

1R - 2136

# Annual GW Mon. Report

Year:  
2011

# ***Basin Environmental Service Technologies, LLC***

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



APR 2 2012

2011  
**ANNUAL MONITORING REPORT** Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

**PLAINS MARKETING, L.P.**  
**DCP Plant to Lea Station 6-Inch #2**  
**Unit Letter "F" (SENW), Section 31, Township 20 South, Range 37 East**  
**Latitude 32.5316667° North, Longitude 103.2911111° West**  
**Lea County, New Mexico**  
**Plains SRS # 2009-039**  
**NMOCD Reference # 1RP-2136**

Prepared For:



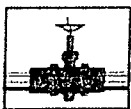
Plains Marketing, LP  
333 Clay Street, Suite 1600  
Houston, Texas 77002

Prepared By:

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

March 2012

  
Ben J. Arguijo  
Project Manager



PLAINS  
ALL AMERICAN

RECEIVED

March 29, 2012

APR 2 2012

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

Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: Plains All American – 2011 Annual Monitoring Reports  
5 Sites in Lea County, New Mexico  
1 Site in Eddy County, New Mexico

Dear Mr. Hansen:

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 reports for the following sites:

|                                 |                |                                     |
|---------------------------------|----------------|-------------------------------------|
| Lovington Gathering WTI         | AP-96 (1R-838) | Section 06, T17S, R37E, Lea County  |
| Red Byrd #1                     | 1R-0085        | Section 01, T20S, R36E, Lea County  |
| DCP Plant to Lea Sta. 6" #2     | 1R-2136        | Section 31, T20S, R37E, Lea County  |
| DCP Plant to Lea Sta. 6" Sec.31 | 1R-2166        | Section 31, T20S, R37E, Lea County  |
| 14" Vac to Jal Legacy           | 1R-2162        | Section 25, T22S, R37E, Lea County  |
| Ballard Grayburg 5-Inch         | 2R-0053        | Section 10, T18S, R29E, Eddy County |

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

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

Sincerely,

Jason Henry  
Remediation Coordinator  
Plains All American

CC: Geoff Leking, NMOCD, Hobbs, NM  
Enclosures

## TABLE OF CONTENTS

|  |   |
|--|---|
| INTRODUCTION.....                                | 1 |
| SITE DESCRIPTION AND BACKGROUND INFORMATION..... | 1 |
| FIELD ACTIVITIES.....                            | 2 |
| LABORATORY RESULTS.....                          | 3 |
| SUMMARY.....                                     | 5 |
| ANTICIPATED ACTIONS.....                         | 5 |
| LIMITATIONS.....                                 | 6 |
| DISTRIBUTION.....                                | 7 |

## FIGURES

Figure 1 – Site Location Map

Figure 2A – Inferred Groundwater Gradient Map – 1Q2011

Figure 2B – Inferred Groundwater Gradient Map – 2Q2011

Figure 2C – Inferred Groundwater Gradient Map – 3Q2011

Figure 2D – Inferred Groundwater Gradient Map – 4Q2011

Figure 3A – Groundwater Concentration & Inferred PSH Extent Map – 1Q2011

Figure 3B – Groundwater Concentration & Inferred PSH Extent Map – 2Q2011

Figure 3C – Groundwater Concentration & Inferred PSH Extent Map – 3Q2011

Figure 3D – Groundwater Concentration & Inferred PSH Extent Map – 4Q2011

## TABLES

Table 1 – 2011 Groundwater Elevation Data

Table 2 – 2011 Concentrations of Benzene & BTEX in Groundwater

Table 3 – Concentrations of RCRA & NMWQCC Metals in Groundwater

Table 4 – Concentrations of Volatile Organic Compounds Groundwater

Table 5 – Concentrations of Semi-Volatile Compounds in Groundwater

Table 6 – Concentrations of Anions/Cations in Groundwater

## APPENDICES

Appendix A – Laboratory Analytical Reports

Appendix B – Release Notification and Corrective Action (Form C-141)

Appendix C – Soil Boring & Monitor Well Logs



## INTRODUCTION

Basin Environmental Service Technologies, LLC (Basin), on behalf of Plains Pipeline, 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 1st 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 the quarterly groundwater monitoring events conducted in calendar year 2011 only. For reference, a "Site Location Map" is provided as Figure 1.

Groundwater monitoring was conducted during each quarter of 2011 to assess the levels and extent of dissolved phase constituents and Phase-Separated Hydrocarbon (PSH). The groundwater monitoring events consisted of measuring static water levels in the monitor wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. Monitor wells containing a thickness of PSH greater than 0.01 feet were not sampled.

## SITE DESCRIPTION AND BACKGROUND INFORMATION

The legal description of the DCP Plant to Lea Station 6" #2 release site is Unit Letter "F" (SENW), Section 31, Township 20 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by The State of New Mexico (ROE permit #1777) and is administered by the New Mexico State Land Office (NMSLO). The geographic coordinates of the release site are 32.5316667° North latitude and 103.2911111° West longitude.

On February 12, 2009, Plains discovered a crude oil release from a six (6)-inch steel pipeline. During initial response activities, Plains installed a temporary clamp on the pipeline to mitigate the release. Approximately twenty-five (25) barrels of crude oil was released from the Plains pipeline, resulting in a surface stain measuring approximately ten (10) feet in width and twelve (12) feet in length. Plains notified the NMOCD Hobbs District Office of the release, and a "Release Notification and Corrective Action" (Form C-141) was submitted. The cause of the release was attributed to external corrosion of the pipeline.

On February 17, 2009, following initial response activities, excavation of hydrocarbon-impacted soil began at the site. Excavated soil was stockpiled on-site on a plastic liner to mitigate the potential leaching of contaminants into the vadose zone. Approximately 2,700 cubic yards (cy) of soil was stockpiled on-site during excavation activities. The final dimensions of the excavation were approximately sixty-six (66) feet in width, approximately eighty (80) feet in length, and approximately fifteen (15) feet in depth. Upon completion of the excavation activities, confirmation soil samples were collected from the excavation and stockpiles. Review of laboratory analytical results indicated soil samples collected from the excavation and stockpiles were less than NMOCD regulatory standards.

On April 15, 2009, a soil boring (SB-1) was advanced at the release site to evaluate the vertical extent of soil impact. During the advancement of the soil boring, groundwater was encountered at approximately sixty-one (61) feet drilling depth, or approximately seventy-six (76) feet below ground surface (bgs). A temporary casing was installed in the soil boring to allow a groundwater

sample to be collected for analysis. During the collection of the groundwater sample, a measurable thickness of PSH was observed on the groundwater. Plains immediately notified NMOCD representatives in the Hobbs District Office and the NMOCD Environmental Bureau (Santa Fe) of the impact to groundwater at the release site. On April 16, 2009, soil boring SB-1 was converted to a four (4) inch monitor well (MW-1).

On June 29, 2009, three (3) additional monitoring wells (MW-2, MW-3, and MW-4) were installed to evaluate the status of the groundwater at the site. Monitor well MW-2 is located approximately seventy-five (75) feet to the northwest (up-gradient) of the release point. The monitor well was installed to a total depth of approximately ninety (90) feet bgs. Monitor well MW-3 is located approximately seventy-five (75) feet to the southwest (cross-gradient) of the release point. The monitor well was installed to a total depth of approximately ninety (90) feet bgs. Monitor well MW-4 is located approximately seventy-five (75) feet to the southeast (down-gradient) of the release point. The monitor well was installed to a total depth of approximately eighty-eight (88) feet bgs. PSH was not observed in monitor wells MW-2, MW-3, or MW-4.

On August 25, 2009, a twenty (20) mil polyurethane liner was installed in the excavation. Monitor well (MW-1), located within the excavation, was extended to the top of the excavation using a four (4)-inch diameter PVC riser. The riser was fitted with a forty (40) mil boot, which was chemically welded to the twenty (20) mil liner to ensure impermeability of the liner. The liner was cushioned by a six (6)-inch layer of sand above and below the liner to protect the liner from damage during backfilling. The excavation was backfilled with the stockpiled soil and compacted in twelve (12)-inch lifts. The disturbed areas were contoured to fit the surrounding topography and seeded with an NMSLO-approved seeding mixture. Supplemental seeding occurred on October 12, 2010.

On January 24, 2011, one (1) additional monitoring well (MW-5) was installed to further monitor the down-gradient migration of the PSH plume. Monitor well MW-5 is located approximately thirty (30) feet to the southeast (down-gradient) of the release point. The monitor well was installed to a total depth of approximately ninety-five (95) feet bgs. PSH was not observed in monitor well MW-5. Laboratory analytical results of soil samples collected during the installation of monitor well MW-5 indicated benzene, BTEX, and TPH concentrations were less than NMOCD regulatory standards in the five (5) submitted soil samples.

Currently, a total of five (5) monitor wells are located at the DCP Plant to Lea Station 6-Inch #2 release site. Monitor wells MW-2, MW-3, MW-4, and MW-5 are gauged and sampled on a quarterly schedule, while MW-1 is gauged weekly but not sampled due to the presence of PSH.

## **FIELD ACTIVITIES**

### **Product Recovery Efforts**

A measurable thickness of PSH was detected in monitor well MW-1 during the initial site investigation. Basin began manual, bi-weekly gauging and recovery of PSH from MW-1 in April 2009. Approximately 2,658 gallons (63.3 barrels) of PSH has been recovered from MW-1 since recovery operations began in 2009, and approximately 1,030 gallons (24.5 barrels) of PSH was

recovered from MW-1 during the 2011 reporting period. The average PSH thickness measured in MW-1 during the reporting period was 4.12 feet, and the maximum PSH thickness was 4.55 feet on October 25, 2011. All recovered fluids are disposed of at an NMOCD- approved disposal facility near Monument, New Mexico.

Mobile Dual-Phase Extraction (MDPE) events were conducted on May 5 and September 9, 2011, by Talon LPE. Approximately 33.83 equivalent gallons of PSH (0.8 barrels) were removed during the May event, and approximately 498.75 equivalent gallons (11.9 barrels) of PSH were removed during the September event.

### **Groundwater Monitoring**

The on-site monitor wells were gauged and sampled on March 25 (1Q2011), May 26 (2Q2011), August 17 (3Q2011), and November 29, 2011 (4Q2011). During these quarterly sampling events, the monitoring wells were purged of a minimum of three (3) well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos pump. Groundwater was allowed to recharge, and samples were obtained using disposable Teflon bailers. Water samples were stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a trailer-mounted polystyrene tank and disposed of at an NMOCD- approved disposal facility near Monument, New Mexico.

A yearly monitoring event for polyaromatic hydrocarbons (PAH) was conducted on December 16, 2011. Based on sampling criteria provided by the NMOCD, only monitor wells MW-3 and MW-4 were subject to PAH monitoring during the 2011 calendar year.

Locations of the groundwater monitoring wells and the inferred groundwater elevations, which were constructed from the measurements collected during the 2011 quarterly sampling events, are depicted in Figures 2A through 2D. The "Groundwater Gradient Map" from the most recent sampling event (Figure 2D, November 29, 2011) indicates a general gradient of approximately 0.0022 feet/foot to the southeast as measured between groundwater monitor wells MW-2 and MW-4.

On November 29, 2011, the corrected groundwater elevation ranged between 3,459.11 and 3,459.96 feet above mean sea level in monitor wells MW-4 and MW-1, respectively. The "2011 Groundwater Elevation Data" is provided as Table 1.

### **LABORATORY RESULTS**

Groundwater samples collected from the monitor wells during the quarterly sampling events (1Q2011, 2Q2011, 3Q2011, and 4Q2011) were delivered to Xenco Laboratories in Odessa, Texas, for determination of benzene, toluene, ethylbenzene, and total xylenes (BTEX) constituent concentrations by EPA Method SW846-8021b. A summary of benzene and BTEX constituent concentrations is presented in Table 2, "2011 Concentrations of Benzene & BTEX in Groundwater". Laboratory analytical reports are provided as Appendix A. "Groundwater Concentration & Inferred PSH Extent" maps are provided as Figures 3A through 3D.

Laboratory analytical results were compared to NMOCD regulatory limits based on the New Mexico groundwater standards found in section 20.6.2.3103 of the New Mexico Administrative Code (NMAC).

#### **Monitor well MW-1**

Monitor well MW-1 was not sampled during the 2011 reporting period due to the presence of PSH in the monitor well.

#### **Monitor well MW-2**

Laboratory analytical results indicated benzene concentrations ranged from less than the laboratory method detection limit (MDL) in 1Q2011 to 0.00258 mg/L in 3Q2011. Toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL during all four quarters of the reporting period. Benzene and BTEX constituent concentrations were less than NMOCD regulatory standards during all four quarters of the reporting period.

#### **Monitor well MW-3**

Laboratory analytical results indicated benzene concentrations ranged from 0.00296 mg/L in 4Q2011 to 0.00991 mg/L in 3Q2011. Toluene concentrations ranged from less than the laboratory MDL in 2Q2011 and 4Q2011 to 0.00358 mg/L in 1Q2011. Ethylbenzene and total xylene concentrations were less than the appropriate laboratory MDL during all four quarters of the reporting period. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards during all four quarters of the reporting period.

PAH constituent concentrations were both less than the appropriate laboratory MDL and NMOCD regulatory standards in the groundwater sample collected on December 16, 2011.

#### **Monitor well MW-4**

Laboratory analytical results indicated benzene concentrations ranged from 0.00885 mg/L in 2Q2011 to 0.0281 mg/L in 3Q2011. Toluene concentrations ranged from 0.00398 mg/L in 2Q2011 to 0.0121 mg/L in 3Q2011. Ethylbenzene and total xylene concentrations were less than the appropriate laboratory MDL during all four quarters of the reporting period. Benzene concentrations exceeded NMOCD regulatory standards in 1Q2011, 3Q2011, and 4Q2011. Toluene, ethylbenzene, and total total xylene concentrations were less than NMOCD regulatory standards during all four quarters of the reporting period.

PAH constituent concentrations were both less than the appropriate laboratory MDL and NMOCD regulatory standards in the groundwater sample collected on December 16, 2011.

#### **Monitor well MW-5**

Laboratory analytical results indicated benzene concentrations ranged from 0.122 mg/L in 1Q2011 to 0.0276 mg/L in 3Q2011. Toluene concentrations ranged from 0.0676 mg/L in

1Q2011 to 0.0933 mg/L in 2Q2011. Ethylbenzene ranged from less than the laboratory MLD in 1Q2011 to 0.0101 mg/L in 4Q2011. Total xylene concentrations ranged from less than the laboratory MDL in 1Q2011 to 0.0175 mg/L in 4Q2011. Benzene concentrations exceeded NMOCD regulatory standards during all four quarters of the reporting period. Toluene, ethylbenzene, and total total xylene concentrations were less than NMOCD regulatory standards during all four quarters of the reporting period.

Baseline sampling of monitor well MW-5 was conducted on March 25, 2011. Laboratory analytical results from the baseline monitoring are summarized in Tables 3 through 6. A Monitor Well Log is provided as Appendix C.

## **SUMMARY**

This report presents the results of the monitoring activities for the 2011 annual monitoring period. Currently, there are five (5) groundwater monitor wells (MW-1, MW-2, MW-3, MW-4, and MW-5) on-site. Monitor well MW-1 was not sampled in 2011 due to the presence of PSH in the monitor well. Monitor wells MW-2, MW-3, MW-4, and MW-5 were sampled during all four quarters of the monitoring period, and the results of these sampling events are summarized above.

The "Groundwater Gradient Map" from the most recent sampling event (Figure 2D, November 29, 2011) indicates a general gradient of approximately 0.0022 feet/foot to the southeast as measured between groundwater monitor wells MW-2 and MW-4.

A measurable thickness of PSH was detected in monitor well MW-1 throughout the 2011 reporting period. The average PSH thickness measured in MW-1 during the reporting period was 4.12 feet, and the maximum PSH thickness was 4.55 feet on October 25, 2011.

During the reporting period, approximately 1,030 gallons (24.5 barrels) of PSH was recovered, by manual recovery, from monitor well MW-1. A total of 532.58 equivalent gallons (12.7 barrels) of PSH was recovered by Mobile Dual-Phase Extraction.

Review of laboratory analytical results generated from analysis of groundwater samples collected in 2011 indicated benzene concentrations were less than the NMOCD regulatory standard in monitor wells MW-2 and MW-3. However, benzene concentrations above NMOCD standards were detected in the groundwater samples from MW-4 (1Q2011, 3Q2011 and 4Q2011) and MW-5 (all four quarters of the reporting period).

## **ANTICIPATED ACTIONS**

PSH recovery from monitor well MW-1 will continue on a bi-weekly schedule. All fluids recovered from MW-1 will be disposed of at an NMOCD-permitted disposal facility. Monitor wells MW-2, MW-3, MW-4, and MW-5 will be monitored and sampled quarterly. A yearly PAH monitoring event will be conducted at monitor wells MW-4 and MW-5 during the 2012 calendar year.

Based on the groundwater sampling results for down-gradient monitor wells MW-4 and MW-5 during the 2011 reporting period, Plains will evaluate the need for an additional down-gradient monitor well. Results from the 2012 sampling events will be reported in the 2012 *Annual Monitoring Report*, which will be submitted to the NMOCD by April 1, 2013.

## **LIMITATIONS**

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

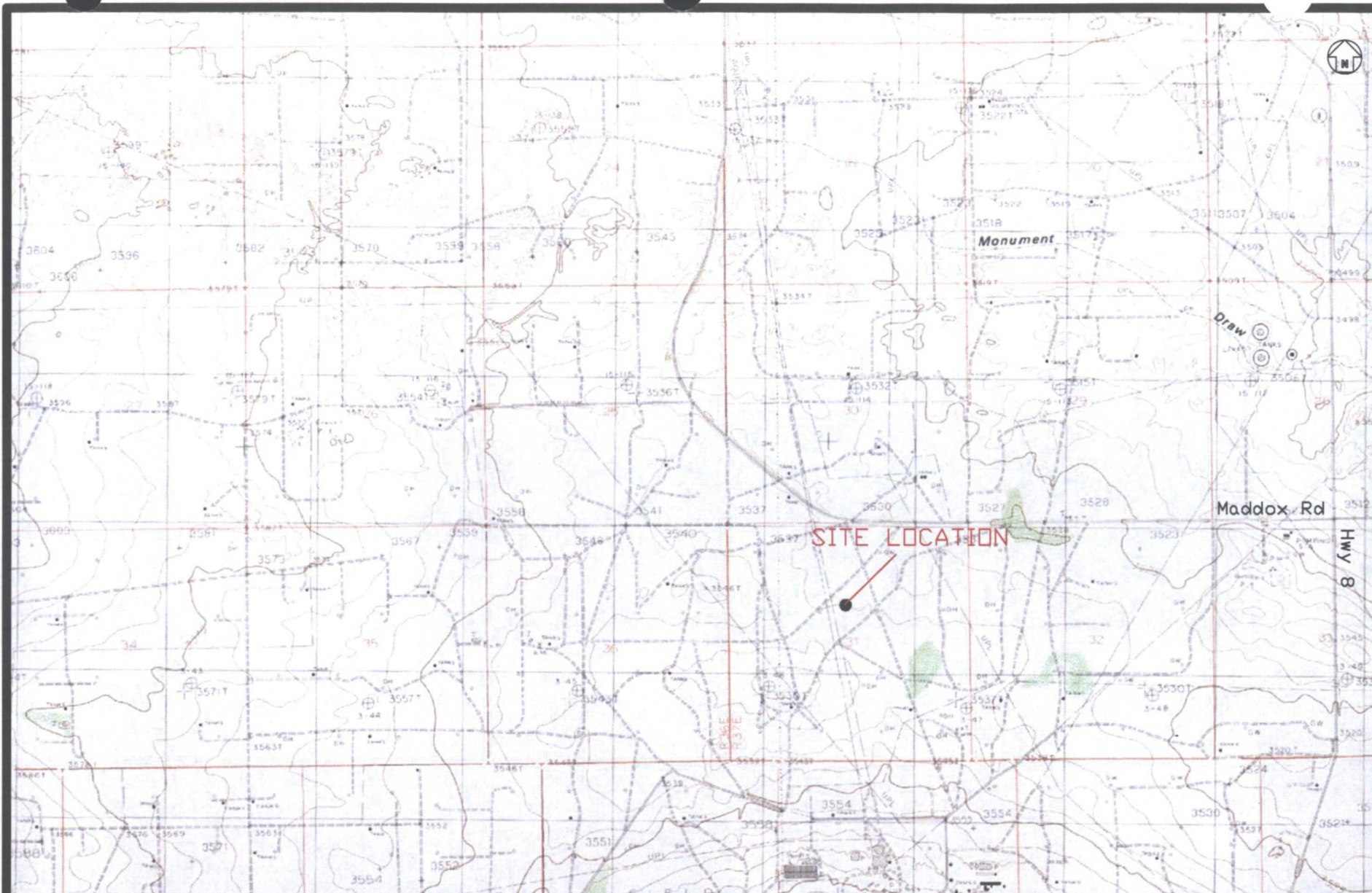
This report has been prepared for the benefit of Plains Marketing, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Marketing, LP.

## **DISTRIBUTION**

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

## Figures



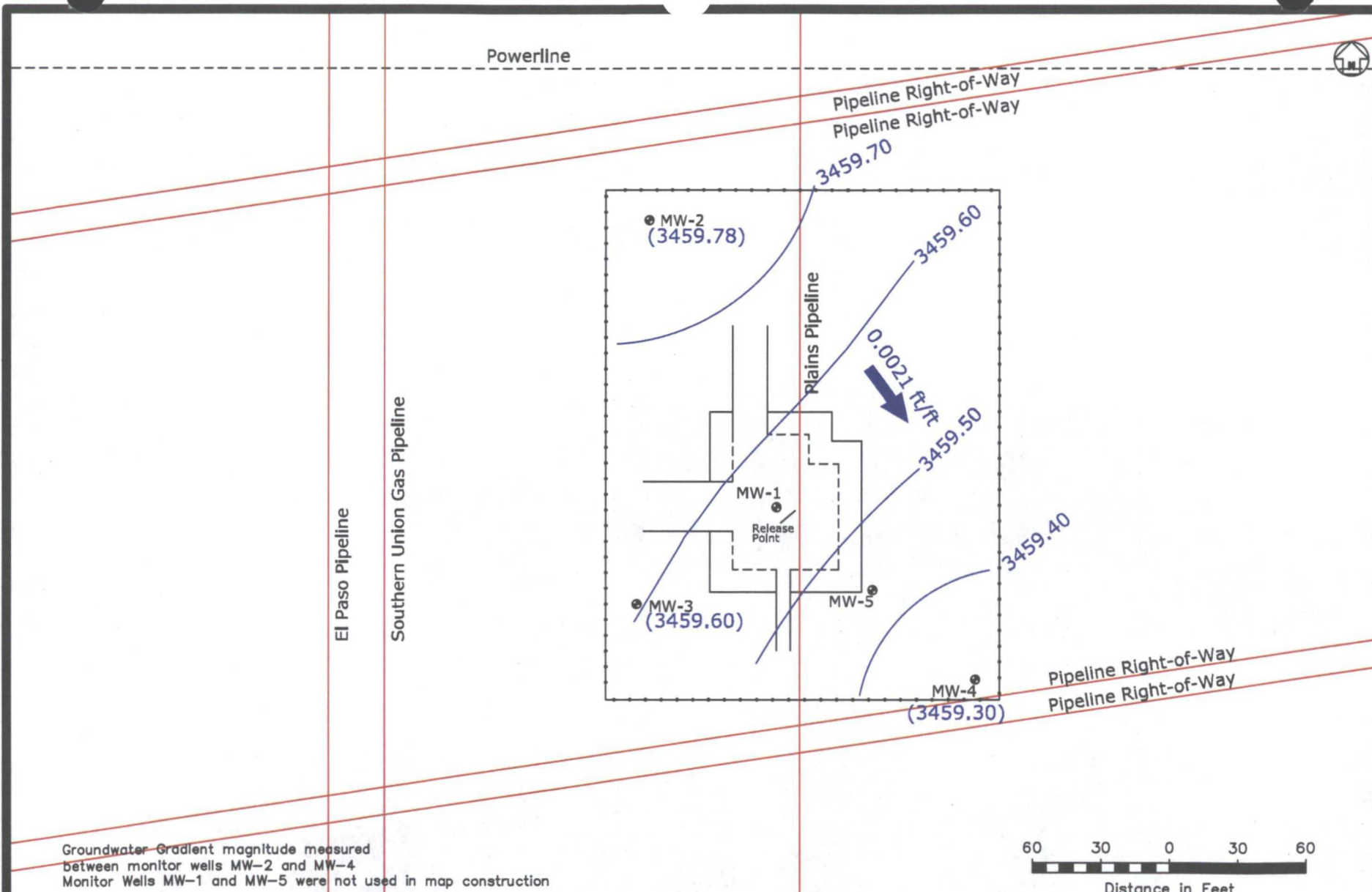


3000 1500 0 1500 3000  
 Distance in Feet

Figure 1  
 Site Location Map  
 Plains Pipeline, L.P.  
 DCP Plant to Lea Station 6-Inch #2  
 Lea County, New Mexico  
 SRS 2009-039  
 1RP-2136

Basin Environmental Services

|                |                 |
|----------------|-----------------|
| Prep By: CDS   | Checked By: CDS |
| March 16, 2009 | Scale 1"=3000'  |



**Legend:**

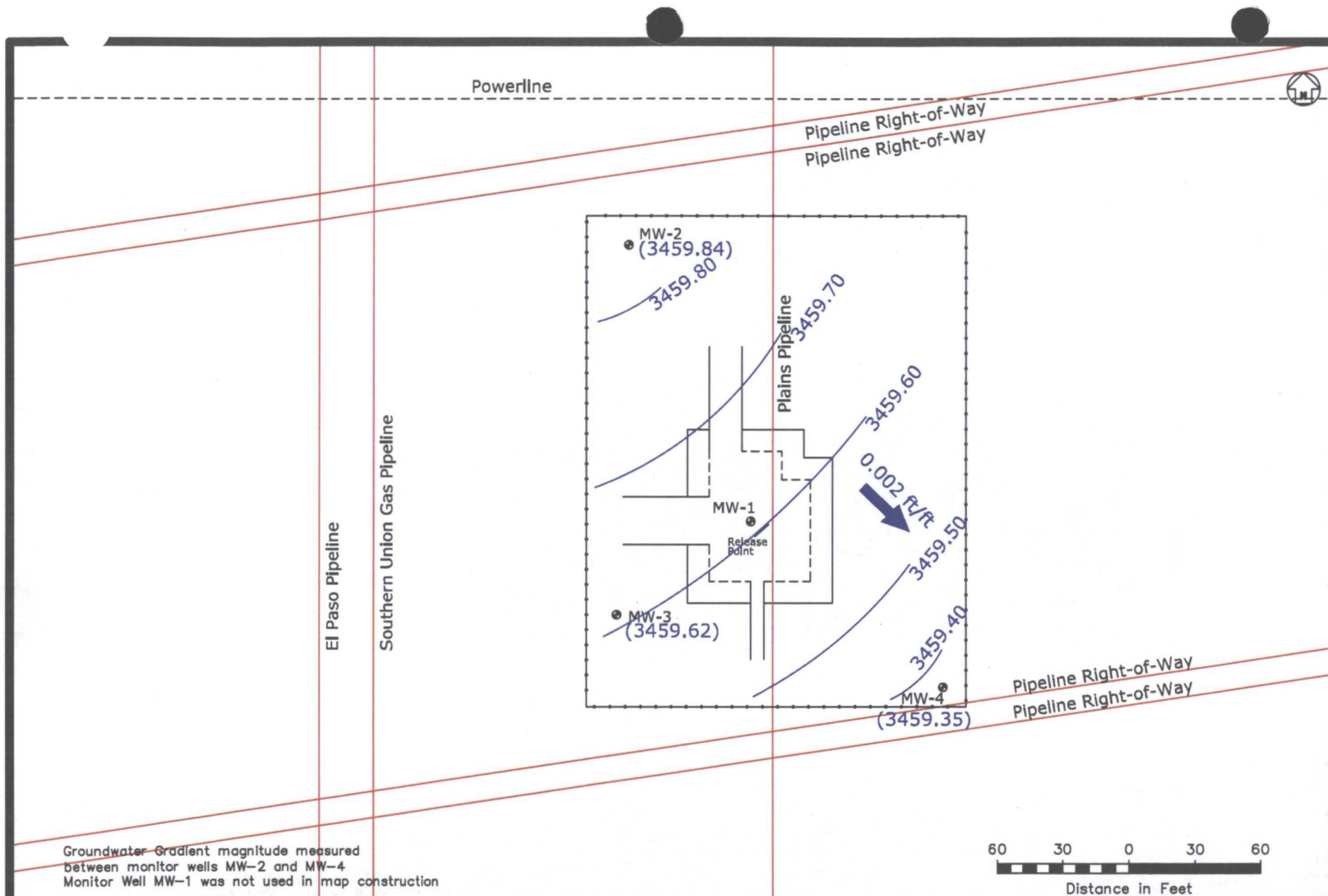
- Excavation Extents
- Pipeline
- Groundwater Gradient Contour Line
- Groundwater Elevation (feet)
- Groundwater Gradient Direction and Magnitude
- Monitor Well
- Powerline
- Fence

Figure 2A  
Inferred Groundwater  
Gradient Map  
(3/24/2011)  
Plains Pipeline, L.P.  
DCP Plant to Lea Station 6-Inch #2  
Lea County, NM  
1RP-2136

Basin Environmental Service Technologies, LLC

|                |                 |
|----------------|-----------------|
| Prep By: BJA   | Checked By: BRB |
| March 16, 2012 | Scale 1"=60'    |





#### Legend:

- Excavation Extents
- Pipeline
- Groundwater Gradient Contour Line
- Groundwater Elevation (feet)
- Groundwater Gradient Direction and Magnitude
- MW-1 Monitor Well
- Powerline
- Fence

Figure 2B  
Inferred Groundwater  
Gradient Map  
(5/26/2011)  
Plains Pipeline, L.P.  
DCP Plant to Lea Station 6-Inch #2  
Lea County, NM  
1RP-2136

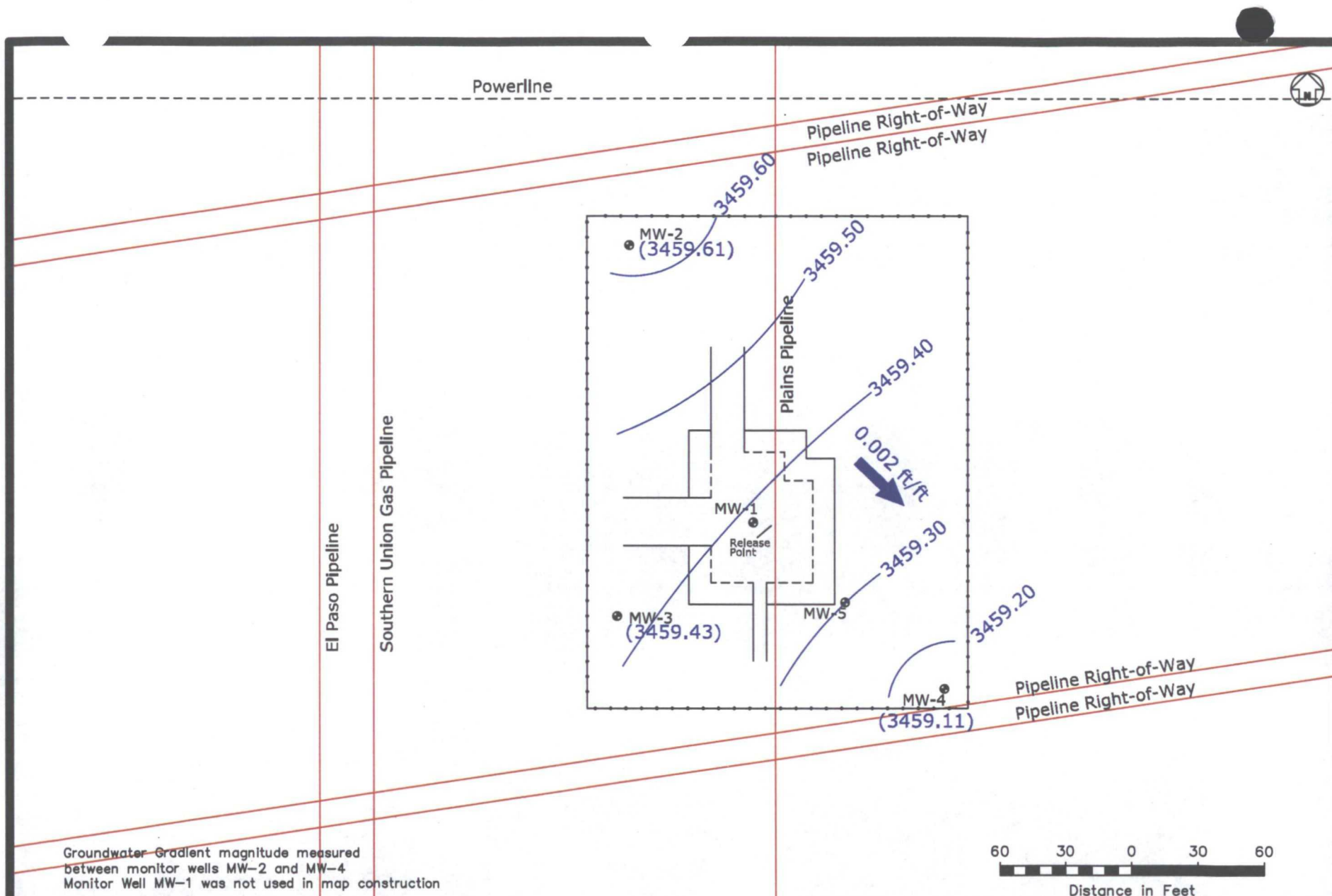
Basin Environmental Service Technologies, LLC

