# AP-96

Plains Lovington Gathering

AGWMR 2014



February 9, 2015

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

Re: Plains All American – 2014 Annual Monitoring Report 1 Site in Lea County, New Mexico

Dear Mr. Griswold:

Plains All American is an operator of crude oil pipelines and terminal facilities in the state of New Mexico. Plains All American actively monitors certain historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico Oil Conservation Division (NMOCD). In accordance with the rules and regulations of the NMOCD, Plains All American hereby submits our Annual Monitoring report for the following site:

Lovington Gathering WTI AP-96 (1R-838) Section 06, T17S, R37E, Lea County

Basin Environmental Service Technologies, LLC (Basin) prepared this document and has vouched for its accuracy and completeness, and on behalf of Plains All American, I have personally reviewed the document and interviewed Basin personnel in order to verify the accuracy and completeness of this document. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Report for the above facility.

If you have any questions or require further information, please contact me at (575) 441-1099.

Sincerely, àmila. Camille Brvant

Remediation Coordinator Plains All American

CC: Thomas Oberding, NMOCD, Hobbs, NM

Enclosures

# Basin Environmental Service Technologies, LLC



3100 Plains HighwayP. O. Box 301 Lovington, New Mexico 88260Office: (575) 396-2378Fax: (575) 396-1429

January 23, 2015

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

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

Dear Mr. Griswold:

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Plains Marketing, LP (Plains), is pleased to submit the attached Annual Monitoring Report, dated December 2014, for the Lovington Gathering WTI release site located in Section 6 of Township 17 South, Range 37 East, in Lea County, New Mexico. The Annual Monitoring Report summarizes groundwater monitoring and remediation activities performed at the site during the 2014 calendar year.

Based on review of laboratory analytical results from monthly, quarterly, and/or semi-annual groundwater samples collected at the Lovington Gathering WTI site from 2009 through 2014, Plains and Basin Environmental propose the following activities for the 2015 monitoring period:

- Continue quarterly monitoring of monitor wells MW-3 and MW-7.
- Continue semi-annual monitoring of monitor wells MW-4 and MW-5.
- Increase the sampling frequency for monitor well MW-1 from semi-annually to quarterly.
- Reduce the sampling frequency for monitor wells MW-6, MW-9, and MW-10 from quarterly to semi-annually.
- Cease groundwater monitoring and plug and abandon monitor wells MW-2 and MW-8.

Plains and Basin Environmental also propose the following changes to groundwater monitoring activities presently conducted at the five (5) locations on the adjacent 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):

- Reduce the sampling frequency for the Goff Dairy and JW Wells from quarterly to semiannually.
- Cease monitoring of the three (3) Center Pivot locations (Goff Dairy Ctr. Pivot Well, Goff Dairy Ctr. Pivot Beginning, and Goff Dairy Ctr. Pivot End).

Page 2 J. Griswold January 23, 2015

Summaries of laboratory analytical results and justifications for the proposed changes are included in Sections 5.0 and 6.0 of the enclosed Annual Monitoring Report.

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

Respectfully,

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

CC: Dr. Tomas Oberding, NMOCD - Hobbs District Office

Enclosure

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#### **2014 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/AP-96

Prepared for:



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

Prepared By:

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

January 2015

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 2014 only.

Groundwater monitoring was conducted during each quarter of 2014 to assess the levels and extent of dissolved phase constituents and phase-separated hydrocarbons (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 a polyurethane plastic liner to mitigate any further hydrocarbon impact to the underlying soil. Approximately twelve barrels (12 bbls) of crude oil were 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 and resulted in a visibly stained surface area measuring approximately one thousand, five hundred square feet (1,500 ft<sup>2</sup>). Excavation activities conducted during the initial response and subsequent remediation of the site covered an area measuring approximately thirty feet (30') in length by twenty-seven feet (27') in width and ranging from in depth from approximately five feet (5') to six feet (6'). Excavated soil was placed on a six-millimeter (6mm) polyurethane plastic liner for future remedial action. Utilizing olfactory and visual senses 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 impacted soil. Eleven (11) soil borings were advanced to depths ranging from approximately thirty feet (30') to approximately 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 monitoring 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 indicated benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbon (TPH) concentrations in all submitted soil samples were less than the appropriate laboratory method detection limit (MDL), with the exception of soil samples collected from monitor well MW-3, which exhibited TPH concentrations of 2,080 mg/kg and 121 mg/kg at fifty-five feet (55') and seventy-five feet (75') bgs, respectively.

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

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

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

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

# 3.0 FIELD ACTIVITIES

# 3.1 Groundwater Remediation Activities

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. The ORC sock was replaced following the November 17, 2014, quarterly monitoring event. An ORC sock was also placed in monitor well MW-7 at this time.

# 3.2 Groundwater Monitoring

Currently, monitor wells MW-2, MW-3, MW-6, MW-7, MW-9, and MW-10 are sampled on a quarterly basis. 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 for monitor wells MW-1, MW-4, MW-5, and MW-8 from quarterly to semiannually. The request was granted by a representative of the NMOCD's Santa Fe District Office on November 4, 2013, and the four (4) wells are currently sampled during the first and third calendar quarters (i.e., January – March and July – September).

Groundwater monitoring events were conducted on February 13 (1Q2014), May 9 (2Q2014), August 7 (3Q2014), and November 17, 2014 (4Q2014) to assess the levels and extent of dissolved-phase constituents in the on-site monitor wells. The groundwater monitoring events consisted of measuring static water levels in the on-site monitor wells (MW-1 through MW-10), checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. The monitor wells were purged using disposable Teflon bailers of a minimum of three (3) well volumes of water, or until the wells were dry. Groundwater was allowed to recharge, and samples were obtained using clean, disposable Teflon bailers. Water samples were stored in clean, plastic or glass containers provided by the laboratory and placed on ice in the field. Purged water was collected in a trailer-mounted polystyrene tank and disposed of at an NMOCD-approved disposal facility near Monument, New Mexico.

Per NMOCD request, quarterly monitoring events were also conducted at five (5) locations (Goff Dairy 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).

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 all four quarterly monitoring events. Similarly, diminished well volume and recharge precluded sample collection from monitor wells MW-4, MW-5, MW-6, and MW-10 during the 3Q2014 monitoring event.

Prior to the 1Q2014, 2Q2014, and 4Q2014 quarterly monitoring events, the Ctr. Pivot Well was valved off to facilitate harvesting activities and/or cattle grazing in the Goff Dairy #9 Pivot, precluding sample collection from the well itself and the two (2) locations on the center pivot (Goff Dairy - Ctr. Pivot Beginning and Goff Dairy - Ctr. Pivot End).

Following the 1Q2014 quarterly/semi-annual monitoring event, several sample vials were broken in transit to the laboratory, which necessitated the resampling of monitor wells MW-1, MW-4, MW-8, and the Goff Dairy Well on February 26, 2014. Similarly, following the 2Q2014 and 3Q2014 monitoring events, laboratory analytical errors necessitated resampling of monitor well MW-3 on September 6, 2014, and monitor well MW-7 on June 24 and August 27, 2014.

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, 4Q2014, 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 3,714.88 feet in monitor well MW-10 and 3,716.09 feet in monitor well MW-5. Groundwater elevation data is provided in Table 1, "Groundwater Elevation Data".

Based on a review of laboratory analytical results and sampling criteria provided by the NMOCD, none of the on-site monitor wells were subject to annual polyaromatic hydrocarbon (PAH) monitoring in 2014.

No PSH was detected in any of the on-site monitor wells during the 2014 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 quarterly and semi-annual monitoring events were delivered to Xenco Laboratories in Odessa, Texas, for determination of BTEX concentrations by EPA Method SW846-8021b. 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".

# 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-2:
  - Diminished well volume and recharge precluded sample collection from monitor well MW-2 during all four quarterly monitoring events of the 2014 reporting period.

# • Monitor Well MW-3:

• Benzene concentrations ranged from 0.0028 mg/L in 1Q2014 to 0.1190 mg/L in 4Q2014. Toluene concentrations ranged from less than the laboratory MDL in 1Q2014, 2Q2014, and 3Q2014 to 0.0069 mg/L in 4Q2014. Ethylbenzene concentrations were less than the laboratory MDL in all submitted groundwater samples. Total xylene concentrations ranged from less than the laboratory MDL in 1Q2014, 2Q2014, and 3Q2014 to 0.0438 mg/L in 4Q2014. Benzene concentrations exceeded the NMWQCC regulatory standard of 0.010 mg/L in 3Q2014 and 4Q2014. Toluene, ethylbenzene, and total xylene concentrations were 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 3Q2014 quarterly monitoring event.

# • Monitor Well MW-7:

• Benzene concentrations ranged from less than the laboratory MDL in 1Q2014 and 2Q2014 to 0.1770 mg/L in 4Q2014. 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 4Q2014. Toluene, ethylbenzene, and total xylene concentrations were less than NMWQCC regulatory standards in all submitted groundwater samples.

# • Monitor Well MW-9:

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

# • Monitor Well MW-10:

- Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all submitted groundwater samples.
- Diminished well volume and recharge precluded sample collection from monitor well MW-10 during the 3Q2014 quarterly monitoring event.

# • 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 during 3Q2014.
- Harvesting activities and cattle grazing precluded sample collection from the well during the 1Q2014, 2Q2014, and 4Q2014 quarterly monitoring events.

• 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 during 3Q2014.
- Harvesting activities and cattle grazing precluded sample collection from the center pivot during the 1Q2014, 2Q2014, and 4Q2014 quarterly monitoring events.

• 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 during 3Q2014.
- Harvesting activities and cattle grazing precluded sample collection from the center pivot during the 1Q2014, 2Q2014, and 4Q2014 quarterly monitoring events.
- 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.

#### 4.2 Semi-Annual Monitoring Data

Data collected during the 1Q2014 and 3Q2014 semi-annual monitoring events is summarized below. Groundwater contaminant concentrations for the semi-annual monitoring events are depicted in Figures 3A through 3D.

#### • Monitor Well MW-1:

Benzene concentrations ranged from 0.0255 mg/L in 3Q2014 to 0.0474 mg/L in 1Q2014. 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 1Q2014 and 3Q2014. 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 during 1Q2014.
- Diminished well volume and recharge precluded sample collection from monitor well MW-4 during the 3Q2014 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 during 1Q2014.
- Diminished well volume and recharge precluded sample collection from monitor well MW-5 during the 3Q2014 quarterly monitoring event.
- 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.

Benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMWQCC regulatory standards in all groundwater samples collected from monitor wells MW-4, MW-5, MW-6, MW-8, MW-9, and MW-10 and the five (5) Goff Dairy locations during the reporting period.

# 5.0 SAMPLING FREQUENCY MODIFICATION REQUESTS

Monitor well MW-6 is sampled on a quarterly basis. Review of laboratory analytical results indicate BTEX constituent concentrations in monitor well MW-6 have been less than NMWQCC regulatory standards in all groundwater samples collected since May 23, 2012, and less than the appropriate laboratory MDL in all groundwater samples collected since February 22, 2013. Monitor well MW-6 was also found to be dry during 3Q2013 and 3Q2014. Plains hereby requests permission to reduce the sampling frequency for monitor well MW-6 from quarterly to semi-annually. Review of historical laboratory analytical data indicates the highest BTEX constituent detections in the well have typically occurred during the first and fourth calendar quarters. Therefore, Plains proposes to sample the monitor well during the first and fourth quarters of each calendar year (i.e., January – March and October – December).

Monitor well MW-9 was placed on a quarterly monitoring schedule with NMOCD approval on November 4, 2013. Review of laboratory analytical results indicate BTEX constituent concentrations in monitor well MW-9 have been less than NMWQCC regulatory standards in all monthly and/or quarterly groundwater samples collected since March 22, 2011, and less than the appropriate laboratory MDL in all groundwater samples collected since December 14, 2011. Plains hereby requests permission to reduce the sampling frequency for monitor well MW-9 from quarterly to semi-annually. Review of historical laboratory analytical data indicates the highest BTEX constituent detections in the well have typically occurred during the first and third calendar quarters. Therefore, Plains proposes to sample the monitor well during the first and third quarters of each calendar year (i.e., January – March and July – September).

Monitor well MW-10 was placed on a quarterly monitoring schedule with NMOCD approval on November 4, 2013. Review of laboratory analytical results indicate BTEX constituent concentrations in monitor well MW-10 have been less than NMWQCC regulatory standards in all monthly and/or quarterly groundwater samples collected since November 9, 2011, and less than the appropriate

laboratory MDL in all groundwater samples collected since November 27, 2012. Monitor well MW-10 was also found to be dry in 3Q2012, 3Q2013, and 3Q2014. Plains hereby requests permission to reduce the sampling frequency for monitor well MW-10 from quarterly to semi-annually. Review of historical laboratory analytical data indicates the highest BTEX constituent detections in the well have typically occurred during the first and third calendar quarters. Therefore, Plains proposes to sample the monitor well during the first and third quarters of each calendar year (i.e., January – March and July – September).

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) were placed on a quarterly monitoring schedule with NMOCD approval on November 4, 2013. BTEX constituent concentrations in the Goff Dairy Well have been both less than NMWQCC regulatory standards and less than the appropriate laboratory MDL in all monthly and/or quarterly groundwater samples collected since March 1, 2012. BTEX constituent concentrations in the JW Well have been both less than NMWQCC regulatory standards and less than the appropriate laboratory MDL in all monthly and/or quarterly groundwater samples collected since sampling was initiated on July 14, 2011. Plains hereby requests permission to reduce the sampling frequency for the Goff Dairy and JW Wells from quarterly to semi-annually. Plains proposes to sample the wells during the first and third quarters of each calendar year (i.e., January – March and July – September).

Due to frequent harvesting activities and cattle grazing on the Goff Dairy #9 Pivot, only one (1) quarterly sample was able to be collected from the three (3) Center Pivot locations (Goff Dairy - Ctr. Pivot Well, Goff Dairy - Ctr. Pivot Beginning, and Goff Dairy - Ctr. Pivot End) during the 2014 monitoring period. Since there have been no detections of BTEX constituents at any of the Center Pivot locations since sampling commenced on July 7, 2011, Plains hereby requests permission to cease groundwater monitoring activities at these three (3) locations.

Monitor well MW-1 was placed on a semi-annual monitoring schedule with NMOCD approval on November 4, 2013. Review of laboratory analytical results indicates benzene concentrations in the well exceeded NMWQCC regulatory standards in 1Q2014 and 3Q2014. Based on these laboratory analytical results, Plains proposes to increase the sampling frequency for monitor well MW-1 from semi-annual to quarterly.

# 6.0 MONITOR WELL PLUGGING REQUEST

Monitor well MW-2 has been found to be dry during eleven (11) of the last thirteen (13) quarterly monitoring events, and no groundwater samples have been able to be obtained from the well since 2Q2013. Laboratory analytical results indicate BTEX constituent concentrations were less than NMWQCC regulatory standards in the only two (2) groundwater samples that have been able to be obtained from the monitor well since 3Q2011.

Monitor well MW-8 was placed on a semi-annual monitoring schedule with NMOCD approval on November 4, 2013. Review of laboratory analytical results indicate BTEX constituent concentrations in monitor well MW-8 have been less than NMWQCC regulatory standards in all quarterly and/or semi-annual groundwater samples collected since June 18, 2009, and less than the appropriate laboratory MDL in all groundwater samples collected since August 24, 2011.

Based on the information presented above, Plains hereby requests permission to cease groundwater monitoring activities at monitor wells MW-2 and MW-8 and to plug and abandon (P&A) the monitor wells pursuant to NMOSE and NMOCD regulatory requirements.

# 7.0 ANTICIPATED ACTIONS

The following table summarizes the proposed monitor well P&A and sampling schedule changes detailed in Sections 5.0 and 6.0 above:

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

Quarterly monitoring and groundwater sampling of monitor wells MW-1, MW-3, and MW-7 will continue throughout the 2014 calendar year. Semi-annual monitoring of monitor wells MW-4, MW-5, MW-6, MW-9, MW-10, the Goff Dairy Well, and the JW Well will continue throughout the 2014 calendar year.

The ORC filter socks installed in monitor wells MW-3 and MW-7 to facilitate enhanced aerobic biodegradation of the dissolved-phase plume will be inspected and replaced (if necessary) on a quarterly basis.

An *Annual Monitoring Report* for the 2015 reporting period will be submitted to the NMOCD by April 1, 2016.

#### **8.0 LIMITATIONS**

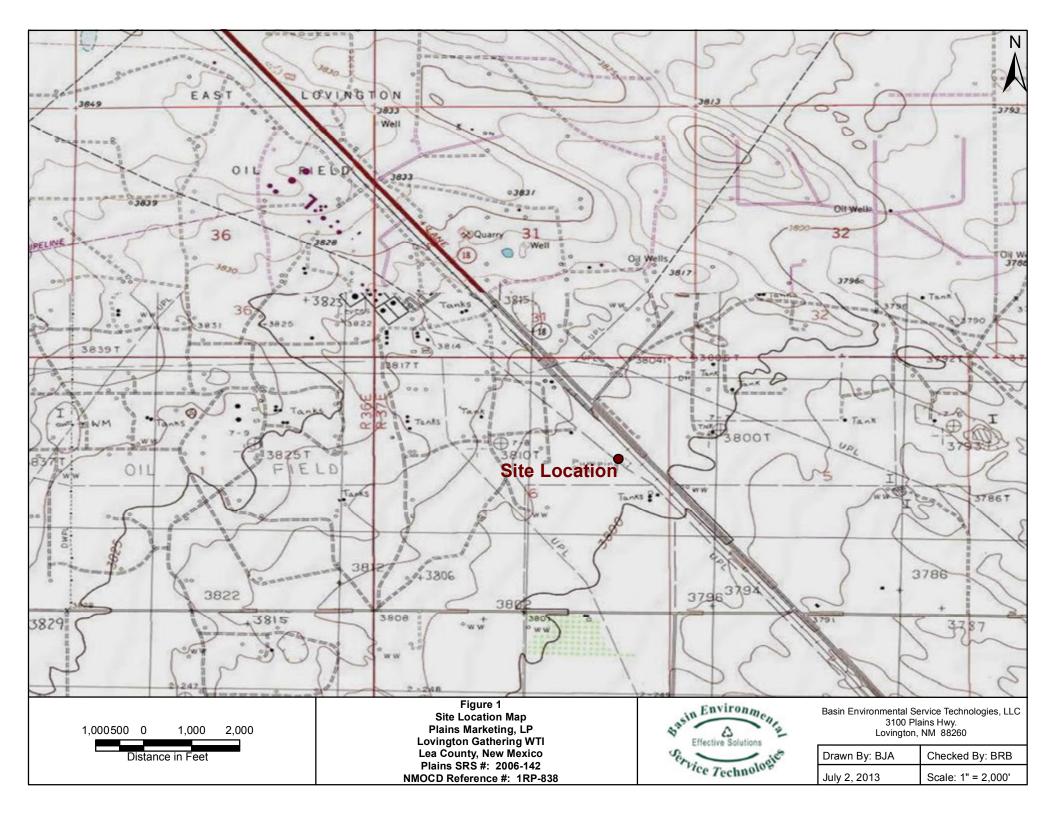
Basin Environmental Service Technologies, LLC, has prepared this *Quarterly Monitoring Report* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain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

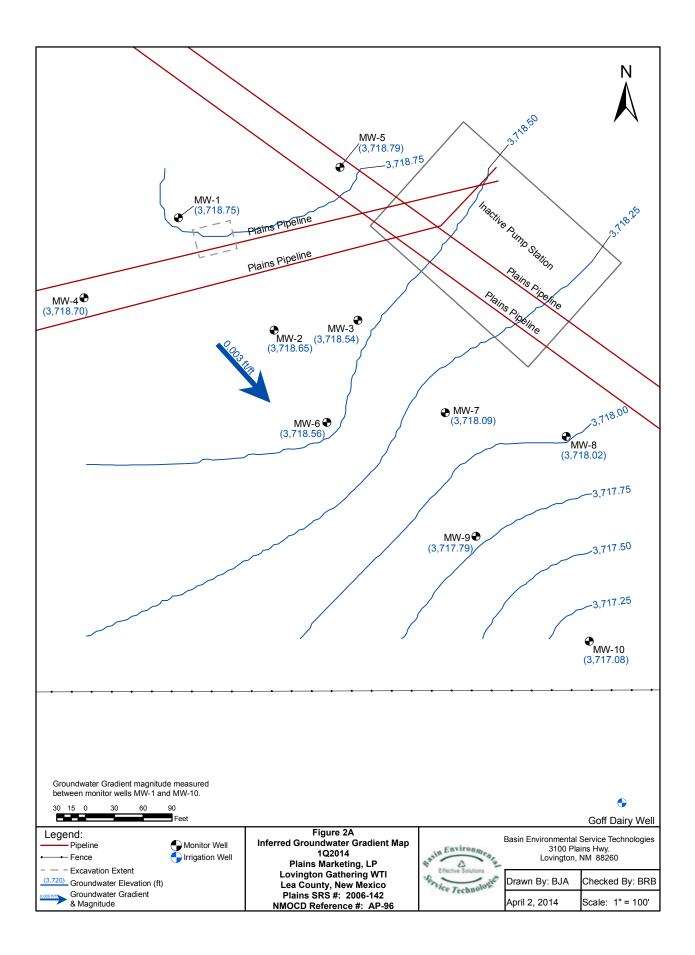
This report has been prepared for the benefit of Plains Marketing, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Marketing, LP.

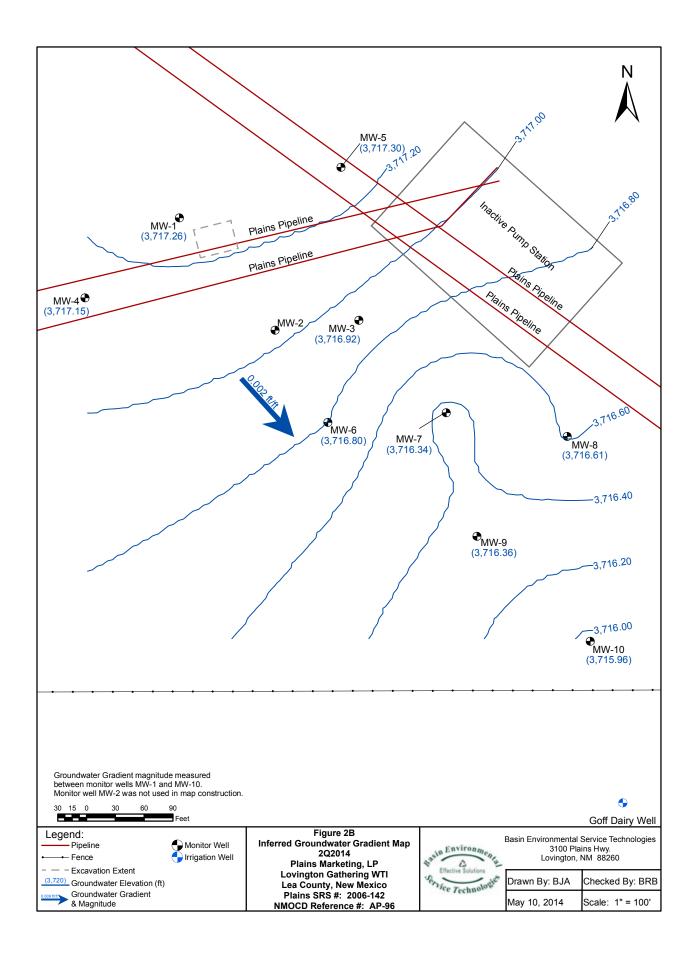
# 9.0 DISTRIBUTION

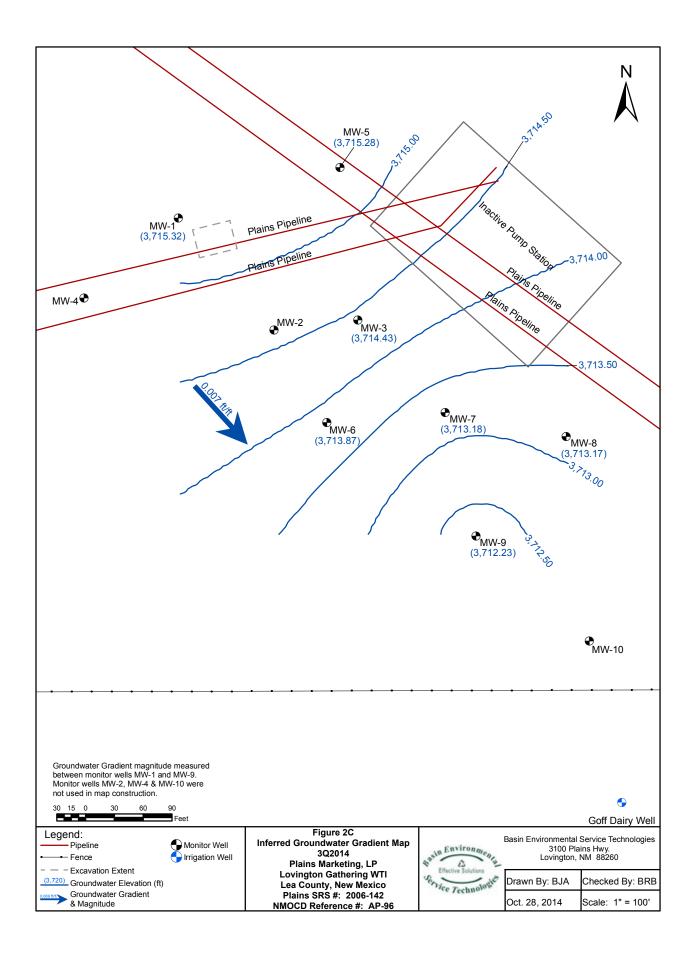
Copy 1:	Jim Griswold New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505 Edwardj.hansen@state.nm.us
Copy 2:	Dr. Tomas Oberding New Mexico Oil Conservation Division 1625 N. French Drive Hobbs, New Mexico 88240 tomas.oberding@state.nm.us
Copy 3:	Jeff Dann Plains Marketing, L.P. 333 Clay Street Suite 1600 Houston, Texas 77002 jpdann@paalp.com
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Copy 5:	Basin Environmental Service Technologies, LLC P. O. Box 301 Lovington, New Mexico 88260 bjarguijo@basinenv.com

