AP-96

Plains Lovington Gathering WTI

Annual Report 2013

Basin Environmental Service Technologies, LLC

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2013 ANNUAL MONITORING REPORT

LOVINGTON GATHERING WTI

Unit Letter "H" (SE/NE), Section 6, Township 17 South, Range 37 East Latitude 32° 51' 56.0" North, Longitude 103° 17' 07.2" West Lea County, New Mexico Plains SRS Number: 2006-142 NMOCD Reference Number: 1RP-838

Prepared for:



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

Prepared By:

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March 2014

Ben J. Arguijo Project Manager

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1.0 INTRODUCTION

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

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

2.0 SITE DESCRIPTION & BACKGROUND INFORMATION

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

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

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

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

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

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

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

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

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

3.0 FIELD ACTIVITIES

3.1 Groundwater Recovery Efforts

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

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

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

3.2 Groundwater Monitoring

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

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

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

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

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

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

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

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

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

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

4.0 LABORATORY RESULTS

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

4.1 Quarterly Monitoring Data

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

• Monitor Well MW-1:

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

• Monitor Well MW-2:

 In 2Q2013, benzene, ethylbenzene, toluene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards. o Diminished well volume and recharge precluded sample collection from monitor well MW-2 during the 1Q2013, 3Q2013, and 4Q2013 quarterly monitoring events.

• Monitor Well MW-3:

O Benzene concentrations ranged from less than the laboratory MDL in 2Q2013 and 3Q2013 to 0.0112 mg/L in 1Q2013. Toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL in all submitted groundwater samples. Benzene concentrations exceeded the NMWQCC regulatory standard of 0.010 mg/L in 1Q2013. Toluene, ethylbenzene, and total xylene concentrations were less than NMWQCC regulatory standards in all submitted groundwater samples.

• Monitor Well MW-4:

- Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
- Diminished well volume and recharge precluded sample collection from monitor well MW-4 during the 3Q2013 quarterly monitoring event.

• Monitor Well MW-5:

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

• Monitor Well MW-6:

- Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
- Diminished well volume and recharge precluded sample collection from monitor well MW-6 during the 3Q2013 quarterly monitoring event.

• Monitor Well MW-7:

O Benzene concentrations ranged from less than the laboratory MDL in 1Q2013, 3Q2013, and 4Q2013 to 0.0087 mg/L in 2Q2013. Toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL in all submitted groundwater samples. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than NMWQCC regulatory standards in all submitted groundwater samples.

• Monitor Well MW-8:

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

• Monitor Well MW-9:

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

• Monitor Well MW-10:

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

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

4.2 Monthly Monitoring Data

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

• Monitor Well MW-9:

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

• Monitor Well MW-10:

 Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples. o Diminished well volume and recharge precluded sample collection from monitor well MW-10 during the August and September monthly monitoring events.

• Goff Dairy Well:

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

• Goff Dairy - Ctr. Pivot Well:

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

• Goff Dairy - Ctr. Pivot Beginning:

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

• Goff Dairy - Ctr. Pivot End:

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

• JW Well:

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

ANTICIPATED ACTIONS

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

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

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

LIMITATIONS

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

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

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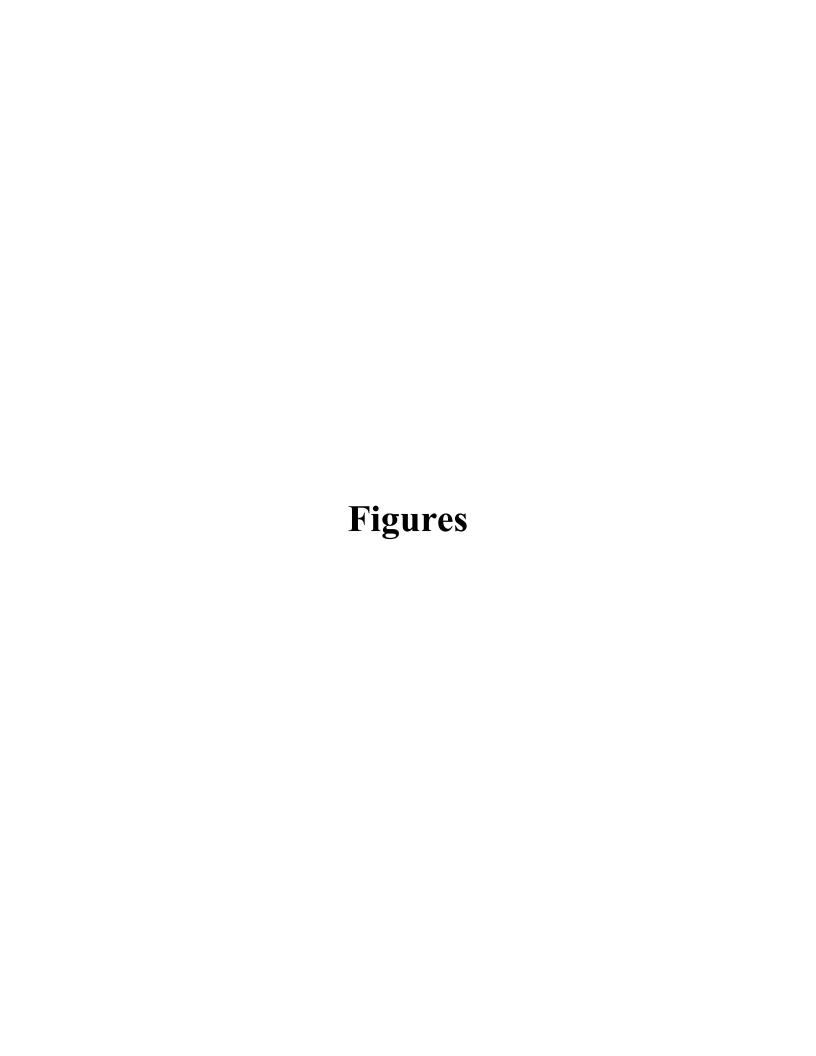
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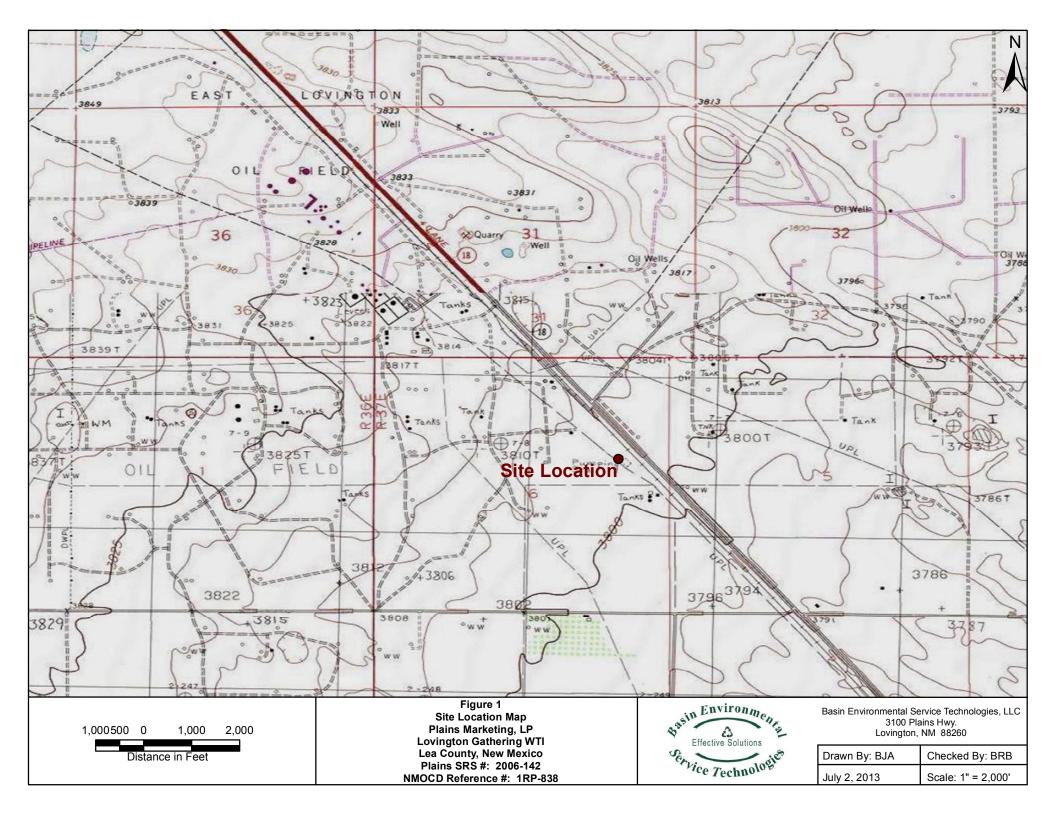
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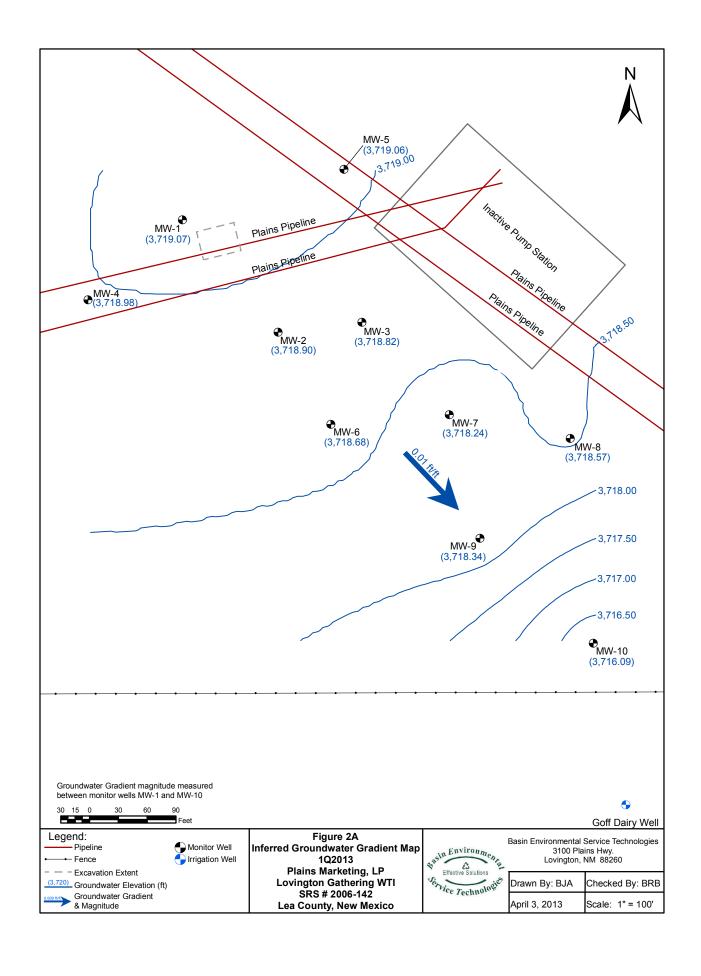
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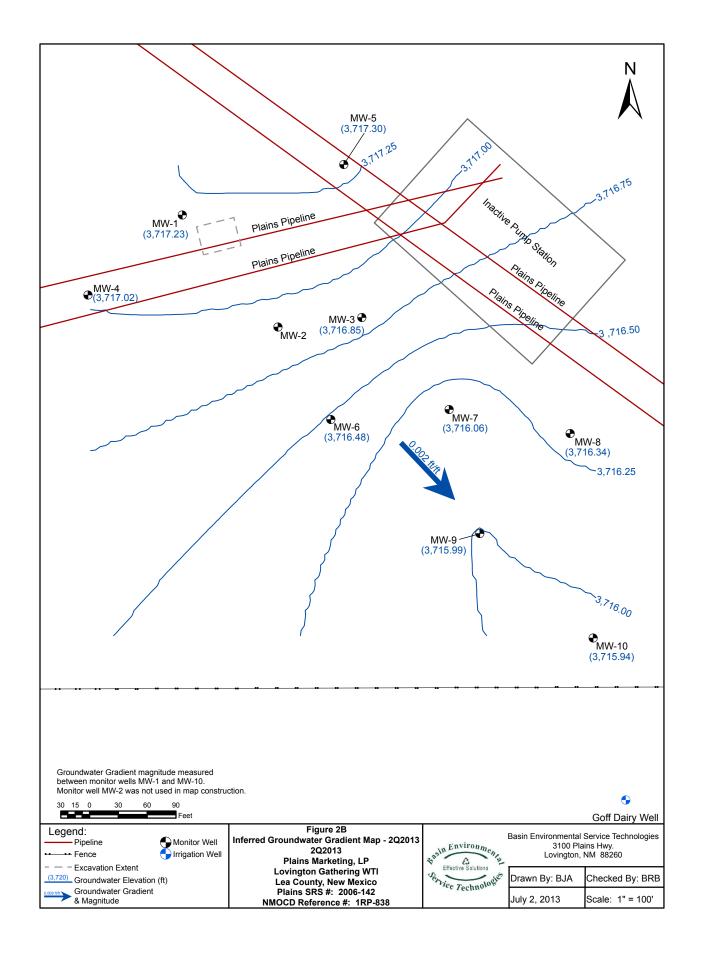
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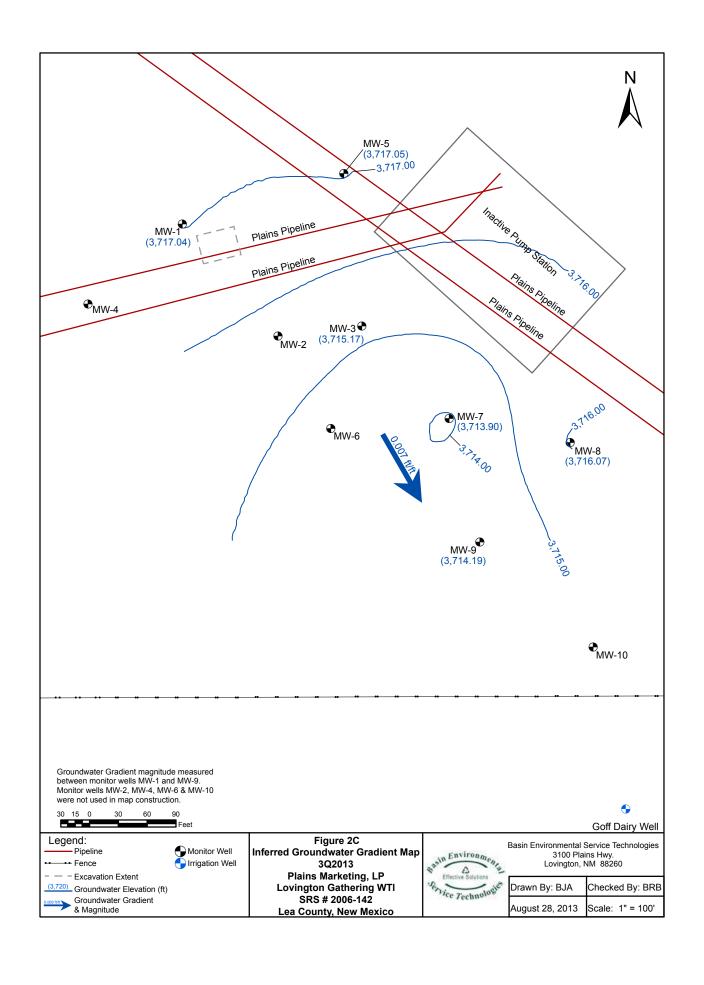
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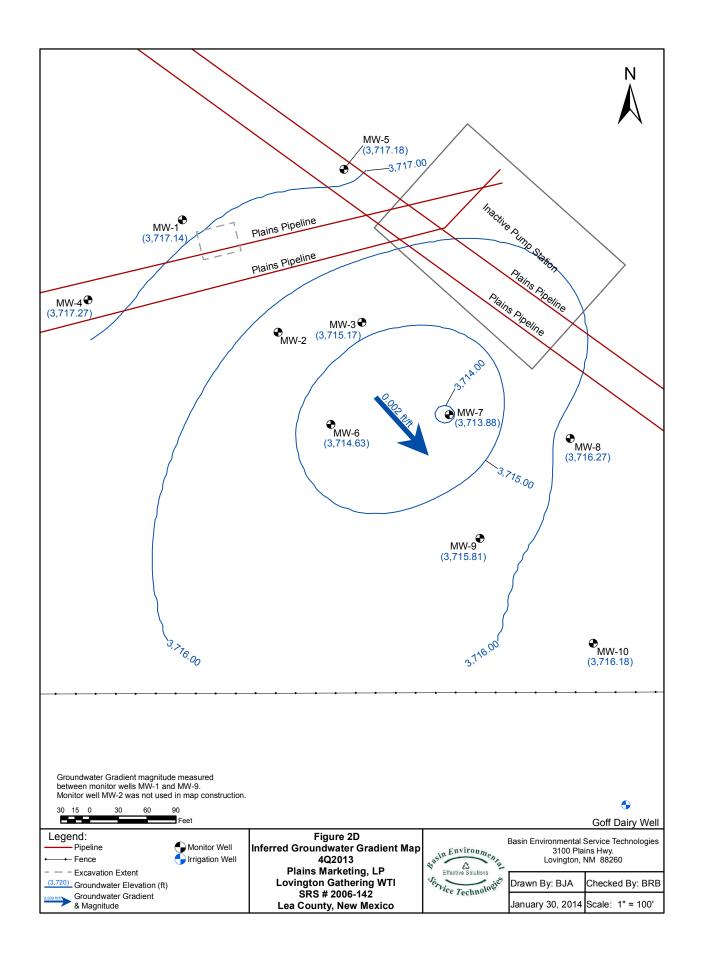