Prep By: BJA

Checked By: BRB

July 19, 2011

Scale 1"=80'



#### Legend:

- Excavation Extents
- Pipeline
- Groundwater Gradient Contour Line
- (3459.43) Groundwater Elevation (feet)
- Groundwater Gradient Direction and Magnitude
- MW-1 Monitor Well
- Powerline
- Fence

Figure 2C  
Inferred Groundwater  
Gradient Map  
(8/17/2011)  
Plains Pipeline, L.P.  
DCP Plant to Lea Station 6-Inch #2  
Lea County, NM  
1RP-2136

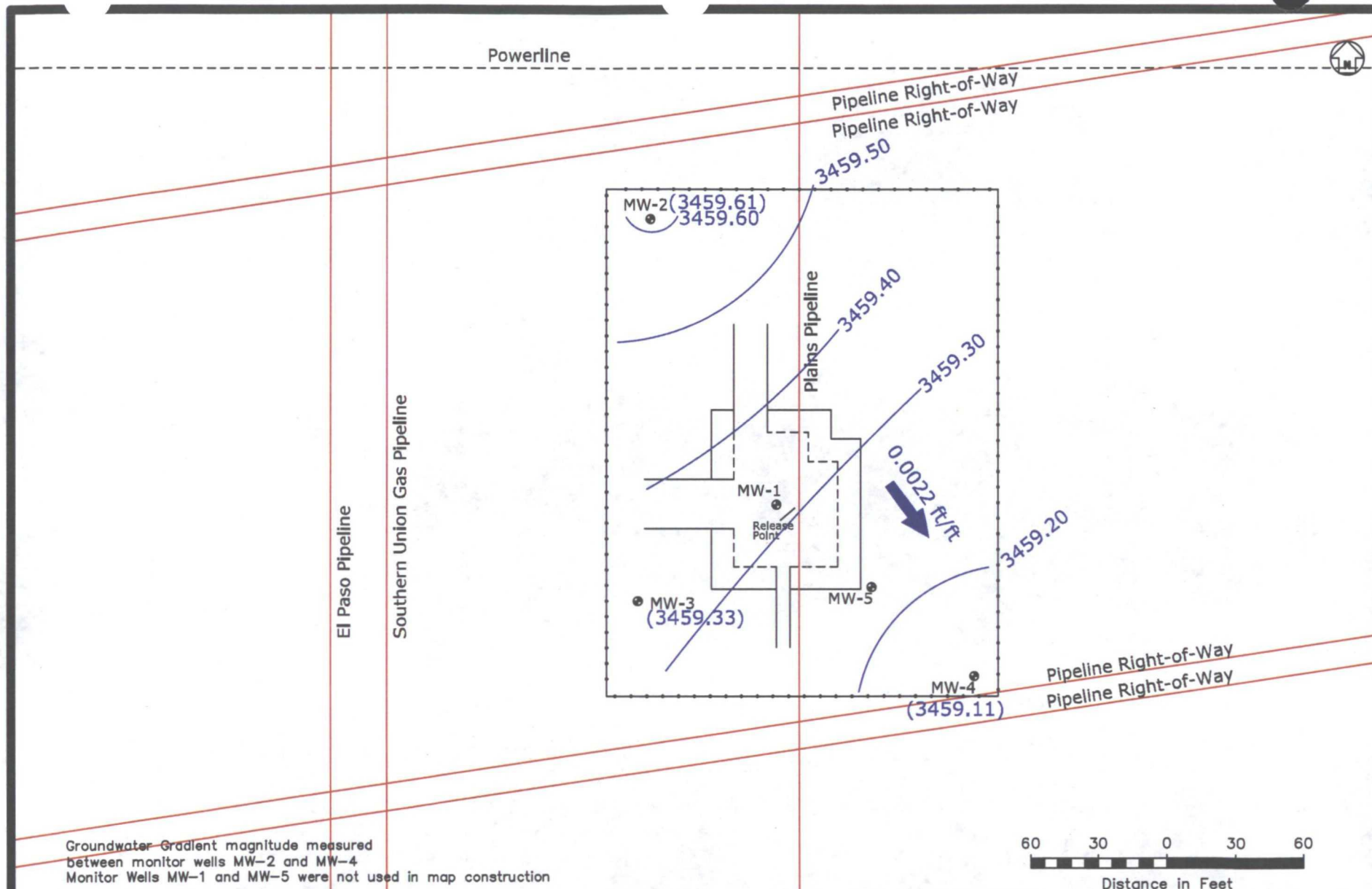
Basin Environmental Service Technologies, LLC

Prep By: BJA

Checked By: BRB

October 18, 2011

Scale 1"=80'



#### Legend:

- Excavation Extents
- Powerline
- Pipeline
- Groundwater Gradient Contour Line
- (3459.49) Groundwater Elevation (feet)
- 0.0022 ft/ft Groundwater Gradient Direction and Magnitude
- MW-1 Monitor Well
- Fence

Figure 2D  
Inferred Groundwater  
Gradient Map  
(11/29/2011)  
Plains Pipeline, L.P.  
DCP Plant to Lea Station 6-Inch #2  
Lea County, NM  
1RP-2136

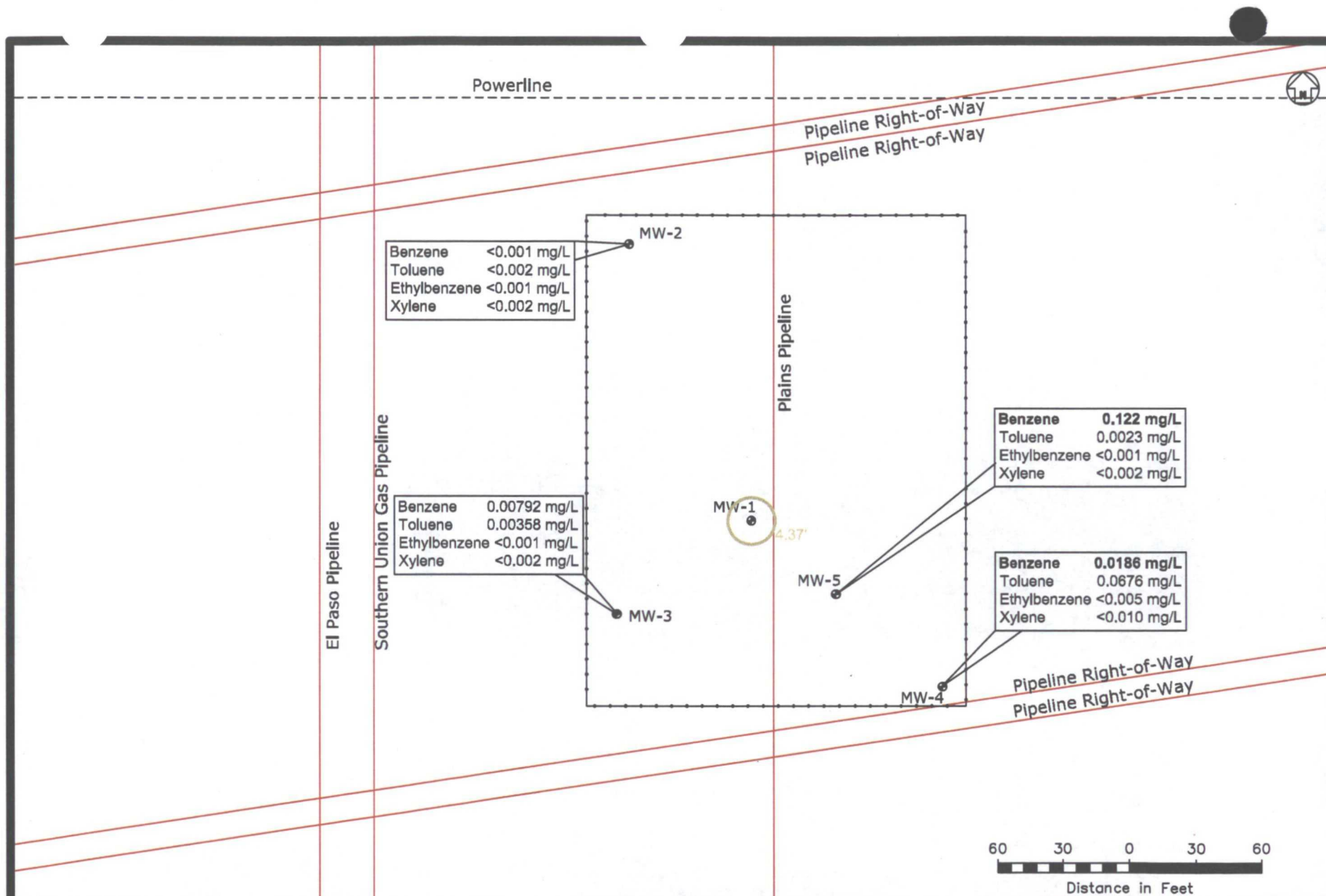
Basin Environmental Service Technologies, LLC

Prep By: BJA

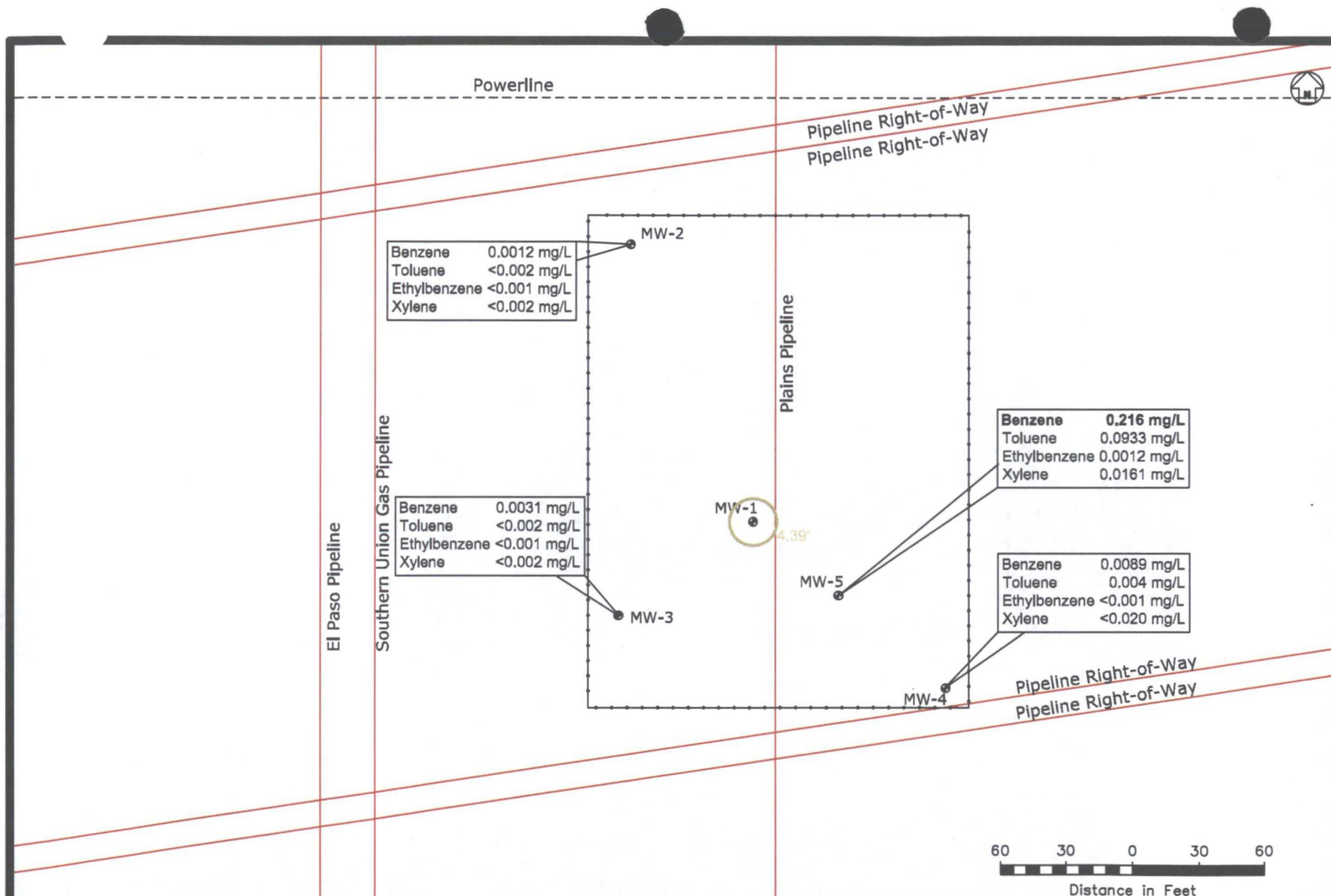
Checked By: BRB

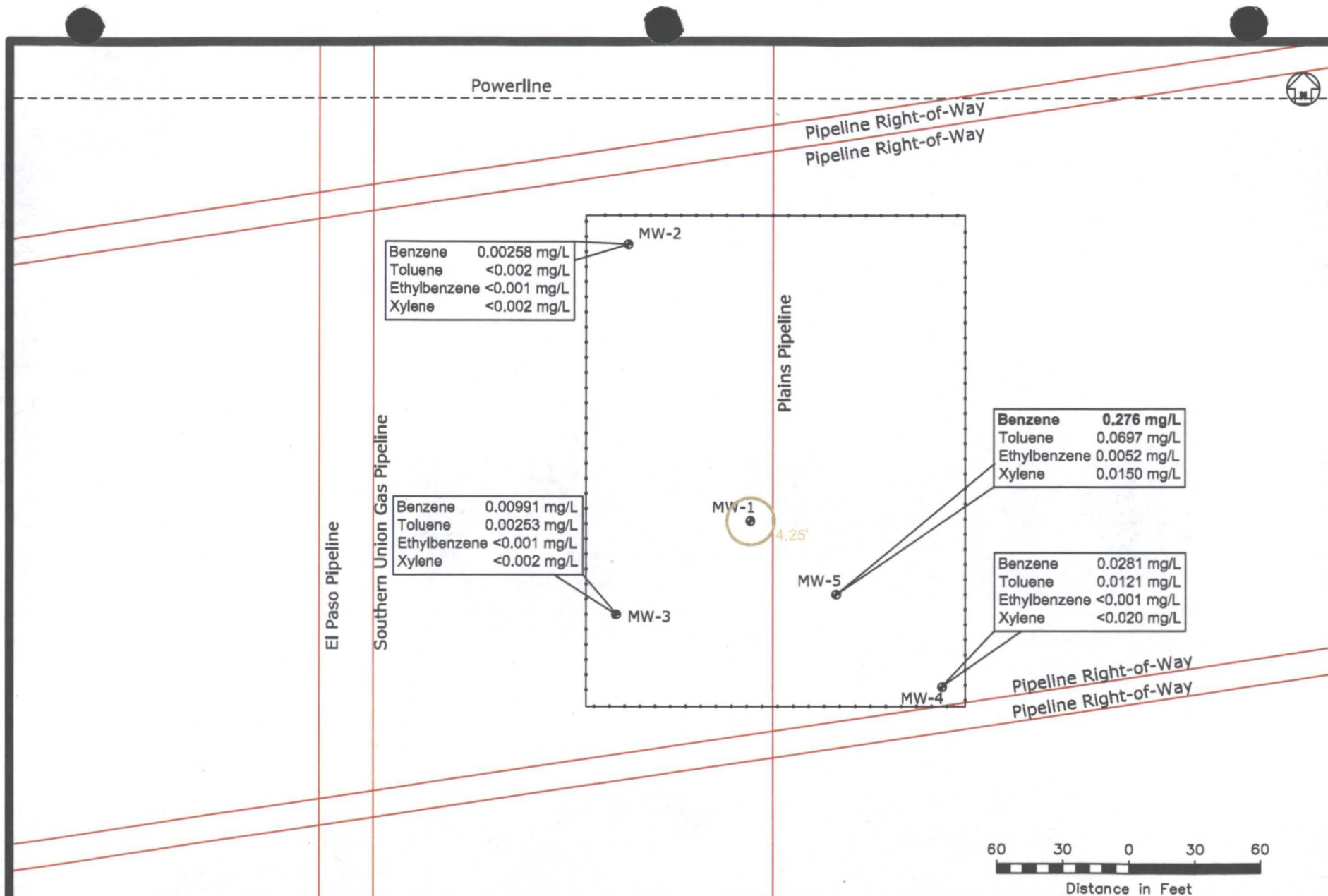
March 16, 2012

Scale 1"=60'









**Legend:**

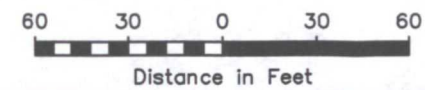
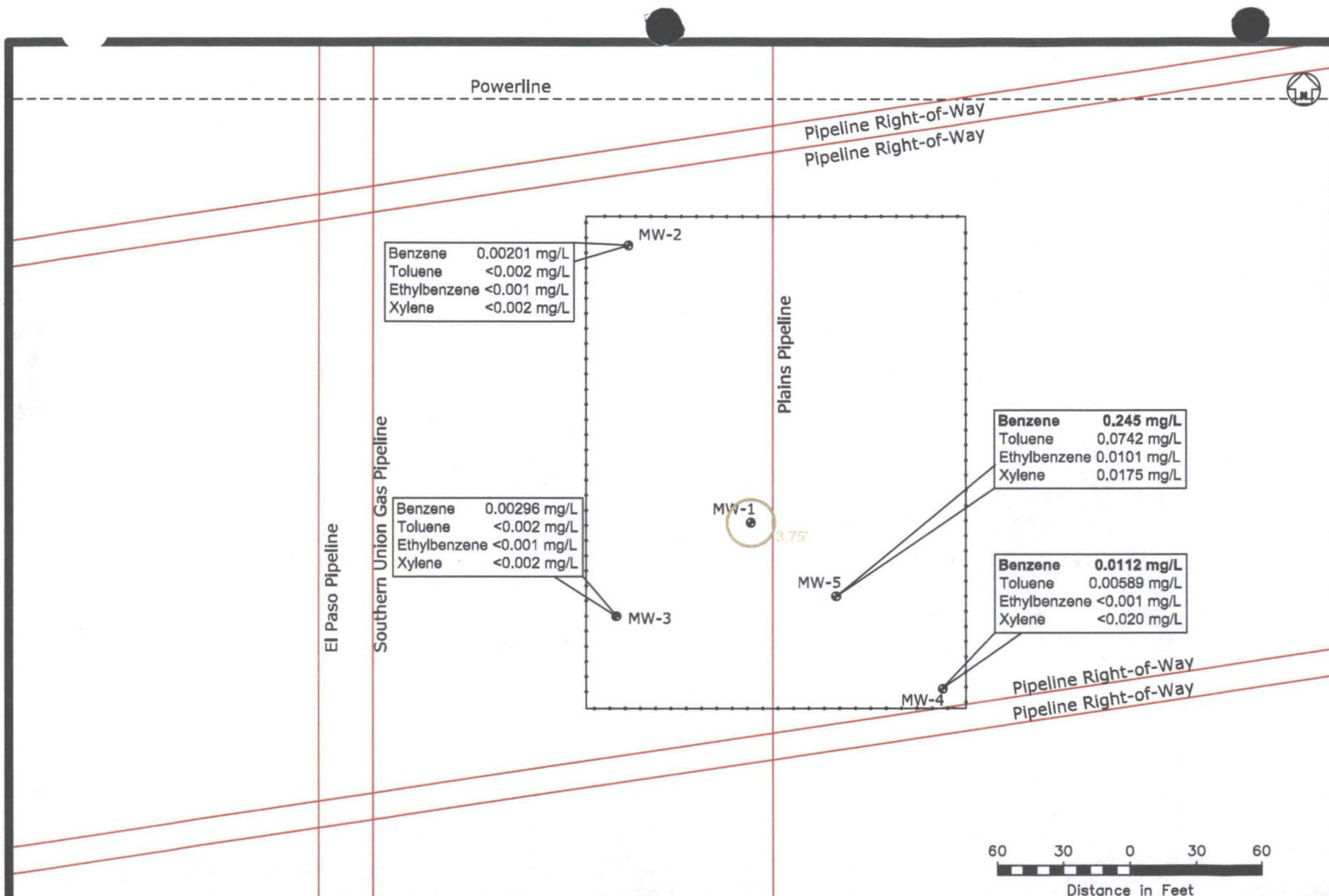
- Excavation Extents
- Pipeline
- ⊕ Monitor Well
- Powerline
- Fence

Figure 3C  
Groundwater Concentration &  
Inferred PSH Extent Map (8/17/2011)  
Plains Pipeline, L.P.  
DCP Plant to Lea Station 6-Inch #2  
Lea County, NM  
1RP-2136

Basin Environmental Service Technologies, LLC

|                  |                 |
|------------------|-----------------|
| Prep By: BJA     | Checked By: BRB |
| October 17, 2011 | Scale 1"=80'    |





**Legend:**

- Excavation Extents
- Powerline
- Pipeline
- Fence
- + Monitor Well

Figure 3D  
Groundwater Concentration &  
Inferred PSH Extent Map (11/29/2011)  
Plains Pipeline, L.P.  
DCP Plant to Lea Station 6-Inch #2  
Lea County, NM  
1RP-2136

**Basin Environmental Service Technologies, LLC**

|                  |                 |
|------------------|-----------------|
| Prep By: BJA     | Checked By: BRB |
| January 17, 2012 | Scale 1"=60'    |

## Tables

TABLE 1

## 2011 GROUNDWATER ELEVATION DATA

PLAINS PIPELINE, L.P.  
 DCP PLANT TO LEA STATION 6-INCH #2  
 LEA COUNTY, NEW MEXICO  
 PLAINS SRS NO: 2009-039  
 NMOCD REF NO: 1RP-2136

| WELL NUMBER | DATE MEASURED | CASING WELL ELEVATION | DEPTH TO PRODUCT | DEPTH TO WATER | PSH THICKNESS | CORRECTED GROUNDWATER ELEVATION |
|-------------|---------------|-----------------------|------------------|----------------|---------------|---------------------------------|
| MW-1        | 3/24/2011     | 3,540.25              | 79.50            | 83.87          | 4.37          | 3,460.09                        |
|             | 5/26/2011     | 3,540.25              | 79.55            | 83.96          | 4.41          | 3,460.04                        |
|             | 8/17/2011     | 3,540.25              | 79.60            | 83.85          | 4.25          | 3,460.01                        |
|             | 11/29/2011    | 3,540.25              | 79.70            | 83.65          | 3.95          | 3,459.96                        |
| MW-2        | 3/24/2011     | 3,538.31              | -                | 78.53          | 0.00          | 3,459.78                        |
|             | 5/26/2011     | 3,538.31              | -                | 78.47          | 0.00          | 3,459.84                        |
|             | 8/17/2011     | 3,538.31              | -                | 78.70          | 0.00          | 3,459.61                        |
|             | 11/29/2011    | 3,538.31              | -                | 78.70          | 0.00          | 3,459.61                        |
| MW-3        | 3/24/2011     | 3,539.03              | -                | 79.43          | 0.00          | 3,459.60                        |
|             | 5/26/2011     | 3,539.03              | -                | 79.41          | 0.00          | 3,459.62                        |
|             | 8/17/2011     | 3,539.03              | -                | 79.60          | 0.00          | 3,459.43                        |
|             | 11/29/2011    | 3,539.03              | -                | 79.70          | 0.00          | 3,459.33                        |
| MW-4        | 3/24/2011     | 3,539.66              | -                | 80.36          | 0.00          | 3,459.30                        |
|             | 5/26/2011     | 3,539.66              | -                | 80.31          | 0.00          | 3,459.35                        |
|             | 8/17/2011     | 3,539.66              | -                | 80.55          | 0.00          | 3,459.11                        |
|             | 11/29/2011    | 3,539.66              | -                | 80.55          | 0.00          | 3,459.11                        |
| MW-5        | 3/24/2011     | -                     | -                | 80.10          | 0.00          | -                               |
|             | 5/26/2011     | -                     | -                | 80.05          | 0.00          | -                               |
|             | 8/17/2011     | -                     | -                | 80.20          | 0.00          | -                               |
|             | 11/29/2011    | -                     | -                | 80.30          | 0.00          | -                               |

TABLE 2

## 2011 CONCENTRATIONS OF BENZENE &amp; BTEX IN GROUNDWATER

PLAINS PIPELINE, L.P.  
 DCP PLANT TO LEA STATION 6-INCH #2  
 LEA COUNTY, NEW MEXICO  
 PLAINS SRS NO. 2009-039  
 NMOCD REFERENCE NO: 1R-2136

| SAMPLE LOCATION | SAMPLE DATE | METHODS: EPA SW 846-8021b |                |                      |                    |                  |                     |                   |
|-----------------|-------------|---------------------------|----------------|----------------------|--------------------|------------------|---------------------|-------------------|
|                 |             | BENZENE (mg/L)            | TOLUENE (mg/L) | ETHYL-BENZENE (mg/L) | M,P-XYLENES (mg/L) | O-XYLENES (mg/L) | TOTAL XYLENE (mg/L) | TOTAL BTEX (mg/L) |
| MW-2            | 3/25/2011   | <0.0010                   | <0.0020        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | <0.0020           |
|                 | 5/26/2011   | 0.00116                   | <0.0020        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.00116           |
|                 | 8/17/2011   | 0.00258                   | <0.0020        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.00258           |
|                 | 11/29/2011  | 0.00201                   | <0.0020        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.00201           |
| MW-3            | 3/25/2011   | 0.00792                   | 0.00358        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.0115            |
|                 | 5/26/2011   | 0.00306                   | <0.0020        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.00306           |
|                 | 8/17/2011   | 0.00991                   | 0.00253        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.0124            |
|                 | 11/29/2011  | 0.00296                   | <0.0020        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.00296           |
| MW-4            | 3/25/2011   | 0.0186                    | 0.00802        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.0266            |
|                 | 5/26/2011   | 0.00885                   | 0.00398        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.0128            |
|                 | 8/17/2011   | 0.0281                    | 0.0121         | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.0402            |
|                 | 11/29/2011  | 0.0112                    | 0.00589        | <0.0010              | <0.0020            | <0.0010          | <0.0020             | 0.0171            |
| MW-5            | 3/25/2011   | 0.122                     | 0.0676         | <0.0050              | <0.0100            | <0.0050          | <0.0020             | 0.1896            |
|                 | 5/26/2011   | 0.216                     | 0.0933         | 0.00123              | 0.00957            | 0.0065           | 0.0161              | 0.327             |
|                 | 8/17/2011   | 0.276                     | 0.0697         | 0.00523              | 0.0105             | 0.0045           | 0.015               | 0.366             |
|                 | 11/29/2011  | 0.245                     | 0.0742         | 0.0101               | 0.0132             | 0.00425          | 0.0175              | 0.347             |
| NMOCD CRITERIA  |             | 0.01                      | 0.75           | 0.75                 | TOTAL XYLENES 0.62 |                  |                     |                   |

**TABLE 3**  
**CONCENTRATIONS OF RCRA & NMWQCC METALS IN GROUNDWATER**  
**PLAINS PIPELINE, L.P.**  
**DCP PLANT TO LEA STATION 6-INCH #2**  
**LEA COUNTY, NEW MEXICO**  
**NMOCDF REFERENCE NUMBER 1RP-2136**

*All water concentrations are reported in mg/L*

| SAMPLE LOCATION   | SAMPLE DATE | EPA SW846-6020A, EPA 7470A |          |          |           |           |           |           |          |          |           |           |            |          |           |           |         |            |
|---|-------------|----------------------------|----------|----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|------------|----------|-----------|-----------|---------|------------|
|   |             | Aluminum                   | Arsenic  | Barium   | Boron     | Cadmium   | Chromium  | Cobalt    | Copper   | Iron     | Lead      | Manganese | Molybdenum | Nickel   | Selenium  | Silver    | Zinc    | Mercury    |
| MW-5  | 3/25/2011   | 0.202                      | <0.010   | 0.0894   | 0.511     | <0.0050   | <0.0050   | <0.010    | <0.010   | 0.14     | <0.0120   | 0.122     | 0.0343     | <0.010   | <0.010    | <0.040    | 0.011   | <0.00025   |
| Maximum Contaminant Levels from NM WQCC Drinking water standards Sections 1-101.UU and 3-103.A. |             | 5.0 mg/L                   | 0.1 mg/L | 1.0 mg/L | 0.75 mg/L | 0.01 mg/L | 0.05 mg/L | 0.05 mg/L | 1.0 mg/L | 1.0 mg/L | 0.05 mg/L | 0.2 mg/L  | 1.0 mg/L   | 0.2 mg/L | 0.05 mg/L | 0.05 mg/L | 10 mg/L | 0.002 mg/L |

Table 4

CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER  
 PLAINS PIPELINE, LP  
 DCP PLANT TO LEA STATION 6-INCH #2  
 LEA COUNTY, NEW MEXICO  
 NMOCD REFERENCE NUMBER 1R9-2136

*All water concentrations are in mg/L*

| Date Sampled   | Sample Location | Acetone | Acrylonitrile | Benzene   | Bromobenzene | Bromochloromethane | Bromodichloromethane | Bromoform | Bromomethane | 2-Butanone | MTBE   | n-Butylbenzene | sec-Butylbenzene | tert-Butylbenzene | Carbon Disulfide | Carbon Tetrachloride | Chlorobenzene | Chloroethane |
|--|-----------------|---------|---------------|-----------|--------------|--------------------|----------------------|-----------|--------------|------------|--------|----------------|------------------|-------------------|------------------|----------------------|---------------|--------------|
| 3/25/2011  | MW-5            | <0.1    | <0.05         | 0.122     | <0.005       | <0.005             | <0.005               | <0.005    | <0.005       | <0.05      | <0.005 | <0.005         | <0.005           | <0.005            | <0.05            | <0.005               | <0.005        | <0.01        |
| Maximum Contaminant Levels from<br>NMWQCC Drinking water standards<br>Sections 1-101.UU and 3-103.A. |                 | .       | .             | 0.01 mg/L | .            | .                  | .                    | .         | .            | .          | .      | .              | .                | .                 | .                | 0.01 mg/L            | .             | .            |

Table 4  
 CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER  
 PLAINS PIPELINE, LP  
 DCP PLANT TO LEA STATION 6-INCH #2  
 LEA COUNTY, NEW MEXICO  
 NMOCD REFERENCE NUMBER 1RP-2136

*All water concentrations are in mg/L*

| Date Sampled   | Sample Location | 2-Chloroethyl vinyl ether | Chloroform | Chloromethane | 2-Chlorotoluene | 4-Chlorotoluene | p-Cymene(p-Isopropyltoluene) | Dibromochloromethane | 1,2-Dibromo-3-chloropropane | 1,2-Dibromoethane (EDB) | Dibromomethane (methylene bromide) | 1,2-Dichlorobenzene | 1,3-Dichlorobenzene | 1,4-Dichlorobenzene | Dichlorodifluoromethane | 1,1-Dichloroethane | 1,2-Dichloroethane | 1,1-Dichloroethene | cis-1,2-Dichloroethene |
|--|-----------------|---------------------------|------------|---------------|-----------------|-----------------|------------------------------|----------------------|-----------------------------|-------------------------|------------------------------------|---------------------|---------------------|---------------------|-------------------------|--------------------|--------------------|--------------------|------------------------|
| 3/25/2011  | MW-5            | <0.005                    | <0.005     | <0.01         | <0.005          | <0.005          | <0.005                       | <0.005               | <0.005                      | <0.005                  | <0.005                             | <0.005              | <0.005              | <0.005              | <0.005                  | <0.005             | <0.005             | <0.005             | <0.005                 |
| Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A. |                 | .                         | 0.1mg/L    | .             | .               | .               | .                            | .                    | .                           | 0.0001 mg/L             | .                                  | .                   | .                   | .                   | .                       | 0.005 mg/L         | 0.01 mg/L          | 0.005 mg/L         | 0.1mg/L                |

Table 4  
 CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER  
 PLAINS PIPELINE, LP  
 DCP PLANT TO LEA STATION 6-INCH #2  
 LEA COUNTY, NEW MEXICO  
 NMOCD REFERENCE NUMBER 1RP-2136

