D 14D	Other_		-1	Size(s): 20z, 40z, 80z, 160z, 320z , 40ml, 125 ml, 250 ml, 500 ml, 1L,	
WAttn: Ben Arguijo	<u></u>	Emall:		@basinen	v.com	201.01 - 711.02 - 1 - 1 <u>6</u> -			24 IN						1			
oject ID: Lovington Gathering WTI SRS #2006-142			PO#:	PAA-J. H		Maria Maria - 1 Billion - 1		· · · · · · · · · · · · · · · · · · ·				  :					B. HNO <sub>3</sub> F. MeOH J. MC H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZinAci D. NaOH H. NaHSO <sub>4</sub> L As	CAA SNaOH
olce To: Jason Henry Plains All American			Quote #		:	ē	• • • •	·	:			: :				and a		Godes
mpler Signature	Circle One Semi-Annua	Event: Daily al Annual	Weekly N/A	Manuar	Quartely	li venanale Biodiace devez	Н	втех	Chloride					· · · · · ·		ana	GW. Ground Water S : Soil WW Waste Water W Wip DW Dinking Water A Air SW Surface Water O Oll OW Ocean/Sea Water T. Tiss PL Product-Liquid U Urin	/Sediment/Solid e ue ve
	( Seuc		êne*			A ÇEMÎN	Lab Only						•	<u> </u>		1623	PS Product-Solid B Bloo SL Sludge Other REMARK	
1 TW. Well	3-2743	08:15			3			X				•						
2 Graff Davry Well		QP:35	11. I I		3		:	X					. : .*					
3 Center Pivot Well	32713	08.95	l		3			X	· <u>·</u> ··									
		2:55			7			χ							:			
4 Conter Pivot Well Beg. 5 Center Pivot well End	3.17.B	09:10	+		Ĩ			X				1.	•		: #			
6 MIN-9	3.17.13	13:30			3			X							:			
7 MW-10	3-17-13	13:45	<u> </u>		3			Ϋ́				1: :						: : :
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Sou Prayan Adam District		Mar Carle &	i Rege	. Ógy	QCILINA	, i Gerijke	ion -		<u>iedo</u> s		1910.00	il single	j.	a (OS)	Q.	<b>W</b>	Lableseichty	9785 MQ 10
LS TRRP DW NPDES LPST DryCln	FL TX GA AL NM OU		PA OK LA	NELAC	3 4 CLP DoD-ELAP	Other:		ADaPT XLS Othe		ERPIMS		Unclear	1	2	3	.0	Non-Conformances found? Samples Intact upon arrival?	
1 Muren Kar	<u>}</u>	Basin	Erv.	3.2	<u>7.13</u>	14.2	.5	X	SCM		m		-318	1/3	2	<u>95</u>	Received on Wet ice? Labeled with proper preservatives? Received within holding time?	
2	<u>/</u>					i de la filia d En la filia de la		shi	inte	eant	Xei	10	3/28	13	ГЦ	40.	Custody seals intact? VOCs rec'd w/o headspacs? Proper containers used?	
<b>3</b>	<u></u>		- 						· · · · ·		· · · ·	· · · · · · · · · · · · · · · · · · ·					PH verified-acceptable, excl VOCs? Received on time to meet HTs?	2
4 &A Laboratories: Hobbs 575-392-755(	Delles 21	14 002 020	0. Liouat		242 400		422.56	2 1900	Son A	ntonio 7		2224 0	<u> </u>	000 40	7.0000	<u> </u>	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 Xanco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov 12, 2009



Work Order #: 460151

### XENCO Laboratories

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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

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

#### Temperature Measuring device used :

Sam	ple 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/ of	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 Cu	stody? 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	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	s)? Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	Yes	
#20 VOC samples have zero headspace (less th	an 1/4 inch bubble)? Yes	
#21 <2 for all samples preserved with HNO3,HC	, 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#:	]
	ł	
Checklist complete	ed by:	Date:
Checklist reviewe	d by:	Date:

# 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

			Rele	ease Notific	ation	and Co	orrective A	ction						
						<b>OPER</b>	TOR		x Initia	I Report	🗌 Final R	leport		
		ins Pipeline				Contact Camille Reynolds Telephone No. 505-441-0965								
		Hwy 82, Lov		NM 88260			to. 505-441-090 e 6"Steel Pipeli							
	×	ton Gatherin	gwll		•	raciaty Typ	e o Steel Fipen	nç				<u></u>		
Surface Ow	ner Robert	Rice		Mineral O	wner	·····			Lease N	lo.		J		
						OF RE	and the second							
Unit Letter         Section         Township         Range         Feet from the         North           H         6         17S         37E         Feet from the         North						South Line	Feet from the	East/V	Vest Line	County Lea				
		Latitud	e_32° 51	' 56.0"		Longitude	<u>103° 17' 07.2</u>	»		-				
				NAT	URE	OF REL	EASE			_				
Type of Rele							Release 12 barre	_		Recovered				
Source of Re	clease of Ste	ei Pipeime				4-21-2006	four of Occurrence @ 13:00	xe 、	Date and 4-21-200	Hour of D 6 @ 13:15	iscovery			
Was Immedi	ate Notice (		Yes [	] No 🔲 Not Re	equired	If YES, To Pat Caper	Whom?			(	2223242524	52		
By Whom?							Hour 4-21-2006 (			10	1	-5%		
Was a Water	course Rea		Yes 🛛	No		If YES, V	olume Impacting	the Wat	ercourse.	11819	iscovery	ŕ		
If a Waterco	urse was Im	pacted, Descr	ibe Fully.	•						191	6 Wer			
										1:EF	1			
										120	۵.			
purged. The	: line is an ic	tle 6-inch stee	l gatherin	n Taken Internal o g line. The pressu h. The line was ap	ure on th	e line was ar	proximately 50 p	si and th	case of swe he gravity o	et crude oi f the sweet	I. The line has b crude oil was 34	een I.		
Describe Are approximate	ca Affected ly 1,500 ft <sup>2</sup> .	and Cleanup	Action Ta	ken.* The impacto	ed soil w	as excavated	and stockpiled o	n plastic	. Aerial ex	tent of sur	face impact was			
public health should their or the enviro	or the envi operations h mment. In a	ronment. The	o report a acceptan adequately )CD accept	e is true and comp nd/or file certain r ce of a C-141 repo y investigate and r ptance of a C-141	release n ort by the remediat	otifications a e NMOCD n e contaminat	nd perform corre- narked as "Final F ion that pose a th	ctive act leport" of	ions for rel loes not rel	eases which	ch may endanger perator of liability			
/	N.		1-	. A.A.			OIL CON	SERV	ATION	DIVISI	ON			
Signature amille Reynolds Approved by District Supervisor:												•		
								T						
Title: Reme			<del></del>			Approval Da	te:		Expiration	Date:	·			
E-mail Addr	ess: cjreyno	lds@paalp.co	m	·		Conditions o	f Approval:							
Date: 4/26/2	006			Phone:505-441						Attach	×1 🔲			