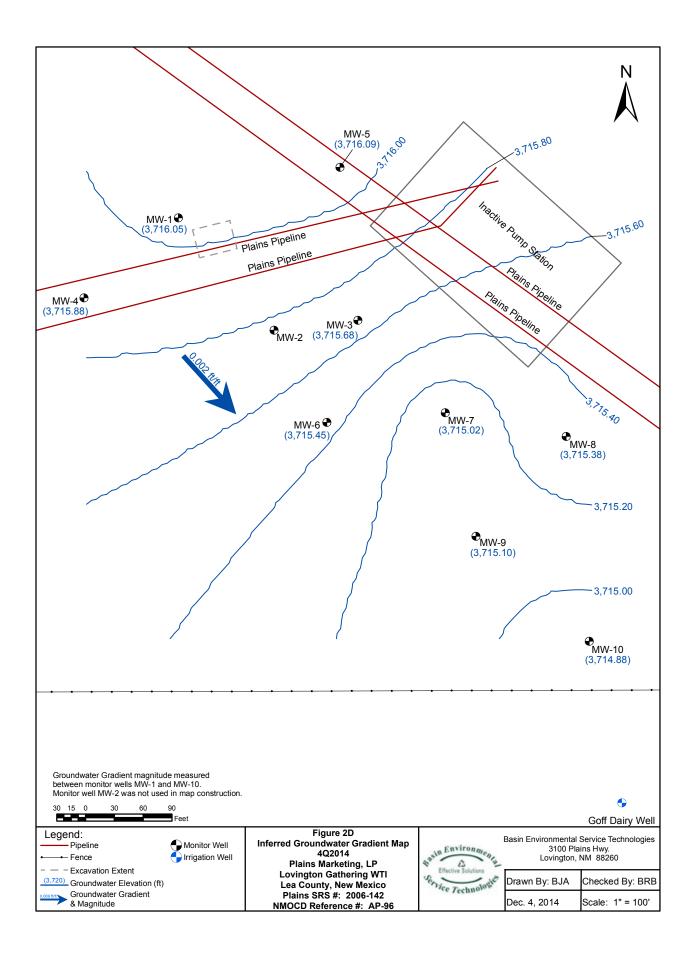
# Figures

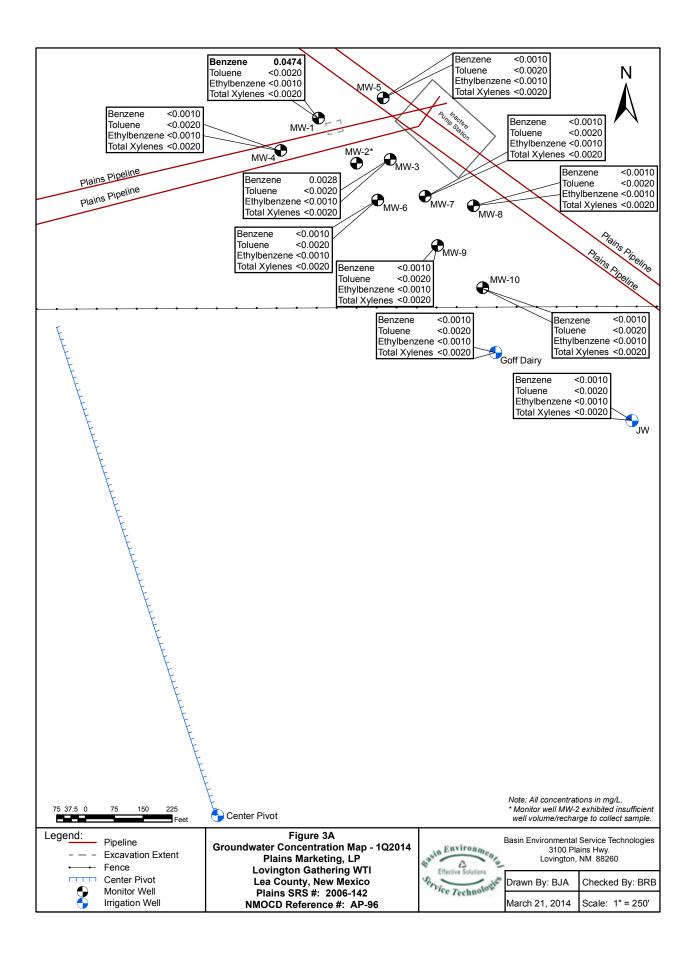


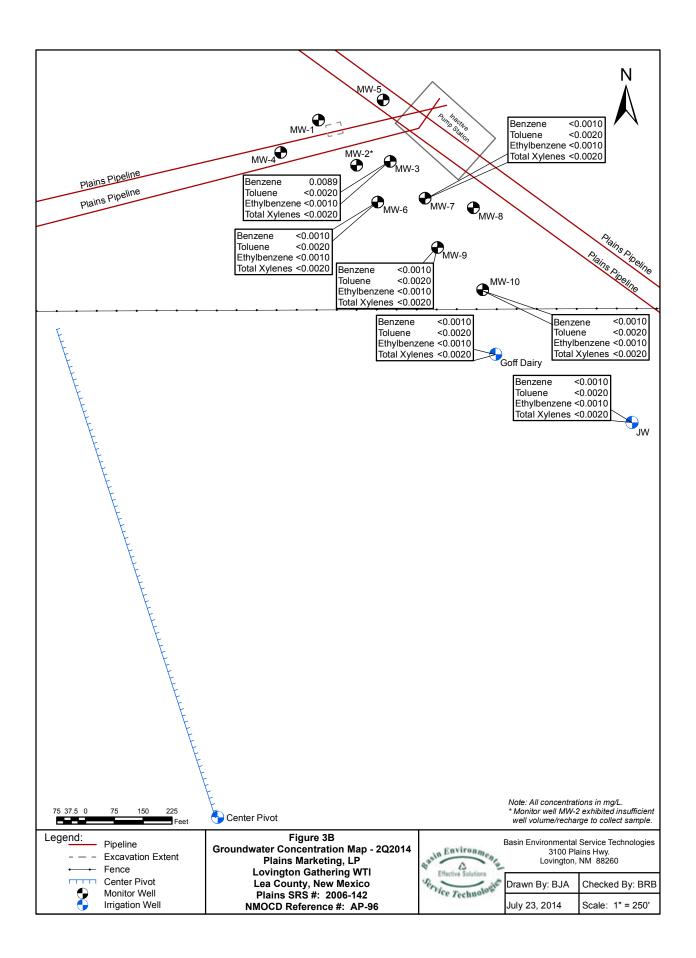


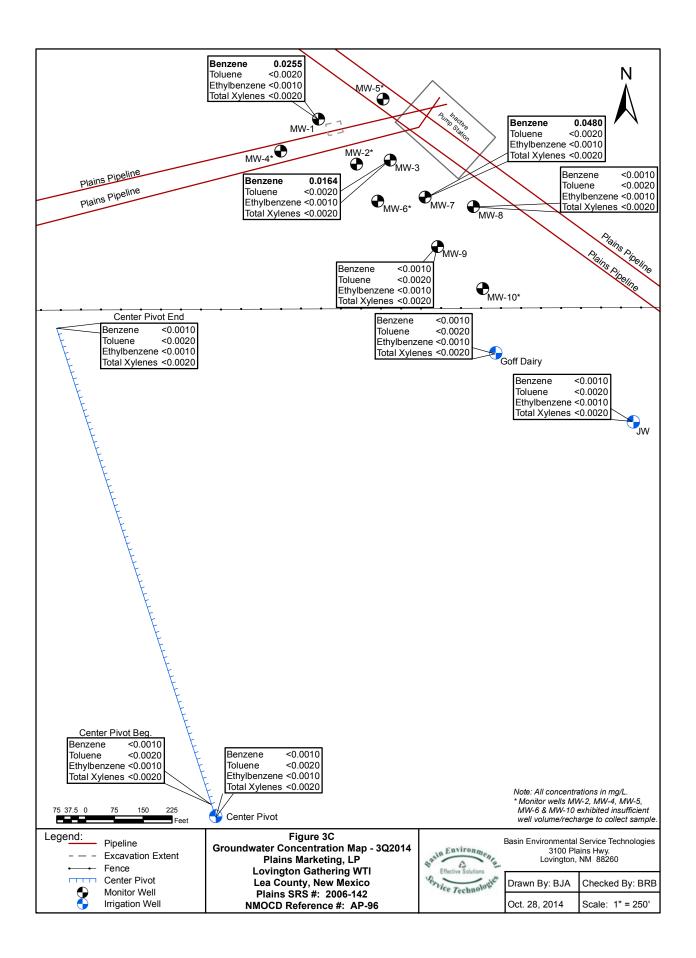


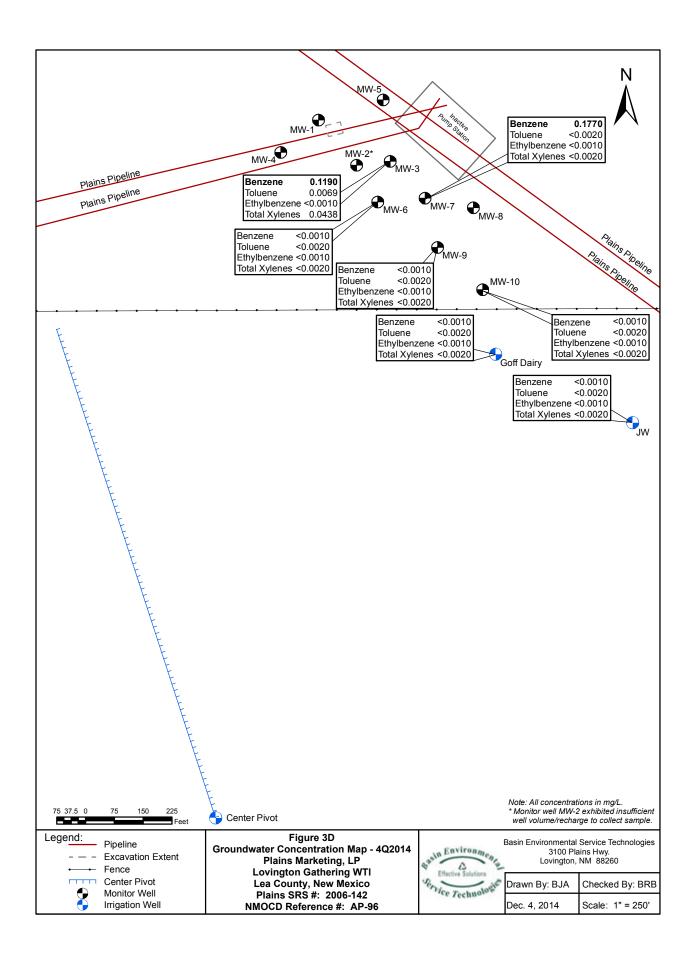












# Tables

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-1	10/05/06	3,806.60	-	78.00	-	3,728.60
	12/28/06	3,806.60	-	78.00	-	3,728.60
	03/16/07	3,806.60	-	79.50	-	3,727.10
	05/31/07	3,806.60	-	78.97	-	3,727.63
	09/25/07	3,806.60	-	80.16	-	3,726.44
	11/30/07	3,806.60	-	79.94	-	3,726.66
	03/11/08	3,806.60	-	79.82	-	3,726.78
	06/14/08	3,806.60	-	81.44	-	3,725.16
	09/17/08	3,806.60	-	81.27	-	3,725.33
	12/02/08	3,806.60	-	81.05	-	3,725.55
	03/03/09	3,806.60	-	81.56	-	3,725.04
	06/18/09	3,806.60	-	82.95	-	3,723.65
	09/01/09	3,806.60	-	84.36	-	3,722.24
	12/18/09	3,806.60	-	83.00	-	3,723.60
	03/04/10	3,806.60	-	82.23	-	3,724.37
	05/25/10	3,806.60	-	82.83	-	3,723.77
	08/30/10	3,806.60	-	85.37	-	3,721.23
	11/11/10	3,806.60	-	83.00	-	3,723.60
	03/22/11	3,806.60	-	85.07	-	3,721.53
	05/27/11	3,806.60	-	86.56	-	3,720.04
	08/24/11	3,806.60	-	88.80	-	3,717.80
	11/09/11	3,806.60	-	87.80	-	3,718.80
	02/06/12	3,806.60	-	86.30	-	3,720.30
	05/23/12	3,806.60	-	87.88	-	3,718.72
	08/28/12	3,806.60	-	89.25	-	3,717.35
	11/27/12	3,806.60	-	88.83	-	3,717.77
	02/22/13	3,806.60	-	87.53	-	3,719.07
	05/23/13	3,806.60	-	89.37	-	3,717.23
	08/21/13	3,806.60	-	89.56	-	3,717.04
	02/13/14	3,806.60	-	87.85	-	3,718.75
	05/09/14	3,806.60	-	89.34	-	3,717.26
	08/07/14	3,806.60	-	91.28	-	3,715.32
	11/17/14	3,806.60	-	90.55	-	3,716.05
MW-2	10/05/06	3,806.31	-	77.94	-	3,728.37
	12/28/06	3,806.31	-	77.94	-	3,728.37
	03/16/07	3,806.31	-	79.13	-	3,727.18
	05/31/07	3,806.31	-	78.82	-	3,727.49
	09/25/07	3,806.31	-	80.13	-	3,726.18
	11/30/07	3,806.31	-	79.88	-	3,726.43
	03/11/08	3,806.31	-	80.09	-	3,726.22

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-2	06/14/08	3,806.31	-	81.73	-	3,724.58
	09/17/08	3,806.31	-	81.20	-	3,725.11
	12/02/08	3,806.31	-	80.92	-	3,725.39
	03/03/09	3,806.31	-	81.60	-	3,724.71
	06/18/09	3,806.31	-	83.22	-	3,723.09
	09/01/09	3,806.31	-	84.61	-	3,721.70
	12/18/09	3,806.31	-	82.90	-	3,723.41
	03/04/10	3,806.31	-	82.04	-	3,724.27
	05/25/10	3,806.31	-	82.72	-	3,723.59
	08/30/10	3,806.31	-	85.73	-	3,720.58
	11/11/10	3,806.31	-	82.90	-	3,723.41
	03/22/11	3,806.31	-	85.30	-	3,721.01
	05/27/11	3,806.31	-	87.11	-	3,719.20
	08/24/11	3,806.31	-	87.55	-	3,718.76
	11/09/11	3,806.31	-	88.10	-	3,719.21
	02/06/12	3,806.31	-	84.20	-	3,722.11
	05/23/12	3,806.31	-	Dry	-	Dry
	08/28/12	3,806.31	-	Dry	-	Dry
	11/27/12	3,806.31	-	Dry	-	Dry
	02/22/13	3,806.31	-	87.41	-	3,718.90
	05/23/13	3,806.31	-	Dry	-	Dry
	08/21/13	3,806.31	-	Dry	-	Dry
	02/13/14	3,806.31	-	87.66	-	3,718.65
	05/09/14	3,806.31	-	Dry	-	Dry
	08/07/14	3,806.31	-	Dry	-	Dry
	11/17/14	3,806.31	-	Dry	-	Dry
						,
MW-3	10/05/06	3,806.19	-	77.85	-	3,728.34
	12/28/06	3,806.19	-	77.85	-	3,728.34
	03/16/07	3,806.19	-	79.13	-	3,727.06
	05/31/07	3,806.19	-	78.73	-	3,727.46
	09/25/07	3,806.19	-	80.03	-	3,726.16
	11/30/07	3,806.19	-	79.77	-	3,726.42
	03/11/08	3,806.19	-	80.50	-	3,725.69
	06/14/08	3,806.19	-	81.72	-	3,724.47
	09/17/08	3,806.19	-	81.10	-	3,725.09
	12/02/08	3,806.19	-	80.79	-	3,725.40
	03/03/09	3,806.19	-	81.56	-	3,724.63
	06/18/09	3,806.19	-	83.25	-	3,722.94
	09/01/09	3,806.19	-	84.55	-	3,721.64
	12/18/09	3,806.19	-	82.76	-	3,723.43

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-3	03/04/10	3,806.19	-	81.91	-	3,724.28
	05/25/10	3,806.19	-	82.63	-	3,723.56
	08/30/10	3,806.19	-	85.74	-	3,720.45
	11/11/10	3,806.19	-	82.76	-	3,723.43
	03/22/11	3,806.19	-	82.35	-	3,723.84
	05/27/11	3,806.19	-	86.98	-	3,719.21
	08/24/11	3,806.19	-	89.20	-	3,716.99
	11/09/11	3,806.19	-	88.10	-	3,719.09
	02/06/12	3,806.19	-	85.90	-	3,720.29
	05/23/12	3,806.19	-	88.20	-	3,717.99
	08/28/12	3,806.19	-	89.40	-	3,716.79
	11/27/12	3,806.19	-	88.84	-	3,717.35
	02/22/13	3,806.19	-	87.37	-	3,718.82
	05/23/13	3,806.19	-	89.34	-	3,716.85
	08/21/13	3,806.19	-	91.02	-	3,715.17
	02/13/14	3,806.19	-	87.65	-	3,718.54
	05/09/14	3,806.19	-	89.27	-	3,716.92
	08/07/14	3,806.19	-	91.76	-	3,714.43
	11/17/14	3,806.19	-	90.51	-	3,715.68
MW-4	12/28/06	3,806.67	-	78.73	-	3,727.94
	03/16/07	3,806.67	-	79.17	-	3,727.50
	05/30/07	3,806.67	-	79.09	-	3,727.58
	09/25/07	3,806.67	-	80.35	-	3,726.32
	11/30/07	3,806.67	-	80.09	-	3,726.58
	03/11/08	3,806.67	-	79.95	-	3,726.72
	06/14/08	3,806.67	-	81.60	-	3,725.07
	09/17/08	3,806.67	-	81.41	-	3,725.26
	12/02/08	3,806.67	-	81.13	-	3,725.54
	03/03/09	3,806.67	-	81.67	-	3,725.00
	06/18/09	3,806.67	-	83.13	-	3,723.54
	09/01/09	3,806.67	-	84.54	-	3,722.13
	12/18/09	3,806.67	-	83.14	-	3,723.53
	03/04/10	3,806.67	-	82.33	-	3,724.34
	05/25/10	3,806.67	-	82.94	-	3,723.73
	08/30/10	3,806.67	-	85.57	-	3,721.10
	11/11/10	3,806.67	-	83.14	-	3,723.53
	03/22/11	3,806.67	-	85.21	-	3,721.46
	05/27/11	3,806.67	-	86.77	-	3,719.90
	08/24/11	3,806.67	-	89.00	-	3,717.67
	11/09/11	3,806.67	-	88.20	-	3,719.47

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-4	02/06/12	3,806.67	-	86.45	-	3,720.22
	05/23/12	3,806.67	-	88.15	-	3,718.52
	08/28/12	3,806.67	-	89.87	-	3,716.80
	11/27/12	3,806.67	-	89.05	-	3,717.62
	02/22/13	3,806.67	-	87.69	-	3,718.98
	05/23/13	3,806.67	-	89.65	-	3,717.02
	08/21/13	3,806.67	-	Dry	-	Dry
	02/13/14	3,806.67	-	87.97	-	3,718.70
	05/09/14	3,806.67	-	89.52	-	3,717.15
	08/07/14	3,806.31	-	Dry	-	Dry
	11/17/14	3,806.67	-	90.79	-	3,715.88
MW-5	12/28/06	3,806.30	-	78.23	-	3,728.07
	03/16/07	3,806.30	-	78.79	-	3,727.51
	05/30/07	3,806.30	-	78.71	-	3,727.59
	09/25/07	3,806.30	-	79.89	-	3,726.41
	11/30/07	3,806.30	-	79.61	-	3,726.69
	03/11/08	3,806.30	-	79.61	-	3,726.69
	06/14/08	3,806.30	-	81.20	-	3,725.10
	09/17/08	3,806.30	-	80.96	-	3,725.34
	12/02/08	3,806.30	-	80.75	-	3,725.55
	03/03/09	3,806.30	-	81.33	-	3,724.97
	06/18/09	3,806.30	-	82.71	-	3,723.59
	09/01/09	3,806.30	-	84.07	-	3,722.23
	12/18/09	3,806.30	-	82.70	-	3,723.60
	03/04/10	3,806.30	-	81.95	-	3,724.35
	05/25/10	3,806.30	-	82.55	-	3,723.75
	08/30/10	3,806.30	-	85.09	-	3,721.21
	11/11/10	3,806.30	-	82.70	-	3,723.60
	03/22/11	3,806.30	-	84.83	-	3,721.47
	05/27/11	3,806.30	-	86.26	-	3,720.04
	08/24/11	3,806.30	-	88.50	-	3,717.80
	11/09/11	3,806.30	-	87.50	-	3,719.80
	02/06/12	3,806.30	-	86.00	-	3,720.30
	05/23/12	3,806.30	-	87.60	-	3,718.70
	08/28/12	3,806.30	-	88.95	-	3,717.35
	11/27/12	3,806.30	-	88.43	-	3,717.87
	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
	02/13/14	3,806.30	-	87.51	-	3,718.79

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-5	05/09/14	3,806.30	-	89.00	-	3,717.30
	08/07/14	3,806.30	-	91.02	-	3,715.28
	11/17/14	3,806.30	-	90.21	-	3,716.09
MW-6	12/28/06	3,806.08	-	78.42	-	3,727.66
	03/16/07	3,806.08	-	79.20	-	3,726.88
	05/30/07	3,806.08	-	78.75	-	3,727.33
	09/25/07	3,806.08	-	80.10	-	3,725.98
	11/30/07	3,806.08	-	79.73	-	3,726.35
	03/11/08	3,806.08	-	79.95	-	3,726.13
	06/14/08	3,806.08	-	82.01	-	3,724.07
	09/17/08	3,806.08	-	81.09	-	3,724.99
	12/02/08	3,806.08	-	80.77	-	3,725.31
	03/03/09	3,806.08	-	81.67	-	3,724.41
	06/18/09	3,806.08	-	83.48	-	3,722.60
	09/01/09	3,806.08	-	84.83	-	3,721.25
	12/18/09	3,806.08	-	82.75	-	3,723.33
	03/04/10	3,806.08	-	81.86	-	3,724.22
	05/25/10	3,806.08	-	82.65	-	3,723.43
	08/30/10	3,806.08	-	92.36	-	3,713.72
	11/11/10	3,806.08	-	82.75	-	3,723.33
	03/22/11	3,806.08	-	85.64	-	3,720.44
	05/27/11	3,806.08	-	87.34	-	3,718.74
	08/24/11	3,806.08	-	89.70	-	3,716.38
	11/09/11	3,806.08	-	88.40	-	3,718.68
	02/06/12	3,806.08	-	86.00	-	3,720.08
	05/23/12	3,806.08	-	89.58	-	3,716.50
	08/28/12	3,806.08	-	89.40	-	3,716.68
	11/27/12	3,806.08	-	89.02	-	3,717.06
	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	-	Dry
	02/13/14	3,806.08	-	87.52	-	3,718.56
	05/09/14	3,806.08	_	89.28	-	3,716.80
	08/07/14	3,806.08		92.21	-	3,713.87
	11/17/14	3,806.08	-	90.63	-	3,715.45
MW-7	12/28/06	3,806.05	-	78.40	-	3,727.65
	03/16/07	3,806.05	-	79.35	-	3,726.70
	05/31/07	3,806.05	-	78.71	-	3,727.34
	09/25/07	3,806.05	-	80.09	-	3,725.96

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-7	11/30/07	3,806.05	-	79.80	-	3,726.25
	03/11/08	3,806.05	-	80.32	-	3,725.73
	06/14/08	3,806.05	-	81.19	-	3,724.86
	09/17/08	3,806.05	-	81.08	-	3,724.97
	12/02/08	3,806.05	-	80.70	-	3,725.35
	03/03/09	3,806.05	-	81.75	-	3,724.30
	06/18/09	3,806.05	-	83.63	-	3,722.42
	09/01/09	3,806.05	-	84.91	-	3,721.14
	12/18/09	3,806.05	-	83.16	-	3,722.89
	03/04/10	3,806.05	-	82.25	-	3,723.80
	05/25/10	3,806.05	-	83.10	-	3,722.95
	08/30/10	3,806.05	-	86.80	-	3,719.25
	11/11/10	3,806.05	-	83.16	-	3,722.89
	03/22/11	3,806.05	-	86.33	-	3,719.72
	05/27/11	3,806.05	-	87.93	-	3,718.12
	08/24/11	3,806.05	-	90.30	-	3,715.75
	11/09/11	3,806.05	-	88.00	-	3,719.05
	02/06/12	3,806.05	-	86.35	-	3,719.70
	05/23/12	3,806.05	-	89.25	-	3,716.80
	08/28/12	3,806.05	-	89.90	-	3,716.15
	11/27/12	3,806.05	-	89.51	-	3,716.54
	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
	02/13/14	3,806.05	-	88.25	-	3,717.80
	05/09/14	3,806.05	-	89.71	-	3,716.34
	08/07/14	3,806.05	-	92.87	-	3,713.18
	11/17/14	3,806.05	-	91.03	-	3,715.02
MW-8	03/16/07	3,805.89	-	78.78	-	3,727.11
	05/31/07	3,805.89	-	78.64	-	3,727.25
	09/25/07	3,805.89	-	80.03	-	3,725.86
	11/30/07	3,805.89	-	79.70	-	3,726.19
	03/11/08	3,805.89	-	80.16	-	3,725.73
	06/14/08	3,805.89	_	82.38	-	3,723.51
	09/17/08	3,805.89	_	80.97	-	3,724.92
	12/02/08	3,805.89	-	80.58	-	3,725.31
	03/03/09	3,805.89	-	81.79	-	3,724.10
	06/18/09	3,805.89	_	83.79	-	3,722.10
	09/01/09	3,805.89		84.98	-	3,720.91
	12/18/09	3,805.89	-	82.59	-	3,723.30

