

1R - 2136

**Annual GW  
Mon. Report**

**Year:**  
2011

# *Basin Environmental Service Technologies, LLC*

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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:

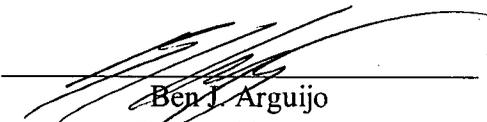


Plains Marketing, LP  
333 Clay Street, Suite 1600  
Houston, Texas 77002

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

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## **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  
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# Figures

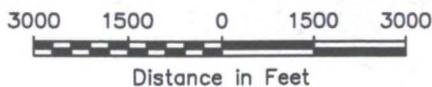
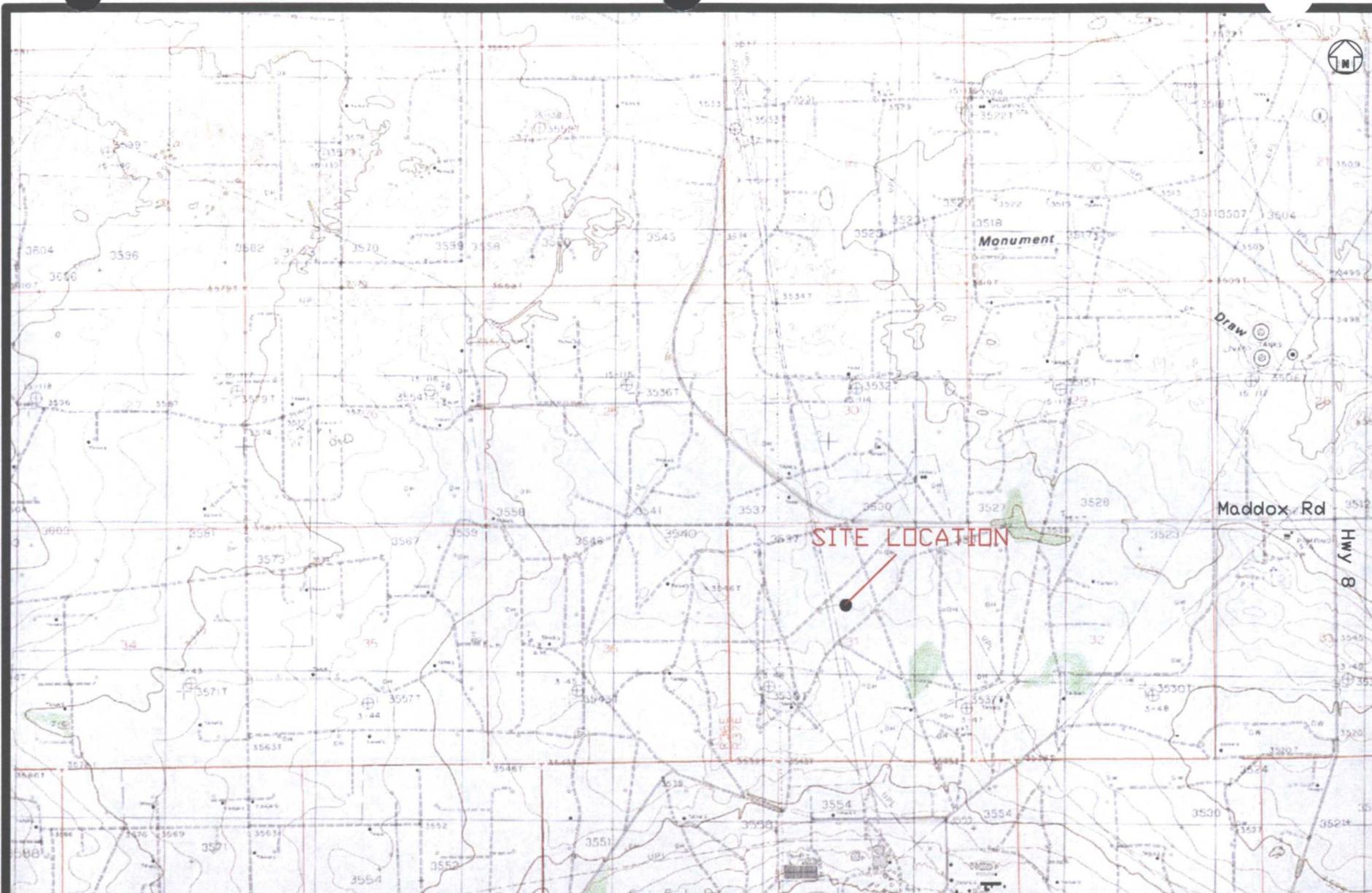
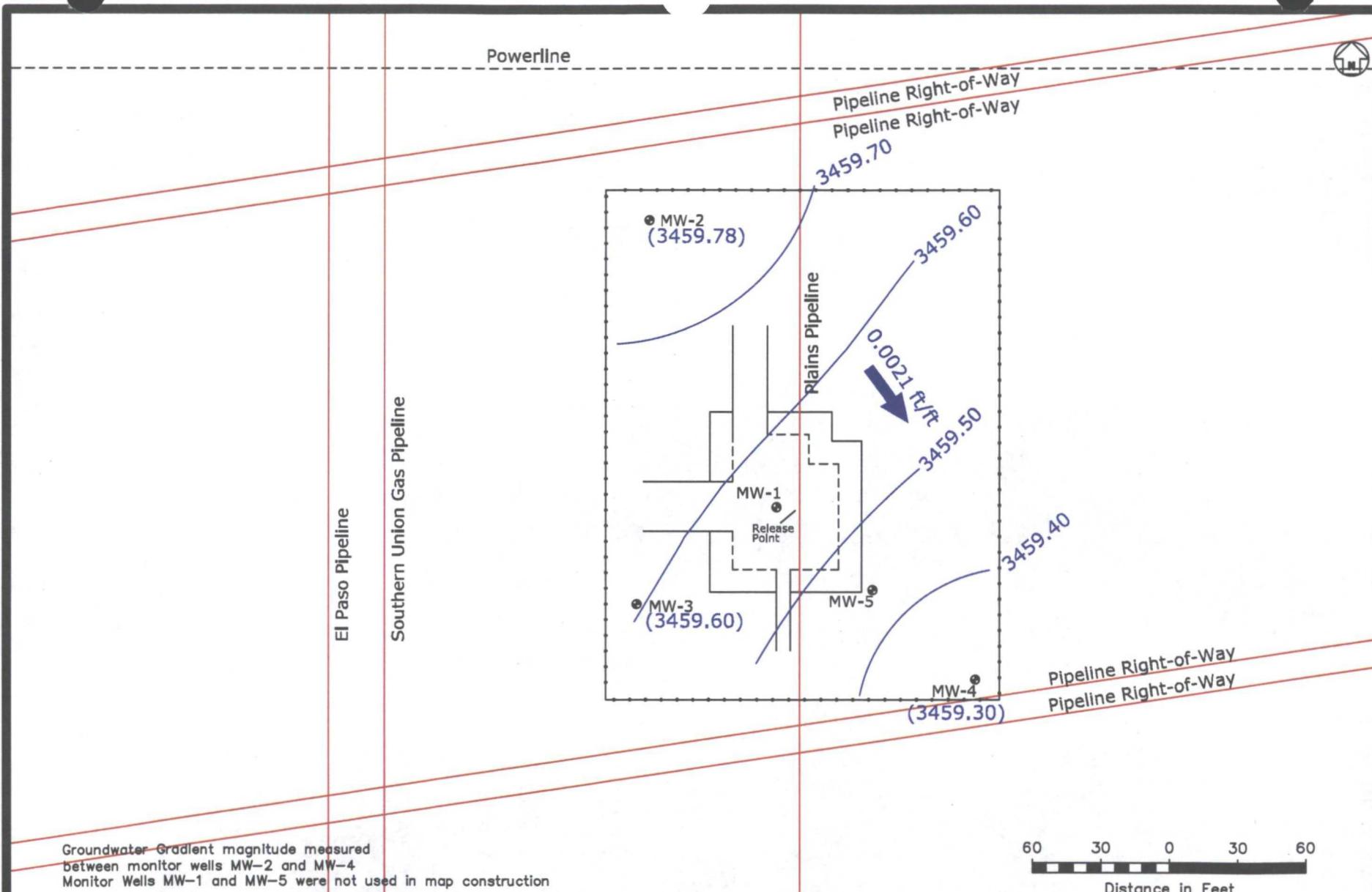