*All water concentrations are in mg/L*

| Date Sampled   | Sample Location | trans-1,2-Dichloroethene | 1,2-Dichloropropane | 1,3-Dichloropropane | 2,2-Dichloropropane | 1,1-Dichloropropane | cis-1,3-Dichloropropene | trans-1,3-Dichloropropene | Ethylbenzene | Hexachlorobutadiene | 2-Hexanone | Isopropylbenzene | Methylene chloride | 4-Methyl-2-pentanone (MIBK) | Naphthalene | n-Propylbenzene | Styrene | 1,1,1,2-Tetrachloroethane |
|--|-----------------|--------------------------|---------------------|---------------------|---------------------|---------------------|-------------------------|---------------------------|--------------|---------------------|------------|------------------|--------------------|-----------------------------|-------------|-----------------|---------|---------------------------|
| 3/25/2011  | MW-5            | <0.005                   | <0.005              | <0.005              | <0.005              | <0.005              | <0.005                  | <0.005                    | <0.005       | <0.005              | <0.05      | <0.005           | <0.005             | <0.05                       | <0.01       | <0.005          | <0.005  | <0.005                    |
| Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A. |                 | -                        | -                   | -                   | -                   | -                   | -                       | -                         | 0.75 mg/L    | -                   | -          | -                | 0.1mg/L            | -                           | 0.03 mg/L   | -               | -       | -                         |



**Table 4**  
**CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER**  
**PLAINS PIPELINE, LP**  
**DCP PLANT TO LEA STATION 6-INCH #2**  
**LEA COUNTY, NEW MEXICO**  
**NMOCD REFERENCE NUMBER 1RP-2136**

*All water concentrations are in mg/L*

| Date Sampled   | Sample Location | 1,1,2,2-Tetrachloroethane | Tetrachloroethene (PCE) | Toluene   | 1,2,3-Trichlorobenzene | 1,2,4-Trichlorobenzene | 1,1,1-Trichloroethane | 1,1,2-Trichloroethane | Trichloroethene (TCE) | Trichlorofluoromethane | 1,2,3-Trichloropropane | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | o-Xylene                  | m,p-Xylene | Vinyl Chloride |
|--|-----------------|---------------------------|-------------------------|-----------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|---------------------------|------------|----------------|
| 3/25/2011  | MW-5            | <0.005                    | <0.005                  | 0.0676    | <0.0099                | <0.0099                | <0.005                | <0.005                | <0.005                | <0.005                 | <0.005                 | <0.005                 | <0.005                 | <0.005                    | <0.010     | <0.0020        |
| Maximum Contaminant Levels from NMWQCC Drinking water standards Sections 1-101.UU and 3-103.A. |                 | 0.02 mg/L                 | -                       | 0.75 mg/L | -                      | -                      | 0.06 mg/L             | -                     | 0.01 mg/L             | -                      | -                      | -                      | -                      | Total Xylene<br>0.62 mg/L | -          | 0.001 mg/L     |

**TABLE 5**  
**CONCENTRATIONS OF SEMI-VOLATILE COMPOUNDS IN GROUNDWATER**  
**PLAINS PIPELINE, L.P.**  
**DCP PLANT TO LEA STATION 6-INCH #2**  
**LEA COUNTY, NEW MEXICO**  
**NMOCD REFERENCE NUMBER 1RP-2136**

*All water concentrations are reported in mg/L*

| SAMPLE<br>LOCATION | SAMPLE<br>DATE | EPA SW846-8270C, 3510 |                |            |                    |                |                      |                      |                      |          |                        |              |          |                        |             |              |        |
|--------------------|----------------|-----------------------|----------------|------------|--------------------|----------------|----------------------|----------------------|----------------------|----------|------------------------|--------------|----------|------------------------|-------------|--------------|--------|
|                    |                | Acenaphthene          | Acenaphthylene | Anthracene | Benzo[a]anthracene | Benzo[a]pyrene | Benzo[b]fluoranthene | Benzo[g,h,i]perylene | Benzo[k]fluoranthene | Chrysene | Dibenzo[a,h]anthracene | Fluoranthene | Fluorene | Indeno[1,2,3-cd]pyrene | Naphthalene | Phenanthrene | Pyrene |
| MW-5               | 3/25/2011      | <0.005                | <0.005         | <0.005     | <0.005             | <0.005         | <0.005               | <0.005               | <0.005               | <0.005   | <0.005                 | <0.005       | <0.005   | <0.005                 | <0.005      | <0.005       | <0.005 |
| MW-3               | 12/16/2011     | <0.005                | <0.005         | <0.005     | <0.005             | <0.005         | <0.005               | <0.005               | <0.005               | <0.005   | <0.005                 | <0.005       | <0.005   | <0.005                 | <0.005      | <0.005       | <0.005 |
| MW-4               | 12/16/2011     | <0.005                | <0.005         | <0.005     | <0.005             | <0.005         | <0.005               | <0.005               | <0.005               | <0.005   | <0.005                 | <0.005       | <0.005   | <0.005                 | <0.005      | <0.005       | <0.005 |

**TABLE 6**  
**CONCENTRATIONS OF ANIONS/CATIONS IN GROUNDWATER**  
**PLAINS PIPELINE, L.P.**  
**DCP PLANT TO LEA STATION 6-INCH #2**  
**LEA COUNTY, NEW MEXICO**  
**NMOCD REFERENCE NUMBER 1RP -2136**

*All water concentrations are reported in mg/L*

| SAMPLE<br>DATE   | SAMPLE<br>LOCATION | EPA SW375.4, 325,3, 310, 160.1 SW846 6010B |           |           |        |          |          |             |           |         |           |          |
|--|--------------------|--|-----------|-----------|--------|----------|----------|-------------|-----------|---------|-----------|----------|
|  |                    | Calcium                                    | Magnesium | Potassium | Sodium | Chloride | Sulfate  | Bicarbonate | Carbonate | Nitrate | Phosphate | Flouride |
| 3/25/2011  | MW-5               | 176  | 72.6      | 14.3      | 665    | 1,040    | 546      | 204         | <4.00     | 3.68    | 7.7       | 62.4     |
| Maximum Contaminant<br>Levels from NM WQCC<br>Drinking water standards<br>Sections 1-101.UU and 3-<br>103.A. |                    |  |           |           |        | 250 mg/L | 600 mg/L |             |           | 10 mg/L |           | 1.6 mg/L |

# **Appendices**

# **Appendix A**

## **Laboratory Analytical Reports**

# **Analytical Report 411089**

**for**

## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**DCP Plant to Lea Station 6" #2**

**2009-039**

**01-APR-11**



**Celebrating 20 Years of commitment to excellence in Environmental Testing Services**



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

**Xenco-Houston (EPA Lab code: TX00122):**

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

**Xenco-Atlanta (EPA Lab Code: GA00046):**

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

**Xenco-Miami (EPA Lab code: FL01152):** Florida (E86678), Maryland (330)

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

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

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

**Xenco-Corpus Christi (EPA Lab code: TX02613):** Texas (T104704370)

**Xenco-Boca Raton (EPA Lab Code: FL01273):**

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)  
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

**Xenco Phoenix (EPA Lab Code: AZ00901):**

Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

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

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



01-APR-11

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

Reference: XENCO Report No: **411089**  
**DCP Plant to Lea Station 6" #2**  
Project Address: Lea County, NM

**Jason Henry:**

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 411089. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 411089 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**  
Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



## Sample Cross Reference 411089



PLAINS ALL AMERICAN EH&S, Midland, TX

DCP Plant to Lea Station 6" #2

| Sample Id | Matrix | Date Collected  | Sample Depth | Lab Sample Id |
|-----------|--------|-----------------|--------------|---------------|
| MW-2      | W      | Mar-25-11 07:25 |              | 411089-001    |
| MW-3      | W      | Mar-25-11 07:30 |              | 411089-002    |
| MW-4      | W      | Mar-25-11 07:50 |              | 411089-003    |
| MW-5      | W      | Mar-25-11 08:05 |              | 411089-004    |





## CASE NARRATIVE

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

**Project Name:** DCP Plant to Lea Station 6" #2



**Project ID:** 2009-039

**Work Order Number:** 411089

**Report Date:** 01-APR-11

**Date Received:** 03/25/2011

---

**Sample receipt non conformances and Comments:**

None

---

**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

**Batch:** LBA-849659 Anions by E300  
E300MI

Batch 849659, Fluoride recovered below QC limits in the Matrix Spike.

Samples affected are: 411089-004.

The Laboratory Control Sample for Fluoride is within laboratory Control Limits

**Batch:** LBA-849661 Mercury by EPA 7470A  
SW7470A

Batch 849661, Mercury recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 411089-004.

The Laboratory Control Sample for Mercury is within laboratory Control Limits

**Batch:** LBA-849832 Alkalinity by SM2320B

**Batch:** LBA-849858 TCLP SVOCs by EPA 8270C  
SW8270C

Batch 849858, 4-Nitrophenol, Benzoic Acid, Phenol recovered above QC limits in the Matrix Spike.

Samples affected are: 411089-004.

The Laboratory Control Sample for Benzoic Acid, 4-Nitrophenol, Phenol is within laboratory Control Limits

SW8270C

Batch 849858, Pyridine recovered below QC limits in the Blank Spike Duplicate. However, analyte was recovered within QC limits in Blank Spike.

Samples affected are: 411089-004.



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: DCP Plant to Lea Station 6" #2*



*Project ID: 2009-039*

*Work Order Number: 411089*

*Report Date: 01-APR-11*

*Date Received: 03/25/2011*

---

*Batch: LBA-849979 BTEX by EPA 8021B*

*Batch: LBA-850035 Metals per ICP by SW846 6010B  
SW6010B\_IC*

*Batch 850035, Magnesium recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Calcium, Potassium, Sodium recovered above QC limits in the Matrix Spike Duplicate.*

*Samples affected are: 411089-004.*

*The Laboratory Control Sample for Magnesium, Calcium, Sodium, Potassium is within laboratory Control Limits*



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: DCP Plant to Lea Station 6" #2*



*Project ID: 2009-039*

*Work Order Number: 411089*

*Report Date: 01-APR-11*

*Date Received: 03/25/2011*

*Batch: LBA-850041 VOAs by SW-846 8260B  
SW8260B*

*Batch 850041, MTBE recovered above QC limits in the laboratory control sample.  
Samples affected are: 411089-004.*

*SW8260B*

*Batch 850041, 1,1,1,2-Tetrachloroethane, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromoethane, 2-Chlorotoluene, MTBE RPD was outside QC limits.  
Samples affected are: 411089-004*

*SW8260B*

*Batch 850041, Ethylbenzene, isopropylbenzene, n-Butylbenzene, tert-Butylbenzene recovered below QC limits in the Matrix Spike. 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene, Styrene, Vinyl Chloride, m,p-Xylenes, o-Xylene, p-Cymene (p-Isopropyltoluene) recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Trichlorofluoromethane recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. 1,1,1-Trichloroethane, 1,2-Dibromo-3-Chloropropane, Bromodichloromethane, Bromoform, Carbon Tetrachloride, MTBE recovered above QC limits in the Matrix Spike Duplicate.*

*Samples affected are: 411089-004.*

*The Laboratory Control Sample for Bromodichloromethane, Carbon Tetrachloride, m,p-Xylenes, tert-Butylbenzene, Naphthalene, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene, n-Butylbenzene, Ethylbenzene, o-Xylene, Trichlorofluoromethane, 1,1,1-Trichloroethane, Styrene, p-Cymene (p-Isopropyltoluene), isopropylbenzene, Vinyl Chloride, Bromoform, 1,2-Dibromo-3-Chloropropane is within laboratory Control Limits*



# Certificate of Analysis Summary 411089

PLAINS ALL AMERICA H&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" #2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Mar-25-11 04:50 pm

Report Date: 01-APR-11

Project Manager: Brent Barron, II

| <i>Analysis Requested</i>          | <i>Lab Id:</i>    | 411089-001      | 411089-002      | 411089-003      | 411089-004      |  |  |
|------------------------------------|-------------------|-----------------|-----------------|-----------------|-----------------|--|--|
|                                    | <i>Field Id:</i>  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|                                    | <i>Depth:</i>     |                 |                 |                 |                 |  |  |
|                                    | <i>Matrix:</i>    | WATER           | WATER           | WATER           | WATER           |  |  |
|                                    | <i>Sampled:</i>   | Mar-25-11 07:25 | Mar-25-11 07:30 | Mar-25-11 07:50 | Mar-25-11 08:05 |  |  |
| <b>Alkalinity by SM2320B</b>       | <i>Extracted:</i> |                 |                 |                 | Mar-29-11 13:35 |  |  |
|                                    | <i>Analyzed:</i>  |                 |                 |                 |                 |  |  |
|                                    | <i>Units/RL:</i>  |                 |                 |                 | mg/L RL         |  |  |
| Alkalinity, Total (as CaCO3)       |                   |                 |                 |                 | 204 4.00        |  |  |
| Alkalinity, Bicarbonate (as CaCO3) |                   |                 |                 |                 | 204 4.00        |  |  |
| Alkalinity, Carbonate (as CaCO3)   |                   |                 |                 |                 | ND 4.00         |  |  |
| <b>Anions by E300</b>              | <i>Extracted:</i> |                 |                 |                 | Mar-28-11 15:15 |  |  |
|                                    | <i>Analyzed:</i>  |                 |                 |                 |                 |  |  |
|                                    | <i>Units/RL:</i>  |                 |                 |                 | mg/L RL         |  |  |
| Fluoride                           |                   |                 |                 |                 | 62.4 10.0       |  |  |
| Chloride                           |                   |                 |                 |                 | 1040 25.0       |  |  |
| Sulfate                            |                   |                 |                 |                 | 546 25.0        |  |  |
| <b>BTEX by EPA 8021B</b>           | <i>Extracted:</i> | Mar-29-11 12:45 | Mar-29-11 12:45 | Mar-29-11 12:45 |                 |  |  |
|                                    | <i>Analyzed:</i>  | Mar-29-11 22:02 | Mar-29-11 22:24 | Mar-29-11 22:47 |                 |  |  |
|                                    | <i>Units/RL:</i>  | mg/L RL         | mg/L RL         | mg/L RL         |                 |  |  |
| Benzene                            |                   | ND 0.0010       | 0.00792 0.0010  | 0.0186 0.0010   |                 |  |  |
| Toluene                            |                   | ND 0.0020       | 0.00358 0.0020  | 0.00802 0.0020  |                 |  |  |
| Ethylbenzene                       |                   | ND 0.0010       | ND 0.0010       | ND 0.0010       |                 |  |  |
| m_p-Xylenes                        |                   | ND 0.0020       | ND 0.0020       | ND 0.0020       |                 |  |  |
| o-Xylene                           |                   | ND 0.0010       | ND 0.0010       | ND 0.0010       |                 |  |  |
| Total Xylenes                      |                   | ND 0.0010       | ND 0.0010       | ND 0.0010       |                 |  |  |
| Total BTEX                         |                   | ND 0.0010       | 0.0115 0.0010   | 0.0266 0.0010   |                 |  |  |
| <b>Mercury by EPA 7470A</b>        | <i>Extracted:</i> |                 |                 |                 | Mar-29-11 07:45 |  |  |
|                                    | <i>Analyzed:</i>  |                 |                 |                 | Mar-29-11 10:57 |  |  |
|                                    | <i>Units/RL:</i>  |                 |                 |                 | mg/L RL         |  |  |
| Mercury                            |                   |                 |                 |                 | ND 0.00025      |  |  |

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

Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 411089

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" #2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Mar-25-11 04:50 pm

Report Date: 01-APR-11

Project Manager: Brent Barron, II

| Analysis Requested                                  | Lab Id:    | 411089-001      | 411089-002      | 411089-003      | 411089-004      |  |  |
|---|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|   | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|   | Depth:     |                 |                 |                 |                 |  |  |
|   | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|   | Sampled:   | Mar-25-11 07:25 | Mar-25-11 07:30 | Mar-25-11 07:50 | Mar-25-11 08:05 |  |  |
| Metals per ICP by SW846 6010B<br>SUB: T104704295-TX | Extracted: |                 |                 |                 | Mar-31-11 07:00 |  |  |
|   | Analyzed:  |                 |                 |                 | Mar-31-11 13:09 |  |  |
|   | Units/RL:  |                 |                 |                 | mg/L RL         |  |  |
| Aluminum  |            |                 |                 |                 | 0.202 0.0500    |  |  |
| Arsenic   |            |                 |                 |                 | ND 0.0100       |  |  |
| Barium  |            |                 |                 |                 | 0.0894 0.0100   |  |  |
| Boron   |            |                 |                 |                 | 0.511 0.100     |  |  |
| Cadmium   |            |                 |                 |                 | ND 0.0050       |  |  |
| Calcium   |            |                 |                 |                 | 176 0.100       |  |  |
| Chromium  |            |                 |                 |                 | ND 0.0050       |  |  |
| Cobalt  |            |                 |                 |                 | ND 0.0100       |  |  |
| Copper  |            |                 |                 |                 | ND 0.0100       |  |  |
| Iron  |            |                 |                 |                 | 0.140 0.0300    |  |  |
| Lead  |            |                 |                 |                 | ND 0.0120       |  |  |
| Magnesium   |            |                 |                 |                 | 72.6 0.0100     |  |  |
| Manganese   |            |                 |                 |                 | 0.122 0.0100    |  |  |
| Molybdenum  |            |                 |                 |                 | 0.0343 0.0100   |  |  |
| Nickel  |            |                 |                 |                 | ND 0.0100       |  |  |
| Potassium   |            |                 |                 |                 | 14.3 0.500      |  |  |
| Selenium  |            |                 |                 |                 | ND 0.0100       |  |  |
| Silver  |            |                 |                 |                 | ND 0.0040       |  |  |
| Sodium  |            |                 |                 |                 | 665 D 2.50      |  |  |
| Zinc  |            |                 |                 |                 | 0.0110 0.0100   |  |  |

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

Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 411089

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" #2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Mar-25-11 04:50 pm

Report Date: 01-APR-11

Project Manager: Brent Barron, II

| Analysis Requested                       | Lab Id:    | 411089-001      | 411089-002      | 411089-003      | 411089-004      |  |  |
|--|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|  | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|  | Depth:     |                 |                 |                 |                 |  |  |
|  | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|  | Sampled:   | Mar-25-11 07:25 | Mar-25-11 07:30 | Mar-25-11 07:50 | Mar-25-11 08:05 |  |  |
| SVOAs by EPA 8270C<br>SUB: T104704215-TX | Extracted: |                 |                 |                 | Mar-29-11 14:36 |  |  |
|  | Analyzed:  |                 |                 |                 | Mar-30-11 14:55 |  |  |
|  | Units/RL:  |                 |                 |                 | mg/L RL         |  |  |
| 1,2,4-Trichlorobenzene                   |            |                 |                 |                 | ND 0.0099       |  |  |
| 1,2-Dichlorobenzene                      |            |                 |                 |                 | ND 0.0099       |  |  |
| 1,3-Dichlorobenzene                      |            |                 |                 |                 | ND 0.0099       |  |  |
| 1,4-Dichlorobenzene                      |            |                 |                 |                 | ND 0.0099       |  |  |
| 2,4,5-Trichlorophenol                    |            |                 |                 |                 | ND 0.0099       |  |  |
| 2,4,6-Trichlorophenol                    |            |                 |                 |                 | ND 0.0099       |  |  |
| 2,4-Dichlorophenol                       |            |                 |                 |                 | ND 0.0099       |  |  |
| 2,4-Dimethylphenol                       |            |                 |                 |                 | ND 0.0099       |  |  |
| 2,4-Dinitrophenol                        |            |                 |                 |                 | ND 0.0197       |  |  |
| 2,4-Dinitrotoluene                       |            |                 |                 |                 | ND 0.0099       |  |  |
| 2,6-Dinitrotoluene                       |            |                 |                 |                 | ND 0.0099       |  |  |
| 2-Chloronaphthalene                      |            |                 |                 |                 | ND 0.0099       |  |  |
| 2-Chlorophenol                           |            |                 |                 |                 | ND 0.0099       |  |  |
| 2-Methylnaphthalene                      |            |                 |                 |                 | ND 0.0099       |  |  |
| 2-methylphenol                           |            |                 |                 |                 | ND 0.0099       |  |  |
| 2-Nitroaniline                           |            |                 |                 |                 | ND 0.0197       |  |  |
| 2-Nitrophenol                            |            |                 |                 |                 | ND 0.0099       |  |  |
| 3&4-Methylphenol                         |            |                 |                 |                 | ND 0.0099       |  |  |
| 3,3-Dichlorobenzidine                    |            |                 |                 |                 | ND 0.0099       |  |  |
| 3-Nitroaniline                           |            |                 |                 |                 | ND 0.0197       |  |  |
| 4,6-dinitro-2-methyl phenol              |            |                 |                 |                 | ND 0.0099       |  |  |
| 4-Bromophenyl-phenylether                |            |                 |                 |                 | ND 0.0099       |  |  |
| 4-chloro-3-methylphenol                  |            |                 |                 |                 | ND 0.0099       |  |  |
| 4-Chloroaniline                          |            |                 |                 |                 | ND 0.0197       |  |  |
| 4-Chlorophenyl Phenyl Ether              |            |                 |                 |                 | ND 0.0099       |  |  |

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

Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 411089

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" #2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Mar-25-11 04:50 pm

Report Date: 01-APR-11

Project Manager: Brent Barron, II

| Analysis Requested                       | Lab Id:    | 411089-001      | 411089-002      | 411089-003      | 411089-004      |  |  |
|--|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|  | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|  | Depth:     |                 |                 |                 |                 |  |  |
|  | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|  | Sampled:   | Mar-25-11 07:25 | Mar-25-11 07:30 | Mar-25-11 07:50 | Mar-25-11 08:05 |  |  |
| SVOAs by EPA 8270C<br>SUB: T104704215-TX | Extracted: |                 |                 |                 | Mar-29-11 14:36 |  |  |
|  | Analyzed:  |                 |                 |                 | Mar-30-11 14:55 |  |  |
|  | Units/RL:  |                 |                 |                 | mg/L RL         |  |  |
| 4-Nitroaniline                           |            |                 |                 |                 | ND 0.0197       |  |  |
| 4-Nitrophenol                            |            |                 |                 |                 | ND 0.0099       |  |  |
| Acenaphthene                             |            |                 |                 |                 | ND 0.0099       |  |  |
| Acenaphthylene                           |            |                 |                 |                 | ND 0.0099       |  |  |
| Aniline (Phenylamine, Aminobenzene)      |            |                 |                 |                 | ND 0.0197       |  |  |
| Anthracene                               |            |                 |                 |                 | ND 0.0099       |  |  |
| Benzo(a)anthracene                       |            |                 |                 |                 | ND 0.0099       |  |  |
| Benzo(a)pyrene                           |            |                 |                 |                 | ND 0.0099       |  |  |
| Benzo(b)fluoranthene                     |            |                 |                 |                 | ND 0.0099       |  |  |
| Benzo(g,h,i)perylene                     |            |                 |                 |                 | ND 0.0099       |  |  |
| Benzo(k)fluoranthene                     |            |                 |                 |                 | ND 0.0099       |  |  |
| Benzoic Acid                             |            |                 |                 |                 | ND 0.0493       |  |  |
| Benzyl Butyl Phthalate                   |            |                 |                 |                 | ND 0.0099       |  |  |
| bis(2-chloroethoxy) methane              |            |                 |                 |                 | ND 0.0099       |  |  |
| bis(2-chloroethyl) ether                 |            |                 |                 |                 | ND 0.0099       |  |  |
| bis(2-chloroisopropyl) ether             |            |                 |                 |                 | ND 0.0099       |  |  |
| bis(2-ethylhexyl) phthalate              |            |                 |                 |                 | ND 0.0099       |  |  |
| Chrysene                                 |            |                 |                 |                 | ND 0.0099       |  |  |
| Dibenz(a,h)Anthracene                    |            |                 |                 |                 | ND 0.0099       |  |  |
| Dibenzofuran                             |            |                 |                 |                 | ND 0.0099       |  |  |
| Diethyl Phthalate                        |            |                 |                 |                 | ND 0.0099       |  |  |
| Dimethyl Phthalate                       |            |                 |                 |                 | ND 0.0099       |  |  |
| di-n-Butyl Phthalate                     |            |                 |                 |                 | ND 0.0099       |  |  |
| di-n-Octyl Phthalate                     |            |                 |                 |                 | ND 0.0099       |  |  |
| Fluoranthene                             |            |                 |                 |                 | ND 0.0099       |  |  |

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

Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 411089

PLAINS ALL AMERICA H&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" #2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Mar-25-11 04:50 pm


Report Date: 01-APR-11

Project Manager: Brent Barron, II

| Analysis Requested                       | Lab Id:    | 411089-001      | 411089-002      | 411089-003      | 411089-004      |  |  |
|--|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|  | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|  | Depth:     |                 |                 |                 |                 |  |  |
|  | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|  | Sampled:   | Mar-25-11 07:25 | Mar-25-11 07:30 | Mar-25-11 07:50 | Mar-25-11 08:05 |  |  |
| SVOAs by EPA 8270C<br>SUB: T104704215-TX | Extracted: |                 |                 |                 | Mar-29-11 14:36 |  |  |
|  | Analyzed:  |                 |                 |                 | Mar-30-11 14:55 |  |  |
|  | Units/RL:  |                 |                 |                 | mg/L RL         |  |  |
| Fluorene                                 |            |                 |                 |                 | ND 0.0099       |  |  |
| Hexachlorobenzene                        |            |                 |                 |                 | ND 0.0099       |  |  |
| Hexachlorobutadiene                      |            |                 |                 |                 | ND 0.0099       |  |  |
| Hexachlorocyclopentadiene                |            |                 |                 |                 | ND 0.0099       |  |  |
| Hexachloroethane                         |            |                 |                 |                 | ND 0.0099       |  |  |
| Indeno(1,2,3-c,d)Pyrene                  |            |                 |                 |                 | ND 0.0099       |  |  |
| Isophorone                               |            |                 |                 |                 | ND 0.0099       |  |  |
| Naphthalene                              |            |                 |                 |                 | ND 0.0099       |  |  |
| Nitrobenzene                             |            |                 |                 |                 | ND 0.0099       |  |  |
| N-Nitrosodi-n-Propylamine                |            |                 |                 |                 | ND 0.0099       |  |  |
| N-Nitrosodiphenylamine                   |            |                 |                 |                 | ND 0.0099       |  |  |
| Pentachlorophenol                        |            |                 |                 |                 | ND 0.0099       |  |  |
| Phenanthrene                             |            |                 |                 |                 | ND 0.0099       |  |  |
| Phenol                                   |            |                 |                 |                 | ND 0.0099       |  |  |
| Pyrene                                   |            |                 |                 |                 | ND 0.0099       |  |  |
| Pyridine                                 |            |                 |                 |                 | ND 0.0197       |  |  |

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

  
Brent Barron, II  
Odessa Laboratory Manager





# Certificate of Analysis Summary 411089

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" #2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Mar-25-11 04:50 pm

Report Date: 01-APR-11

Project Manager: Brent Barron, II

| Analysis Requested                         | Lab Id:    | 411089-001      | 411089-002      | 411089-003      | 411089-004      |  |  |
|--|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|  | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|  | Depth:     |                 |                 |                 |                 |  |  |
|  | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|  | Sampled:   | Mar-25-11 07:25 | Mar-25-11 07:30 | Mar-25-11 07:50 | Mar-25-11 08:05 |  |  |
| VOAs by SW-846 8260B<br>SUB: T104704215-TX | Extracted: |                 |                 |                 | Mar-30-11 13:19 |  |  |
|  | Analyzed:  |                 |                 |                 | Mar-30-11 20:47 |  |  |
|  | Units/RL:  |                 |                 |                 | mg/L RL         |  |  |
| 1,1,1,2-Tetrachloroethane                  |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,1,1-Trichloroethane                      |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,1,2,2-Tetrachloroethane                  |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,1,2-Trichloroethane                      |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,1-Dichloroethane                         |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,1-Dichloroethene                         |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,1-Dichloropropene                        |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,2,3-Trichlorobenzene                     |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,2,3-Trichloropropane                     |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,2,4-Trichlorobenzene                     |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,2,4-Trimethylbenzene                     |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,2-Dibromo-3-Chloropropane                |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,2-Dibromoethane                          |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,2-Dichlorobenzene                        |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,2-Dichloroethane                         |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,2-Dichloropropane                        |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,3,5-Trimethylbenzene                     |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,3-Dichlorobenzene                        |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,3-Dichloropropane                        |            |                 |                 |                 | ND 0.0050       |  |  |
| 1,4-Dichlorobenzene                        |            |                 |                 |                 | ND 0.0050       |  |  |
| 2,2-Dichloropropane                        |            |                 |                 |                 | ND 0.0050       |  |  |
| 2-Chlorotoluene                            |            |                 |                 |                 | ND 0.0050       |  |  |
| 4-Chlorotoluene                            |            |                 |                 |                 | ND 0.0050       |  |  |
| Benzene                                    |            |                 |                 |                 | 0.122 0.0050    |  |  |
| Bromobenzene                               |            |                 |                 |                 | ND 0.0050       |  |  |

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

Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 411089

PLAINS ALL AMERICA E&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" #2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Mar-25-11 04:50 pm

Report Date: 01-APR-11

Project Manager: Brent Barron, II

| Analysis Requested                         | Lab Id:    | 411089-001      | 411089-002      | 411089-003      | 411089-004      |  |  |
|--|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|  | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|  | Depth:     |                 |                 |                 |                 |  |  |
|  | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|  | Sampled:   | Mar-25-11 07:25 | Mar-25-11 07:30 | Mar-25-11 07:50 | Mar-25-11 08:05 |  |  |
| VOAs by SW-846 8260B<br>SUB: T104704215-TX | Extracted: |                 |                 |                 | Mar-30-11 13:19 |  |  |
|  | Analyzed:  |                 |                 |                 | Mar-30-11 20:47 |  |  |
|  | Units/RL:  |                 |                 |                 | mg/L RL         |  |  |
| Bromochloromethane                         |            |                 |                 |                 | ND 0.0050       |  |  |
| Bromodichloromethane                       |            |                 |                 |                 | ND 0.0050       |  |  |
| Bromoform                                  |            |                 |                 |                 | ND 0.0050       |  |  |
| Bromomethane                               |            |                 |                 |                 | ND 0.0050       |  |  |
| Carbon Tetrachloride                       |            |                 |                 |                 | ND 0.0050       |  |  |
| Chlorobenzene                              |            |                 |                 |                 | ND 0.0050       |  |  |
| Chloroethane                               |            |                 |                 |                 | ND 0.0100       |  |  |
| Chloroform                                 |            |                 |                 |                 | ND 0.0050       |  |  |
| Chloromethane                              |            |                 |                 |                 | ND 0.0100       |  |  |
| cis-1,2-Dichloroethene                     |            |                 |                 |                 | ND 0.0050       |  |  |
| cis-1,3-Dichloropropene                    |            |                 |                 |                 | ND 0.0050       |  |  |
| Dibromochloromethane                       |            |                 |                 |                 | ND 0.0050       |  |  |
| Dibromomethane                             |            |                 |                 |                 | ND 0.0050       |  |  |
| Dichlorodifluoromethane                    |            |                 |                 |                 | ND 0.0050       |  |  |
| Ethylbenzene                               |            |                 |                 |                 | ND 0.0050       |  |  |
| Hexachlorobutadiene                        |            |                 |                 |                 | ND 0.0050       |  |  |
| isopropylbenzene                           |            |                 |                 |                 | ND 0.0050       |  |  |
| m,p-Xylenes                                |            |                 |                 |                 | ND 0.0100       |  |  |
| Methylene Chloride                         |            |                 |                 |                 | ND 0.0050       |  |  |
| MTBE                                       |            |                 |                 |                 | ND 0.0050       |  |  |
| Naphthalene                                |            |                 |                 |                 | ND 0.0100       |  |  |
| n-Butylbenzene                             |            |                 |                 |                 | ND 0.0050       |  |  |
| n-Propylbenzene                            |            |                 |                 |                 | ND 0.0050       |  |  |
| o-Xylene                                   |            |                 |                 |                 | ND 0.0050       |  |  |
| p-Cymene (p-Isopropyltoluene)              |            |                 |                 |                 | ND 0.0050       |  |  |

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

Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 411089

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" #2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Mar-25-11 04:50 pm


Report Date: 01-APR-11

Project Manager: Brent Barron, II

| Analysis Requested                         | Lab Id:    | 411089-001      | 411089-002      | 411089-003      | 411089-004      |  |  |
|--|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|  | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|  | Depth:     |                 |                 |                 |                 |  |  |
|  | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|  | Sampled:   | Mar-25-11 07:25 | Mar-25-11 07:30 | Mar-25-11 07:50 | Mar-25-11 08:05 |  |  |
| VOAs by SW-846 8260B<br>SUB: T104704215-TX | Extracted: |                 |                 |                 | Mar-30-11 13:19 |  |  |
|  | Analyzed:  |                 |                 |                 | Mar-30-11 20:47 |  |  |
|  | Units/RL:  |                 |                 |                 | mg/L RL         |  |  |
| Sec-Butylbenzene                           |            |                 |                 |                 | ND 0.0050       |  |  |
| Styrene                                    |            |                 |                 |                 | ND 0.0050       |  |  |
| tert-Butylbenzene                          |            |                 |                 |                 | ND 0.0050       |  |  |
| Tetrachloroethylene                        |            |                 |                 |                 | ND 0.0050       |  |  |
| Toluene                                    |            |                 |                 |                 | 0.0676 0.0050   |  |  |
| trans-1,2-dichloroethene                   |            |                 |                 |                 | ND 0.0050       |  |  |
| trans-1,3-dichloropropene                  |            |                 |                 |                 | ND 0.0050       |  |  |
| Trichloroethene                            |            |                 |                 |                 | ND 0.0050       |  |  |
| Trichlorofluoromethane                     |            |                 |                 |                 | ND 0.0050       |  |  |
| Vinyl Chloride                             |            |                 |                 |                 | ND 0.0020       |  |  |