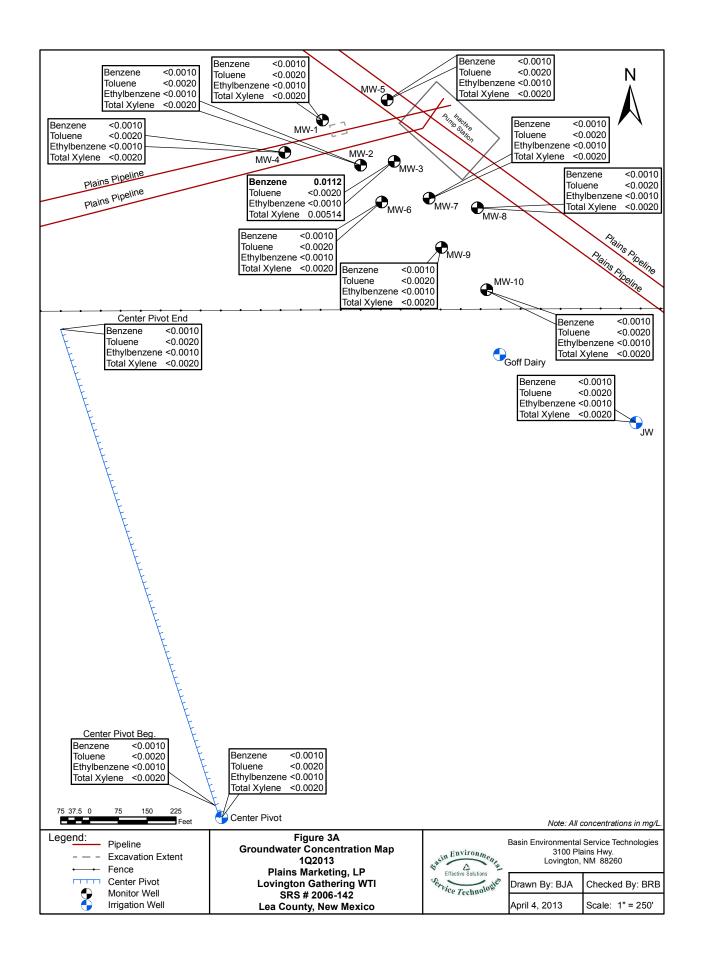


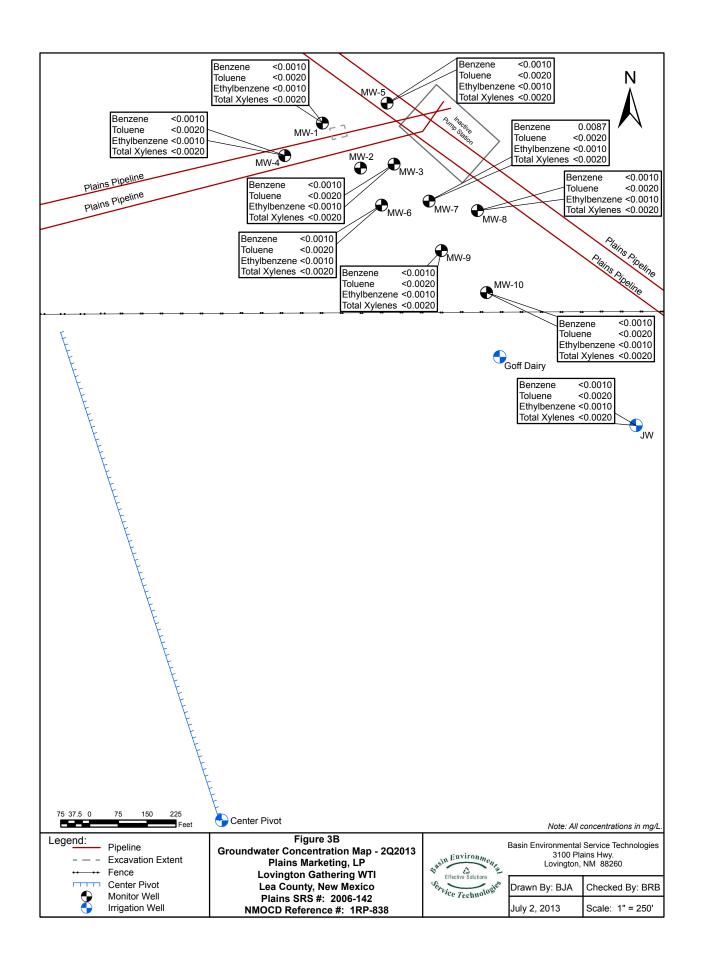


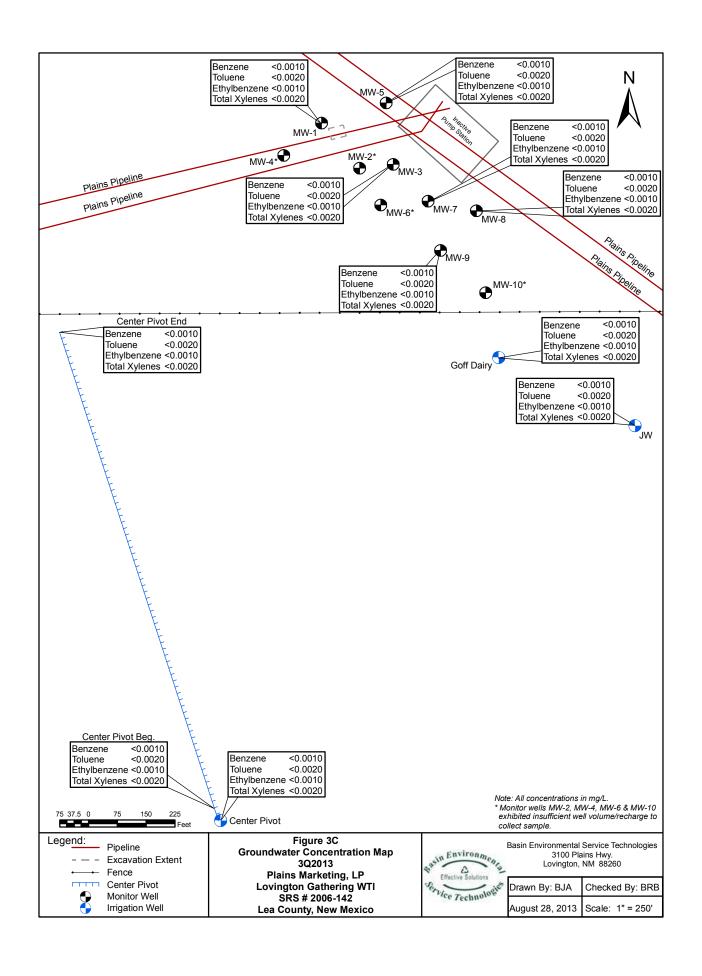


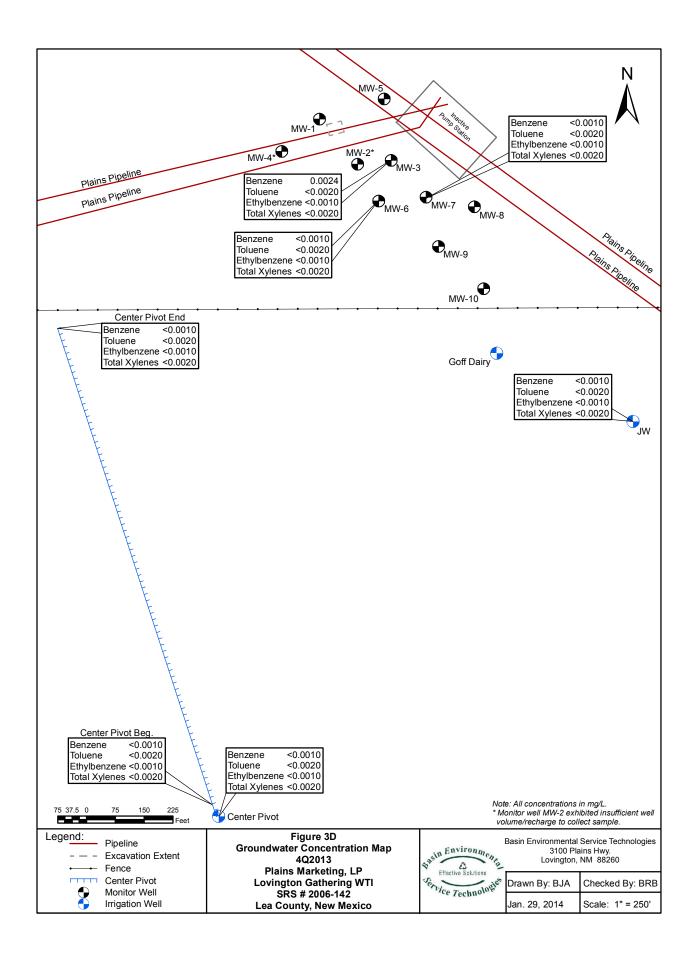


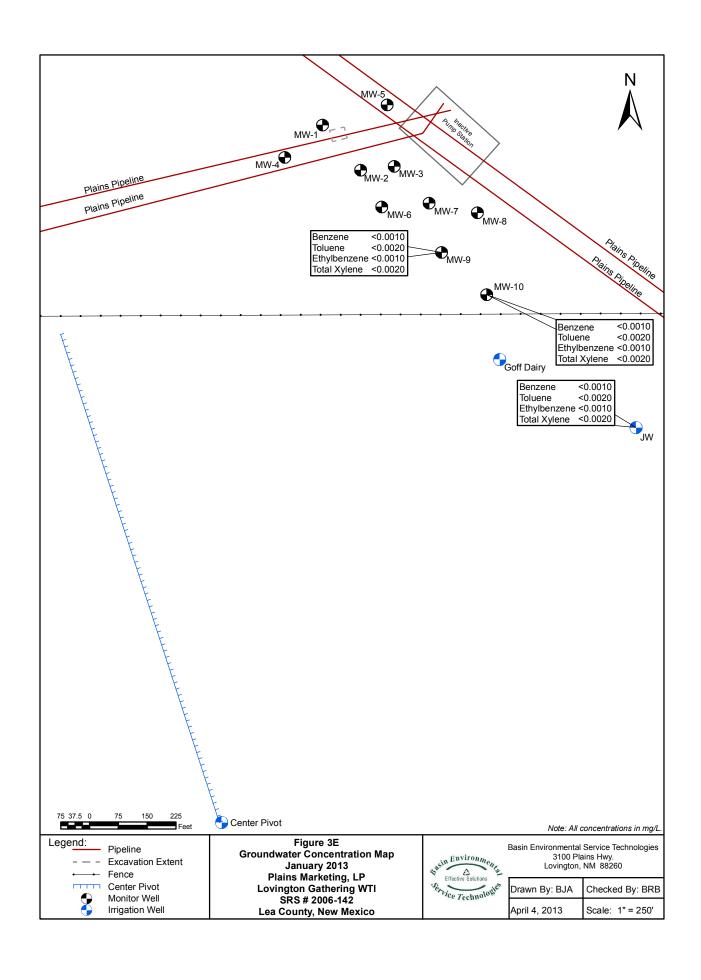


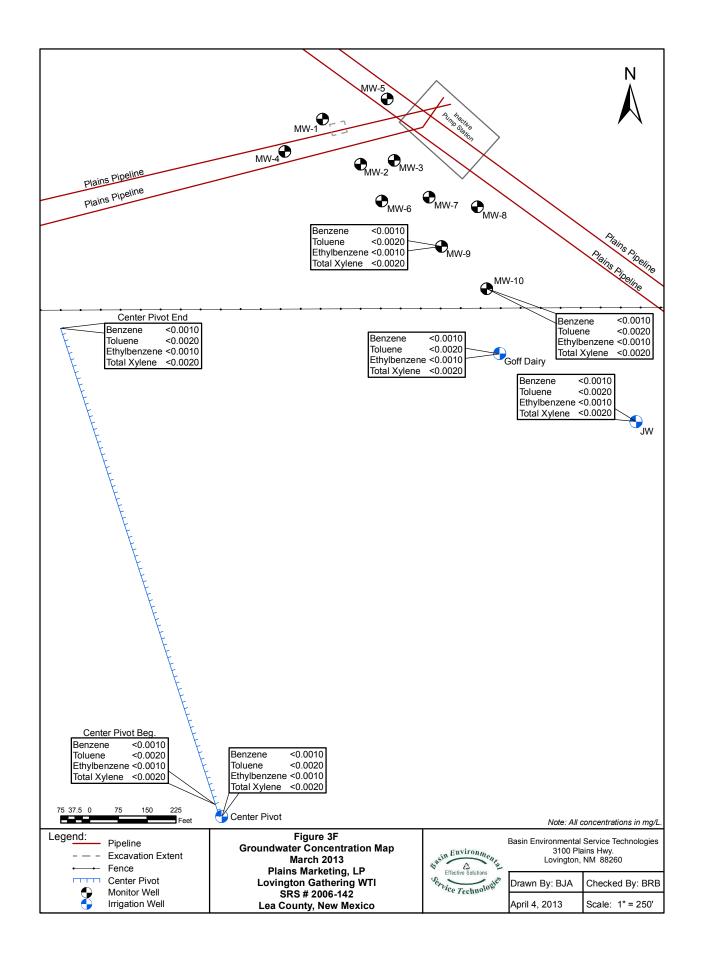


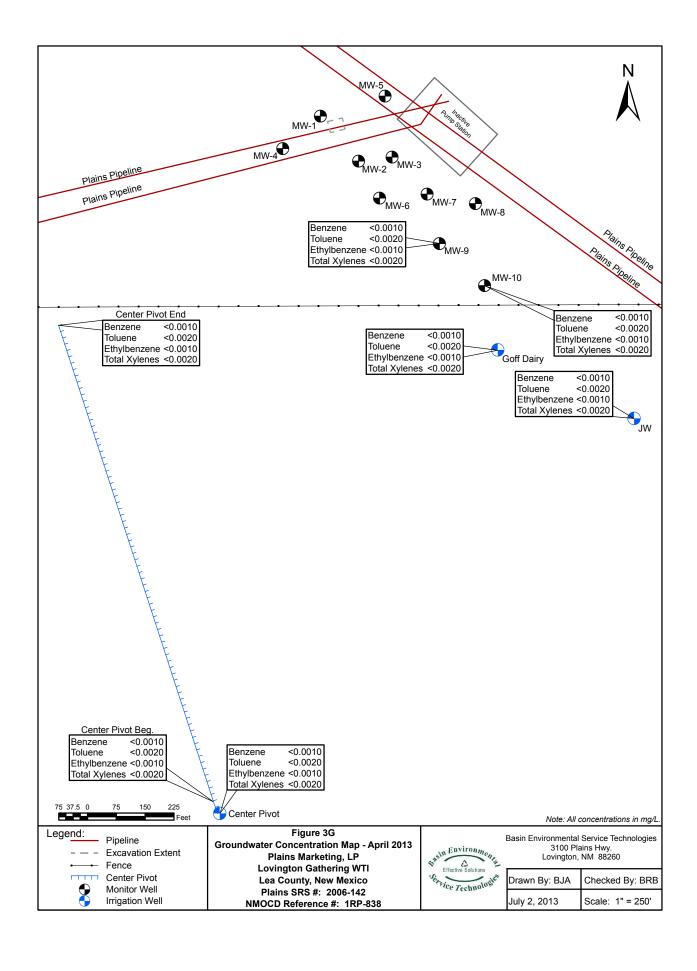


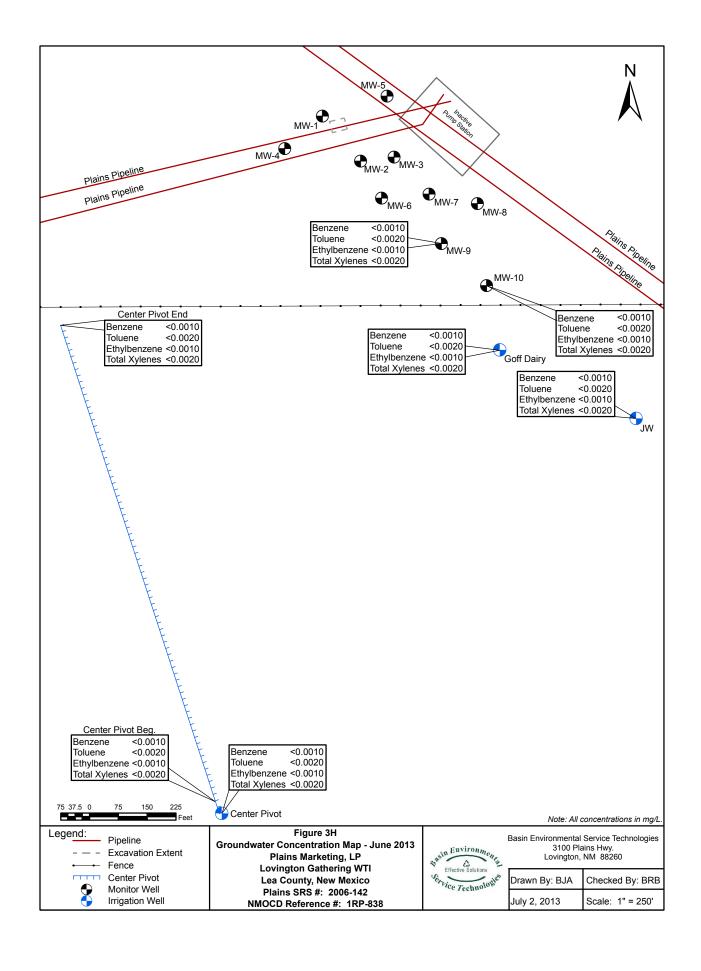


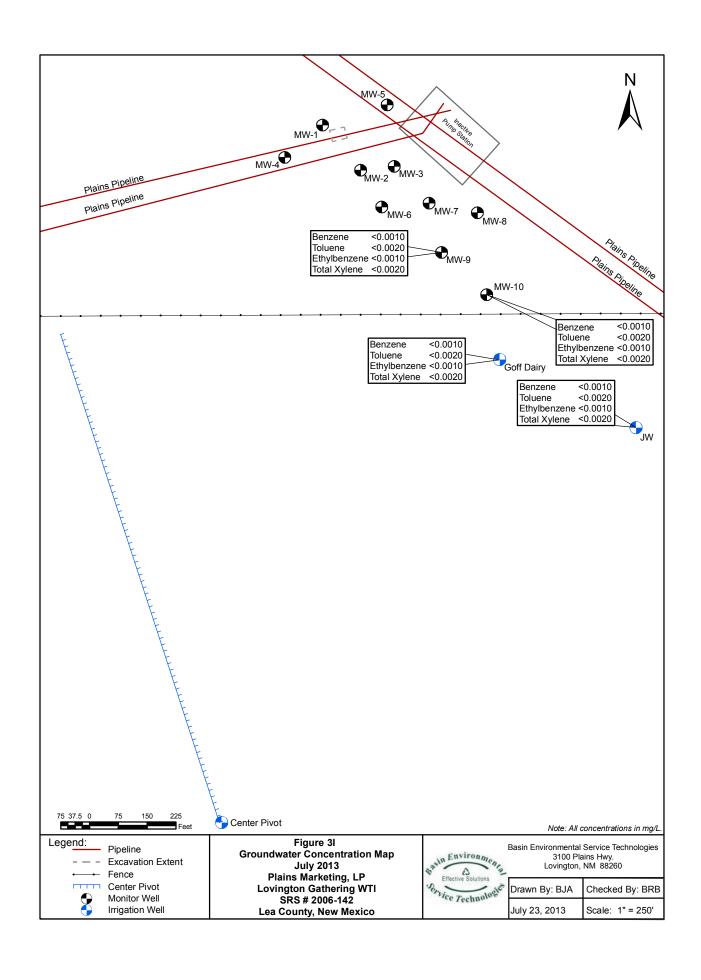


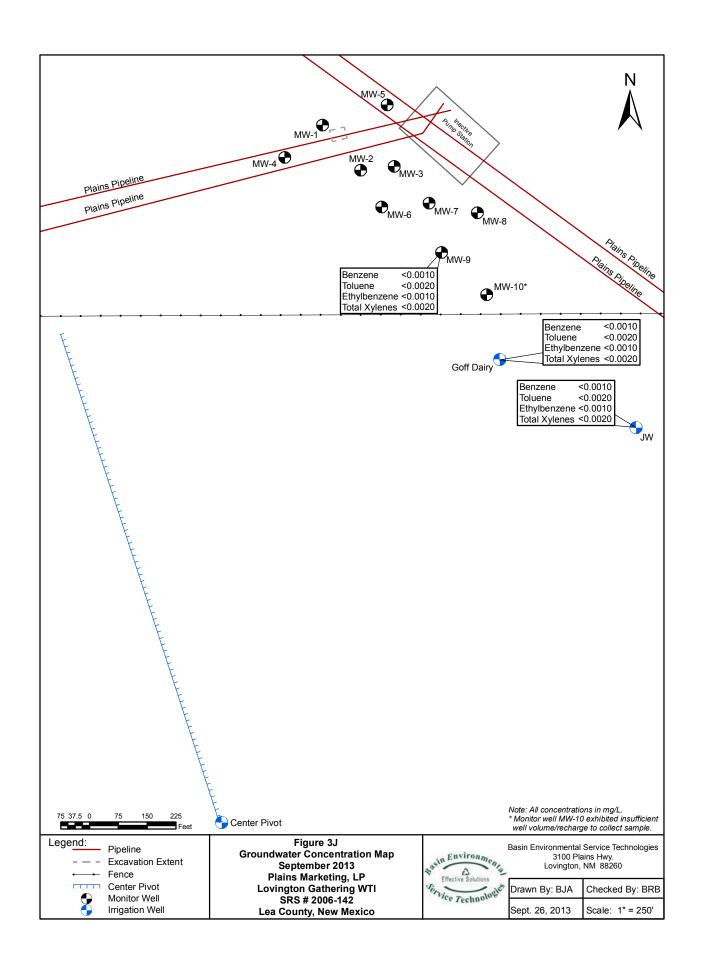


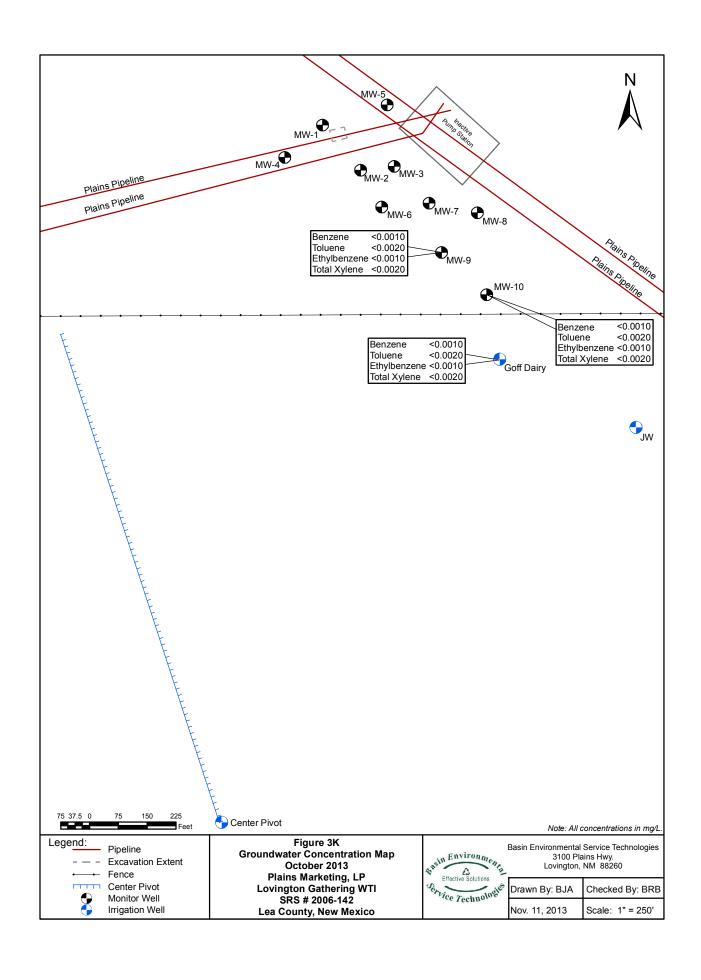












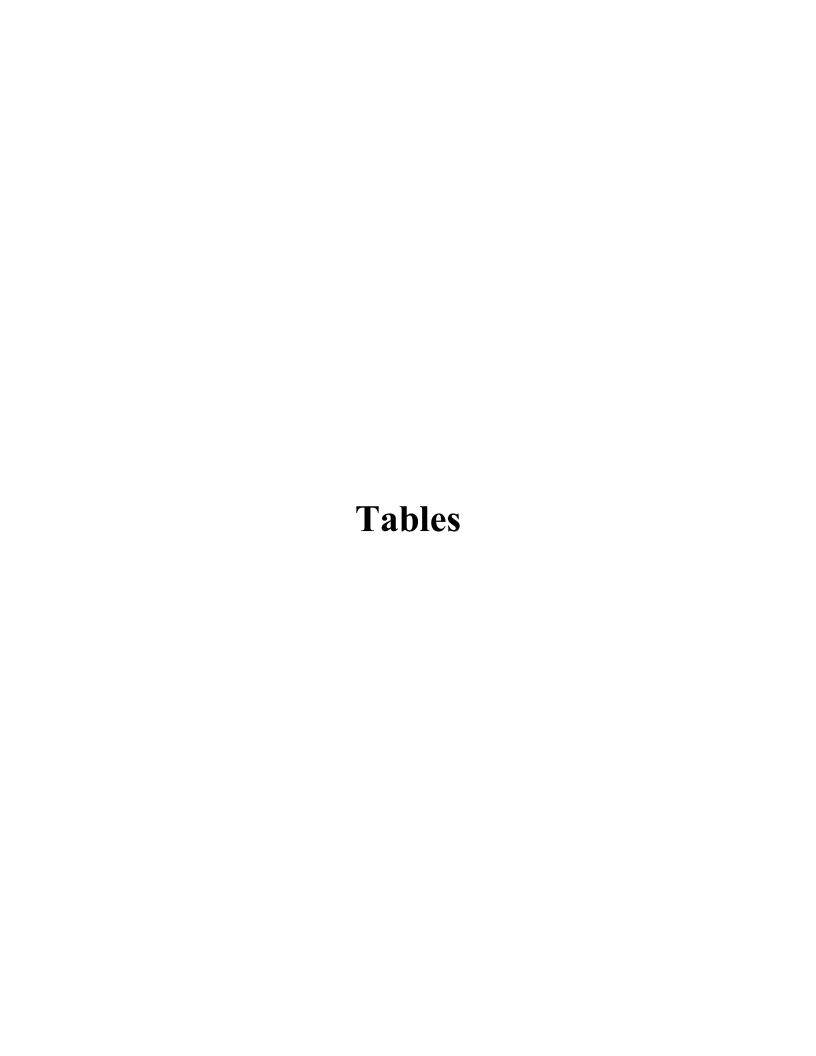


TABLE 1 2013 GROUNDWATER ELEVATION DATA

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

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	1	89.56	1	3,717.04
	11/08/13	3,806.60	1	89.47	1	3,717.14
MW-2	02/22/13	3,806.31	-	87.41	-	3,718.90
	05/23/13	3,806.31	-	Dry	-	-
	08/21/13	3,806.31	-	Dry	-	-
	11/08/13	3,806.31	-	Dry	-	-
MW-3	02/22/13	3,806.19	1	87.37	1	3,718.82
	05/23/13	3,806.19	1	89.34	1	3,716.85
	08/21/13	3,806.19	1	91.02	-	3,715.17
	11/08/13	3,806.19	1	91.02	-	3,715.17
MW-4	02/22/13	3,806.67	1	87.69	-	3,718.98
	05/23/13	3,806.67	1	89.65	-	3,717.02
	08/21/13	3,806.67	1	Dry	-	-
	11/08/13	3,806.67	-	89.40	-	3,717.27
MW-5	02/22/13	3,806.30	-	87.24	-	3,719.06
	05/23/13	3,806.30	-	89.00	-	3,717.30
	08/21/13	3,806.30	-	89.25	-	3,717.05
	11/08/13	3,806.30	-	89.13	-	3,717.18
MW-6	02/22/13	3,806.08	-	87.40	-	3,718.68
	05/23/13	3,806.08	-	89.60	-	3,716.48
	08/21/13	3,806.08	-	Dry	-	-
	11/08/13	3,806.08	-	91.45	-	3,714.63
MW-7	02/22/13	3,806.05	-	87.81	-	3,718.24
	05/23/13	3,806.05	-	89.99	-	3,716.06
	08/21/13	3,806.05	-	92.15	-	3,713.90
	11/08/13	3,806.05	-	92.17	-	3,713.88

TABLE 1 2013 GROUNDWATER ELEVATION DATA

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

NMOCD REFERENCE #: 1RP-838

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-8	02/22/13	3,805.89	-	87.32	-	3,718.57
	05/23/13	3,805.89	1	89.55	1	3,716.34
	08/21/13	3,805.89	1	89.82	1	3,716.07
	11/08/13	3,805.89	1	89.62	1	3,716.27
MW-9	02/22/13	3,806.02	1	87.68	1	3,718.34
	05/23/13	3,806.02	1	90.03	1	3,715.99
	08/21/13	3,806.02	1	91.83	1	3,714.19
	11/08/13	3,806.02	-	90.21	-	3,715.81
MW-10	02/22/13	3,806.08		89.99	-	3,716.09
	05/23/13	3,806.08	-	90.14	1	3,715.94
	08/21/13	3,806.08	-	Dry	-	-
	11/08/13	3,806.08	-	89.90	-	3,716.18

Elevations based on the North American Vertical Datum of 1929.

^{- =} Not applicable

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

				300.1	SW846-60100					
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-1	10/05/06	< 0.0010	< 0.0010	<0.0010	<0.0010	< 0.0010	<0.0010	< 0.0010	-	-
	12/28/06	< 0.0010	< 0.0010	< 0.0010	0.002	< 0.0010	0.002	0.002	-	-
	03/16/07	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
	05/31/07	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	<0.0010	< 0.0010	-	-
	09/25/07	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/30/07	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/11/08	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/14/08	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	09/17/08	0.020	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.020	-	-
	12/02/08	0.035	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.035	-	-
	03/03/09	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/18/09	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	09/01/09	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	12/18/09	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/04/10	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/25/10	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/30/10	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/11/10	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/22/11	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/27/11	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/24/11	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/09/11	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	02/06/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/23/12	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	08/28/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/27/12	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	02/22/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	< 0.0020	<0.0020	-	-
	05/23/13	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/21/13	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	=
MW-2	10/05/06	0.010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.010	-	-
	12/28/06	0.161	< 0.0010	< 0.0010	0.024	< 0.0010	0.024	0.185	-	-
	03/16/07	0.154	< 0.0010	< 0.0010	0.015	< 0.0010	0.015	0.169	-	-
	05/31/07	0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.005	-	-
<u> </u>	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	-	-

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

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

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

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

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

		METHODS: EPA SW 846-8021b								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	02/22/13	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	05/23/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/21/13		•			Dry				
MW-5	12/28/06	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
	03/16/07	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
	05/30/07	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
	09/25/07	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	11/30/07	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	03/11/08	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	06/14/08	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	09/17/08	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	12/02/08	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	03/03/09	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	06/18/09	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	09/01/09	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	12/18/09	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/04/10	< 0.0010	<0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	05/25/10	0.0014	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0014	-	-
	08/30/10	< 0.0010	<0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	11/11/10	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	03/22/11	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	05/27/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	08/24/11	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/09/11	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
	02/06/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/23/12	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/28/12	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/27/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	02/22/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/23/13	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	08/21/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
MW-6	12/28/06	< 0.0010	<0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
	03/16/07	< 0.0010	<0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
	05/30/07	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
	09/25/07	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	11/30/07	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/11/08	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

		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	06/14/08	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	09/17/08	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	12/02/08	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	03/03/09	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	06/18/09	0.0044	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0044	-	-
	09/01/09	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	12/18/09	0.013	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0130	-	-
	03/04/10	0.0063	< 0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	0.0063	-	-
	05/25/10	0.0059	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0059	-	-
	08/30/10	0.0053	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0053	-	-
	11/11/10	0.0082	< 0.0020	< 0.0010	0.0035	< 0.0010	0.0035	0.0117	-	-
	03/22/11	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	05/27/11	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/24/11	0.105	< 0.0020	< 0.0010	0.0597	0.00309	0.0628	0.168	-	-
	11/09/11	0.00356	< 0.0020	< 0.0010	0.0388	< 0.0010	0.0388	0.0424	-	-
	02/06/12	0.0129	< 0.0020	0.00106	0.133	< 0.0010	0.133	0.147	-	-
	05/23/12	0.00768	< 0.0010	< 0.0010	0.157	< 0.0010	0.157	0.165	-	-
	08/28/12	<0.0010	<0.0020	< 0.0010	0.0026	< 0.0010	0.0026	0.0026	-	-
	11/27/12	0.00121	< 0.0020	< 0.0010	0.0414	< 0.0010	0.0414	0.0426	-	-
	02/22/13	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/23/13	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	08/21/13	10.00.0	10.0020	10.00.0	10.0020	Drv	10.0020	10.0020		
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-7	12/28/06	0.047	< 0.0010	< 0.0010	0.001	< 0.0010	0.001	0.0480	-	-
	03/16/07	0.047	< 0.0010	< 0.0010	0.015	< 0.0010	0.015	0.0620	-	-
	05/31/07	0.039	< 0.0010	< 0.0010	0.005	< 0.0010	0.005	0.0440	-	-
	09/25/07	0.037	< 0.0010	< 0.0010	0.030	< 0.0010	0.03	0.0670	-	-
	11/30/07	0.026	< 0.0020	< 0.0010	0.022	< 0.0010	0.022	0.0480	-	-
	03/11/08	0.095	<0.0020	< 0.0010	0.0032	< 0.0010	0.0032	0.0982	-	-
	06/14/08	0.138	< 0.0020	< 0.0010	0.016	< 0.0010	0.016	0.1540	-	-
	09/17/08	0.353	<0.0020	< 0.0010	0.003	< 0.0010	0.003	0.3560	-	-
	12/02/08	0.036	< 0.0020	< 0.0010	0.003	0.002	0.005	0.0410	-	-
	03/03/09	0.0775	<0.0020	< 0.0010	0.0327	< 0.0010	0.0327	0.1102	-	-
	06/18/09	0.057	<0.0020	< 0.0010	0.0329	< 0.0010	0.0329	0.0899	-	-
	09/01/09	0.012	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0120	-	-
	12/18/09	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	< 0.0020	<0.0020	-	-
	03/04/10	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	05/25/10	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