Figure 1  
 Site Location Map  
 Plains Pipeline, L.P.  
 DCP Plant to Lea Station 6-Inch #2  
 Lea County, New Mexico  
 SRS 2009-039  
 1RP-2136

Basin Environmental Services

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



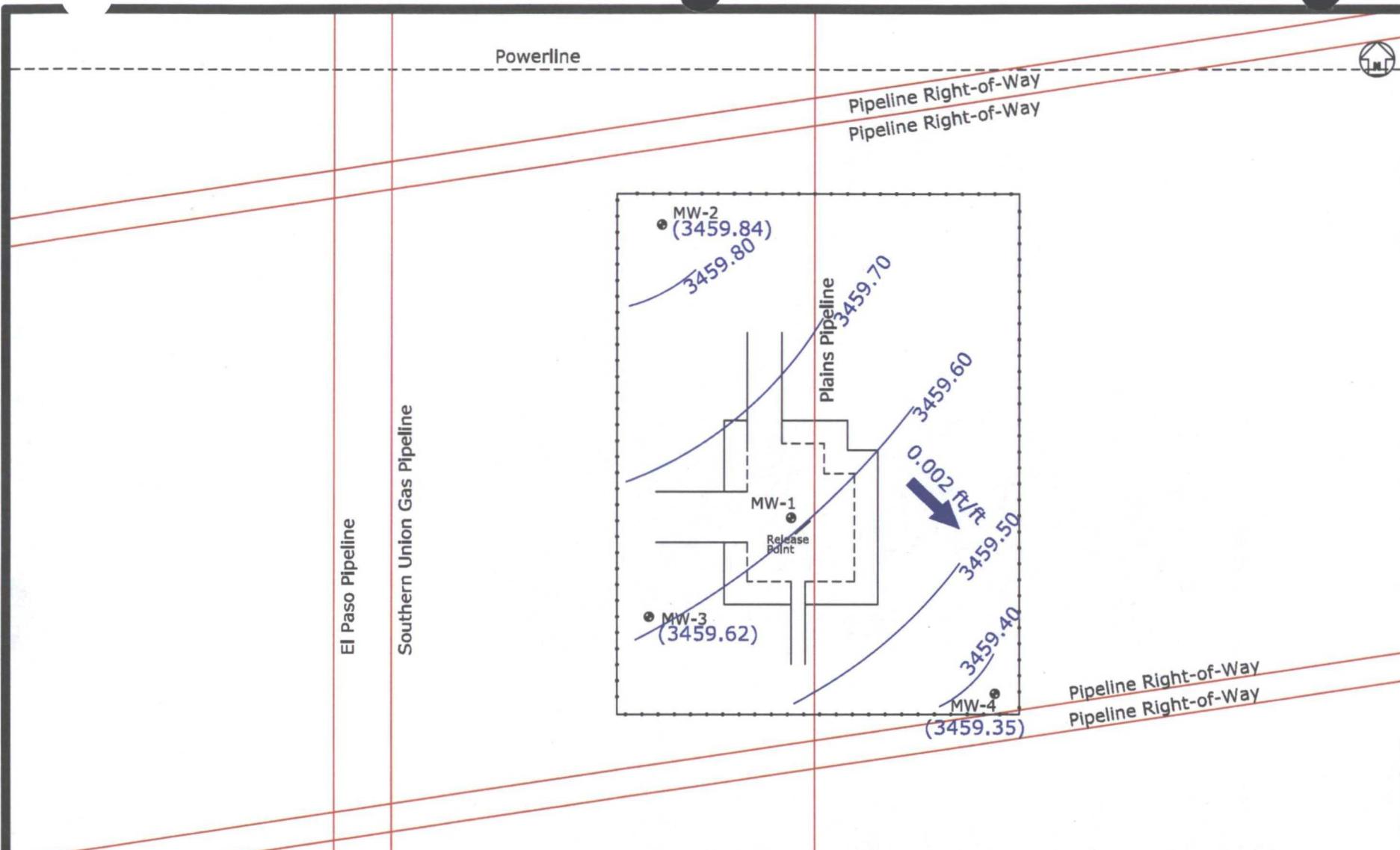
Groundwater Gradient magnitude measured between monitor wells MW-2 and MW-4  
 Monitor Wells MW-1 and MW-5 were not used in map construction

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

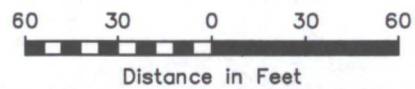
**Figure 2A**  
 Inferred Groundwater Gradient Map  
 (3/24/2011)  
 Plains Pipeline, L.P.  
 DCP Plant to Lea Station 6-Inch #2  
 Lea County, NM  
 1RP-2136

**Basin Environmental Service Technologies, LLC**

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



Groundwater Gradient magnitude measured between monitor wells MW-2 and MW-4. Monitor Well MW-1 was not used in map construction.