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-8	03/04/10	3,805.89	-	81.71	-	3,724.18
	05/25/10	3,805.89	-	82.59	-	3,723.30
	08/30/10	3,805.89	-	86.58	-	3,719.31
	11/11/10	3,805.89	-	82.59	-	3,723.30
	03/22/11	3,805.89	-	86.11	-	3,719.78
	05/27/11	3,805.89	-	87.68	-	3,718.21
	08/24/11	3,805.89	-	90.20	-	3,715.69
	11/09/11	3,805.89	-	88.36	-	3,718.53
	02/06/12	3,805.89	-	85.80	-	3,720.09
	05/23/12	3,805.89	-	88.78	-	3,717.11
	08/28/12	3,805.89	-	89.99	-	3,715.90
	11/27/12	3,805.89	-	89.07	-	3,716.82
	02/22/13	3,805.89	-	87.32	-	3,718.57
	05/23/13	3,805.89	-	89.55	-	3,716.34
	08/21/13	3,805.89	-	89.82	-	3,716.07
	02/13/14	3,805.89	-	87.87	-	3,718.02
	05/09/14	3,805.89	-	89.28	-	3,716.61
	08/07/14	3,805.89	-	92.72	-	3,713.17
	11/17/14	3,805.89	-	90.51	-	3,715.38
MW-9	09/25/07	3,806.02	-	80.38	-	3,725.64
	11/30/07	3,806.02	-	79.89	-	3,726.13
	03/11/08	3,806.02	-	80.69	-	3,725.33
	06/14/08	3,806.02	-	83.11	-	3,722.91
	09/17/08	3,806.02	-	81.19	-	3,724.83
	12/02/08	3,806.02	-	80.81	-	3,725.21
	03/03/09	3,806.02	-	82.29	-	3,723.73
	06/18/09	3,806.02	-	84.45	-	3,721.57
	09/01/09	3,806.02	-	85.61	-	3,720.41
	10/05/09	3,806.02	-	84.59	-	3,721.43
	12/18/09	3,806.02	-	82.90	-	3,723.12
	03/04/10	3,806.02	-	81.96	-	3,724.06
	05/25/10	3,806.02	-	83.08	-	3,722.94
	08/30/10	3,806.02	-	87.62	-	3,718.40
	11/11/10	3,806.02	-	84.59	-	3,721.43
	03/22/11	3,806.02	-	87.01	-	3,719.01
	05/27/11	3,806.02	-	88.61	-	3,717.41
	08/24/11	3,806.02	-	91.30	-	3,714.72
	11/09/11	3,806.02	-	89.15	-	3,717.87
	12/14/11	3,806.02	-	91.25	-	3,714.77
	01/05/12	3,806.02	-	86.26	-	3,719.76

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-9	02/06/12	3,806.02	-	86.20	-	3,719.82
	03/01/12	3,806.02	-	86.40	-	3,719.62
	04/18/12	3,806.02	-	87.68	-	3,718.34
	05/23/12	3,806.02	-	88.82	-	3,717.20
	06/19/12	3,806.02	-	87.75	-	3,718.27
	07/30/12	3,806.02	-	89.92	-	3,716.10
	08/28/12	3,806.02	-	92.34	-	3,713.68
	09/11/12	3,806.02	-	89.57	-	3,716.45
	10/31/12	3,806.02	-	89.71	-	3,716.31
	11/27/12	3,806.02	-	89.13	-	3,716.89
	12/19/12	3,806.02	-	89.30	-	3,716.72
	01/30/13	3,806.02	-	87.58	-	3,718.44
	02/22/13	3,806.02	-	87.68	-	3,718.34
	03/27/13	3,806.02	-	87.69	-	3,718.33
	04/09/13	3,806.02	-	91.08	-	3,714.94
	05/29/13	3,806.02	-	90.03	-	3,715.99
	06/25/13	3,806.02	-	90.76	-	3,715.26
	07/16/13	3,806.02	-	92.21	-	3,713.81
	08/21/13	3,806.02	-	91.83	-	3,714.19
	09/19/13	3,806.02	-	91.96	-	3,714.06
	10/23/13	3,806.02	-	90.14	-	3,715.88
	02/13/14	3,806.02	-	92.19	-	3,713.83
	05/09/14	3,806.02	-	89.66	-	3,716.36
	08/07/14	3,806.02	-	93.79	-	3,712.23
	11/17/14	3,806.02	-	90.92	-	3,715.10
MW-10	11/02/09	3,806.08	-	82.99	-	3,723.09
	12/18/09	3,806.08	_	82.94	-	3,723.14
	03/04/10	3,806.08	-	82.03	-	3,724.05
	05/25/10	3,806.08	-	83.44	-	3,722.64
	08/30/10	3,806.08	-	90.15	-	3.715.93
	11/11/10	3,806.08	-	83.44	-	3,722.64
	03/22/11	3,806.08	-	89.55	-	3,716.53
	05/27/11	3,806.08	-	91.22	-	3,714.86
	08/24/11	3,806.08	-	94.20	-	3,711.88
	10/10/11	3,806.08	-	91.40	-	3,714.68
	10/31/11	3,806.08	_	91.65	-	3,714.43
	11/09/11	3,806.08	_	90.85	-	3,715.23
	12/14/11	3,806.08	-	91.60	-	3,714.48
	01/05/12	3,806.08	-	86.30	-	3,719.78
	02/06/12	3,806.08	_	90.10	-	3,715.98

#### TABLE 1 GROUNDWATER ELEVATION DATA

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

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-10	03/01/12	3,806.08	-	90.25	-	3,715.83
	04/18/12	3,806.08	-	88.82	-	3,717.26
	05/23/12	3,806.08	-	91.55	-	3,714.53
	06/19/12	3,806.08	-	86.75	-	3,719.33
	07/30/12	3,806.08	-	Dry	-	Dry
	08/28/12	3,806.08	-	94.98	-	3,711.10
	09/11/12	3,806.08	-	93.72	-	3,712.36
	10/31/12	3,806.08	-	90.25	-	3,715.83
	11/27/12	3,806.08	-	90.84	-	3,715.24
	12/19/12	3,806.08	-	91.10	-	3,714.98
	01/30/13	3,806.08	-	87.67	-	3,718.41
	02/22/13	3,806.08	-	89.99	-	3,716.09
	03/27/13	3,806.08	-	89.91	-	3,716.17
	04/09/13	3,806.08	-	93.48	-	3,712.60
	05/23/13	3,806.08	-	90.14	-	3,715.94
	06/25/13	3,806.08	-	92.77	-	3,713.31
	07/16/13	3,806.08	-	92.75	-	3,713.33
	08/21/13	3,806.08	-	Dry	-	Dry
	09/19/13	3,806.08	-	Dry	-	Dry
	10/23/13	3,806.08	-	89.91	-	3,716.17
	02/13/14	3,806.08	-	89.00	-	3,717.08
	05/09/14	3,806.08	-	90.12	-	3,715.96
	08/07/14	3,806.31	-	Dry	-	Dry
	11/17/14	3,806.08	-	91.20	-	3,714.88

Elevations based on the North American Vertical Datum of 1929.

- = Not applicable

					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-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	0.0020	0.0020	-	-
	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	0.0200	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0200	-	-
	12/02/08	0.0350	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0350	-	-
	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	-	-
	02/26/14	0.0474	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0474	-	-
	08/07/14	0.0255	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0255	-	-
MW-2	10/05/06	0.0100	<0.0010	<0.0010	<0.0010	< 0.0010	<0.0010	0.0100	-	-
	12/28/06	0.1610	<0.0010	<0.0010	0.0240	< 0.0010	0.0240	0.1850	-	-
	03/16/07	0.1540	< 0.0010	< 0.0010	0.0150	< 0.0010	0.0150	0.1690	-	-
	05/31/07	0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0050	-	-
	09/25/07	0.0500	< 0.0010	< 0.0010	0.0030	< 0.0010	0.0030	0.0530	-	-
	11/30/07	0.9280	< 0.0010	< 0.005	0.0360	< 0.005	0.0360	0.9640	-	-
	03/11/08	0.0950	< 0.0020	< 0.0010	0.0032	< 0.0010	0.0032	0.0982	-	-
	06/14/08	0.0030	< 0.0020	< 0.0010	< 0.0020	<0.0010	< 0.0020	0.0030	-	-
	09/17/08	0.1590	< 0.0020	< 0.0010	0.0040	<0.0010	0.0040	0.1630	-	-
	12/02/08	0.0500	0.0020	< 0.0010	0.0070	0.0010	0.0080	0.0600	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C				
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P- XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)	FLUORIDE (mg/L)	CHROMIUM (mg/L)				
MW-2	03/03/09	0.0356	<0.0020	<0.0010	0.0026	<0.0010	0.0026	0.0382	-	-				
	06/18/09	0.0097	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0097	-	-				
	09/01/09	0.0842	<0.0020	<0.0010	0.0083	<0.0010	0.0083	0.0925	-	-				
	12/18/09	0.0129	<0.0020	<0.0010	0.0095	<0.0010	0.0095	0.0224	-	-				
	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	0.0910	<0.0010	0.0910	0.0997	-	-				
	03/22/11	0.0361	<0.0020	<0.0010	0.0605	0.0011	0.0616	0.0977	-	-				
	05/27/11	0.0022	<0.0020	<0.0010	0.0030	<0.0010	0.0030	0.0052	-	-				
	09/30/11	0.1790	<0.0020	0.0028	0.0035	0.0021	0.0056	0.1870	-	-				
	11/09/11					Dry			1	1				
	02/06/12	0.0019	<0.0020	<0.0010	0.0021	0.0010	0.0031	0.0050	-	-				
	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								
	02/13/14					Dry								
	05/09/14 08/07/14					Dry								
	11/17/14					Dry Dry								
	11/17/14					Diy								
MW-3	10/05/06	6.60	<0.0010	<0.0010	0.0720	<0.0010	0.0720	6.67	-	-				
-	12/28/06	1.02	< 0.0010	0.0050	0.0280	< 0.0010	0.0280	1.05	-	-				
	03/16/07	1.48	<0.0010	0.0130	0.0340	< 0.0010	0.0340	1.53	-	-				
	05/31/07	1.66	0.0100	0.0340	0.0290	0.0120	0.0410	1.75	-	-				
	09/25/07	0.4940	0.0230	0.0200	0.0140	0.0070	0.0210	0.56	-	-				
	11/30/07	5.93	0.0270	0.2730	0.1410	0.0740	0.2150	6.45	-	-				
	03/11/08	1.16	0.1070	0.1770	0.0660	0.1390	0.2050	1.65	-	-				
	06/14/08	0.2140	0.0020	0.0070	0.0120	0.0050	0.0170	0.2400	-	-				
	09/17/08	0.0260	< 0.0020	<0.0010	0.0020	< 0.0010	0.0020	0.0280	-	-				
	12/02/08	0.0240	<0.0020	<0.0010	0.0040	0.0010	0.0050	0.0290	-	-				
	03/03/09	1.37	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	0.0149	-	-				
	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	0.0060	0.0033	0.0093	0.0221	-	-				

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P- XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-3	11/11/10	0.0033	<0.0020	<0.0010	0.0023	0.0013	0.0036	0.0069	-	-
	03/22/11	0.0090	0.0028	<0.0010	0.0082	0.0038	0.0119	0.0238	-	-
	05/27/11	0.0205	<0.0020	<0.0010	0.0031	0.0012	0.0042	0.0247	-	-
	08/24/11	0.0262	0.0033	<0.0010	0.0083	0.0031	0.0114	0.0409	-	-
	11/09/11	0.0021	<0.0020	<0.0010	0.0023	0.0011	0.0035	0.0056	-	-
	02/06/12	0.0214	0.0031	0.0013	0.0075	0.0035	0.0110	0.0367	-	-
	05/23/12	0.0093	0.0020	<0.0010	0.0058	0.0026	0.0085	0.0198	-	-
	08/28/12	0.0075	<0.0020	<0.0010	<0.0020	0.0014	0.0014	0.0088	-	-
	11/27/12	0.0120	0.0028	0.0011	0.0071	0.0025	0.0096	0.0256	-	-
	02/22/13	0.0112	<0.0020	<0.0010	0.0030	0.0021	0.0051	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	0.0024	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0024	-	-
	02/13/14	0.0028	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/09/14	0.0089	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	0.0089	-	-
	09/16/14	0.0164	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0164	-	-
	11/17/14	0.1190	0.0069	<0.0010	0.0367	0.0071	0.0438	0.1700	-	-
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	0.0010	< 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	0.0010	-	-
	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	0.0060	< 0.0010	<0.0020	< 0.0010	< 0.0020	0.0060	-	-
	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	0.0012	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	0.0012	-	-
	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	-	-

					300.1	SW846-6010C				
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P- XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-4	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13					Dry				
	02/26/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/07/14					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	-	-
	02/13/14	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/07/14			30.0010		Dry	30.00E0	30.00E0	1	I
	00,07717									
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	<0.0010	<0.0010	<0.0010	<0.0020	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P- XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-6	11/30/07	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/11/08	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/14/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/17/08	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/02/08	< 0.0010	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/03/09	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/18/09	0.0044	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0044	-	-
	09/01/09	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/18/09	0.0130	<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	0.1050	< 0.0020	< 0.0010	0.0597	0.0031	0.0628	0.1680	-	-
	11/09/11	0.0036	< 0.0020	< 0.0010	0.0388	< 0.0010	0.0388	0.0424	-	-
	02/06/12	0.0129	< 0.0020	0.0011	0.1330	< 0.0010	0.1330	0.1470	-	-
	05/23/12	0.0077	< 0.0010	< 0.0010	0.1570	< 0.0010	0.1570	0.1650	-	-
	08/28/12	< 0.0010	< 0.0020	< 0.0010	0.0026	< 0.0010	0.0026	0.0026	-	-
	11/27/12	0.0012	< 0.0020	<0.0010	0.0414	<0.0010	0.0414	0.0426	-	-
	02/22/13	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13					Dry				
	11/08/13	<0.0010	< 0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/13/14	<0.0010	< 0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-
	05/09/14	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/07/14					Dry			1	
	11/17/14	<0.0010	< 0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
MW-7	12/28/06	0.0470	<0.0010	<0.0010	0.0010	<0.0010	0.0010	0.0480	-	-
	03/16/07	0.0470	< 0.0010	< 0.0010	0.0150	< 0.0010	0.0150	0.0620	-	-
	05/31/07	0.0390	< 0.0010	< 0.0010	0.0050	< 0.0010	0.0050	0.0440	-	-
	09/25/07	0.0370	< 0.0010	< 0.0010	0.0300	< 0.0010	0.0300	0.0670	-	-
	11/30/07	0.0260	< 0.0020	< 0.0010	0.0220	< 0.0010	0.0220	0.0480	-	-
	03/11/08	0.0950	<0.0020	< 0.0010	0.0032	<0.0010	0.0032	0.0982	-	-
	06/14/08	0.1380	<0.0020	< 0.0010	0.0160	<0.0010	0.0160	0.1540	-	-
	09/17/08	0.3530	< 0.0020	< 0.0010	0.0030	<0.0010	0.0030	0.3560	-	-
	12/02/08	0.0360	<0.0020	< 0.0010	0.0030	0.0020	0.0050	0.0410	-	-
	03/03/09	0.0775	<0.0020	< 0.0010	0.0327	<0.0010	0.0327	0.1102	-	-
	06/18/09	0.0570	<0.0020	< 0.0010	0.0329	<0.0010	0.0329	0.0899	-	-
	09/01/09	0.0120	<0.0020	< 0.0010	< 0.0020	<0.0010	<0.0020	0.0120	-	-

				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	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	0.0019	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0019	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/13	0.0087	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0087	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/13/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/24/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/27/14	0.0480	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0480	-	-
	11/17/14	0.1770	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.1770	-	-
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	0.0080	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	0.0080	-	-
	09/17/08	0.5680	< 0.0100	< 0.005	< 0.0100	< 0.005	< 0.0100	0.5680	-	-
	12/02/08	0.2340	0.0460	0.0080	0.0410	0.0130	0.0540	0.3420	-	-
	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	0.0010	< 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	0.0015	0.0015	0.0015	-	-
	05/27/11	<0.0010	<0.0020	<0.0010	<0.0020	0.0026	0.0026	0.0026	-	-
	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	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	(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	02/06/12	<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	-	-
	02/26/14	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/07/14	<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	1.16	-	-
	09/10/09	1.84	< 0.0200	< 0.0100	0.0537	< 0.0100	0.0537	1.89	-	-
	10/05/09	0.9850	< 0.0020	< 0.0010	0.0442	< 0.0010	0.0442	1.03	-	-
	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	0.0034	< 0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	0.0034	-	-
	05/27/11	0.0041	< 0.0020	<0.0010	0.0033	<0.0010	0.0033	0.0073	-	-
	08/24/11	<0.0010	< 0.0020	<0.0010	0.0024	<0.0010	0.0024	0.0024	-	-
	11/09/11	0.0018	< 0.0020	< 0.0010	0.0035	<0.0010	0.0035	0.0053	-	-
	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	-	-

				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	12/19/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	01/30/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/22/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/29/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	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	-	-
	02/13/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/09/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/07/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/17/14	<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	0.0033	0.0601	-	-
	05/27/11	1.52	<0.0020	0.0011	0.0113	<0.0010	0.0113	1.53	-	-
	07/11/11	3.00	0.0027	0.0037	0.0248	0.0023	0.0271	3.03	-	-
	08/24/11	0.6540	<0.0020	0.0016	0.0177	0.0026	0.0203	0.6760	-	-
	10/10/11	0.1830	<0.0020	<0.0010	0.121	<0.0010	0.1210	0.3040	-	-
	10/31/11	0.0530	<0.0020	0.0014	0.0944	0.0022	0.0966	0.1510	-	-
	11/09/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/14/11	0.0085	0.0023	<0.0010	0.0261	<0.0010	0.0261	0.0368	-	-
	01/05/12	0.0043	<0.0020	<0.0010	0.0126	<0.0010	0.0126	0.0169	-	-
	02/06/12	0.0023	<0.0020	<0.0010	0.0064	<0.0010	0.0064	0.0088	-	-
	03/01/12	0.0013	<0.0020	<0.0010	0.0042	<0.0010	0.0042	0.0056	-	-
	04/18/12	0.0034	<0.0020	<0.0010	0.0175	<0.0010	0.0175	0.0209	-	-
	05/23/12	0.0039	<0.0010	<0.0010	0.1030	<0.0010	0.1030	0.1070	-	-
	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	0.0014	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	0.0012	0.0031	0.0015	0.0046	0.0058	-	-
	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	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	(mg/L)	ETHYL- BENZENE (mg/L)	M,P- XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
MW-10	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	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/16/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13					Dry				
	09/19/13					Dry				
	10/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/13/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/09/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/07/14		-			Dry				-
	11/17/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
Goff Dairy Well	05/27/11	0.0013	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0012	-	-
	07/11/11	0.0026	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0026	-	-
	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	0.0011	<0.0020	<0.0010	<0.0020	0.0011	-	-
	01/05/12	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	< 0.0010	<0.0020	0.0011	0.0020	<0.0010	0.0020	0.0031	-	-
	03/01/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/23/12	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/30/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/11/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/27/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/16/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/19/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/23/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/26/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/09/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/07/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/17/14	< 0.0010	<0.0020	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0020	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P- XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
Goff Dairy - Ctr. Pivot Well	07/07/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/24/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/10/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	10/31/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/09/11	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	12/14/11	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	01/05/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/06/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/01/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/18/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	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	-	-
	08/07/14	<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	-	-

				METH	ODS: EPA S	W 846-8021b			300.1	SW846-6010C
SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/L)	(mg/L)	ETHYL- BENZENE (mg/L)	M,P- XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)	FLUORIDE (mg/L)	CHROMIUM (mg/L)
Goff Dairy - Ctr. Pivot Beg.	04/09/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/07/14	<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	-	-
	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	-	-
	08/07/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/44/44	0.0010	0.0000	0.0010	0.0000	0.0010	0.0000	0.0000		
JW Well	07/14/11	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	08/24/11	< 0.0010	<0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	<0.0020	-	-
	10/10/11	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	10/31/11	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	11/09/11	< 0.0010	< 0.0020	< 0.0010	<0.0020	< 0.0010	< 0.0020	<0.0020	-	-
	03/01/12	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	04/18/12	< 0.0010	< 0.0020	< 0.0010	< 0.0020	<0.0010	< 0.0020	< 0.0020	-	-
	05/23/12	< 0.0010	< 0.0010	< 0.0010	< 0.0020	<0.0010	< 0.0020	<0.0020	-	-
	06/19/12	< 0.0010	< 0.0010	< 0.0010	< 0.0020	<0.0010	< 0.0020	< 0.0020	-	-
	07/30/12	< 0.0010	< 0.0020	< 0.0010	< 0.0020	<0.0010	< 0.0020	< 0.0020	-	-
	08/28/12	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	<0.0020	-	-
	09/11/12	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	-	-
	10/31/12	< 0.0010	< 0.0020	< 0.0010	< 0.0020	<0.0010	< 0.0020	< 0.0020	-	-
	11/27/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-

				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)
JW Well	12/19/12	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	01/31/13	< 0.0010	< 0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/28/13	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	03/27/13	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	04/09/13	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/29/13	< 0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	06/25/13	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	07/16/13	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/21/13	<0.0010	<0.0020	< 0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	09/19/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/08/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	02/13/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	05/09/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	08/07/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
	11/17/14	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	-	-
NMOCD REGULATORY STA	ANDARD	0.01	0.75	0.75	тот	AL XYLENES	0.62		1.6	0.05

# Appendices

# Appendix A Laboratory Analytical Reports

# Analytical Report 479541

# for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

#### SRS#2006-142

#### 21-FEB-14

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

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-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)



21-FEB-14

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

Reference: XENCO Report No(s): 479541 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) 479541. 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. 479541 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.