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

  
Brent Barron, II  
Odessa Laboratory 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 effect the recovery of the spike concentration. This condition could also effect 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 MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- MDL** Method Detection Limit
- PQL** Practical Quantitation Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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

*Certified and approved by numerous States and Agencies.*

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

**Houston - Dallas - San Antonio - Corpus Christi - Midland/Odessa - Tampa - Miami - Latin America**

4143 Greenbriar Dr, Stafford, Tx 77477  
 9701 Harry Hines Blvd , Dallas, TX 75220  
 5332 Blackberry Drive, San Antonio TX 78238  
 2505 North Falkenburg Rd, Tampa, FL 33619  
 5757 NW 158th St, Miami Lakes, FL 33014  
 12600 West I-20 East, Odessa, TX 79765  
 842 Cantwell Lane, Corpus Christi, TX 78408

| 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 |
| (305) 823-8500 | (305) 823-8555 |
| (432) 563-1800 | (432) 563-1713 |
| (361) 884-0371 | (361) 884-9116 |



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" #2

Work Orders : 411089,

Project ID: 2009-039

Lab Batch #: 849979

Sample: 599342-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/29/11 19:23

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B    | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0305           | 0.0300          | 102             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0307           | 0.0300          | 102             | 80-120            |       |

Lab Batch #: 849979

Sample: 599342-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/29/11 19:46

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B    | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0305           | 0.0300          | 102             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0298           | 0.0300          | 99              | 80-120            |       |

Lab Batch #: 849979

Sample: 599342-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/29/11 20:54

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B    | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0281           | 0.0300          | 94              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0284           | 0.0300          | 95              | 80-120            |       |

Lab Batch #: 849979

Sample: 411089-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/29/11 22:02

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B    | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0282           | 0.0300          | 94              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0295           | 0.0300          | 98              | 80-120            |       |

Lab Batch #: 849979

Sample: 411089-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/29/11 22:24

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B    | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0293           | 0.0300          | 98              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0296           | 0.0300          | 99              | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" #2

ork Orders : 411089,

Project ID: 2009-039

Lab Batch #: 849979

Sample: 411089-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/29/11 22:47

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B    | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0287           | 0.0300          | 96              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0293           | 0.0300          | 98              | 80-120            |       |

Lab Batch #: 849979

Sample: 410846-003 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/11 01:03

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B    | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0303           | 0.0300          | 101             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0307           | 0.0300          | 102             | 80-120            |       |

Lab Batch #: 849979

Sample: 410846-003 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/11 01:26

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B    | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 4-Difluorobenzene    | 0.0302           | 0.0300          | 101             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0307           | 0.0300          | 102             | 80-120            |       |

Lab Batch #: 849858

Sample: 599181-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/29/11 16:30

### SURROGATE RECOVERY STUDY

| SVOAs by EPA 8270C   | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 2-Fluorobiphenyl     | 0.0400           | 0.0500          | 80              | 43-116            |       |
| 2-Fluorophenol       | 0.0346           | 0.0500          | 69              | 21-100            |       |
| Nitrobenzene-d5      | 0.0418           | 0.0500          | 84              | 35-114            |       |
| Phenol-d6            | 0.0252           | 0.0500          | 50              | 10-94             |       |
| Terphenyl-D14        | 0.0426           | 0.0500          | 85              | 33-141            |       |
| 2,4,6-Tribromophenol | 0.0372           | 0.0500          | 74              | 10-123            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

\*\*\* results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" #2

Work Orders : 411089,

Project ID: 2009-039

Lab Batch #: 849858

Sample: 599181-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/29/11 16:54

### SURROGATE RECOVERY STUDY

| SVOAs by EPA 8270C<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|--------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 2-Fluorobiphenyl               | 0.0421              | 0.0500             | 84                    | 43-116               |       |
| 2-Fluorophenol                 | 0.0369              | 0.0500             | 74                    | 21-100               |       |
| Nitrobenzene-d5                | 0.0440              | 0.0500             | 88                    | 35-114               |       |
| Phenol-d6                      | 0.0297              | 0.0500             | 59                    | 10-94                |       |
| Terphenyl-D14                  | 0.0453              | 0.0500             | 91                    | 33-141               |       |
| 2,4,6-Tribromophenol           | 0.0423              | 0.0500             | 85                    | 10-123               |       |

Lab Batch #: 849858

Sample: 599181-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/29/11 17:18

### SURROGATE RECOVERY STUDY

| SVOAs by EPA 8270C<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|--------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 2-Fluorobiphenyl               | 0.0403              | 0.0500             | 81                    | 43-116               |       |
| 2-Fluorophenol                 | 0.0357              | 0.0500             | 71                    | 21-100               |       |
| Nitrobenzene-d5                | 0.0430              | 0.0500             | 86                    | 35-114               |       |
| Phenol-d6                      | 0.0299              | 0.0500             | 60                    | 10-94                |       |
| Terphenyl-D14                  | 0.0430              | 0.0500             | 86                    | 33-141               |       |
| 2,4,6-Tribromophenol           | 0.0402              | 0.0500             | 80                    | 10-123               |       |

Lab Batch #: 849858

Sample: 410972-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/L

Date Analyzed: 03/30/11 01:57

### SURROGATE RECOVERY STUDY

| SVOAs by EPA 8270C<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|--------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 2-Fluorobiphenyl               | 0.234               | 0.250              | 94                    | 43-116               |       |
| 2-Fluorophenol                 | 0.212               | 0.250              | 85                    | 21-100               |       |
| Nitrobenzene-d5                | 0.233               | 0.250              | 93                    | 35-114               |       |
| Phenol-d6                      | 0.206               | 0.250              | 82                    | 10-94                |       |
| Terphenyl-D14                  | 0.242               | 0.250              | 97                    | 33-141               |       |
| 2,4,6-Tribromophenol           | 0.240               | 0.250              | 96                    | 10-123               |       |

\* 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: DCP Plant to Lea Station 6" #2

ork Orders : 411089,

Project ID: 2009-039

Lab Batch #: 849858

Sample: 411089-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/11 14:55

### SURROGATE RECOVERY STUDY

| SVOAs by EPA 8270C   | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 2-Fluorobiphenyl     | 0.0407           | 0.0493          | 83              | 43-116            |       |
| 2-Fluorophenol       | 0.0203           | 0.0493          | 41              | 21-100            |       |
| Nitrobenzene-d5      | 0.0412           | 0.0493          | 84              | 35-114            |       |
| Phenol-d6            | 0.0113           | 0.0493          | 23              | 10-94             |       |
| Terphenyl-D14        | 0.0439           | 0.0493          | 89              | 33-141            |       |
| 2,4,6-Tribromophenol | 0.0379           | 0.0493          | 77              | 10-123            |       |

Lab Batch #: 850041

Sample: 599371-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/11 14:23

### SURROGATE RECOVERY STUDY

| VOAs by SW-846 8260B  | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes              |                  |                 |                 |                   |       |
| 4-Bromofluorobenzene  | 0.0482           | 0.0500          | 96              | 74-124            |       |
| Dibromofluoromethane  | 0.0527           | 0.0500          | 105             | 75-131            |       |
| 1,2-Dichloroethane-D4 | 0.0530           | 0.0500          | 106             | 63-144            |       |
| Toluene-D8            | 0.0534           | 0.0500          | 107             | 80-117            |       |

Lab Batch #: 850041

Sample: 599371-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/11 15:18

### SURROGATE RECOVERY STUDY

| VOAs by SW-846 8260B  | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes              |                  |                 |                 |                   |       |
| 4-Bromofluorobenzene  | 0.0486           | 0.0500          | 97              | 74-124            |       |
| Dibromofluoromethane  | 0.0602           | 0.0500          | 120             | 75-131            |       |
| 1,2-Dichloroethane-D4 | 0.0572           | 0.0500          | 114             | 63-144            |       |
| Toluene-D8            | 0.0499           | 0.0500          | 100             | 80-117            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

\*\*\* results are based on MDL and validated for QC purposes.





## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" #2

Work Orders : 411089,

Project ID: 2009-039

Lab Batch #: 850041

Sample: 411082-008 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/11 16:12

### SURROGATE RECOVERY STUDY

| VOAs by SW-846 8260B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 4-Bromofluorobenzene             | 0.0473              | 0.0500             | 95                    | 74-124               |       |
| Dibromofluoromethane             | 0.0548              | 0.0500             | 110                   | 75-131               |       |
| 1,2-Dichloroethane-D4            | 0.0549              | 0.0500             | 110                   | 63-144               |       |
| Toluene-D8                       | 0.0545              | 0.0500             | 109                   | 80-117               |       |

Lab Batch #: 850041

Sample: 411082-008 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/11 16:40

### SURROGATE RECOVERY STUDY

| VOAs by SW-846 8260B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 4-Bromofluorobenzene             | 0.0453              | 0.0500             | 91                    | 74-124               |       |
| Dibromofluoromethane             | 0.0552              | 0.0500             | 110                   | 75-131               |       |
| 1,2-Dichloroethane-D4            | 0.0563              | 0.0500             | 113                   | 63-144               |       |
| Toluene-D8                       | 0.0509              | 0.0500             | 102                   | 80-117               |       |

Lab Batch #: 850041

Sample: 411089-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/11 20:47

### SURROGATE RECOVERY STUDY

| VOAs by SW-846 8260B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 4-Bromofluorobenzene             | 0.0503              | 0.0500             | 101                   | 74-124               |       |
| Dibromofluoromethane             | 0.0638              | 0.0500             | 128                   | 75-131               |       |
| 1,2-Dichloroethane-D4            | 0.0639              | 0.0500             | 128                   | 63-144               |       |
| Toluene-D8                       | 0.0481              | 0.0500             | 96                    | 80-117               |       |

\* 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.



# Blank Spike Recovery



Project Name: DCP Plant to Lea Station 6" #2

work Order #: 411089

Project ID:

2009-039

Lab Batch #: 850041

Sample: 599371-1-BKS

Matrix: Water

Date Analyzed: 03/30/2011

Date Prepared: 03/30/2011

Analyst: CYE

Reporting Units: mg/L

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

| VOAs by SW-846 8260B<br>Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags |
|----------------------------------|------------------|-----------------|------------------------|--------------------|-------------------|-------|
| 1,1,1,2-Tetrachloroethane        | <0.00500         | 0.0500          | 0.0516                 | 103                | 75-125            |       |
| 1,1,1-Trichloroethane            | <0.00500         | 0.0500          | 0.0565                 | 113                | 75-125            |       |
| 1,1,2,2-Tetrachloroethane        | <0.00500         | 0.0500          | 0.0511                 | 102                | 50-130            |       |
| 1,1,2-Trichloroethane            | <0.00500         | 0.0500          | 0.0567                 | 113                | 75-127            |       |
| 1,1-Dichloroethane               | <0.00500         | 0.0500          | 0.0556                 | 111                | 60-130            |       |
| 1,1-Dichloroethene               | <0.00500         | 0.0500          | 0.0506                 | 101                | 59-172            |       |
| 1,1-Dichloropropene              | <0.00500         | 0.0500          | 0.0490                 | 98                 | 75-125            |       |
| 1,2,3-Trichlorobenzene           | <0.00500         | 0.0500          | 0.0526                 | 105                | 75-137            |       |
| 1,2,3-Trichloropropane           | <0.00500         | 0.0500          | 0.0570                 | 114                | 75-125            |       |
| 1,2,4-Trichlorobenzene           | <0.00500         | 0.0500          | 0.0489                 | 98                 | 75-135            |       |
| 1,2,4-Trimethylbenzene           | <0.00500         | 0.0500          | 0.0477                 | 95                 | 75-125            |       |
| 1,2-Dibromo-3-Chloropropane      | <0.00500         | 0.0500          | 0.0585                 | 117                | 59-125            |       |
| 1,2-Dibromoethane                | <0.00500         | 0.0500          | 0.0522                 | 104                | 73-125            |       |
| Dichlorobenzene                  | <0.00500         | 0.0500          | 0.0496                 | 99                 | 75-125            |       |
| Dichloroethane                   | <0.00500         | 0.0500          | 0.0574                 | 115                | 68-127            |       |
| 1,2-Dichloropropane              | <0.00500         | 0.0500          | 0.0505                 | 101                | 74-125            |       |
| 1,3,5-Trimethylbenzene           | <0.00500         | 0.0500          | 0.0539                 | 108                | 70-125            |       |
| 1,3-Dichlorobenzene              | <0.00500         | 0.0500          | 0.0500                 | 100                | 75-125            |       |
| 1,3-Dichloropropane              | <0.00500         | 0.0500          | 0.0560                 | 112                | 75-125            |       |
| 1,4-Dichlorobenzene              | <0.00500         | 0.0500          | 0.0495                 | 99                 | 75-125            |       |
| 2,2-Dichloropropane              | <0.00500         | 0.0500          | 0.0547                 | 109                | 60-140            |       |
| 2-Chlorotoluene                  | <0.00500         | 0.0500          | 0.0529                 | 106                | 73-125            |       |
| 4-Chlorotoluene                  | <0.00500         | 0.0500          | 0.0511                 | 102                | 74-125            |       |
| Benzene                          | <0.00500         | 0.0500          | 0.0517                 | 103                | 66-142            |       |
| Bromobenzene                     | <0.00500         | 0.0500          | 0.0504                 | 101                | 60-130            |       |
| Bromochloromethane               | <0.00500         | 0.0500          | 0.0509                 | 102                | 73-125            |       |
| Bromodichloromethane             | <0.00500         | 0.0500          | 0.0596                 | 119                | 75-125            |       |
| Bromoform                        | <0.00500         | 0.0500          | 0.0547                 | 109                | 75-125            |       |
| Bromomethane                     | <0.00500         | 0.0500          | 0.0515                 | 103                | 70-130            |       |
| Carbon Tetrachloride             | <0.00500         | 0.0500          | 0.0565                 | 113                | 62-125            |       |
| Chlorobenzene                    | <0.00500         | 0.0500          | 0.0488                 | 98                 | 60-133            |       |
| Chloroethane                     | <0.0100          | 0.0500          | 0.0562                 | 112                | 70-130            |       |
| Chloroform                       | <0.00500         | 0.0500          | 0.0535                 | 107                | 74-125            |       |

Blank Spike Recovery [D] = 100\*[C]/[B]

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

Below Reporting Limit

Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Project ID:

2009-039

Lab Batch #: 850041

Sample: 599371-1-BKS

Matrix: Water

Date Analyzed: 03/30/2011

Date Prepared: 03/30/2011

Analyst: CYE

Reporting Units: mg/L

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

| VOAs by SW-846 8260B<br>Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags |
|----------------------------------|------------------|-----------------|------------------------|--------------------|-------------------|-------|
| Chloromethane                    | <0.0100          | 0.0500          | 0.0560                 | 112                | 70-130            |       |
| cis-1,2-Dichloroethene           | <0.00500         | 0.0500          | 0.0508                 | 102                | 60-130            |       |
| cis-1,3-Dichloropropene          | <0.00500         | 0.0500          | 0.0484                 | 97                 | 60-140            |       |
| Dibromochloromethane             | <0.00500         | 0.0500          | 0.0539                 | 108                | 60-130            |       |
| Dibromomethane                   | <0.00500         | 0.0500          | 0.0537                 | 107                | 69-127            |       |
| Dichlorodifluoromethane          | <0.00500         | 0.0500          | 0.0518                 | 104                | 70-130            |       |
| Ethylbenzene                     | <0.00500         | 0.0500          | 0.0514                 | 103                | 75-125            |       |
| Hexachlorobutadiene              | <0.00500         | 0.0500          | 0.0489                 | 98                 | 75-125            |       |
| isopropylbenzene                 | <0.00500         | 0.0500          | 0.0470                 | 94                 | 75-125            |       |
| m,p-Xylenes                      | <0.0100          | 0.100           | 0.108                  | 108                | 75-125            |       |
| Methylene Chloride               | <0.00500         | 0.0500          | 0.0524                 | 105                | 75-125            |       |
| MTBE                             | <0.00500         | 0.0500          | 0.0653                 | 131                | 75-125            | H     |
| Naphthalene                      | <0.0100          | 0.0500          | 0.0557                 | 111                | 65-135            |       |
| n-Butylbenzene                   | <0.00500         | 0.0500          | 0.0506                 | 101                | 75-125            |       |
| n-Propylbenzene                  | <0.00500         | 0.0500          | 0.0515                 | 103                | 75-125            |       |
| o-Xylene                         | <0.00500         | 0.0500          | 0.0498                 | 100                | 75-125            |       |
| p-Cymene (p-Isopropyltoluene)    | <0.00500         | 0.0500          | 0.0478                 | 96                 | 75-125            |       |
| Sec-Butylbenzene                 | <0.00500         | 0.0500          | 0.0533                 | 107                | 75-125            |       |
| Styrene                          | <0.00500         | 0.0500          | 0.0476                 | 95                 | 60-130            |       |
| tert-Butylbenzene                | <0.00500         | 0.0500          | 0.0466                 | 93                 | 75-125            |       |
| Tetrachloroethylene              | <0.00500         | 0.0500          | 0.0483                 | 97                 | 60-130            |       |
| Toluene                          | <0.00500         | 0.0500          | 0.0539                 | 108                | 59-139            |       |
| trans-1,2-dichloroethene         | <0.00500         | 0.0500          | 0.0509                 | 102                | 60-130            |       |
| trans-1,3-dichloropropene        | <0.00500         | 0.0500          | 0.0553                 | 111                | 66-125            |       |
| Trichloroethene                  | <0.00500         | 0.0500          | 0.0494                 | 99                 | 62-137            |       |
| Trichlorofluoromethane           | <0.00500         | 0.0500          | 0.0601                 | 120                | 67-125            |       |
| Vinyl Chloride                   | <0.00200         | 0.0500          | 0.0404                 | 81                 | 75-125            |       |

Blank Spike Recovery [D] = 100\*[C]/[B]

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

BRL - Below Reporting Limit



## BS / BSD Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Analyst: ALA

Date Prepared: 03/29/2011

Project ID: 2009-039

Date Analyzed: 03/29/2011

Lab Batch ID: 849832

Sample: 849832-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Alkalinity by SM2320B                           | 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 |
|---|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| <b>Analytes</b>                                 |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Alkalinity, Total (as CaCO <sub>3</sub> )       | <4.00                   | 250             | 260                    | 104                | 250             | 260                              | 104                  | 0     | 80-120            | 20                  |      |
| Alkalinity, Bicarbonate (as CaCO <sub>3</sub> ) | <4.00                   | 250             | 260                    | 104                | 250             | 260                              | 104                  | 0     | 80-117            | 20                  |      |
| Alkalinity, Carbonate (as CaCO <sub>3</sub> )   | <4.00                   | 250             | 260                    | 104                | 250             | 260                              | 104                  | 0     | 80-120            | 20                  |      |

Analyst: ASA

Date Prepared: 03/29/2011

Date Analyzed: 03/29/2011

Lab Batch ID: 849979

Sample: 599342-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021B | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|-------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| <b>Analytes</b>   |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene           | <0.00100                | 0.100           | 0.116                  | 116                | 0.100           | 0.113                            | 113                  | 3     | 70-125            | 25                  |      |
| Toluene           | <0.00200                | 0.100           | 0.117                  | 117                | 0.100           | 0.114                            | 114                  | 3     | 70-125            | 25                  |      |
| Ethylbenzene      | <0.00100                | 0.100           | 0.116                  | 116                | 0.100           | 0.113                            | 113                  | 3     | 71-129            | 25                  |      |
| m_p-Xylenes       | <0.00200                | 0.200           | 0.231                  | 116                | 0.200           | 0.224                            | 112                  | 3     | 70-131            | 25                  |      |
| o-Xylene          | <0.00100                | 0.100           | 0.117                  | 117                | 0.100           | 0.114                            | 114                  | 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



## BS / BSD Recoveries



**Project Name: DCP Plant to Lea Station 6" #2**

**Work Order #: 411089**

**Analyst: LATCOR**

**Date Prepared: 03/28/2011**

**Project ID: 2009-039**

**Date Analyzed: 03/28/2011**

**Lab Batch ID: 849659**

**Sample: 849659-1-BKS**

**Batch #: 1**

**Matrix: Water**

**Units: mg/L**

### BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Anions by E300 | 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 |
|----------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Fluoride       | <0.200                  | 2.00            | 2.18                   | 109                | 2.00            | 2.25                             | 113                  | 3     | 80-120            | 20                  |      |
| Chloride       | <0.500                  | 10.0            | 10.2                   | 102                | 10.0            | 10.5                             | 105                  | 3     | 80-120            | 20                  |      |
| Sulfate        | <0.500                  | 10.0            | 10.3                   | 103                | 10.0            | 10.6                             | 106                  | 3     | 80-120            | 20                  |      |

**Analyst: LATCOR**

**Date Prepared: 03/29/2011**

**Date Analyzed: 03/29/2011**

**Lab Batch ID: 849661**

**Sample: 599146-1-BKS**

**Batch #: 1**

**Matrix: Water**

**Units: mg/L**

### BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Mercury by EPA 7470A | 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 |
|----------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Mercury              | <0.000250               | 0.00100         | 0.00102                | 102                | 0.00100         | 0.00104                          | 104                  | 2     | 75-125            | 20                  |      |

Relative Percent Difference RPD =  $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



# BS / BS Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Analyst: DAT

Date Prepared: 03/31/2011

Project ID: 2009-039

Date Analyzed: 03/31/2011

Lab Batch ID: 850035

Sample: 599312-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

## BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Metals per ICP by SW846 6010B | 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                      |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Aluminum                      | <0.0500                 | 1.00            | 1.11                   | 111                | 1.00            | 1.12                             | 112                  | 1     | 85-115            | 20                  |      |
| Arsenic                       | <0.0100                 | 1.00            | 1.09                   | 109                | 1.00            | 1.10                             | 110                  | 1     | 85-115            | 20                  |      |
| Barium                        | <0.0100                 | 1.00            | 0.992                  | 99                 | 1.00            | 0.983                            | 98                   | 1     | 85-115            | 20                  |      |
| Boron                         | <0.100                  | 1.00            | 1.02                   | 102                | 1.00            | 1.04                             | 104                  | 2     | 85-115            | 20                  |      |
| Cadmium                       | <0.00500                | 1.00            | 1.12                   | 112                | 1.00            | 1.13                             | 113                  | 1     | 85-115            | 20                  |      |
| Calcium                       | <0.100                  | 1.00            | 1.11                   | 111                | 1.00            | 1.13                             | 113                  | 2     | 85-115            | 20                  |      |
| Chromium                      | <0.00500                | 1.00            | 1.10                   | 110                | 1.00            | 1.10                             | 110                  | 0     | 85-115            | 20                  |      |
| Cobalt                        | <0.0100                 | 1.00            | 1.12                   | 112                | 1.00            | 1.13                             | 113                  | 1     | 85-115            | 20                  |      |
| Copper                        | <0.0100                 | 1.00            | 1.06                   | 106                | 1.00            | 1.07                             | 107                  | 1     | 85-115            | 20                  |      |
| Iron                          | <0.0300                 | 1.00            | 1.15                   | 115                | 1.00            | 1.09                             | 109                  | 5     | 85-115            | 20                  |      |
| Lead                          | <0.0120                 | 1.00            | 1.12                   | 112                | 1.00            | 1.12                             | 112                  | 0     | 85-115            | 20                  |      |
| Magnesium                     | <0.0100                 | 1.00            | 1.11                   | 111                | 1.00            | 1.12                             | 112                  | 1     | 85-115            | 20                  |      |
| Manganese                     | <0.0100                 | 1.00            | 1.00                   | 100                | 1.00            | 0.970                            | 97                   | 3     | 85-115            | 20                  |      |
| Molybdenum                    | <0.0100                 | 1.00            | 1.07                   | 107                | 1.00            | 1.08                             | 108                  | 1     | 85-115            | 20                  |      |
| Nickel                        | <0.0100                 | 1.00            | 1.12                   | 112                | 1.00            | 1.13                             | 113                  | 1     | 85-115            | 20                  |      |
| Potassium                     | <0.500                  | 10.0            | 9.39                   | 94                 | 10.0            | 9.48                             | 95                   | 1     | 85-115            | 20                  |      |
| Selenium                      | <0.0100                 | 1.00            | 1.10                   | 110                | 1.00            | 1.11                             | 111                  | 1     | 85-115            | 20                  |      |
| Silver                        | <0.00400                | 1.00            | 1.05                   | 105                | 1.00            | 1.05                             | 105                  | 0     | 85-115            | 20                  |      |
| Sodium                        | <0.500                  | 11.0            | 11.1                   | 101                | 11.0            | 11.1                             | 101                  | 0     | 85-115            | 20                  |      |
| Zinc                          | <0.0100                 | 1.00            | 1.09                   | 109                | 1.00            | 1.10                             | 110                  | 1     | 85-115            | 20                  |      |

Relative Percent Difference RPD =  $200 * (C - F) / (C + F)$

Blank Spike Recovery [D] =  $100 * (C) / [B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes



## BS / BSD Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Analyst: ZHO

Date Prepared: 03/29/2011

Project ID: 2009-039

Date Analyzed: 03/29/2011

Lab Batch ID: 849858

Sample: 599181-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| SVOAs by EPA 8270C     | Blank<br>Sample Result<br>[A] | Spike<br>Added<br>[B] | Blank<br>Spike<br>Result<br>[C] | Blank<br>Spike<br>%R<br>[D] | Spike<br>Added<br>[E] | Blank<br>Spike<br>Duplicate<br>Result [F] | Blk. Spk<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|------------------------|-------------------------------|-----------------------|---------------------------------|-----------------------------|-----------------------|---|-------------------------------|----------|-------------------------|---------------------------|------|
| Analytes               |                               |                       |                                 |                             |                       |   |                               |          |                         |                           |      |
| 1,2,4-Trichlorobenzene | <0.0100                       | 0.0500                | 0.0466                          | 93                          | 0.0500                | 0.0444                                    | 89                            | 5        | 56-104                  | 25                        |      |
| 1,2-Dichlorobenzene    | <0.0100                       | 0.0500                | 0.0484                          | 97                          | 0.0500                | 0.0457                                    | 91                            | 6        | 53-106                  | 25                        |      |
| 1,3-Dichlorobenzene    | <0.0100                       | 0.0500                | 0.0464                          | 93                          | 0.0500                | 0.0440                                    | 88                            | 5        | 52-105                  | 25                        |      |
| 1,4-Dichlorobenzene    | <0.0100                       | 0.0500                | 0.0468                          | 94                          | 0.0500                | 0.0444                                    | 89                            | 5        | 54-105                  | 25                        |      |
| 2,4,5-Trichlorophenol  | <0.0100                       | 0.0500                | 0.0474                          | 95                          | 0.0500                | 0.0441                                    | 88                            | 7        | 55-114                  | 25                        |      |
| 2,4,6-Trichlorophenol  | <0.0100                       | 0.0500                | 0.0496                          | 99                          | 0.0500                | 0.0467                                    | 93                            | 6        | 57-113                  | 25                        |      |
| 2,4-Dichlorophenol     | <0.0100                       | 0.0500                | 0.0480                          | 96                          | 0.0500                | 0.0460                                    | 92                            | 4        | 60-110                  | 25                        |      |
| 2,4-Dimethylphenol     | <0.0100                       | 0.0500                | 0.0502                          | 100                         | 0.0500                | 0.0481                                    | 96                            | 4        | 50-108                  | 25                        |      |
| 2,4-Dinitrophenol      | <0.0200                       | 0.0500                | 0.0451                          | 90                          | 0.0500                | 0.0437                                    | 87                            | 3        | 52-111                  | 25                        |      |
| 2,4-Dinitrotoluene     | <0.0100                       | 0.0500                | 0.0516                          | 103                         | 0.0500                | 0.0488                                    | 98                            | 6        | 60-116                  | 25                        |      |
| 2,6-Dinitrotoluene     | <0.0100                       | 0.0500                | 0.0491                          | 98                          | 0.0500                | 0.0468                                    | 94                            | 5        | 60-115                  | 25                        |      |
| 2-Chloronaphthalene    | <0.0100                       | 0.0500                | 0.0430                          | 86                          | 0.0500                | 0.0409                                    | 82                            | 5        | 58-105                  | 25                        |      |
| 2-Chlorophenol         | <0.0100                       | 0.0500                | 0.0491                          | 98                          | 0.0500                | 0.0463                                    | 93                            | 6        | 58-106                  | 25                        |      |
| 2-Methylnaphthalene    | <0.0100                       | 0.0500                | 0.0490                          | 98                          | 0.0500                | 0.0471                                    | 94                            | 4        | 57-106                  | 25                        |      |
| 2-methylphenol         | <0.0100                       | 0.0500                | 0.0479                          | 96                          | 0.0500                | 0.0451                                    | 90                            | 6        | 52-106                  | 25                        |      |
| 2-Nitroaniline         | <0.0200                       | 0.0500                | 0.0558                          | 112                         | 0.0500                | 0.0519                                    | 104                           | 7        | 55-120                  | 25                        |      |
| 2-Nitrophenol          | <0.0100                       | 0.0500                | 0.0475                          | 95                          | 0.0500                | 0.0465                                    | 93                            | 2        | 57-105                  | 25                        |      |
| 3&4-Methylphenol       | <0.0100                       | 0.0500                | 0.0478                          | 96                          | 0.0500                | 0.0454                                    | 91                            | 5        | 23-140                  | 25                        |      |
| 3,3-Dichlorobenzidine  | <0.0100                       | 0.0500                | 0.0578                          | 116                         | 0.0500                | 0.0545                                    | 109                           | 6        | 36-123                  | 25                        |      |
| 3-Nitroaniline         | <0.0200                       | 0.0500                | 0.0529                          | 106                         | 0.0500                | 0.0498                                    | 100                           | 6        | 49-120                  | 25                        |      |

Relative Percent Difference RPD =  $200 * [(C-F)/(C+F)]$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

**BS / BS. recoveries****Project Name: DCP Plant to Lea Station 6" #2****Work Order #: 411089****Analyst: ZHO****Date Prepared: 03/29/2011****Project ID: 2009-039****Date Analyzed: 03/29/2011****Lab Batch ID: 849858****Sample: 599181-1-BKS****Batch #: 1****Matrix: Water****Units: mg/L**

| <b>SVOAs by EPA 8270C</b>           | <b>Blank Sample Result [A]</b> | <b>Spike Added [B]</b> | <b>Blank Spike Result [C]</b> | <b>Blank Spike %R [D]</b> | <b>Spike Added [E]</b> | <b>Blank Spike Duplicate Result [F]</b> | <b>Blk. Spk Dup. %R [G]</b> | <b>RPD %</b> | <b>Control Limits %R</b> | <b>Control Limits %RPD</b> | <b>Flag</b> |
|-------------------------------------|--------------------------------|------------------------|-------------------------------|---------------------------|------------------------|---|-----------------------------|--------------|--------------------------|----------------------------|-------------|
| <b>Analytes</b>                     |                                |                        |                               |                           |                        |   |                             |              |                          |                            |             |
| 4,6-dinitro-2-methyl phenol         | <0.0100                        | 0.0500                 | 0.0482                        | 96                        | 0.0500                 | 0.0464                                  | 93                          | 4            | 57-119                   | 25                         |             |
| 4-Bromophenyl-phenylether           | <0.0100                        | 0.0500                 | 0.0481                        | 96                        | 0.0500                 | 0.0454                                  | 91                          | 6            | 58-112                   | 25                         |             |
| 4-chloro-3-methylphenol             | <0.0100                        | 0.0500                 | 0.0502                        | 100                       | 0.0500                 | 0.0486                                  | 97                          | 3            | 58-116                   | 25                         |             |
| 4-Chloroaniline                     | <0.0200                        | 0.0500                 | 0.0508                        | 102                       | 0.0500                 | 0.0483                                  | 97                          | 5            | 2-123                    | 25                         |             |
| 4-Chlorophenyl Phenyl Ether         | <0.0100                        | 0.0500                 | 0.0482                        | 96                        | 0.0500                 | 0.0454                                  | 91                          | 6            | 59-109                   | 25                         |             |
| 4-Nitroaniline                      | <0.0200                        | 0.0500                 | 0.0538                        | 108                       | 0.0500                 | 0.0500                                  | 100                         | 7            | 52-118                   | 25                         |             |
| 4-Nitrophenol                       | <0.0100                        | 0.0500                 | 0.0432                        | 86                        | 0.0500                 | 0.0431                                  | 86                          | 0            | 18-104                   | 25                         |             |
| Acenaphthene                        | <0.0100                        | 0.0500                 | 0.0500                        | 100                       | 0.0500                 | 0.0467                                  | 93                          | 7            | 54-114                   | 25                         |             |
| Acenaphthylene                      | <0.0100                        | 0.0500                 | 0.0503                        | 101                       | 0.0500                 | 0.0476                                  | 95                          | 6            | 53-113                   | 25                         |             |
| Aniline (Phenylamine, Aminobenzene) | <0.0200                        | 0.0500                 | 0.0441                        | 88                        | 0.0500                 | 0.0390                                  | 78                          | 12           | 35-104                   | 25                         |             |
| Anthracene                          | <0.0100                        | 0.0500                 | 0.0519                        | 104                       | 0.0500                 | 0.0494                                  | 99                          | 5            | 56-116                   | 25                         |             |
| Benzo(a)anthracene                  | <0.0100                        | 0.0500                 | 0.0503                        | 101                       | 0.0500                 | 0.0482                                  | 96                          | 4            | 59-116                   | 25                         |             |
| Benzo(a)pyrene                      | <0.0100                        | 0.0500                 | 0.0546                        | 109                       | 0.0500                 | 0.0514                                  | 103                         | 6            | 58-118                   | 25                         |             |
| Benzo(b)fluoranthene                | <0.0100                        | 0.0500                 | 0.0559                        | 112                       | 0.0500                 | 0.0510                                  | 102                         | 9            | 54-123                   | 25                         |             |
| Benzo(g,h,i)perylene                | <0.0100                        | 0.0500                 | 0.0503                        | 101                       | 0.0500                 | 0.0477                                  | 95                          | 5            | 47-129                   | 25                         |             |
| Benzo(k)fluoranthene                | <0.0100                        | 0.0500                 | 0.0510                        | 102                       | 0.0500                 | 0.0493                                  | 99                          | 3            | 52-122                   | 25                         |             |
| Benzoic Acid                        | <0.0500                        | 0.150                  | 0.146                         | 97                        | 0.150                  | 0.152                                   | 101                         | 4            | 4-113                    | 25                         |             |
| Benzyl Butyl Phthalate              | <0.0100                        | 0.0500                 | 0.0550                        | 110                       | 0.0500                 | 0.0519                                  | 104                         | 6            | 57-122                   | 25                         |             |
| bis(2-chloroethoxy) methane         | <0.0100                        | 0.0500                 | 0.0497                        | 99                        | 0.0500                 | 0.0474                                  | 95                          | 5            | 53-112                   | 25                         |             |
| bis(2-chloroethyl) ether            | <0.0100                        | 0.0500                 | 0.0502                        | 100                       | 0.0500                 | 0.0476                                  | 95                          | 5            | 57-108                   | 25                         |             |