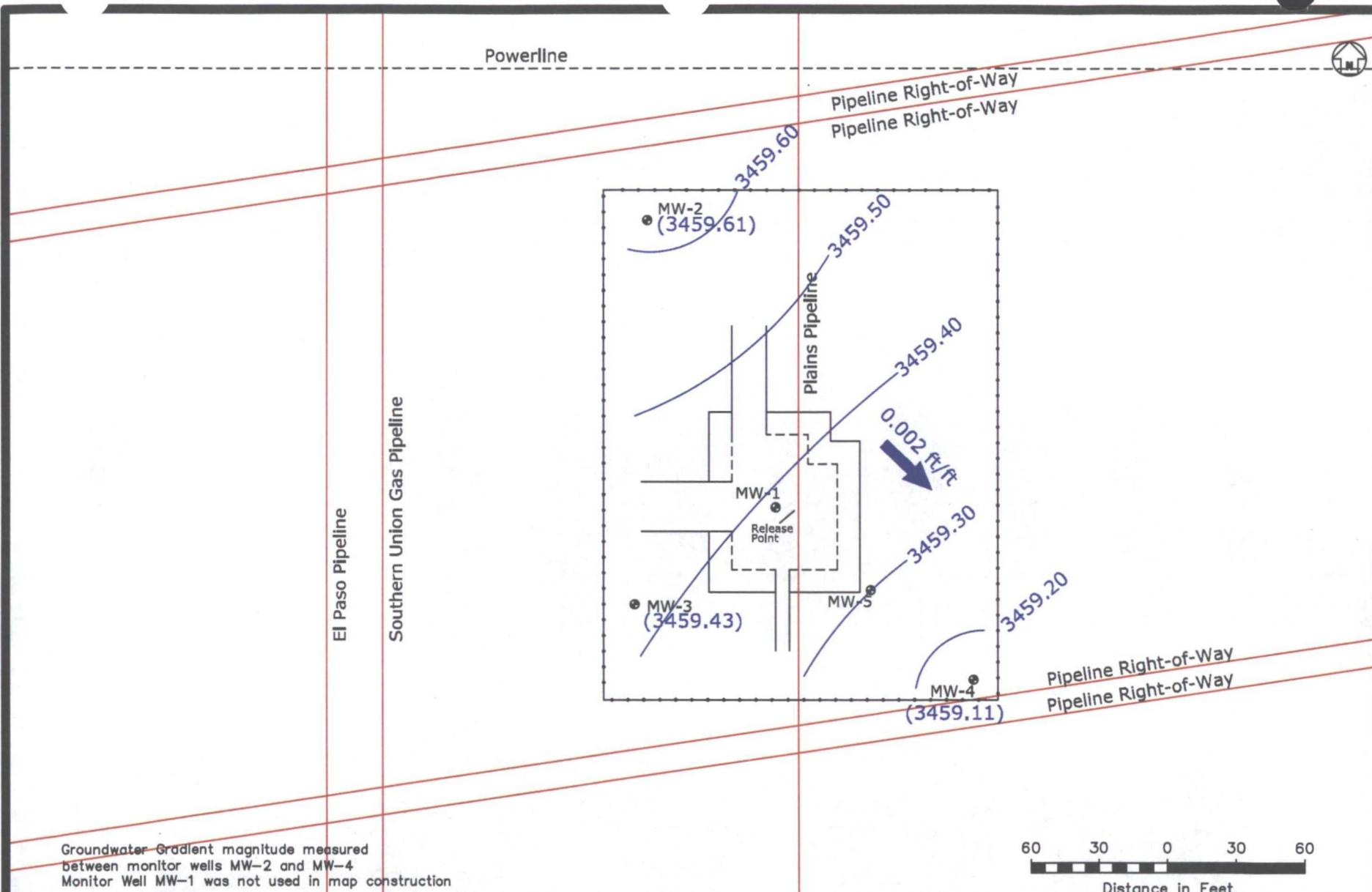
**Legend:**

Excavation Extents	MW-1 Monitor Well
Pipeline	Powerline
Groundwater Gradient Contour Line	Fence
(3459.40) Groundwater Elevation (feet)	
0.002 ft/ft Groundwater Gradient Direction and Magnitude	

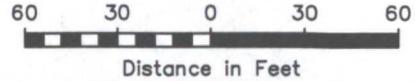
Figure 2B  
Inferred Groundwater Gradient Map  
(5/26/2011)  
Plains Pipeline, L.P.  
DCP Plant to Lea Station 6-Inch #2  
Lea County, NM  
1RP-2136

**Basin Environmental Service Technologies, LLC**

Prep By: BJA	Checked By: BRB
July 19, 2011	Scale 1"=80'



Groundwater Gradient magnitude measured between monitor wells MW-2 and MW-4  
 Monitor Well MW-1 was not used in map construction