Kms Boah

 Kelsey Brooks

 Project Manager

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# Sample Cross Reference 479541



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

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-3	W	02-13-14 11:50		479541-002
MW-5	W	02-13-14 11:20		479541-003
MW-6	W	02-13-14 12:30		479541-004
MW-7	W	02-13-14 13:45		479541-005
MW-9	W	02-13-14 14:20		479541-006
MW-10	W	02-13-14 15:30		479541-007
JW Well	W	02-13-14 07:30		479541-008
MW-1	W	02-13-14 10:15		Not Analyzed



## CASE NARRATIVE



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

Project ID:SRS#2006-142Work Order Number(s):479541

Report Date: 21-FEB-14 Date Received: 02/14/2014

#### Sample receipt non conformances and comments:

Samples Received Broken. No samples left for MW-4, MW-8 and Goff Dairy Well

Sample receipt non conformances and comments per sample:

None



## Project Id: SRS#2006-142

Contact: Ben Arguijo

Project Location: NM

Certificate of Analysis Summary 479541

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Lovington Gathering WTI** 



Date Received in Lab: Fri Feb-14-14 08:35 am

**Report Date:** 21-FEB-14

							Project Ma	nager:	Kelsey Brook	S		
Lab Id:	479541-	002	479541-0	003	479541-0	004	479541-0	005	479541-	006	479541-	007
Field Id:	MW-3	MW-3		5	MW-6		MW-7		MW-9		MW-1	0
Depth:												
Matrix:	WATE	R	WATE	R	WATE	R	WATE	R	WATE	R	WATE	ER
Sampled:	Feb-13-14	11:50	Feb-13-14	11:20	Feb-13-14	12:30	Feb-13-14	13:45	Feb-13-14	14:20	Feb-13-14	15:30
Extracted:	Feb-19-14	09:00	Feb-19-14	09:00	Feb-19-14	09:00	Feb-19-14	09:00	Feb-19-14	09:00	Feb-19-14	09:00
Analyzed:	Feb-19-14	12:04	Feb-19-14	12:20	Feb-19-14	12:36	Feb-19-14	12:52	Feb-19-14	13:08	Feb-19-14	13:24
Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
	0.00276	0.00100	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	0.00200
	ND	0.00100	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	0.00200
	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
	0.00276	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-3Depth:Matrix:Matrix:WATESampled:Feb-13-14Extracted:Feb-19-14Analyzed:Feb-19-14Units/RL:mg/L0.00276NDNDNDNDNDNDNDNDNDNDNDNDND	Field Id:         MW-3           Depth:         Matrix:         WATER           Matrix:         WATEI         WATER           Sampled:         Feb-13-14         11:50           Extracted:         Feb-19-14         09:00           Analyzed:         Feb-19-14         12:04           Units/RL:         mg/L         RL           0.00276         0.00100         ND         0.00200           ND         0.00100         ND         0.00100           ND         0.00100         ND         0.00100           ND         ND0100         ND         0.00100	Field Id:         MW-3         MW-5           Depth:           MW-5           Matrix:         WATER         WATE           Sampled:         Feb-13-14 11:50         Feb-13-14           Extracted:         Feb-19-14 09:00         Feb-19-14           Analyzed:         Feb-19-14 12:04         Feb-19-14           Units/RL:         mg/L         RL         mg/L           ND         0.00200         ND           ND         0.00100         ND           ND         0.00100         ND           ND         0.00100         ND           ND         0.00100         ND	Field Id:         MW-3         MW-5           Depth:          MW-3         MW-5           Matrix:         WATER         WATER           Sampled:         Feb-13-14 11:50         Feb-13-14 11:20           Extracted:         Feb-19-14 09:00         Feb-19-14 09:00           Analyzed:         Feb-19-14 12:04         Feb-19-14 12:20           Units/RL:         mg/L         RL         mg/L         RL           0.00276         0.00100         ND         0.00200           ND         0.00200         ND         0.00200           ND         0.00100         ND         0.00100	Field Id:         MW-3         MW-5         MW-6           Depth:           MM-5         MM-6           Matrix:         WATER         WATER         WATER         WATER           Sampled:         Feb-13-14 11:50         Feb-13-14 11:20         Feb-13-14           Extracted:         Feb-19-14 09:00         Feb-19-14 09:00         Feb-19-14 09:00         Feb-19-14 09:00           Matrix:         Mg/L         RL         mg/L         Feb-19-14 09:00         Feb-19-14 09:00         Feb-19-14 09:00           Linits/RL:         mg/L         RL         mg/L         RL         mg/L         RL         mg/L           MD         0.00200         ND         0.00100         ND         0.00100         ND           MD         0.00100         ND         0.00100         ND         0.00100         ND           MD         0.00100         ND         0.00100         ND         0.00100         ND           MD         0.00100         ND         0.00100         ND         ND         ND	Field Id:         MW-3         MW-5         MW-6           Depth:         Mdtrix:         WATER         WATER         WATER           Matrix:         WATER         WATER         WATER         WATER           Sampled:         Feb-13-14 11:50         Feb-13-14 11:20         Feb-13-14 12:30           Extracted:         Feb-19-14 09:00         Feb-19-14 09:00         Feb-19-14 09:00         Feb-19-14 09:00           Analyzed:         Feb-19-14 12:04         Feb-19-14 12:20         Feb-19-14 12:36         RL           Units/RL:         mg/L         RL         mg/L         RL         mg/L         RL           0.00276         0.00100         ND         0.00100         ND         0.00100         ND         0.00200           MD         0.00100         ND         0.00100         ND         0.00100         ND         0.00100           MD         0.00100         ND         0.00100         ND         0.00100         ND         0.00100           Matrix         Mg/L         RL         mg/L         RL         mg/L         RL           MD         0.00100         ND         0.00100         ND         0.00100           ND         0.00100         ND	Lab Id:       479541-002       479541-003       479541-004       479541-004       479541-004         Field Id:       MW-3       MW-3       MW-5       MW-6       MW-7         Depth:       Matrix:       WATER       WATER       WATER       WATER       WATE         Matrix:       WATER       WATER       WATER       WATER       WATE         Sampled:       Feb-13-14 11:50       Feb-13-14 11:20       Feb-13-14 12:30       Feb-13-14         Extracted:       Feb-19-14 09:00       Feb-19-14 09:00 <th>Lab Id:       479541-002       479541-003       479541-004       479541-005         Field Id:       MW-3       MW-3       MW-5       MW-6       MW-7         Depth:       Matrix:       WATER       WATER       WATER       WATER       WATER         Sampled:       Feb-13-14 11:50       Feb-13-14 11:20       Feb-13-14 12:30       Feb-13-14 13:45         Extracted:       Feb-19-14 09:00       Feb-19-14 09:00       Feb-19-14 09:00       Feb-19-14 09:00       Feb-19-14 09:00       Feb-19-14 09:00         Matrix:       Mg/L       RL       mg/L       RL       mg/L       RL       mg/L       RL         Units/RL:       mg/L       RL       mg/L       RL       mg/L       RL       mg/L       RL         ND       0.00276       0.00100       ND       0.00100       ND       0.00100       ND       0.00200         ND       0.00200       ND       0.00200       ND       0.00200       ND       0.00200         Matrix/RL:       Mg/L       RL       mg/L       RL       mg/L       RL       mg/L       RL         MD       0.00200       ND       0.00200       ND       0.00200       ND       0.00200         <t< th=""><th>Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-05         479541-05         479541-005<!--</th--><th>Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-006           Field Id:         MW-3         MW-5         MW-6         MW-7         MW-7         MW-9           Depth:         Matrix:         WATER         W</th><th>Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-006         479541-00</th></th></t<></th>	Lab Id:       479541-002       479541-003       479541-004       479541-005         Field Id:       MW-3       MW-3       MW-5       MW-6       MW-7         Depth:       Matrix:       WATER       WATER       WATER       WATER       WATER         Sampled:       Feb-13-14 11:50       Feb-13-14 11:20       Feb-13-14 12:30       Feb-13-14 13:45         Extracted:       Feb-19-14 09:00       Feb-19-14 09:00       Feb-19-14 09:00       Feb-19-14 09:00       Feb-19-14 09:00       Feb-19-14 09:00         Matrix:       Mg/L       RL       mg/L       RL       mg/L       RL       mg/L       RL         Units/RL:       mg/L       RL       mg/L       RL       mg/L       RL       mg/L       RL         ND       0.00276       0.00100       ND       0.00100       ND       0.00100       ND       0.00200         ND       0.00200       ND       0.00200       ND       0.00200       ND       0.00200         Matrix/RL:       Mg/L       RL       mg/L       RL       mg/L       RL       mg/L       RL         MD       0.00200       ND       0.00200       ND       0.00200       ND       0.00200 <t< th=""><th>Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-05         479541-05         479541-005<!--</th--><th>Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-006           Field Id:         MW-3         MW-5         MW-6         MW-7         MW-7         MW-9           Depth:         Matrix:         WATER         W</th><th>Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-006         479541-00</th></th></t<>	Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-05         479541-05         479541-005 </th <th>Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-006           Field Id:         MW-3         MW-5         MW-6         MW-7         MW-7         MW-9           Depth:         Matrix:         WATER         W</th> <th>Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-006         479541-00</th>	Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-006           Field Id:         MW-3         MW-5         MW-6         MW-7         MW-7         MW-9           Depth:         Matrix:         WATER         W	Lab Id:         479541-002         479541-003         479541-004         479541-005         479541-006         479541-00

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

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Huns Boah

Kelsey Brooks Project Manager



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

Project Location: NM

Certificate of Analysis Summary 479541

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI



Date Received in Lab: Fri Feb-14-14 08:35 am

Report Date: 21-FEB-14

Project Manager: Kelsey Brooks

	Lab Id:	479541-008			
Analysis Requested	Field Id:	JW Well			
Anulysis Kequestea	Depth:				
	Matrix:	WATER			
	Sampled:	Feb-13-14 07:30			
BTEX by EPA 8021	Extracted:	Feb-19-14 09:00			
	Analyzed:	Feb-19-14 13:40			
	Units/RL:	mg/L RL			
Benzene		ND 0.00100			
Toluene		ND 0.00200			
Ethylbenzene		ND 0.00100			
m_p-Xylenes		ND 0.00200			
o-Xylene		ND 0.00100			
Xylenes, Total		ND 0.00100			
Total BTEX		ND 0.00100			

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

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Kelsey Brooks Project Manager

Page 6 of 16



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit
- MDL Method Detection LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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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(813) 620-2033

(432) 563-1713

(770) 449-5477



# Form 2 - Surrogate Recoveries

## Project Name: Lovington Gathering WTI

Lab Batch #:	934362	Sample: 479541-002 / SMP	Batch	Batch: 1 Matrix: Water							
Units:	mg/L	Date Analyzed: 02/19/14 12:04	SURROGATE RECOVERY STUDY								
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag				
		Analytes			[D]						
1,4-Difluorobe	enzene		0.0276	0.0300	92	80-120					
4-Bromofluor	obenzene		0.0267	0.0300	89	80-120					
Lab Batch #:	934362	Sample: 479541-003 / SMP	Batch	n: 1 Matrix	: Water						
Units:	mg/L	Date Analyzed: 02/19/14 12:20	SU	RROGATE R	ECOVERY S	STUDY					
	BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage				
1,4-Difluorobe	enzene		0.0281	0.0300	94	80-120					
4-Bromofluoro			0.0277	0.0300	92	80-120					
Lab Batch #:	934362	Sample: 479541-004 / SMP	Batch		: Water						
Units:	mg/L	<b>Date Analyzed:</b> 02/19/14 12:36	SU	RROGATE R	ECOVERY	STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag				
		Analytes			[D]						
1,4-Difluorobe	enzene		0.0280	0.0300	93	80-120					
4-Bromofluoro	obenzene		0.0274	0.0300	91	80-120					
Lab Batch #:	934362	Sample: 479541-005 / SMP	Batch	n: 1 Matrix	: Water						
Units:	mg/L	Date Analyzed: 02/19/14 12:52	SU	RROGATE R	ECOVERY S	STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage				
1.4-Difluorobe	anzene	Analytes	0.0282	0.0300	94	80-120					
4-Bromofluoro			0.0282	0.0300	89	80-120					
Lab Batch #:		Sample: 479541-006 / SMP	Batch		: Water	00-120					
Units:	mg/L	Date Analyzed: 02/19/14 13:08		RROGATE R		STUDY					
BTEX by EPA 8021			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag				
		Analytes			[D]						
1,4-Difluorobe	enzene		0.0274	0.0300	91	80-120					
4-Bromofluor	obenzene		0.0266	0.0300	89	80-120					

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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



# Form 2 - Surrogate Recoveries

## Project Name: Lovington Gathering WTI

Lab Batch	# <b>:</b> 934362	Sample: 479541-007 / SMP	Batcl	Project ID h: 1 Matrix	: Water						
Units:	mg/L	Date Analyzed: 02/19/14 13:24	SU	RROGATE R	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		0.0282	0.0300	94	80-120					
4-Bromofluo	orobenzene		0.0276 0.0300 92 80-120								
Lab Batch	#: 934362	Sample: 479541-008 / SMP	P Batch: 1 Matrix: Water								
Units:         mg/L         Date Analyzed: 02/19/14 13:40			SU	RROGATE R	ECOVERY S	STUDY					
	BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluoro	benzene		0.0285	0.0300	95	80-120					
4-Bromofluc			0.0269	0.0300	90	80-120					
Lab Batch		Sample: 651272-1-BLK / BLI			: Water	00 120					
Units:	mg/L	Date Analyzed: 02/19/14 10:45		RROGATE R		STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage				
		Analytes			[D]						
1,4-Difluoro	benzene		0.0278	0.0300	93	80-120					
4-Bromofluc	orobenzene		0.0270	0.0300	90	80-120					
Lab Batch	# <b>:</b> 934362	Sample: 651272-1-BKS / BKS	S Bate	h: 1 Matrix	: Water						
Units:	mg/L	Date Analyzed: 02/19/14 09:56	SU	RROGATE R	ECOVERY S	STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
4.4.510		Analytes									
1,4-Difluoro			0.0309	0.0300	103	80-120					
4-Bromofluc			0.0305	0.0300	102	80-120					
Lab Batch		Sample: 651272-1-BSD / BSI			: Water						
Units:	mg/L	Date Analyzed: 02/19/14 10:12	SU	RROGATE R	ECOVERY S	STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes					[D]						
1,4-Difluoro			0.0311	0.0300	104	80-120					
4-Bromofluorobenzene			0.0310	0.0300	103	80-120					

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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



# Form 2 - Surrogate Recoveries

## Project Name: Lovington Gathering WTI

<b>Work Orders :</b> 4795 Lab Batch #: 934362	41, <b>Sample:</b> 479541-003 S / MS	S Batc	-	SRS#2006- Water	142	
Units: mg/L	Date Analyzed: 02/19/14 15:49	SU	RROGATE R	ECOVERY S	STUDY	
BT	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
14 Differentemente	Analytes	0.0210	0.0200	[D]	00.120	
1,4-Difluorobenzene		0.0310	0.0300	103	80-120	
4-Bromofluorobenzene		0.0309	0.0300	103	80-120	
Lab Batch #: 934362	Sample: 479541-003 SD / N	ASD Bate	h: 1 Matrix:	Water		
Units: mg/L	Date Analyzed: 02/19/14 16:05	SU	RROGATE R	ECOVERY S	STUDY	
BT	EX 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		0.0302	0.0300	101	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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



## **BS / BSD Recoveries**



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

Work Order #: 479541							Proj	ject ID: S	SRS#2006-	142	
Analyst: KEB	D	ate Prepar	red: 02/19/201	4			Date A	nalyzed: 0	02/19/2014		
Lab Batch ID: 934362 Sample: 651272-1-E	BKS	Batcl	<b>h #:</b> 1					Matrix: V	Water		
Units: mg/L		BLAN	K /BLANK S	SPIKE / I	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUD	DY	
BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.108	108	0.100	0.110	110	2	70-125	25	
Toluene	< 0.00200	0.100	0.110	110	0.100	0.113	113	3	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.110	110	0.100	0.113	113	3	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.218	109	0.200	0.224	112	3	70-131	25	
o-Xylene	< 0.00100	0.100	0.109	109	0.100	0.113	113	4	71-133	25	

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



### Form 3 - MS / MSD Recoveries

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



Work Order # :	479541						Project II	<b>):</b> SRS#2	006-142			
Lab Batch ID:	934362	QC- Sample ID:	479541	-003 S	Ba	tch #:	1 Matrix	: Water				
Date Analyzed:	02/19/2014	Date Prepared:	02/19/2	014	An	alyst: F	KEB					
<b>Reporting Units:</b>	mg/L		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA'	TE REC	OVERYS	STUDY		
	BTEX by EPA 8021	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	-	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene		< 0.00100	0.100	0.108	108	0.100	0.115	115	6	70-125	25	
Toluene		<0.00200	0.100	0.109	109	0.100	0.117	117	7	70-125	25	
Ethylbenzene		< 0.00100	0.100	0.109	109	0.100	0.118	118	8	71-129	25	
m_p-Xylenes		< 0.00200	0.200	0.214	107	0.200	0.232	116	8	70-131	25	
o-Xylene		< 0.00100	0.100	0.108	108	0.100	0.117	117	8	71-133	25	

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

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



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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/14/2014 08:35:00 AM

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

Work Order #: 479541

Temperature Measuring device used :

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	5.7	
#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?	N/A	
#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?	No	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A	

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

Analyst:

PH Device/Lot#:

#### NonConformance:

Samples received broken. Not enough samples left for MW-4 and MW-8 **Corrective Action Taken:** 

#### **Nonconformance Documentation**

Contact:		Contacted by :	DateTime :
	Checklist completed by:	Julian Martinez	Date: 02/18/2014
	Checklist reviewed by:	Hunz Hoah Kelsey Brooks	Date: 02/19/2014

Labo	Houston: 4143 Greenb Hobbs: 4008 N Grimes		TX 77477 (28	1)240-4200			DDY R West 1-20 Eas			(432)563-1	800		Pa W.O #			- 795	ષા	* Container Type Codes VA Vial Amber ES Encore Sampler VC Vial Clear TS TerraCore Sample VP Vial Pre-preserved AC Air Canister GA Glass Amber TB Tediar Bag GC Glass Clear ZB Zip Lock Bag PA Plastic Amber PC Plastic Clear		
ompan	boom Entrionmental Control To	chnologies, LL	.C	Phone:	(575)	396-2378									PC Plastic Clear Other					
ddress:	fress: 3100 Plains Hwy.			Fax	(575)3	396-1423	_	_	-7D) 6H				7D 10	D 14D				Size(s): 2xz, 4xz, 8xz, 16xz, 32xz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other		
ay:	Lovington		State: NM	Zip:	88260	)	1 836	1		12/2/200	March 1 A	ES RE	12000		10. 23	TT TH	1280	** Preservative Type Codes		
M/Attn:	ben Arguijo		Email:	cjbryanti bjarguljo			Cont Type VC	VP		T						1000	A. None E. HCL L Ice			
oject li	D: Lovington Gathering WTI SRS #2006-142			PO#:	PAA-C	. Bryant	Pres Type E, 1	E,I									198.33	B. HNO <sub>3</sub> F. MeOH J. MCAA H <sub>3</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAc&NaOH D. NaOH H. NaHSO <sub>4</sub> L Asbc Acid&NaOH		
voice T	o: Camille Bryant Plains All Amer	ican		Quote #	5		0						-				PAH Ny H	0		
ampler	Signature:		Event: Daily al Annual		Monthi	y Quar	tainers 3 Example Volatiles by 8260	BTEX									Sample Run H 0	GW Ground Water S SollSediment/Sold WW Waste Water W Wipe DW Drinking Water A Air		
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N) Total # of	Containers Ex Volatile										(CALL_) on Highest TF	SW Surface Water O OI OW Ocean/Sea Water T Tissue PL Product-Liquid U Urine PS Product-Solid B Blood SL Sludge Other		
05		The second					# Con	t									1	REMARKS		
_1	MW-1	2.13.14	10:15	GW		:	3	X										Received 1 Broken.		
2	MW-2	-		GW		-	5-	×	-	-	-	-		-				i naceives i biowa		
3	MW-3	2.13.14	11:50	GW		:		X									222	Received 1 Broken		
4	MW-4	2-13-14	09:55	GW		3		X									1000			
5	MW-5	2.13.14	11:20	GW		3	1000	x									1000	Received 3 Droklen		
6	MW-6		12:30	GW		3	100000	x				-				-		Received 7. Broken		
7	MW-7	2.13.14		GW			100000	X	-			-			-			Received 2 Broken		
8	MW-8	2-13-19		GW	$\vdash$	3	ALC: NOT THE OWNER.	x	-			+	-				10	Received 7. Broker		
9	MW-9	2.13.14	14:20	GW		3	Contraction of the local division of the loc	x	-			-	-		-	-		Received 3 Broken		
0	MW-10	2.13-18	15:30	GW		3	and the second second	X			-		-				-	Received Z Roller		
R	eg. Program / Clean-up Std	STATE	for Certs &	_	QA	_	vel & Certifi		1000	EDDs	1977	COC 8	Labels	C	oolers	Temp *	C	Lab Use Only YES NO NU		
IS TR	RP DW NPDES LPST DryCin	FL TX GA N AL NM Othe	IC SC NJ PA			3 4 CI DoD-EU		APP	ADaPT XLS Othe	SEDD E	RPIMS	Match 1	incomplete Unclear	15:1	9	ar'		Non-Conformances found?		
V	Relinquished by	97,000	Affiliat	ion		Date	Tir	~		ceived I	by		ation	Da		_	me	Received on Wet los?		
	Mythel Dasin Basin			2.1	1.14	06:	45	An	Qui	m	Burn		2-14	-14	06:	45	Labeled with proper preservatives?			
6	Man Chings (	/	Basin		2-1	0-14	4:3	5		the		4/5 x	enco	2-14-	ry	083	5	Received within holding time?  Custody seals intact? VOCs rec'd wio headspace?		
-	~								וונב	on.r	1	Xeno	00000	22-13	-14	13:0	0	Proper containers used?		
A Lat	ooratories: Hobbs 575-392-755	0 Dallas 214	-902-0300	Houst	n 281	-242-43	00 Odess	a 432.5	53-1800	San An	tonic	210.500	2024 0	hearing	00 407	0220		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

0.0.0.00

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

Page 14 of 16

Final 1.000

	Augusta August			Phone:	(575)35	96-2378				(432)563-1 Need I		Field b	W.O # pillable H	ŧ:	of 1	999 10:	42	VC Vial Clear TS VP Vial Pre-preserved AC GA Glass Amber TB GC Glass Clear ZB	Encore Sampler TerraCore Sampler Air Canistier Tedlar Bag Zip Lock Bag Plastic Clear
City:	3100 Plains Hwy.			Fax	(575)39	96-1429		Std (5-7D) 6Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other									Size(s): 202, 402, 802, 1602, 3202 , 1Gal 40mil, 125 mil, 250 mil, 500 mil, 1L, Other		
PM/A	Lovington		State: NM Email:	Zip: cjbryant@	88260		115-26	2-3		AN	ALYS	ES RE	QUES	TED		12 - 1	-	** Preservative T	ype Codes
	Ben Arguijo		Email:	bjarguijo)			Cont Type * VC	VP										A. None E. HCL L. k B. HNO <sub>3</sub> F. MeOH J. I	
inter	t ID: Lovington Gathering WTI SRS #2006-142			PO#:	PAA-C.	Bryant	Pres Type** E, I	E,I									100	B. HNO <sub>3</sub> F. MeOH J. I H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>5</sub> K. ZnA D. NaOH H. NaHSO <sub>4</sub> L. A	ICAA C. C&NaOH Asbc Acid&NaOH
tvoic	e To: Camille Bryant Plains All America	an		Quote #;			0						-	-	-	-	H =	0	
Samp	ler Signature:	Circle One	Event: Daily I Annual	Weekly N/A	Monthly	Quartely	Example Volatiles by 8260	втех									I Samplo Run PAH PH_Only If	Matrix Type     GW Ground Water S S     WW Waste Water W W     DW Drinking Water A Ai	ol/Sediment/Solid
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code *	Field Filtered Intearity	OK (Y/N) Total # of containers	Volatile	œ									(CALL_) on Highest TP	SW Surface Water O OI OW Ocean/Sea Water T Tr PL Product-Liquid U U PS Product-Solid B Bi SL Studge Other	í Issue rine
0		P. LODE		200	2		# Cont										22	REMAR	(S
_1	Goff Dairy Well	2-13-14	10:45	GW		3	1	х									322	Received 3 Bro	- aite
_2	Goff Dairy-Ctr. Pivot Well	-	~	<del>GW</del>		- 3		-X		-		-			5	2	1630	- Charles Libra	and the second s
_3	Geff Dairy - Ctr. Pivot Beg.	-	~	GW		3		x	-	-		>				2	-Santi		
4	Goff Dairy - Cir. Pivot End		>-	GW		-3	-	X				-			<		1327	0 1 1 -	
5	JW Well	2-13-14	07:30	GW		3	100000	X						F		-		Received Z1	Sroken.
6		10.00	0			<b>—</b>	1000	~						-	-				
7						+	1385		-		_				-		Cardina Cardina		
8					-	+				-				-	-		-		
9					+	-	-	-									and and		
0				-	-	+	1975 F						_	-					
_	Reg. Program / Clean-up Std	STATE	for Certs &	Rone	OAK	NC Laws	& Certifica	tion		EDDs		000.0		-			-		
	TRRP DW NPDES LPST DryCin	and the second	C SC NJ PA	OK LA	1 2 3		AFCEE QAU	op .	ADaPT XLS Other	SEDD E	RPIMS	CCC &	ncom plete		Coolers			Lab Use Only Non-Conformances found?	YES NO NIA
	Relinquished by		Affiliati				Time	9	R	aceived I	by	Affilia	Unclear	-	2 ate	3 Tin		Samples intact upon aniva? Received on Wet ice?	×
1	Migge Hund		Basin		2.14	1.14	06:0	15	In p	(Ini		B-Si	1	2-14		06:4		Labeled with proper preservatives? Received within holding time?	×
4	the plant	/	Osin		2-1	4-14	4:3	5	She	the.		Msya	no	2-14	74	083	-	Custody seals intact? VOCs rec'd w/o headspace?	××
31									Dlio	M		Xenco	1.1	- 17		13:0	0	Proper containers used? pH verified-acceptable, excl VOCs?	×

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

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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/14/2014 08:35:00 AM

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

Work Order #: 479541

Temperature Measuring device used :

Sample Receipt Checklist	t	Comments
#1 *Temperature of cooler(s)?	5.7	
#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?	N/A	
#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?	No	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A	

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

Analyst:

PH Device/Lot#:

#### NonConformance:

Samples received broken. Not enough samples left for MW-4 and MW-8 Corrective Action Taken:

#### **Nonconformance Documentation**

Contact:		Contacted by :	DateTime :
	Checklist completed by:	Julian Martinez	Date: 02/18/2014
		A	

Checklist reviewed by:

Kelsey Brooks

Date: 02/19/2014

# Analytical Report 480162

# for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

#### SRS#2006-142

#### 04-MAR-14

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

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-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-14

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

Reference: XENCO Report No(s): 480162 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) 480162. 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. 480162 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Ams Boah

 Kelsey Brooks

 Project Manager

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# Sample Cross Reference 480162



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

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Goff Dairy Well	W	02-26-14 09:00		480162-001
MW-1	W	02-26-14 10:00		480162-002
MW-4	W	02-26-14 10:30		480162-003
MW-8	W	02-26-14 11:15		480162-004
Sample Blank	W	02-26-14 06:45		480162-005



## CASE NARRATIVE



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

Project ID: SRS#2006-142 Work Order Number(s): 480162 
 Report Date:
 04-MAR-14

 Date Received:
 02/27/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





02.28.14 14.00

Date Prep:

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

Lovington Gathering WTI

Sample Id : MW-1	Matrix : Water	% Moisture :
Lab Sample Id : 480162-002	Date Collected : 02.26.14 10.00	
	Date Received : 02.27.14 12.55	
Analytical Method : BTEX by EPA 8021		Prep Method: SW5030B

•	•
Seq Number	935334

Parameter	<b>Cas Number</b>	Result	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0474	mg/L	02.28.14 19.50		1
Total BTEX		0.0474	mg/L	02.28.14 19.50		1