				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-7	08/30/10	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	11/11/10	< 0.0010	<0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/22/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/27/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/24/11	0.00192	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.00192	-	-
	11/09/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	02/06/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/23/12	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/28/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/27/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	02/22/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
05/2 08/2	05/23/13	0.0087	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0087	-	-
	08/21/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/08/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
MW-8	03/16/07	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	<0.0010	< 0.0010	-	-
	05/31/07	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	-
	09/25/07	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/30/07	< 0.0010	<0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/11/08	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/14/08	0.008	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.008	-	-
	09/17/08	0.568	< 0.0100	< 0.005	< 0.0100	< 0.005	< 0.0100	0.568	-	-
	12/02/08	0.234	0.046	0.008	0.041	0.013	0.054	0.342	-	-
	03/03/09	0.0284	<0.0020	< 0.0010	0.0068	< 0.0010	0.0068	0.0352	-	-
	06/18/09	0.0045	< 0.0020	0.0016	0.0032	< 0.0010	0.0032	0.0093	-	-
	09/01/09	0.0013	< 0.0020	0.0011	0.0141	< 0.0010	0.0141	0.0165	-	-
	12/18/09	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	03/04/10	< 0.0010	< 0.0020	0.0011	<0.0020	< 0.0010	<0.0020	0.0011	-	-
	05/25/10	0.0012	< 0.0020	0.001	<0.0020	< 0.0010	<0.0020	0.0022	-	-
	08/30/10	< 0.0010	< 0.0020	0.0014	<0.0020	< 0.0010	<0.0020	0.0014	-	-
	11/11/10	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/22/11	< 0.0010	<0.0020	< 0.0010	<0.0020	0.00154	0.00154	0.00154	-	-
	05/27/11	< 0.0010	<0.0020	< 0.0010	<0.0020	0.00260	0.00260	0.00260	-	-
	08/24/11	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/09/11	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

				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	02/22/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	05/23/13	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/21/13	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
MW-9	09/25/07	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	11/30/07	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/11/08	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/14/08	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	09/17/08	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	12/02/08	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	03/03/09	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/18/09	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	09/01/09	0.9717	0.0641	< 0.0100	0.0867	0.0422	0.1289	1.1647	-	-
	09/10/09	1.838	< 0.0200	< 0.0100	0.0537	< 0.0100	0.0537	1.8917	-	-
	10/05/09	0.985	< 0.0020	< 0.0010	0.0442	< 0.0010	0.0442	1.0292	-	-
	12/18/09	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/04/10	0.0192	< 0.0020	< 0.0010	0.0027	< 0.0010	0.0027	0.0219	-	-
	05/25/10	0.0421	< 0.0020	< 0.0010	0.0063	< 0.0010	0.0063	0.0484	-	-
	08/30/10	0.1259	< 0.0020	< 0.0010	0.0344	< 0.0010	0.0344	0.1603	-	-
	11/11/10	0.0265	< 0.0020	< 0.0010	0.0097	< 0.0010	0.0097	0.0362	-	-
	03/22/11	0.00335	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.00335	-	-
	05/27/11	0.00406	< 0.0020	< 0.0010	0.00326	< 0.0010	0.00326	0.00732	-	-
	08/24/11	< 0.0010	< 0.0020	< 0.0010	0.00237	< 0.0010	0.00237	0.00237	-	-
	11/09/11	0.00179	< 0.0020	< 0.0010	0.00349	< 0.0010	0.00349	0.00528	-	-
	12/14/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	01/05/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	02/06/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/01/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	04/18/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/23/12	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/19/12	< 0.0010	< 0.0010	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	07/30/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/28/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	09/11/12	< 0.0010	<0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0020	-	-
	10/31/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/27/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	12/19/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	01/30/13	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	02/22/13	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

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

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

				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	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		ı	li .		Dry			II.	·II
	09/19/13					Dry				
	10/23/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0020	-	-
Goff Dairy Well	05/27/11	0.00125	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00123	-	-
•	07/11/11	0.00262	< 0.0020	< 0.0010	< 0.0020	< 0.0010	<0.0020	0.00262	-	-
	08/24/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	_	-
	10/10/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	10/31/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	< 0.0020	<0.0020	_	-
	11/09/11	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0020	_	-
	12/14/11	<0.0010	<0.0020	0.00111	<0.0020	<0.0010	<0.0020	0.00111	_	-
	01/05/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	-
	02/06/12	<0.0010	<0.0020	0.00111	0.00201	< 0.0010	0.00201	0.00201	_	_
	03/01/12	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	04/18/12	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	-
	07/30/12	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	08/28/12	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	03/27/13	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	<u> </u>	_
	06/25/13	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	07/16/13	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	09/19/13	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	10/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<u> </u>	_
	10/20/10	10.0010	V0.0020	Q0.0010	V0.0020	10.0010	V0.0020	V0.0020		
Goff Dairy - Ctr. Pivot Well	07/07/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
a.e Jany Garrinet Ire.	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	<u> </u>	-
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		
	0-7/10/12	\U.UU1U	\U.UU_U	\U.UU1U	₹0.0020	\0.0010	₹0.0020	₹0.0020	_	-

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

				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)
Goff Dairy - Ctr. Pivot Well	05/23/12	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
,	06/19/12	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	07/30/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/28/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	09/11/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	10/31/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/27/12	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	12/19/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	02/28/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/27/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	04/09/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/25/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	08/21/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/08/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
Goff Dairy - Ctr. Pivot Beg.	07/07/11	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
,	08/24/11	<0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	< 0.0020	<0.0020	-	-
	10/10/11	<0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	10/31/11	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/09/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/01/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	04/18/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/23/12	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/19/12	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	07/30/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	09/11/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	10/31/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	11/27/12	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	02/28/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	03/27/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	-	-
	04/09/13	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/08/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
Goff Dairy - Ctr. Pivot End	07/07/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
•	08/24/11	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	< 0.0020	<0.0020	-	-
	10/10/11	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	10/31/11	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

			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	11/09/11	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	<0.0020	-	-
•	03/01/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	04/18/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/23/12	< 0.0010	< 0.0010	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	06/19/12	< 0.0010	< 0.0010	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/30/12	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/11/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	10/31/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	11/27/12	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	< 0.0020	-	-
	02/28/13	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	04/09/13	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	08/21/13	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0020	_	_
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	11/00/10	1010010	10.0020	10.00.10	10.0020	1010010	10.0020	10.0020		
JW Well	07/14/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	_
011 110	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	10/10/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	10/31/11	<0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	03/01/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	06/19/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	07/30/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	10/31/12	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	12/19/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	01/31/13	<0.0010	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	_	_
	02/28/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	05/29/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/16/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	_	_

PLAINS MARKETING, LP LOVINGTON GATHERING WTI LEA COUNTY, NEW MEXICO PLAINS SRS #: 2006-142

		METHODS: EPA SW 846-8021b								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	09/19/13	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	< 0.0020	<0.0020	-	-
	11/08/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
MOCD REGULATORY STANDARD		0.01	0.75	0.75	TOTAL XYLENES 0.62			1.6	0.05	



Appendix A Laboratory Analytical Reports

Analytical Report 456861,456863

for PLAINS ALL AMERICAN EH&S

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

08-FEB-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

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

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

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





08-FEB-13

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

Reference: XENCO Report No(s): **456861,456863**

Lovington Gathering WTI SRS #2006-142

Project Address: Lovington

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 456861,456863. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 456861 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Alejandro Montoya

New Mexico Laboratory Director

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Sample Cross Reference 456861,456863



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI SRS #2006-142

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

CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S
Project Name: Lovington Gathering WTI SRS #2006-142



 Project ID:
 Report Date: 08-FEB-13

 Work Order Number(s): 456861,456863
 Date Received: 02/01/2013

Sample receipt non conformances and comments: None
Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 456861,456863

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id:

Project Location: Lovington

Project Name: Lovington Gathering WTI SRS #2006-142

Contact: Ben Arguijo

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

Report Date: 08-FEB-13

Project Manager: Nicholas Straccione

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

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

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Alejandro Montoya New Mexico Laboratory Director



Certificate of Analysis Summary 456861,456863

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id:

Project Location: Lovington

Project Name: Lovington Gathering WTI SRS #2006-142

Contact: Ben Arguijo

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

Report Date: 08-FEB-13

Project Manager: Nicholas Straccione

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

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

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Alejandro Montoya New Mexico Laboratory Director



Flagging Criteria

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantiation 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.

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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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	

Page 7 of 14

Final 1.000

^{*} Surrogate recovered outside laboratory control limit.



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 456861, 456861,456863 Project ID:

Lab Batch #: 906400 **Sample:** 456863-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 02/06/13 10:55	SU	RROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0335	0.0300	112	80-120	
4-Bromofluorobenzene		0.0317	0.0300	106	80-120	

Lab Batch #: 906400 **Sample:** 456861-001 / SMP **Batch:** 1 **Matrix:** Water

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 02/06/13 11:44 Amount True Control BTEX by EPA 8021B Found Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0279 0.0300 93 80-120 4-Bromofluorobenzene 0.0301 0.0300 100 80-120

Lab Batch #: 906400 **Sample:** 456861-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 02/06/13 12:01	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	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 Sample: 633456-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 02/06/13 10:38	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0254	0.0300	85	80-120			
4-Bromofluorobenzene	0.0252	0.0300	84	80-120			

Lab Batch #: 906400 Sample: 633456-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 02/06/13 10:21	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0345	0.0300	115	80-120			
4-Bromofluorobenzene	0.0312	0.0300	104	80-120			

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Lovington Gathering WTI SRS #2006-142

Lab Batch #: 906400 **Sample:** 633456-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 02/06/13 10:04	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0292	0.0300	97	80-120		
4-Bromofluorobenzene	0.0283	0.0300	94	80-120		

Lab Batch #: 906400 **Sample:** 456863-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 02/06/13 11:11	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 906400 **Sample:** 456863-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 02/06/13 11:28	SU	RROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0316	0.0300	105	80-120	
4-Bromofluorobenzene		0.0313	0.0300	104	80-120	

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 456861, 456861,456863

Project ID:

Analyst: KEB

Date Prepared: 02/06/2013 **Batch #:** 1

Date Analyzed: 02/06/2013

Lab Batch ID: 906400

Sample: 633456-1-BKS

Matrix: Water

Units: mg/L	BLAN	K /BLANK S	SPIKE / B	SLANK S	SPIKE DUPL	ICATE	RECOVE	ERY STU	DY	

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.106	106	0.100	0.0849	85	22	70-125	25	
Toluene	< 0.00200	0.100	0.107	107	0.100	0.0846	85	23	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.108	108	0.100	0.0846	85	24	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.213	107	0.200	0.166	83	25	70-131	25	
o-Xylene	< 0.00100	0.100	0.105	105	0.100	0.0842	84	22	71-133	25	



Form 3 - MS / MSD Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 456861 Project ID:

Lab Batch ID: 906400 **QC- Sample ID:** 456863-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
BTEX by EPA 8021B	Parent Sample Result	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene	< 0.00100	0.100	0.0886	89	0.100	0.102	102	14	70-125	25	
Toluene	< 0.00200	0.100	0.0840	84	0.100	0.104	104	21	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0854	85	0.100	0.103	103	19	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.165	83	0.200	0.199	100	19	70-131	25	
o-Xylene	< 0.00100	0.100	0.0818	82	0.100	0.102	102	22	71-133	25	

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

45186 LAB W.O#:

Page 1 of 1

VA Vial Amber Encore Sampler VC Vial Clear TerraCore Sampler VP Vial Pre-preserved AC Air Canister

PMAttn: Ben Arguijo Email: bjarguijo@basinenv.com Simpler Signature: Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A Email: bjarguijo@basinenv.com Simpler Signature: Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A Email: bjarguijo@basinenv.com A. None E. HCL B. HNO. B. HOL B. HNO. B. HNO. B. HOL B. HNO. B. HNO. B. HNO. B. HOL B. HNO. B. HNO. B. HOL B. HNO. B. HNO. B. HOL B. HNO. B. HOL B. HNO. B. HNO. B. HOL B. HNO. B. HNO. B. HOL B. HNO. B. HNO. B. HNO. B. HOL B. HNO. B. HNO. B. HNO. B. HNO. B. HNO. B. HOL B. HNO.	NI, 1L, Other Ve Type Godes I. Ice J. MCAA C. K. ZhAc&NaOH L Asbc Acid&NaOH L Asbc Acid&NaOH L W Wipe A Air O Oil
City: Lovington State: NM Zip: 88260 ANALYSES REGUESTED A. None E. HCL B. HNO.g. F. MeOH H. NaHSO.g. D. NaOH H. NaHSO.g. D. Na	NI. 1L, Other Ve Type Godes I. Ice J. MCAA C. K. ZhAc&NaOH L Asbc Acid&NaOH Vype Godes S Soll/Sediment/Solid W Wipe A Air O Oil T Tissue U Urine
PM/Attn: Ben Arguijo Email: bjarguijo@basinenv.com SSI 398 A. None E. HCL B. HNO ₃ F. MeOH H ₂ SO ₄ G. Na ₂ S ₂ O ₃ SRS #2006-142 Invoice To: Quote #:	I. Ice J. MCAA C. X.7Ac&NaOH L Asbc Acid&NaOH Vye: Godes S Soll/Sediment/Solid W Wipe A Air O Oil T Tissue U Urine
A. None E. HCL Project ID: Lovington Gathering WTI SRS #2006-142 PO#: PAA-J. Henry PAA-J. Henry Quote #: A. None E. HCL B. HNO ₃ F. Ne ₃ S ₂ O ₃ D. NaOH H. NaHSO ₄ O.	J. MCAA C. K. ZnAc&NaOH L. Asbc Acid&NaOH L. Asbc Acid&NaOH Lype Codes S. Soli/Sediment/Solid W. Wipe A. Air O. Oil T. Tissue U. Urine
Project ID: Lovington Gathering WTI SRS #2006-142 PAA-J. Henry	K. ZnAc&NaOH L Asbc Acid&NaOH L Asbc Acid&NaOH L Asbc Acid&NaOH S Soll/Sediment/Solid W Wipe A Air O Oil T Tissue U Urine
	S Soil/Sediment/Solid W Wipe A Air O Oil T Tissue U Urine
Sampler Signature: Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A Circle One Event: Daily Weekly Monthly Quartely Semi-Annual Annual N/A The population of the popula	W Wipe A Air O Oil T Tissue U Urine
Sample ID College College Matrix B 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	B RIOOG F
SL Sludge Other	
REN	ARKS
1 MW-9 1/30/13 14:05 GW 3 X	
_2 MW-10 1/30/13 14/20 GW 3 X	: 1
_3 MR = 18013 - 6W-	
_4	
7	
8	
_9	
Reg: Program / Cleaneup Std: ST/ACTE for Certs & Regs	YES NO NA
1 Masin FW 131.13 3:45 Labeled with proper preserv Received within holding time	
Proper containers used?	voca 4
4 Provided and the second of t	

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

C.O.C. Serial #



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

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

Air and Metal samples Acceptable Range: Ambient

Acceptable Temperature Range: 0 - 6 degC

Temperature Measuring device used:

ork Order #: 4	56861	rempo	erature Measuring de	vice usea :
		Sample Receipt Che	cklist	Comments
#1 *Temperature	of cooler(s)?		1.5	
#2 *Shipping cor	ntainer in good condition?		Yes	
#3 *Samples rec	eived on ice?		Yes	
#4 *Custody Sea	als intact on shipping con	tainer/ cooler?	Yes	
#5 Custody Seal	s intact on sample bottles	s?	Yes	
#6 *Custody Sea	als Signed and dated?		Yes	
#7 *Chain of Cus	stody present?		Yes	
#8 Sample instru	uctions complete on Chai	n of Custody?	Yes	
#9 Any missing/e	extra samples?		No	
#10 Chain of Cu	stody signed when relinq	uished/ received?	Yes	
#11 Chain of Cu	stody agrees with sample	e label(s)?	Yes	
#12 Container la	bel(s) legible and intact?		Yes	
#13 Sample mat	rix/ properties agree with	Chain of Custody?	Yes	
#14 Samples in p	proper container/ bottle?		Yes	
#15 Samples pro	operly preserved?		Yes	
#16 Sample con	tainer(s) intact?		Yes	
#17 Sufficient sa	imple amount for indicate	d test(s)?	Yes	
#18 All samples	received within hold time	?	Yes	
#19 Subcontract	of sample(s)?		Yes	
#20 VOC sample	es have zero headspace	(less than 1/4 inch bubble))? Yes	
#21 <2 for all sai	mples preserved with HN	O3,HCL, H2SO4?	Yes	
#22 >10 for all sa	amples preserved with Na	aAsO2+NaOH, ZnAc+NaC	OH? Yes	
-		very of samples prior to p	olacing in the refriger	ator
Analyst:	PH Device	ce/Lot#:		
Chec	— klist completed by:		 Date:	
Che	 cklist reviewed by:			

Date:

XENCO		CHAIN
Laboratories	Houston: 4143 Greenbriar Dr. Hobbs: 4008 N Grimes Hobb	Stafford, TX 77477 (281)240 s, NM 88240 (575)392-7550

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

LAB W.O#:

Page__1_ of__1 VA Vial Amber VC Vial Clear VP Vial Pre-preserved GA Glass Amber GC Glass Clear

Sontine Type Codes

ES

ΤB

Encore Sampler

Air Canister

Tedlar Bag

TerraCore Sampler

ZΒ Zip Lock Bag Field billable Hrs: Plastic Amber PC Plastic Clear Company: PC Plastic Clear Phone: (575)396-2378 Basin Environmental Service Technologies, LLC TAT Work Days = D Need results by: Time: Address: Fax: 3100 Plains Hwv. (575)396-1429 Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal AHrs 1D 2D 3D 4D 5D 7D 10D 14D Other Std (5-7D) 40ml, 125 ml, 250 ml, 500 ml, 1L, Other City: State: NM Zip: Lovington 88260 ** Preservative Type Codes AMALYATS REQUESTED PM/Attn: Email: Ben Arguijo bjarguijo@basinenv.com A None E. HCL B. HNO₃ F. MeOH J. MCAA Project ID: PO#: Lovington Gathering WTI igs 77 H₂SO₄ G. Na₂S₂O₃ K. ZnAc&NaOH PAA-J. Henry SRS #2006-142 D. NaOH H. NaHSO4 L Asbc Acid&NaOH Invoice To: Quote #: Jason Henry Plains All American ^ Matrix Type Codes Sampler Signature: Circle One Event: Daily Weekly GW Ground Water S Soil/Sediment/Solid Monthla Quartely Chloride WW Waste Water W Wipe FH Semi-Annual Annual N/A DW Drinking Water SW Surface Water O Oil OW Ocean/Sea Water T Tissue (Collegi େଆବାର Weite. Product-Liquid U Urine Serriole ID PS Product-Solid B Blood Time Ogreja / ীহুতে SL Sludge Othe Lab Only: **REMARKS** 1250 JW Well 1/31/13 **GW** 3 X 3rd Single set from 1/30/1 6 8 9 0 Reg Program Clearus Sci STATE OF COTE & Rees OAYOC Level & Confinention EDIDE: COC ? Labor ତିରୋଗ୍ୟ ସିନ୍ଦ୍ର ଏକ MINO SAULOBA Mes No NV DW NPDES LPST DryCln 1 2 3 4 CLP AFCEE QAPP CTLs FL TX GA NC SC NJ PA OK LA ADaPT SEDD ERPIMS Match Incomplete Non-Conformances found? NELAC DoD-ELAP Other: Other: AL NM Other: XLS Other: Absent Unclear Samples intact upon arrival? Received on Wet Ice? Labeled with proper preservatives? Received within holding time? Custody seals intact? 2 VOCs rec'd w/o headspace? Proper containers used? 3 oH verified-acceptable, excl VOCs? Received on time to meet HTs? 4

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

C.O.C. Serial #

Analytical Report 458445

for PLAINS ALL AMERICAN EH&S

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

04-MAR-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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

Xenco-Lakeland: Florida (E84098)

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

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

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

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

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





04-MAR-13

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

Reference: XENCO Report No(s): 458445

Lovington Gathering WTI SRS #2006-142

Project Address: Lovington

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 458445. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 458445 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Nicholas Straccione

Project Manager

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 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: Report Date: 04-MAR-13 Work Order Number(s): 458445 Date Received: 02/27/2013

Sample receipt non conformances and comments:	
None	
Sample receipt non conformances and comments per sample:	
None	



Certificate of Analysis Summary 458445

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id:

Project Location: Lovington

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI SRS #2006-142

Report Date: 04-MAR-13

Project Manager: Nicholas Straccione

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

Proj								Project Ma	nager.	Nicholas Stra	ccionc		
	Lab Id:	458445-0	001	458445-	002	458445-0	003	458445-004		458445-005		458445-006	
Analysis Requested	Field Id:	MW-1	MW-1		3	MW-4	1	MW-5	5	MW-6	5	MW-7	
Analysis Requested	Depth:												
	Matrix:	WATE	R	WATE	R	WATE	R	WATE	R	WATE	R	WATE	ER
	Sampled:	Feb-22-13	Feb-22-13 11:30		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	Mar-01-13 07:50		07:50	Mar-01-13	07:50	Mar-01-13 07:50		Mar-01-13 07:50		Mar-01-13	07:50
	Analyzed:	Mar-01-13	Mar-01-13 14:20		Mar-01-13 14:04		Mar-01-13 13:48		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.

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

Nul Ctr



Certificate of Analysis Summary 458445

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id:

Project Location: Lovington

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI SRS #2006-142

Report Date: 04-MAR-13

Project Manager: Nicholas Straccione

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

					Project Manager: Nicholas Straccione
	Lab Id:	458445-007	458445-008	458445-009	
Analysis Requested	Field Id:	MW-8	MW-9	MW-10	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	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 12:09 Mar-01-13 11:53		
	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 liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Nul Ctr



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.

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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Page 7 of 14 Final 1.000

^{*} Surrogate recovered outside laboratory control limit.