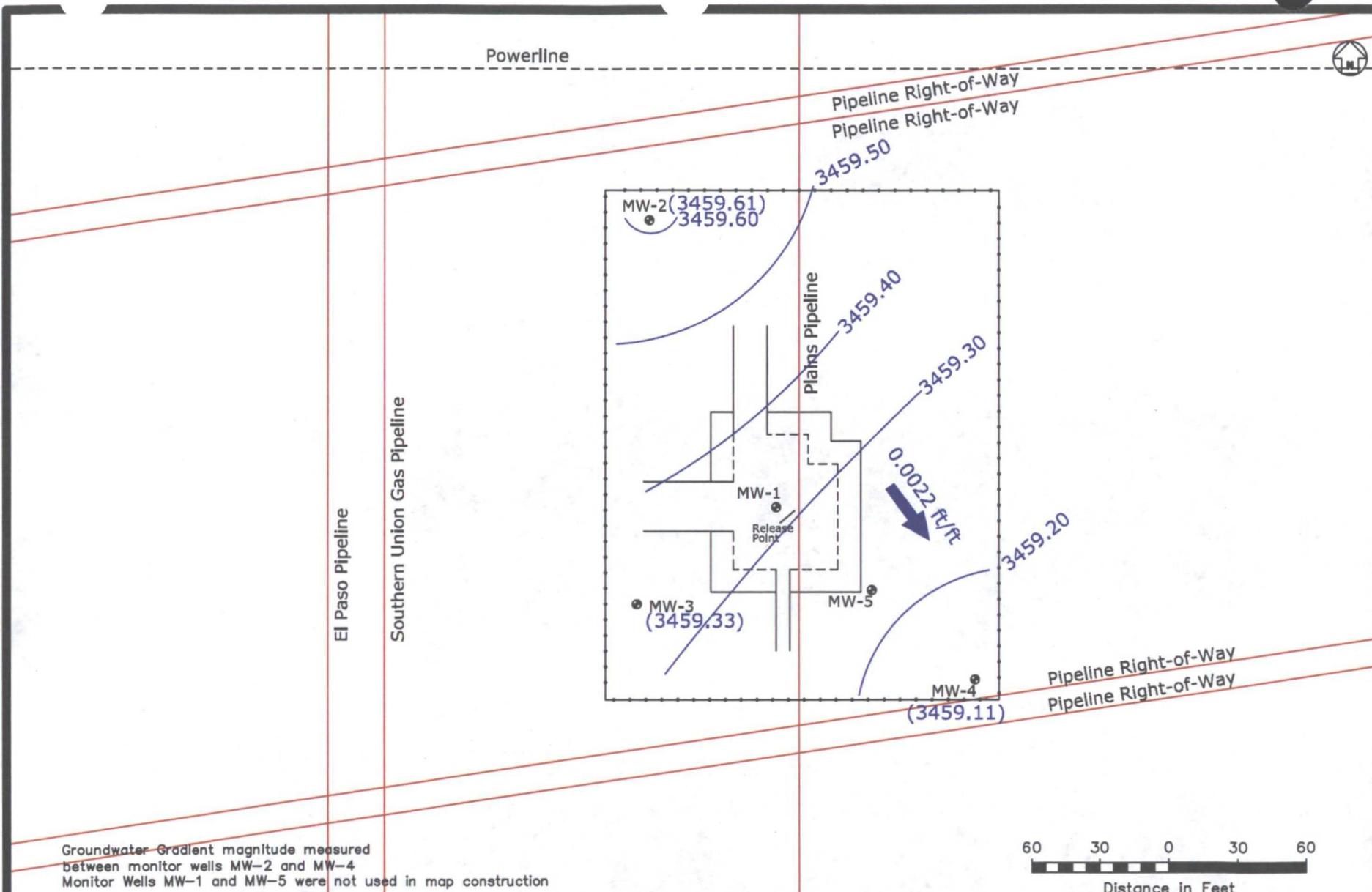


- Legend:**
- Excavation Extents
  - Pipeline
  - Groundwater Gradient Contour Line
  - Groundwater Elevation (feet)
  - Groundwater Gradient Direction and Magnitude
  - MW-1 Monitor Well
  - Powerline
  - Fence