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

Project Location: NM

## Certificate of Analysis Summary 480162

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Lovington Gathering WTI** 



Date Received in Lab: Thu Feb-27-14 12:55 pm

Report Date: 04-MAR-14

								Project Ma	nager:	Kelsey Brook	s	
	Lab Id:	480162-001	1	480162-0	002	480162-0	003	480162-0	004	480162-0	005	
Analysis Requested	Field Id:	Goff Dairy W	Vell	MW-1		MW-4	4	MW-8	3	Sample Bl	ank	
Analysis Kequeslea	Depth:											
	Matrix:	WATER		WATE	R	WATE	R	WATE	R	WATE	R	
	Sampled:	Feb-26-14 09	:00	Feb-26-14	10:00	Feb-26-14	10:30	Feb-26-14	11:15	Feb-26-14	06:45	
BTEX by EPA 8021	Extracted:	Feb-28-14 14	:00	Feb-28-14	14:00	Feb-28-14	14:00	Feb-28-14	14:00	Feb-28-14	14:00	
	Analyzed:	Feb-28-14 19	:02	Feb-28-14	19:50	Feb-28-14	19:34	Feb-28-14	19:18	Mar-03-14	14:18	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	
Benzene		ND 0	0.00100	0.0474	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	
Toluene		ND 0	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	
Ethylbenzene		ND 0	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	
m_p-Xylenes		ND 0	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	
o-Xylene		ND 0	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	
Xylenes, Total		ND 0	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	
Total BTEX		ND 0	0.00100	0.0474	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	

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

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Huns Boah

Kelsey Brooks Project Manager



## 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 **POL** Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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

```
Final 1.000
```



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

Lab Batch #: 1	Л	Sample: 480162-001 / SMP		h: 1 Matrix			
Units:	mg/L	Date Analyzed: 02/28/14 19:02	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1,4-Difluoroben	zene		0.0265	0.0300	88	80-120	
4-Bromofluorob	enzene		0.0272	0.0300	91	80-120	
Lab Batch #:	935334	Sample: 480162-004 / SMP	Batc	h: 1 Matrix	: Water		
Units:	mg/L	Date Analyzed: 02/28/14 19:18	SU	RROGATE R	ECOVERY	STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Analytes					
1,4-Difluoroben			0.0271	0.0300	90	80-120	
4-Bromofluorob			0.0272	0.0300	91	80-120	
Lab Batch #:		Sample: 480162-003 / SMP	Batc	h: 1 Matrix	: Water		
Units:	mg/L	Date Analyzed: 02/28/14 19:34	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluoroben	zene		0.0274	0.0300	91	80-120	
4-Bromofluorob			0.0270	0.0300	90	80-120	
Lab Batch #:	935334	Sample: 480162-002 / SMP	Batc	h: 1 Matrix	: Water		
Units:	mg/L	Date Analyzed: 02/28/14 19:50	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluoroben	zene	Anarytes	0.0284	0.0300	95	80-120	
4-Bromofluorob			0.0284	0.0300	86	80-120	
Lab Batch #:		Sample: 480162-005 / SMP	Batc		Water	00 120	
	mg/L	Date Analyzed: 03/03/14 14:18		RROGATE R		STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1,4-Difluoroben	zene		0.0284	0.0300	95	80-120	
4-Bromofluorob	enzene		0.0280	0.0300	93	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Lovington Gathering WTI

Units:	mg/L	Date Analyzed: 02/28/14 16:50	SU	RROGATE R	ECOVERV	STUDY	
		X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluor	benzene		0.0270	0.0300	90	80-120	
4-Bromoflu	orobenzene		0.0271	0.0300	90	80-120	
Lab Batch	#: 935334	Sample: 651880-1-BKS / BI	KS Bate	h: 1 Matrix	Water		
Units:	mg/L	Date Analyzed: 02/28/14 17:06	SU	RROGATE R	ECOVERY	STUDY	
	ВТЕ	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluor	benzene	Analytes	0.0293	0.0300	98	80-120	
4-Bromoflu			0.0293	0.0300	102	80-120	
	#: 935334	Sample: 651880-1-BSD / BS			Water	00-120	
Units:	mg/L	<b>Date Analyzed:</b> 02/28/14 17:22		RROGATE R	-	TUDV	
emus.	ing E	Dute Mining Dett. 02, 20, 11 17,22	50	KKUGAIE K			
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluor	obenzene		0.0287	0.0300	96	80-120	
4-Bromoflu	orobenzene		0.0307	0.0300	102	80-120	
Lab Batch	#: 935334	Sample: 480162-001 S / MS	Batcl	h: 1 Matrix	Water		
Units:	mg/L	Date Analyzed: 02/28/14 17:58	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluor			0.0291	0.0300	97	80-120	
4-Bromoflu			0.0305	0.0300	102	80-120	
	#: 935334	Sample: 480162-001 SD / M			: Water		
Units:	mg/L	<b>Date Analyzed:</b> 02/28/14 18:14	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021	Amount Found	True Amount	Recovery	Control Limits	Flags
		Analytes	[A]	[B]	%R [D]	%R	
1,4-Difluor	obenzene		0.0289	0.0300	96	80-120	
	orobenzene		0.0311	0.0300			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### **BS / BSD Recoveries**



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

Work Order #: 480162, 480162							Proj	ject ID: S	SRS#2006-	142	
Analyst: ARM	D	ate Prepar	02/28/2014								
Lab Batch ID: 935334 Sample: 651880-1-E	BKS	Batch #: 1 Matrix: Water									
Units: mg/L		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
BTEX by EPA 8021	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[ <b>B</b> ]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	< 0.00100	0.100	0.0919	92	0.100	0.0914	91	1	70-125	25	
Toluene	< 0.00200	0.100	0.0908	91	0.100	0.0908	91	0	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0954	95	0.100	0.0958	96	0	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.197	99	0.200	0.198	99	1	70-131	25	
o-Xylene	< 0.00100	0.100	0.0999	100	0.100	0.100	100	0	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 # :	480162						Project II	<b>):</b> SRS#2	006-142			
Lab Batch ID:	935334	QC- Sample ID:	480162	-001 S	Ba	tch #:	1 Matrix	: Water				
Date Analyzed:	02/28/2014	Date Prepared:	02/28/2	014	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/L		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA'	TE REC	OVERY	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	0.0904	90	0.100	0.0936	94	3	70-125	25	
Toluene		<0.00200	0.100	0.0892	89	0.100	0.0924	92	4	70-125	25	
Ethylbenzene		< 0.00100	0.100	0.0936	94	0.100	0.0977	98	4	71-129	25	
m_p-Xylenes		< 0.00200	0.200	0.193	97	0.200	0.201	101	4	70-131	25	
o-Xylene		< 0.00100	0.100	0.0981	98	0.100	0.102	102	4	71-133	25	

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

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



Work Order #: 480162

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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/27/2014 12:55:00 PM

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)?	8	
#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?	No	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

randifictation Ruriko Konuma

Date: 02/27/2014

Checklist reviewed by:

ms Kelsey Brooks

Date: 02/27/2014

-			CHAI		CI	IST			CO	n				-					* Container Type	e Codes
and the local division of the	Houston: 4143 Greenbrian Houston: 4143 Greenbrian Hobbs: 4008 N Grimes H		TX 77477 (281	1240-4200							432)563-18	800		Pag W.O # Ilable Hr			016	2	VC Vial Clear TS Te VP Vial Prepreserved AC Air GA Glass Amber TB Te GC Glass Clear 2B Ze PA Plastic Amber PC P	ncore Sampler maCore Sampler ir Canister edlar Bag ip Lock Bag Nastic Clear
Compa	iny: Basin Environmental Service Tech	nologies, LL	с	Phone:	(575)	396-23	378	TAT W	ork Day	s=D	Need re	esults b	y:			Tim	e:		PC Plastic Clear Other	
ddres	S: 3100 Plains Hwy.			Fax	(575)	396-14	429	1	Std (5-	7D) 5H	rs 1D 2	2D 3D	4D 5D	7D 10D	14D	Other			Size(s): 20z, 4cz, 8cz, 16cz, 32cz , 40ml, 125 ml, 250 ml, 500 ml, 1L,	
lity:	Lovington		State: NM	Zip:	8826	0		C	2	/	AN	ALYSE	S RE	QUES	TED				** Preservative Ty	pe Codes
M/Att	n: Ben Arguijo		Emailt	cjbryant@ biarouijo			~	Cont Type * VC	VP									1000	A None E HCL I Ice	
roject	ID: Lovington Gathering WTI SRS #2006-142			PO#:		C. Brya		Pres Type" E, 1	E,I									25	B. HNO <sub>3</sub> F. MeOH J. M. H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAci D. NaOH H. NaHSO <sub>4</sub> L As O.	&NaOH
voice	To: Camille Bryant Plains All America	an		Quote #	5			260										ale un PAH Only If		Codes
M	er Signatures Ramin	Circle One Semi-Annua	Event: Daily I Annual	Weekly N/A	Monti	niy Qu	uartely	Example Volatiles by 8260	BTEX									Hold Sample Bun est TPH Or	GW Ground Water S Sol WW Waste Water W Wig DW Drinking Water A Air SW Surface Water O Oli	NSediment/Solid pe
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	fotal # of containers	E) Volatil										(CALL on Highes	OW Ocean/Sea Water T Test PL Product-Liquid U Unit PS Product-Solid B Blor SL Sludge Other	ne
Sar	THE REAL PROPERTY.	A DE CE	1200	735			FO	# Cont										2500	REMARK	s
1	Goff Dairy Well	2/26/14	9:00	GW		1	ø	States .	х											
2	MW-1		10:00	GW			3		х											
3	MW-4		10:30	GW		2	8	1	x									27%		
4	MW-8	2/26/14	11.00	GW		6	8	122.25	x											
5	Sumple blank	2/26/14	06:45	GW		-	3	and the	X									34:11.		
6	Surfice man is	1 1		-				States.												
7																				
8								and the second										The second		
9																				
_0																		at?		
CTLs	Reg. Program / Clean-up Std TRRP DW NPDES LPST DryCin	A CONTRACTOR	for Certs &		1000			AFCEE QA		AD-PT	EDDs SEDD	FROMS	Concernance.	Labels	0	oolers	Temp	C	Lab Use Only Non-Conformances found?	YES NO N
ther:	**	AL NM OF	ter:			C DoD	-ELAP	Other;		XLS Oth	er:		Absent	Unclear	110	2	3	1	Samples intact upon arrival?	
1	Relinquished by	ANA 1520	Affilia		1.	Date	4	Tin /2:5		INAL	eceived	ashill.	Am	ation	1 Da	ne 10/14	124	ime	Received on Wet los? Labeled with proper preservatives?	
2	Muyun Harr	)	Lasir	GIV	00	16-1	/	12.3	د	1 million	und	NORTH	- 11	0	an	a lu	10.		Received within holding time? Custody seals intact? VOCs rec'd w/o headspace?	
3											. 1	0							Proper containers used? pH verified-acceptable, excl VOCs?	
4										Bé	ØKI	h	Ken	100	2-2	2-14	12	:45	Received on time to meet HTs?	
	aboratories: Hobbs 575-392-755	Delles 2	4 002 020	House	200 2	04 24	2.420	0 Odage	432.5	62 1900	San A	ntonio							C.O.C. Serial #	

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

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month 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. Provision Date: Nov 12, 2009

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Page 13 of 14



Work Order #: 480162

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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/27/2014 12:55:00 PM

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

Temperature Measuring device used :

Sample Receipt Checklis	t	Comments
#1 *Temperature of cooler(s)?	8	
#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?	No	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

rauliforally Ruriko Konuma

Date: 02/27/2014

Checklist reviewed by:

ms roam . Kelsey Brooks

Date: 02/27/2014

# Analytical Report 485276

## for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

#### SRS #2006-142

#### 21-MAY-14

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

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-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)





21-MAY-14

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

Reference: XENCO Report No(s): **485276** 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) 485276. 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. 485276 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Ams Boah

 Kelsey Brooks

 Project Manager

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## Sample Cross Reference 485276



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

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-3	W	05-09-14 08:00		485276-001
MW-6	W	05-09-14 08:30		485276-002
MW-7	W	05-09-14 09:00		485276-003
MW-9	W	05-09-14 09:30		485276-004
MW-10	W	05-09-14 10:00		485276-005
Goff Dairy Well	W	05-09-14 11:00		485276-006
JW Well	W	05-09-14 11:30		485276-007



## CASE NARRATIVE



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

 Project ID:
 SRS #2006-142

 Work Order Number(s):
 485276

 Report Date:
 21-MAY-14

 Date Received:
 05/12/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



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

Project Location: NM

Certificate of Analysis Summary 485276

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Lovington Gathering WTI** 



Date Received in Lab: Mon May-12-14 09:20 am

Report Date: 21-MAY-14

							Project Ma	nager:	Kelsey Brook	CS		
Lab Id:	485276-	001	485276-0	002	485276-	003	485276-0	004	485276-	005	485276-	006
Field Id:	MW-3	MW-3		MW-6		MW-7		Ð	MW-10		Goff Dairy	Well
Depth:												
Matrix:	WATER		WATE	WATER		WATER		WATER		WATER		ER
Sampled:		08:00	May-09-14	08:30	May-09-14 09:00		May-09-14 09:30		May-09-14 10:00		May-09-14 11:00	
Extracted:	May-16-14 17:00		May-16-14 17:00		May-16-14 17:00		May-16-14 17:00		May-16-14 17:00		May-16-14	17:00
Analyzed:	May-16-14	22:51	May-16-14	23:08	May-16-14	23:25	May-16-14	23:41	May-16-14	23:58	May-17-14	00:14
Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
	0.00892	0.00100	ND	0.00100	0.139	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	0.00200
	ND	0.00100	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	0.00200
	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
	0.00892	0.00100	ND	0.00100	0.139	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Analysis Requested Field I Deput Matri Sample BTEX by EPA 8021B Extracte Analyze		Field Id:MW-3Depth:Matrix:Matrix:WATESampled:May-09-14Extracted:May-16-14Analyzed:May-16-14Units/RL:mg/L0.00892NDNDNDNDNDNDNDNDNDNDND	Field Id:         MW-3           Depth:         MW-3           Matrix:         WATER           Sampled:         May-09-14         08:00           Extracted:         May-16-14         17:00           Analyzed:         May-16-14         22:51           Units/RL:         mg/L         RL           0.00892         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:         MW-3         MW-6           Depth:           MW-6           Matrix:         WATER         WATE           Sampled:         May-09-14         08:00         May-09-14           Extracted:         May-16-14         17:00         May-16-14           Analyzed:         May-16-14         22:51         May-16-14           Units/RL:         mg/L         RL         mg/L           ND         0.00200         ND           ND         0.00100         ND           ND         0.00100         ND           ND         0.00100         ND           ND         0.00100         ND	Field Id:         MW-3         MW-6           Depth:         Matrix:         WATER         WATER           Matrix:         WATER         WATER         WATER           Sampled:         May-09-14 08:00         May-09-14 08:30           Extracted:         May-16-14 17:00         May-16-14 17:00           Analyzed:         May-16-14 22:51         May-16-14 23:08           Units/RL:         mg/L         RL         mg/L         RL           0.00892         0.00100         ND         0.00200           ND         0.00200         ND         0.00200           ND         0.00100         ND         0.00200           ND         0.00100         ND         0.00100           ND         0.00100         ND         0.00100	Field Id:         MW-3         MW-6         MW-7           Depth:         Matrix:         WATER         MATER         WATER         WATER           Matrix:         WATER         WATER         WATER         WATER         WATER           Sampled:         May-09-14 ∪8:00         May-09-14 ∪8:30         May-09-14         May-09-14           Extracted:         May-16-14 17:00         May-16-14 17:00         May-16-14         May-16-14           Units/RL:         mg/L         RL         mg/L         RL         mg/L           0.00892         0.00100         ND         0.00200         ND         0.0100           ND         0.00200         ND         0.00200         ND         ND           ND         0.00100         ND         0.00100         ND         ND           ND         0.00100         ND         0.00100         ND         ND           ND         0.00100         ND         0.00100         ND         ND	Field Id:       MW-3       MW-6       MW-7         Depth:       MMTEX       MMTEX       MMTEX       MMTEX         Matrix:       WATER       WATER       WATEX       May-09-14       0:00         Sampled:       May-09-14       0:00       May-09-14       0:00       May-09-14       0:00         Extracted:       May-16-14       17:00       May-16-14       17:00       May-16-14       17:00         Analyzed:       May-16-14       22:51       May-16-14       RL       mg/L       RL         Units/RL:       mg/L       RL       mg/L       RL       mg/L       RL         O.00892       0.00100       ND       0.00100       0.139       0.00100         MD       0.00200       ND       0.00200       ND       0.00200         MD       0.00100       ND       0.00100       ND       0.00100         MD       0.00100       ND       0.00100       ND       0.00100         May-16-14       7:00       ND       0.00100       ND       0.00100         Motor       ND       0.00100       ND       0.00100       ND         May-16-14       7:00       ND       0.00100       <	Lab Id:       485276-001       485276-02       485276-03       485276-03       485276-03         Field Id:       MW-3       MW-3       MW-6       MW-7       MW-7         Depth:       Matrix:       WATER       WATER       WATER       WATER       WATER         Matrix:       WATER       May-09-14 08:00       May-09-14 08:30       May-09-14 09:00       May-09-14         Extracted:       May-16-14 17:00       May-16-14 17:00       May-16-14 17:00       May-16-14 17:00       May-16-14         Units/RL:       mg/L       RL       mg/L       RL       mg/L       Mag         0.00892       0.00100       ND       0.00100       ND       0.00100       ND         ND       0.00200       ND       0.00200       ND       0.00200       ND         ND       0.00100       ND       0.00100       ND       0.00100       ND         ND       0.00100       ND       0.00100       ND       0.00100       ND         May       ND       0.00100       ND       0.00100       ND       ND       ND         May       0.00200       ND       0.00200       ND       0.00200       ND         May	Lab Id:         485276-001         485276-002         485276-003         485276-004         485276-004           Field Id:         MW-3         MW-3         MW-6         MW-7         MW-7         MW-7           Depth:         Matrix:         WATER         WATER         WATER         WATER         WATER         WATER           Sampled:         May-09-14 08:00         May-09-14 08:30         May-09-14 09:00         May-09-14 09:00         May-09-14 09:30           Extracted:         May-16-14 17:00         May-16-14 17:00         May-16-14 17:00         May-16-14 17:00         May-16-14 17:00         May-16-14 17:00         May-16-14 23:25         May-16-14 23:41           Units/RL:         mg/L         RL         mg/L         RL         mg/L         RL           0.00892         0.00100         ND         0.00200         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           May-16-14         ND         0.00100         ND         0.00200         ND         0.00200	Lab Id: $485276-001$ $485276-002$ $485276-003$ $485276-004$ $485276-004$ $485276-004$ $485276-004$ $485276-004$ $485276-004$ $485276-004$ $485276-004$ $485276-004$ $MW-1$ Depth:         MW-3         MW-6         MW-7         MW-7         MW-9         MW-1         MW-1           Matrix:         WATER         WATER         WATER         WATER         WATER         WATER         WATER         WATER         WATER         May-09-14 $9:30$ May-09-14         May-09-14 $9:30$ May-09-14         May-09-14 $9:30$ May-16-14 $9:30$ May-16-14 $9:30$ May-16-14 $9:30$ May-16-14 $9:$	Field Id:         MW-3         MW-6         MW-7         MW-9         MW-9         MW-10           Depth:         Matrix:         WATEX         WATEX         WATEX         WATEX         MAy-09-14         May-016-14         May-016-14	

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

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Huns Boah

Kelsey Brooks Project Manager



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

Project Location: NM

Certificate of Analysis Summary 485276

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI



Date Received in Lab: Mon May-12-14 09:20 am

Report Date: 21-MAY-14

Project Manager: Kelsey Brooks

	Lab Id:	485276-007			
Analysis Requested	Field Id:	JW Well			
Analysis Requested	Depth:				
	Matrix:	WATER			
	Sampled:	May-09-14 11:30			
BTEX by EPA 8021B	Extracted:	May-16-14 17:00			
	Analyzed:	May-17-14 00:30			
	Units/RL:	mg/L RL			
Benzene		ND 0.00100			
Toluene		ND 0.00200			
Ethylbenzene		ND 0.00100			
m,p-Xylenes		ND 0.00200			
o-Xylene		ND 0.00100			
Total Xylenes		ND 0.00100			
Total BTEX		ND 0.00100			

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

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Kelsey Brooks Project Manager

Page 6 of 15



## 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 **POL** 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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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Final 1.000



### Project Name: Lovington Gathering WTI

Work Order Lab Batch #: 9		Sample: 485276-001 / SMP	Batc		: SRS #2006- : Water	172	
U <b>nits:</b> n	ng/L	<b>Date Analyzed:</b> 05/16/14 22:51	SU	RROGATE R	ECOVERY S	STUDY	
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobenz	ene		0.0254	0.0300	85	80-120	
4-Bromofluorobe	nzene		0.0276	0.0300	92	80-120	
Lab Batch #: 9	41273	Sample: 485276-002 / SMP	Batc	h: 1 Matrix	: Water		
U <b>nits:</b> m	ng/L	Date Analyzed: 05/16/14 23:08	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenz	ene	Analytes	0.0256	0.0300	85	80-120	
4-Bromofluorobe			0.0285	0.0300	95	80-120	
Lab Batch #: 9		Sample: 485276-003 / SMP	Batc		: Water	00 120	
	ng/L	Date Analyzed: 05/16/14 23:25		RROGATE R		STUDY	
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobenz	ene		0.0315	0.0300	105	80-120	
4-Bromofluorobe	nzene		0.0264	0.0300	88	80-120	
Lab Batch #: 9	41273	Sample: 485276-004 / SMP	Batc	h: 1 Matrix	: Water		
Units: n	ng/L	Date Analyzed: 05/16/14 23:41	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenz	ene	•	0.0258	0.0300	86	80-120	
4-Bromofluorobe	nzene		0.0275	0.0300	92	80-120	
Lab Batch #: 9		Sample: 485276-005 / SMP	Batc		: Water		
Units: n	ng/L	<b>Date Analyzed:</b> 05/16/14 23:58	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluorobenz			0.0251	0.0300	84	80-120	
4-Bromofluorobe	nzene		0.0282	0.0300	94	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Lovington Gathering WTI

	#: 941273	Sample: 485276-006 / SMP	Batel	h: 1 Matrix	: Water							
U <b>nits:</b>	mg/L	<b>Date Analyzed:</b> 05/17/14 00:14	SU	RROGATE R	ECOVERY S	STUDY						
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
		Analytes			[D]							
1,4-Difluoro	benzene		0.0263	0.0300	88	80-120						
4-Bromoflue	orobenzene		0.0281	0.0300	94	80-120						
Lab Batch	#: 941273	Sample: 485276-007 / SMP	AP   Batch:   1   Matrix:   Water									
Units:	mg/L	Date Analyzed: 05/17/14 00:30	SU	RROGATE R	ECOVERY S	STUDY						
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1,4-Difluoro	benzene	Anarytes	0.0260	0.0300	87	80-120						
4-Bromoflue			0.0200	0.0300	91	80-120						
Lab Batch		Sample: 655671-1-BLK / BL			Water	00-120						
Units:	mg/L	Date Analyzed: 05/16/14 21:12		RROGATE R		STUDY						
	ВТЕУ	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
		Analytes		[10]	[D]	/01						
1,4-Difluoro	benzene		0.0242	0.0300	81	80-120						
4-Bromoflue	orobenzene		0.0262	0.0300	87	80-120						
Lab Batch	#: 941273	Sample: 655671-1-BKS / BK	S Batc	h: 1 Matrix	: Water							
Units:	mg/L	Date Analyzed: 05/16/14 21:29	SURROGATE RECOVERY STUDY									
	втех	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1.4-Difluoro	benzene	Tindy tes	0.0254	0.0300	85	80-120						
4-Bromoflue			0.0254 0.0300 85			80-120						
	#: 941273	Sample: 655671-1-BSD / BS			: Water							
Lab Batch	mg/L	<b>Date Analyzed:</b> 05/16/14 21:45		RROGATE R		STUDY						
Lab Batch Units:	IIIg/ L			1		<i>a</i> , 1						
		X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	BTEX	X by EPA 8021B Analytes	Found	Amount	•	Limits	Flags					

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Lovington Gathering WTI

<b>Work Orders :</b> 485 Lab Batch #: 941273	5276, Sample: 485304-001 S / MS	Project ID:         SRS #2006-142           S         Batch:         1         Matrix: Water									
Units: mg/L	Date Analyzed: 05/16/14 22:02	SURROGATE RECOVERY STUDY									
ВТ	EX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	Analytes			[D]							
1,4-Difluorobenzene		0.0260	0.0300	87	80-120						
4-Bromofluorobenzene		0.0309	0.0300	103	80-120						
Lab Batch #: 941273	Sample: 485304-001 SD / M	MSD Bate	h: 1 Matrix:	Water	·						
Units: mg/L	Date Analyzed: 05/16/14 22:18	SU	RROGATE R	ECOVERY S	STUDY						
BT	EX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
	Analytes										
1,4-Difluorobenzene		0.0267	0.0300	89	80-120						
4-Bromofluorobenzene		0.0315	0.0300	105	80-120						