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

All results are based on MDL and Validated for QC Purposes





## BS / BSD Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Analyst: ZHO

Date Prepared: 03/29/2011

Project ID: 2009-039

Date Analyzed: 03/29/2011

Lab Batch ID: 849858

Sample: 599181-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

| SVOAs by EPA 8270C           | Blank<br>Sample Result<br>[A] | Spike<br>Added<br>[B] | Blank<br>Spike<br>Result<br>[C] | Blank<br>Spike<br>%R<br>[D] | Spike<br>Added<br>[E] | Blank<br>Spike<br>Duplicate<br>Result [F] | Blk. Spk<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|------------------------------|-------------------------------|-----------------------|---------------------------------|-----------------------------|-----------------------|---|-------------------------------|----------|-------------------------|---------------------------|------|
| Analytes                     |                               |                       |                                 |                             |                       |   |                               |          |                         |                           |      |
| bis(2-chloroisopropyl) ether | <0.0100                       | 0.0500                | 0.0485                          | 97                          | 0.0500                | 0.0462                                    | 92                            | 5        | 54-111                  | 25                        |      |
| bis(2-ethylhexyl) phthalate  | <0.0100                       | 0.0500                | 0.0557                          | 111                         | 0.0500                | 0.0535                                    | 107                           | 4        | 59-119                  | 25                        |      |
| Chrysene                     | <0.0100                       | 0.0500                | 0.0519                          | 104                         | 0.0500                | 0.0497                                    | 99                            | 4        | 58-116                  | 25                        |      |
| Dibenz(a,h)Anthracene        | <0.0100                       | 0.0500                | 0.0558                          | 112                         | 0.0500                | 0.0527                                    | 105                           | 6        | 46-131                  | 25                        |      |
| Dibenzofuran                 | <0.0100                       | 0.0500                | 0.0475                          | 95                          | 0.0500                | 0.0448                                    | 90                            | 6        | 56-111                  | 25                        |      |
| Diethyl Phthalate            | <0.0100                       | 0.0500                | 0.0522                          | 104                         | 0.0500                | 0.0489                                    | 98                            | 7        | 62-114                  | 25                        |      |
| Dimethyl Phthalate           | <0.0100                       | 0.0500                | 0.0522                          | 104                         | 0.0500                | 0.0491                                    | 98                            | 6        | 59-113                  | 25                        |      |
| di-n-Butyl Phthalate         | <0.0100                       | 0.0500                | 0.0555                          | 111                         | 0.0500                | 0.0528                                    | 106                           | 5        | 60-118                  | 25                        |      |
| di-n-Octyl Phthalate         | <0.0100                       | 0.0500                | 0.0567                          | 113                         | 0.0500                | 0.0533                                    | 107                           | 6        | 49-129                  | 25                        |      |
| Fluoranthene                 | <0.0100                       | 0.0500                | 0.0539                          | 108                         | 0.0500                | 0.0506                                    | 101                           | 6        | 55-120                  | 25                        |      |
| Fluorene                     | <0.0100                       | 0.0500                | 0.0493                          | 99                          | 0.0500                | 0.0472                                    | 94                            | 4        | 56-114                  | 25                        |      |
| Hexachlorobenzene            | <0.0100                       | 0.0500                | 0.0474                          | 95                          | 0.0500                | 0.0451                                    | 90                            | 5        | 60-109                  | 25                        |      |
| Hexachlorobutadiene          | <0.0100                       | 0.0500                | 0.0442                          | 88                          | 0.0500                | 0.0410                                    | 82                            | 8        | 52-107                  | 25                        |      |
| Hexachlorocyclopentadiene    | <0.0100                       | 0.0500                | 0.0443                          | 89                          | 0.0500                | 0.0419                                    | 84                            | 6        | 32-115                  | 25                        |      |
| Hexachloroethane             | <0.0100                       | 0.0500                | 0.0475                          | 95                          | 0.0500                | 0.0452                                    | 90                            | 5        | 46-115                  | 25                        |      |
| Indeno(1,2,3-c,d)Pyrene      | <0.0100                       | 0.0500                | 0.0560                          | 112                         | 0.0500                | 0.0519                                    | 104                           | 8        | 44-132                  | 25                        |      |
| Isophorone                   | <0.0100                       | 0.0500                | 0.0502                          | 100                         | 0.0500                | 0.0481                                    | 96                            | 4        | 57-107                  | 25                        |      |
| Naphthalene                  | <0.0100                       | 0.0500                | 0.0468                          | 94                          | 0.0500                | 0.0447                                    | 89                            | 5        | 53-110                  | 25                        |      |
| Nitrobenzene                 | <0.0100                       | 0.0500                | 0.0496                          | 99                          | 0.0500                | 0.0472                                    | 94                            | 5        | 56-107                  | 25                        |      |
| N-Nitrosodi-n-Propylamine    | <0.0100                       | 0.0500                | 0.0539                          | 108                         | 0.0500                | 0.0514                                    | 103                           | 5        | 21-137                  | 25                        |      |

Relative Percent Difference RPD =  $200 \times (C-F)/(C+F)$

Blank Spike Recovery [D] =  $100 \times (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 \times (F)/[E]$

All results are based on MDL and Validated for QC Purposes



## BS / BSD Recoveries



**Project Name: DCP Plant to Lea Station 6" #2**

**Work Order #: 411089**

**Analyst: ZHO**

**Date Prepared: 03/29/2011**

**Project ID: 2009-039**

**Date Analyzed: 03/29/2011**

**Lab Batch ID: 849858**

**Sample: 599181-1-BKS**

**Batch #: 1**

**Matrix: Water**

**Units: mg/L**

| <b>SVOAs by EPA 8270C</b> | <b>Blank<br/>Sample Result<br/>[A]</b> | <b>Spike<br/>Added<br/>[B]</b> | <b>Blank<br/>Spike<br/>Result<br/>[C]</b> | <b>Blank<br/>Spike<br/>%R<br/>[D]</b> | <b>Spike<br/>Added<br/>[E]</b> | <b>Blank<br/>Spike<br/>Duplicate<br/>Result [F]</b> | <b>Blk. Spk<br/>Dup.<br/>%R<br/>[G]</b> | <b>RPD<br/>%</b> | <b>Control<br/>Limits<br/>%R</b> | <b>Control<br/>Limits<br/>%RPD</b> | <b>Flag</b> |
|---------------------------|--|--------------------------------|---|---------------------------------------|--------------------------------|---|---|------------------|----------------------------------|------------------------------------|-------------|
| <b>Analytes</b>           |  |                                |   |                                       |                                |   |   |                  |                                  |                                    |             |
| N-Nitrosodiphenylamine    | <0.0100                                | 0.0500                         | 0.0522                                    | 104                                   | 0.0500                         | 0.0498  | 100                                     | 5                | 50-121                           | 25                                 |             |
| Pentachlorophenol         | <0.0100                                | 0.0500                         | 0.0489                                    | 98                                    | 0.0500                         | 0.0463  | 93                                      | 5                | 36-132                           | 25                                 |             |
| Phenanthrene              | <0.0100                                | 0.0500                         | 0.0504                                    | 101                                   | 0.0500                         | 0.0487  | 97                                      | 3                | 56-116                           | 25                                 |             |
| Phenol                    | <0.0100                                | 0.0500                         | 0.0342                                    | 68                                    | 0.0500                         | 0.0337  | 67                                      | 1                | 19-89                            | 25                                 |             |
| Pyrene                    | <0.0100                                | 0.0500                         | 0.0499                                    | 100                                   | 0.0500                         | 0.0476  | 95                                      | 5                | 57-119                           | 25                                 |             |
| Pyridine                  | <0.0200                                | 0.0500                         | 0.0227                                    | 45                                    | 0.0500                         | <0.0200   | 0                                       | NC               | 5-94                             | 25                                 | L           |

Relative Percent Difference RPD =  $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries

Project Name: DCP Plant to Lea Station 6" #2



Work Order #: 411089

Lab Batch #: 849659

Date Analyzed: 03/28/2011

Date Prepared: 03/28/2011

Project ID: 2009-039

Analyst: LATCOR

QC- Sample ID: 411097-004 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

### MATRIX / MATRIX SPIKE RECOVERY STUDY

| Inorganic Anions by EPA 300 |  | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | %R<br>[D] | Control<br>Limits<br>%R | Flag |
|-----------------------------|--|-----------------------------------|-----------------------|--------------------------------|-----------|-------------------------|------|
| Analytes                    |  |                                   |                       |                                |           |                         |      |
| Fluoride                    |  | 30.5                              | 50.0                  | 51.3                           | 42        | 80-120                  | X    |
| Chloride                    |  | 392                               | 250                   | 627                            | 94        | 80-120                  |      |
| Sulfate                     |  | 288                               | 250                   | 530                            | 97        | 80-120                  |      |

Matrix Spike Percent Recovery [D] =  $100 \cdot (C-A)/B$   
Relative Percent Difference [E] =  $200 \cdot (C-A)/(C+B)$   
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



# Form 3 - MS Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Lab Batch #: 849858

Date Analyzed: 03/30/2011

Date Prepared: 03/29/2011

Project ID: 2009-039

Analyst: ZHO

QC- Sample ID: 410972-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/L

| SVOAs by SW-846 8270C               |                          | MATRIX / MATRIX SPIKE RECOVERY STUDY |                          |        |                   |      |
|-------------------------------------|--------------------------|--------------------------------------|--------------------------|--------|-------------------|------|
| Analytes                            | Parent Sample Result [A] | Spike Added [B]                      | Spiked Sample Result [C] | %R [D] | Control Limits %R | Flag |
| 1,2,4-Trichlorobenzene              | <0.0500                  | 0.250                                | 0.244                    | 98     | 56-104            |      |
| 1,2-Dichlorobenzene                 | <0.0500                  | 0.250                                | 0.242                    | 97     | 53-106            |      |
| 1,3-Dichlorobenzene                 | <0.0500                  | 0.250                                | 0.235                    | 94     | 52-105            |      |
| 1,4-Dichlorobenzene                 | <0.0500                  | 0.250                                | 0.235                    | 94     | 54-105            |      |
| 2,4,5-Trichlorophenol               | <0.0500                  | 0.250                                | 0.247                    | 99     | 55-114            |      |
| 2,4,6-Trichlorophenol               | <0.0500                  | 0.250                                | 0.266                    | 106    | 57-113            |      |
| 2,4-Dichlorophenol                  | <0.0500                  | 0.250                                | 0.259                    | 104    | 60-110            |      |
| 2,4-Dimethylphenol                  | <0.0500                  | 0.250                                | 0.268                    | 107    | 50-108            |      |
| 2,4-Dinitrophenol                   | <0.100                   | 0.250                                | 0.205                    | 82     | 52-111            |      |
| 2,4-Dinitrotoluene                  | <0.0500                  | 0.250                                | 0.263                    | 105    | 60-116            |      |
| 2,6-Dinitrotoluene                  | <0.0500                  | 0.250                                | 0.257                    | 103    | 60-115            |      |
| 2-Chloronaphthalene                 | <0.0500                  | 0.250                                | 0.224                    | 90     | 58-105            |      |
| 2-Chlorophenol                      | <0.0500                  | 0.250                                | 0.255                    | 102    | 58-106            |      |
| 2-Methylnaphthalene                 | <0.0500                  | 0.250                                | 0.262                    | 105    | 57-106            |      |
| 2-Methylphenol                      | <0.0500                  | 0.250                                | 0.255                    | 102    | 52-106            |      |
| aniline                             | <0.100                   | 0.250                                | 0.274                    | 110    | 55-120            |      |
| 2-Nitrophenol                       | <0.0500                  | 0.250                                | 0.251                    | 100    | 57-105            |      |
| 3&4-Methylphenol                    | <0.0500                  | 0.250                                | 0.257                    | 103    | 23-140            |      |
| 3,3-Dichlorobenzidine               | <0.0500                  | 0.250                                | 0.276                    | 110    | 36-123            |      |
| 3-Nitroaniline                      | <0.100                   | 0.250                                | 0.263                    | 105    | 49-120            |      |
| 4,6-dinitro-2-methyl phenol         | <0.0500                  | 0.250                                | 0.217                    | 87     | 57-119            |      |
| 4-Bromophenyl-phenylether           | <0.0500                  | 0.250                                | 0.253                    | 101    | 58-112            |      |
| 4-chloro-3-methylphenol             | <0.0500                  | 0.250                                | 0.265                    | 106    | 58-116            |      |
| 4-Chloroaniline                     | <0.100                   | 0.250                                | 0.240                    | 96     | 2-123             |      |
| 4-Chlorophenyl Phenyl Ether         | <0.0500                  | 0.250                                | 0.257                    | 103    | 59-109            |      |
| 4-Nitroaniline                      | <0.100                   | 0.250                                | 0.268                    | 107    | 52-118            |      |
| 4-Nitrophenol                       | <0.0500                  | 0.250                                | 0.269                    | 108    | 18-104            | X    |
| Acenaphthene                        | <0.0500                  | 0.250                                | 0.261                    | 104    | 54-114            |      |
| Acenaphthylene                      | <0.0500                  | 0.250                                | 0.267                    | 107    | 53-113            |      |
| Aniline (Phenylamine, Aminobenzene) | <0.100                   | 0.250                                | 0.233                    | 93     | 35-104            |      |
| Anthracene                          | <0.0500                  | 0.250                                | 0.266                    | 106    | 56-116            |      |
| Benzo(a)anthracene                  | <0.0500                  | 0.250                                | 0.261                    | 104    | 59-116            |      |
| Benzo(a)pyrene                      | <0.0500                  | 0.250                                | 0.274                    | 110    | 58-118            |      |
| Benzo(b)fluoranthene                | <0.0500                  | 0.250                                | 0.261                    | 104    | 54-123            |      |

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

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

All Results are based on MDL and Validated for QC Purposes

BF Low Reporting Limit



# Form 3 - MS Recoveries

Project Name: DCP Plant to Lea Station 6" #2



Work Order #: 411089

Lab Batch #: 849858

Date Analyzed: 03/30/2011

Date Prepared: 03/29/2011

Project ID: 2009-039

Analyst: ZHO

QC- Sample ID: 410972-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/L

| SVOAs by SW-846 8270C        |  | MATRIX / MATRIX SPIKE RECOVERY STUDY |                 |                          |        |                   |      |
|------------------------------|--|--------------------------------------|-----------------|--------------------------|--------|-------------------|------|
| Analytes                     |  |                                      | Spike Added [B] | Spiked Sample Result [C] | %R [D] | Control Limits %R | Flag |
| Benzo(g,h,i)perylene         |  | <0.0500                              | 0.250           | 0.251                    | 100    | 47-129            |      |
| Benzo(k)fluoranthene         |  | <0.0500                              | 0.250           | 0.260                    | 104    | 52-122            |      |
| Benzoic Acid                 |  | <0.250                               | 0.750           | 0.950                    | 127    | 4-113             | X    |
| Benzyl Butyl Phthalate       |  | <0.0500                              | 0.250           | 0.279                    | 112    | 57-122            |      |
| bis(2-chloroethoxy) methane  |  | <0.0500                              | 0.250           | 0.249                    | 100    | 53-112            |      |
| bis(2-chloroethyl) ether     |  | <0.0500                              | 0.250           | 0.251                    | 100    | 57-108            |      |
| bis(2-chloroisopropyl) ether |  | <0.0500                              | 0.250           | 0.244                    | 98     | 54-111            |      |
| bis(2-ethylhexyl) phthalate  |  | <0.0500                              | 0.250           | 0.285                    | 114    | 59-119            |      |
| Chrysene                     |  | <0.0500                              | 0.250           | 0.265                    | 106    | 58-116            |      |
| Dibenz(a,h)Anthracene        |  | <0.0500                              | 0.250           | 0.269                    | 108    | 46-131            |      |
| Dibenzofuran                 |  | <0.0500                              | 0.250           | 0.255                    | 102    | 56-111            |      |
| Diethyl Phthalate            |  | <0.0500                              | 0.250           | 0.266                    | 106    | 62-114            |      |
| Dimethyl Phthalate           |  | <0.0500                              | 0.250           | 0.264                    | 106    | 59-113            |      |
| di-n-Butyl Phthalate         |  | <0.0500                              | 0.250           | 0.279                    | 112    | 60-118            |      |
| di-n-Octyl Phthalate         |  | <0.0500                              | 0.250           | 0.291                    | 116    | 49-129            |      |
| Fluoranthene                 |  | <0.0500                              | 0.250           | 0.274                    | 110    | 55-120            |      |
| Fluorene                     |  | <0.0500                              | 0.250           | 0.266                    | 106    | 56-114            |      |
| Hexachlorobenzene            |  | <0.0500                              | 0.250           | 0.252                    | 101    | 60-109            |      |
| Hexachlorobutadiene          |  | <0.0500                              | 0.250           | 0.238                    | 95     | 52-107            |      |
| Hexachlorocyclopentadiene    |  | <0.0500                              | 0.250           | 0.208                    | 83     | 32-115            |      |
| Hexachloroethane             |  | <0.0500                              | 0.250           | 0.239                    | 96     | 46-115            |      |
| Indeno(1,2,3-c,d)Pyrene      |  | <0.0500                              | 0.250           | 0.277                    | 111    | 44-132            |      |
| Isophorone                   |  | <0.0500                              | 0.250           | 0.261                    | 104    | 57-107            |      |
| Naphthalene                  |  | <0.0500                              | 0.250           | 0.245                    | 98     | 53-110            |      |
| Nitrobenzene                 |  | <0.0500                              | 0.250           | 0.251                    | 100    | 56-107            |      |
| N-Nitrosodi-n-Propylamine    |  | <0.0500                              | 0.250           | 0.264                    | 106    | 21-137            |      |
| N-Nitrosodiphenylamine       |  | <0.0500                              | 0.250           | 0.268                    | 107    | 50-121            |      |
| Pentachlorophenol            |  | <0.0500                              | 0.250           | 0.262                    | 105    | 36-132            |      |
| Phenanthrene                 |  | <0.0500                              | 0.250           | 0.258                    | 103    | 56-116            |      |
| Phenol                       |  | <0.0500                              | 0.250           | 0.224                    | 90     | 19-89             | X    |
| Pyrene                       |  | <0.0500                              | 0.250           | 0.260                    | 104    | 57-119            |      |
| Pyridine                     |  | <0.100                               | 0.250           | 0.190                    | 76     | 5-94              |      |

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

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

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



# Form 3 - M MSD Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Project ID: 2009-039

Lab Batch ID: 849979

QC- Sample ID: 410846-003 S

Batch #: 1 Matrix: Water

Date Analyzed: 03/30/2011

Date Prepared: 03/29/2011

Analyst: ASA

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|-------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| Benzene                       | <0.00100                 | 0.100           | 0.108                    | 108                  | 0.100           | 0.107                              | 107                | 1     | 70-125            | 25                  |      |
| Toluene                       | <0.00200                 | 0.100           | 0.109                    | 109                  | 0.100           | 0.109                              | 109                | 0     | 70-125            | 25                  |      |
| Ethylbenzene                  | <0.00100                 | 0.100           | 0.108                    | 108                  | 0.100           | 0.108                              | 108                | 0     | 71-129            | 25                  |      |
| m_p-Xylenes                   | <0.00200                 | 0.200           | 0.213                    | 107                  | 0.200           | 0.209                              | 105                | 2     | 70-131            | 25                  |      |
| o-Xylene                      | <0.00100                 | 0.100           | 0.108                    | 108                  | 0.100           | 0.108                              | 108                | 0     | 71-133            | 25                  |      |

Lab Batch ID: 849661

QC- Sample ID: 411040-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 03/29/2011

Date Prepared: 03/29/2011

Analyst: LATCOR

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| Mercury by EPA 7470A<br>Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|----------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| Mercury                          | <0.000250                | 0.00100         | 0.000550                 | 55                   | 0.00100         | 0.000560                           | 56                 | 2     | 75-125            | 20                  | X    |

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

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

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



## Form 3 - MS / MSD Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Project ID: 2009-039

Lab Batch ID: 850035

QC- Sample ID: 411089-004 S

Batch #: 1 Matrix: Water

Date Analyzed: 03/31/2011

Date Prepared: 03/31/2011

Analyst: DAT

Reporting Units: mg/L

### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| Metals per ICP by SW846 6010B<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|---|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
| Aluminum                                  | 0.202                             | 1.00                  | 1.33                           | 113                           | 1.00                  | 1.35                                     | 115                         | 1        | 75-125                  | 20                        |      |
| Arsenic                                   | <0.0100                           | 1.00                  | 1.07                           | 107                           | 1.00                  | 1.08                                     | 108                         | 1        | 75-125                  | 20                        |      |
| Barium                                    | 0.0894                            | 1.00                  | 1.05                           | 96                            | 1.00                  | 1.06                                     | 97                          | 1        | 75-125                  | 20                        |      |
| Boron                                     | 0.511                             | 1.00                  | 1.58                           | 107                           | 1.00                  | 1.64                                     | 113                         | 4        | 75-125                  | 20                        |      |
| Cadmium                                   | <0.00500                          | 1.00                  | 1.02                           | 102                           | 1.00                  | 1.05                                     | 105                         | 3        | 75-125                  | 20                        |      |
| Calcium                                   | 176                               | 1.00                  | 177                            | 100                           | 1.00                  | 180                                      | 400                         | 2        | 75-125                  | 20                        | X    |
| Chromium                                  | <0.00500                          | 1.00                  | 1.00                           | 100                           | 1.00                  | 1.03                                     | 103                         | 3        | 75-125                  | 20                        |      |
| Cobalt                                    | <0.0100                           | 1.00                  | 0.995                          | 100                           | 1.00                  | 1.01                                     | 101                         | 1        | 75-125                  | 20                        |      |
| Copper                                    | <0.0100                           | 1.00                  | 1.00                           | 100                           | 1.00                  | 1.03                                     | 103                         | 3        | 75-125                  | 20                        |      |
| Iron                                      | 0.140                             | 1.00                  | 1.21                           | 107                           | 1.00                  | 1.24                                     | 110                         | 2        | 75-125                  | 20                        |      |
| Lead                                      | <0.0120                           | 1.00                  | 0.986                          | 99                            | 1.00                  | 1.00                                     | 100                         | 1        | 75-125                  | 20                        |      |
| Magnesium                                 | 72.6                              | 1.00                  | 74.6                           | 200                           | 1.00                  | 76.3                                     | 370                         | 2        | 75-125                  | 20                        | X    |
| Manganese                                 | 0.122                             | 1.00                  | 1.07                           | 95                            | 1.00                  | 1.09                                     | 97                          | 2        | 75-125                  | 20                        |      |
| Molybdenum                                | 0.0343                            | 1.00                  | 1.07                           | 104                           | 1.00                  | 1.09                                     | 106                         | 2        | 75-125                  | 20                        |      |
| Nickel                                    | <0.0100                           | 1.00                  | 0.990                          | 99                            | 1.00                  | 1.01                                     | 101                         | 2        | 75-125                  | 20                        |      |
| Potassium                                 | 14.3                              | 10.0                  | 26.5                           | 122                           | 10.0                  | 27.2                                     | 129                         | 3        | 75-125                  | 20                        | X    |
| Selenium                                  | <0.0100                           | 1.00                  | 1.08                           | 108                           | 1.00                  | 1.11                                     | 111                         | 3        | 75-125                  | 20                        |      |
| Silver                                    | <0.00400                          | 1.00                  | 0.990                          | 99                            | 1.00                  | 1.02                                     | 102                         | 3        | 75-125                  | 20                        |      |
| Sodium                                    | 593                               | 11.0                  | 602                            | 82                            | 11.0                  | 619                                      | 236                         | 3        | 75-125                  | 20                        | X    |
| Zinc                                      | 0.0110                            | 1.00                  | 1.02                           | 101                           | 1.00                  | 1.00                                     | 99                          | 2        | 75-125                  | 20                        |      |

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

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

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



# Form 3 - M MSD Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Project ID: 2009-039

Lab Batch ID: 850041

QC- Sample ID: 411082-008 S

Batch #: 1 Matrix: Water

Date Analyzed: 03/30/2011

Date Prepared: 03/30/2011

Analyst: CYE

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| VOAs by SW-846 8260B<br>Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|----------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| 1,1,1,2-Tetrachloroethane        | <0.00500                 | 0.0500          | 0.0459                   | 92                   | 0.0500          | 0.0574                             | 115                | 22    | 75-125            | 20                  | F    |
| 1,1,1-Trichloroethane            | <0.00500                 | 0.0500          | 0.0548                   | 110                  | 0.0500          | 0.0642                             | 128                | 16    | 75-125            | 20                  | X    |
| 1,1,2,2-Tetrachloroethane        | <0.00500                 | 0.0500          | 0.0473                   | 95                   | 0.0500          | 0.0555                             | 111                | 16    | 50-130            | 31                  |      |
| 1,1,2-Trichloroethane            | <0.00500                 | 0.0500          | 0.0515                   | 103                  | 0.0500          | 0.0561                             | 112                | 9     | 75-127            | 20                  |      |
| 1,1-Dichloroethane               | <0.00500                 | 0.0500          | 0.0503                   | 101                  | 0.0500          | 0.0582                             | 116                | 15    | 60-130            | 20                  |      |
| 1,1-Dichloroethene               | <0.00500                 | 0.0500          | 0.0446                   | 89                   | 0.0500          | 0.0525                             | 105                | 16    | 59-172            | 22                  |      |
| 1,1-Dichloropropene              | <0.00500                 | 0.0500          | 0.0395                   | 79                   | 0.0500          | 0.0432                             | 86                 | 9     | 75-125            | 20                  |      |
| 1,2,3-Trichlorobenzene           | <0.00500                 | 0.0500          | 0.0414                   | 83                   | 0.0500          | 0.0517                             | 103                | 22    | 75-137            | 20                  | F    |
| 1,2,3-Trichloropropane           | <0.00500                 | 0.0500          | 0.0378                   | 76                   | 0.0500          | 0.0440                             | 88                 | 15    | 75-125            | 20                  |      |
| 1,2,4-Trichlorobenzene           | <0.00500                 | 0.0500          | 0.0404                   | 81                   | 0.0500          | 0.0508                             | 102                | 23    | 75-135            | 20                  | F    |
| 1,2,4-Trimethylbenzene           | <0.00500                 | 0.0500          | <0.00500                 | 0                    | 0.0500          | <0.00500                           | 0                  | NC    | 75-125            | 20                  | X    |
| 1,2-Dibromo-3-Chloropropane      | <0.00500                 | 0.0500          | 0.0509                   | 102                  | 0.0500          | 0.0665                             | 133                | 27    | 59-125            | 28                  | X    |
| 1,2-Dibromoethane                | <0.00500                 | 0.0500          | 0.0442                   | 88                   | 0.0500          | 0.0543                             | 109                | 21    | 73-125            | 20                  | F    |
| 1,2-Dichlorobenzene              | <0.00500                 | 0.0500          | 0.0425                   | 85                   | 0.0500          | 0.0500                             | 100                | 16    | 75-125            | 20                  |      |
| 1,2-Dichloroethane               | <0.00500                 | 0.0500          | 0.0530                   | 106                  | 0.0500          | 0.0605                             | 121                | 13    | 68-127            | 20                  |      |
| 1,2-Dichloropropane              | <0.00500                 | 0.0500          | 0.0477                   | 95                   | 0.0500          | 0.0531                             | 106                | 11    | 74-125            | 20                  |      |
| 1,3,5-Trimethylbenzene           | <0.00500                 | 0.0500          | <0.00500                 | 0                    | 0.0500          | <0.00500                           | 0                  | NC    | 70-125            | 20                  | X    |
| 1,3-Dichlorobenzene              | <0.00500                 | 0.0500          | 0.0453                   | 91                   | 0.0500          | 0.0502                             | 100                | 10    | 75-125            | 20                  |      |
| 1,3-Dichloropropane              | <0.00500                 | 0.0500          | 0.0480                   | 96                   | 0.0500          | 0.0552                             | 110                | 14    | 75-125            | 20                  |      |
| 1,4-Dichlorobenzene              | <0.00500                 | 0.0500          | 0.0444                   | 89                   | 0.0500          | 0.0489                             | 98                 | 10    | 75-125            | 20                  |      |
| 2,2-Dichloropropane              | <0.00500                 | 0.0500          | 0.0534                   | 107                  | 0.0500          | 0.0625                             | 125                | 16    | 60-140            | 20                  |      |
| 2-Chlorotoluene                  | <0.00500                 | 0.0500          | 0.0392                   | 78                   | 0.0500          | 0.0485                             | 97                 | 21    | 73-125            | 20                  | F    |
| 4-Chlorotoluene                  | <0.00500                 | 0.0500          | 0.0417                   | 83                   | 0.0500          | 0.0475                             | 95                 | 13    | 74-125            | 20                  |      |

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

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

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





# Form 3 - MS / MSD Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Project ID: 2009-039

Lab Batch ID: 850041

QC- Sample ID: 411082-008 S

Batch #: 1 Matrix: Water

Date Analyzed: 03/30/2011

Date Prepared: 03/30/2011

Analyst: CYE

Reporting Units: mg/L

| VOAs by SW-846 8260B<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|----------------------------------|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
| Benzene                          | <0.00500                          | 0.0500                | 0.0484                         | 97                            | 0.0500                | 0.0563                                   | 113                         | 15       | 66-142                  | 21                        |      |
| Bromobenzene                     | <0.00500                          | 0.0500                | 0.0445                         | 89                            | 0.0500                | 0.0493                                   | 99                          | 10       | 60-130                  | 20                        |      |
| Bromochloromethane               | <0.00500                          | 0.0500                | 0.0474                         | 95                            | 0.0500                | 0.0563                                   | 113                         | 17       | 73-125                  | 20                        |      |
| Bromodichloromethane             | <0.00500                          | 0.0500                | 0.0559                         | 112                           | 0.0500                | 0.0648                                   | 130                         | 15       | 75-125                  | 20                        | X    |
| Bromoform                        | 0.0209                            | 0.0500                | 0.0763                         | 111                           | 0.0500                | 0.0864                                   | 131                         | 12       | 75-125                  | 20                        | X    |
| Bromomethane                     | <0.00500                          | 0.0500                | 0.0522                         | 104                           | 0.0500                | 0.0530                                   | 106                         | 2        | 70-130                  | 20                        |      |
| Carbon Tetrachloride             | <0.00500                          | 0.0500                | 0.0573                         | 115                           | 0.0500                | 0.0680                                   | 136                         | 17       | 62-125                  | 20                        | X    |
| Chlorobenzene                    | <0.00500                          | 0.0500                | 0.0427                         | 85                            | 0.0500                | 0.0510                                   | 102                         | 18       | 60-133                  | 21                        |      |
| Chloroethane                     | <0.0100                           | 0.0500                | 0.0540                         | 108                           | 0.0500                | 0.0591                                   | 118                         | 9        | 70-130                  | 20                        |      |
| Chloroform                       | 0.0143                            | 0.0500                | 0.0621                         | 96                            | 0.0500                | 0.0708                                   | 113                         | 13       | 74-125                  | 20                        |      |
| Chloromethane                    | <0.0100                           | 0.0500                | 0.0552                         | 110                           | 0.0500                | 0.0604                                   | 121                         | 9        | 70-130                  | 20                        |      |
| cis-1,2-Dichloroethene           | <0.00500                          | 0.0500                | 0.0478                         | 96                            | 0.0500                | 0.0566                                   | 113                         | 17       | 60-130                  | 20                        |      |
| cis-1,3-Dichloropropene          | <0.00500                          | 0.0500                | 0.0371                         | 74                            | 0.0500                | 0.0402                                   | 80                          | 8        | 60-140                  | 20                        |      |
| Dibromochloromethane             | <0.00500                          | 0.0500                | 0.0498                         | 100                           | 0.0500                | 0.0595                                   | 119                         | 18       | 60-130                  | 20                        |      |
| Dibromomethane                   | <0.00500                          | 0.0500                | 0.0502                         | 100                           | 0.0500                | 0.0587                                   | 117                         | 16       | 69-127                  | 23                        |      |
| Dichlorodifluoromethane          | <0.00500                          | 0.0500                | 0.0556                         | 111                           | 0.0500                | 0.0600                                   | 120                         | 8        | 70-130                  | 23                        |      |
| Ethylbenzene                     | <0.00500                          | 0.0500                | 0.0363                         | 73                            | 0.0500                | 0.0420                                   | 84                          | 15       | 75-125                  | 20                        | X    |
| Hexachlorobutadiene              | <0.00500                          | 0.0500                | 0.0448                         | 90                            | 0.0500                | 0.0526                                   | 105                         | 16       | 75-125                  | 20                        |      |
| isopropylbenzene                 | <0.00500                          | 0.0500                | 0.0328                         | 66                            | 0.0500                | 0.0381                                   | 76                          | 15       | 75-125                  | 20                        | X    |
| m,p-Xylenes                      | <0.0100                           | 0.100                 | 0.0271                         | 27                            | 0.100                 | 0.0231                                   | 23                          | 16       | 75-125                  | 20                        | X    |
| Methylene Chloride               | <0.00500                          | 0.0500                | 0.0488                         | 98                            | 0.0500                | 0.0594                                   | 119                         | 20       | 75-125                  | 35                        |      |
| MTBE                             | <0.00500                          | 0.0500                | 0.0532                         | 106                           | 0.0500                | 0.0676                                   | 135                         | 24       | 75-125                  | 20                        | XF   |
| Naphthalene                      | <0.0100                           | 0.0500                | <0.0100                        | 0                             | 0.0500                | <0.0100                                  | 0                           | NC       | 65-135                  | 20                        | X    |