**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"=60'

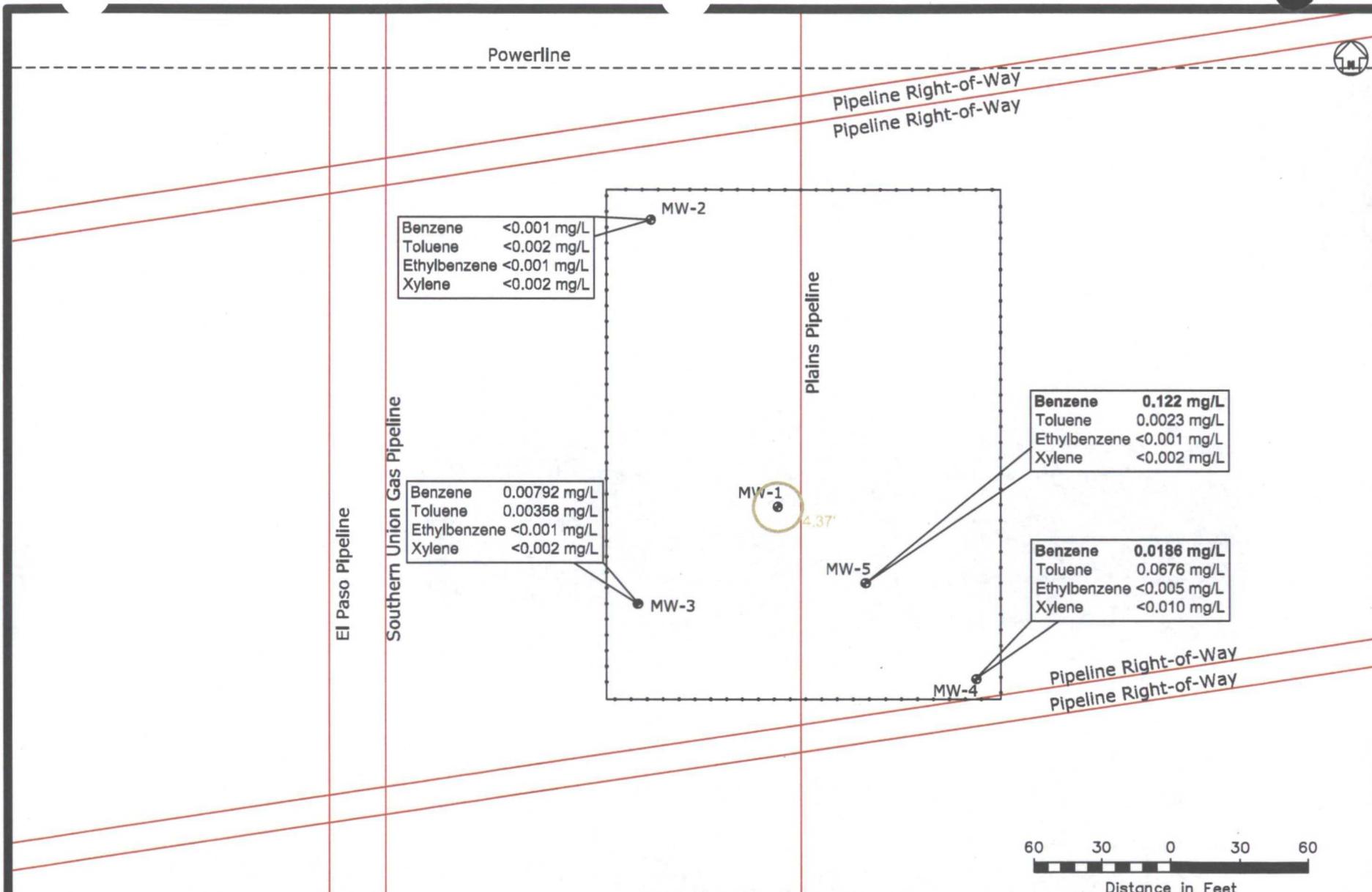


- Legend:**
- Excavation Extents
  - Pipeline
  - Groundwater Gradient Contour Line
  - Groundwater Elevation (feet)
  - Groundwater Gradient Direction and Magnitude
  - MW-1 Monitor Well
  - Powerline
  - Fence

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'



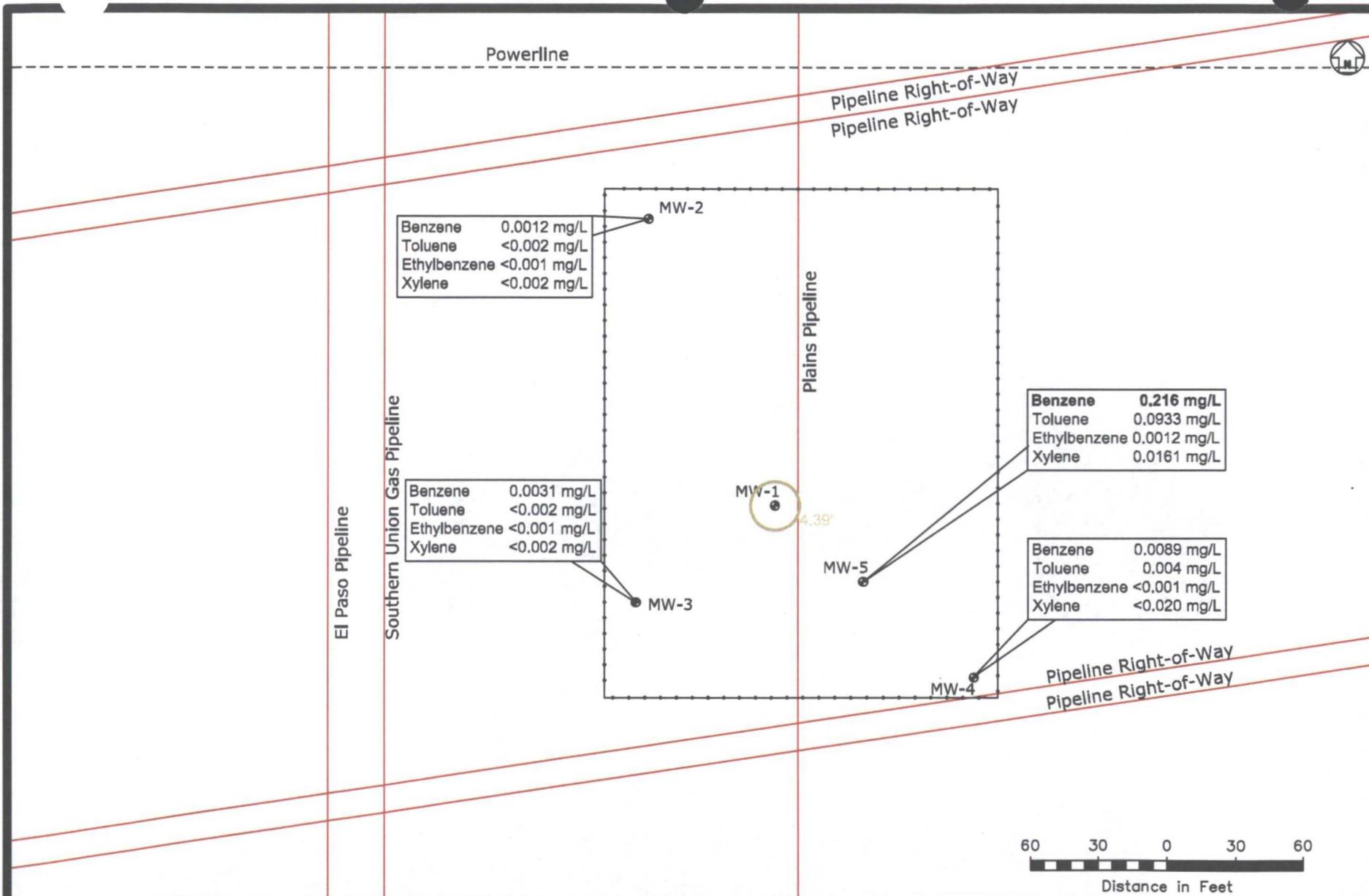
**Legend:**

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

**Figure 3A**  
 Groundwater Concentration &  
 Inferred PSH Extent Map (3/25/2011)  
 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
April 15, 2011	Scale 1"=60'



Benzene	0.0012 mg/L
Toluene	<0.002 mg/L
Ethylbenzene	<0.001 mg/L
Xylene	<0.002 mg/L

Benzene	0.0031 mg/L
Toluene	<0.002 mg/L
Ethylbenzene	<0.001 mg/L
Xylene	<0.002 mg/L

Benzene	0.216 mg/L
Toluene	0.0933 mg/L
Ethylbenzene	0.0012 mg/L
Xylene	0.0161 mg/L

Benzene	0.0089 mg/L
Toluene	0.004 mg/L
Ethylbenzene	<0.001 mg/L
Xylene	<0.020 mg/L