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### **BS / BSD Recoveries**



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

Work Order #: 485276							Proj	ect ID: 5	SRS #2006	-142				
Analyst: ARM	<b>Date Prepared:</b> 05/16/2014 <b>Date Analyzed:</b> 05/16/2014													
Lab Batch ID: 941273 Sample: 655671-1-E	BKS Batch #: 1 Matrix: Water													
Units: mg/L		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVE									ſUDY			
	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]		[E]	Kesuit [F]	[0]							
Benzene	< 0.00100	0.100	0.0939	94	0.100	0.0966	97	3	70-125	25				
Toluene	< 0.00200	0.100	0.0948	95	0.100	0.0977	98	3	70-125	25				
Ethylbenzene	< 0.00100	0.100	0.100	100	0.100	0.103	103	3	71-129	25				
m,p-Xylenes	< 0.00200	0.200	0.207	104	0.200	0.212	106	2	70-131	25				
o-Xylene	< 0.00100	0.100	0.103	103	0.100	0.106	106	3	71-133	25				

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



### Form 3 - MS / MSD Recoveries

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



Work Order # :	485276						Project II	<b>):</b> SRS #2	2006-142			
Lab Batch ID:	941273	QC- Sample ID:	485304	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Water				
Date Analyzed:	05/16/2014	Date Prepared:	05/16/2	014	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/L	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
]	BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene		< 0.00100	0.100	0.0964	96	0.100	0.0991	99	3	70-125	25	
Toluene		< 0.00200	0.100	0.0972	97	0.100	0.0995	100	2	70-125	25	
Ethylbenzene		< 0.00100	0.100	0.104	104	0.100	0.106	106	2	71-129	25	
m,p-Xylenes		< 0.00200	0.200	0.213	107	0.200	0.217	109	2	70-131	25	
o-Xylene		<0.00100	0.100	0.107	107	0.100	0.108	108	1	71-133	25	

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

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

bor	Houston: 4143 Greenbr Hobbs: 4008 N Grimes	Hobbs, NM 88	. TX 77477 (28 240 (575)392-:				DY R			5 (432)663-	1800		Pa W.O billable		of 2	- 852	16	VC Vial Clear TS Ter VP Vial Pre-preserved AC Air GA Glass Amber TB Tec GC Glass Clear ZB Zip	core Sampler raCore Sampler Canister dar Bag Lock Bag
pany:	Basin Environmental Service Tec	chnologies, Ll	.c	Phone:	(575)3	96-2378	TAT V	Vork Da	ys = D	Need	results		UNIQUIC		Tir	no <sup>.</sup>		PA Plastic Amber PC Pic PC Plastic Clear Other	astic Clear
ISS:	3100 Plains Hwy.			Fax	(575)3	96-1429	1 /	AT Work Days = D Need results by: Time: Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other						Size(s): 202, 402, 802, 1602, 3202	1Gal				
	Lovington		State: NM	Zip:	88260		1		/	the second s	of the second	ES RE			Other	1000	1.200	40ml, 125 ml, 250 ml, 500 ml, 1L, 0 ** Preservative Typ	
	Ben Arguijo		Email:	cjbryant@ bjarguijo			Cont Type VC	VP		T	1	T	T				1000		e ooues
ct ID:	Lovington Gathering WTI SRS #2006-142			PO#:	PAA-C		Pres Type*					-	+			+	12040	B. HNO <sub>3</sub> F. MeOH J. MC/ H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAc&	NaOH
e To:	Camille Bryant Plains All Americ	can		Quote #			and the second	E,1	-	-	-	+	+	-	-	-	I I	D. NaOH H. NaHSO, L Asb O	c Acid&NaOH
ler Sig	The for	Circle One Semi-Annua Collect	Event: Daily i Annual Collect	NA			Example Volatiles by 8260	втех									Hold Sample Run PAH est TPH Only If	WW Waste Water W Wipe DW Drinking Water A Air SW Surface Water O OI	Sedment/Solid
	Sample ID	Date	Time	Matrix Code ^	Field	OK (Y/N) Total # of container	#Cont										(CALL on Highe	OW Ocean/See Water T Tissu PL Product-liquid U Urine PS Product-Solid B Blood SL Sludge Other	
	- <u>MW-2</u>			GW		-		×.	A	1			-	-			1000	REMARKS	6
	MW-3	5/5/14	0800	GW		3		*	1	+	-		-			-	22		
	MW-6	5/9/14	0836	GW		3		x		-	-	-	-		_		State of the		
	MW-7	5/9/14		GW		3	5	x			-								
	MW-9	1 1 1 1	Ogro	GW		3		x	-	-	-		-				-		
	MW-10	5/9/14	1.A	GW		3	The Mary	X			-						1000		
		1101	1000				19	~					-		-		-		
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									-								Section 1		
	Program / Clean-up Std	and the second s	for Certs & I	and the second second	QAI	C Leve	& Certific	ation	1	EDDs	10	COC &	Labels	0	nolers	Temp *C		Lab Use Only YE	ES NO N/A
RRP	DW NPDES LPST DryCin	AL NM Other				4 CLP DoD-ELAP	AFCEE QA Other:		ADaPT XLS Oth	SEDD E	RPIMS	Match In Absent	complete Unclear	16.4	- Cor	3 -	706	Non-Conformances found?	
	Relinquished by	a starter	Affiliati	on	Da	ate	Tim	e	R	eceived I	y	Affilia		Dat	e	Tin	18	Received on Wet Ice?	
	11/10		Chain,	Far	5/12	Ju	083	2	A		-	1 1	Env.	5/9/		no		Labeled with proper preservatives? Received within holding time? Custody seals intect?	
Th	four		Basin		5/12		9:20		XIT	1000	in	Brs. 1		5/12	14	17:00	~	VOCs rec'd wib headspace? Proper containers used?	
1			( service and the service and	1	1.01		1.20	_	Khu	D INI D	100	Vau	1.5	2112	114	92	_	pH ventiled-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

C.U.C. Senal ;

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue 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

CENCO Houston: 4143 Green	viar Dr. Stallow	CHA		F C	US	101	JY RE	ECC	RD				P	age_2	of 2	2		* Container T	the second s
Houston: 4143 Green Hotbs: 4008 N Grimer	FILLER, NEW DO	2540 (010)382-	7550	0 Ode	xssa: 12	600 We	ist i-20 East	Odessa,	TX 7976	35 (432)563	-1800		8 W.O	#:	418	52	16	VA Vial Amber ES Encore Sample VC Vial Clear TS TerraCore Sam VP Vial Pre-preserved AC Air Canister GA Glass Amber TB Tediar Bag GC Glass Clear ZB Zip Lock Bao	
pany: Basin Environmental Service Te	chnologies, L	LC	Phone	(575	5)396-2	378	TAT W	ork Da	we = D	Noor	en en elle		billable	Hrs :				PA Plastic Amber PC PC Plastic Clear	Zip Lock Bag Plastic Clear
ress: 3100 Plains Hwy.			Fax	(575	396-1	429		/			results					ime:		Other	
Lovington		State: NM	Zip:	8826	60	-	(	500 (5	-10) :	5Hrs 1D					Othe	r		Size(s): 2oz. 4oz. 8oz. 16oz. 3/ 40ml, 125 ml, 250 ml, 500 ml,	1L, Other
Attn: Ben Arguijo		Email:	cjbryant				Cont Type *		1	A	ALY	SES R	EQUE	STED	1		1.1	** Preservative	Type Code
ct ID: Lovington Gathering WTI SRS #2006-142			PO#:		-C. Brya		VC Pres Type** E, I	VP	+	+	-	+	+	-	+	-	100		Ice MCAA
ce To: Camille Bryant Plains All Amer	ican		Quote #	ŧ			The second second	E,I	+	+	+	+	+	-	-	-		D. NaOH H. NaHSO, L O	Asbc Acid&Na(
wher Signature:	Circle One Semi-Annu	Event: Daily al Annual	Weekly N/A	Month	hiy Qu	artely	mple by 826	втех									ample Run PAH	^ Matrix Typ GW Ground Water S WW Waste Water W	Sall Cardman Coll.
Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Volatiles by 8260	B									Hold S (CALL) on Highest TPH	DW Drinking Water A SW Surface Water O ( OW Ocean/See Water T PL Product-Liquid U PS Product-Solid B ( SL Sludge Other	Air Di Tissue Lirine
Goff Dairy Well	5/9/14	1100	GW			3	1791.2	x		1	-	1	1			1		REMAR	KS
JW Well		1130	GW	$\square$	-	3		x	-	-	-	-	-		-	-			
Goff Dairy - Ctr. Pivot Well		1700	-GW-			~	1911			-	-	-	-			-			
Goff Dairy - Ctr. Pivot Beg.	5/9/4		GW			3		×	a.	-	-	-	-			-			
-Goff Dairy - Ctr. Pivot End	5/1/14		GW		_		-	×	¥	-	-	-	-						
	5/1/1		011	$\vdash$	+	3	-	-		+		-	-		_	<u> </u>			
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Reg. Program / Clean-up Std	the local data in the local data where the local data is the local data where the local data is the lo	or Certs & F		QA	QC Le	evel &	Certificati	ion		EDDs	4	COC &	Labels	0	alam	Temp *(			
RRP DW NPDES LPST DryCin	FL TX GA NO AL NM Other	SC NU PA		1 2 NELAC	3 4 C DoD-EL	AP ON	FCEE QAPP		ADaPT LS Oth	SEDO E	RPIMS	10000000	CALCULATION OF	16.6		3 a		Lab Use Only on-Conformances found?	YES NO N
Relinquished by	- E2,01-1	Affiliatio			Date		Time		_	eceived b	y	Affilia	ation	Dat	e	_3 Q		emples intact upon anival? roeived on Wet los?	
h/h		1	- +	6	1	-			1	lin	-	best	EAV.	5/9/	14	17	22	beled with proper preservatives?	
		Esin E			2/14		0830	2 4	160	900	in	Basel.		5/12/	/	12:1	1,1 0	stody seals intact? ICs rec'd wio headspace?	
Joek Joury		Basin		216	2/14	1°	1.20		1.(	agh	10	MS		5/12/		9:2	n Pi	oper containers used? verified-acceptable, excl VOCs?	
boratories: Hobbs 575-392-7550 rvice Centers: Atlanta 770-449-8									Un	nom	alia	VAL	20	- A		141	<i>c</i> – – – – – – – – – – – – – – – – – – –	ceived on time to most HTs?	

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 a 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

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Page 14 of 15



Work Order #: 485276

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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/12/2014 09:20:00 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)?	0	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	Yes	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	No	

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

Analyst:

PH Device/Lot#:

Date: 05/13/2014

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

Date: 05/13/2014

# Analytical Report 488401

## for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo Lovington Gathering WTI

## SRS# 2006-142

#### 01-JUL-14

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

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-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-JUL-14

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

Reference: XENCO Report No(s): **488401** 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) 488401. 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. 488401 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Ams Boah

 Kelsey Brooks

 Project Manager

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## Sample Cross Reference 488401



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

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-7	W	06-24-14 00:00		488401-001



## CASE NARRATIVE



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

 Project ID:
 SRS# 2006-142

 Work Order Number(s):
 488401

Report Date: 01-JUL-14 Date Received: 06/30/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

**Analytical non conformances and comments:** Batch: LBA-944681 BTEX by EPA 8021B No extra samples for MS/MSD. BKS and BSD withing QC limits



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

Project Location:

Certificate of Analysis Summary 488401

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI



Date Received in Lab: Mon Jun-30-14 09:37 am

**Report Date:** 01-JUL-14

Project Manager: Kelsey Brooks

	Lab Id:	488401-001			
Analysis Requested	Field Id:	MW-7			
Analysis Kequestea	Depth:				
	Matrix:	WATER			
	Sampled:	Jun-24-14 00:00			
BTEX by EPA 8021B	Extracted:	Jun-30-14 16:00			
	Analyzed:	Jun-30-14 19:19			
	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.%

Huns Boah

Kelsey Brooks Project Manager



## **Flagging Criteria**



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

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

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

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Final 1.000
```



## Project Name: Lovington Gathering WTI

	rders : 48840 #: 944681	01, Sample: 488401-001 / SMP	Batcl		: SRS# 2006- : Water	142							
Units:	mg/L	<b>Date Analyzed:</b> 06/30/14 19:19	SURROGATE RECOVERY STUDY										
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
		Analytes			[D]								
1,4-Difluor	obenzene		0.0274	0.0300	91	80-120							
4-Bromoflu	ıorobenzene		0.0312	0.0300	104	80-120							
Lab Batch	#: 944681	Sample: 657765-1-BLK / Bl	LK Batch	n: 1 Matrix	: Water								
Units:	mg/L	Date Analyzed: 06/30/14 17:57	SURROGATE RECOVERY STUDY										
	BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1,4-Difluor	obenzene	Anary CS	0.0267	0.0300	89	80-120							
4-Bromoflu	ıorobenzene		0.0307	0.0300	102	80-120							
Lab Batch	#: 944681	<b>Sample:</b> 657765-1-BKS / BI	KS Batch	n: 1 Matrix	: Water								
Units:	mg/L	<b>Date Analyzed:</b> 06/30/14 18:14	SURROGATE RECOVERY STUDY										
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
		Analytes			[D]								
1,4-Difluor	obenzene		0.0271	0.0300	90	80-120							
4-Bromoflu	ıorobenzene		0.0348	0.0300	116	80-120							
Lab Batch	#: 944681	Sample: 657765-1-BSD / BS	SD Batch	n: 1 Matrix	: Water								
Units:	mg/L	Date Analyzed: 06/30/14 18:29	SU	RROGATE R	ECOVERY S	STUDY							
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1,4-Difluor	obenzene		0.0283	0.0300	94	80-120							
4-Bromoflu	ıorobenzene		0.0354	0.0300	118	80-120							

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### **BS / BSD Recoveries**



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

Work Order	·#: 488401							Proj	ject ID:	SRS# 2006	-142			
Analyst:	ARM	D	ate Prepar		Date Analyzed: 06/30/2014									
Lab Batch ID:	<b>:</b> 944681 <b>Sample:</b> 657765-1-3	BKS	Batc	<b>h #:</b> 1			Matrix: Water							
Units:	mg/L		BLAN	K /BLANK S	LICATE	E RECOVERY STUDY								
Analy	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		
Benzene		<0.00100	0.100	0.0996	100	0.100	0.104	104	4	70-125	25			
Toluene		< 0.00200	0.100	0.0991	99	0.100	0.104	104	5	70-125	25			
Ethylbenze	ene	< 0.00100	0.100	0.107	107	0.100	0.112	112	5	71-129	25			
m,p-Xylen	ies	< 0.00200	0.200	0.219	110	0.200	0.228	114	4	70-131	25			
o-Xylene		< 0.00100	0.100	0.110	110	0.100	0.115	115	4	71-133	25			

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

-	the state of the s	-	OLIAN	LOF	01	ICT	OF	VDE	COL									* Container Type C	odes
	Houston: 4143 Greenbrie Hobbs: 4008 N Grimes			240-4200							132)563-18			Page N.O # : Illable Hrs	<u>1</u> of_1 s:	8840	0	VA Vial Amber ES Encore VC Vial Clear TS TerraCc VP Vial Pre-preserved AC Air Can GA Glass Amber TB Teclar I GC Glass Clear ZB Zip Loc PA Plastic Amber PC Plastic PC Plastic Clear	Bag ck Bag
ompan	9: Basin Environmental Service Tec	hnologies, LL	С	Phone:	(575)	396-23	878	TAT W	ork Day	s=D	Need re	esults by	c		T	me:		Other	_
idress	3100 Plains Hwy.			Fax:	(575)	396-14	129	(	Std (5-	7D) 5H	s 1D 2	D 3D 4	D 5D	<u>7D</u> 10D	14D Othe	r		Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Ga 40ml, 125 ml, 250 ml, 500 ml, 1L, Othe	il #
ly:	Lovington		State: NM	Zip:	8826	0		(		)	ANA	ALYSE	S REO	QUEST	ED		125 An	** Preservative Type	Codes
/Attn	Ben Arguijo		Email:	cjbryant@ bjarguijo(			m	Cont Type * VC	VP									A. None E. HCL I. Ice B. HNO <sub>5</sub> F. MeOH J. MCAA	
ject				PO#:		C. Brya		Pres Type**	E,I								1.300	H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAc&Nat D. NaOH H. NaHSO <sub>4</sub> L Asbc A O.	OH
olce		can		Quote #:					-,.								le in PAH Only If		des
	r Name:	Circle One	Event: Daily	Weekly	Month	nly Qi	uartely	Example Volatiles by 8260	X								Sample Run	GW Ground Water S Soll/Sed WW Waste Water W Wipe DW Drinking Water A Air	
bert \$	Sawyer	Semi-Annua	al Annual	N/A	1	1000		Exam iles t	BTEX				1				Hold	SW Surface Water O OI OW Ocean/Sea Water T Tissue	
# 200	Sample ID	Collect Date	Collect Time	Matrix Code ^	eld tored	Integrity OK (Y/N)	ital # of	EVolat					2				(CALL_	PL Product-Liquid U Urine PS Product-Solid B Blood SL Sludge Other	
Sample #					<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	ĒÕ	Tot	# Cont									1200	REMARKS	
		0/04/44		GW	-		3	1000	x				14 - 14 A				10 100	Resample - no charge per Kels	sey, 6/19/1
_1	MW-7	6/24/14		GW	-	-	3	Tiperry	<u>^</u>	-			-			-	123111		
_2				-	-	-	-	and the second	-	-						+			
_3		_	<u> </u>		-	-			<u> </u>	-	-	-	-			-	1000		
_4					-	-	<u> </u>	ALCONC.	<u> </u>		-	-	-			-			
_5				-					<u> </u>		-	-				-			
_6								1000				_		-	_		2.5		
_7								HE CAL								_	Carrier and		
8																_	13.7		
9								1200									254		
0								E Sa											
	Reg. Program / Clean-up Std	STATE	E for Certs	& Regs	1 1000			el & Certifi			EDDs		and the second	& Labels	Coole	rs Temp	°° 5	Lab Use Only YE Non-Conformances found?	ES NO N
CTLs Wher:	TRRP' DW NPDES LPST DryCin	FL TX GA AL NM O	NC SC NJ ther:	PA OK LA		C Do	D-ELAP	AFCEE Q Other:		XLS Of			Absent	Unclear	1 2	3	0	Samples intact upon arrival?	
	11 1 Belinquished by	- States	Affili		1	Date		_	ne	F	leceived	by	Affi	liation	Date	10	Time	Received on Wet Ice? Labeled with proper preservatives? Received within holding time?	==:
1	Muttin				6	27/		7:1	45	5	Kin	Carl	N.	S	6:27/1		1:45	Custody seals intact? VOCs rec'd w/o headspace?	
2	P/M		Basin/	nVi	6	1071	19	10.	73		RIO	Super		10	6396		137	Proper containers used? pH verified-acceptable, excl VOCs?	
3				_	+					1 P	no		NI	100	9-10		21	Received on time to meet HTs?	
4										1					Phoneix 602	107 000	20	C.O.C. Serial #	

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

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

Final 1.000

Page 9 of 10



Work Order #: 488401

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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/30/2014 09:37:00 AM

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

**Temperature Measuring device used :** 

Sam	ple Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	6	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ co	ooler? Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Cust	tody? Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ r	eceived? Yes	
#11 Chain of Custody agrees with sample label(s)	? <b>Yes</b>	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of	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)	? <b>Yes</b>	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less that	n 1/4 inch bubble)? Yes	
#21 <2 for all samples preserved with HNO3,HCL,	H2SO4? Yes	
#22 >10 for all samples preserved with NaAsO2+N	NaOH, ZnAc+NaOH? No	

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

Analyst:

PH Device/Lot#:

Date: 06/30/2014

Checklist completed by: Kelsey Brooks Checklist reviewed by: Kelsey Brooks Kelsey Brooks

Date: 06/30/2014

# Analytical Report 491495

## for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

#### SRS# 2006-142

#### 20-AUG-14

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

> 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)



20-AUG-14

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

Reference: XENCO Report No(s): **491495** 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) 491495. 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. 491495 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Ams Boah

 Kelsey Brooks

 Project Manager

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# Sample Cross Reference 491495



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

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	08-07-14 13:00		491495-001
MW-3	W	08-07-14 15:00		491495-002
MW-7	W	08-07-14 13:10		491495-003
MW-8	W	08-07-14 15:20		491495-004
MW-9	W	08-07-14 16:15		491495-005
Goff Dairy Well	W	08-07-14 11:45		491495-006
JW Well	W	08-07-14 11:00		491495-007
Goffy Dairy- Ctr. Pivot Well	W	08-07-14 12:00		491495-008
Goffy Dairy- Ctr. Pivot Beg.	W	08-07-14 12:15		491495-009
Goffy Dairy- Ctr. Pivot End	W	08-07-14 11:00		491495-010



### CASE NARRATIVE



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

 Project ID:
 SRS# 2006-142

 Work Order Number(s):
 491495

Report Date:20-AUG-14Date Received:08/14/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



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

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**Project Location:** 

Certificate of Analysis Summary 491495

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Lovington Gathering WTI** 



Date Received in Lab: Thu Aug-14-14 02:31 pm

Report Date: 20-AUG-14

								Project Ma	nager:	Kelsey Brook	S		
	Lab Id:	491495-	001	491495-	002	491495-	003	491495-0	004	491495-	005	491495-	006
Analysis Requested	Field Id:	MW-	1	MW-3		MW-7	7	MW-8	3	MW-9		Goff Dairy	y Well
Analysis Kequesiea	Depth:												
	Matrix:	WATE	R	WATE	R	WATE	R	WATE	R	WATE	R	WATE	ER
	Sampled:	Aug-07-14	13:00	Aug-07-14	15:00	Aug-07-14	13:10	Aug-07-14	15:20	Aug-07-14	16:15	Aug-07-14	11:45
BTEX by EPA 8021B	Extracted:	Aug-16-14	18:00	Aug-16-14	18:00	Aug-16-14	18:00	Aug-16-14	18:00	Aug-16-14	18:00	Aug-16-14	18:00
	Analyzed:	Aug-16-14	Aug-16-14 22:49		Aug-16-14 23:21		Aug-16-14 23:38		23:54	Aug-17-14	00:11	Aug-17-14	00:27
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		0.0255	0.00100	0.00709	0.00100	0.201	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Toluene		ND	0.00200	0.00344	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	0.00461	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200
o-Xylene		ND	0.00100	0.00241	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Total Xylenes		ND	0.00100	0.00702	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Total BTEX		0.0255	0.00100	0.0176	0.00100	0.201	0.00100	ND	0.00100	ND	0.00100	ND	0.00100

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

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Huns Boah

Kelsey Brooks Project Manager



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

Contact: Ben Arguijo

**Project Location:** 

## Certificate of Analysis Summary 491495

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI



Date Received in Lab: Thu Aug-14-14 02:31 pm

Report Date: 20-AUG-14

Project Manager: Kelsey Brooks

	Lab Id:	491495-007	491495-008	491495-009	491495-010	
Analysis Paguastad	Field Id:	JW Well	Goffy Dairy- Ctr. Pivot Well	Goffy Dairy- Ctr. Pivot Beg	. Goffy Dairy- Ctr. Pivot End	
Analysis Requested	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	
	Sampled:	Aug-07-14 11:00	Aug-07-14 12:00	Aug-07-14 12:15	Aug-07-14 11:00	
BTEX by EPA 8021B	Extracted:	Aug-16-14 18:00	Aug-16-14 18:00	Aug-16-14 18:00	Aug-16-14 18:00	
	Analyzed:	Aug-17-14 00:43	Aug-17-14 01:00	Aug-17-14 01:16	Aug-17-14 02:06	
	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	
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	

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

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Huns Roah

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 **POL** Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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