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 458445, Project ID:

Units: mg/L	Date Analyzed: 03/01/13 11:53	SURROGATE RECOVERY STUDY					
ВТЕХ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1,4-Difluorobenzene		0.0262	0.0300	87	80-120		
4-Bromofluorobenzene		0.0263	0.0300	88	80-120		

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 03/01/13 12:09 Amount True Control BTEX by EPA 8021B Found Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0255 0.0300 80-120 4-Bromofluorobenzene 0.0280 0.0300 93 80-120

Units: mg/L Date Analyzed: 03/01/13 12:26 SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0272	0.0300	91	80-120		
4-Bromofluorobenzene	0.0333	0.0300	111	80-120		

Units: mg/L Date Analyzed: 03/01/13 12:59	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0280	0.0300	93	80-120		
4-Bromofluorobenzene	0.0310	0.0300	103	80-120		

Lab Batch #: 908039 **Sample:** 458445-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/01/13 13:15	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0251	0.0300	84	80-120		
4-Bromofluorobenzene	0.0285	0.0300	95	80-120		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 458445, Project ID:

Units: mg/L	Date Analyzed: 03/01/13 13:32	SURROGATE RECOVERY STUDY					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1,4-Difluorobenzene		0.0323	0.0300	108	80-120		
4-Bromofluorobenzene		0.0265	0.0300	88	80-120		

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 03/01/13 13:48 Amount True Control BTEX by EPA 8021B Found Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0315 0.0300 105 80-120 4-Bromofluorobenzene 0.0293 0.0300 98 80-120

Units: mg/L Date Analyzed: 03/01/13 14:04 SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0264	0.0300	88	80-120		
4-Bromofluorobenzene	0.0274	0.0300	91	80-120		

Units: mg/L	Date Analyzed: 03/01/13 14:20	SURROGATE RECOVERY STUDY							
BTEX b	y EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
A	nalytes			[D]					
1,4-Difluorobenzene		0.0275	0.0300	92	80-120				
4-Bromofluorobenzene		0.0269	0.0300	90	80-120				

Lab Batch #: 908039 Sample: 634479-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 03/01/13 09:10	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
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

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 458445, Project ID:

Units: mg/L Date Analyzed: 03/01/13 08:38	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0338	0.0300	113	80-120	

Lab Batch #: 908039 Sample: 634479-1-BSD / BSD Batch: 1 Matrix: Water

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 03/01/13 08:54 Control Amount True BTEX by EPA 8021B Recovery Found Amount Limits Flags [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0268 0.0300 80-120 4-Bromofluorobenzene 0.0328 0.0300 109 80-120

Lab Batch #: 908039 **Sample:** 458187-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/01/13 10:15	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1,4-Difluorobenzene	0.0275	0.0300	92	80-120				
4-Bromofluorobenzene	0.0345	0.0300	115	80-120				

Units: mg/L Date Analyzed: 03/01/13 10:31	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1,4-Difluorobenzene	0.0332	0.0300	111	80-120				
4-Bromofluorobenzene	0.0305	0.0300	102	80-120				

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 458445

Project ID:

Analyst: KEB

Date Prepared: 03/01/2013 **Batch #:** 1

Date Analyzed: 03/01/2013

Lab Batch ID: 908039

Sample: 634479-1-BKS

Matrix: Water

Units: mg/L BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Allalytes					. ,						
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	



Form 3 - MS / MSD Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 458445 Project ID:

Lab Batch ID: 908039 **QC- Sample ID:** 458187-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 03/01/2013 Date Prepared: 03/01/2013 Analyst: KEB

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Parent | Spiked Sample | Spiked | Duplicate | Spiked | Control | Cont

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	

Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

LAB W.O#: Field billable Hrs:

Page 1 of 1

VA Vial Amber VC Vial Clear VP Vial Pre-preserved AC TB

Encore Sampler TerraCore Sampler Air Canister Tedlar Bag Zip Lock Bag Plastic Clear

GA Glass Amber GC Glass Clear PA Plastic Amber PC Plastic Clear

* Consider Two Codes

ompan	any: Basin Environmental Service Techr	;	Phone:	(575)39	76-2378	TAT W	TAT Work Days = D Need results by: Time:						<u>i</u> i .	Other					
ddress	ss: 3100 Plains Hwy.			Fax:	(575)39	96-1429	7	Std (5-	7D) 5Hr	s 1D 2	D 3D 4	4D 5D	7 <u>0</u>)00	D 14D	Other_			Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other	- :
ity:	Lovington		State: NM	Zip:	88260							(ES) REQUESTED)					*** Preservative Type Codes		
M/Attn			Email:	I bjarguijo@	∄basinen	w.com	3000 Type	1										A. None . HCL I. Ice B. HNO ₃ F. MeOH J. MCAA	C.
roject l	t ID: Lovington Gathering WTI SRS #2006-142			PO#:	PAA-J.	Henry	706 (702) F						,					H ₂ SO ₄ G. Na ₂ S ₂ O ₃ K. ZnAc&NaOH D. NaOH H. NaHSO ₄ L Asbc Acid&NaOH O.)
voice	To: Jason Henry Plains All American			Quote #:			المردوا										alto University Seedly IV	^ Matrix Type Codes	
ample	er Signature:		Event: Daily I Annual I		Monthly	/ Quart	ely Salasa	ТРН	втех	Chloride								GW Ground Water S Soil/Sediment/Solid WW Waste Water W Wipe DW Drinking Water A Air SW Surface Water O Oil OW Ocean/Sea Water T Tissue	
	Sample (D	Collegi Date	Colegi Mate	orgen Ocate		150 (150) 150 (150) 150 (150)	Voledi											PL Product-Liquid U Urine PS Product-Solid B Blood SL Sludge Other	
Š							/kon	Lab Only	y:				::					REMARKS	ij
1	MW-1	2/22/13	11:30			_ ;	3		х										
2	MW-3	2/22/13					3	1	х										
3	MW-4	2/22/13	12:10				3		Х										
4	MW-5	2/22/13	13:05			\prod	3		х										
5	MW-6	2/22/13	13:25				3		X	<u> </u>									: :
6	MW-7	2/22/13	13:40				3		X			<u> </u>	1 1						
_7	MW-8	2/22/13	14:00				3		X	1									:
_8	MW-9	2/22/13	15:10				3		X		1								-
_9	MW-10	2/22/13	14:15				3		X						<u> </u>				
_0																			
	Reg. Program (Oldernaud St.	7)	NC SC NJ F				CLP AFCEE C		ADaPT	SEDD	PORKS PAR		incomplete			Jene's		Self SSE Only YES NO I	
CTLs Other:	TRRP DW NPDES LPST DryCln	FL TX GA AL NM Ott			NELAC	DoD-EL	LAP Other:	me s	XLS Oth			Absent	Unclear		2	3 1		Samples intact upon arrival?	
1	Mald		Basin a			77-1	3 10.1	and the second s			0							Labeled with proper preservatives?	_
2	HABITA .		m	3	22	2)[:		20	The	auna	2 Jini	Xer	ro	2/28	113	13:	16	Custody seals intact? VOCs rec'd w/o headspace? Proper containers used?	
3			F					<u> </u>	_		- :	1	.: '	1	1 11	<u> </u>		Proper containers used ? pH verified-acceptable, excl VOCs? Received on time to meet HTs?	
4			1		-1						1	ľ	1 1.	1 : ::		1			

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

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

C.O.C. Serial #

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



Work Order #: 458445

XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

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

Checklist reviewed by:

Air and Metal samples Acceptable Range: Ambient

Acceptable Temperature Range: 0 - 6 degC

Temperature Measuring device used:

	Sample Receipt Checklis	t Comments
#1 *Temperature of coole	r(s)?	1.5
#2 *Shipping container in	good condition?	Yes
#3 *Samples received or	ice?	Yes
#4 *Custody Seals intact	on shipping container/ cooler?	Yes
#5 Custody Seals intact of	on sample bottles?	Yes
#6 *Custody Seals Signe	d and dated?	Yes
#7 *Chain of Custody pre	esent?	Yes
#8 Sample instructions c	omplete on Chain of Custody?	Yes
#9 Any missing/extra sar	nples?	No
#10 Chain of Custody sig	gned when relinquished/ received?	Yes
#11 Chain of Custody ag	rees with sample label(s)?	Yes
#12 Container label(s) le	gible and intact?	Yes
#13 Sample matrix/ prop	erties agree with Chain of Custody?	Yes
#14 Samples in proper co	ontainer/ bottle?	Yes
#15 Samples properly pr	eserved?	Yes
#16 Sample container(s)	intact?	Yes
#17 Sufficient sample an	nount for indicated test(s)?	Yes
#18 All samples received	I within hold time?	Yes
#19 Subcontract of samp	ole(s)?	Yes
#20 VOC samples have a	zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples pr	eserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples p	oreserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes
Must be completed for a	after-hours delivery of samples prior to placin	ng in the refrigerator
Analyst:	PH Device/Lot#:	
Checklist co	mpleted by:	- Date:
		_

Date: _____

Analytical Report 458587

for PLAINS ALL AMERICAN EH&S

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

06-MAR-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

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

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

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





06-MAR-13

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

Reference: XENCO Report No(s): 458587

Lovington Gathering WTI SRS #2006-142

Project Address: Lovington

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 458587. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 458587 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Nicholas Straccione

Project Manager

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Sample Cross Reference 458587



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI SRS #2006-142

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

CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S
Project Name: Lovington Gathering WTI SRS #2006-142



Project ID: Report Date: 06-MAR-13 Work Order Number(s): 458587 Date Received: 03/01/2013

Sample receipt non conformances and comments: None
Sample receipt non conformances and comments per sample:

None

Final 1.001



Certificate of Analysis Summary 458587

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id:

Project Location: Lovington

Contact: Ben Arguijo

Project Name: Lovington Gathering WTI SRS #2006-142

Report Date: 06-MAR-13

Project Manager: Nicholas Straccione

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

								I Toject Ma	mager.	Micholas Sua	ccionc	
	Lab Id:	458587-0	01	458587-0	002	458587-0	003	458587-	004	458587-0	005	
Analusia Daguastad	Field Id:	Goff Dairy - Ctr. F	Pivot Well	Goff Dairy - Ctr.	Pivot Beg.	Goff Dairy - Ctr.	Pivot End	J.W. W	ell	MW-2	2	
Analysis Requested	Depth:											
	Matrix:	WATER		WATER		WATER		WATER		WATER		
	Sampled:	Feb-28-13 (9:30	Feb-28-13	09:45	Feb-28-13	10:00	Feb-28-13	10:15	Feb-28-13	10:45	
BTEX by EPA 8021B	BTEX by EPA 8021B		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 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 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 quantiation 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.

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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Page 6 of 12 Final 1.001

^{*} Surrogate recovered outside laboratory control limit.



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders : 458587, 458587 **Project ID:**

Lab Batch #: 908315 **Sample:** 458587-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/05/13 16:18	SU	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B	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 **Batch:** 1 **Matrix:** Water

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 03/05/13 16:34 Amount True Control BTEX by EPA 8021B Found Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0257 0.0300 80-120 4-Bromofluorobenzene 0.0268 0.0300 89 80-120

Lab Batch #: 908315 **Sample:** 458587-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 03/05/13 16:51	SU.	RROGATE RE	ECOVERY S	STUDY	
BTEX by	EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Ana	alytes			[D]		
1,4-Difluorobenzene		0.0266	0.0300	89	80-120	
4-Bromofluorobenzene		0.0264	0.0300	88	80-120	

Lab Batch #: 908315 **Sample:** 458587-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/05/13 17:07 BTEX by EPA 8021B Analytes 1,4-Difluorobenzene 4-Bromofluorobenzene	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1,4-Difluorobenzene	0.0307	0.0300	102	80-120					
4-Bromofluorobenzene	0.0272	0.0300	91	80-120					

Lab Batch #: 908315 **Sample:** 458587-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/05/13 17:24 BTEX by EPA 8021B Analytes 1,4-Difluorobenzene 4-Bromofluorobenzene	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
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

Surrogate Recovery [D] = 100 * A / B

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

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 458587, 458587 Project ID:

Lab Batch #: 908315 Sample: 634671-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 03/05/13 12:44	SU	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 908315 Sample: 634671-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 03/05/13 12:11	SU	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 908315 Sample: 634671-1-BSD / BSD Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 03/05/13 12:27	Su	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0244	0.0300	81	80-120	

Units: mg/L	Date Analyzed: 03/05/13 17:40	SURROGATE RECOVERY STUDY									
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	Analytes			[D]							
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 [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1,4-Difluorobenzene	0.0315	0.0300	105	80-120					
4-Bromofluorobenzene	0.0300	0.0300	100	80-120					

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

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

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 458587, 458587

Project ID:

Analyst: KEB

Date Prepared: 03/05/2013

Date Analyzed: 03/05/2013

Lab Batch ID: 908315

Sample: 634671-1-BKS **Batch #:** 1

Matrix: Water

Units:	mg/L
---------------	------

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	< 0.00100	0.100	0.108	108	0.100	0.0926	93	15	70-125	25	
Toluene	< 0.00200	0.100	0.105	105	0.100	0.0856	86	20	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.109	109	0.100	0.0880	88	21	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.209	105	0.200	0.171	86	20	70-131	25	
o-Xylene	< 0.00100	0.100	0.107	107	0.100	0.0857	86	22	71-133	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 458587 Project ID:

Lab Batch ID: 908315 **QC- Sample ID:** 458482-002 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 03/05/2013 Date Prepared: 03/05/2013 KEB

Reporting Units: mg/L	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B	Parent Sample Result	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag	
Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD		
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		

CHAIN OF CUSTODY RECORD

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

Page 1 of 1 LAB W.O#:

* Container Type Codes VA Vial Amber ES VC Vial Clear TS VP Vial Pre-preserved AC GA Glass Amber TB Encore Sampler TerraCore Sampler Air Canister

Compone				In.								Field b	illable H	rs:	1	Sec. 12.	S 4 4 1	GC Glass Clear ZB Zip Lock Bag PA Plastic Amber PC Plastic Clear
	Basin Environmental Service Tech	nologies, LL —	.C	Phone:	(575)	396-2378	TAT W	ork Da	ys = D	Need	results b	y:			Tim	e		PC Plastic Clear Other
<u> </u>	3100 Plains Hwy.	,		Fax:	(575)	396-1429		Std (5	-7D) 5H	lrs 1D	2D 3D	4D 🕏	7D)10E) 14D	Other			Size(s): 20z, 40z, 80z, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other
<u> </u>	Lovington		State: NM	Zip:	88260)				ÀN	ALYSI	S RE	oUES	TED				** Preservative Type Codes
PM/Attn:	Ben Arguijo		Email:	bjarguijo	@basine	env.com	Cont Type VC										T	A. None CHCD (7ce
	Lovington Gathering WTI SRS #2006-142			PO#:	PAA-J	. Henry	Pres Type*							1 - 1	-			B. HNO ₃ F. MeOH J. MCAA C H ₂ SO ₄ G. Na ₂ S ₂ O ₃ K. ZnAc&NaOH
Invoice To:		<u> </u>		Quote #	<u> </u>		EI								<u> </u>			D. NaOH H. NaHSO ₄ L. Asbc Acid&NaOH O
	Jason Henry Plains All American						260								10 mm 14 july 18 mm		PAH	^Matrix Type Codes
Sampler Sig	nature)	Circle One Semi-Annua	Event: Daily al Annual	Weekly N/A	Month	ly Quart	ample es by 8	ТРН	втех	Chloride		-					id Samol	GW Ground Water S Soil/Sediment/Solid WW Waste Water W Wipe DW Drinking Water SW Surface Water O Oil
# eldûn	Sample ID	Collect Date	Collect Time	Matrix Code ^	Teld Titered	ntegrity JK (Y/N) Total # of	containers Ex Volatifi			ਹ							(CALL "	OW Ocean/Sea Water T Tissue PL Product-Liquid U Urine PS Product-Solid B Blood SL Sludge
ပိ							#Cont	Lab Onl	y.							L		Other REMARKS
1 600	tec Rivet West	2.39.62	01:3			3	7		IV									
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_3 LM		<i>©</i>)		X									
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_5 ///	W-2	2.29	10:45				}		X						11.4			
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	Program / Clean-up Std	STATE	for Certs &	Regs	_Q/	VQC Le	/el & Certifi	cation		EDDs		COC &	Labels	C	oolers	Temp :	C	Lab Use Only YES NO N/A
CTLs TRRP Other:	DW NPDES LPST DryCln	FL TX GA I	NC SC NJ PA	A OK LA		3 4 CI DoD-EL		APP	ADaPT XLS Other	SEDD I	ERPIMS	Match Ir Absent	ncomplete Unclear	1137	2	₃ 5.	0	Non-Conformances found?
	Relinquished by		Affilia	tion 🔗				ne 💮 🖟		eceived	by i	Affilia			le .		me · · ·	Samples intact upon arrival?
1	Melityans	P-112:00-1	Basin	ENV.	3.	1.13	15:	30	A	a (D	J P			311	3	3.4	5	Labeled with proper preservatives? Received within holding time?
2)	200000						Tha	ingl.	ema	Ken	10	3/4//	3	10:02)	Custody seals intact? VOCs rec'd w/o headspace?
3								1. 14			active!		×-	-/ //:			F	Proper containers used? pH verified-acceptable, excl VOCs?
4				with the				-										Received on time to meet HTs?
B&A Labor	ratories: Hobbs 575-392-7550	Dallas 21	4-902-0300	Houst	on 28	1-242-4	200 Odess	a 432.5	63_1900	San A	ntonio S	210 500	2224 D	<u> </u>	202.42	7 0000	1, 1, 1, 1, 1	COC 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: 03/01/2013 03:45:00 PM

Air and Metal samples Acceptable Range: Ambient Temperature Measuring device used :

Acceptable Temperature Range: 0 - 6 degC

Work Order #: 458587

S	ample 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 contain	er/ 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 relinquish	ned/ received?	Yes	
#11 Chain of Custody agrees with sample lab	pel(s)?	Yes	
#12 Container label(s) legible and intact?		Yes	
#13 Sample matrix/ properties agree with Ch	ain 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 to	est(s)?	Yes	
#18 All samples received within hold time?		Yes	
#19 Subcontract of sample(s)?		Yes	
#20 VOC samples have zero headspace (les	s than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3,	HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAs	O2+NaOH, ZnAc+NaOH?	Yes	

Must be completed for after-hours deliver	v of samp	les prior to	placing in th	e refrigerator
made be completed for after fledie deliver	y or ourrip	ico piloi to	piaoiiig iii tii	o romigorator

Analyst:	PH Device/Lot#:		
Checklist com	pleted by:	 Date:	
Checklist revi	iewed by:	Doto	

Analytical Report 460151

for PLAINS ALL AMERICAN EH&S

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

01-APR-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

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

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

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





01-APR-13

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

Reference: XENCO Report No(s): **460151**

Lovington Gathering WTI SRS #2006-142

Project Address: Lovington

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 460151. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 460151 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Nicholas Straccione

Project Manager

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Sample Cross Reference 460151



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI SRS #2006-142

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

CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S
Project Name: Lovington Gathering WTI SRS #2006-142



Project ID: Report Date: 01-APR-13
Work Order Number(s): 460151
Date Received: 03/28/2013

Sample receipt non conformances and comments:	
None	
Sample receipt non conformances and comments per sample:	
None	



Project Id:

Project Location: Lovington

Certificate of Analysis Summary 460151

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Name: Lovington Gathering WTI SRS #2006-142

Contact: Ben Arguijo

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

Report Date: 01-APR-13

Project Manager: Nicholas Straccione

								Project Ma	mager:	Nicholas Stra	ccione		
	Lab Id:	460151-	001	460151-	002	460151-0	003	460151-0	004	460151-0	005	460151-	006
Analusia Paguagtad	Field Id:	J.W. W	J.W. Well		Goff Dairy Well		Center Pivot Well		Center Pivot Well Beg.		Center Pivot Well End		9
Analysis Requested	Depth:												
	Matrix:	WATE	ER	WATER		WATER		WATER		WATER		WATE	ER
	Sampled:	Mar-27-13	Mar-27-13 08:15		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	Mar-28-13 16:10		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	Mar-28-13 21:28		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.

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

Version: 1.%

Nicholas Straccione Project Manager



Certificate of Analysis Summary 460151

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id:

Project Location: Lovington

Project Name: Lovington Gathering WTI SRS #2006-142

Contact: Ben Arguijo

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

Report Date: 01-APR-13

Project Manager: Nicholas Straccione

				1 Toject Manager.	T TICHOTUS DU UCCIONC	
	Lab Id:	460151-007				
Analysis Requested	Field Id:	MW-10				
Anaiysis Requesiea	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



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.

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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^{*} Surrogate recovered outside laboratory control limit.



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 460151, Project ID:

Lab Batch #: 910140 **Sample:** 460151-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 03/28/13 21:28	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX	by EPA 8021B	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 **Batch:** 1 **Matrix:** Water

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 03/28/13 22:17 Amount True Control BTEX by EPA 8021B Recovery Found Amount Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0311 0.0300 104 80-120 4-Bromofluorobenzene 0.0319 0.0300 106 80-120

Lab Batch #: 910140 **Sample:** 460151-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/28/13 22:33	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 910140 **Sample:** 460151-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/28/13 22:50	Su	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 910140 **Sample:** 460151-006 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/28/13 23:22	[A] [B] %R %R				
BTEX by EPA 8021B	Found	Amount		Limits	Flags
Analytes			[D]		
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

Surrogate Recovery [D] = 100 * A / B

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

Version: 1.%

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 460151, Project ID:

Lab Batch #: 910140 **Sample:** 460151-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 03/28/13 23:39	SU	RROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B	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		0.0272	0.0300	91	80-120	

Lab Batch #: 910140 **Sample:** 460151-005 / SMP **Batch:** 1 **Matrix:** Water

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 03/29/13 07:23 Amount True Control BTEX by EPA 8021B Found Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0263 0.0300 80-120 4-Bromofluorobenzene 0.0256 0.0300 85 80-120

Lab Batch #: 910140 Sample: 635836-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 03/28/13 21:11	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0257	0.0300	86	80-120	

Lab Batch #: 910140 Sample: 635836-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 03/28/13 20:39	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 910140 Sample: 635836-1-BSD / BSD Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 03/28/13 20:55	SURROGATE RECOVERY STUDY					
	by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	Miarytes	0.0328	0.0300	109	80-120		
4-Bromofluorobenzene		0.0328	0.0300	100	80-120		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

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

Version: 1.%

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 460151, Project ID:

Lab Batch #: 910140 **Sample:** 460151-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/28/13 21:44	SU	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 910140 **Sample:** 460151-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 03/28/13 22:00	SU	RROGATE RI	ECOVERY S	%R %R [D]			
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Limits	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0296	0.0300	99	80-120			
4-Bromofluorobenzene	0.0327	0.0300	109	80-120			

Surrogate Recovery [D] = 100 * A / B

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

Version: 1.%

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 460151

Date Prepared: 03/28/2013

Project ID: Date Analyzed: 03/28/2013

Analyst: KEB

Lab Batch ID: 910140

Sample: 635836-1-BKS **Batch #:** 1 Matrix: Water

Units: mg/L

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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		[2]	[0]	[2]	[12]	result [1]	[0]				
Benzene	< 0.00100	0.100	0.0933	93	0.100	0.0971	97	4	70-125	25	
Toluene	< 0.00200	0.100	0.0901	90	0.100	0.0963	96	7	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0830	83	0.100	0.0866	87	4	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.169	85	0.200	0.178	89	5	70-131	25	
o-Xylene	< 0.00100	0.100	0.0930	93	0.100	0.0941	94	1	71-133	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 460151 Project ID:

Lab Batch ID: 910140 **QC- Sample ID:** 460151-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 03/28/2013 Date Prepared: 03/28/2013 KEB

Reporting Units: mg/L		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY									
BTEX by EPA 8021B	Parent Sample Result	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	-	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene	< 0.00100	0.100	0.0891	89	0.100	0.0905	91	2	70-125	25	
Toluene	< 0.00200	0.100	0.0906	91	0.100	0.0880	88	3	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0816	82	0.100	0.0779	78	5	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.163	82	0.200	0.151	76	8	70-131	25	
o-Xylene	< 0.00100	0.100	0.0910	91	0.100	0.0844	84	8	71-133	25	

 $\label{eq:matrix_problem} \begin{aligned} & \text{Matrix Spike Percent Recovery} \quad [D] = 100*(C-A)/B \\ & \text{Relative Percent Difference} \quad & \text{RPD} = 200*|(C-F)/(C+F)| \end{aligned}$

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

XE	N	CC	
Labo	rat	orio	35
fi	Actuaring	Endinche	midre

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbnar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

LAB W.O#:

Field billable Hrs:

VA Vial Amber VC Vial Clear VP Vial Pre-preserved ES GA Glass Amber TB GC Glass Clear PA Plastic Amber

Encore Sampler TerraCore Sampler Air Canister Tedlar Bag Zip Lock Bag

Final 1.000

Page 13 of 14

ZB PC Plastic Clear

Company: Basin Environmental Service Technologies, LLC	Phone: (575)396-2378 TAT W	ork Days	= D Need res	ults by:		Time:		Other
Address: 3100 Plains Hwy.	Fax: (575)396-1429) 5Hrs 1D 2D		10 7D 10D	14D Other	<u></u>	Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other
	Zip: 88260				NEQUESTI			** Preservative Type Codes
PM/Attn: Ben Arguijo Email:	bjarguijo@basinenv.com							A. None HGO LITCO B. HNO ₃ F. MeOH J. MCAA C.
Project ID: Lovington Gathering WTI SRS #2006-142	PO#: PAA-J. Henry PAA-J. Henry		12					H ₂ SO ₄ G. Na ₂ S ₂ O ₃ K. ZnAc&NaOH D. NaOH H. NaHSO ₄ L. Asbc Acid&NaOH O
Invoice To: Jason Henry Plains All American	Quote #:						(HVS/Almo)	^ Matrix Type Godes Ground Water S Soil/Sediment/Solid
Munuel Kama Semi-Annual Annual	Meters 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	TPH	BTEX				Bengalan Military Military	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
Semple D Salle Time	Code Barrella San San San San San San San San San Sa	Lab Only:		· <u> </u>			<u> </u>	SL Sludge Other REMARKS
	3		X					
1 J.W. Well 3-27/3 OB'15			$\frac{2}{\sqrt{1+1}}$					
2 Goff Davy Well 327B 02:35	3		$\frac{\lambda}{\lambda} + \frac{1}{\lambda}$					
3 Center Pivot Well 32713 08195	3		X	<u></u>				
4 Center River Well Beg, 3-17-13 28:55]]]		Χ					
5 Center Brotwell End 3.17.13 09:15			$X \sqcup X$					
6 MIN-9 3.17.13 13:30	3		χ					
7 MW-10 3:17-13 13:45	3		χ					
8		1						
9								
Reg. Program //Clean-up Sid STATE for Cents of	Rees PAOCLavelA Carii	ierior	A EDDS	rŝiĝ	© elemen	୍ତି ହୋଇଛ	iamo ©	Lanuse Caly YES NO WA
CTLS TRRP DW NPDES LPST DryCln FL TX GA NC SC NJ F	4000 (0.5.600.) 1: 2.601. (2014 (0.6.600) 10. 10. 10. 10. 10. 10.	DAPP A	ADaPT SEDD ER (LS Other:	PIMS Mate	ch Incomplete sent Unclear	1 2	3 1.0	Non-Conformances found?
Alfille Alfille	nion Dais i	ne i	AF(exerved)		Attilization			Received on Wet ice? Labeled with proper preservatives?
1 Maguel Rama Basin	Env. 3.27.13 14		XBUN	Θ.	$U \gtrsim \frac{1}{2}$	3/8/117	200	Received within holding time?
2			Shauree	Menos	xenco	3 28 13	<u>14'04</u>	VOCs rec'd w/o headspace?
3.					1111		<u> </u>	pH verified-acceptable, excl VOCs? Received on time to meet HTs?

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

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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

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

Air and Metal samples Acceptable Range: Ambient

Acceptable Temperature Range: 0 - 6 degC

Temperature Measuring device used :

ork Order #: 460151	remperatur	e Measuring device used :
	Sample Receipt Checklist	Comments
#1 *Temperature of cod	oler(s)?	1
#2 *Shipping container	in good condition?	Yes
#3 *Samples received	on ice?	Yes
#4 *Custody Seals inta	ct on shipping container/ cooler?	Yes
#5 Custody Seals intac	ct on sample bottles?	Yes
#6 *Custody Seals Sig	ned and dated?	Yes
#7 *Chain of Custody	present?	Yes
#8 Sample instructions	complete on Chain of Custody?	Yes
#9 Any missing/extra s	amples?	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/ pro	operties 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 receiv	ed within hold time?	Yes
#19 Subcontract of sar	mple(s)?	Yes
#20 VOC samples hav	e zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples	preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all sample	s preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes
Wust be completed fo	or after-hours delivery of samples prior to placing	g in the refrigerator
Analyst:	PH Device/Lot#:	
Checklist (completed by:	
	•	Date:
Chacklist	reviewed by:	

Date: _____

Analytical Report 460960

for PLAINS ALL AMERICAN EH&S

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

17-APR-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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

Xenco-Lakeland: Florida (E84098)

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

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

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

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

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





17-APR-13

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

Reference: XENCO Report No(s): 460960

Lovington Gathering WTI SRS #2006-142

Project Address: Lovington

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 460960. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 460960 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Nicholas Straccione

Project Manager

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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: Report Date: 17-APR-13
Work Order Number(s): 460960 Date Received: 04/09/2013

Sample receipt non conformances and comments:	
None	
Sample receipt non conformances and comments per sample:	
None	



Certificate of Analysis Summary 460960

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id:

Project Location: Lovington

Contact: Ben Arguijo

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

					1 Toject Manager.			
	Lab Id:	460960-001	460960-002	460960-003	460960-004	460960-005	460960-006	
Analysis Paguastad	Field Id:	Center Pivot Well	Center Pivot Beg	Center Pivot End	Goff Dairy Well	J.W. Well	MW-9	
Analysis Requested	Depth:							
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	
	Sampled:	Apr-09-13 08:25	Apr-09-13 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 08:00	Apr-12-13 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 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		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

Nul Ctr

Nicholas Straccione Project Manager



Certificate of Analysis Summary 460960

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id:

Project Location: Lovington

Project Name: Lovington Gathering WTI SRS #2006-142

Contact: Ben Arguijo

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

Report Date: 17-APR-13

Project Manager: Nicholas Straccione

				110ject Manager.	Nicholas Straccione	
	Lab Id:	460960-007				
Analysis Requested	Field Id:	MW-10				
Anaiysis Requesieu	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.