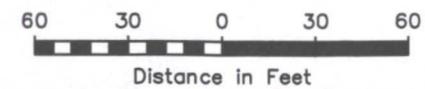
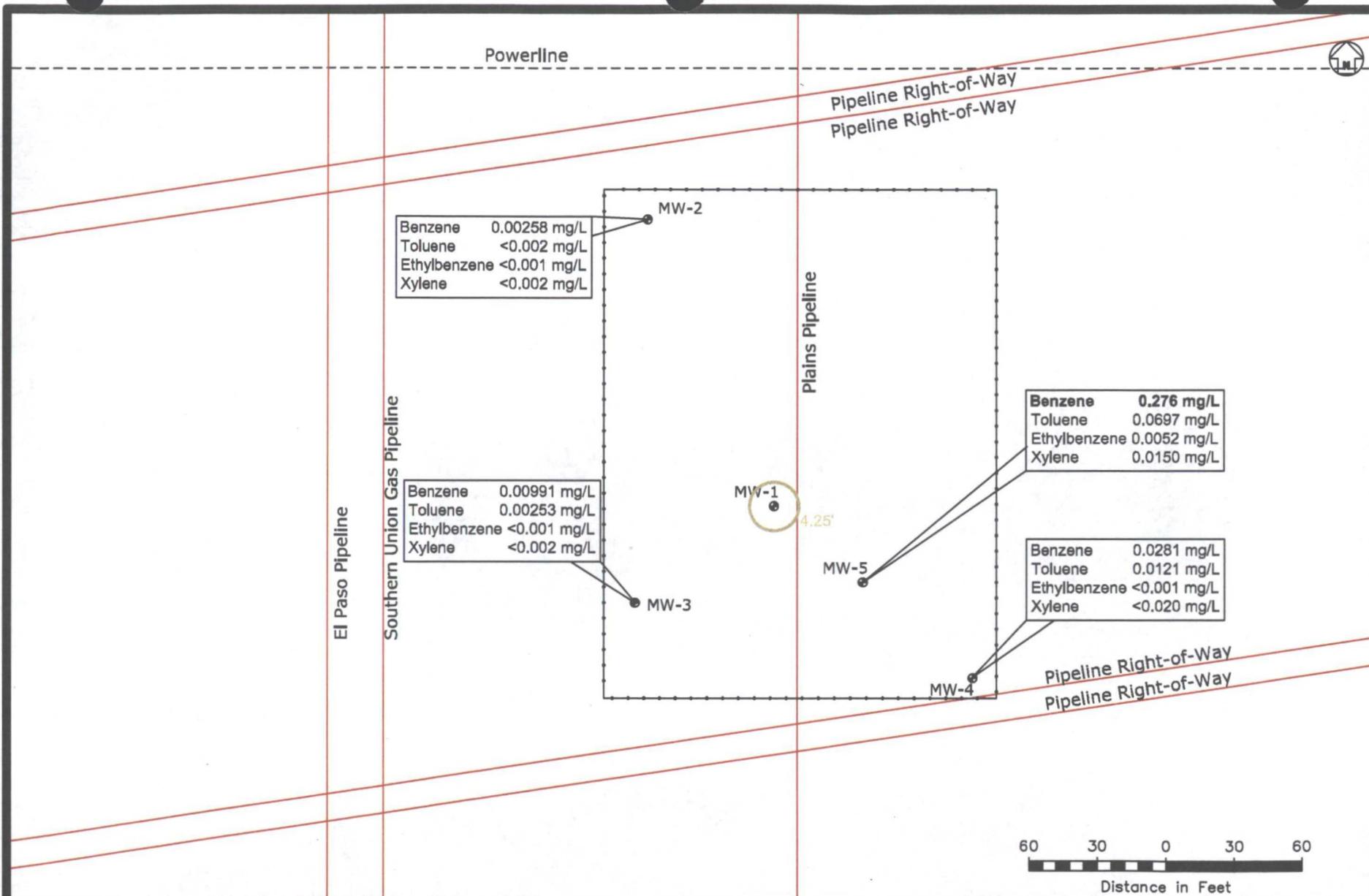
**Legend:**

	Excavation Extents		Powerline
	Pipeline		Fence
	Monitor Well		

**Figure 3B**  
 Groundwater Concentration &  
 Inferred PSH Extent 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 18, 2011	Scale 1"=60'



**Legend:**

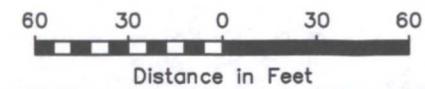
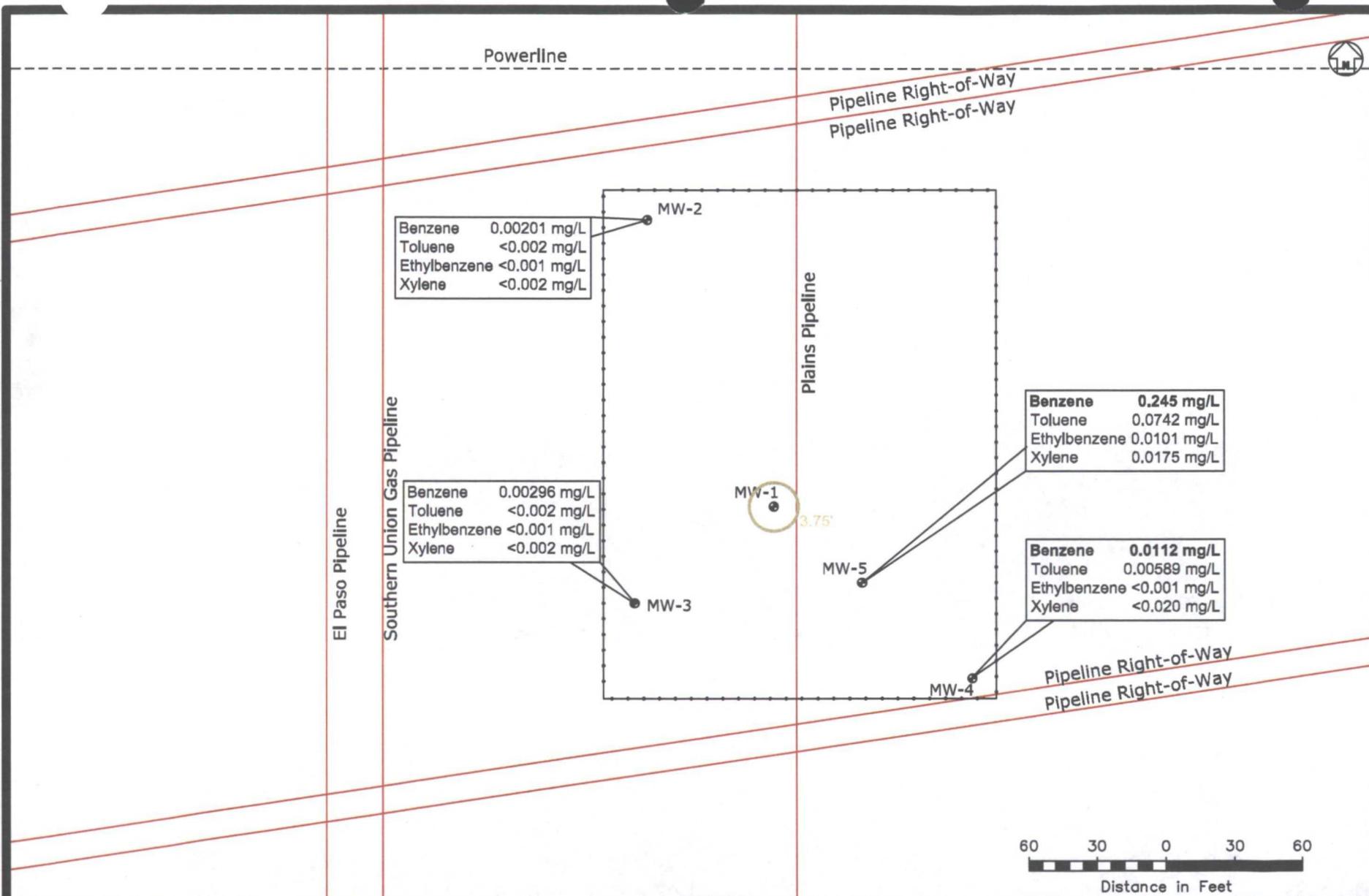
- Excavation Extents
- Pipeline
- Monitor Well
- Powerline
- Fence