```
Final 1.000
```



### Project Name: Lovington Gathering WTI

Units:	mg/L	Sample: 491495-001 / SMP Date Analyzed: 08/16/14 22:49	CT.		FOUEDR		
Units:	IIIg/L	Date Analyzeu: 08/10/14 22.49	SU	RROGATE R	ECOVERY	STUDY	
	втех	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0313	0.0300	104	80-120	
4-Bromofluo	orobenzene		0.0262	0.0300	87	80-120	
Lab Batch #	#: 948391	Sample: 491495-002 / SMP	Batc	h: 1 Matrix	: Water		
Units:	mg/L	Date Analyzed: 08/16/14 23:21	SU	RROGATE R	ECOVERY	STUDY	
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene	Analytes	0.0301	0.0300	100	80-120	
4-Bromofluo			0.0260	0.0300	87	80-120	
Lab Batch #	#: 948391	Sample: 491495-003 / SMP	Batcl		: Water		
Units:	mg/L	Date Analyzed: 08/16/14 23:38	SU	RROGATE R	ECOVERY	STUDY	
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0314	0.0300	105	80-120	
4-Bromofluo	orobenzene		0.0257	0.0300	86	80-120	
Lab Batch #	<b>#:</b> 948391	Sample: 491495-004 / SMP	Batc	h: 1 Matrix	Water		
Units:	mg/L	Date Analyzed: 08/16/14 23:54	SU	RROGATE R	ECOVERY S	STUDY	
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro			0.0293	0.0300	98	80-120	
4-Bromofluo			0.0254	0.0300	85	80-120	
Lab Batch #		Sample: 491495-005 / SMP	Batcl		: Water		
Units:	mg/L	Date Analyzed: 08/17/14 00:11	SU	RROGATE R	ECOVERY S	STUDY	
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0305	0.0300	102	80-120	
4-Bromofluo	orobenzene		0.0265	0.0300	88	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Lovington Gathering WTI

Units:	mg/L	Date Analyzed: 08/17/14 00:27	CT.		FCOVEDV	TUDV	
C must	111 <sub>6</sub> / 12	2 are 1 mary 2 cu. 00/17/14 00.27	SU	RROGATE R	LCOVERY		
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0301	0.0300	100	80-120	
4-Bromofluo	orobenzene		0.0257	0.0300	86	80-120	
Lab Batch #	<b>#:</b> 948391	Sample: 491495-007 / SMP	Batc	h: 1 Matrix	: Water		
Units:	mg/L	Date Analyzed: 08/17/14 00:43	SU	RROGATE R	ECOVERY S	STUDY	
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	<b>1</b>	Analytes	0.0207	0.0200		00.100	
4-Bromofluo			0.0306	0.0300	102	80-120	
Lab Batch #		Sample: 491495-008 / SMP	0.0264 Batc	0.0300 h: 1 Matrix	88	80-120	
		•					
Units:	mg/L	Date Analyzed: 08/17/14 01:00	SU	RROGATE R	ECOVERY S	STUDY	
	втех	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0303	0.0300	101	80-120	
4-Bromofluo	orobenzene		0.0263	0.0300	88	80-120	
Lab Batch #	<b>#:</b> 948391	Sample: 491495-009 / SMP	Batc	h: 1 Matrix	: Water		
Units:	mg/L	Date Analyzed: 08/17/14 01:16	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0299	0.0300	100	80-120	
4-Bromofluo	orobenzene		0.0267	0.0300	89	80-120	
Lab Batch #	<b>#:</b> 948391	Sample: 491495-010 / SMP	Batc	h: 1 Matrix	Water		
Units:	mg/L	Date Analyzed: 08/17/14 02:06	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0301	0.0300	100	80-120	
4-Bromofluo	orobenzene		0.0260	0.0300	87	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### Project Name: Lovington Gathering WTI

	r <b>ders :</b> 49149 #: 948391	5, 491495 Sample: 660140-1-BLK / B	LK Batch	0	: SRS# 2006- : Water	-142	
Units:	mg/L	Date Analyzed: 08/16/14 21:10	SU	RROGATE R	RECOVERY	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluor	obenzene		0.0301	0.0300	100	80-120	
4-Bromoflu	orobenzene		0.0256	0.0300	85	80-120	
Lab Batch	<b>#:</b> 948391	Sample: 660140-1-BKS / B	KS Batch	n: 1 Matrix	: Water		
Units:	mg/L	Date Analyzed: 08/16/14 21:26	SU	RROGATE R	RECOVERY	STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4 D:fluer	-1	Analytes	0.0201	0.0200		00.100	
1,4-Difluor			0.0301	0.0300	100	80-120	
4-Bromoflu			0.0288	0.0300	96	80-120	
	#: 948391	Sample: 660140-1-BSD / B			: Water		
Units:	mg/L	Date Analyzed: 08/16/14 21:43	SU	RROGATE R	RECOVERY	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluor	obenzene		0.0300	0.0300	100	80-120	
4-Bromoflu	orobenzene		0.0285	0.0300	95	80-120	
Lab Batch	#: 948391	Sample: 491495-001 S / MS	B Batch	n: 1 Matrix	Water		
Units:	mg/L	Date Analyzed: 08/16/14 21:59	SU	RROGATE R	RECOVERY	STUDY	
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluor	obenzene	Analy tes	0.0281	0.0300	94	80-120	
4-Bromoflu			0.0281	0.0300	94	80-120	
	#: 948391	Sample: 491495-001 SD / N			Water	00-120	
Units:	mg/L	Date Analyzed: 08/16/14 22:16					
omo.	1116/ L	Date Analyzet, 00/10/14 22.10	50	RROGATE R	LUVERY		
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
				1			
1,4-Difluor	ohanzana	1 mary tes	0.0295	0.0300	98	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### **BS / BSD Recoveries**



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

Work Order #: 491495, 491495							Pro	ject ID:	SRS# 2006	-142	
Analyst: ARM	D	ate Prepar	red: 08/16/201	4			Date A	nalyzed: (	08/16/2014		
Lab Batch ID: 948391 Sample: 660140-1-F	BKS	S 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>B</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	0.105	105	0.100	0.105	105	0	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.112	112	0.100	0.111	111	1	71-129	25	
m,p-Xylenes	< 0.00200	0.200	0.220	110	0.200	0.218	109	1	70-131	25	
o-Xylene	< 0.00100	0.100	0.105	105	0.100	0.104	104	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 # :	491495						Project II	<b>):</b> SRS#2	2006-142			
Lab Batch ID:	948391	QC- Sample ID:	491495	-001 S	Ba	tch #:	1 Matrix	k: Water				
Date Analyzed:	08/16/2014	Date Prepared:	08/16/2	014	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/L		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
]	BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	-	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene		0.0255	0.100	0.117	92	0.100	0.123	98	5	70-125	25	
Toluene		< 0.00200	0.100	0.102	102	0.100	0.105	105	3	70-125	25	
Ethylbenzene		< 0.00100	0.100	0.109	109	0.100	0.112	112	3	71-129	25	
m,p-Xylenes		< 0.00200	0.200	0.214	107	0.200	0.219	110	2	70-131	25	
o-Xylene		< 0.00100	0.100	0.101	101	0.100	0.104	104	3	71-133	25	

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

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

Aboratorics Houston: 4143 Greenb Hobbs: 4008 N Grimes	riar Dr. Stafford Hobbs, NM 88	TX 77477 (28	1)240-420	F C	US essa: 1	<b>TO</b> 2600 W	DY RI	Odessa,	RD TX 79765	6 (432)563	-1800		8 W.O		_or_2	- P112	195	GA Glass Amber TB	Encore Sampler TerraCore Sample Air Canister Tedlar Bag
Company: Basin Environmental Service Te	chnologies, L	LC	Phone	: (57	5)396-	2378	TAT W	ork Da	vs = D	Need	roculto		billable					PA Plastic Amber PC PC Plastic Clear	Zip Lock Bag Plastic Clear
ddress: 3100 Plains Hwy.			Fax:	(57	5)396-	1429			and the second se							ime:		Other	207 tCal
ity: Lovington		State: NM	Zip:	882	60			010 (0	10) 9				the second s	OD 140	0 Othe	r		40ml, 125 ml, 250 ml, 500 ml,	1L. Other
M/Attn: Ben Arguijo		Email:	cjbryant bjarguije			000	Cont Type *	VP	T		ALI	JES R	EQUE	STED		100		** Preservative	Type Codes
oject ID: Lovington Gathering WTI SRS #2006-142			PO#:		-C. Bry		Pres Type** E, I	E,I		$\vdash$	+	+	+	+	+	+	100	A. None E. HCL L. B. HNO <sub>3</sub> F. MeOH J. H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. Zr D. NaOH H. NaHSO <sub>4</sub> L	Ice MCAA nAc&NaOH
voice To: Camille Bryant Plains All Ameri	can		Quote #	ŧ			0	-,.	1	-	+	+	+	-	+	+		0	Asoc Acid&NaOH
ampler Name: aley Saxton	Circle One Semi-Annua	Event: Daily al Annual	Weekly N/A	Mon	thly C	luartely	mple by 826	BTEX									ample Run PAH	GW Ground Water S	e Codes Soli/Sediment/Solid Wipe
sample ID	Collect Date	Collect Time	Matrix Code ^		Integrity OK (Y/N)	Total # of containens	Example Volatiles by 8260	BT									Hold S (CALL_)	DW Drinking Water A SW Surface Water O OW Ocean/Sea Water T PL Product-Liquid U	Air Oll Tissue Urine
1		12 230	1 Color				# Cont						_					REMAR	KS
1 MW-1	8/7/14	1300	GW	-	-	3		Х											
2 MW-3	8/7/14	1500	GW			3	OB P	х									- Carlos		
3 MW-7	8/7/14	1310	GW			3		x									900000		
4 MW-8	8/7/14	1520	GW			3	10 miles	х							-	-	1.21		
5 MW-9	8/7/14	1615	GW			3	all the	х				-	1	+	-	-			
6 Goff Dairy Well	8/7/14	1145	GW			3		x				-	-	+	+	-			
7 JW Well	8/7/14	1100	GW			3	Sal Pr	x			-	-	-	-	-	+	1000		
8 Goff Dairy - Ctr. Pivot Well	8/7/14	1200	GW			3	( Series	x				-	-	-	-	-			
9 Goff Dairy - Ctr. Pivot Beg.	8/7/14	1215	GW			3	24	x		-		-	-	-	-	-			
0 Goff Dairy - Ctr. Pivot End	8/7/14	1100	GW			3		x		-			-	+	-	-			
Reg. Program / Clean-up Std	STATE	for Certs & I	_	Q	VQCI	_	& Certifica		( and the second se	EDDs	1 martin	COC 8	Labels		Coolers	Temp *	·C	Lab Use Oct.	
s TRRP DW NPDES LPST DryCin	FL TX GA N AL NM Other	C SC NJ PA	OK LA		3 4 DoD-	CLP .	AFCEE QAP		ADaPT KLS Othe	SEDD E	RPIMS	Match 1	noom olete	1 3	0	2000000000000		Lab Use Only Non-Conformances found?	YES NO N/A
Relinquished by		Affiliatio	on	123	Date		Time			ceived,	by	Affili	ation	10-1 Di	ate		me	Samples intact upon arrival? Received on Wet Ice?	
Duly Jothin		Basint	nvirm.	8-1	3-1	4	8:32 A	m	XIS	titt	L	m	S	Sals	3)14.			Labeled with proper preservatives? Received within holding time? Custody seals intert?	
				_					MP	(10)	5	XM	0	SIP	114	14	< 1. I	Custody seals intact? VOCs rec'd w/o headspace?	
					_									v				Proper containers used? pH verified-acceptable, excl VOCs?	
Laboratories: Hobbs 575-392-7550	_																	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

Final 1.000

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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 08/14/2014 02:31:00 PM

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

Work Order #: 491495

**Temperature Measuring device used :** 

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

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

Analyst:

PH Device/Lot#:

Date: 08/14/2014

Checklist completed by: Kelsey Brooks Checklist reviewed by: Kelsey Brooks Kelsey Brooks

Date: 08/14/2014

# Analytical Report 493633

# for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

#### SRS#2006-142

#### 22-SEP-14

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

> 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)



22-SEP-14

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

Reference: XENCO Report No(s): 493633 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) 493633. 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. 493633 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Ams Boah

 Kelsey Brooks

 Project Manager

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# Sample Cross Reference 493633



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

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-3	W	09-16-14 08:20		493633-001



### CASE NARRATIVE



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

Project ID: SRS#2006-142 Work Order Number(s): 493633 
 Report Date:
 22-SEP-14

 Date Received:
 09/19/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



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

Project Location: NM

Certificate of Analysis Summary 493633

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI



Date Received in Lab: Fri Sep-19-14 11:08 am

**Report Date:** 22-SEP-14

Project Manager: Kelsey Brooks

	Lab Id:	493633-001			
Analysis Requested	Field Id:	MW-3			
Analysis Kequestea	Depth:				
	Matrix:	WATER			
	Sampled:	Sep-16-14 08:20			
BTEX by EPA 8021	Extracted:	Sep-19-14 16:30			
	Analyzed:	Sep-20-14 01:04			
	Units/RL:	mg/L RL			
Benzene		0.0164 0.00100			
Toluene		ND 0.00200			
Ethylbenzene		ND 0.00100			
m_p-Xylenes		ND 0.00200			
o-Xylene		ND 0.00100			
Xylenes, Total		ND 0.00100			
Total BTEX		0.0164 0.00100			

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

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Huns Boah

Kelsey Brooks Project Manager

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# 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 **POL** Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Final 1.000



### Project Name: Lovington Gathering WTI

Lab Batch #: 95	51128	Sample: 493633-001 / SMP	Batch	-	: SRS#2006-3 : Water		
Units: m	g/L	Date Analyzed: 09/20/14 01:04	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobenze	ne		0.0308	0.0300	103	80-120	
4-Bromofluorober	-		0.0276	0.0300	92	80-120	
Lab Batch #: 95	51128	Sample: 661840-1-BLK / BL	K Bate	h: 1 Matrix	: Water		
Units: m	g/L	Date Analyzed: 09/19/14 19:01	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenze	ne	Analytes	0.0308	0.0300	103	80-120	
4-Bromofluorober			0.0308	0.0300	93	80-120	
Lab Batch #: 95		Sample: 661840-1-BKS / BK			: Water	00 120	
	g/L	<b>Date Analyzed:</b> 09/19/14 18:12		RROGATE R		STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobenze	ne		0.0313	0.0300	104	80-120	
4-Bromofluorober	nzene		0.0310	0.0300	103	80-120	
Lab Batch #: 95	51128	Sample: 661840-1-BSD / BS	D Bate	h: 1 Matrix	: Water		
Units: m	g/L	Date Analyzed: 09/19/14 18:28	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobenze	-		0.0318	0.0300	106	80-120	
4-Bromofluorober			0.0306	0.0300	102	80-120	
Lab Batch #: 95		Sample: 493546-001 S / MS	Batc		: Water		
Units: m	g/L	Date Analyzed: 09/19/14 22:02	SU	RROGATE R	ECOVERY S	STUDY	
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
ſ		Analytes			[D]		
1,4-Difluorobenze			0.0290	0.0300	97	80-120	
4-Bromofluorober	izene		0.0312	0.0300	104	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



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

	r <b>ders :</b> 49363 #: 951128	3, Sample: 493546-001 SD / N	MSD Batch	Project ID: n: 1 Matrix:		142					
Units:	mg/L	Date Analyzed: 09/19/14 22:18	SURROGATE RECOVERY STUDY								
	BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluor	obenzene		0.0278	0.0300	93	80-120					
4-Bromoflu	orobenzene		0.0293	0.0300	98	80-120					

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### **BS / BSD Recoveries**



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

Work Order #: 493633							Pro	ject ID: 🤇	SRS#2006-	142			
Analyst: KEB	D	ate Prepar	ed: 09/19/201	4			Date A	nalyzed: (	: 09/19/2014				
Lab Batch ID: 951128         Sample: 661840-1-E	BKS	Batcl	<b>h #:</b> 1			Matrix: Water							
Units: mg/L		BLAN	K /BLANK S	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUI	ΟY			
	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	0.0950	95	0.100	0.0947	95	0	70-125	25			
Toluene	< 0.00200	0.100	0.102	102	0.100	0.101	101	1	70-125	25			
Ethylbenzene	< 0.00100	0.100	0.109	109	0.100	0.105	105	4	71-129	25			
m_p-Xylenes	< 0.00200	0.200	0.221	111	0.200	0.214	107	3	70-131	25			
o-Xylene	< 0.00100	0.100	0.105	105	0.100	0.102	102	3	71-133	25			

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



### Form 3 - MS / MSD Recoveries

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



Work Order # :	493633						Project II	<b>):</b> SRS#2	006-142			
Lab Batch ID:	951128	QC- Sample ID:	493546	-001 S	Ba	tch #:	1 Matrix	<b>:</b> Water				
Date Analyzed:	09/19/2014	Date Prepared:	09/19/2	014	An	alyst: k	KEB					
<b>Reporting Units:</b>	mg/L	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	BTEX by EPA 8021	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	-	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene		< 0.00100	0.100	0.0833	83	0.100	0.0828	83	1	70-125	25	
Toluene		< 0.00200	0.100	0.0868	87	0.100	0.0870	87	0	70-125	25	
Ethylbenzene		< 0.00100	0.100	0.0896	90	0.100	0.0896	90	0	71-129	25	
m_p-Xylenes		<0.00200	0.200	0.182	91	0.200	0.182	91	0	70-131	25	
o-Xylene		< 0.00100	0.100	0.0866	87	0.100	0.0871	87	1	71-133	25	

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

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



Work Order #: 493633

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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 09/19/2014 11:08:00 AM

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

**Temperature Measuring device used :** 

Sample Receipt Checklis	t	Comments
#1 *Temperature of cooler(s)?	3.5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	No	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	No	

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

Analyst:

PH Device/Lot#:

Date: 09/19/2014

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

Date: 09/19/2014

XE	NCO							DY RE							000 1	01 0			* Container T	ype Codes
Labor	Houston: 4143 Greenbrid Hobbs: 4008 N Grimes	ar Dr. Stafford, Hobbs, NM 88:	TX 77477 (28 240 (575)392-7	1)240-420 7550	0 Ode	issa: 1;	2600 W	est I-20 East	Odessa,	TX 79765	6 (432)56	3-1800		W.O billable			<u>a</u> 36	33	VA Vial Amber ES VC Vial Clear TS VP Vial Pre-preserved AC GA Glass Amber TB GC Glass Clear ZB	Encore Sampler TerraCore Sample Air Canister Tedlar Bag Zip Lock Bag
ompany:	Basin Environmental Service Tec	hnologies, LL	.C	Phone:	(575	5)396-2	2378	TAT W	ork Da	vs = D	Need	results		Dillabit	1115.	T	me:		PA Plastic Amber PC Plastic Clear PC Plastic Clear Other	
ddress:	3100 Plains Hwy.			Fax:	(575	5)396-1	429			1	1			70.1	0D 14D				Size(s) 202, 402, 802, 1602, 3	loz . 1Gal
ty:	Lovington		State: NM	Zip:	882	60		/		/			SES RI			Othe		1000	40ml, 125 ml, 250 ml, 500 ml, ** Preservative	1L, Other
//Attn:	Ben Arguijo		Email:	cjbryant bjarguljo				Cont Type *	VP		T	The To		LOCE	SIED	100000	1000			
oject ID:	Lovington Gathering WTI SRS #2006-142			PO#:	-	-C. Bry		Pres Type** E, I	E,I			+	+	1	+	+	+	1233	A. None E. HCL I. B. HNO <sub>3</sub> F. MeOH J. H <sub>2</sub> SO <sub>4</sub> G. NB <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. Z D. NaOH H. NaHSO <sub>4</sub> L	Ice MCAA Ac&NaOH
oice To:	Camille Bryant Plains All Americ	an		Quote #	t			0	,.	-	-	+	-	+	-	+	+	PAH Ny It	0.	ASSC ACIDAINSOF
mpler Na ley Saxto		Circle One Semi-Annua	Event: Daily I Annual	Weekly N/A	Mont	thiy Q	uartely	mple s by 826	BTEX									Sample Run PA	GW Ground Water S WW Waste Water W	Soll/Sediment/Solid Wipe
alline #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260	BI									Hold (CALL )	DW Drinking Water A SW Surface Water O OW Ocean/Sea Water T PL Product-Liquid U PS Product-Solid B SL Siudge Other	Dil Tissue
			197	and the			Real Property	# Cont	_									1000	REMAR	KS
.1	MW-3	9/16/14	0820	GW			3	Ga apres	х											
2				1				and the second												
3								1281						1	-		+			
4								C. Alter				1	-	1	-	-	+			
5										-	-			-	-	-	-			
6							-	In the Real	-		-	-	-	-	-	-	-			
7							-			-	<u> </u>				-			-		
<u></u>				_	_	_	-	1		_								a della		
8				-		-	-			_								1		
9					-	-	-	1000	_	_	_				-			1		
- 1	Program / Clean-up Std	STATE	or Certs & F	2000		1000	_											a star		
	DW NPDES LPST DryCln	FL TX GA NG	SC NJ PA	OK LA	1 2	1000	CLP	& Certificat	>	ADaPT XLS Othe	EDDs SEDD	ERPIMS	and a second second	Labels	A PERSONAL PROPERTY AND	Coolers	Temp*		Lab Use Only Non-Conformances found?	YES NO N/A
1	Belinquished by		Affiliatio	on	1110	Date		Time	200 20	_	ceived	by	Affili			ate			Samples intact upon arrival? Received on Wet Ice?	
_	ley Duth		Basin			7	14	5:051	om	Al	K		Basin	Env.	9/17	114	17	Langer L	Labeled with proper preservatives? Received within holding time?	
1	14		Ssinta	V.	9/18	114		0910	1	14	ple	send	M	-5	9-12	8-14	q:	100	Dustody seals intact? /OCs rec'd w/o headspace?	===
/	0						+			M	PUC	25	XIM	6	Q F	1/14	1/:	OS :	Proper containers used? iH verified-acceptable, excl VOCs?	===
Labor	atories: Hobbs 575-392-7550	Dallas 214	902.0300	Housto	- 20	1 242	4200	0.1							<u></u>	1		R	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

Final 1.000

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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 09/19/2014 11:08:00 AM

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

Work Order #: 493633

**Temperature Measuring device used :** 

Sample Re	eceipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	No	
#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/ receive	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 Custo	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 i	nch bubble)? Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SC	04? Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH,	ZnAc+NaOH? No	

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

Analyst:

PH Device/Lot#:

Date: 09/19/2014

Checklist completed by: Kelsey Brooks Checklist reviewed by: Kelsey Brooks Kelsey Brooks

Date: 09/19/2014

# Analytical Report 492483

# for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

#### SRS#2006-142

#### 08-SEP-14

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

> 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-SEP-14

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

Reference: XENCO Report No(s): **492483** 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) 492483. 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. 492483 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.

Kms Boah

 Kelsey Brooks

 Project Manager

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# Sample Cross Reference 492483



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

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-7	W	08-27-14 09:35		492483-001



### CASE NARRATIVE



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

Project ID: SRS#2006-142 Work Order Number(s): 492483 
 Report Date:
 08-SEP-14

 Date Received:
 08/30/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



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

Project Location: NM

Certificate of Analysis Summary 492483

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI



Date Received in Lab: Sat Aug-30-14 12:00 pm

Report Date: 08-SEP-14

Project Manager: Kelsey Brooks

	Lab Id:	492483-001			
Assarbusis Demussio d	Field Id:	MW-7			
Analysis Requested	Depth:				
	Matrix:	WATER			
	Sampled:	Aug-27-14 09:35			
BTEX by EPA 8021	Extracted:	Sep-03-14 13:00			
	Analyzed:	Sep-03-14 17:06			
	Units/RL:	mg/L RL			
Benzene		0.0480 0.00100			
Toluene		ND 0.00200			
Ethylbenzene		ND 0.00100			
m_p-Xylenes		ND 0.00200			
o-Xylene		ND 0.00100			
Xylenes, Total		ND 0.00100			
Total BTEX		0.0480 0.00100			

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

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

Huns Boah

Kelsey Brooks Project Manager

Page 5 of 13



# 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 **POL** Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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

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

Final 1.000



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

Lab Batch #		Sample: 492483-001 / SMP	Batc	h: 1 Matrix	: Water				
Units:	mg/L	Date Analyzed: 09/03/14 17:06 SURROGATE RECOVERY STUL							
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage		
		Analytes			[D]				
1,4-Difluorob	enzene		0.0337	0.0300	112	80-120			
4-Bromofluor			0.0256	0.0300	85	80-120			
Lab Batch #	: 949819	Sample: 661026-1-BLK / BL	K Bate	h: 1 Matrix	: Water				
Units:	mg/L	Date Analyzed: 09/03/14 14:52	SU	RROGATE R	ECOVERY	STUDY			
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorob	an7ana	Analytes	0.0333	0.0300		80-120			
4-Bromofluor			0.0353	0.0300	88	80-120	<u> </u>		
Lab Batch #:         949819         Sample:         661026-1-BKS / BI						80-120			
Units:	mg/L	<b>Date Analyzed:</b> 09/03/14 15:09							
Units.	ilig/L	Date Analyzeu. 07/03/14 15:07							
BTEX by EPA 8021			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage		
		Analytes			[D]				
1,4-Difluorob	enzene		0.0312	0.0300	104	80-120			
4-Bromofluor	obenzene		0.0283	0.0300	94	80-120			
Lab Batch #	: 949819	Sample: 661026-1-BSD / BS	D Bate	h: 1 Matrix	Water				
Units:	mg/L	Date Analyzed: 09/03/14 15:26	SU	RROGATE R	ECOVERY	STUDY			
	ВТЕ	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluorob	enzene		0.0311	0.0300	104	80-120			
4-Bromofluor	obenzene		0.0284	0.0300	95	80-120			
Lab Batch #	<b>:</b> 949819	Sample: 492423-001 S / MS	Batc	h: 1 Matrix	Water				
Units:	mg/L	Date Analyzed: 09/03/14 15:42	SU	RROGATE R	ECOVERY	STUDY			
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1,4-Difluorob	enzene		0.0312	0.0300	104	80-120			
4-Bromofluor	obenzene		0.0291	0.0300	97	80-120			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



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

Work Orders Lab Batch #: 94		Sample: 492423-001 SD / M	SD / MSDBatch:1Matrix: Water						
Units: mg	g/L Date	Analyzed: 09/03/14 15:59	SURROGATE RECOVERY STUDY						
	BTEX by EF Analyte		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenze	ne		0.0317	0.0300	106	80-120			
4-Bromofluoroben	zene		0.0284	0.0300	95	80-120			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### **BS / BSD Recoveries**