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

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.

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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Phone Fax 4143 Greenbriar Dr. Stafford, TX 77477 (281) 240-4280 (281) 240-4200 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

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^{*} Surrogate recovered outside laboratory control limit.



Project Name: Lovington Gathering WTI SRS #2006-142

Work Orders: 460960, Project ID:

Units: mg/L	Date Analyzed: 04/12/13 09:55	SU	RROGATE RI	ECOVERY S	STUDY	
ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0344	0.0300	115	80-120	
4-Bromofluorobenzene		0.0243	0.0300	81	80-120	

Lab Batch #: 911347 **Sample:** 460960-002 / SMP **Batch:** 1 **Matrix:** Water

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 04/12/13 10:10 Amount True Control BTEX by EPA 8021B Recovery Found Amount Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0330 0.0300 110 80-120 4-Bromofluorobenzene 0.0268 0.0300 89 80-120

Lab Batch #: 911347 **Sample:** 460960-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 04/12/13 10:26	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0338	0.0300	113	80-120	
4-Bromofluorobenzene	0.0248	0.0300	83	80-120	

Lab Batch #: 911347 **Sample:** 460960-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 04/12/13 10:42	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0336	0.0300	112	80-120			
4-Bromofluorobenzene	0.0252	0.0300	84	80-120			

Lab Batch #: 911347 **Sample:** 460960-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 04/12/13 10:58	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0331	0.0300	110	80-120		
4-Bromofluorobenzene	0.0241	0.0300	80	80-120		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

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

^{**} 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, Project ID:

Lab Batch #: 911347 Sample: 460960-006 / SMP Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 04/12/13 11:14	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	Flags						
Analytes			[D]					
1,4-Difluorobenzene	0.0331	0.0300	110	80-120				
4-Bromofluorobenzene	0.0244	0.0300	81	80-120				

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 04/12/13 11:30 Amount True Control BTEX by EPA 8021B Recovery Found Amount Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0329 0.0300 110 80-120 4-Bromofluorobenzene 0.0244 0.0300 81 80-120

Lab Batch #: 911347 **Sample:** 636546-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 04/12/13 09:39	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Amount Recovery		Flags				
Analytes			[D]						
1,4-Difluorobenzene	0.0329	0.0300	110	80-120					
4-Bromofluorobenzene	0.0251	0.0300	84	80-120					

Lab Batch #: 911347 Sample: 636546-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 04/12/13 08:51	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene		0.0313	0.0300	104	80-120				
4-Bromofluorobenzene		0.0285	0.0300	95	80-120				

Lab Batch #: 911347 **Sample:** 636546-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 04/12/13 09:07	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1,4-Difluorobenzene	0.0307	0.0300	102	80-120				
4-Bromofluorobenzene	0.0287	0.0300	96	80-120				

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} 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,
 Project ID:

 Lab Batch #: 911347
 Sample: 460960-001 S / MS
 Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 04/12/13 12:33	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	nount Recovery		Flags			
Timing tes								
1,4-Difluorobenzene	0.0287	0.0300	96	80-120				
4-Bromofluorobenzene	0.0271	0.0300	90	80-120				

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 460960 Analyst: DYV

00.60

Date Prepared: 04/12/2013

Lab Batch ID: 911347

Sample: 636546-1-BKS

Project ID:

Date Analyzed: 04/12/2013

Matrix: Water

Units: mg/L BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Batch #: 1

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]	[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	



Form 3 - MS Recoveries



Project Name: Lovington Gathering WTI SRS #2006-142

Work Order #: 460960 **Lab Batch #:** 911347

 Lab Batch #: 911347
 Project ID:

 Date Analyzed: 04/12/2013
 Date Prepared: 04/12/2013
 Analyst: DYV

QC- Sample ID: 460960-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L	MATRIX / MATRIX SPIKE RECOVERY STUDY					
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
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)/BRelative Percent Difference [E] = 200*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

ES

AC

TB

ZB

PC

XEN	CO
Laborat	ories

-3

CHAIN OF CUSTODY RECORD

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

LAB W.O#: Field billable Hrs:

Page 1 of 1

PC Plastic Clear

VA Vial Amber

VC Vial Clear

GA Glass Amber

GC Glass Clear

PA Plastic Amber

VP Vial Pre-preserved

Company: Basin Environmental Service Technologies, LLC (575)396-2378 TAT Work Days = D Need results by: Time: Address: Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal Fax: 3100 Plains Hwv. (575)396-1429 (Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other City: State: NM Zip: ** Preservative Type Codes 88260 WWALKAES HEDDIESTED Lovington PM/Attn: Email: Ben Arquijo bjarguijo@basinenv.com NO (E. HCL) _ice> A. None B. HNO₃ F. MeOH J. MCAA PO# Project ID: Lovington Gathering WTI H₂SO₄ G. Na₂S₂O₃ K, ZnAc&NaOH GS TYPE E-1 PAA-J. Henry D. NaOH H. NaHSO₄ L Asbc Acid&NaOH SRS #2006-142 Quote # Invoice To: Jason Henry Plains All American ^ Matrix Type Codes GW Ground Water S Soil/Sediment/Solid Circle One Event: Daily Weekly (Monthly) Quartely WW Waste Water Wipe Semi-Annual Annual N/A DW Drinking Water O Oil SW Surface Water OW Ocean/Sea Water T. Tissue College College Product-Liquid U Urine Sampe 19 PS Product-Solid B Blood Thine Cei e ିମ୍ବାର SI Sludge (601) Lab Only: REMARKS 3 Enter Prupt Wel 19.9.13 08:25 3 MNW-9 MW-10 9 STATE OF GOING & PAGE Reg. Program / Olean-up Si OAVOC Level & Certification **E908** 000 Minies Codes Teme (C Lab Use Orde WES 40 NV: 1 2 3 4 CLP AFCEE QAPP ADAPT SEDD ERPIMS TRRP DW NPDES LPST DryCln FL TX GA NC SC NJ PA OK LA Match Incomplete Non-Conformances found? 3 NELAC DoD-ELAP Other: XLS Other: Other: AL NM Other: Absent Unclear Samples intact upon arrival? Received on Wet Ice? abeled with proper preservatives? 11:00 Received within holding time? Custody seals intact? 11:04 Busin VOCs rec'd w/o headspace?

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 #

mner containers used?

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

Basin



Work Order #: 460960

XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

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

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

Temperature Measuring device used :

		Sample Receipt Check	list Comments	
#1 *Temperature of cod	oler(s)?		5.2	
#2 *Shipping container			Yes	
#3 *Samples received	on ice?		Yes	
#4 *Custody Seals inta	ct on shipping conf	ainer/ cooler?	Yes	
#5 Custody Seals intag	ct on sample bottles	s?	Yes	
#6 *Custody Seals Sig	ned and dated?		Yes	
#7 *Chain of Custody	oresent?		Yes	
#8 Sample instructions	complete on Chair	n of Custody?	Yes	
#9 Any missing/extra s	amples?		No	
#10 Chain of Custody	signed when reling	uished/ received?	Yes	
#11 Chain of Custody	agrees with sample	label(s)?	Yes	
#12 Container label(s)	legible and intact?		Yes	
#13 Sample matrix/ pre	operties 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 indicate	d test(s)?	Yes	
#18 All samples receiv	ed within hold time	?	Yes	
#19 Subcontract of sai	mple(s)?		Yes	
#20 VOC samples hav	e zero headspace	(less than 1/4 inch bubble)?	Yes	
#21 <2 for all samples	preserved with HN	O3,HCL, H2SO4?	Yes	
#22 >10 for all sample	s preserved with Na	aAsO2+NaOH, ZnAc+NaOH?	? Yes	
Must be completed fo	or after-hours deliv	very of samples prior to place	cing in the refrigerator	
Analyst:	PH Device	e/Lot#:		
	completed by:		 Date:	_
Checklist	reviewed by:			

Date:

Analytical Report 464134

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo Lovington Gathering WTI 2006-142 05-JUN-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

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

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





05-JUN-13

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

Reference: XENCO Report No(s): 464134

Lovington Gathering WTIProject Address: Lovington,NM

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 464134. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 464134 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

respectfully,

Kelsey Brooks

Project Manager

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Certified and approved by numerous States and Agencies.

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



Sample Cross Reference 464134



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

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



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI

 Project ID:
 2006-142
 Report Date:
 05-JUN-13

 Work Order Number(s):
 464134
 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



m,p-Xylenes

Total Xylenes

Total BTEX

o-Xylene

Certificate of Analysis Summary 464134

PLAINS ALL AMERICAN EH&S, Midland, TX



0.00200

0.00100

0.00100

0.00100

ND

ND

ND

0.00868

0.00200

0.00100

0.00100

0.00100

ND

ND

ND

ND

Project Id: 2006-142

Project Location: Lovington,NM

Project Name: Lovington Gathering WTI

Contact: Ben Arguijo

Report Date: 05-JUN-13

0.00200

0.00100

0.00100

0.00100

ND

ND

ND

ND

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

	Project Manager: Kelsey Brooks												
	Lab Id:	464134-	464134-001 4		002	464134-003		464134-004		464134-005		464134-006	
Analysis Paguested	Field Id:	MW-	-1	MW-	3	MW-4	1	MW-5		MW-6		MW-7	
Analysis Requested	Depth:												
	Matrix:	WATI	WATER		WATER		WATER WATER		WATER		WATER		
	Sampled:	May-23-13	May-23-13 14:45		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	3 11:00	May-31-13	1-13 11:00 May-31-13 11:00		11:00	Jun-04-13 11:30		May-31-13 11:00		Jun-04-13 11:30	
	Analyzed:	May-31-13	3 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	0.00100
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

ND

ND

ND

0.00200

0.00100

0.00100

0.00100

ND

ND

ND

ND

0.00200

0.00100

0.00100

0.00100

0.00200

0.00100

0.00100

0.00100

ND

ND

ND

ND

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

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 464134

PLAINS ALL AMERICAN EH&S, Midland, TX



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

Project Location: Lovington,NM

Project Name: Lovington Gathering WTI

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

Report Date: 05-JUN-13

Project Manager: Kelsey Brooks

				Troject Manager. Re	
Lab Id:	464134-007	464134-008	464134-009	464134-010	
Field Id:	MW-8	MW-9	MW-10	JW Well	
Depth:					
Matrix:	WATER	WATER	WATER	WATER	
Sampled:	May-23-13 11:10	May-29-13 10:20	May-23-13 10:35	May-29-13 11:40	
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	
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed:	Field Id: MW-8 Depth: WATER Matrix: WATER Sampled: May-23-13 11:10 Extracted: May-31-13 11:00 Analyzed: May-31-13 14:13 Units/RL: 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 ND 0.00100	Field Id: MW-8 MW-9 Depth: WATER WATER Matrix: WATER May-29-13 10:20 Extracted: May-31-13 11:00 May-31-13 11:00 Analyzed: May-31-13 14:13 May-31-13 20:57 Units/RL: mg/L RL mg/L RL ND 0.00100 ND 0.00100 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100	Field Id: MW-8 MW-9 MW-10 Depth: WATER WATER WATER WATER Sampled: May-23-13 1:10 May-29-13 10:20 May-23-13 10:35 Extracted: 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 Units/RL: mg/L RL mg/L RL ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100	Field Id: MW-8 MW-9 MW-10 JW Well Depth: Matrix: WATER WATER

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Kelsey Brooks Project Manager



Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantiation 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.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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5332 Blackberry Drive, San Antonio TX 78238	(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	

^{*} Surrogate recovered outside laboratory control limit.



Project Name: Lovington Gathering WTI

Work Orders: 464134, **Project ID:** 2006-142

Lab Batch #: 915160 **Sample:** 464134-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 05/31/13 12:35	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	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:** 1 **Matrix:** Water

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 05/31/13 12:52 Amount True Control BTEX by EPA 8021B Recovery Found Amount Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0280 0.0300 93 80-120 4-Bromofluorobenzene 0.0281 0.0300 94 80-120

Lab Batch #: 915160 **Sample:** 464134-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 05/31/13 13:08	SU	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 915160 **Sample:** 464134-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 05/31/13 14:13	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0323	0.0300	108	80-120	

Lab Batch #: 915160 **Sample:** 464134-009 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 05/31/13 14:46	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
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

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Lovington Gathering WTI

Work Orders: 464134, **Project ID:** 2006-142

Lab Batch #: 915160 **Sample:** 464134-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 05/31/13 20:08	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

Lab Batch #: 915160 **Sample:** 464134-008 / SMP **Batch:** 1 **Matrix:** Water

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 05/31/13 20:57 Amount True Control BTEX by EPA 8021B Recovery Found Amount Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0269 0.0300 90 80-120 4-Bromofluorobenzene 0.0279 0.0300 93 80-120

Lab Batch #: 915160 **Sample:** 464134-010 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 05/31/13 21:13	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 915358 **Sample:** 464134-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 06/04/13 13:18	8 SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Units: mg/L Date Analyzed: 06/04/13 13:34	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0245	0.0300	82	80-120	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Lovington Gathering WTI

Work Orders: 464134, **Project ID:** 2006-142

Lab Batch #: 915160 Sample: 639030-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/31/13 12:03	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0344	0.0300	115	80-120	

Lab Batch #: 915358 Sample: 639146-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 06/04/13 13:01	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 915160 Sample: 639030-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/31/13 11:30	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 915358 Sample: 639146-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 06/04/13 12:29	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes				[D]						
1,4-Difluorobenzene		0.0307	0.0300	102	80-120					
4-Bromofluorobenzene		0.0273	0.0300	91	80-120					

Lab Batch #: 915160 Sample: 639030-1-BSD / BSD Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/31/13 11:46	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
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

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Lovington Gathering WTI

Work Orders : 464134, **Project ID:** 2006-142

Lab Batch #: 915358 **Sample:** 639146-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 06/04/13 12:45	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1,4-Difluorobenzene		0.0267	0.0300	89	80-120					
4-Bromofluorobenzene		0.0329	0.0300	110	80-120					

Lab Batch #: 915160 **Sample:** 464134-010 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 05/31/13 21:30	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1,4-Difluorobenzene	0.0272	0.0300	91	80-120					
4-Bromofluorobenzene	0.0285	0.0300	95	80-120					

Lab Batch #: 915358 **Sample:** 464200-004 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 06/04/13 14:56	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 915160 **Sample:** 464134-010 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 05/31/13 21:46	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0253	0.0300	84	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Units: mg/L Date Analyzed: 06/04/13 15:12	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
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

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 464134

Date Prepared: 05/31/2013

Project ID: 2006-142 **Date Analyzed:** 05/31/2013

Analyst: DYV **Lab Batch ID:** 915160

Sample: 639030-1-BKS

Matrix: Water

Units

Batch #: 1

ts: mg/L	BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.112	112	0.100	0.105	105	6	70-125	25	
Toluene	< 0.00200	0.100	0.108	108	0.100	0.112	112	4	70-125	25	
Ethylbenzene	<0.00100	0.100	0.109	109	0.100	0.113	113	4	71-129	25	
m,p-Xylenes	<0.00200	0.200	0.233	117	0.200	0.225	113	3	70-131	25	
o-Xylene	<0.00100	0.100	0.113	113	0.100	0.104	104	8	71-133	25	

Analyst: DYV **Date Prepared:** 06/04/2013 **Date Analyzed:** 06/04/2013

Matrix: Water **Lab Batch ID:** 915358 **Batch #:** 1 **Sample:** 639146-1-BKS

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Units: mg/L

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]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	< 0.00100	0.100	0.107	107	0.100	0.106	106	1	70-125	25	
Toluene	< 0.00200	0.100	0.106	106	0.100	0.111	111	5	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.118	118	0.100	0.118	118	0	71-129	25	
m,p-Xylenes	< 0.00200	0.200	0.215	108	0.200	0.220	110	2	70-131	25	
o-Xylene	<0.00100	0.100	0.107	107	0.100	0.106	106	1	71-133	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E] All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries

Project Name: Lovington Gathering WTI



Work Order #: 464134

Project ID: 2006-142

Lab Batch ID: 915160

mg/L

QC- Sample ID: 464134-010 S

Batch #:

Matrix: Water

Date Analyzed: 0: Reporting Units: m

05/31/2013 **Date Prepared:** 05/31/2013

Analyst: DYV

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
· ·											
Benzene	< 0.00100	0.100	0.0834	83	0.100	0.0884	88	6	70-125	25	
Toluene	< 0.00200	0.100	0.0821	82	0.100	0.0998	100	19	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0912	91	0.100	0.106	106	15	71-129	25	
m,p-Xylenes	< 0.00200	0.200	0.163	82	0.200	0.188	94	14	70-131	25	
o-Xylene	< 0.00100	0.100	0.0814	81	0.100	0.0861	86	6	71-133	25	

Lab Batch ID: 915358 **QC- Sample ID:** 464200-004 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 06/04/2013 Date Prepared: 06/04/2013 Analyst: DYV

Reporting Units: mg/L MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.0201	0.100	0.117	97	0.100	0.118	98	1	70-125	25	
Toluene	< 0.00200	0.100	0.105	105	0.100	0.109	109	4	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.112	112	0.100	0.114	114	2	71-129	25	
m,p-Xylenes	< 0.00200	0.200	0.211	106	0.200	0.226	113	7	70-131	25	
o-Xylene	< 0.00100	0.100	0.103	103	0.100	0.113	113	9	71-133	25	

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

Page_ O # :				* Container Type Co							
Page_	1	_of_	_1	VA	Vial	Amber	ES	Encore Sampler			
			2 . 1	VC	Vial	Clear	TS	TerraCore Samp			
O !!		1	11/4134	VP	Vial	Pre-preserved	AC	Air Canister			
O#:			164134	GA	Glas	ss Amber	TB	Tedlar Bag			

GC Glass Clear

404177

Encore Sampler TS TerraCore Sampler red AC Air Canister Tedlar Bag ZB Zip Lock Bag

Final 1.000

Page 14 of 15

													1 IOIG DI	nable 11	10.				PC Plastic Clear	asuc clear
Compa	any: Basin Environmental Service Tech	nologies, LL(Phone:	(575)396-2	378	TAT W	ork Day	S=Q	Need r	esults b	y:			Time	e:		Other	
Addres	ss: 3100 Plains Hwy.			Fax:	(575)396-1	129		Std (5-	7D) 5H	lrs 1D 2	2D 3D	4D <u>5D</u>	7D 10D	14D	Other_			Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 40ml, 125 ml, 250 ml, 500 ml, 1L, 0	1Gal Other
City:	Lovington		State: NM	Zip:	8826	0				1	AN	ALYSE	S REC	QUES	TED	100		F. 18.3	** Preservative Type	oe Codes
PM/Att	tn: Ben Arguijo		Email:	b jarguijo	o@basii	nenv.co	m	Cont Type *		VC								1200	A. None E. HCL I. Ice	
rojec				PO#:	PAA-	J. Henr	V	Pres Type**		T									B. HNO_3 F. $MeOH$ J. MO H_2SO_4 G. $Na_2S_2O_3$ K. $ZnAc\delta$ D. $NaOH$ H. $NaHSO_4$ L As	RNaOH
nvoice	SRS #2006-142			Quote #	#:		-	E, I	├	E,I	+							-=	0	DC ACIDANAON
IVOICE	Jason Henry Plains All American							260										Run PAH Only If	^ Matrix Type (
	er Signature:		Event: Daily I Annual		/ Mont	hly Qı	uartely	2 9	HGT.	ВТЕХ	Chloride							E	GW Ground Water S Soil. WW Waste Water W Wip DW Drinking Water A Air SW Surface Water O Oil	/Sediment/Solid e
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code '	Field	Integrity OK (Y/N)	Total # of containers	Exan			O							Hold Sa (CALL_) on Highest TPH	OW Ocean/Sea Water T Tiss PL Product-Liquid U Urin PS Product-Solid B Bloo SL Sludge Other	е
Sa	三年 太平太 计图像系						55	# Cont	Lab Onl	y:								200	REMARK	S
_1	MW-1	5/23/13	1445	GW	/		3	11 3		Х										
_2	MW-3	5/23/13	1400				3			Х										
3	MW-4	5/23/13	1500				3			Х										
_4	MW-5	5/23/13	1425				3			Х										
5	MW-6	5/23/13	1440				3			Х								FEE		
6	MW-7	5/23/13	1130				3			х										
_7	MW-8	5/23/13	1110				3			Х										
8	MW-9	5/29/13	10:20		\perp		3	1504		Х										
9	MW-10	5/23/13	1035	V			3	1300		X										
_0	JW Well	5/24/13	1140	1			3			X			_							
	Reg. Program / Clean-up Std	The second second	for Certs &					l & Certific			EDDs		COC &	Labels	(Coolers	Temp °C		Lab Use Only	YES NO N/A
CTLs Other:	TRRP DW NPDES LPST DryCln	FL TX GA I AL NM Oth	NC SC NJ P. er:	A OK LA		2 3 4 C DoD		AFCEE QA Other:	(PP	ADaPT XLS Oth	SEDD I	ERPIMS	Match II Absent	ncomplete Unclear	1	_2	3 1C	9.6	Non-Conformances found? Samples intact upon arrival?	
4.74	Relinquished by		Affilia	tion		Date	-	Tin			Received			ation		ate		me	Received on Wet Ice? Labeled with proper preservatives?	×
1	agrin & Can				5-	79-1	3	140	00	a L	10 R	.) .			5-29		140		Received within holding time? Custody seals intact?	<u>~</u> =
2	•				+					8ha	unce	mon	Xen	CO	5.30	0-(3	11:0	20	VOCs rec'd w/o headspace? Proper containers used?	5
3								I		II								,	Proper containers used?	\rightarrow

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 #

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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

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

Date/ Time Received: 00/20/2010 02:0

Work Order #: 464134

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

Temperature Measuring device used :

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

Analyst:	PH D	evice/Lot#:	
Checklist o	completed by:	Munt Moah Kelsey Brooks	Date: <u>05/30/2013</u>
Checklist	reviewed by:	Kmis Koah	Date: 05/30/2013

Analytical Report 465764

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo Lovington Gathering WTI 2006-142 03-JUL-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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

Xenco-Lakeland: Florida (E84098)

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

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

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

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

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





03-JUL-13

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

Reference: XENCO Report No(s): 465764

Lovington Gathering WTIProject Address: Lovington

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 465764. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 465764 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

respectfully,

Kelsey Brooks

Project Manager

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

Lovington Gathering WTI

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



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI

 Project ID:
 2006-142
 Report Date:
 03-JUL-13

 Work Order Number(s):
 465764
 Date Received:
 06/26/2013

S	mple receipt non conformances and comments:
S	mple receipt non conformances and comments per sample:
N	one



Certificate of Analysis Summary 465764

PLAINS ALL AMERICAN EH&S, Midland, TX



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

Project Name: Lovington Gathering WTI

Project Location: Lovington

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

Project Manager: Kelsey Brooks

	Troject Wallager. Reisey Brooks												
	Lab Id:	465764-0	001	465764-0	002	465764-0	003	465764-0	004	465764-0	005	465764-	006
Analysis Paguastad	Field Id:	MW-9	MW-9		MW-10		Well	JW We	:11	Goff Dairy-Ctr.	Pivot Well	Goff Dairy-Ctr. Pivot Beg.	
Analysis Requested	Depth:												
	Matrix:	WATE	R	WATE	R	WATE	R	WATE	R	WATE	R	WATE	ER
	Sampled:	Jun-25-13 (un-25-13 09:40 J		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 (Jul-02-13 08:30		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	Jul-02-13 11:56		12:12	Jul-02-13 12:28		Jul-02-13 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.

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

Kelsey Brooks



Certificate of Analysis Summary 465764

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: 2006-142

Project Location: Lovington

Project Name: Lovington Gathering WTI

Contact: Ben Arguijo

Report Date: 03-JUL-13

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

Project Manager: Kelsev Brooks

Analysis Requested Lab Id: 465764-007 Field Id: Goff Dairy-Ctr. Pivot End Depth: Matrix: WATER	
Analysis Requested Depth: Matrix: WATER	
Matrix: WATER	
C	
Sampled: Jun-25-13 11:00	
BTEX by EPA 8021B	
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.