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



# Form 3 - MS/MSD Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Project ID: 2009-039

Lab Batch ID: 850041

QC- Sample ID: 411082-008 S

Batch #: 1 Matrix: Water

Date Analyzed: 03/30/2011

Date Prepared: 03/30/2011

Analyst: CYE

Reporting Units: mg/L

| VOAs by SW-846 8260B<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|----------------------------------|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
| n-Butylbenzene                   | <0.00500                          | 0.0500                | 0.0357                         | 71                            | 0.0500                | 0.0384                                   | 77                          | 7        | 75-125                  | 20                        | X    |
| n-Propylbenzene                  | <0.00500                          | 0.0500                | 0.0378                         | 76                            | 0.0500                | 0.0409                                   | 82                          | 8        | 75-125                  | 20                        |      |
| o-Xylene                         | <0.00500                          | 0.0500                | 0.0192                         | 38                            | 0.0500                | 0.0188                                   | 38                          | 2        | 75-125                  | 20                        | X    |
| p-Cymene (p-Isopropyltoluene)    | <0.00500                          | 0.0500                | 0.0231                         | 46                            | 0.0500                | 0.0205                                   | 41                          | 12       | 75-125                  | 20                        | X    |
| Sec-Butylbenzene                 | <0.00500                          | 0.0500                | 0.0396                         | 79                            | 0.0500                | 0.0436                                   | 87                          | 10       | 75-125                  | 20                        |      |
| Styrene                          | <0.00500                          | 0.0500                | <0.00500                       | 0                             | 0.0500                | <0.00500                                 | 0                           | NC       | 60-130                  | 51                        | X    |
| tert-Butylbenzene                | <0.00500                          | 0.0500                | 0.0371                         | 74                            | 0.0500                | 0.0424                                   | 85                          | 13       | 75-125                  | 20                        | X    |
| Tetrachloroethylene              | 0.00536                           | 0.0500                | 0.0476                         | 84                            | 0.0500                | 0.0565                                   | 102                         | 17       | 60-130                  | 20                        |      |
| Toluene                          | <0.00500                          | 0.0500                | 0.0411                         | 82                            | 0.0500                | 0.0429                                   | 86                          | 4        | 59-139                  | 21                        |      |
| trans-1,2-dichloroethene         | <0.00500                          | 0.0500                | 0.0483                         | 97                            | 0.0500                | 0.0570                                   | 114                         | 17       | 60-130                  | 20                        |      |
| trans-1,3-dichloropropene        | <0.00500                          | 0.0500                | 0.0434                         | 87                            | 0.0500                | 0.0451                                   | 90                          | 4        | 66-125                  | 20                        |      |
| Trichloroethene                  | <0.00500                          | 0.0500                | 0.0505                         | 101                           | 0.0500                | 0.0576                                   | 115                         | 13       | 62-137                  | 24                        |      |
| Trichlorofluoromethane           | <0.00500                          | 0.0500                | 0.0632                         | 126                           | 0.0500                | 0.0665                                   | 133                         | 5        | 67-125                  | 20                        | X    |
| Vinyl Chloride                   | <0.00200                          | 0.0500                | 0.0371                         | 74                            | 0.0500                | 0.0362                                   | 72                          | 2        | 75-125                  | 20                        | X    |

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

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

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



## Sample Duplicate Recovery



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 411089

Lab Batch #: 849832

Date Analyzed: 03/29/2011 13:25

Date Prepared: 03/29/2011

Project ID: 2009-039

Analyst: ALA

QC- Sample ID: 410758-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

| SAMPLE / SAMPLE DUPLICATE RECOVERY              |                          |                             |     |                     |      |
|---|--------------------------|-----------------------------|-----|---------------------|------|
| Alkalinity by SM2320B                           | Parent Sample Result [A] | Sample Duplicate Result [B] | RPD | Control Limits %RPD | Flag |
| Analyte   |                          |                             |     |                     |      |
| Alkalinity, Total (as CaCO <sub>3</sub> )       | 786                      | 786                         | 0   | 20                  |      |
| Alkalinity, Bicarbonate (as CaCO <sub>3</sub> ) | 959                      | 959                         | 0   | 20                  |      |
| Alkalinity, Carbonate (as CaCO <sub>3</sub> )   | <4.00                    | <4.00                       | 0   | 20                  |      |

Lab Batch #: 849832

Date Analyzed: 03/29/2011 13:20

Date Prepared: 03/29/2011

Analyst: ALA

QC- Sample ID: 410832-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

| SAMPLE / SAMPLE DUPLICATE RECOVERY              |                          |                             |     |                     |      |
|---|--------------------------|-----------------------------|-----|---------------------|------|
| Alkalinity by SM2320B                           | Parent Sample Result [A] | Sample Duplicate Result [B] | RPD | Control Limits %RPD | Flag |
| Analyte   |                          |                             |     |                     |      |
| Alkalinity, Total (as CaCO <sub>3</sub> )       | 232                      | 230                         | 1   | 20                  |      |
| Alkalinity, Bicarbonate (as CaCO <sub>3</sub> ) | 232                      | 230                         | 1   | 20                  |      |
| Alkalinity, Carbonate (as CaCO <sub>3</sub> )   | <4.00                    | <4.00                       | 0   | 20                  |      |

Lab Batch #: 849659

Date Analyzed: 03/28/2011 15:15

Date Prepared: 03/28/2011

Analyst: LATCOR

QC- Sample ID: 411097-004 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

| SAMPLE / SAMPLE DUPLICATE RECOVERY |                          |                             |     |                     |      |
|------------------------------------|--------------------------|-----------------------------|-----|---------------------|------|
| Anions by E300                     | Parent Sample Result [A] | Sample Duplicate Result [B] | RPD | Control Limits %RPD | Flag |
| Analyte                            |                          |                             |     |                     |      |
| Fluoride                           | 30.5                     | 30.6                        | 0   | 20                  |      |
| Chloride                           | 392                      | 374                         | 5   | 20                  |      |
| Sulfate                            | 288                      | 280                         | 3   | 20                  |      |

Spike Relative Difference  $RPD = 200 * |(B-A)/(B+A)|$

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

BRL - Below Reporting Limit

**Phone: 432-563-1800**  
**Fax: 432-563-1713**

Project Manager: Ben J. Arguijo

**Project Name: DCP Plant to Lea Station 6" #2**

Company Name Basin Environmental Service Technologies, LLC

**Project #: 2009-039**

Company Address: P. O. Box 301

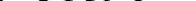
Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - J. Henry

Telephone No: (575)396-2378 Fax No: (575) 396-1429

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature:  e-mail: **[bjarguljo@basinenv.com](mailto:bjarguljo@basinenv.com)**

e-mail: [bjarguljo@basinenv.com](mailto:bjarguljo@basinenv.com)

[illegible]

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas  
Houston, Miami, Odessa, Philadelphia  
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Plains  
Date/Time: 3-25-11 16:50  
Lab ID #: 411089  
Initials: XM

**Sample Receipt Checklist**

|   |              |              |              |              |
|---|--------------|--------------|--------------|--------------|
| 1. Samples on ice?  | Blue         | <u>Water</u> | No           |              |
| 2. Shipping container in good condition?                            | <u>Yes</u>   | No           | None         |              |
| 3. Custody seals intact on shipping container (cooler) and bottles? | <u>Yes</u>   | No           | N/A          |              |
| 4. Chain of Custody present?  | <u>Yes</u>   | No           |              |              |
| 5. Sample instructions complete on chain of custody?                | <u>Yes</u>   | No           |              |              |
| 6. Any missing / extra samples?                                     | Yes          | <u>No</u>    |              |              |
| 7. Chain of custody signed when relinquished / received?            | <u>Yes</u>   | No           |              |              |
| 8. Chain of custody agrees with sample label(s)?                    | <u>Yes</u>   | No           |              |              |
| 9. Container labels legible and intact?                             | <u>Yes</u>   | No           |              |              |
| 10. Sample matrix / properties agree with chain of custody?         | <u>Yes</u>   | No           |              |              |
| 11. Samples in proper container / bottle?                           | <u>Yes</u>   | No           |              |              |
| 12. Samples properly preserved?                                     | <u>Yes</u>   | No           | N/A          |              |
| 13. Sample container intact?  | <u>Yes</u>   | No           |              |              |
| 14. Sufficient sample amount for indicated test(s)?                 | <u>Yes</u>   | No           |              |              |
| 15. All samples received within sufficient hold time?               | <u>Yes</u>   | No           |              |              |
| 16. Subcontract of sample(s)?                                       | <u>Yes</u>   | No           | N/A          |              |
| 17. VOC sample have zero head space?                                | <u>Yes</u>   | No           | N/A          |              |
| 18. Cooler 1 No.  | Cooler 2 No. | Cooler 3 No. | Cooler 4 No. | Cooler 5 No. |
| lbs 2.6 °C  | lbs °C       | lbs °C       | lbs °C       | lbs °C       |

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

NMOCD - Analytical Parameters for Initial Groundwater Sampling (3-12-08)

Field Parameters

specific conductance  
pH  
temperature  
depth to water

General Chemistry

Calcium  
Magnesium  
Potassium  
Sodium  
Chloride  
Sulfate  
Bicarbonate Alkalinity  
Carbonate Alkalinity  
Nitrate  
Phosphate  
Fluoride

RCRA Metals

Arsenic  
Barium  
Cadmium  
Chromium  
Lead  
Mercury  
Selenium  
Silver

Additional WQCC Metals

Copper  
Iron  
Manganese  
Zinc  
Aluminum  
Boron  
Cobalt  
Molybdenum  
Nickel

All compounds listed in U.S. EPA SW-846 Methods 8260 (VOCs) & 8270 (SVOCs)

**Analytical Report 411660**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**DCP Plant to Lea Station 6" # 2**

**2009-039**

**04-APR-11**



**Celebrating 20 Years of commitment to excellence in Environmental Testing Services**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

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

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

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

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

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

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



04-APR-11

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

Reference: XENCO Report No: **411660**  
**DCP Plant to Lea Station 6" # 2**  
Project Address: Lea County, NM

**Jason Henry:**

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 411660. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 411660 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**  
Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America





## Sample Cross Reference 411660



PLAINS ALL AMERICAN EH&S, Midland, TX

DCP Plant to Lea Station 6" # 2

| Sample Id | Matrix | Date Collected  | Sample Depth | Lab Sample Id |
|-----------|--------|-----------------|--------------|---------------|
| MW-5      | W      | Mar-30-11 14:00 |              | 411660-001    |



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: DCP Plant to Lea Station 6" # 2*



*Project ID: 2009-039*

*Work Order Number: 411660*

*Report Date: 04-APR-11*

*Date Received: 03/31/2011*

---

**Sample receipt non conformances and Comments:**

None

---

**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-850439 Inorganic Anions In Water by E300  
E300MI*

*Batch 850439, Ortho-Phosphate recovered below QC limits in the Matrix Spike.*

*Samples affected are: 411660-001.*

*The Laboratory Control Sample for Ortho-Phosphate is within laboratory Control Limits*



# Certificate of Analysis Summary 411660

PLAINS ALL AMERICA H&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" # 2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Mar-31-11 04:25 pm


Report Date: 04-APR-11

Project Manager: Brent Barron, II

|  |                   |                 |  |  |  |  |  |
|--|-------------------|-----------------|--|--|--|--|--|
| <b>Analysis Requested</b>                | <b>Lab Id:</b>    | 411660-001      |  |  |  |  |  |
|  | <b>Field Id:</b>  | MW-5            |  |  |  |  |  |
|  | <b>Depth:</b>     |                 |  |  |  |  |  |
|  | <b>Matrix:</b>    | WATER           |  |  |  |  |  |
|  | <b>Sampled:</b>   | Mar-30-11 14:00 |  |  |  |  |  |
| <b>Inorganic Anions In Water by E300</b> | <b>Extracted:</b> |                 |  |  |  |  |  |
|  | <b>Analyzed:</b>  | Apr-01-11 09:34 |  |  |  |  |  |
|  | <b>Units/RL:</b>  | mg/L RL         |  |  |  |  |  |
| Nitrate as N                             |                   | 3.68 1.25       |  |  |  |  |  |
| Ortho-Phosphate                          |                   | 7.70 6.25       |  |  |  |  |  |

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

  
Brent Barron, II  
Odessa Laboratory 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 effect the recovery of the spike concentration. This condition could also effect 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 MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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

*Certified and approved by numerous States and Agencies.*

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

**Houston - Dallas - San Antonio - Corpus Christi - Midland/Odessa - Tampa - Miami - Latin America**

|   | Phone          | Fax            |
|---|----------------|----------------|
| 4143 Greenbriar Dr, Stafford, Tx 77477      | (281) 240-4200 | (281) 240-4280 |
| 9701 Harry Hines Blvd , Dallas, TX 75220    | (214) 902 0300 | (214) 351-9139 |
| 5332 Blackberry Drive, San Antonio TX 78238 | (210) 509-3334 | (210) 509-3335 |
| 2505 North Falkenburg Rd, Tampa, FL 33619   | (813) 620-2000 | (813) 620-2033 |
| 5757 NW 158th St, Miami Lakes, FL 33014     | (305) 823-8500 | (305) 823-8555 |
| 12600 West I-20 East, Odessa, TX 79765      | (432) 563-1800 | (432) 563-1713 |
| 842 Cantwell Lane, Corpus Christi, TX 78408 | (361) 884-0371 | (361) 884-9116 |



## BS / BSL Recoveries



Project Name: DCP Plant to Lea Station 6" # 2

Work Order #: 411660

Analyst: LATCOR

Date Prepared: 04/01/2011

Project ID: 2009-039

Date Analyzed: 04/01/2011

Lab Batch ID: 850439

Sample: 850439-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions In Water by E300 | Blank<br>Sample Result<br>[A] | Spike<br>Added<br>[B] | Blank<br>Spike<br>Result<br>[C] | Blank<br>Spike<br>%R<br>[D] | Spike<br>Added<br>[E] | Blank<br>Spike<br>Duplicate<br>Result [F] | Blk. Spk<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|-----------------------------------|-------------------------------|-----------------------|---------------------------------|-----------------------------|-----------------------|---|-------------------------------|----------|-------------------------|---------------------------|------|
| Analytes                          |                               |                       |                                 |                             |                       |   |                               |          |                         |                           |      |
| Nitrate as N                      | <0.0500                       | 2.26                  | 2.20                            | 97                          | 2.26                  | 2.12                                      | 94                            | 4        | 80-120                  | 20                        |      |
| Ortho-Phosphate                   | <0.250                        | 2.00                  | 1.94                            | 97                          | 2.00                  | 1.94                                      | 97                            | 0        | 80-120                  | 20                        |      |

Relative Percent Difference RPD =  $200 * [(C-F)/(C+F)]$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



### Form 3 - MS Recoveries



Project Name: DCP Plant to Lea Station 6" # 2

Work Order #: 411660

Lab Batch #: 850439

Date Analyzed: 04/01/2011

Date Prepared: 04/01/2011

Project ID: 2009-039

Analyst: LATCOR

QC- Sample ID: 411663-005 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

#### MATRIX / MATRIX SPIKE RECOVERY STUDY

| Inorganic Anions by EPA 300<br><br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | %R<br>[D] | Control<br>Limits<br>%R | Flag |
|---|-----------------------------------|-----------------------|--------------------------------|-----------|-------------------------|------|
|   |                                   |                       |                                |           |                         |      |
| Nitrate as N                                | 6.55                              | 56.5                  | 54.4                           | 85        | 80-120                  |      |
| Ortho-Phosphate                             | 7.73                              | 50.0                  | 36.6                           | 58        | 80-120                  | X    |

Matrix Spike Percent Recovery [D] =  $100 \cdot (C-A)/B$   
Relative Percent Difference [E] =  $200 \cdot (C-A)/(C+B)$   
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



## Sample Duplicate Recovery



Project Name: DCP Plant to Lea Station 6" # 2

Work Order #: 411660

Lab Batch #: 850439

Project ID: 2009-039

Date Analyzed: 04/01/2011 09:34

Date Prepared: 04/01/2011

Analyst: LATCOR

QC- Sample ID: 411663-005 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

| SAMPLE / SAMPLE DUPLICATE RECOVERY |                          |                             |     |                     |      |
|------------------------------------|--------------------------|-----------------------------|-----|---------------------|------|
| Inorganic Anions In Water by E300  | Parent Sample Result [A] | Sample Duplicate Result [B] | RPD | Control Limits %RPD | Flag |
| Analyte                            |                          |                             |     |                     |      |
| Nitrate as N                       | 6.55                     | 6.58                        | 0   | 20                  |      |
| Ortho-Phosphate                    | 7.73                     | 7.70                        | 0   | 20                  |      |

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$   
All Results are based on MDL and validated for QC purposes.  
BRL - Below Reporting Limit

## Xenco Laboratories

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

**Phone: 432-563-1800**  
**Fax: 432-563-1713**

**Project Manager:** Ben J. Arguijo

**Project Name: DCP Plant to Lea Station 6" #2**

**Company Name**      **Basin Environmental Service Technologies, LLC**

**Project #: 2009-039**

**Company Address: P. O. Box 301**

**Project Loc: Lea County, NM**

City/State/Zip: Lovington, NM 88260

**PO #: PAA - J. Henry**

Telephone No: (575)396-2378

**Fax No: (575) 396-1429**

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

**Sampler Signature:**

**e-mail: [bjarguijo@basinenv.com](mailto:bjarguijo@basinenv.com)**

[illegible]





XENCO Laboratories  
Atlanta, Boca Raton, Corpus Christi, Dallas  
Houston, Miami, Odessa, Philadelphia  
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist  
Document No.: SYS-SRC  
Revision/Date: No. 01, 5/27/2010  
Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 3.31.11 16:25  
Lab ID #: 411660  
Initials: AE

### Sample Receipt Checklist

|   |              |              |              |              |
|---|--------------|--------------|--------------|--------------|
| 1. Samples on ice?  | Blue         | <u>Water</u> | No           |              |
| 2. Shipping container in good condition?                                    | <u>Yes</u>   | No           | None         |              |
| 3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ? | <u>Yes</u>   | No           | N/A          |              |
| 4. Chain of Custody present?  | <u>Yes</u>   | No           |              |              |
| 5. Sample instructions complete on chain of custody?                        | <u>Yes</u>   | No           |              |              |
| 6. Any missing / extra samples?   | Yes          | <u>No</u>    |              |              |
| 7. Chain of custody signed when relinquished / received?                    | <u>Yes</u>   | No           |              |              |
| 8. Chain of custody agrees with sample label(s)?                            | <u>Yes</u>   | No           |              |              |
| 9. Container labels legible and intact?                                     | <u>Yes</u>   | No           |              |              |
| 10. Sample matrix / properties agree with chain of custody?                 | <u>Yes</u>   | No           |              |              |
| 11. Samples in proper container / bottle?                                   | <u>Yes</u>   | No           |              |              |
| 12. Samples properly preserved?   | <u>Yes</u>   | No           | N/A          |              |
| 13. Sample container intact?  | <u>Yes</u>   | No           |              |              |
| 14. Sufficient sample amount for indicated test(s)?                         | <u>Yes</u>   | No           |              |              |
| 15. All samples received within sufficient hold time?                       | <u>Yes</u>   | No           |              |              |
| 16. Subcontract of sample(s)?   | Yes          | No           | <u>N/A</u>   |              |
| 17. VOC sample have zero head space?  | Yes          | No           | <u>N/A</u>   |              |
| 18. Cooler 1 No.  | Cooler 2 No. | Cooler 3 No. | Cooler 4 No. | Cooler 5 No. |
| lbs <u>5.60</u> °C  | lbs °C       | lbs °C       | lbs °C       | lbs °C       |

### Nonconformance Documentation

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 418095**

**for**

## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**DCP Plant to Lea Station 6" #2**

**2009-039**

**07-JUN-11**

Collected By: Client



**Celebrating 20 Years of commitment to excellence in Environmental Testing Services**



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

**Xenco-Houston (EPA Lab code: TX00122):**

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

**Xenco-Atlanta (EPA Lab Code: GA00046):**

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

**Xenco-Miami (EPA Lab code: FL01152):** Florida (E86678), Maryland (330)

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

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

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

**Xenco-Corpus Christi (EPA Lab code: TX02613):** Texas (T104704370)

**Xenco-Boca Raton (EPA Lab Code: FL01273):**

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)  
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

**Xenco Phoenix (EPA Lab Code: AZ00901):**

Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

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

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



07-JUN-11

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

Reference: XENCO Report No: **418095**  
**DCP Plant to Lea Station 6" #2**  
Project Address: Lea County, NM

**Jason Henry:**

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 418095. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 418095 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



## Sample Cross Reference 418095



PLAINS ALL AMERICAN EH&S, Midland, TX

DCP Plant to Lea Station 6" #2

| Sample Id    | Matrix | Date Collected  | Sample Depth | Lab Sample Id |
|--------------|--------|-----------------|--------------|---------------|
| MW-2         | W      | May-26-11 08:25 |              | 418095-001    |
| MW-3         | W      | May-26-11 08:35 |              | 418095-002    |
| MW-4         | W      | May-26-11 08:45 |              | 418095-003    |
| MW-5         | W      | May-26-11 08:55 |              | 418095-004    |
| Travel Blank | W      | May-26-11 07:00 |              | 418095-005    |



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: DCP Plant to Lea Station 6" #2*



*Project ID: 2009-039*

*Work Order Number: 418095*

*Report Date: 07-JUN-11*

*Date Received: 05/27/2011*

---

**Sample receipt non conformances and comments:**

None

---

**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analysis Summary 418095

PLAINS ALL AMERICA H&S, Midland, TX



Project Name: DCP Plant to Lea Station 6" #2

Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri May-27-11 04:42 pm


Report Date: 07-JUN-11

Project Manager: Brent Barron, II

| Analysis Requested | Lab Id:    | 418095-001      | 418095-002      | 418095-003      | 418095-004      | 418095-005      |  |
|--------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|
|                    | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            | Travel Blank    |  |
|                    | Depth:     |                 |                 |                 |                 |                 |  |
|                    | Matrix:    | WATER           | WATER           | WATER           | WATER           | WATER           |  |
|                    | Sampled:   | May-26-11 08:25 | May-26-11 08:35 | May-26-11 08:45 | May-26-11 08:55 | May-26-11 07:00 |  |
| BTEX by EPA 8021   | Extracted: | Jun-03-11 15:00 | Jun-03-11 15:00 | Jun-01-11 11:34 | Jun-01-11 11:34 | Jun-06-11 12:50 |  |
|                    | Analyzed:  | Jun-04-11 01:13 | Jun-04-11 01:36 | Jun-02-11 12:49 | Jun-02-11 13:11 | Jun-07-11 02:06 |  |
|                    | Units/RL:  | mg/L RL         | mg/L RL         | mg/L RL         | mg/L RL         | mg/L RL         |  |
| Benzene            |            | 0.00116 0.0010  | 0.00306 0.0010  | 0.00885 0.0010  | 0.216 0.0010    | ND 0.0010       |  |
| Toluene            |            | ND 0.0020       | ND 0.0020       | 0.00398 0.0020  | 0.0933 0.0020   | ND 0.0020       |  |
| Ethylbenzene       |            | ND 0.0010       | ND 0.0010       | ND 0.0010       | 0.00123 0.0010  | ND 0.0010       |  |
| m_p-Xylenes        |            | ND 0.0020       | ND 0.0020       | ND 0.0020       | 0.00957 0.0020  | ND 0.0020       |  |
| o-Xylene           |            | ND 0.0010       | ND 0.0010       | ND 0.0010       | 0.00650 0.0010  | ND 0.0010       |  |
| Xylenes, Total     |            | ND 0.0010       | ND 0.0010       | ND 0.0010       | 0.0161 0.0010   | ND 0.0010       |  |
| Total BTEX         |            | 0.00116 0.0010  | 0.00306 0.0010  | 0.0128 0.0010   | 0.327 0.0010    | ND 0.0010       |  |

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

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

  
Brent Barron, II  
Odessa Laboratory 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 MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- MDL** Method Detection Limit
- PQL** Practical Quantitation Limit
- LOD** Limit of Detection
- LOQ** Limit of Quantitation
- DL** Method Detection Limit
- NC** Non-Calculable
- +** Outside XENCO's scope of NELAC Accreditation.

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

*Certified and approved by numerous States and Agencies.*

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

**Houston - Dallas - San Antonio - Corpus Christi - Midland/Odessa - Tampa/Lakeland - Miami - Phoenix - Latin America**

4143 Greenbriar Dr, Stafford, Tx 77477  
 9701 Harry Hines Blvd, Dallas, TX 75220  
 5332 Blackberry Drive, San Antonio TX 78238  
 2505 North Falkenburg Rd, Tampa, FL 33619  
 5757 NW 158th St, Miami Lakes, FL 33014  
 12600 West I-20 East, Odessa, TX 79765  
 842 Cantwell Lane, Corpus Christi, TX 78408  
 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 |
| (305) 823-8500 | (305) 823-8555 |
| (432) 563-1800 | (432) 563-1713 |
| (361) 884-0371 | (361) 884-9116 |
| (602) 437-0330 |                |



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" #2

Work Orders : 418095,

Project ID: 2009-039

Lab Batch #: 858471

Sample: 604212-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/01/11 12:10

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0310           | 0.0300          | 103             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0333           | 0.0300          | 111             | 80-120            |       |

Lab Batch #: 858471

Sample: 604212-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/01/11 12:33

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0321           | 0.0300          | 107             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0337           | 0.0300          | 112             | 80-120            |       |

Lab Batch #: 858471

Sample: 604212-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/01/11 13:42

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 4-Difluorobenzene    | 0.0285           | 0.0300          | 95              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0311           | 0.0300          | 104             | 80-120            |       |

Lab Batch #: 858471

Sample: 418009-008 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/01/11 17:52

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0302           | 0.0300          | 101             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0314           | 0.0300          | 105             | 80-120            |       |

Lab Batch #: 858471

Sample: 418095-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/02/11 12:49

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0302           | 0.0300          | 101             | 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.





## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" #2

Work Orders : 418095,

Project ID: 2009-039

Lab Batch #: 858471

Sample: 418095-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/02/11 13:11

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0333           | 0.0300          | 111             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0296           | 0.0300          | 99              | 80-120            |       |

Lab Batch #: 858712

Sample: 604361-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/03/11 22:11

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0311           | 0.0300          | 104             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0331           | 0.0300          | 110             | 80-120            |       |

Lab Batch #: 858712

Sample: 604361-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/03/11 22:34

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0306           | 0.0300          | 102             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0318           | 0.0300          | 106             | 80-120            |       |

Lab Batch #: 858712

Sample: 604361-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/03/11 23:42

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0292           | 0.0300          | 97              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0304           | 0.0300          | 101             | 80-120            |       |

Lab Batch #: 858712

Sample: 418095-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/04/11 01:13

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0288           | 0.0300          | 96              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0311           | 0.0300          | 104             | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

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



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" #2

rk Orders : 418095,

Project ID: 2009-039

Lab Batch #: 858712

Sample: 418095-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/04/11 01:36

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0302           | 0.0300          | 101             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0283           | 0.0300          | 94              | 80-120            |       |

Lab Batch #: 858892

Sample: 604471-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/07/11 00:13

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0287           | 0.0300          | 96              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0286           | 0.0300          | 95              | 80-120            |       |

Lab Batch #: 858892

Sample: 604471-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/07/11 00:36

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0306           | 0.0300          | 102             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0319           | 0.0300          | 106             | 80-120            |       |

Lab Batch #: 858892

Sample: 604471-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/07/11 01:43

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0283           | 0.0300          | 94              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0309           | 0.0300          | 103             | 80-120            |       |

Lab Batch #: 858892

Sample: 418095-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/07/11 02:06

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0274           | 0.0300          | 91              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0298           | 0.0300          | 99              | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" #2

Work Orders : 418095,

Project ID: 2009-039

Lab Batch #: 858892

Sample: 418630-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/07/11 06:14

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0295           | 0.0300          | 98              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0322           | 0.0300          | 107             | 80-120            |       |

Lab Batch #: 858892

Sample: 418630-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/07/11 06:37

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0268           | 0.0300          | 89              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0264           | 0.0300          | 88              | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# BS / BS Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 418095

Analyst: ASA

Date Prepared: 06/01/2011

Project ID: 2009-039

Date Analyzed: 06/01/2011

Lab Batch ID: 858471

Sample: 604212-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021 | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes         |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene          | <0.00100                | 0.100           | 0.101                  | 101                | 0.100           | 0.103                            | 103                  | 2     | 70-125            | 25                  |      |
| Toluene          | <0.00200                | 0.100           | 0.104                  | 104                | 0.100           | 0.106                            | 106                  | 2     | 70-125            | 25                  |      |
| Ethylbenzene     | <0.00100                | 0.100           | 0.102                  | 102                | 0.100           | 0.105                            | 105                  | 3     | 71-129            | 25                  |      |
| m_p-Xylenes      | <0.00200                | 0.200           | 0.219                  | 110                | 0.200           | 0.224                            | 112                  | 2     | 70-131            | 25                  |      |
| o-Xylene         | <0.00100                | 0.100           | 0.118                  | 118                | 0.100           | 0.121                            | 121                  | 3     | 71-133            | 25                  |      |

Analyst: ASA

Date Prepared: 06/03/2011

Date Analyzed: 06/03/2011

Lab Batch ID: 858712

Sample: 604361-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021 | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes         |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene          | <0.00100                | 0.100           | 0.0917                 | 92                 | 0.100           | 0.0994                           | 99                   | 8     | 70-125            | 25                  |      |
| Toluene          | <0.00200                | 0.100           | 0.0925                 | 93                 | 0.100           | 0.102                            | 102                  | 10    | 70-125            | 25                  |      |
| Ethylbenzene     | <0.00100                | 0.100           | 0.0911                 | 91                 | 0.100           | 0.0996                           | 100                  | 9     | 71-129            | 25                  |      |
| m_p-Xylenes      | <0.00200                | 0.200           | 0.196                  | 98                 | 0.200           | 0.212                            | 106                  | 8     | 70-131            | 25                  |      |
| o-Xylene         | <0.00100                | 0.100           | 0.109                  | 109                | 0.100           | 0.115                            | 115                  | 5     | 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



## BS / BSD Recoveries



**Project Name: DCP Plant to Lea Station 6" #2**

**Work Order #: 418095**

**Analyst: ASA**

**Date Prepared: 06/06/2011**

**Project ID: 2009-039**

**Date Analyzed: 06/07/2011**

**Lab Batch ID: 858892**

**Sample: 604471-1-BKS**

**Batch #: 1**

**Matrix: Water**

**Units: mg/L**

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| <b>BTEX by EPA 8021</b> | <b>Blank<br/>Sample Result<br/>[A]</b> | <b>Spike<br/>Added<br/>[B]</b> | <b>Blank<br/>Spike<br/>Result<br/>[C]</b> | <b>Blank<br/>Spike<br/>%R<br/>[D]</b> | <b>Spike<br/>Added<br/>[E]</b> | <b>Blank<br/>Spike<br/>Duplicate<br/>Result [F]</b> | <b>Blk. Spk<br/>Dup.<br/>%R<br/>[G]</b> | <b>RPD<br/>%</b> | <b>Control<br/>Limits<br/>%R</b> | <b>Control<br/>Limits<br/>%RPD</b> | <b>Flag</b> |
|-------------------------|--|--------------------------------|---|---------------------------------------|--------------------------------|---|---|------------------|----------------------------------|------------------------------------|-------------|
| <b>Analytes</b>         |  |                                |   |                                       |                                |   |   |                  |                                  |                                    |             |
| Benzene                 | <0.00100                               | 0.100                          | 0.0939                                    | 94                                    | 0.100                          | 0.105   | 105                                     | 11               | 70-125                           | 25                                 |             |
| Toluene                 | <0.00200                               | 0.100                          | 0.0874                                    | 87                                    | 0.100                          | 0.0963  | 96                                      | 10               | 70-125                           | 25                                 |             |
| Ethylbenzene            | <0.00100                               | 0.100                          | 0.0954                                    | 95                                    | 0.100                          | 0.107   | 107                                     | 11               | 71-129                           | 25                                 |             |
| m_p-Xylenes             | <0.00200                               | 0.200                          | 0.185                                     | 93                                    | 0.200                          | 0.207   | 104                                     | 11               | 70-131                           | 25                                 |             |
| o-Xylene                | <0.00100                               | 0.100                          | 0.0931                                    | 93                                    | 0.100                          | 0.105   | 105                                     | 12               | 71-133                           | 25                                 |             |

Relative Percent Difference RPD =  $200 * (C-F) / (C+F)$

Blank Spike Recovery [D] =  $100 * (C) / [B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 418095

ab Batch #: 858471

Date Analyzed: 06/01/2011

Date Prepared: 06/01/2011

Project ID: 2009-039

Analyst: ASA

QC- Sample ID: 418009-008 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

| BTEX by EPA 8021B |  | MATRIX / MATRIX SPIKE RECOVERY STUDY |                 |                          |        |                   |
|-------------------|--|--------------------------------------|-----------------|--------------------------|--------|-------------------|
| Analytes          |  | Parent Sample Result [A]             | Spike Added [B] | Spiked Sample Result [C] | %R [D] | Control Limits %R |
| Benzene           |  | 0.00219                              | 0.100           | 0.0889                   | 87     | 70-125            |
| Toluene           |  | <0.00200                             | 0.100           | 0.0899                   | 90     | 70-125            |
| Ethylbenzene      |  | <0.00100                             | 0.100           | 0.0867                   | 87     | 71-129            |
| m_p-Xylenes       |  | <0.00200                             | 0.200           | 0.182                    | 91     | 70-131            |
| o-Xylene          |  | 0.00271                              | 0.100           | 0.0997                   | 97     | 71-133            |

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

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

All Results are based on MDL and Validated for QC Purposes

B\* Below Reporting Limit



## Form 3 - MS / MSD Recoveries



Project Name: DCP Plant to Lea Station 6" #2

Work Order #: 418095

Project ID: 2009-039

Lab Batch ID: 858892

QC- Sample ID: 418630-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 06/07/2011

Date Prepared: 06/06/2011

Analyst: ASA

Reporting Units: mg/L

### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|------------------------------|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
|                              |                                   |                       |                                |                               |                       |  |                             |          |                         |                           |      |
| Benzene                      | <0.00100                          | 0.100                 | 0.0941                         | 94                            | 0.100                 | 0.0873                                   | 87                          | 7        | 70-125                  | 25                        |      |
| Toluene                      | <0.00200                          | 0.100                 | 0.0866                         | 87                            | 0.100                 | 0.0786                                   | 79                          | 10       | 70-125                  | 25                        |      |
| Ethylbenzene                 | <0.00100                          | 0.100                 | 0.0932                         | 93                            | 0.100                 | 0.0854                                   | 85                          | 9        | 71-129                  | 25                        |      |
| m,p-Xylenes                  | <0.00200                          | 0.200                 | 0.176                          | 88                            | 0.200                 | 0.160                                    | 80                          | 10       | 70-131                  | 25                        |      |
| o-Xylene                     | <0.00100                          | 0.100                 | 0.0902                         | 90                            | 0.100                 | 0.0817                                   | 82                          | 10       | 71-133                  | 25                        |      |

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

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

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

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

**Phone: 432-563-1800**  
**Fax: 432-563-1713**

**Project Manager:** Ben J. Arguijo

**Project Name: DCP Plant to Lea Station 6" #2**

**Company Name** Basin Environmental Service Technologies, LLC

Project #: 2009-039

Company Address: P. O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

**PO #: PAA - J. Henry**

Telephone No: (575)396-2378

**Fax No: (575) 396-1429**

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: 

e-mail: [bjarguijo@basinenv.com](mailto:bjarguijo@basinenv.com)

[illegible]





XENCO Laboratories  
Atlanta, Boca Raton, Corpus Christi, Dallas  
Houston, Miami, Odessa, Philadelphia  
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist  
Document No.: SYS-SRC  
Revision/Date: No. 01, 5/27/2010  
Effective Date: 6/1/2010 Page 1 of 1

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

Client: Plains  
Date/Time: 5-27-11 16:42  
Lab ID #: 418095  
Initials: LM

#### Sample Receipt Checklist

|   |              |              |                |              |
|---|--------------|--------------|----------------|--------------|
| 1. Samples on ice?  | Blue         | <u>Water</u> | No             |              |
| 2. Shipping container in good condition?                            | <u>Yes</u>   | No           | None           |              |
| 3. Custody seals intact on shipping container (cooler) and bottles? | <u>Yes</u>   | No           | <del>N/A</del> | <u>LM</u>    |
| 4. Chain of Custody present?  | <u>Yes</u>   | No           |                |              |
| 5. Sample instructions complete on chain of custody?                | <u>Yes</u>   | No           |                |              |
| 6. Any missing / extra samples?                                     | <u>LM</u>    | <u>No</u>    |                |              |
| 7. Chain of custody signed when relinquished / received?            | <u>Yes</u>   | No           |                |              |
| 8. Chain of custody agrees with sample label(s)?                    | <u>Yes</u>   | No           |                |              |
| 9. Container labels legible and intact?                             | <u>Yes</u>   | No           |                |              |
| 10. Sample matrix / properties agree with chain of custody?         | <u>Yes</u>   | No           |                |              |
| 11. Samples in proper container / bottle?                           | <u>Yes</u>   | No           |                |              |
| 12. Samples properly preserved?                                     | <u>Yes</u>   | No           | N/A            |              |
| 13. Sample container intact?  | <u>Yes</u>   | No           |                |              |
| 14. Sufficient sample amount for indicated test(s)?                 | <u>Yes</u>   | No           |                |              |
| 15. All samples received within sufficient hold time?               | <u>Yes</u>   | No           |                |              |
| 16. Subcontract of sample(s)?                                       | Yes          | <u>No</u>    | N/A            |              |
| 17. VOC sample have zero head space?                                | <u>Yes</u>   | No           | N/A            |              |
| 18. Cooler 1 No.  | Cooler 2 No. | Cooler 3 No. | Cooler 4 No.   | Cooler 5 No. |
| lbs <u>5.6</u> °C   | lbs °C       | lbs °C       | lbs °C         | lbs °C       |

#### Nonconformance Documentation

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 426116**

**for**

## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**DCP Plant to Lea Station 6" # 2**

**2009-039**

**26-AUG-11**

Collected By: Client



**Celebrating 20 Years of commitment to excellence in Environmental Testing Services**



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

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

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

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

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

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

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

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



26-AUG-11

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

Reference: XENCO Report No: **426116**  
**DCP Plant to Lea Station 6" # 2**  
Project Address: Lea County, NM

**Jason Henry:**

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 426116. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 426116 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



## Sample Cross Reference 426116



PLAINS ALL AMERICAN EH&S, Midland, TX

DCP Plant to Lea Station 6" # 2

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| MW-2      | W      | 08-17-11 11:20 |              | 426116-001    |
| MW-3      | W      | 08-17-11 12:00 |              | 426116-002    |
| MW-4      | W      | 08-17-11 13:00 |              | 426116-003    |
| MW-5      | W      | 08-17-11 13:30 |              | 426116-004    |



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: DCP Plant to Lea Station 6" # 2*



*Project ID: 2009-039*

*Work Order Number: 426116*

*Report Date: 26-AUG-11*

*Date Received: 08/19/2011*

---

**Sample receipt non conformances and comments:**

None

---

**Sample receipt non conformances and comments per sample:**

None



**Certificate of Analysis Summary 426116**  
**PLAINS ALL AMERICA H&S, Midland, TX**



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Project Name: DCP Plant to Lea Station 6" # 2

Date Received in Lab: Fri Aug-19-11 11:58 am


Report Date: 26-AUG-11

Project Manager: Brent Barron II

| Analysis Requested | Lab Id:    | 426116-001      | 426116-002      | 426116-003      | 426116-004      |  |  |
|--------------------|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|                    | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|                    | Depth:     |                 |                 |                 |                 |  |  |
|                    | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|                    | Sampled:   | Aug-17-11 11:20 | Aug-17-11 12:00 | Aug-17-11 13:00 | Aug-17-11 13:30 |  |  |
| BTEX by EPA 8021   | Extracted: | Aug-24-11 16:45 | Aug-24-11 16:45 | Aug-24-11 16:45 | Aug-22-11 16:00 |  |  |
|                    | Analyzed:  | Aug-25-11 02:02 | Aug-25-11 02:25 | Aug-25-11 02:48 | Aug-23-11 04:05 |  |  |
|                    | Units/RL:  | mg/L RL         | mg/L RL         | mg/L RL         | mg/L RL         |  |  |
| Benzene            |            | 0.00258 0.00100 | 0.00991 0.00100 | 0.0281 0.00100  | 0.276 0.00100   |  |  |
| Toluene            |            | ND 0.00200      | 0.00253 0.00200 | 0.0121 0.00200  | 0.0697 0.00200  |  |  |
| Ethylbenzene       |            | ND 0.00100      | ND 0.00100      | ND 0.00100      | 0.00523 0.00100 |  |  |
| m_p-Xylenes        |            | ND 0.00200      | ND 0.00200      | ND 0.00200      | 0.0105 0.00200  |  |  |
| o-Xylene           |            | ND 0.00100      | ND 0.00100      | ND 0.00100      | 0.00450 0.00100 |  |  |
| Xylenes, Total     |            | ND 0.00100      | ND 0.00100      | ND 0.00100      | 0.0150 0.00100  |  |  |
| Total BTEX         |            | 0.00258 0.00100 | 0.0124 0.00100  | 0.0402 0.00100  | 0.366 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

  
Brent Barron II  
Odessa Laboratory Manager

## Flagging Criteria

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

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

*Certified and approved by numerous States and Agencies.*

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

**Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Miami - Phoenix - Latin America**

4143 Greenbriar Dr, Stafford, Tx 77477  
 9701 Harry Hines Blvd, Dallas, TX 75220  
 5332 Blackberry Drive, San Antonio TX 78238  
 2505 North Falkenburg Rd, Tampa, FL 33619  
 5757 NW 158th St, Miami Lakes, FL 33014  
 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 |
| (305) 823-8500 | (305) 823-8555 |
| (432) 563-1800 | (432) 563-1713 |
| (770) 449-8800 | (770) 449-5477 |
| (602) 437-0330 |                |



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" # 2

Work Orders: 426116,

Project ID: 2009-039

Lab Batch #: 868039

Sample: 426116-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/23/11 04:05

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0330           | 0.0300          | 110             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0276           | 0.0300          | 92              | 80-120            |       |

Lab Batch #: 868312

Sample: 426116-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/25/11 02:02

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0277           | 0.0300          | 92              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0297           | 0.0300          | 99              | 80-120            |       |

Lab Batch #: 868312

Sample: 426116-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/25/11 02:25

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 4-Difluorobenzene    | 0.0289           | 0.0300          | 96              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0290           | 0.0300          | 97              | 80-120            |       |

Lab Batch #: 868312

Sample: 426116-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/25/11 02:48

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0285           | 0.0300          | 95              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0292           | 0.0300          | 97              | 80-120            |       |

Lab Batch #: 868039

Sample: 610293-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/23/11 01:02

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0284           | 0.0300          | 95              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0281           | 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] =  $100 * A / B$

\*\* results are based on MDL and validated for QC purposes.





## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" # 2

Work Orders 426116,

Project ID:2009-039

Lab Batch #:868312

Sample: 610433-1-BLK / BLK

Batch: 1 Matrix:Water

Units: mg/L

Date Analyzed: 08/25/11 01:39

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0275           | 0.0300          | 92              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0281           | 0.0300          | 94              | 80-120            |       |

Lab Batch #:868039

Sample: 610293-1-BKS / BKS

Batch: 1 Matrix:Water

Units: mg/L

Date Analyzed: 08/22/11 23:32

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0305           | 0.0300          | 102             | 80-120            |       |
| 4-Bromofluorobenzene | 0.0296           | 0.0300          | 99              | 80-120            |       |

Lab Batch #:868312

Sample: 610433-1-BKS / BKS

Batch: 1 Matrix:Water

Units: mg/L

Date Analyzed: 08/25/11 00:08

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0275           | 0.0300          | 92              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0280           | 0.0300          | 93              | 80-120            |       |

Lab Batch #:868039

Sample: 610293-1-BSD / BSD

Batch: 1 Matrix:Water

Units: mg/L

Date Analyzed: 08/22/11 23:55

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0296           | 0.0300          | 99              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0291           | 0.0300          | 97              | 80-120            |       |

Lab Batch #:868312

Sample: 610433-1-BSD / BSD

Batch: 1 Matrix:Water

Units: mg/L

Date Analyzed: 08/25/11 00:31

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021     | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------|------------------|-----------------|-----------------|-------------------|-------|
| Analytes             |                  |                 |                 |                   |       |
| 1,4-Difluorobenzene  | 0.0292           | 0.0300          | 97              | 80-120            |       |
| 4-Bromofluorobenzene | 0.0309           | 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: DCP Plant to Lea Station 6" # 2

Work Orders: 426116,

Project ID: 2009-039

Lab Batch #: 868039

Sample: 426114-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/23/11 04:27

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene          | 0.0294              | 0.0300             | 98                    | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0288              | 0.0300             | 96                    | 80-120               |       |

Lab Batch #: 868312

Sample: 426116-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/25/11 04:19

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene          | 0.0313              | 0.0300             | 104                   | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0293              | 0.0300             | 98                    | 80-120               |       |

Lab Batch #: 868039

Sample: 426114-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/23/11 04:50

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 4-Difluorobenzene            | 0.0295              | 0.0300             | 98                    | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0276              | 0.0300             | 92                    | 80-120               |       |

Lab Batch #: 868312

Sample: 426116-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 08/25/11 04:41

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene          | 0.0283              | 0.0300             | 94                    | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0303              | 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] =  $100 * A / B$

^11 results are based on MDL and validated for QC purposes.



## BS / BSD Recoveries



Project Name: DCP Plant to Lea Station 6" # 2

Work Order #: 426116

Analyst: ASA

Date Prepared: 08/22/2011

Project ID: 2009-039

Date Analyzed: 08/22/2011

Lab Batch ID: 868039

Sample: 610293-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021 | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes         |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene          | <0.00100                | 0.100           | 0.114                  | 114                | 0.100           | 0.112                            | 112                  | 2     | 70-125            | 25                  |      |
| Toluene          | <0.00200                | 0.100           | 0.100                  | 100                | 0.100           | 0.0991                           | 99                   | 1     | 70-125            | 25                  |      |
| Ethylbenzene     | <0.00100                | 0.100           | 0.109                  | 109                | 0.100           | 0.108                            | 108                  | 1     | 71-129            | 25                  |      |
| m_p-Xylenes      | <0.00200                | 0.200           | 0.218                  | 109                | 0.200           | 0.214                            | 107                  | 2     | 70-131            | 25                  |      |
| o-Xylene         | <0.00100                | 0.100           | 0.103                  | 103                | 0.100           | 0.101                            | 101                  | 2     | 71-133            | 25                  |      |

Analyst: ASA

Date Prepared: 08/24/2011

Date Analyzed: 08/25/2011

Lab Batch ID: 868312

Sample: 610433-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021 | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes         |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene          | <0.00100                | 0.100           | 0.110                  | 110                | 0.100           | 0.115                            | 115                  | 4     | 70-125            | 25                  |      |
| Toluene          | <0.00200                | 0.100           | 0.0970                 | 97                 | 0.100           | 0.102                            | 102                  | 5     | 70-125            | 25                  |      |
| Ethylbenzene     | <0.00100                | 0.100           | 0.106                  | 106                | 0.100           | 0.111                            | 111                  | 5     | 71-129            | 25                  |      |
| m_p-Xylenes      | <0.00200                | 0.200           | 0.211                  | 106                | 0.200           | 0.221                            | 111                  | 5     | 70-131            | 25                  |      |
| o-Xylene         | <0.00100                | 0.100           | 0.0979                 | 98                 | 0.100           | 0.106                            | 106                  | 8     | 71-133            | 25                  |      |

Relative Percent Difference RPD =  $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



# Form 3 - M MSD Recoveries



Project Name: DCP Plant to Lea Station 6" # 2

Work Order #: 426116

Project ID: 2009-039

Lab Batch ID: 868039

QC- Sample ID: 426114-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 08/23/2011

Date Prepared: 08/22/2011

Analyst: ASA

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|------------------------------|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
|                              |                                   |                       |                                |                               |                       |  |                             |          |                         |                           |      |
| Benzene                      | <0.00100                          | 0.100                 | 0.113                          | 113                           | 0.100                 | 0.110                                    | 110                         | 3        | 70-125                  | 25                        |      |
| Toluene                      | <0.00200                          | 0.100                 | 0.0994                         | 99                            | 0.100                 | 0.0953                                   | 95                          | 4        | 70-125                  | 25                        |      |
| Ethylbenzene                 | <0.00100                          | 0.100                 | 0.106                          | 106                           | 0.100                 | 0.104                                    | 104                         | 2        | 71-129                  | 25                        |      |
| m_p-Xylenes                  | <0.00200                          | 0.200                 | 0.209                          | 105                           | 0.200                 | 0.200                                    | 100                         | 4        | 70-131                  | 25                        |      |
| o-Xylene                     | <0.00100                          | 0.100                 | 0.100                          | 100                           | 0.100                 | 0.0974                                   | 97                          | 3        | 71-133                  | 25                        |      |

Lab Batch ID: 868312

QC- Sample ID: 426116-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 08/25/2011

Date Prepared: 08/24/2011

Analyst: ASA

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|------------------------------|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
|                              |                                   |                       |                                |                               |                       |  |                             |          |                         |                           |      |
| Benzene                      | 0.00258                           | 0.100                 | 0.115                          | 112                           | 0.100                 | 0.113                                    | 110                         | 2        | 70-125                  | 25                        |      |
| Toluene                      | <0.00200                          | 0.100                 | 0.0998                         | 100                           | 0.100                 | 0.0979                                   | 98                          | 2        | 70-125                  | 25                        |      |
| Ethylbenzene                 | <0.00100                          | 0.100                 | 0.108                          | 108                           | 0.100                 | 0.106                                    | 106                         | 2        | 71-129                  | 25                        |      |
| m_p-Xylenes                  | <0.00200                          | 0.200                 | 0.214                          | 107                           | 0.200                 | 0.211                                    | 106                         | 1        | 70-131                  | 25                        |      |
| o-Xylene                     | <0.00100                          | 0.100                 | 0.101                          | 101                           | 0.100                 | 0.0995                                   | 100                         | 1        | 71-133                  | 25                        |      |

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

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

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

## Xenco Laboratories

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

**Phone: 432-563-1800**  
**Fax: 432-563-1713**

Project Manager: **Ben J. Arguijo**

Project Name: DCP Plant to Lea Station 6" #2

Company Name **Basin Environmental Service Technologies, LLC**

Project #: 2009-039

Company Address: P. O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - J. Henry

Telephone No: (575)396-2378

Fax No: (575) 396-1429

**Report Format:** ☒ Standard ☐ TRRP ☐ NPDES



Sampler Signature: D. K. H. W. K. L.

e-mail: [blarquijo@basinenv.com](mailto:blarquijo@basinenv.com)


[illegible]

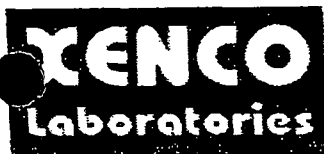
**Special Instructions:**

Laboratory Comments:

|   |                  |               |   |                 |               |
|---|------------------|---------------|---|-----------------|---------------|
| Relinquished by:<br>Dakota  | Date<br>08/17/11 | Time<br>1745  | Received by:<br> | Date<br>8/17/11 | Time<br>1745  |
| Relinquished by:<br> | Date<br>8/19/11  | Time<br>0800  | Received by:<br>Kristina Bernal   | Date<br>8/17/11 | Time<br>800   |
| Relinquished by:<br>Kristina Bernal   | Date<br>8/19/11  | Time<br>11:58 | Received by: ELDT:<br>A. Hernandez  | Date<br>8/19/11 | Time<br>11:58 |

Sample Containers Intact?  
VOCs Free of Headspace?  
Labels on container(s)  
Custody seals on container(s)  
Custody seals on cooler(s)  
Sample Hand Delivered  
by Sampler/Client Rep. ?  
by Courier? UPS  
40 mL Vials  
Temperature Upon Receipt:


 N  
N  
N  
N  
N  
N  
N  
 FedEx Lone Sta  
 55 °C



**XENCO Laboratories**  
Atlanta, Boca Raton, Corpus Christi, Dallas  
Houston, Miami, Odessa, Philadelphia  
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist  
Document No.: SYS-SRC  
Revision/Date: No. 01, 5/27/2010  
Effective Date: 6/1/2010 Page 1 of 1

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

Client: Plains  
Date/Time: 8/19/11 11:58  
Lab ID #: 426116  
Initials: AH

#### Sample Receipt Checklist

|   |              |              |              |              |
|---|--------------|--------------|--------------|--------------|
| 1. Samples on ice?  | Blue         | <u>Water</u> | No           |              |
| 2. Shipping container in good condition?                            | <u>Yes</u>   | No           | None         |              |
| 3. Custody seals intact on shipping container (cooler) and bottles? | <u>Yes</u>   | No           | N/A          |              |
| 4. Chain of Custody present?  | <u>Yes</u>   | No           |              |              |
| 5. Sample instructions complete on chain of custody?                | <u>Yes</u>   | No           |              |              |
| 6. Any missing / extra samples?                                     | Yes          | <u>No</u>    |              |              |
| 7. Chain of custody signed when relinquished / received?            | <u>Yes</u>   | No           |              |              |
| 8. Chain of custody agrees with sample label(s)?                    | <u>Yes</u>   | No           |              |              |
| 9. Container labels legible and intact?                             | <u>Yes</u>   | No           |              |              |
| 10. Sample matrix / properties agree with chain of custody?         | <u>Yes</u>   | No           |              |              |
| 11. Samples in proper container / bottle?                           | <u>Yes</u>   | No           |              |              |
| 12. Samples properly preserved?                                     | <u>Yes</u>   | No           | N/A          |              |
| 13. Sample container intact?  | <u>Yes</u>   | No           |              |              |
| 14. Sufficient sample amount for indicated test(s)?                 | <u>Yes</u>   | No           |              |              |
| 15. All samples received within sufficient hold time?               | <u>Yes</u>   | No           |              |              |
| 16. Subcontract of sample(s)?                                       | Yes          | No           | <u>N/A</u>   |              |
| 17. VOC sample have zero head space?                                | <u>Yes</u>   | No           | N/A          |              |
| 18. Cooler 1 No.  | Cooler 2 No. | Cooler 3 No. | Cooler 4 No. | Cooler 5 No. |
| lbs <u>5.5</u> °C   | lbs °C       | lbs °C       | lbs °C       | lbs °C       |

#### Nonconformance Documentation

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 432428**

for

## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**DCP Plant to Lea Station 6" # 2**

**2009-039**

**08-DEC-11**

Collected By: Client



**Celebrating 20 Years of commitment to excellence in Environmental Testing Services**



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

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

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

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-DEC-11

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

Reference: XENCO Report No: **432428**  
**DCP Plant to Lea Station 6" # 2**  
Project Address: Lea County, NM

**Jason Henry:**

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 432428. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 432428 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America





## Sample Cross Reference 432428



PLAINS ALL AMERICAN EH&S, Midland, TX

DCP Plant to Lea Station 6" # 2

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| MW-2      | W      | 11-29-11 11:00 |              | 432428-001    |
| MW-3      | W      | 11-29-11 09:35 |              | 432428-002    |
| MW-4      | W      | 11-29-11 10:20 |              | 432428-003    |
| MW-5      | W      | 11-29-11 12:00 |              | 432428-004    |



## **CASE NARRATIVE**

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

**Project Name: DCP Plant to Lea Station 6" # 2**



**Project ID:** 2009-039

**Work Order Number:** 432428

**Report Date:** 08-DEC-11

**Date Received:** 11/30/2011

---

**Sample receipt non conformances and comments:**

None

---

**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analysis Summary 432428

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" # 2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Wed Nov-30-11 02:37 pm

Report Date: 08-DEC-11

Project Manager: Brent Barron II

| Analysis Requested | Lab Id:    | 432428-001      | 432428-002      | 432428-003      | 432428-004      |  |  |
|--------------------|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|                    | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|                    | Depth:     |                 |                 |                 |                 |  |  |
|                    | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|                    | Sampled:   | Nov-29-11 11:00 | Nov-29-11 09:35 | Nov-29-11 10:20 | Nov-29-11 12:00 |  |  |
| BTEX by EPA 8021   | Extracted: | Dec-02-11 16:39 | Dec-02-11 16:39 | Dec-02-11 16:39 | Dec-02-11 16:39 |  |  |
|                    | Analyzed:  | Dec-02-11 22:28 | Dec-02-11 22:50 | Dec-02-11 23:13 | Dec-02-11 23:36 |  |  |
|                    | Units/RL:  | mg/L RL         | mg/L RL         | mg/L RL         | mg/L RL         |  |  |
| Benzene            |            | 0.00201 0.00100 | 0.00296 0.00100 | 0.0112 0.00100  | 0.245 0.00100   |  |  |
| Toluene            |            | ND 0.00200      | ND 0.00200      | 0.00589 0.00200 | 0.0742 0.00200  |  |  |
| Ethylbenzene       |            | ND 0.00100      | ND 0.00100      | ND 0.00100      | 0.0101 0.00100  |  |  |
| m_p-Xylenes        |            | ND 0.00200      | ND 0.00200      | ND 0.00200      | 0.0132 0.00200  |  |  |
| o-Xylene           |            | ND 0.00100      | ND 0.00100      | ND 0.00100      | 0.00425 0.00100 |  |  |
| Xylenes, Total     |            | ND 0.00100      | ND 0.00100      | ND 0.00100      | 0.0175 0.00100  |  |  |
| Total BTEX         |            | 0.00201 0.00100 | 0.00296 0.00100 | 0.0171 0.00100  | 0.347 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

Brent Barron II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 432428

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Project Name: DCP Plant to Lea Station 6" # 2

Date Received in Lab: Wed Nov-30-11 02:37 pm

Report Date: 08-DEC-11

Project Manager: Brent Barron II

| Analysis Requested                 | Lab Id:    | 432428-001      | 432428-002      | 432428-003      | 432428-004      |  |  |
|------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|--|--|
|                                    | Field Id:  | MW-2            | MW-3            | MW-4            | MW-5            |  |  |
|                                    | Depth:     |                 |                 |                 |                 |  |  |
|                                    | Matrix:    | WATER           | WATER           | WATER           | WATER           |  |  |
|                                    | Sampled:   | Nov-29-11 11:00 | Nov-29-11 09:35 | Nov-29-11 10:20 | Nov-29-11 12:00 |  |  |
| SVOA PAHs List<br>SUB: TX104704215 | Extracted: |                 |                 |                 | Dec-05-11 10:09 |  |  |
|                                    | Analyzed:  |                 |                 |                 | Dec-06-11 15:50 |  |  |
|                                    | Units/RL:  |                 |                 |                 | mg/L RL         |  |  |
| Acenaphthene                       |            |                 |                 |                 | ND 0.00980      |  |  |
| Acenaphthylene                     |            |                 |                 |                 | ND 0.00980      |  |  |
| Anthracene                         |            |                 |                 |                 | ND 0.00980      |  |  |
| Benzo(a)anthracene                 |            |                 |                 |                 | ND 0.00980      |  |  |
| Benzo(a)pyrene                     |            |                 |                 |                 | ND 0.00980      |  |  |
| Benzo(b)fluoranthene               |            |                 |                 |                 | ND 0.00980      |  |  |
| Benzo(k)fluoranthene               |            |                 |                 |                 | ND 0.00980      |  |  |
| Benzo(g,h,i)perylene               |            |                 |                 |                 | ND 0.00980      |  |  |
| Chrysene                           |            |                 |                 |                 | ND 0.00980      |  |  |
| Dibenz(a,h)anthracene              |            |                 |                 |                 | ND 0.00980      |  |  |
| Fluoranthene                       |            |                 |                 |                 | ND 0.00980      |  |  |
| Fluorene                           |            |                 |                 |                 | ND 0.00980      |  |  |
| Indeno(1,2,3-c,d)Pyrene            |            |                 |                 |                 | ND 0.00980      |  |  |
| 1-Methylnaphthalene                |            |                 |                 |                 | ND 0.00490      |  |  |
| 2-Methylnaphthalene                |            |                 |                 |                 | ND 0.00980      |  |  |
| Naphthalene                        |            |                 |                 |                 | ND 0.00980      |  |  |
| Phenanthrene                       |            |                 |                 |                 | ND 0.00980      |  |  |
| Pyrene                             |            |                 |                 |                 | ND 0.00980      |  |  |

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

Brent Barron II  
Odessa Laboratory Manager

## Flagging Criteria

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

\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.      ^ NELAC or State program does not offer Accreditation at this time.