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

Work Order #: 492483	Project ID: SRS#2006-142										
Analyst: ARM	D	Date Prepared: 09/03/2014 Date Analyzed: 0							09/03/2014		
Lab Batch ID: 949819 Sample: 661026-1-E	BKS Batch #: 1 Matrix: V						Matrix: \	Water			
Units: mg/L	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY							DY			
BTEX by EPA 8021	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	< 0.00100	0.100	0.103	103	0.100	0.104	104	1	70-125	25	
Toluene	< 0.00200	0.100	0.0999	100	0.100	0.102	102	2	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.104	104	0.100	0.106	106	2	71-129	25	
m_p-Xylenes	< 0.00200	0.200	0.203	102	0.200	0.207	104	2	70-131	25	
o-Xylene	< 0.00100	0.100	0.0991	99	0.100	0.102	102	3	71-133	25	

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



### Form 3 - MS / MSD Recoveries

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



Work Order # :	492483						Project II	<b>):</b> SRS#2	006-142			
Lab Batch ID:	949819	QC- Sample ID:	492423	-001 S	Ba	tch #:	1 Matrix	: Water				
Date Analyzed:	09/03/2014	Date Prepared:	09/03/2	014	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/L	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	BTEX by EPA 8021	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	-	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene		< 0.00100	0.100	0.110	110	0.100	0.107	107	3	70-125	25	
Toluene		< 0.00200	0.100	0.107	107	0.100	0.103	103	4	70-125	25	
Ethylbenzene		< 0.00100	0.100	0.112	112	0.100	0.108	108	4	71-129	25	
m_p-Xylenes		< 0.00200	0.200	0.218	109	0.200	0.210	105	4	70-131	25	
o-Xylene		<0.00100	0.100	0.106	106	0.100	0.102	102	4	71-133	25	

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



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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 08/30/2014 12:00:00 PM

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

Work Order #: 492483

**Temperature Measuring device used :** 

Sample Receipt Checklist	t	Comments
#1 *Temperature of cooler(s)?	5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	No	
#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)?	No	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	No	

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

Analyst:

PH Device/Lot#:

Checklist completed by: Hung Hoah Kelsey Brooks

Date: 09/02/2014

Checklist reviewed by:

Julian Martinez

Date: 09/02/2014

ompany idress:	Deam Environmental Service rec	chnologies, LL	.c	Phone: Fax:	_	)396-2	_	TAT W					Field b	W.O #	Hrs :		ne:		GC Glass Clear ZB PA Plastic Amber PC PC Plastic Clear Other	Tedlar Bag Zip Lock Bag Plastic Clear
ty:	Lovington		State: NM	Zip:	8826		420	00000000	Std (5	-7D) 5H	Contraction of the local division of the loc	50 Q 10 50 70	4D 5D	No. of Concession, Name	Acres and	Other		-	Size(s): 2oz, 4oz, 8oz, 16oz, 3 40ml, 125 ml, 250 ml, 500 ml,	
//Attn:	Attn: Ben Arguijo Email:		cjbryant(	gpaalp	.com,	C	ont Type *	VD	ANALYSE			SES RE	QUES	STED				** Preservative Type Code:		
ject ID	Inct ID: Lovington Gathering WTI SRS #2006-142			PO#:		C. Brya	100	VC res Type**	VP	1	+	-	-	-	-	-	+			MCAA C
oice Te			_	Quote #		o. Diya		E,I	E,I	-		-		-	-		-	-	D. NaOH H. NaHSO4 L	Asbc Acid&NaOH
	Camille Bryant Plains All Ameri							3260					1					n PAH Only If	^ Matrix Typ	e Codes
ey Sa	Name: kton	Circle One Semi-Annua	Event: Daily al Annual	Weekly N/A	Monti	nly Qu	artely	mple s by 8	BTEX									Sample Run	GW Ground Water S WW Waste Water W	Soil/Sediment/Solid Wipe
	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	fotal # of containers	Example Volatiles by 8260	B									Hold (CALL_) on Highest TP	SW Surface Water O OW Ocean/Sea Water T PL Product-Liquid U PS Product-Solid B SL Siludge	Tissue Urine
19	Sharphires and the	- Constant	Contra de	121		-		# Cont					-	-				00	REMAR	RKS
1	MW-7	8/27/14	0935	GW			3		х											
2																-	-	10,786		
3														-	-	-	-			
4							100	-							-	-	-	100		
5								at and								-	-	1000		
3									-		-		-							
7						-		1111	-	-		-				-				
3				_		-		1-214	-	-							-			
						+	100			-								The second		
						-		Contraction of the second		_								1.04		
	g. Program / Clean-up Std	STATE	for Certs &	Dogo		1001		Certifica		and the second		-		-				4503		
	P DW NPDES LPST DryCin	FL TX GA N	C SC NJ PA	OK LA	1 2	3 4	CLP AF	CEE QAP	OPAN	Station -	EDDs SEDD E	RPIMS	COC &	1000	A STREET	1000	Temp *	A COLORADO	Lab Use Only Non-Conformances found?	YES NO N/A
	Relipquished by	AL NM Othe	Affiliati			DoD-I	ELAP OU	Time		XLS Othe			Absent Affilia	Unclear		25.0		_	Samples intact upon arrival?	
	Joluss arm		Basin			9-1	4 1	0800		1	1/	-	Casin	1	8/29	1	(378)	00	Received on Wet Ice? Labeled with proper preservatives?	===
	MAG		Basin	-		33/10		1415		The	mi	a	- A	Ail	011	9/14	21/	-	Received within holding time? Custody seals intact? VOCs rec'd w/o headspace?	
à	andia augo		Base		81	29/	/	2:15	-	Dal	eys	Z	Basil		8/29		2:2	_	Proper containers used? PH verified-acceptable, excl VOCs?	, ===
Vi	Un Solm_ pratories: Hobbs 575-392-7550		Basin		8/2	9/1	4 10	534		514	l.		Mailso	qv.	\$75	13	153		Received on time to meet HTs?	

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

Final 1.000



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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 08/30/2014 12:00:00 PM

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

Work Order #: 492483

Temperature Measuring device used :

Sample Receipt Checklis	t	Comments
#1 *Temperature of cooler(s)?	5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
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#17 Sufficient sample amount for indicated test(s)?	Yes	
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#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	No	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	No	

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

Analyst:

PH Device/Lot#:

Checklist completed by: Mms. Moah Kelsey Brooks

Date: 09/02/2014

Checklist reviewed by:

Date: \_\_\_\_

# Analytical Report 497634

# for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Lovington Gathering WTI

#### SRS#2006-142

#### 01-DEC-14

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

> 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-DEC-14

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

Reference: XENCO Report No(s): 497634 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) 497634. 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. 497634 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Ams Boah

 Kelsey Brooks

 Project Manager

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# Sample Cross Reference 497634



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

Lovington Gathering WTI

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-3	W	11-17-14 11:05		497634-001
MW-6	W	11-17-14 11:35		497634-002
MW-7	W	11-17-14 12:25		497634-003
MW-9	W	11-17-14 13:20		497634-004
MW-10	W	11-17-14 14:00		497634-005
Goff Dairy Well	W	11-17-14 15:35		497634-006
JW Well	W	11-17-14 15:15		497634-007



## CASE NARRATIVE



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

Project ID: SRS#2006-142 Work Order Number(s): 497634 
 Report Date:
 01-DEC-14

 Date Received:
 11/21/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





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

Lovington Gathering WTI

Sample Id :	<b>MW-3</b>	Matrix
Lab Sample Id	: 497634-001	Date C

Matrix : Water Date Collected : 11.17.14 11.05 Date Received : 11.21.14 13.57 % Moisture :

Analytical Metho Seq Number	d : BTEX by EPA 956072	Prep Method Date Prep:	l: SW5030B 11.24.14 11.00				
Parameter		Cas Number	Result	Units	Analysis Date	Flag	Dil
Benzene		71-43-2	0.119	mg/L	11.24.14 16.19		1
Toluene		108-88-3	0.00692	mg/L	11.24.14 16.19		1
m_p-Xylenes		179601-23-1	0.0367	mg/L	11.24.14 16.19		1
o-Xylene		95-47-6	0.00711	mg/L	11.24.14 16.19		1
Xylenes, Total		1330-20-7	0.0438	mg/L	11.24.14 16.19		1
Total BTEX			0.170	mg/L	11.24.14 16.19		1





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

Lovington Gathering WTI

Sample Id : MW-7	Matrix : Water	% Moisture :
Lab Sample Id : 497634-003	Date Collected : 11.17.14 12.25	
	Date Received : 11.21.14 13.57	
Analytical Method · BTEX by EPA 8021		Dran Mathady SW502

Analytical Method	l : BTEX by EPA 80	21			Prep Method	: SW50301	3
Seq Number	956072				Date Prep:	11.24.14	11.00
Parameter		Cas Number	Result	Units	Analysis Date	Flag	Dil
Benzene Total BTEX		71-43-2	0.177 0.177	mg/L mg/L	11.24.14 16.52 11.24.14 16.52		1 1



## Project Id: SRS#2006-142

Contact: Ben Arguijo

Project Location: NM

Certificate of Analysis Summary 497634

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Lovington Gathering WTI** 



Date Received in Lab: Fri Nov-21-14 01:57 pm

**Report Date:** 01-DEC-14

-

								Project Ma	nager:	Kelsey Brook	s		
	Lab Id:	497634-	001	497634-	002	497634-	003	497634-	004	497634-	005	497634-	-006
Analysis Requested	Field Id:	MW-	3	MW-0	5	MW-7	7	MW-	9	MW-1	0	Goff Dairy	y Well
Analysis Kequesieu	Depth:												
	Matrix:	WATE	R	WATE	R	WATE	R	WATE	ER	WATE	R	WATE	ER
	Sampled:	Nov-17-14	11:05	Nov-17-14	11:35	Nov-17-14	12:25	Nov-17-14	13:20	Nov-17-14	14:00	Nov-17-14	15:35
BTEX by EPA 8021	Extracted:	Nov-24-14	11:00	Nov-24-14	11:00	Nov-24-14	11:00	Nov-24-14	11:00	Nov-24-14	11:00	Nov-24-14	11:00
	Analyzed:	Nov-24-14	16:19	Nov-24-14	16:36	Nov-24-14	16:52	Nov-24-14	17:08	Nov-24-14	17:24	Nov-24-14	4 17:40
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		0.119	0.00100	ND	0.00100	0.177	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Toluene		0.00692	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		0.0367	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200	ND	0.00200
o-Xylene		0.00711	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Xylenes, Total		0.0438	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Total BTEX		0.170	0.00100	ND	0.00100	0.177	0.00100	ND	0.00100	ND	0.00100	ND	0.00100

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

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Huns Boah

Kelsey Brooks Project Manager



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

Project Location: NM

Certificate of Analysis Summary 497634

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lovington Gathering WTI



Date Received in Lab: Fri Nov-21-14 01:57 pm

Report Date: 01-DEC-14

Project Manager: Kelsey Brooks

	Lab Id:	497634-007			
Analysis Requested	Field Id:	JW Well			
Analysis Kequesiea	Depth:				
	Matrix:	WATER			
	Sampled:	Nov-17-14 15:15			
BTEX by EPA 8021	Extracted:	Nov-24-14 11:00			
	Analyzed:	Nov-24-14 17:56			
	Units/RL:	mg/L RL			
Benzene		ND 0.00100			
Toluene		ND 0.00200			
Ethylbenzene		ND 0.00100			
m_p-Xylenes		ND 0.00200			
o-Xylene		ND 0.00100			
Xylenes, Total		ND 0.00100			
Total BTEX		ND 0.00100			

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

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Huns Boah

Kelsey Brooks Project Manager

Page 8 of 17



# **Flagging Criteria**



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

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

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Fax

(281) 240-4280

(214) 351-9139

(210) 509-3335

(813) 620-2033

(432) 563-1713

(770) 449-5477



# Form 2 - Surrogate Recoveries

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

[]nite.	mg/I	<b>Data Analyzad:</b> 11/24/14 16:10	SURROGATE RECOVERY STUDY								
Units:	mg/L	Date Analyzed: 11/24/14 16:19	SU	RROGATE R	ECOVERY S	STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
		Analytes			[D]						
1,4-Difluorobe	nzene		0.0317	0.0300	106	80-120					
4-Bromofluoro	benzene		0.0302	0.0300	101	80-120					
Lab Batch #:	956072	Sample: 497634-002 / SMP	Batc	h: 1 Matrix	: Water						
Units:	mg/L	Date Analyzed: 11/24/14 16:36	SURROGATE RECOVERY STUDY								
	ВТЕ	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage				
4 4 75 10 1		Analytes									
1,4-Difluorobe			0.0296	0.0300	99	80-120					
4-Bromofluoro		0	0.0285	0.0300	95 Water	80-120					
Lab Batch #:		Sample: 497634-003 / SMP	Batch								
Units:	mg/L	Date Analyzed: 11/24/14 16:52	SU	RROGATE R	ECOVERY S	STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage				
		Analytes			[D]						
1,4-Difluorobe	nzene		0.0296	0.0300	99	80-120					
4-Bromofluoro	benzene		0.0282	0.0300	94	80-120					
Lab Batch #:	956072	Sample: 497634-004 / SMP	Batch: 1 Matrix: Water								
Units:	mg/L	Date Analyzed: 11/24/14 17:08	SU	RROGATE R	ECOVERY	STUDY					
	ВТЕ	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluorobe	n70n0	Analytes	0.0201	0.0200		80.120					
4-Bromofluoro			0.0301	0.0300	94	80-120 80-120					
Lab Batch #:		Sample: 497634-005 / SMP	Batc		Water	00-120					
Units:	mg/L	Date Analyzed: 11/24/14 17:24		RROGATE R		STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag				
		Analytes			[D]						
1,4-Difluorobe	nzene		0.0297	0.0300	99	80-120					
4-Bromofluoro	benzene		0.0284	0.0300	95	80-120					

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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



# Form 2 - Surrogate Recoveries

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

Units:	mg/L	<b>Date Analyzed:</b> 11/24/14 17:40	40 SURROGATE RECOVERY STUDY								
units.	IIIg/L	Date Analyzeu. 11/24/14 17.40	SU	RROGATE R	ECOVERY	STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage				
		Analytes			[D]						
1,4-Difluor	obenzene		0.0299	0.0300	100	80-120					
4-Bromoflu	orobenzene		0.0286	0.0300	95	80-120					
Lab Batch	#: 956072	Sample: 497634-007 / SMP	Batc	h: 1 Matrix	: Water						
Units:	mg/L	Date Analyzed: 11/24/14 17:56	SURROGATE RECOVERY STUDY								
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage				
4 4 5 1 7		Analytes									
1,4-Difluor			0.0297	0.0300	99	80-120					
4-Bromoflu			0.0284	0.0300	95	80-120					
	#: 956072	Sample: 664874-1-BLK / BL			: Water						
Units:	mg/L	Date Analyzed: 11/24/14 13:53	SU	RROGATE R	ECOVERY	STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
		Analytes			[D]						
1,4-Difluor	obenzene		0.0298	0.0300	99	80-120					
	orobenzene		0.0284	0.0300	95	80-120					
Lab Batch	#: 956072	Sample: 664874-1-BKS / BK	BKS Batch: 1 Matrix: Water								
Units:	mg/L	Date Analyzed: 11/24/14 14:09	SURROGATE RECOVERY STUDY								
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
		Analytes			[D]						
1,4-Difluor			0.0301	0.0300	100	80-120					
4-Bromoflu		Sample: 664874-1-BSD / BS	0.0305	0.0300	102	80-120					
	#: 956072	-			: Water						
Units:	mg/L	Date Analyzed: 11/24/14 14:25	SU	RROGATE R	ECOVERY	STUDY					
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage				
		Analytes		-1	[D]						
1,4-Difluor	obenzene		0.0305	0.0300	102	80-120					
4 D (1	orobenzene		0.0310	0.0300	103	80-120					

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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



# Form 2 - Surrogate Recoveries

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

Work Orders: 49763	4, 497634	<b>Project ID:</b> SRS#2006-142										
Lab Batch #: 956072	Sample: 497630-001 S / MS	S Batch: 1 Matrix: Water										
Units: mg/L	Date Analyzed: 11/24/14 14:41	Date Analyzed: 11/24/14 14:41 SURROGATE RECOV										
BTE	X 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		0.0321	0.0300	107	80-120							
Lab Batch #: 956072	Sample: 497630-001 SD / M	ASD Bate	h: 1 Matrix	Water								
Units: mg/L	Date Analyzed: 11/24/14 14:58	SU	RROGATE R	ECOVERY S	STUDY							
BTE	X by EPA 8021	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		0.0314	0.0300	105	80-120							

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

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



## **BS / BSD Recoveries**



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

Work Order #: 497634, 497634		Project ID: SRS#2006-142											
Analyst: ARM	D	ate Prepar	red: 11/24/201	4		<b>Date Analyzed:</b> 11/24/2014							
Lab Batch ID: 956072 Sample: 664874-1-E	SKS	Bate	<b>h #:</b> 1					Matrix: \	Water				
Units: mg/L	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag		
Benzene	<0.00100	0.100	0.0882	88	0.100	0.0885	89	0	70-125	25			
Toluene	< 0.00200	0.100	0.0949	95	0.100	0.0950	95	0	70-125	25			
Ethylbenzene	< 0.00100	0.100	0.0999	100	0.100	0.100	100	0	71-129	25			
m_p-Xylenes	< 0.00200	0.200	0.205	103	0.200	0.206	103	0	70-131	25			
o-Xylene	<0.00100	0.100	0.0956	96	0.100	0.0964	96	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 # :	497634						Project II	<b>):</b> SRS#2	006-142				
Lab Batch ID:	956072	QC- Sample ID:	497630	-001 S	Ba	tch #:	1 Matrix	: Water					
Date Analyzed:	11/24/2014	014	4 Analyst: ARM										
<b>Reporting Units:</b>	mg/L	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	-	RPD	Control Limits	Control Limits	Flag		
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD		
Benzene		< 0.00100	0.100	0.0902	90	0.100	0.0866	87	4	70-125	25		
Toluene		< 0.00200	0.100	0.0980	98	0.100	0.0931	93	5	70-125	25		
Ethylbenzene		< 0.00100	0.100	0.106	106	0.100	0.0992	99	7	71-129	25		
m_p-Xylenes		< 0.00200	0.200	0.217	109	0.200	0.204	102	6	70-131	25		
o-Xylene		< 0.00100	0.100	0.100	100	0.100	0.0952	95	5	71-133	25		

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

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



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



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

Date/ Time Received: 11/21/2014 01:57:00 PM

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

Work Order #: 497634

**Temperature Measuring device used :** 

Sample Receipt Checklis	st	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?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	No	
#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? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	No	

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

Analyst:

PH Device/Lot#:

Date: 11/21/2014

 Checklist completed by:
 Mmg Moah

 Kelsey Brooks

 Checklist reviewed by:
 Mmg Moah

 Kelsey Brooks

Date: 11/24/2014

	NCO							DY RE						Pa	ge_1	of 2			* Container Typ	De Codes
ekolanohi.	Abrite Editochemistry	. TX 77477 (28 240 (575)392-7	1)240-4200 '550	) Ode	ssa: 120	600 W	ist I-20 East (	Odessa,	TX 79765	(432)563	-1800		W.O # billable H	ŧ:			034	VC Vial Clear TS VP Vial Pre-preserved AC GA Glass Amber TB GC Glass Clear ZB	TerraCore Sample Air Canister Tedlar Bag Zip Lock Bag	
ompan	Desiri Crivioninental Service I	echnologies, LL	.c	Phone:	(575	)396-23	378	TAT Wo	ork Da	ys=D	Need	results	the second s	the second s	and the second se	Tin	ne.		PC Plastic Clear Other	Plastic Clear
ddress:	3100 Plains Hwy.			Fax:	(575	)396-14	429							7D 10					Size(s): 20z, 40z, 80z, 160z, 320z	t, 1Gal
ity:	Lovington		State: NM	Zip:	8826	0		C		-	Same and a	6. Y 19. 19. 19. 19.	10000 100000	QUES		Outer	in the second		40ml, 125 ml, 250 ml, 500 ml, 1L ** Preservative T	
M/Attn:	Ben Arguijo		Email:	cjbryanti bjarguijo			~	Cont Type *	VP	T		T	1						A. None E. HCL I. Ic	
oject ID	C Lovington Gathering WTI SRS #2006-142			PO#:		C. Brya		Pres Type** E, I	E,I										B. HNO <sub>3</sub> F. MeOH J. M H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnA D. NaOH H. NaHSO <sub>4</sub> L A	ICAA c&NaOH
oice T	o: Camille Bryant Plains All Ame	erican		Quote #	t			60	-,.	1								PAH nby tf	0	
mpler l ley Sax	Name: xton	Circle One Semi-Annua	Event: Daily al Annual	Weekly N/A	Mont	hiy Qu	artely	mple s by 82	втех	1								Sample Run M_Or	A Matrix Type GW Ground Water S Sc WW Waste Water W W DW Drinking Water A Al	oil/Sedment/Solid
# Biduipo	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260	BT									(CALL_) on Highest TF	SW Surface Water O OI OW Ocean/Sea Water T O PL Product-Uquid U Ur PS Product-Solid B Bk SL Studge Other	l ssue líne
			2013					# Cont		1								1000	REMAR	(S
1	MW-3	11/17/14	11:05	GW			3		х											
2	MW-6	11/17/14	11:35	GW			3	A MARTIN	х	8								1.1		
3	MW-7		12:25	GW			3		x	1			<u> </u>							
4	MW-9	11/17/14		GW			3		x	1								10000		
5	MW-10	11/17/14	14:00	GW			3	Maria	х	0								-		
6	Goff Dairy Well	11/17/14	15:35	GW			3	DE CO	х				<u> </u>					1000		
7	JW Well	11/17/14	15:15	GW			3	1	х	1								100		
8								105-50										2316		
9																				
0					_	-	_	and the		-										
	g. Program / Clean-up Std	STATE	for Certs &	Regs	QA	VQCL	.evel	& Certificat	tion	110123	EDDs		COC 8	Labels	C	Coolers	Temp °	C	Lab Use Only	YES NO NA
s TRF	P DW NPDES LPST DryCin	FL TX GA N AL NM Othe	IC SC NJ PA	OK LA		3 4 DoD-8		AFCEE QAP		ADaPT XLS Othe	SEDD	ERPIMS	Match 1	incomplete Unclear	200	5-1	120120000000000	1	Non-Conformances found?	
	Relinguished by	- alternation	Affiliati		-	Date		Time	3		eceived	by		ation	Da			me	Samples intact upon arrival? Received on Wet Ice?	
	Julysum		Basin	Env.	11-	19-1	14	7:2	5	1	Ik		(hsi)	nEnv.	1/19	14	07.		abeled with proper preservatives? Received within holding time?	
-	Alla		Dasinton	V.	11/	2/14	1	1415		No	had	to	RO	SIL	111-	20/kg	14:	10	Custody seals intact? /OCs rec'd w/o headspace?	
8	by hugleys	-	Fra	L	11/	20/1	Y	4:14		V.	lst	100	ME	3	11/2	5/4	4.2	20 1	Proper containers used? H verified-acceptable, excl VOCs?	
	oratories: Hobbs 575-392-75				- 10	1	1			M	UN	0	VU	NCO	11/2	In	13	and the second se	Received on time to meet HTs?	

Final 1.000

Page 16 of 17

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



Work Order #: 497634

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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 11/21/2014 01:57:00 PM

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

**Temperature Measuring device used :** 

Sample Receipt Checklis	t	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?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	No	
#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? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	No	

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

Analyst:

PH Device/Lot#:

Date: 11/21/2014

 Checklist completed by:
 Mmg Moah

 Kelsey Brooks

 Checklist reviewed by:
 Mmg Moah

 Kelsey Brooks

Date: 11/24/2014

# 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

<b>Release Notification and Corrective Action</b>															
	15					<b>OPER</b> A	TOR	al Report	Γ	] Final Report					
Name of Con				D ( 000 (0		Contact Camille Reynolds									
Address 311 Facility Nam				NM 88260		Telephone No. 505-441-0965									
			gwii		1	Facility Type 6"Steel Pipeline									
Surface Own	her Robert	Rice		Mineral C	)wner				Lease 1	No.					
[	·······.			LOCA	TION	OF REI	LEASE								
Unit Letter H	Section 6	Township 17S	Feet from the	North/	South Line	Feet from the	East/V	West Line	County Lea						
		Latitud	e <u>32°51</u>	' 56.0"		Longitude	103° 17' 07.2'								
NATURE OF RELEASE															
Source of Rele						Volume of	Release 12 barrel	ls		Recovered 8					
						4-21-2006		e	4-21-200	Hour of Di: 6 @ 13:15	scover	у У			
Was Immediat		$\boxtimes$	Yes 🗌	] No 🗌 Not Re	equired	If YES, To Pat Caperto				1.	223	242526			
By Whom? Ca Was a Waterco	amille Reyn	olds				Date and H	lour 4-21-2006 @	) 15:35		602	-	- Es			
						If YES, Vo	lume Impacting t	he Wate	ercourse.	1819	p. h	2425262320 200			
If a Watercour	se was Imp	acted, Descri	be Fully.*							61	1	llen			
										131	Ő.	Nº CO			
										14	- 1	2			
				n Taken Internal c g line. The pressu The line was app					ase of swee e gravity of	et crude oil.	The crude	line has been oil was 34.			
Describe Area approximately	Affected an 1,500 ft <sup>2</sup> .	d Cleanup A	ction Tak	en.* The impacted	d soil wa	s excavated a	and stockpiled on	plastic.	Aerial ext	ent of surfa	ce im	pact was			
.1															
5.17															
public health or should their ope	r the environ erations hav aent. In add	nment. The a re failed to ad	lequately	is true and comple d/or file certain re e of a C-141 repor investigate and re ance of a C-141 re	t by the	NMOCD ma	rked as "Final Re	port" do	ons for rele oes not relie	ases which	may e	ndanger			
Signature	$\sim$	no. K	0.0	shhan			OIL CONS	ERV	ATION	DIVISIO	N				
Printed Name: (	Camille Rey	/nolds	) ~	10005	A	pproved by I	District Supervisor	r:							
Title: Remediat	ion Coordin	ator			A	pproval Date		E	vninstia- D						
E-mail Address	: cjreynolds	@paalp.com		*		onditions of A			xpiration D	ate:	•				
Date: 4/26/2006	i			Phone:505-441-		Attached									