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

Kelsey Brooks Project Manager





PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id: MW-9 Matrix: Water Date Received:06.26.13 15.43

Lab Sample Id: 465764-001 Date Collected: 06.25.13 09.40

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: DYV % Moisture:

Analyst: DYV Date Prep: 07.02.13 08.30

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





PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id: MW-10 Matrix: Water Date Received:06.26.13 15.43

Lab Sample Id: 465764-002 Date Collected: 06.25.13 09.30

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: DYV % Moisture:

Analyst: DYV Date Prep: 07.02.13 08.30

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





PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id: Goff Dairy Well Matrix: Water Date Received:06.26.13 15.43

Lab Sample Id: 465764-003 Date Collected: 06.25.13 10.00

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: DYV % Moisture:

Analyst: DYV Date Prep: 07.02.13 08.30

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





PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id: JW Well Matrix: Water Date Received:06.26.13 15.43

Lab Sample Id: 465764-004 Date Collected: 06.25.13 10.15

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: DYV % Moisture:

Analyst: DYV Date Prep: 07.02.13 08.30

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





PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id: Goff Dairy-Ctr. Pivot Well Matrix: Water Date Received:06.26.13 15.43

Lab Sample Id: 465764-005 Date Collected: 06.25.13 10.30

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: DYV % Moisture:

Analyst: DYV Date Prep: 07.02.13 08.30

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





PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id: Goff Dairy-Ctr. Pivot Beg. Matrix: Water Date Received:06.26.13 15.43

Lab Sample Id: 465764-006 Date Collected: 06.25.13 10.45

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: DYV % Moisture:

Analyst: DYV Date Prep: 07.02.13 08.30

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

Lovington Gathering WTI

Sample Id: Goff Dairy-Ctr. Pivot End Matrix: Water Date Received:06.26.13 15.43

Lab Sample Id: 465764-007 Date Collected: 06.25.13 11.00

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: DYV % Moisture:

Analyst: DYV Date Prep: 07.02.13 08.30

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



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 quantiation 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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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	



4-Bromofluorobenzene

80

QC Summary 465764



07.02.13 10:36

PLAINS ALL AMERICAN EH&S

Lovington Gathering WTI

Analytical Method:BTEX by EPA 8021BPrep Method:SW5030BSeq Number:917642Matrix:WaterDate Prep:07.02.13

MB Sample Id: 640592-1-BLK LCS Sample Id: 640592-1-BSD LCSD Sample Id: 640592-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00100	0.100	0.109	109	0.114	114	70-125	4	25	mg/L	07.02.13 10:36	
Toluene	< 0.00200	0.100	0.0928	93	0.0920	92	70-125	1	25	mg/L	07.02.13 10:36	
Ethylbenzene	< 0.00100	0.100	0.0805	81	0.0820	82	71-129	2	25	mg/L	07.02.13 10:36	
m,p-Xylenes	< 0.00200	0.200	0.161	81	0.164	82	70-131	2	25	mg/L	07.02.13 10:36	
o-Xylene	< 0.00100	0.100	0.0829	83	0.0846	85	71-133	2	25	mg/L	07.02.13 10:36	
Surrogate	MB %Rec	MB Flag			LCS Flag	LCSI %Re		_	imits	Units	Analysis Date	
1,4-Difluorobenzene	118		1	04		107	,	80)-120	%	07.02.13 10:36	

80

80-120

Analytical Method:BTEX by EPA 8021BPrep Method:SW5030BSeq Number:917642Matrix:WaterDate Prep:07.02.13

87

Parent Sample Id: 465764-002 MS Sample Id: 465764-002 S MSD Sample Id: 465764-002 SD

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

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

XENCO
Laboratories

CHAIN OF CUSTODY RECORD

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

Page 1 of 1 LAB W.O#:

VA Vial Amber ES VC Vial Clear AC AC AC GA Glass Amber BC CB Glass Clear CB Amber PC

* Container Type Codes

Encore Sampler TerraCore Sampler Air Canister Tedlar Bag Zip Lock Bag

Field billable Hrs: Plastic Clear

Comp	any: Basin Environmental Service Techn	nologies, LL	C	Phone:	(575)	396-23	378	TAT Wo	ork Day	s = D	Need re	esults by		nable i n		Time	ə:		PC Plastic Clear Other	Assentation according
Addre	ss: 3100 Plains Hwy.			Fax:	(575)	396-14	129	1	Std (5-	7D) \$Hr	s 1D 2	D 3D 4	D 5D	7D 10D	14D	Other_			Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 40ml, 125 ml, 250 ml, 500 ml, 1L,	1Gal Other
City:	Lovington		State: NM	Zip:	88260	0						A PROPERTY.		QUEST				1	** Preservative Ty	pe Codes
PM/At	in: Ben J. Arguijo		Email:	J bjarguijo⊚	g)basin	env.cor	m	Cont Type *		VC								Page 1	A. None E. HCL I. Ice B. HNO ₃ F. MeOH J. MC	
Projec	t ID: Lovington Gathering WTI SRS #2006-142			PO#:	PAA-J	J. Henr	у	Pres Type** E, I		E,I									H ₂ SO ₄ G. Na ₂ S ₂ O ₃ K. ZnAca D. NaOH H. NaHSO ₄ L As O.	&NaOH
Invoice	e To: Jason Henry Plains All American			Quote #:				260										un PAH Only if	^ Matrix Type	
Sampl	er Signature:	Circle One Semi-Annua	Event: Daily I Annual	Weekly N/A	Month	nly Qu	uartely	Example Volatiles by 8260	ТРН	втех	Chloride							Hold Samp	GW Ground Water S Soil WW Waste Water W Wip DW Drinking Water A Air SW Surface Water O Oil OW Ocean/Sea Water T Tiss	
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	ield	Integrity OK (Y/N)	otal # of ontainers	E; Volatil			0							(CALL on Higher	PL Product-Liquid U Urir PS Product-Solid B Bloo SL Sludge Other	ne
Sarr					U. U.	-0	F 0	# Cont	Lab Onl	y:									REMARK	S
1	MW-9	6/25/13	9:40	GW			3			х										
2	MW-10	6/25/13		GW			3	E PE		Х										
3	Goff Dairy Well	6/25/13	OF;01	GW			3:			Х									t	
4	JW Well		10:15	GW			3			Х										
5	Goff Dairy - Ctr. Pivot Well	6/25/13	10:30	GW			3.			Х										
6	Goff Dairy - Ctr. Pivot Beg.		10:45	GW			3.			Х										
7	Goff Dairy - Ctr. Pivot End	6/25/13	11:00	GW			3			Х								ALTE !		
8								1000										3766		
9																		TO S.		
_0																				
	Reg. Program / Clean-up Std	STATE	for Certs 8	Regs				& Certific			EDDs		1000	Labels	2 - 2 - 2		Temp °	С	Lab Use Only	YES NO N/A
CTLs Other:	TRRP DW NPDES LPST DryCln	FL TX GA AL NM Oth	NC SC NJ P	A OK LA		3 4 C DoD		AFCEE QA Other:	(PP	ADaPT XLS Oth	SEDD I	ERPIMS	Match I Absent	Incomplete Unclear	18.5	<u></u>	_3	_	Non-Conformances found? Samples intact upon arrival?	
1	Relinquished by		Affilia	tion	10-	Date 26		(0:4			eceived		Affili	iation	6-26	ate -13	6:L	me {5	Received on Wet Ice? Labeled with proper preservatives? Received within holding time?	
2	Min a ciffy					26-		3:4		V.	JUL	In .	m	S	60		1	13	Custody seals intact? VOCs rec'd w/o headspace? Proper containers used?	
3																			pH verified-acceptable, excl VOCs? Received on time to meet HTs?	===
4																			COC Social #	

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

C.O.C. Serial #



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 :

Work Order #: 465764	ı,	emperature weasuring o	evice usea :
	Sample Receipt	Checklist	Comments
#1 *Temperature of cooler(s)?		2	
#2 *Shipping container in good	condition?	Yes	
#3 *Samples received on ice?		Yes	
#4 *Custody Seals intact on ship	pping container/ cooler?	Yes	
#5 Custody Seals intact on sam	ple bottles?	Yes	
#6 *Custody Seals Signed and	dated?	Yes	
#7 *Chain of Custody present?		Yes	
#8 Sample instructions complet	e on Chain of Custody?	Yes	
#9 Any missing/extra samples?		No	
#10 Chain of Custody signed wl	nen relinquished/ received?	Yes	
#11 Chain of Custody agrees w	ith sample label(s)?	Yes	
#12 Container label(s) legible a	nd intact?	Yes	
#13 Sample matrix/ properties a	agree with Chain of Custody?	Yes	
#14 Samples in proper containe	er/ bottle?	Yes	
#15 Samples properly preserve	d?	Yes	
#16 Sample container(s) intact?		Yes	
#17 Sufficient sample amount for	or indicated test(s)?	Yes	
#18 All samples received within	hold time?	Yes	
#19 Subcontract of sample(s)?		Yes	
#20 VOC samples have zero he	eadspace (less than 1/4 inch bu	ubble)? Yes	
#21 <2 for all samples preserve	d with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserv	ed with NaAsO2+NaOH, ZnAc-	+NaOH? Yes	
* Must be completed for after-h	ours delivery of samples prio	or to placing in the refrige	erator
Analyst:	PH Device/Lot#:		

Checklist completed by:

Kelsey Brooks

Checklist reviewed by:

Kelsey Brooks Date: 06/27/2013 Date: 06/27/2013

Analytical Report 466896

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijjo **Lovington Gathering WTI** 2006-142 23-JUL-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

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

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





23-JUL-13

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

Reference: XENCO Report No(s): 466896

Lovington Gathering WTI

Project Address:

Ben Arguijjo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 466896. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 466896 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

respectfully,

Kelsey Brooks

Project Manager

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Sample Cross Reference 466896



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

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



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI

 Project ID:
 2006-142
 Report Date:
 23-JUL-13

 Work Order Number(s):
 466896
 Date Received:
 07/17/2013

Sample receipt non conformances and comments:
Sample receipt non conformances and comments per sample:
None



Certificate of Analysis Summary 466896

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: 2006-142 Contact: Ben Arguijjo **Project Name: Lovington Gathering WTI**

Project Location:

Report Date: 23-JUL-13

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

Project Manager: Kelsey Brooks

								I Toject Ma	mager.	Keisey Diooks	
	Lab Id:	466896-00	1	466896-0	002	466896-0	003	466896-0	004		
Analysis Paguastad	Field Id:	MW-9	MW-9		MW-10		Goff Dairy Well		:11		
Analysis Requested	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	Jul-22-13 16:00		Jul-22-13 16:00		16:00		
	Analyzed:	Jul-22-13 21	ul-22-13 21:19		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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Mus Hoah



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 quantiation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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5332 Blackberry Drive, San Antonio TX 78238	(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	



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 466896, **Project ID:** 2006-142

Lab Batch #: 918983 **Sample:** 466896-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/22/13 21:19	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
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

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 07/22/13 21:35 Amount True Control BTEX by EPA 8021 Recovery Found Amount Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0289 0.0300 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	Su	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 918983 **Sample:** 466896-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/22/13 22:07	SURROGATE RECOVERY STUDY									
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
Analytes			[D]							
1,4-Difluorobenzene	0.0286	0.0300	95	80-120						
4-Bromofluorobenzene	0.0253	0.0300	84	80-120						

Lab Batch #: 918983 Sample: 641457-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 07/22/13 21:03	SURROGATE RECOVERY STUDY									
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
Analytes			[D]							
1,4-Difluorobenzene	0.0284	0.0300	95	80-120						
4-Bromofluorobenzene	0.0251	0.0300	84	80-120						

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

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

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders: 466896, **Project ID:** 2006-142

Lab Batch #: 918983 Sample: 641457-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 07/22/13 20:15	SURROGATE RECOVERY STUDY										
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
	Analytes			[D]								
1,4-Difluorobenzene		0.0330	0.0300	110	80-120							
4-Bromofluorobenzene		0.0287	0.0300	96	80-120							

Lab Batch #: 918983 Sample: 641457-1-BSD / BSD Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 07/22/13 20:31	SURROGATE RECOVERY STUDY										
ВТЕ	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
	Analytes			[D]								
1,4-Difluorobenzene		0.0323	0.0300	108	80-120							
4-Bromofluorobenzene		0.0297	0.0300	99	80-120							

Lab Batch #: 918983 **Sample:** 466896-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/22/13 23:59	SURROGATE RECOVERY STUDY										
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
Analytes			[D]								
1,4-Difluorobenzene	0.0330	0.0300	110	80-120							
4-Bromofluorobenzene	0.0311	0.0300	104	80-120							

Lab Batch #: 918983 **Sample:** 466896-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 07/23/13 00:15	SURROGATE RECOVERY STUDY										
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
Analytes			[D]								
1,4-Difluorobenzene	0.0320	0.0300	107	80-120							
4-Bromofluorobenzene	0.0301	0.0300	100	80-120							

Surrogate Recovery [D] = 100 * A / B

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

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 466896

Date Prepared: 07/22/2013

Project ID: 2006-142 **Date Analyzed:** 07/22/2013

Analyst: KEB **Lab Batch ID:** 918983

Sample: 641457-1-BKS

Matrix: Water

Batch #: 1

Units: mg/L		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
BTEX by EPA 8021	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]	[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					



Form 3 - MS / MSD Recoveries

Project Name: Lovington Gathering WTI



Work Order #: 466896

Project ID: 2006-142

Lab Batch ID: 918983

Reporting Units:

QC- Sample ID: 466896-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 07/22/2013

mg/L

Date Prepared: 07/22/2013

Analyst: KEB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	Parent Sample Result	Spike	Spiked Sample Result	Sample	-	Duplicate Spiked Sample	-	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%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)|



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 :

Work Order #: 466896	Temperature	Measuring device used :						
	Sample Receipt Checklist	Comments						
#1 *Temperature of cooler(s)?		1						
#2 *Shipping container in good conditi	on?	Yes						
#3 *Samples received on ice?		Yes						
#4 *Custody Seals intact on shipping of	container/ cooler?	Yes						
#5 Custody Seals intact on sample bo	ttles?	Yes						
#6 *Custody Seals Signed and dated?		Yes						
#7 *Chain of Custody present?		Yes						
#8 Sample instructions complete on C	hain of Custody?	Yes						
#9 Any missing/extra samples?		No						
#10 Chain of Custody signed when rel	inquished/ received?	Yes						
#11 Chain of Custody agrees with san	nple label(s)?	Yes						
#12 Container label(s) legible and inta	ct?	Yes						
#13 Sample matrix/ properties agree v	vith Chain of Custody?	Yes						
#14 Samples in proper container/ bottl	e?	Yes						
#15 Samples properly preserved?		Yes						
#16 Sample container(s) intact?		Yes						
#17 Sufficient sample amount for indic	eated test(s)?	Yes						
#18 All samples received within hold ti	me?	Yes						
#19 Subcontract of sample(s)?		Yes						
#20 VOC samples have zero headspa	ce (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	n NaAsO2+NaOH, ZnAc+NaOH?	Yes						
* Must be completed for after-hours d		in the refrigerator						
Analyst: PH D	evice/Lot#:							
Checklist completed by: Checklist reviewed by:	Kelsey Brooks	Date: 07/18/2013						
Checklist reviewed by:	Mmy Moah Kelsey Brooks	Date: 07/18/2013						

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Laboratories	YENCO
Laboratories	ACITO
	Laboratories

CHAIN OF CUSTODY RECORD

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

Page_1_of_1 LAB W.O#: 46896 * Container Type Codes

VA Vial Amber ES Encore Sampler

VC Vial Clear TS TerraCore Sampler

VP Vial Pre-preserved AC Air Canister

GA Glass Amber TB Tedlar Bag

GC Glass Clear ZB Zip Look Bag

PA Plastic Amber PC Plastic Clear

	tol. Aubentos. Bodiochewistry			To									Field b	illable H	rs:				PA Plastic Amber PC PC Plastic Clear	Plastic Clear	
Compa	any: Basin Environmental Service Tec	chnologies, LL	С	Phone:	(575)	396-2	378	TAT W	ork Day	ys = D	Need r	results b	y;			Tim	e:	-	Other		
Addres	3100 Plains Hwy.		1	Fax:	(575)	396-1	429		Std (5-	7D) 5H	rs 1D :	2D 3D	4D <u>5D</u>	7D 100	14D	Other_			Size(s): 2oz, 4oz, 8oz, 16oz, 32 _{0z} 40ml, 125 ml, 250 ml, 500 ml, 1L	., Other	
City:	Lovington		State: NM	Zip:	8826	0			_		AN	ALYS	ES RE	QUES	TED				** Preservative T	ype Codes	
PM/Att	n: Ben J. Arguijo		Email:	bjarguijo(@basin	env.co	m	Cont Type * VC		VC									A. None E. HCL I. Id B. HNO, F. MeOH J. M	ce MCAA C	
Project	ID: Lovington Gathering WTI SRS #2006-142			PO#:	PAA-	J. Henr	у	Pres Type** E, I		E,I									H ₂ SO ₄ G. Na ₂ S ₂ O ₃ K. ZnA D. NaOH H. NaHSO ₄ L A	CRNSOH	
Invoice	To: Jason Henry Plains All America	in		Quote #:				260										un PAH Only If	^ Matrix Type	Codes	
Sample	Signature:		Event: Daily I Annual		Month	nly Qu	uartely	Example Volatiles by 8260	ТРН	BTEX	Chloride							old Sampl	GW Ground Water S So WW Waste Water W W DW Drinking Water A Ai SW Surface Water O Oi	oil/Sediment/Solid lipe r	
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	eld	Integrity OK (Y/N)	otal # of ontainers	Ey Volatile		_	0							(CALL on Highes	OW Ocean/Sea Water T Tr PL Product-Liquid U U PS Product-Solid B Bi SL Sludge	ssue rine	
Sam		-	1		EE	=0	F 8	# Cont	Lab Onl	y.						_	_		REMAR	(S	
										T									1,2		
_1	MW-9	7/16/13		GW	Н		3			X	-	_	-				_				
_2	MW-10	7/16/13		GW			3			X											
3	Goff Dairy Well	7/16/13		GW			3			Х											
_4	JW Well	7/16/13		GW			3			Х											
_5								10													
6																					
7								T										0			
8																					
9																	1				
-					Н																
_0	Reg. Program / Clean-up Std	STATE	for Certs &	Regs	Q/	VQC	Level 8	& Certifica	ation		EDDs		COC &	Labels	6	oolers	Temp °	C	Lab Use Only	YES NO N/A	
_	TRRP DW NPDES LPST DryCln		NC SC NJ P				CLP A	AFCEE QAI	PP	ADaPT XLS Othe	SEDD E	RPIMS	Match li Absent	ncomplete Unclear	158	2	3/,	0	Non-Conformances found? Samples intact upon arrival?		
1	Relinquished by	^	Affilia	tion		/7-/	3	8:40		-20	eceived	_	Affili	ation	つい	1te	Ti X	me 3	Received on Wet Ice? Labeled with proper preservatives? Received within holding time?	===	
2	5						1	- 1	- 1		MAY V		, ,		1)	10	0		Custody seals intact? VOCs rec'd w/o headspace?		
3										_	,	0 0	1						Proper containers used? pH verified-acceptable, excl VOCs?		
4							+			Dina	unce	min	XPIN	(1)	7-1	8-13	9:4	10	Received on time to meet HTs?	===	
	aboratories: Hobbs 575-392-755	n Dallac 21	4-902-0300	Housto	n 28	1-242	-4200	Odessa	432-56					-3334 P	hoenix	602-43	7-0330		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 602-437-033 FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

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

Date, Time Received. 67/17/2010 00:10:007

Temperature Measuring device used :

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

Work Order #: 466896

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 bu	ubble)? Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc	+NaOH? Yes	

Analyst: PH		evice/Lot#:	
Checklist	completed by:	Hung Hoah Kelsey Brooks	Date: <u>07/18/2013</u>
Checklist	reviewed by:	Mmy Moah Kelsey Brooks	Date: <u>07/18/2013</u>

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)

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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)

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Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code: AZ000989): 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.

Respectfully,

Kelsey Brooks

Project Manager

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

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - 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	\mathbf{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
 Report Date:
 28-AUG-13

 Work Order Number(s):
 469081
 Date Received:
 08/23/2013

Sa	ample receipt non conformances and	d comments:	
Sa	ample receipt non conformances and	d comments per sample:	
No	one		



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI

 Project ID:
 SRS# 2006-142
 Report Date:
 28-AUG-13

 Work Order Number(s):
 469097
 Date Received:
 08/23/2013

Sa	ample receipt non conformances and	d comments:	
Sa	ample receipt non conformances and	d comments per sample:	
No	one		



Certificate of Analysis Summary 469081

PLAINS ALL AMERICAN EH&S, Midland, TX



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

Contact: Ben Arguijo

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

Project Location: NM Report Date: 28-AUG-13

								Project Ma	nager:	Kelsey Brook	S		
	Lab Id:	469081-	001	469081-0	002	469081-0	003	469081-	004	469081-	005	469081-	006
A al	Field Id:	MW-	1	MW-3	3	MW-5	5	MW-	7	MW-8	3	MW-	9
Analysis Requested	Depth:												
	Matrix:	WATE	ER	WATE	R	WATE	R	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	3 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	3 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



Certificate of Analysis Summary 469097

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS# 2006-142 Contact: Ben Arguijo **Project Name: Lovington Gathering WTI**

Project Location:

Date Received in Lab: Fri Aug-23-13 09:45 am **Report Date:** 28-AUG-13

Project Manager: Kelsev Brooks

110ject Manager. Reisey blooks								
Lab Id:	469097-001	469097-002	469097-003	469097-004	469097-005			
Field Id:	JW WELL	GOFF DAIRY WELL	GOFF DAIRYCTR. PIVO	GOFF DAIRYCTR. PIVO	GOFF DAIRYCTR. PIVOT			
Depth:								
Matrix:	WATER	WATER	WATER	WATER	WATER			
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			
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			
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100			
	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200			
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100			
	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200			
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100			
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100			
	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100			
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed:	Field Id: JW WELL Depth: WATER Matrix: WATER Sampled: Aug-21-13 14:15 Extracted: Aug-27-13 10:00 Analyzed: Aug-27-13 17:17 Units/RL: mg/L RL ND 0.00100 ND 0.00200 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100	Field Id: JW WELL GOFF DAIRY WELL Depth: Watex: WATER WATER Sampled: Aug-21-13 14:15 Aug-21-13 14:00 Extracted: Aug-27-13 10:00 Aug-27-13 10:00 Analyzed: Aug-27-13 17:17 Aug-27-13 17:33 Units/RL: mg/L RL mg/L RL ND 0.00100 ND 0.00100 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100	Field Id: JW WELL GOFF DAIRY WELL GOFF DAIRY WELL GOFF DAIRY-CTR. PIVO Matrix: WATER WATER WATER WATER WATER Sampled: Aug-21-13 14:15 Aug-21-13 14:00 Aug-21-13 13:40 Aug-21-13 13:40 Extracted: Aug-27-13 10:00 Aug-27-13 10:00 <t< th=""><th>Lab Id: 469097-001 469097-002 469097-003 469097-004 Field Id: JW WELL GOFF DAIRY WELL 30FF DAIRY-CTR. PIVO GOFF DAIRY CTR. P</th><th>Lab Id: 469097-001 469097-002 469097-003 469097-004 469097-005 Field Id: JW WELL GOFF DAIRY WELL GOFF DAIRYCTR. PIVO GOFF DAIRYCTR</th></t<>	Lab Id: 469097-001 469097-002 469097-003 469097-004 Field Id: JW WELL GOFF DAIRY WELL 30FF DAIRY-CTR. PIVO GOFF DAIRY CTR. P	Lab Id: 469097-001 469097-002 469097-003 469097-004 469097-005 Field Id: JW WELL GOFF DAIRY WELL GOFF DAIRYCTR. PIVO GOFF DAIRYCTR		

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

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

Kelsey Brooks
Project Manager



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 quantiation 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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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	



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders: 469081, **Project ID:** SRS# 2006-142

Units: mg/L Date Analyzed: 08/27/13 14:40	SURRUGATE RECOVERY STUDY						
BTEX 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			

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 08/27/13 14:57 Amount True Control BTEX by EPA 8021B Recovery Found Amount Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0292 0.0300 97 80-120 4-Bromofluorobenzene 0.0247 0.0300 82 80-120

Lab Batch #: 921619 **Sample:** 469081-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 08/27/13 15:1	2	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0244	0.0300	81	80-120	

Lab Batch #: 921619 **Sample:** 469081-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 08/27/13 15:28 SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0302	0.0300	101	80-120			
4-Bromofluorobenzene	0.0250	0.0300	83	80-120			

Lab Batch #: 921619 **Sample:** 469081-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 08/27/13 16:45	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0336	0.0300	112	80-120		
4-Bromofluorobenzene	0.0241	0.0300	80	80-120		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

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

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders: 469081, **Project ID:** SRS# 2006-142

Units: mg/L	Date Analyzed: 08/27/13 17:01	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B		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		0.0247	0.0300	82	80-120	

Lab Batch #: 921619 Sample: 643137-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 08/27/13 13:42	SU	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1,4-Difluorobenzene	0.0308	0.0300	103	80-120				
4-Bromofluorobenzene	0.0254	0.0300	85	80-120				

Units: mg/L Date Analyzed: 08/27/13 12:54	4 SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0332	0.0300	111	80-120			
4-Bromofluorobenzene	0.0267	0.0300	89	80-120			

Units: mg/L Date Analyzed: 08/27/13 13:10	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0293	0.0300	98	80-120		
4-Bromofluorobenzene	0.0260	0.0300	87	80-120		

Lab Batch #: 921619 **Sample:** 469081-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 08/27/13 15:44	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
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

Surrogate Recovery [D] = 100 * A / B

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

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 469081

Project ID: SRS# 2006-142

Analyst: JUM

Lab Batch ID: 921619

Date Prepared: 08/27/2013

Date Analyzed: 08/27/2013

Sample: 643137-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[D]	[C]	נען	[E]	Kesuit [F]	լցյ				
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	



Form 3 - MS Recoveries

Project Name: Lovington Gathering WTI





Work Order #: 469081

Project ID: SRS# 2006-142 **Lab Batch #:** 921619

Date Prepared: 08/27/2013 Analyst: JUM **Date Analyzed:** 08/27/2013 **QC- Sample ID:** 469081-001 S Batch #: 1 Matrix: Water