**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  
 October 17, 2011

Checked By: BRB  
 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	<b>0.0186</b>	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	<b>0.0281</b>	0.0121	<0.0010	<0.0020	<0.0010	<0.0020	0.0402
	11/29/2011	<b>0.0112</b>	0.00589	<0.0010	<0.0020	<0.0010	<0.0020	0.0171
MW-5	3/25/2011	<b>0.122</b>	0.0676	<0.0050	<0.0100	<0.0050	<0.0020	0.1896
	5/26/2011	<b>0.216</b>	0.0933	0.00123	0.00957	0.0065	0.0161	0.327
	8/17/2011	<b>0.276</b>	0.0697	0.00523	0.0105	0.0045	0.015	0.366
	11/29/2011	<b>0.245</b>	0.0742	0.0101	0.0132	0.00425	0.0175	0.347
<b>NMOCD CRITERIA</b>		<b>0.01</b>	<b>0.75</b>	<b>0.75</b>	<b>TOTAL XYLENES 0.62</b>			

**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 NMWQCC Drinking water standards 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	<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 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 LOCATION	SAMPLE 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**  
**NMOC REFERENCE NUMBER 1RP -2136**

*All water concentrations are reported in mg/L*

SAMPLE DATE	SAMPLE 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 Levels from NM WQCC Drinking water standards Sections 1-101.UU and 3-103.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*

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**Sample Cross Reference 411089**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
DCP Plant to Lea Station 6" #2

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
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>						
	<i>Analyzed:</i>				Mar-29-11 13:35		
	<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>						
	<i>Analyzed:</i>				Mar-28-11 15:15		
	<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		

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 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 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	

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Brent Barron, II  
Odessa Laboratory Manager



# Certificate of Analysis Summary 411089

## 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:** 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		
SVOAs by EPA 8270C SUB: T104704215-TX	<i>Extracted:</i>				Mar-29-11 14:36		
	<i>Analyzed:</i>				Mar-30-11 14:55		
	<i>Units/RL:</i>				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	

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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 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		

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Contact: Jason Henry

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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 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	

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# 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 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	

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PLAINS ALL AMERICA E&S, Midland, TX

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

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	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 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		

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	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 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		

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# Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
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



# 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0284	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0295	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0296	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

Work 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0293	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0307	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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

Work 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 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



# 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 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

Project ID: 2009-039

Analyst: ALA

Date Prepared: 03/29/2011

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
Alkalinity, Total (as CaCO3)	<4.00	250	260	104	250	260	104	0	80-120	20	
Alkalinity, Bicarbonate (as CaCO3)	<4.00	250	260	104	250	260	104	0	80-117	20	
Alkalinity, Carbonate (as CaCO3)	<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
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**

**Lab Batch ID: 849659**

**Units: mg/L**

**Sample: 849659-1-BKS**

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

**Batch #: 1**

**Project ID: 2009-039**

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

**Matrix: Water**

## 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

Lab Batch ID: 849858

Date Prepared: 03/29/2011

Sample: 599181-1-BKS

Batch #: 1

Project ID: 2009-039

Date Analyzed: 03/29/2011

Matrix: Water

Units: mg/L

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

SVOAs by EPA 8270C	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											
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. ecoveries



**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**

**Lab Batch ID: 849858**

**Sample: 599181-1-BKS**

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

**Batch #: 1**

**Project ID: 2009-039**

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

**Matrix: Water**

**Units: mg/L**

SVOAs by EPA 8270C	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											
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\*(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**

**Lab Batch ID: 849858**

**Sample: 599181-1-BKS**

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

**Batch #: 1**

**Project ID: 2009-039**

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

**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>											
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

QC- Sample ID: 411097-004 S

Reporting Units: mg/L

Date Prepared: 03/28/2011

Batch #: 1

Project ID: 2009-039

Analyst: LATCOR

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %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

Project ID: 2009-039

Date Analyzed: 03/30/2011

Date Prepared: 03/29/2011

Analyst: ZHO

QC- Sample ID: 410972-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/L

## MATRIX / MATRIX SPIKE RECOVERY STUDY

SVOAs by SW-846 8270C	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
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	
2-Nitroaniline	<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

Project ID: 2009-039

Date Analyzed: 03/30/2011

Date Prepared: 03/29/2011

Analyst: ZHO

QC- Sample ID: 410972-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/L

## MATRIX / MATRIX SPIKE RECOVERY STUDY

SVOAs by SW-846 8270C		Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
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 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 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\*(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: 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 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
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\*(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 - 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 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\*(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 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	<0.00500	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 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
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\*(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



# 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  
QC- Sample ID: 410758-001 D

Date Prepared: 03/29/2011  
Batch #: 1

Project ID: 2009-039  
Analyst: ALA  
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  
QC- Sample ID: 410832-001 D

Date Prepared: 03/29/2011  
Batch #: 1

Analyst: ALA  
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  
QC- Sample ID: 411097-004 D

Date Prepared: 03/28/2011  
Batch #: 1

Analyst: LATCOR  
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





**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

331004

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*

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**Sample Cross Reference 411660**



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

DCP Plant to Lea Station 6" # 2

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
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*

*Report Date: 04-APR-11*

*Work Order Number: 411660*

*Date Received: 03/31/2011*

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**Sample receipt non conformances and Comments:**

None

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**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.