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

*Certified and approved by numerous States and Agencies.*

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

Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Miami - Phoenix - Latin America

4143 Greenbriar Dr, Stafford, TX 77477  
 9701 Harry Hines Blvd, Dallas, TX 75220  
 5332 Blackberry Drive, San Antonio TX 78238  
 2505 North Falkenburg Rd, Tampa, FL 33619  
 5757 NW 158th St, Miami Lakes, FL 33014  
 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 |
| (305) 823-8500 | (305) 823-8555 |
| (432) 563-1800 | (432) 563-1713 |
| (770) 449-8800 | (770) 449-5477 |
| (602) 437-0330 |                |



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" # 2

Work Orders : 432428,

Project ID: 2009-039

Lab Batch #: 876337

Sample: 432428-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/02/11 22:28

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene          | 0.0260              | 0.0300             | 87                    | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0273              | 0.0300             | 91                    | 80-120               |       |

Lab Batch #: 876337

Sample: 432428-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/02/11 22:50

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene          | 0.0269              | 0.0300             | 90                    | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0266              | 0.0300             | 89                    | 80-120               |       |

Lab Batch #: 876337

Sample: 432428-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/02/11 23:13

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene          | 0.0278              | 0.0300             | 93                    | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0279              | 0.0300             | 93                    | 80-120               |       |

Lab Batch #: 876337

Sample: 432428-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/02/11 23:36

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene          | 0.0288              | 0.0300             | 96                    | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0277              | 0.0300             | 92                    | 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: DCP Plant to Lea Station 6" # 2

rk Orders : 432428,

Lab Batch #: 876470

Sample: 432428-004 / SMP

Project ID: 2009-039

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/06/11 15:50

## SURROGATE RECOVERY STUDY

| SVOA PAHs List<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 2-Fluorobiphenyl           | 0.0406           | 0.0490          | 83              | 44-117            |       |
| 2-Fluorophenol             | 0.0260           | 0.0490          | 53              | 30-100            |       |
| Nitrobenzene-d5            | 0.0396           | 0.0490          | 81              | 46-111            |       |
| Phenol-d6                  | 0.0166           | 0.0490          | 34              | 15-94             |       |
| Terphenyl-D14              | 0.0541           | 0.0490          | 110             | 46-126            |       |
| 2,4,6-Tribromophenol       | 0.0414           | 0.0490          | 84              | 48-117            |       |

Lab Batch #: 876337

Sample: 614999-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/02/11 19:48

## SURROGATE RECOVERY STUDY

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

Lab Batch #: 876470

Sample: 614891-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/06/11 11:56

## SURROGATE RECOVERY STUDY

| SVOA PAHs List<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|----------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 2-Fluorobiphenyl           | 0.0453           | 0.0500          | 91              | 44-117            |       |
| 2-Fluorophenol             | 0.0327           | 0.0500          | 65              | 30-100            |       |
| Nitrobenzene-d5            | 0.0438           | 0.0500          | 88              | 46-111            |       |
| Phenol-d6                  | 0.0227           | 0.0500          | 45              | 15-94             |       |
| Terphenyl-D14              | 0.0547           | 0.0500          | 109             | 46-126            |       |
| 2,4,6-Tribromophenol       | 0.0351           | 0.0500          | 70              | 48-117            |       |

Lab Batch #: 876337

Sample: 614999-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/02/11 18:17

## SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0294           | 0.0300          | 98              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0289           | 0.0300          | 96              | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

\*\* results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" # 2

Work Orders : 432428,

Project ID: 2009-039

Lab Batch #: 876470

Sample: 614891-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/06/11 12:19

### SURROGATE RECOVERY STUDY

| SVOA PAHs List<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery %R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------|---------------------|--------------------|--------------------|----------------------|-------|
| 2-Fluorobiphenyl           | 0.0481              | 0.0500             | 96                 | 44-117               |       |
| 2-Fluorophenol             | 0.0346              | 0.0500             | 69                 | 30-100               |       |
| Nitrobenzene-d5            | 0.0462              | 0.0500             | 92                 | 46-111               |       |
| Phenol-d6                  | 0.0246              | 0.0500             | 49                 | 15-94                |       |
| Terphenyl-D14              | 0.0502              | 0.0500             | 100                | 46-126               |       |
| 2,4,6-Tribromophenol       | 0.0448              | 0.0500             | 90                 | 48-117               |       |

Lab Batch #: 876337

Sample: 614999-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/02/11 18:40

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery %R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|--------------------|----------------------|-------|
| 1,4-Difluorobenzene          | 0.0280              | 0.0300             | 93                 | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0278              | 0.0300             | 93                 | 80-120               |       |

Lab Batch #: 876470

Sample: 614891-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/06/11 12:43

### SURROGATE RECOVERY STUDY

| SVOA PAHs List<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery %R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------|---------------------|--------------------|--------------------|----------------------|-------|
| 2-Fluorobiphenyl           | 0.0484              | 0.0500             | 97                 | 44-117               |       |
| 2-Fluorophenol             | 0.0349              | 0.0500             | 70                 | 30-100               |       |
| Nitrobenzene-d5            | 0.0465              | 0.0500             | 93                 | 46-111               |       |
| Phenol-d6                  | 0.0256              | 0.0500             | 51                 | 15-94                |       |
| Terphenyl-D14              | 0.0505              | 0.0500             | 101                | 46-126               |       |
| 2,4,6-Tribromophenol       | 0.0460              | 0.0500             | 92                 | 48-117               |       |

Lab Batch #: 876337

Sample: 432132-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/03/11 00:21

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery %R<br>[D] | Control Limits<br>%R | Flags |
|------------------------------|---------------------|--------------------|--------------------|----------------------|-------|
| 1,4-Difluorobenzene          | 0.0291              | 0.0300             | 97                 | 80-120               |       |
| 4-Bromofluorobenzene         | 0.0300              | 0.0300             | 100                | 80-120               |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 \times A / B$

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





## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" # 2

Work Orders : 432428,

Project ID: 2009-039

Lab Batch #: 876337

Sample: 432132-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/03/11 00:43

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br><br>Analytes | Amount<br>Found<br>[A] | True<br>Amount<br>[B] | Recovery<br>%R<br>[D] | Control<br>Limits<br>%R | Flags |
|----------------------------------|------------------------|-----------------------|-----------------------|-------------------------|-------|
|                                  |                        |                       |                       |                         |       |
| 1,4-Difluorobenzene              | 0.0274                 | 0.0300                | 91                    | 80-120                  |       |
| 4-Bromofluorobenzene             | 0.0288                 | 0.0300                | 96                    | 80-120                  |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

\* If results are based on MDL and validated for QC purposes.



## BS / BSD Recoveries



Project Name: DCP Plant to Lea Station 6" # 2

Work Order #: 432428

Analyst: ASA

Date Prepared: 12/02/2011

Project ID: 2009-039

Date Analyzed: 12/02/2011

Lab Batch ID: 876337

Sample: 614999-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021 |  | Blank<br>Sample Result<br>[A] | Spike<br>Added<br>[B] | Blank<br>Spike<br>Result<br>[C] | Blank<br>Spike<br>%R<br>[D] | Spike<br>Added<br>[E] | Blank<br>Spike<br>Duplicate<br>Result [F] | Blk. Spk<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|------------------|--|-------------------------------|-----------------------|---------------------------------|-----------------------------|-----------------------|---|-------------------------------|----------|-------------------------|---------------------------|------|
| Analytes         |  |                               |                       |                                 |                             |                       |   |                               |          |                         |                           |      |
| Benzene          |  | <0.00100                      | 0.100                 | 0.102                           | 102                         | 0.100                 | 0.101                                     | 101                           | 1        | 70-125                  | 25                        |      |
| Toluene          |  | <0.00200                      | 0.100                 | 0.104                           | 104                         | 0.100                 | 0.103                                     | 103                           | 1        | 70-125                  | 25                        |      |
| Ethylbenzene     |  | <0.00100                      | 0.100                 | 0.110                           | 110                         | 0.100                 | 0.108                                     | 108                           | 2        | 71-129                  | 25                        |      |
| m_p-Xylenes      |  | <0.00200                      | 0.200                 | 0.221                           | 111                         | 0.200                 | 0.215                                     | 108                           | 3        | 70-131                  | 25                        |      |
| o-Xylene         |  | <0.00100                      | 0.100                 | 0.111                           | 111                         | 0.100                 | 0.108                                     | 108                           | 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



## BS / BS<sub>1</sub> Recoveries



Project Name: DCP Plant to Lea Station 6" # 2

Work Order #: 432428

Analyst: WEW

Date Prepared: 12/05/2011

Project ID: 2009-039

Date Analyzed: 12/06/2011

Lab Batch ID: 876470

Sample: 614891-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| SVOA PAHs List          | Blank<br>Sample Result<br>[A] | Spike<br>Added<br>[B] | Blank<br>Spike<br>Result<br>[C] | Blank<br>Spike<br>%R<br>[D] | Spike<br>Added<br>[E] | Blank<br>Spike<br>Duplicate<br>Result [F] | Blk. Spk<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|-------------------------|-------------------------------|-----------------------|---------------------------------|-----------------------------|-----------------------|---|-------------------------------|----------|-------------------------|---------------------------|------|
| Analytes                |                               |                       |                                 |                             |                       |   |                               |          |                         |                           |      |
| Acenaphthene            | <0.0100                       | 0.0500                | 0.0465                          | 93                          | 0.0500                | 0.0478                                    | 96                            | 3        | 27-132                  | 31                        |      |
| Acenaphthylene          | <0.0100                       | 0.0500                | 0.0446                          | 89                          | 0.0500                | 0.0455                                    | 91                            | 2        | 46-108                  | 25                        |      |
| Anthracene              | <0.0100                       | 0.0500                | 0.0459                          | 92                          | 0.0500                | 0.0469                                    | 94                            | 2        | 47-145                  | 25                        |      |
| Benzo(a)anthracene      | <0.0100                       | 0.0500                | 0.0477                          | 95                          | 0.0500                | 0.0482                                    | 96                            | 1        | 33-143                  | 25                        |      |
| Benzo(a)pyrene          | <0.0100                       | 0.0500                | 0.0427                          | 85                          | 0.0500                | 0.0436                                    | 87                            | 2        | 65-135                  | 25                        |      |
| Benzo(b)fluoranthene    | <0.0100                       | 0.0500                | 0.0432                          | 86                          | 0.0500                | 0.0458                                    | 92                            | 6        | 24-159                  | 25                        |      |
| Benzo(k)fluoranthene    | <0.0100                       | 0.0500                | 0.0483                          | 97                          | 0.0500                | 0.0486                                    | 97                            | 1        | 25-125                  | 25                        |      |
| Benzo(g,h,i)perylene    | <0.0100                       | 0.0500                | 0.0456                          | 91                          | 0.0500                | 0.0459                                    | 92                            | 1        | 65-135                  | 25                        |      |
| Chrysene                | <0.0100                       | 0.0500                | 0.0466                          | 93                          | 0.0500                | 0.0466                                    | 93                            | 0        | 65-135                  | 25                        |      |
| Dibenz(a,h)anthracene   | <0.0100                       | 0.0500                | 0.0454                          | 91                          | 0.0500                | 0.0461                                    | 92                            | 2        | 50-125                  | 25                        |      |
| Fluoranthene            | <0.0100                       | 0.0500                | 0.0427                          | 85                          | 0.0500                | 0.0431                                    | 86                            | 1        | 47-125                  | 25                        |      |
| Fluorene                | <0.0100                       | 0.0500                | 0.0476                          | 95                          | 0.0500                | 0.0488                                    | 98                            | 2        | 48-139                  | 25                        |      |
| Indeno(1,2,3-c,d)Pyrene | <0.0100                       | 0.0500                | 0.0411                          | 82                          | 0.0500                | 0.0423                                    | 85                            | 3        | 27-160                  | 25                        |      |
| Naphthalene             | <0.0100                       | 0.0500                | 0.0469                          | 94                          | 0.0500                | 0.0477                                    | 95                            | 2        | 26-175                  | 25                        |      |
| Phenanthrene            | <0.0100                       | 0.0500                | 0.0458                          | 92                          | 0.0500                | 0.0460                                    | 92                            | 0        | 65-135                  | 25                        |      |
| Pyrene                  | <0.0100                       | 0.0500                | 0.0471                          | 94                          | 0.0500                | 0.0480                                    | 96                            | 2        | 23-152                  | 31                        |      |

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: DCP Plant to Lea Station 6" # 2

Work Order #: 432428

Project ID: 2009-039

Lab Batch ID: 876337

QC- Sample ID: 432132-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 12/03/2011

Date Prepared: 12/02/2011

Analyst: ASA

Reporting Units: mg/L

### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|------------------------------|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
|                              |                                   |                       |                                |                               |                       |  |                             |          |                         |                           |      |
| Benzene                      | <0.00100                          | 0.100                 | 0.0993                         | 99                            | 0.100                 | 0.0972                                   | 97                          | 2        | 70-125                  | 25                        |      |
| Toluene                      | <0.00200                          | 0.100                 | 0.102                          | 102                           | 0.100                 | 0.0987                                   | 99                          | 3        | 70-125                  | 25                        |      |
| Ethylbenzene                 | <0.00100                          | 0.100                 | 0.105                          | 105                           | 0.100                 | 0.103                                    | 103                         | 2        | 71-129                  | 25                        |      |
| m_p-Xylenes                  | <0.00200                          | 0.200                 | 0.207                          | 104                           | 0.200                 | 0.203                                    | 102                         | 2        | 70-131                  | 25                        |      |
| o-Xylene                     | <0.00100                          | 0.100                 | 0.103                          | 103                           | 0.100                 | 0.102                                    | 102                         | 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





XENCO Laboratories  
Atlanta, Boca Raton, Corpus Christi, Dallas  
Houston, Miami, Odessa, Philadelphia  
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist  
Document No.: SYS-SRC  
Revision/Date: No. 01, 5/27/2010  
Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 11.30.11 14.37  
Lab ID #: 432428  
Initials: TB

### Sample Receipt Checklist

|   |              |              |              |              |
|---|--------------|--------------|--------------|--------------|
| 1. Samples on ice?  | Blue         | <u>Water</u> | No           |              |
| 2. Shipping container in good condition?                            | <u>Yes</u>   | No           | None         |              |
| 3. Custody seals intact on shipping container (cooler) and bottles? | <u>Yes</u>   | No           | N/A          |              |
| 4. Chain of Custody present?  | <u>Yes</u>   | No           |              |              |
| 5. Sample instructions complete on chain of custody?                | Yes          | No           |              |              |
| 6. Any missing / extra samples?                                     | Yes          | <u>No</u>    |              |              |
| 7. Chain of custody signed when relinquished / received?            | <u>Yes</u>   | No           |              |              |
| 8. Chain of custody agrees with sample label(s)?                    | <u>Yes</u>   | No           |              |              |
| 9. Container labels legible and intact?                             | <u>Yes</u>   | No           |              |              |
| 10. Sample matrix / properties agree with chain of custody?         | <u>Yes</u>   | No           |              |              |
| 11. Samples in proper container / bottle?                           | <u>Yes</u>   | No           |              |              |
| 12. Samples properly preserved?                                     | <u>Yes</u>   | No           | N/A          |              |
| 13. Sample container intact?  | <u>Yes</u>   | No           |              |              |
| 14. Sufficient sample amount for indicated test(s)?                 | <u>Yes</u>   | No           |              |              |
| 15. All samples received within sufficient hold time?               | <u>Yes</u>   | No           |              |              |
| 16. Subcontract of sample(s)?                                       | Yes          | No           | <u>N/A</u>   |              |
| 17. VOC sample have zero head space?                                | <u>Yes</u>   | No           | N/A          |              |
| 18. Cooler 1 No.  | Cooler 2 No. | Cooler 3 No. | Cooler 4 No. | Cooler 5 No. |
| lbs <u>2.0</u> °C   | lbs °C       | lbs °C       | lbs °C       | lbs °C       |

### Nonconformance Documentation

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 558.2.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

**Analytical Report 433649**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**DCP Plant to Lea Station 6" # 2**

**2009-039**

**27-DEC-11**

Collected By: Client



**Celebrating 20 Years of commitment to excellence in Environmental Testing Services**



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

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

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

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)



27-DEC-11

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

Reference: XENCO Report No: **433649**  
**DCP Plant to Lea Station 6" # 2**  
Project Address: Lea County, NM

**Jason Henry:**

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 433649. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 433649 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America





## Sample Cross Reference 433649



PLAINS ALL AMERICAN EH&S, Midland, TX

DCP Plant to Lea Station 6" # 2

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| MW-3      | W      | 12-16-11 11:00 |              | 433649-001    |
| MW-4      | W      | 12-16-11 11:40 |              | 433649-002    |



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: DCP Plant to Lea Station 6" # 2*



*Project ID: 2009-039*

*Work Order Number: 433649*

*Report Date: 27-DEC-11*

*Date Received: 12/19/2011*

---

**Sample receipt non conformances and comments:**

None

---

**Sample receipt non conformances and comments per sample:**

None

**Analytical non nonformances and comments:**

Batch: LBA-877812 SVOA PAHs List by SW-846 8270C  
SW8270C

Batch 877812, Acenaphthylene recovered above QC limits in the laboratory control sample.  
Samples affected are: 433649-002, -001.

SW8270C

Batch 877812, Nitrobenzene-d5 recovered above QC limits Data confirmed by re-analysis.

Samples affected are: 615639-1-BKS.

Terphenyl-D14 recovered above QC limits Data confirmed by re-analysis. Samples affected are:  
615639-1-BLK, 433649-002, 433649-001.

Surrogates recovered high, however all analytes were non-detect. Compounds in QC recovered high, however all samples were non-detect. Samples reported as is



# Certificate of Analysis Summary 433649

PLAINS ALL AMERICA E&S, Midland, TX

Project Name: DCP Plant to Lea Station 6" # 2



Project Id: 2009-039

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Mon Dec-19-11 10:50 am

Report Date: 27-DEC-11

Project Manager: Brent Barron II

| Analysis Requested                 | Lab Id:    | 433649-001      | 433649-002      |    |         |  |  |
|------------------------------------|------------|-----------------|-----------------|----|---------|--|--|
|                                    | Field Id:  | MW-3            | MW-4            |    |         |  |  |
|                                    | Depth:     |                 |                 |    |         |  |  |
|                                    | Matrix:    | WATER           | WATER           |    |         |  |  |
|                                    | Sampled:   | Dec-16-11 11:00 | Dec-16-11 11:40 |    |         |  |  |
| SVOA PAHs List<br>SUB: TX104704215 | Extracted: | Dec-20-11 15:12 | Dec-20-11 15:15 |    |         |  |  |
|                                    | Analyzed:  | Dec-23-11 11:31 | Dec-23-11 11:55 |    |         |  |  |
|                                    | Units/RL:  | mg/L            | mg/L            |    |         |  |  |
|                                    |            | RL              | RL              |    |         |  |  |
| Acenaphthene                       |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Acenaphthylene                     |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Anthracene                         |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Benzo(a)anthracene                 |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Benzo(a)pyrene                     |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Benzo(b)fluoranthene               |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Benzo(k)fluoranthene               |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Benzo(g,h,i)perylene               |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Chrysene                           |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Dibenz(a,h)anthracene              |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Fluoranthene                       |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Fluorene                           |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Indeno(1,2,3-c,d)Pyrene            |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| 1-Methylnaphthalene                |            | ND              | 0.00549         | ND | 0.00549 |  |  |
| 2-Methylnaphthalene                |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Naphthalene                        |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Phenanthrene                       |            | ND              | 0.0110          | ND | 0.0110  |  |  |
| Pyrene                             |            | ND              | 0.0110          | ND | 0.0110  |  |  |

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

Brent Barron II  
Odessa Laboratory Manager



## Flagging Criteria

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

\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

^ NELAC or State program does not offer Accreditation at this time.

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

***Certified and approved by numerous States and Agencies.***

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

**Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Miami - Phoenix - Latin America**

4143 Greenbriar Dr, Stafford, TX 77477  
9701 Harry Hines Blvd, Dallas, TX 75220  
5332 Blackburn Drive, San Antonio TX 78238  
2505 North Falkenburg Rd, Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
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 |
| (305) 823-8500 | (305) 823-8555 |
| (432) 563-1800 | (432) 563-1713 |
| (770) 449-8800 | (770) 449-5477 |
| (602) 437-0330 |                |



## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" # 2

rk Orders : 433649,

Project ID: 2009-039

Lab Batch #: 877812

Sample: 433649-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/23/11 11:31

### SURROGATE RECOVERY STUDY

| SVOA PAHs List<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 2-Fluorobiphenyl           | 0.0577              | 0.0549             | 105                   | 44-117               |       |
| 2-Fluorophenol             | 0.0285              | 0.0549             | 52                    | 30-100               |       |
| Nitrobenzene-d5            | 0.0576              | 0.0549             | 105                   | 46-111               |       |
| Phenol-d6                  | 0.0159              | 0.0549             | 29                    | 15-94                |       |
| Terphenyl-D14              | 0.0708              | 0.0549             | 129                   | 46-126               | **    |
| 2,4,6-Tribromophenol       | 0.0506              | 0.0549             | 92                    | 48-117               |       |

Lab Batch #: 877812

Sample: 433649-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/23/11 11:55

### SURROGATE RECOVERY STUDY

| SVOA PAHs List<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 2-Fluorobiphenyl           | 0.0581              | 0.0549             | 106                   | 44-117               |       |
| 2-Fluorophenol             | 0.0266              | 0.0549             | 48                    | 30-100               |       |
| Nitrobenzene-d5            | 0.0570              | 0.0549             | 104                   | 46-111               |       |
| Phenol-d6                  | 0.0146              | 0.0549             | 27                    | 15-94                |       |
| Terphenyl-D14              | 0.0696              | 0.0549             | 127                   | 46-126               | **    |
| 2,4,6-Tribromophenol       | 0.0502              | 0.0549             | 91                    | 48-117               |       |

Lab Batch #: 877812

Sample: 615639-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/23/11 08:25

### SURROGATE RECOVERY STUDY

| SVOA PAHs List<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 2-Fluorobiphenyl           | 0.0538              | 0.0500             | 108                   | 44-117               |       |
| 2-Fluorophenol             | 0.0460              | 0.0500             | 92                    | 30-100               |       |
| Nitrobenzene-d5            | 0.0539              | 0.0500             | 108                   | 46-111               |       |
| Phenol-d6                  | 0.0424              | 0.0500             | 85                    | 15-94                |       |
| Terphenyl-D14              | 0.0654              | 0.0500             | 131                   | 46-126               | **    |
| 2,4,6-Tribromophenol       | 0.0445              | 0.0500             | 89                    | 48-117               |       |

\* 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: DCP Plant to Lea Station 6" # 2

Work Orders : 433649,

Project ID: 2009-039

Lab Batch #: 877812

Sample: 615639-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/23/11 08:48

### SURROGATE RECOVERY STUDY

| SVOA PAHs List<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 2-Fluorobiphenyl           | 0.0572              | 0.0500             | 114                   | 44-117               |       |
| 2-Fluorophenol             | 0.0476              | 0.0500             | 95                    | 30-100               |       |
| Nitrobenzene-d5            | 0.0558              | 0.0500             | 112                   | 46-111               | **    |
| Phenol-d6                  | 0.0472              | 0.0500             | 94                    | 15-94                |       |
| Terphenyl-D14              | 0.0580              | 0.0500             | 116                   | 46-126               |       |
| 2,4,6-Tribromophenol       | 0.0518              | 0.0500             | 104                   | 48-117               |       |

Lab Batch #: 877812

Sample: 615639-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/23/11 09:12

### SURROGATE RECOVERY STUDY

| SVOA PAHs List<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|----------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 2-Fluorobiphenyl           | 0.0540              | 0.0500             | 108                   | 44-117               |       |
| 2-Fluorophenol             | 0.0451              | 0.0500             | 90                    | 30-100               |       |
| Nitrobenzene-d5            | 0.0530              | 0.0500             | 106                   | 46-111               |       |
| Phenol-d6                  | 0.0450              | 0.0500             | 90                    | 15-94                |       |
| Terphenyl-D14              | 0.0557              | 0.0500             | 111                   | 46-126               |       |
| 2,4,6-Tribromophenol       | 0.0495              | 0.0500             | 99                    | 48-117               |       |

\* 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: DCP Plant to Lea Station 6" # 2

Work Order #: 433649

Analyst: MCH

Date Prepared: 12/20/2011

Project ID: 2009-039

Date Analyzed: 12/23/2011

Lab Batch ID: 877812

Sample: 615639-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| SVOA PAHs List          | Blank<br>Sample Result<br>[A] | Spike<br>Added<br>[B] | Blank<br>Spike<br>Result<br>[C] | Blank<br>Spike<br>%R<br>[D] | Spike<br>Added<br>[E] | Blank<br>Spike<br>Duplicate<br>Result [F] | Blk. Spk<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|-------------------------|-------------------------------|-----------------------|---------------------------------|-----------------------------|-----------------------|---|-------------------------------|----------|-------------------------|---------------------------|------|
| Analytes                |                               |                       |                                 |                             |                       |   |                               |          |                         |                           |      |
| Acenaphthene            | <0.0100                       | 0.0500                | 0.0548                          | 110                         | 0.0500                | 0.0537                                    | 107                           | 2        | 27-132                  | 31                        |      |
| Acenaphthylene          | <0.0100                       | 0.0500                | 0.0549                          | 110                         | 0.0500                | 0.0533                                    | 107                           | 3        | 46-108                  | 25                        | H    |
| Anthracene              | <0.0100                       | 0.0500                | 0.0504                          | 101                         | 0.0500                | 0.0494                                    | 99                            | 2        | 47-145                  | 25                        |      |
| Benzo(a)anthracene      | <0.0100                       | 0.0500                | 0.0515                          | 103                         | 0.0500                | 0.0506                                    | 101                           | 2        | 33-143                  | 25                        |      |
| Benzo(a)pyrene          | <0.0100                       | 0.0500                | 0.0510                          | 102                         | 0.0500                | 0.0510                                    | 102                           | 0        | 65-135                  | 25                        |      |
| Benzo(b)fluoranthene    | <0.0100                       | 0.0500                | 0.0506                          | 101                         | 0.0500                | 0.0479                                    | 96                            | 5        | 24-159                  | 25                        |      |
| Benzo(k)fluoranthene    | <0.0100                       | 0.0500                | 0.0478                          | 96                          | 0.0500                | 0.0494                                    | 99                            | 3        | 25-125                  | 25                        |      |
| Benzo(g,h,i)perylene    | <0.0100                       | 0.0500                | 0.0472                          | 94                          | 0.0500                | 0.0464                                    | 93                            | 2        | 65-135                  | 25                        |      |
| Chrysene                | <0.0100                       | 0.0500                | 0.0542                          | 108                         | 0.0500                | 0.0530                                    | 106                           | 2        | 65-135                  | 25                        |      |
| Dibenz(a,h)anthracene   | <0.0100                       | 0.0500                | 0.0538                          | 108                         | 0.0500                | 0.0533                                    | 107                           | 1        | 50-125                  | 25                        |      |
| Fluoranthene            | <0.0100                       | 0.0500                | 0.0523                          | 105                         | 0.0500                | 0.0513                                    | 103                           | 2        | 47-125                  | 25                        |      |
| Fluorene                | <0.0100                       | 0.0500                | 0.0540                          | 108                         | 0.0500                | 0.0525                                    | 105                           | 3        | 48-139                  | 25                        |      |
| Indeno(1,2,3-c,d)Pyrene | <0.0100                       | 0.0500                | 0.0541                          | 108                         | 0.0500                | 0.0535                                    | 107                           | 1        | 27-160                  | 25                        |      |
| Naphthalene             | <0.0100                       | 0.0500                | 0.0504                          | 101                         | 0.0500                | 0.0490                                    | 98                            | 3        | 26-175                  | 25                        |      |
| Phenanthrene            | <0.0100                       | 0.0500                | 0.0476                          | 95                          | 0.0500                | 0.0464                                    | 93                            | 3        | 65-135                  | 25                        |      |
| Pyrene                  | <0.0100                       | 0.0500                | 0.0524                          | 105                         | 0.0500                | 0.0513                                    | 103                           | 2        | 23-152                  | 31                        |      |

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

## Page 10 of 11

**Final 1.000**

**Phone: 432-563-1800**  
**Fax: 432-563-1713**

Project Manager: Ben J. Arguljo

**Project Name: DCP Plant to Lea Station 6" #2**

**Company Name** Basin Environmental Service Technologies, LLC

Project #: 2009-039

Company Address: P. O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - J. Henry

Telephone No: (575)396-2378

Fax No: (575) 396-1429

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: Walter Green

e-mail: [bjarguljo@basinenv.com](mailto:bjarguljo@basinenv.com)

[illegible]



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin / Plains  
Date/Time: 12-19-11 10:50  
Lab ID #: 433649  
Initials: AE

**Sample Receipt Checklist**

|  |              |                |              |              |
|--|--------------|----------------|--------------|--------------|
| 1. Samples on ice?   | Blue         | <u>(Water)</u> | No           |              |
| 2. Shipping container in good condition?                                   | <u>(Yes)</u> | No             | None         |              |
| 3. Custody seals intact on shipping container <u>(cooler)</u> and bottles? | <u>(Yes)</u> | No             | N/A          |              |
| 4. Chain of Custody present?   | <u>(Yes)</u> | No             |              |              |
| 5. Sample instructions complete on chain of custody?                       | <u>(Yes)</u> | No             |              |              |
| 6. Any missing / extra samples?  | Yes          | <u>(No)</u>    |              |              |
| 7. Chain of custody signed when relinquished / received?                   | <u>(Yes)</u> | No             |              |              |
| 8. Chain of custody agrees with sample label(s)?                           | <u>(Yes)</u> | No             |              |              |
| 9. Container labels legible and intact?                                    | <u>(Yes)</u> | No             |              |              |
| 10. Sample matrix / properties agree with chain of custody?                | <u>(Yes)</u> | No             |              |              |
| 11. Samples in proper container / bottle?                                  | <u>(Yes)</u> | No             |              |              |
| 12. Samples properly preserved?  | <u>(Yes)</u> | No             | N/A          |              |
| 13. Sample container intact?   | <u>(Yes)</u> | No             |              |              |
| 14. Sufficient sample amount for indicated test(s)?                        | <u>(Yes)</u> | No             |              |              |
| 15. All samples received within sufficient hold time?                      | <u>(Yes)</u> | No             |              |              |
| 16. Subcontract of sample(s)?  | <u>(Yes)</u> | No             | N/A          |              |
| 17. VOC sample have zero head space?                                       | Yes          | No             | <u>(N/A)</u> |              |
| 18. Cooler 1 No.   | Cooler 2 No. | Cooler 3 No.   | Cooler 4 No. | Cooler 5 No. |
| lbs <u>0</u> °C  | lbs °C       | lbs °C         | lbs °C       | lbs °C       |

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

**Appendix B**

**Release Notification &**

**Corrective Action (Form C-141)**

District I  
625 N. French Dr., Hobbs, NM 88240  
District II  
301 W. Grand Avenue, Artesia, NM 88210  
District III  
000 Rio Brazos Road, Aztec, NM 87410  
District IV  
20 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

|                 |                                      |               |                |
|-----------------|--------------------------------------|---------------|----------------|
| Name of Company | Plains Pipeline, LP                  | Contact       | Jason Henry    |
| Address         | 2530 Hwy 214 - Denver City, Tx 79323 | Telephone No. | (575) 441-1099 |
| Facility Name   | DCP Plant to Lea Station 6-inch #2   | Facility Type | Pipeline       |

|               |        |               |  |           |              |
|---------------|--------|---------------|--|-----------|--------------|
| Surface Owner | NM SLO | Mineral Owner |  | Lease No. | 30-025-06283 |
|---------------|--------|---------------|--|-----------|--------------|

LOCATION OF RELEASE

|             |         |          |       |               |                  |               |                |        |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
| F           | 30      | 20S      | 37E   |               |                  |               |                | Lea    |

Latitude N 32.5316667° Longitude W 103.2911111°

NATURE OF RELEASE

|                             |   |   |  |                            |                  |
|-----------------------------|---|---|--|----------------------------|------------------|
| Type of Release             | Crude Oil   | Volume of Release                         | 25 bbls  | Volume Recovered           | 0 bbls           |
| Source of Release           | 6" Steel Pipeline   | Date and Hour of Occurrence               | 02/12/2009   | Date and Hour of Discovery | 02/12/2009 12:30 |
| Was Immediate Notice Given? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?                          | Larry Johnson (revised release volume on 02/25/2009) |                            |                  |
| By Whom?                    | Jason Henry   | Date and Hour                             | 02/25/2009 @ 14:00                                   |                            |                  |
| Was a Watercourse Reached?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                       | If YES, Volume Impacting the Watercourse. |  |                            |                  |

If a Watercourse was Impacted, Describe Fully.\*

RECEIVED

MAR 23 2009

HOBBSDO

Describe Cause of Problem and Remedial Action Taken.\*

External corrosion of 6" inch pipeline caused a release of crude oil. A clamp was installed on the pipeline to mitigate the release. Throughput for the subject line is 660 bbls/day and the operating pressure of the pipeline is 45 psi. The depth of the pipeline at the release point is approximately 2' bgs. The H2S concentration in the crude is less than 10 ppm and the gravity of the crude is 65.

Describe Area Affected and Cleanup Action Taken.\*

The released crude resulted in a surface stain that measured approximately 10' x 12'. The impacted area will be remediated per applicable guidelines.

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

OIL CONSERVATION DIVISION

Signature:

*Jason Henry*

Printed Name: Jason Henry

Approved by District Supervisor:

Title: Remediation Coordinator

Approval Date:

Expiration Date:

E-mail Address: jhenry@paalp.com

Conditions of Approval:

Attached ☐

Date: 03/23/2009

Phone: (575) 441-1099

LRP-2136

Attach Additional Sheets If Necessary

# **Appendix C**

## **Monitor Well Logs**

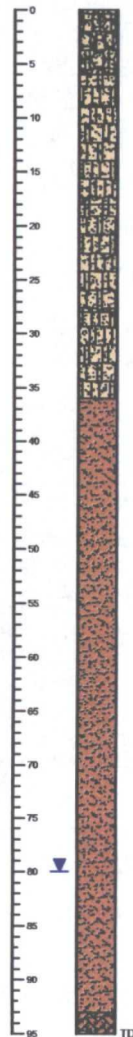
# Monitor Well MW-5

## Monitor Well MW-5

Drilling Depth Columns

Petroleum Odor  
Petroleum Stain

### Soil Description



|      |      |  |
|------|------|--|
| None | None | 0 - 6' bgs - Tan fine sand - Caliche - Sandstone         |
| None | None | 6 - 9' bgs - Tan fine sand - Sandstone                   |
| None | None | 9 - 18' bgs - Tan very fine sand - Sandstone             |
| None | None |  |
| None | None | 18 - 28' bgs - Caliche - Tan fine sand - Sandstone       |
| None | None |  |
| None | None | 28 - 36' bgs - Tan fine sandstone - Tan fine sand        |
| None | None |  |
| None | None |  |
| None | None |  |
| None | None |  |
| None | None | 36 - 93' bgs - Reddish brown fine to very fine sand      |
| None | None |  |
| None | None |  |
| None | None |  |
| None | None |  |
| None | None |  |
| None | None | 93 - 95' bgs - Reddish brown fine-very fine sand w/ clay |

Date Drilled January 24, 2011  
Thickness of Bentonite Seal 63 Ft  
Depth of Exploratory Boring 95 Ft bgs  
Depth to Groundwater 80 Ft bgs  
Ground Water Elevation

- Indicates the PSH level measured on
- Indicates the groundwater level measured on March 24, 2011.
- Indicates samples selected for Laboratory Analysis.
- PID Head-space reading in ppm obtained with a photo-ionization detector.

- Grout Surface Seal
- Bentonite Pellet Seal
- Sand Pack
- Screen

### Completion Notes

- The monitor well was advanced on date using air rotary drilling techniques.
- The well was constructed with 4" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
- The well is protected with a locked stick-up steel cover and compression cap.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- The depths indicated are referenced from ground surface.

Monitor Well MW-5  
DCP Plant to Lea Station 6-Inch #2  
Lea County, New Mexico  
Plains Pipeline, L.P.

Basin Environmental Service Technologies, LLC

Prep By: BJA

Checked By: BRB

March 16, 2012