Reporting Units: mg/L	MATI	MATRIX / MATRIX SPIKE RECOVERY STUDY						
BTEX by EPA 8021B	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag		
Analytes		. ,						
Benzene	< 0.00100	0.100	0.119	119	70-125			
Toluene	< 0.00200	0.100	0.110	110	70-125			
Ethylbenzene	< 0.00100	0.100	0.107	107	71-129			
m,p-Xylenes	< 0.00200	0.200	0.210	105	70-131			
o-Xvlene	< 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: 469097, **Project ID:** SRS# 2006-142

Units: mg/L	Date Analyzed: 08/27/13 17:17	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Ana	alytes			[D]		
1,4-Difluorobenzene		0.0301	0.0300	100	80-120	
4-Bromofluorobenzene		0.0249	0.0300	83	80-120	

Units: mg/L	Date Analyzed: 08/27/13 17:33	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes			[D]				
1,4-Difluorobenzene		0.0297	0.0300	99	80-120			
4-Bromofluorobenzene		0.0246	0.0300	82	80-120			

Lab Batch #: 921619 **Sample:** 469097-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 08/27/13 17:49	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
1	Analytes			[D]				
1,4-Difluorobenzene		0.0302	0.0300	101	80-120			
4-Bromofluorobenzene		0.0255	0.0300	85	80-120			

Units: mg/L	Date Analyzed: 08/27/13 18:06	SU	RROGATE RI	ECOVERY S	STUDY	
втех	6 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		0.0247	0.0300	82	80-120	

Lab Batch #: 921619 **Sample:** 469097-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 08/27/13 18:22	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
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

Surrogate Recovery [D] = 100 * A / B

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

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders: 469097, **Project ID:** SRS# 2006-142

Lab Batch #: 921619 Sample: 643137-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 08/27/13 13:42	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Lab Batch #: 921619 Sample: 643137-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 08/27/13 12:54	SURROGATE RECOVERY STUDY							
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene		0.0332	0.0300	111	80-120				
4-Bromofluorobenzene		0.0267	0.0300	89	80-120				

Units: mg/L Date Analyzed: 08/27/13 13:10	SU	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

Units: mg/L Date Analyzed:	08/27/13 15:44	SU	RROGATE RE	COVERY S	STUDY	
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes				[D]		
1,4-Difluorobenzene		0.0292	0.0300	97	80-120	
4-Bromofluorobenzene		0.0271	0.0300	90	80-120	

Surrogate Recovery [D] = 100 * A / B

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

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 469097

Project ID: SRS# 2006-142

Analyst: JUM

Date Prepared: 08/27/2013

Date Analyzed: 08/27/2013

Lab Batch ID: 921619

Sample: 643137-1-BKS

Matrix: Water

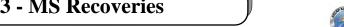
Batch #: 1

Units: mg/L	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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]	[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	



Form 3 - MS Recoveries

Project Name: Lovington Gathering WTI





Work Order #: 469097

Project ID: SRS# 2006-142 **Lab Batch #:** 921619

Date Prepared: 08/27/2013 Analyst: JUM **Date Analyzed:** 08/27/2013

QC- Sample ID: 469081-001 S Batch #: Matrix: Water

Reporting Units: mg/L	MATRIX / MATRIX SPIKE RECOVERY STUDY					
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A]	[B]				
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

XENCO
Laboratories

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Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Page 1 of 1 LAB W.O#:

Field billable Hrs:

VA Vial Amber ES VC Vial Clear TS VP Vial Pre-preserved AC GA Glass Amber TB GC Glass Clear PA Plastic Amber ZB PC

* Container Type Codes

Encore Sampler TerraCore Sampler Air Canister Tedlar Bag Zip Lock Bag Plastic Clear

Final 1.000

Page 1ì of Gi

Company	Basin Environmental Service Tec	hnologies, LL		Phone:	(575)39	96-2378	TAT W	ork Day	s = D	Need res	sults by	y:		Tim	e:	Other	
Address:	3100 Plains Hwy.			Fax:	(575)39	96-1429	(Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other					Size(s): 2oz, 4oz, 8oz, 16oz, 32o; 40ml, 125 ml, 250 ml, 500 ml, 1l	z , 1Gal L, Other			
City:	Lovington		State: NM	Zip:	88260						-		QUES			** Preservative T	ype Codes
M/Attn:	Ben Arguijo		Email:	bjarguijo(a) basiner	nv.com	Cont Type *		VC							A None E HCL I. I	
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nvoice To	o: Jason Henry Plains All America	n		Quote #:			260		H.L						e n PAH	^ Matrix Type	Codes
Sampler	Signature:		Event: Daily Annual		Monthly	Quartel	ample s by 8;	TPH .	BTEX	Chloride					d Sample Run	WW Waste Water W W DW Drinking Water A A	ir
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Sa							# Cont	Lab On	ly:							REMAR	KS
_1	MW-1	8/21/13	12:00	GW		3			х								
2	MW-3	8/21/13	11:00	GW		3			X						1		
_3	MW-5	8/21/13	11:30	GW		3			х								
_4	MW-7	8/21/13	10:00	GW		3			Х								
_5	MW-8	8/21/13	09:30	GW		3			х								
_6	MW-9	8/21/13	14:30	GW		3			х								
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R	eg. Program / Clean-up Std	STATE	for Certs 8	Regs	QA	/QC Lev	el & Certific	cation		EDDs		COC &	Labels	Coolers	Temp C	Lab Use Only	YES NO N/A
OTLS TR	RRP DW NPDES LPST DryCln	FL TX GA I	NC SC NJ P er:	A OK LA		3 4 CL DoD-ELA	P AFCEE Q	APP	ADaPT XLS Oth	SEDD ER	RPIMS		ncomplete Unclear	17.22	3	Non-Conformances found? Samples intact upon arrival?	
1	Relinquished by		Affilia	tion		2/13	4:3		10	eceived by	у	Affili	ation	Date 8223	Time OF3 7	Received on Wet loe? Labeled with proper preservatives?	
2	you y pay			-	010	412	7.3	0	Son					1 1	1//	Received within holding time? Custody seals intact?	
3									yan	7				8-25-13	0945	VOCs rec'd w/o headspace? Proper containers used?	_===
4															Valed to	pH verified-acceptable, excl VOCs: Received on time to meet HTs?	
R&A I a	horatories: Hobbs 575-392-755	50 Dallas 21	4-902-0300	Houst	on 281	-242-42	00 Odess	a 432-5	63-1800	San Ant	onio '	210-509	-3334 P	hoeniy 602-43	7-0330	C.O.C. Serial #	

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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

XE	N	C	(
Labo	ral	or	ie

3100 Plains Hwy.

Lovington

Ben J. Arquijo

SRS #2006-142

Lovington Gathering WTI

Jason Henry Plains All American

Company:

Address:

PM/Attn:

Project ID:

Invoice To:

CTLs TRRP

Other

3

4

DW

NPDES LPST DryCln

Relinquished by

City:

CHAIN OF CUSTODY RECORD

(575)396-2378

(575)396-1429

PAA-J. Henry

88260

bjarquijo@basinenv.com

Fax:

Zip:

Quote #:

Circle One Event: Daily Weekly Monthly Quartel

State: NM

Email

Semi-Annual Annual N/A

FL TX GA NC SC NJ PA OK LA

Affiliation

AL NM Other

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

Cont Type

Pres Type'

E.I

8260

P

Hobbs: 4008 N Grimes Hobbs, NM 88240 (575)392-7550

Basin Environmental Service Technologies, LLC

LAB W.O#: Field billable Hrs:

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

ANALYSES REQUESTED

Page 1 of 1

Time:

Encore Sampler VA Vial Amber ES VP Vial Pre-preserved AC GA Glass Amber GC Glass Clear ZB PA Plastic Amber

VC Vial Clear

PC Plastic Clear

* Container Type Codes

TerraCore Sampler Air Canister Tedlar Bag Zip Lock Bag

Final 1.000

⊃age 1JofÁG1

PC Plastic Clear

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

-	A. None E. HCL B. HNO ₃ F. MeOH H ₂ SO ₄ G. Na ₂ S ₂ O ₃ F D. NaOH H. NaHSO ₄	K.Z	nAc&NaOH	С
Only II	^ Matrix T	vr	ne Codes	
HAI TSOL	GW Ground Water WW Waste Water DW Drinking Water SW Surface Water OW Ocean/Sea Water	SWAOT	Soil/Sediment/Solid Wipe Air Oil	

_								00 00	F	8	1 =							D F	SW Surface Water O Oil
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	Total # of containers	Exa Volatiles			ą.						Hold (CALL)	High	OW Ocean/Sea Water T Tissue PL Product-Liquid U Urine PS Product-Solid B Blood SL Sludge Other
Š									Cont Lab Only:							THE REAL PROPERTY.	REMARKS		
_1	JW Well	8/21/13	2:15	GW			3			Х									
_2	Goff Dairy Well	8/21/13	2:00	GW			3			Х	1								
_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			Х						Ш			
_5	Goff Dairy - Ctr. Pivot Beg.	8/21/13	1:30	GW			3			Х								3	
_6															-				
_7											1					1,1			
_8		, and																1	
_9								- 11											
_0								18			711							-0	
Reg. Program / Clean-up Std		STATE for Certs & Regs			Q	AVQC	Level	& Certifica	ation	tion EDDs			COC & Labels		Co	Coolers Temp °C			Lab Use Only YES NO N/A

ADAPT SEDD ERPIMS

XLS Other:

Match Incomplete

Absent Unclear

Affiliation

Date

08-22-13

Time

0837

TAT Work-Days = D Need results by:

VC

E.I

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

1 2 3 4 CLP AFCEE QAPP

Time

8:30

NELAC DoD-ELAP Other:

Date

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

C.O.C. Serial #

on-Conformances found?

Samples intact upon arrival?

abeled with proper preservatives

pH verified-acceptable, excl VOCs? Received on time to meet HTs?

Received within holding time? Custody seals intact? VOCs rec'd w/o headspace? Proper containers used?



Work Order #: 469097

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:

Sample Re	eceipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received	ed? 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 Cust	ody? 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, H2S0	O4? Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH	, ZnAc+NaOH? N/A	

Analyst:	PH D	evice/Lot#:	
Checklist c	ompleted by:	Kelsey Brooks	Date: <u>08/23/2013</u>
Checklist I	reviewed by:	Kelsey Brooks	Date: <u>08/23/2013</u>



Work Order #: 469081

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 08/23/2013 09:34:00 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)?		1.5	
#2 *Shipping container in good condition?		Yes	
#3 *Samples received on ice?		Yes	
#4 *Custody Seals intact on shipping conta	iner/ 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 relinqui	shed/ received?	Yes	
#11 Chain of Custody agrees with sample I	abel(s)?	Yes	
#12 Container label(s) legible and intact?		Yes	
#13 Sample matrix/ properties agree with C	hain 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 (le	ess than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO	3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaA	AsO2+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 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:AZ000989): Arizona (AZ0758)





26-SEP-13

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

Reference: XENCO Report No(s): 470800

Lovington Gathering WTI

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 470800. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 470800 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

espectiony,

Kelsey Brooks

Project Manager

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Sample Cross Reference 470800



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

Sample Id	Matrix	Date Collected S	ample 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 Report Date: 26-SEP-13 Work Order Number(s): 470800 Date Received: 09/20/2013

	Sample receipt non conformances and comments:
-	Sample receipt non conformances and comments per sample:
	None



Certificate of Analysis Summary 470800

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS#2006-142 Contact: Ben Arguijo **Project Name: Lovington Gathering WTI**

Project Location:

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

Report Date: 26-SEP-13

Project Manager: Kelsey Brooks

					1 Toject Wanager. Keisey Brooks
	Lab Id:	470800-001	470800-002	470800-003	
Analysis Paguastad	Field Id:	MW-9	JW Well	Goff Dairy Well	
Analysis Requested	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	
	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





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 quantiation 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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	Phone	Fax
4143 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
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	



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders: 470800, **Project ID:** SRS#2006-142

Lab Batch #: 923642 **Sample:** 470800-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 09/25/13 22:44	SU	RROGATE RI	ECOVERY S	STUDY	
ВТЕ	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0304	0.0300	101	80-120	
4-Bromofluorobenzene		0.0300	0.0300	100	80-120	

Lab Batch #: 923642 **Sample:** 470800-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 09/25/13 23:00	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 923642 **Sample:** 470800-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L Date Analyzed: 09/25/13 23:16	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX 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 / BLK Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 09/25/13 20:53	SU	RROGATE RI	ECOVERY S	STUDY	
вті	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0307	0.0300	102	80-120	
4-Bromofluorobenzene		0.0296	0.0300	99	80-120	

Lab Batch #: 923642 Sample: 644409-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 09/25/13 20:05	SURROGATE RECOVERY STUDY									
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
Analytes			[D]							
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

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders: 470800, **Project ID:** SRS#2006-142

Lab Batch #: 923642 Sample: 644409-1-BSD / BSD Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 09/25/13 20:21	SURROGATE RECOVERY STUDY									
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
Analytes			[D]							
1,4-Difluorobenzene	0.0310	0.0300	103	80-120						
4-Bromofluorobenzene	0.0313	0.0300	104	80-120						

Lab Batch #: 923642 **Sample:** 470800-003 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 09/26/13 09:00	SU	RROGATE RI	ECOVERY S	STUDY	
ВТЕ	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 / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L	Date Analyzed: 09/26/13 08:44	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1,4-Difluorobenzene		0.0309	0.0300	103	80-120					
4-Bromofluorobenzene		0.0331	0.0300	110	80-120					

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 470800

Project ID: SRS#2006-142

Analyst: ARM

Date Prepared: 09/25/2013

Date Analyzed: 09/25/2013

Lab Batch ID: 923642

Sample: 644409-1-BKS **Batch #:** 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 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
Analytes											
Benzene	< 0.00100	0.100	0.108	108	0.100	0.114	114	5	70-125	25	
Toluene	< 0.00200	0.100	0.106	106	0.100	0.113	113	6	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0988	99	0.100	0.105	105	6	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.198	99	0.200	0.210	105	6	70-131	25	
o-Xylene	< 0.00100	0.100	0.0992	99	0.100	0.106	106	7	71-133	25	



Form 3 - MS / MSD Recoveries

Project Name: Lovington Gathering WTI



Work Order #: 470800

Project ID: SRS#2006-142

Lab Batch ID: 923642

QC- Sample ID: 470800-003 S

Batch #:

Matrix: Water

Date Analyzed: 09/26/2013

Date Prepared: 09/25/2013

25/2013 **Analyst:** ARM

Reporting Units: mg/L MATRIX SPIKE / MATRIX SPIKE /

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	Parent Sample	Spike	Spiked Sample Result	Sample	-	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*(C-A)/B Relative Percent Difference RPD = 200*|(C-F)/(C+F)|



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

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

Temperature Measuring device used:

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

Work Order #: 470800

Sample Receipt Che	cklist 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+NaO	H? N/A

nalyst: PH D		evice/Lot#:	
Checklist comp	oleted by:	Candace James	Date: 09/23/2013
Checklist revio	ewed by:	Julian Martinez	Date: 09/23/2013

XENCO	١
	H
Laboratories	н
Insurance Admits Solichemids	

3100 Plains Hwy.

Lovington

Ben J. Arquijo

SRS #2006-142

Lovington Gathering WTI

Shawn Harris Plains All American

Company:

Address:

PM/Attn:

Project ID:

Invoice To:

4

City:

CHAIN OF CUSTODY RECORD

(575)396-1429

PAA-S. Harris

88260

bjarguijo@basinenv.com

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

Fax:

Zip:

Quote #:

State: NM

Email:

LAB WO# ·

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

Size(s): 20z, 40z, 80z, 160z, 32oz, 1Gal

* Container Type Codes

Field billable Hrs: Basin Environmental Service Technologies, LLC (575)396-2378 TAT Work Days = D Need results by:

Time:

Page 1 of 1

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

40ml, 125 ml, 250 ml, 500 ml, 1L, Other ** Preservative Type Codes

ANALYSES REQUESTED Cont Type VC A. None E. HCL VC B. HNO₃ F. MeOH J MCAA H₂SO₄ G. Na₂S₂O₃ K. ZnAc&NaOH Pres Type D. NaOH H. NaHSO, L Asbc Acid&NaOH E.I

^ Matrix Type Codes

er Signature:				Mont	hly Q	uartely	ample is by 8	H.	TEX	loride							TPH Ru	WW Waste Water W Wipe DW Drinking Water A Air	
Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	Total # of containers	Ex	į.		5						3	(CALL_)	OW Ocean/Sea Water T Tissue PL Product-Liquid U Urine PS Product-Solid B Blood SL Sludge	
				100			# Cont	Lab Only	r.									REMARKS	
MW-9	9/19/13	15:30	GW			3			Х										
JW Well	9/19/13	10:30	GW			3			х										
	9/19/13	10:00	GW			3			Х										
	NE H													=1					
]												- 1	- 1				
																	-		
																- 6			
Reg. Program / Clean-up Std	STATE	for Certs &	Regs	1						EDDs		COC &	Labels	Co	olers	Temp °C		Lab Use Only YES NO	VA
	Sample ID MW-9 JW Well Goff Dairy Well	Sample ID Collect Date MW-9 9/19/13 JW Well 9/19/13 Goff Dairy Well Program / Clean-up Std State	Semi-Annual Annual Collect Date Collect Time	Semi-Annual Annual N/A	Semi-Annual Annual N/A Semi-Annual Annual N/A Semi-Annual Annual N/A Collect Date Collect Time Code * Semi-Annual Annual N/A Code * Semi-Annual N/A Code * Semi-Ann	Semi-Annual Annual N/A Collect Date Collect Time Matrix Code A Date Matrix Code A Date	Semi-Annual Annual N/A	Semi-Annual Annual N/A Semi-Annual N/A S	MW-9 9/19/13 15:30 GW 3 JW Well 9/19/13 10:30 GW 3 Goff Dairy Well 9/19/13 10:00 GW 3 Reg. Program / Clean-up Std STATE for Certs & Regs QA/QC Level & Certification	MW-9 9/19/13 15:30 GW 3 X JW Well 9/19/13 10:30 GW 3 X Goff Dairy Well 9/19/13 10:00 GW 3 X Reg. Program / Clean-up Std STATE for Certs & Regs QA/QC Level & Certification	MW-9 9/19/13 15:30 GW 3 X JW Well 9/19/13 10:30 GW 3 X Goff Dairy Well 9/19/13 10:00 GW 3 X Reg. Program / Clean-up Std STATE for Certs & Regs QA/QC Level & Certification EDDs	MW-9 9/19/13 15:30 GW 3 X JW Well 9/19/13 10:30 GW 3 X Goff Dairy Well 9/19/13 10:00 GW 3 X Reg. Program / Clean-up Std STATE for Certs & Regs QA/QC Level & Certification EDDs	MW-9 9/19/13 15:30 GW 3 X JW Well 9/19/13 10:30 GW 3 X Goff Dairy Well 9/19/13 10:00 GW 3 X Reg. Program / Clean-up Std STATE for Certs & Regs QA/QC Level & Certification EDDs COC &	MW-9 9/19/13 15:30 GW 3 X X S S S S S S S S S S S S S S S S S	MW-9 9/19/13 15:30 GW 3 X	MW-9 9/19/13 15:30 GW 3 X	MW-9 9/19/13 15:30 GW 3 X	MW-9 9/19/13 15:30 GW 3 X	

FL TX GA NC SC NJ PA OK LA 1 2 3 4 CLP AFCEE QAPP CTLs TRRP DW NPDES LPST DryCln ADaPT SEDD ERPIMS Match Incomplete Non-Conformances found? NELAC DoD-ELAP Other XLS Other Absent AL NM Other Unclear Other Samples intact upon arrival? Affiliation Date Time Received by Affiliation Date Relinquished by Time Received on Wet Ice? Labeled with proper preservatives? 8-20-13 ET 8:40 9-20-13 Received within holding time? Custody seals intact? 2 VOCs rec'd wio headspace? roper containers used? 3 pH verified-acceptable, excl VOCs? Received on time to meet HTs?

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

C.O.C. Serial #



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



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 :

ork Order #: 470800	ler #: 470800						
		Sample Receipt Checklist	Comments				
#1 *Temperature of cooler(s)?			7.1				
#2 *Shipping container in good	condit	ion?	Yes				
#3 *Samples received on ice?			Yes				
#4 *Custody Seals intact on sh	ipping	container/ cooler?	Yes				
#5 Custody Seals intact on sar	nple bo	ottles?	Yes				
#6 *Custody Seals Signed and	dated)	Yes				
#7 *Chain of Custody present?			Yes				
#8 Sample instructions comple	te on C	Chain of Custody?	Yes				
#9 Any missing/extra samples?	?		No				
#10 Chain of Custody signed v	vhen re	linquished/ received?	Yes				
#11 Chain of Custody agrees v	vith sar	nple label(s)?	Yes				
#12 Container label(s) legible a	and inta	act?	Yes				
#13 Sample matrix/ properties	#13 Sample matrix/ properties agree with Chain of Custody?						
#14 Samples in proper contain	Yes						
#15 Samples properly preserve	#15 Samples properly preserved?						
#16 Sample container(s) intact	?		Yes				
#17 Sufficient sample amount	for indi	cated test(s)?	Yes				
#18 All samples received within	n hold t	ime?	Yes				
#19 Subcontract of sample(s)?			No				
#20 VOC samples have zero h	eadspa	ace (less than 1/4 inch bubble)?	Yes				
#21 <2 for all samples preserve	ed with	HNO3,HCL, H2SO4?	Yes				
#22 >10 for all samples preser	ved wit	h NaAsO2+NaOH, ZnAc+NaOH?	N/A				
Must be completed for after-l		delivery of samples prior to placing	in the refrigerator				
Checklist complet	ed by:	Candau James Candace James	Date: <u>09/23/2013</u>				
Checklist reviewe	ed by:		Date: 09/23/2013				

Analytical Report 472835

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo Lovington Gathering WTI SRS#2006-142 31-OCT-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

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

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





31-OCT-13

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

Reference: XENCO Report No(s): 472835

Lovington Gathering WTI

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 472835. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 472835 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Knis Hoah

Project Manager

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Sample Cross Reference 472835



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

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



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI

 Project ID:
 SRS#2006-142
 Report Date:
 31-OCT-13

 Work Order Number(s):
 472835
 Date Received:
 10/24/2013

Sar	mple receipt non conformances	and comments:		
Sar	nple receipt non conformances	and comments per sam	nple:	
Noi	ne			



Certificate of Analysis Summary 472835

PLAINS ALL AMERICAN EH&S, Midland, TX



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

Project Name: Lovington Gathering WTI

Project Location:

Date Received in Lab: Thu Oct-24-13 08:33 am **Report Date:** 31-OCT-13

Project Manager: Kelsey Brooks

					Troject Wanager. Reisey Brooks
	Lab Id:	472835-001	472835-002	472835-003	
Analysis Paguastad	Field Id:	MW-9	MW-10	Goff Dairy Well	
Analysis Requested	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-23-13 15:00	Oct-23-13 09:00	Oct-23-13 08:30	
BTEX by EPA 8021	Extracted:	Oct-28-13 18:00	Oct-28-13 18:00	Oct-28-13 18:00	
	Analyzed:	Oct-30-13 17:34	Oct-30-13 17:50	Oct-30-13 18:06	
	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

Kalasy Brooks



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 quantiation 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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	Phone	Fax
4143 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
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	



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 472835, **Project ID:** SRS#2006-142

Lab Batch #: 926390 Matrix: Water **Sample:** 472835-001 / SMP Batch:

Units:	mg/L	Date Analyzed: 10/30/13 17:34	SU	RROGATE RE	ECOVERY S	STUDY	
	ВТЕ	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0248	0.0300	83	80-120	
4-Bromofluo	orobenzene		0.0294	0.0300	98	80-120	

Matrix: Water **Lab Batch #:** 926390 Sample: 472835-002 / SMP Batch: 1

Units: mg/L Date Analyzed: 10/30/13 17:50 SURROGATE RECOVERY STUDY **Amount** True Control BTEX by EPA 8021 Found Limits Amount Recovery Flags [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0257 0.0300 86 80-120 4-Bromofluorobenzene

0.0293

0.0300

80-120

98

Lab Batch #: 926390 Sample: 472835-003 / SMP Matrix: Water Batch:

Units: mg/L Date Analyzed: 10/30/13 18:06 SURROGATE RECOVERY STUDY

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

Sample: 646115-1-BLK / BLK Matrix: Water **Lab Batch #:** 926390 Batch: 1

Units: mg/L Date Analyzed: 10/29/13 02:18 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021 Found Amount Recovery Limits **Flags** [B] %R %R [A] [D] **Analytes** 1,4-Difluorobenzene 0.0267 0.0300 89 80-120 4-Bromofluorobenzene 0.0292 0.0300 97 80-120

Lab Batch #: 926390 Sample: 646115-1-BKS / BKS Batch: Matrix: Water

Units:	mg/L	Date Analyzed: 10/29/13 01:31	SU	RROGATE RI	ECOVERY S	STUDY	
	BT	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Analytes			[2]		
1,4-Difluorol	benzene		0.0281	0.0300	94	80-120	
4-Bromofluo	robenzene		0.0298	0.0300	99	80-120	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



4-Bromofluorobenzene

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Project ID: SRS#2006-142 Work Orders: 472835,

Lab Batch #: 926390 Matrix: Water **Sample:** 646115-1-BSD / BSD Batch: 1

Units: Date Analyzed: 10/29/13 01:47 mg/L SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021 Found Limits Amount Recovery Flags [A] [B] %R %R [D]**Analytes** 1,4-Difluorobenzene 0.0282 0.0300 94 80-120

0.0296

0.0300

99

80-120

Lab Batch #: 926390 Sample: 472835-001 S / MS Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 10/29/13 11:11 SURROGATE RECOVERY STUDY