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 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.

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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**

**Lab Batch ID: 850439**

**Sample: 850439-1-BKS**

**Date Prepared: 04/01/2011**

**Batch #: 1**

**Project ID: 2009-039**

**Date Analyzed: 04/01/2011**

**Matrix: Water**

**Units: mg/L**

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

<b>Inorganic Anions In Water by E300</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>											
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	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
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**  
 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



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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

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**Sample Cross Reference 418095**



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

DCP Plant to Lea Station 6" #2

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
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

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

Report Date: 07-JUN-11

Project Location: Lea County, NM

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					
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	

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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.

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# 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0333	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0314	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0314	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0296	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0331	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0304	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0311	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 \* 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0283	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0286	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0309	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 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	0.0298	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

A<sup>11</sup> 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0264	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

Project ID: 2009-039

Analyst: ASA

Date Prepared: 06/01/2011

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**

**Project ID: 2009-039**

**Analyst: ASA**

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

**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 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>											
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

Project ID: 2009-039

Date Analyzed: 06/01/2011

Date Prepared: 06/01/2011

Analyst: ASA

QC- Sample ID: 418009-008 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

## MATRIX / MATRIX SPIKE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
	Benzene	0.00219	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\*(C-A)/B

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

All Results are based on MDL and Validated for QC Purposes

B\* Low 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 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	0.0941	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\*(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: Plains  
 Date/Time: 5-27-11 16:42  
 Lab ID #: 418095  
 Initials: LM

**Sample Receipt Checklist**

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

**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



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**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 (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)

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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

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**Sample Cross Reference 426116**



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

DCP Plant to Lea Station 6" # 2

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
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

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**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.

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**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      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation
- DL** Method Detection Limit
- NC** Non-Calculable
- + Outside XENCO's scope of NELAC Accreditation.

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



# Form 2 - Surrogate Recoveries

Project Name: 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0276	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0297	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0292	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0281	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 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	0.0288	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0293	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0303	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

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 #: 426116**

**Analyst: ASA**

**Lab Batch ID: 868039**

**Units: mg/L**

**Date Prepared: 08/22/2011**

**Sample: 610293-1-BKS**

**Batch #: 1**

**Project ID: 2009-039**

**Date Analyzed: 08/22/2011**

**Matrix: Water**

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

<b>BTEX by EPA 8021</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>											
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

<b>BTEX by EPA 8021</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>											
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 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	0.113	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 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	0.00258	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\*(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

## 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: Dakota Ward

e-mail: bjarguijo@basinenv.com

Analyze For:	
TCLP:	
TOTAL:	<input checked="" type="checkbox"/>
TPH: 418.1	<input checked="" type="checkbox"/>
TPH: TX 1005 TX 1006	
Cations (Ca, Mg, Na, K)	
Anions (Cl, SO4, Alkalinity)	
SAR / ESP / CEC	
Metals: As Ag Ba Cd Cr Pb Hg Se	
Volatiles	
Semivolatiles	
BTEX 8021B/5030 or BTEX 8260	<input checked="" type="checkbox"/>
RCI	
N.O.R.M.	
Chlorides	
RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	
Standard TAT 4 DAY	

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers										Matrix
								Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	
001	MW-2			08/17/11	1130	3	X	X										GW
002	MW-3			08/17/11	1200	3	X	X										GW
003	MW-4			08/17/11	1300	3	X	X										GW
004	MW-5			08/17/11	1330	3	X	X										GW

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
<u>Dakota Ward</u>	<u>08/17/11</u>	<u>1745</u>	<u>[Signature]</u>	<u>8/17/11</u>	<u>1745</u>
Relinquished by:	Date	Time	Received by:	Date	Time
<u>[Signature]</u>	<u>8/19/11</u>	<u>0800</u>	<u>Kristina Bernal</u>	<u>8/17/11</u>	<u>800</u>
Relinquished by:	Date	Time	Received by: ELDT:	Date	Time
<u>[Signature]</u>	<u>8/19/11</u>	<u>1158</u>	<u>A. Hernandez</u>	<u>8/19/11</u>	<u>1158</u>

Laboratory Comments:

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  DHL  FedEx  Lone Star

40 mL Vials

Temperature Upon Receipt: 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 5.5 °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

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
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*

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**Sample receipt non conformances and comments:**

None

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**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

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

Report Date: 08-DEC-11

Project Location: Lea County, NM

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 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.

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# 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0266	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0279	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0277	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,

Project ID: 2009-039

Lab Batch #: 876470

Sample: 432428-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 12/06/11 15:50

### SURROGATE RECOVERY STUDY

SVOA PAHs List 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 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 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 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0278	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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 \* 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 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	0.0288	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

Analytes	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
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 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 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
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 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	0.0993	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: 8/1/2010 Page 1 of 1

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

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

**Sample Receipt Checklist**

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



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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)  
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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)

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

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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

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
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 conformances 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 AMERICAN 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 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 RL	mg/L 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.

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 2505 North Falkenburg Rd, Tampa, FL 33619  
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(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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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

\*\* 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 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
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





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

Petroleum Odor  
Petroleum Stain

Soil Description

Drilling Depth	Soil Columns	Petroleum Odor	Petroleum Stain	Soil Description
0 - 6'		None	None	0 - 6' bgs - Tan fine sand - Caliche - Sandstone
6 - 9'		None	None	6 - 9' bgs - Tan fine sand - Sandstone
9 - 18'		None	None	9 - 18' bgs - Tan very fine sand - Sandstone
18 - 28'		None	None	18 - 28' bgs - Caliche - Tan fine sand - Sandstone
28 - 36'		None	None	28 - 36' bgs - Tan fine sandstone - Tan fine sand
36 - 93'		None	None	36 - 93' bgs - Reddish brown fine to very fine sand
93 - 95'		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

- 1.) The monitor well was advanced on date using air rotary drilling techniques.
- 2.) The well was constructed with 4" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
- 3.) The well is protected with a locked stick-up steel cover and compression cap.
- 4.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- 5.) 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