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

Lab Batch #: 926390 **Sample:** 472835-001 SD / MSD Matrix: Water Batch:

Units: mg/L Date Analyzed: 10/29/13 11:27 SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Units:

mg/L

BS / BSD Recoveries

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY



Project Name: Lovington Gathering WTI

Work Order #: 472835 Project ID: SRS#2006-142

Analyst: ARM Date Prepared: 10/28/2013 Date Analyzed: 10/29/2013

Lab Batch ID: 926390Sample: 646115-1-BKSBatch #: 1Matrix: Water

BTEX by EPA 8021	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]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	< 0.00100	0.100	0.0897	90	0.100	0.0899	90	0	70-125	25	
Toluene	< 0.00200	0.100	0.0901	90	0.100	0.0909	91	1	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0933	93	0.100	0.0942	94	1	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.190	95	0.200	0.191	96	1	70-131	25	
o-Xylene	< 0.00100	0.100	0.0976	98	0.100	0.0983	98	1	71-133	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)| Blank Spike Recovery [D] = 100*(C)/[B] Blank Spike Duplicate Recovery [G] = 100*(F)/[E] All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 472835 Project ID: SRS#2006-142

Lab Batch ID: 926390 **QC- Sample ID:** 472835-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

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



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

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

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

Work Order #: 472835

Temperature Measuring device used:

	Sample Receipt Checkli	ist Comments
#1 *Temperature of cod	oler(s)?	5.1
#2 *Shipping container	in good condition?	Yes
#3 *Samples received	on ice?	Yes
#4 *Custody Seals inta	act on shipping container/ cooler?	N/A
#5 Custody Seals intac	ct on sample bottles?	N/A
#6 *Custody Seals Sigr	ned and dated?	N/A
#7 *Chain of Custody p	present?	Yes
#8 Sample instructions	s complete on Chain of Custody?	Yes
#9 Any missing/extra sa	amples?	No
#10 Chain of Custody s	signed when relinquished/ received?	Yes
#11 Chain of Custody a	agrees with sample label(s)?	Yes
#12 Container label(s)	legible and intact?	Yes
#13 Sample matrix/ pro	operties agree with Chain of Custody?	Yes
#14 Samples in proper	container/ bottle?	Yes
با 15 Samples properly	preserved?	Yes
#16 Sample container((s) intact?	Yes
#17 Sufficient sample a	amount for indicated test(s)?	Yes
#18 All samples receive	ed within hold time?	Yes
#19 Subcontract of san	nple(s)?	No
#20 VOC samples have	e 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	s preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A
#21 <2 for all samples	preserved with HNO3,HCL, H2SO4?	Yes
' Must be completed fo	or after-hours delivery of samples prior to plac	ing in the refrigerator
* Must be completed for Analyst:	or after-hours delivery of samples prior to plac	ing in the refrigerator

Page 12 of 13

Final 1.000

472835

La	boratories Houston: 4143 Greent Hobbs: 4008 N Grimes	oriar Dr. Stafford, s Hobbs, NM 882	TX 77477 (28 240 (575)392-	1)240-4200							(432)563-	1800		W.O #		of <u>1</u>			VC Vial Clear TS TO VP Vial Pre-preserved AC A GA Glass Amber TB TO	incore Sampler ferraCore Sampler Air Canister fedlar Bag
Com	- The surface of the state of t	echnologies, LL	.c	Phone:	(575)	396-23	378	Field billable Hrs : TAT Work Days = D Need results by: Time:							PA Plastic Amber PC F PC Plastic Clear	Zip Lock Bag Plastic Clear				
Addre	ess: 3100 Plains Hwy.			Fax:	(575):	396-14	129	()	and the second of the second	iys – D 5-7D) 5⊦				70 40	D 445	100	ne:		Other	1Gal
City:	Lovington		State: NM	Zip:	88260	0		-	Old (c	1-10) 91			*****	EQUES	000000000000000000000000000000000000000	Other			40ml, 125 ml, 250 ml, 500 ml, 1L,	, Other
PM/A	ttn: Ben J. Arguijo		Email:	⅃ bjarguijo(②basine	env.coi	n l	Cont Type *		Tvc	T AIN	ALIS	ES KE	TUES	TED	T	Т	T	** Preservative Ty	pe Codes
Proje	SRS #2006-142			PO#:	PAA-C	C. Brya	nt	VC Pres Type** E, I		E,I				+			-		A. None E. HCL I. Ice B. HNO ₃ F. MeOH J. Mi H ₂ SO ₄ G. Na ₂ S ₂ O ₃ K. ZnAc D. NaOH H. NaHSO ₄ L As	CAA C
22.000	nvoice To: Camille Bryant Plains All American Campler Signature:			Quote #:				097										PAH ily if		_
	ler Signature:	Circle One Semi-Annua	Event: Daily I Annual	Weekly N/A	Month	ly Qu	artely	Example Volatiles by 8260	ТРН	втех	Chloride							d Sample Run PAH TPH_Only if	* Matrix Type GW Ground Water S Sol WW Waste Water W Wip DW Drinking Water A Air	il/Sediment/Solid pe
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Ex		B	ວົ							Hold S. (CALL) on Highest TPH	OW Ocean/Sea Water T Tiss PL Product-Liquid U Urir PS Product-Solid B Bloo SL Sludge	sue ne
0)								# Cont	Lab On	ly:									Other REMARK	S
1	MW-9	10/23/13	1500	GW			3			Х										
2	MW-10	10/23/13	0900	GW			3			Х										
3	Goff Dairy Well	10/23/13	0830	GW			3			X			1	1						
4	185													-						
5					\dashv	\dashv														
6					_															
7					-															
8					+	+														
9					+	+	-													
0					+	+														
	Reg. Program / Clean-up Std	STATE	for Certs &	Regs	QA/	OC L	evel 8	& Certifica	ntion		EDDs		000 0	Labels						
CTLs ther:	TRRP DW NPDES LPST DryCin		C SC NJ PA	OK LA	1 <u>2</u>	3 4	CLP A	AFCEE OAP		ADaPT	SEDD E	RPIMS		ncomplete			Temp °0		Lab Use Only Non-Conformances found?	YES NO N/A
	Relinquished by	page 11111 Outle	Affiliati		VELAC D	ate	LAP C	Time)	XLS Othe	r: ceived	bv	Absent Affili	Unclear ation	1 5,1 Da	_2	_3 Tir		Samples intact upon arrival?	
1	The plugger	,	Basin		10/	24/	13	8:3	5	Ste		the		CO Sevi.	10-7		08	3-7 L	Received on Wet Ice? Labeled with proper preservatives?	
2	,									Con	die	Jan	11	200		5-13	1:3	0	Received within holding time? Custody seals intact?	
3												1	1.2		102			F	VOCs rec'd w/o headspace? Proper containers used?	
4												0							pH verified-acceptable, excl VOCs? Received on time to meet HTs?	
TSS	aboratories: Hobbs 575-392-755	Dallas 214	-902-0300	Houston	281	-242-	4200	Odessa	432-56	3-1800	San An	tonio 2	10-509-	3334 P	hoenix	602-437	7-0330		C.O.C. Serial #	

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



Work Order #: 472835

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

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

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

Temperature Measuring device used:

Sample Rece	eipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.1	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received	? Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custod	y? 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 inc	th bubble)? Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4	? Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, Z	nAc+NaOH? N/A	

Analyst:	PH D	evice/Lot#:	
Checklist com	pleted by:	Candau James Candace James	Date: 10/25/2013
Checklist revi	ewed by:	Kelsey Brooks	Date: <u>10/25/2013</u>

Analytical Report 473757

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo Lovington Gathering WTI SRS#2006-142 18-NOV-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

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

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

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





18-NOV-13

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

Reference: XENCO Report No(s): 473757

Lovington Gathering WTIProject Address: NM

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 473757. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 473757 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Knis Hoah

Project Manager

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Sample Cross Reference 473757



PLAINS ALL AMERICAN EH&S, Midland, TX

Lovington Gathering WTI

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



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Lovington Gathering WTI

 Project ID:
 SRS#2006-142
 Report Date:
 18-NOV-13

 Work Order Number(s):
 473757
 Date Received:
 11/08/2013

Sa	ample receipt non conformances and comments:
Sa	ample receipt non conformances and comments per sample:
No	one



Certificate of Analysis Summary 473757

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



Project Id: SRS#2006-142

Contact: Ben Arguijo

Project Location: NM

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

Report Date: 18-NOV-13

Project Manager: Kelsey Brooks

								Project Ma	nager:	Keisey brook	.5		
	Lab Id:	473757-0	001	473757-002		473757-003		473757-004		473757-005		473757-006	
Analysis Paguastad	Field Id:	MW-3	3	MW-6	5	MW-7	7	JW We	:11	Goff DairyCtr.	Puet Well	Goff DairyCtr	r Piret Beg
Analysis Requested	Depth:												
	Matrix:	WATE	R	WATE	R	WATE	R	WATE	R	WATE	R	WATE	ER
	Sampled:	Nov-08-13	08:00	Nov-08-13	08:30	Nov-08-13	09:00	Nov-08-13	09:30	Nov-08-13	10:00	Nov-08-13	10:15
BTEX by EPA 8021	Extracted:	Nov-11-13	14:00	Nov-11-13	14:00	Nov-11-13	14:00	Nov-11-13	14:00	Nov-11-13	14:00	Nov-11-13	14:00
Analyzed:		Nov-11-13	18:15	Nov-11-13	18:31	Nov-11-13	18:47	Nov-11-13	19:03	Nov-11-13	19:19	Nov-11-13	20:07
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		0.00241	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Toluene		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
m_p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Xylenes, Total		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Total BTEX		0.00241	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100

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

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

Kelsey Brooks Project Manager



Project Location: NM

Contact: Ben Arguijo

Certificate of Analysis Summary 473757

PLAINS ALL AMERICAN EH&S, Midland, TX



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

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

Report Date: 18-NOV-13

Project Manager: Kelsey Brooks

				Project Manager:	Keisey Diooks	
Lab Id:	473757-007					
Field Id:	Goff DairyCtr Piver End					
Depth:						
Matrix:	WATER					
Sampled:	Nov-08-13 10:30					
Extracted:	Nov-11-13 14:00					
Analyzed:	Nov-11-13 20:23					
Units/RL:	mg/L RL					
	ND 0.00100					
	ND 0.00200					
	ND 0.00100					
	ND 0.00200					
	ND 0.00100					
	ND 0.00100		_			
	ND 0.00100		_			
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed:	Field Id: Depth: WATER Matrix: WATER Sampled: Nov-08-13 10:30 Extracted: Nov-11-13 14:00 Analyzed: Nov-11-13 20:23 Units/RL: 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	Field Id: Goff DairyCtr Piver End Depth: WATER Matrix: WATER Sampled: Nov-08-13 10:30 Extracted: Nov-11-13 14:00 Analyzed: Nov-11-13 20:23 Units/RL: mg/L RL ND 0.00100 ND 0.00200 ND 0.00200 ND 0.00100 ND 0.00100 ND 0.00100	Field Id: Goff DairyCtr Piver End Depth: Watrix: WATER Sampled: Nov-08-13 10:30 Extracted: Nov-11-13 14:00 Analyzed: Nov-11-13 20:23 Units/RL: 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	Lab Id: 473757-007 Field Id: Goff DairyCtr Piver End Depth: WATER Matrix: WATER Sampled: Nov-08-13 10:30 Extracted: Nov-11-13 14:00 Analyzed: Nov-11-13 20:23 Units/RL: mg/L RL ND 0.00100 ND 0.00200 ND 0.00200 ND 0.00100 ND 0.00100 ND 0.00100 ND 0.00100	Field Id: Goff DairyCtr Piver End Depth: WATER WATER Sampled: Nov-08-13 10:30 Sampled: Extracted: Nov-11-13 14:00 Sampled: Analyzed: Nov-11-13 20:23 Sampled: Units/RL: mg/L RL ND 0.00100 Sampled: ND 0.00200 Sampled: ND 0.00100 Sampled: ND 0.00200 Sampled: ND 0.00100 ND ND ND

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

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Kelsey Brooks Project Manager



Flagging Criteria



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

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

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

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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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	



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Project ID: SRS#2006-142 **Work Orders** : 473757,

Lab Batch #: 927505 Matrix: Water **Sample:** 473757-001 / SMP Batch:

Units:	mg/L	Date Analyzed: 11/11/13 18:15	RROGATE RECOVERY STUDY					
	BT	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
		Analytes			ردا			
1,4-Difluorob	enzene		0.0273	0.0300	91	80-120		
4-Bromofluor	obenzene		0.0283	0.0300	94	80-120		

Matrix: Water **Lab Batch #:** 927505 Sample: 473757-002 / SMP Batch: 1

Units: mg/L **Date Analyzed:** 11/11/13 18:31 SURROGATE RECOVERY STUDY **Amount** True Control BTEX by EPA 8021 Found Limits Amount Recovery Flags [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0274 0.0300 91 80-120 4-Bromofluorobenzene

0.0279

0.0300

80-120

93

Lab Batch #: 927505 Sample: 473757-003 / SMP Matrix: Water Batch:

mg/L **Units: Date Analyzed:** 11/11/13 18:47 SURROGATE RECOVERY STUDY

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

Sample: 473757-004 / SMP **Lab Batch #:** 927505 Batch: Matrix: Water

Units:	mg/L	Date Analyzed: 11/11/13 19:03	SU	RROGATE RE	ECOVERY S	STUDY	
	ВТ	EX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluore	obenzene		0.0271	0.0300	90	80-120	
4-Bromoflu	orobenzene		0.0278	0.0300	93	80-120	

Lab Batch #: 927505 Sample: 473757-005 / SMP Batch: Matrix: Water

Units:	mg/L	Date Analyzed: 11/11/13 19:19	SURROGATE RECOVERY STUDY							
	BT	EX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorober	nzene	,	0.0285	0.0300	95	80-120				
4-Bromofluorol	benzene		0.0296	0.0300	99	80-120				

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



4-Bromofluorobenzene

Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Project ID: SRS#2006-142 **Work Orders** : 473757,

Lab Batch #: 927505 Matrix: Water **Sample:** 473757-006 / SMP Batch:

Units:	mg/L	Date Analyzed: 11/11/13 20:07	SURROGATE RECOVERY STUDY							
	BT	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
		Analytes			[15]					
1,4-Difluorobe	enzene		0.0276	0.0300	92	80-120				
4-Bromofluoro	obenzene		0.0297	0.0300	99	80-120				

Matrix: Water **Lab Batch #:** 927505 Sample: 473757-007 / SMP Batch: 1

Units: mg/L Date Analyzed: 11/11/13 20:23 SURROGATE RECOVERY STUDY **Amount** True Control BTEX by EPA 8021 Flags Found Limits Amount Recovery [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0276 0.0300 92 80-120

0.0263

0.0300

80-120

88

Lab Batch #: 927505 **Sample:** 646758-1-BLK / BLK Matrix: Water Batch:

Units: mg/L Date Analyzed: 11/11/13 16:40 SURROGATE RECOVERY STUDY

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

Sample: 646758-1-BKS / BKS Matrix: Water **Lab Batch #:** 927505 Batch: 1

Units: mg/L Date Analyzed: 11/11/13 15:20 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021 Found Amount Recovery Limits **Flags** [B] %R %R [A] [D] **Analytes** 1,4-Difluorobenzene 0.0281 0.0300 94 80-120 4-Bromofluorobenzene 0.0309 0.0300 103 80-120

Lab Batch #: 927505 **Sample:** 646758-1-BSD / BSD Batch: Matrix: Water

Units:	mg/L	Date Analyzed: 11/11/13 15:35	SU	SURROGATE RECOVERY STUDY								
	BT	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
		Analytes			[D]							
1,4-Difluore	obenzene		0.0285	0.0300	95	80-120						
4-Bromoflu	orobenzene		0.0294	0.0300	98	80-120						

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Lovington Gathering WTI

Work Orders : 473757, **Project ID:** SRS#2006-142

Lab Batch #: 927505 **Sample:** 473756-001 S / MS **Batch:** 1 **Matrix:** Water

Units: Date Analyzed: 11/11/13 15:51 mg/L SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021 Found Amount Limits Flags Recovery [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0278 0.0300 93 80-120 4-Bromofluorobenzene 0.0300 103 80-120 0.0309

Lab Batch #: 927505 **Sample:** 473756-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units:	mg/L	Date Analyzed: 11/11/13 16:07	SU	RROGATE RI	ECOVERY S	STUDY					
	ВТ	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
		Analytes			[D]						
1,4-Difluor	obenzene		0.0289	0.0300	96	80-120					
4-Bromoflu	iorobenzene		0.0317	0.0300	106	80-120					

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



o-Xylene

mg/L

Units:

BS / BSD Recoveries

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

0.103

103

2

71-133

25



Project Name: Lovington Gathering WTI

Work Order #: 473757 Project ID: SRS#2006-142

 Analyst:
 ARM
 Date Prepared: 11/11/2013
 Date Analyzed: 11/11/2013

Lab Batch ID: 927505 **Sample:** 646758-1-BKS **Batch #:** 1 **Matrix:** Water

0.100

< 0.00100

BTEX by EPA 8021	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]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	< 0.00100	0.100	0.0897	90	0.100	0.0929	93	4	70-125	25	
Toluene	< 0.00200	0.100	0.0918	92	0.100	0.0944	94	3	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0983	98	0.100	0.101	101	3	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.200	100	0.200	0.205	103	2	70-131	25	

0.101

101

0.100

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Lovington Gathering WTI

Work Order #: 473757 Project ID: SRS#2006-142

Lab Batch ID: 927505 QC- Sample ID: 473756-001 S Batch #: 1 Matrix: Water

Date Analyzed: 11/11/2013 Date Prepared: 11/11/2013 Analyst: ARM

Reporting Units: mg/L MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.00516	0.100	0.0977	93	0.100	0.0969	92	1	70-125	25	
Toluene	< 0.00200	0.100	0.0961	96	0.100	0.0984	98	2	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.102	102	0.100	0.106	106	4	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.208	104	0.200	0.216	108	4	70-131	25	
o-Xylene	< 0.00100	0.100	0.104	104	0.100	0.109	109	5	71-133	25	



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

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

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

Sample Receipt Checklist

Work Order #: 473757

Temperature Measuring device used :

Comments

	Sample Receipt Checklist	Comments					
#1 *Temperature of cooler(s)?		3					
#2 *Shipping container in good condition	?	Yes					
#3 *Samples received on ice?		Yes					
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A					
#5 Custody Seals intact on sample bottle	es?	N/A					
#6 *Custody Seals Signed and dated?		N/A					
#7 *Chain of Custody present?		Yes					
#8 Sample instructions complete on Cha	in of Custody?	Yes					
#9 Any missing/extra samples?		No					
#10 Chain of Custody signed when relind	quished/ received?	Yes					
#11 Chain of Custody agrees with sampl	e label(s)?	Yes					
#12 Container label(s) legible and intact	?	Yes					
#13 Sample matrix/ properties agree with	n 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 indicat	ed test(s)?	Yes					
#18 All samples received within hold time	e?	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 HI	NO3,HCL, H2SO4?	Yes					
#22 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A					
* Must be completed for after-hours de Analyst: PH Device		the refrigerator					
Checklist completed by: Checklist reviewed by:	Candau James Candace James	Date: 11/11/2013					
Checklist reviewed by:	Kelsey Brooks	Date: 11/11/2013					

XENCO Laboratories

CHAIN OF CUSTODY RECORD

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

Page 1 of 1

* Container Type Codes Vial Amber Encore Sampler VC Vial Clear VP Vial Pre-preserved TerraCore Sampler Air Canister TB Tedlar Bag Zip Lock Bag ZB PC

LAB W.O#: GA Glass Amber Company: Basin Environmental Service Technologies, LLC Field billable Hrs: GC Glass Clear Phone: (575)396-2378 PA Plastic Amber TAT Work Days = D Need results by:_ Plastic Clear Address: PC Plastic Clear 3100 Plains Hwy. Time: (575)396-1429 Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other City: Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other Lovington State: NM Zip: 88260 PM/Attn: **ANALYSES REQUESTED** Ben J. Arguijo ** Preservative Type Codes Email: Cont Type bjarguijo@basinenv.com Project ID: VC Lovington Gathering WTI PO#: A. None E. HCL SRS #2006-142 PAA-C. Bryant Pres Type* B. HNO₃ F. MeOH J. MCAA H₂SO₄ G. Na₂S₂O₃ K. ZnAc&NaOH Invoice To: E.I Caprille Bryant Plains All American D. NaOH H. NaHSO4 L Asbc Acid&NaOH Quote #: Example Volatiles by 8260 Sampler Signature: Run P. Circle One Event: Daily Weekly ^ Matrix Type Codes Monthly Quartely Semi-Annual Annual Chloride TPH GW Ground Water S Soil/Sediment/Solid WW Waste Water # W Wipe DW Drinking Water Sample Collect Collect Sample ID Integrity OK (Y/N) Matrix SW Surface Water Field Oil Date OW Ocean/Sea Water T Time Code ^ Product-Liquid U Urine Product-Solid В Blood Sludge # Cont Lab Only: Other MW-3 **REMARKS** 11/8 8:00 GW 3 X MW-6 8:30 GW 3 11/4 9:00 GW 3 11/8 9:30 GW 3 10:00 600 3 10:15 GW 3 Goff Dicay - CAI. piver End. 10:30 GW 3 8 0 Reg. Program / Clean-up Std TI CTLs Other: STATE for Certs & Regs QA/QC Level & Certification **EDDs** DW NPDES LPST DryCln COC & Labels Coolers Temp °C FL TX GA NC SC NJ PA OK LA Lab Use Only 1 2 3 4 CLP AFCEE QAPP YES NO N/A ADaPT SEDD ERPIMS AL NM Other: Match Incomplete NELAC DoD-ELAP Other: 3.0 2 XLS Other: Non-Conformances found? Relinquished by Absent Unclear Affiliation Date Time Samples intact upon arrival? Received by Affiliation Date Time 11/8/13 eceived on Wet Ice? 150 abeled with proper preservatives? Xerus Received within holding time? 11A113 12:30 Custody seals intact? VOCs rec'd w/o headspace? Proper containers used? pH verified-acceptable, excl VOCs? 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 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 C.O.C. Serial #

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



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

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

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

Work Order #: 473757

Temperature Measuring device used :

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		3
#2 *Shipping container in good condition	n?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping co	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle	es?	N/A
#6 *Custody Seals Signed and dated?		N/A
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on Cha	ain of Custody?	Yes
#9 Any missing/extra samples?		No
#10 Chain of Custody signed when reline	quished/ received?	Yes
#11 Chain of Custody agrees with samp	le label(s)?	Yes
#12 Container label(s) legible and intact	?	Yes
#13 Sample matrix/ properties agree wit	h 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 indicat	ted test(s)?	Yes
#18 All samples received within hold tim	e?	Yes
#19 Subcontract of sample(s)?		No
#20 VOC samples have zero headspace	e (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HI	NO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with N		
דבב > זט וטו מוו סמוווטופט טופטכויפט שונוו ו	NaAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	elivery of samples prior to placing	

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

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

Form C-141 Revised October 10, 2003

Release Notification and Corrective Action

						OPER/	ATOR		x Initi	al Report	П	Final	Repor
		ains Pipeline				Contact Camille Reynolds							
		Hwy 82, Lov		NM 88260		Telephone 1	No. 505-441-090	65					
Facility Nar	ne Loving	ton Gatherin	g WTI			Facility Typ	e 6"Steel Pipeli	ine					
Surface Ow	ner Rober	t Rice		Mineral O	wner				Lease 1	Jo.			
						VOEDE	EACE		Lease I	10.			
Unit Letter	Section	Township	Range	Feet from the		ON OF RELEASE rth/South Line Feet from the East/West Line County							
Н	6	178	37E	reet nom the	North	South Line	County Lea						
26		Latitud	e_32° 51	' 56.0"	16	Longitude	103° 17' 07.2	"					
				NAT	URE	OF REL	EASE						
Type of Rele	ase Crude (Dil				Volume of	Release 12 barre		Volume I	Recovered 8	barrel	9	
Source of Re						4-21-2006		e					
Was Immedia	ate Notice (Yes 🗆	No Not Re	quired	If YES, To Whom?							_
By Whom? C	amille Rey	nolds				Date and H	lour 4-21-2006 @	9 15.25		(2)	_		55
Was a Water	course Read	hed?				If YES, Vo	lume Impacting t	he Wate	ercourse	/ ₆		- 37	- 25
			emera-						orcourse,	181	P.		è
If a Watercou	rse was Im	pacted, Descri	be Fully.*							10	-	Pha	
										151	0.	A. Com	
	32									13	6,1		
Describe Con	sa of Proble	m and Dame	11-1 A at	Taken Internal co						165			
		-2	To ppin.	line. The pressur The line was app	TOXIIII	tely 1.5 feet (gs at the release p	point.					h.
Describe Area approximately	Affected a	nd Cleanup A	ction Take	en.* The impacted	soil wa	as excavated	and stockpiled on	plastic.	Aerial ext	ent of surfac	e imp	act was	
	par na na sa s												
public health of should their or	or the environs ha	onment. The	acceptance	is true and comple d/or file certain rel e of a C-141 report investigate and ren ance of a C-141 re	by the	NMOCD ma	rked as "Final Re	port" de	ons for rele ses not relie	ases which a	may en	danger	- 1
Signature	amı	ele t	94	nolds		± 10 = 1000 p	OIL CONS	ERV	ATION	DIVISIO	N		
Printed Name:	Camille Re	ynolds	1 0		A	pproved by I	District Supervisor	r:					
Title: Remedia	tion Coordi	inator			A	pproval Date		P	xpiration D	lota:			\dashv
E-mail Address	s: cjreynold	s@paalp.com		¥:	HILLIAN DEVI	onditions of			APHALION L	rate:			\neg
Date: 4/26/200	6			Phone:505-441-						Attached			
					777								- 1