

**QR - 53**

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**Annual GW Mon.  
REPORTS**

**DATE:**

**2010**



**PLAINS  
ALL AMERICAN**

RECEIVED OGD  
2011 APR - 11 A 12:52

March 30, 2011

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

Re: Plains All American – 2010 Annual Monitoring Reports  
4 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         | 1RP-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  |
| 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

# *Basin Environmental Service Technologies, LLC*

3100 Plains Highway  
P. O. Box 301  
Lovington, New Mexico 88260  
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Office: (575) 396-2378

Fax: (575) 396-1429



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## 2010 ANNUAL MONITORING REPORT

**BALLARD GRAYBURG 5-INCH**  
Unit Letter "M" (SWSW), Section 10, Township 18 South, Range 29 East  
Latitude 32° 45' 27.1" North, Longitude 104° 04' 12.0" West  
Eddy County, New Mexico  
Plains SRS Number: 2004-00192  
NMOCD Reference Number: 2R-0053

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 2011**

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Ben J. Arguijo  
Project Manager

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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 2010 only. For reference, a "Site Location Map" is provided as Figure 1.

Groundwater monitoring was conducted during each quarter of 2010 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.

## SITE DESCRIPTION AND BACKGROUND INFORMATION

The legal description of the site is Unit Letter "M" (SWSW), Section 10, Township 18 South, Range 29 East. The geographic coordinates of the release site are 32° 45' 27.1" North latitude and 104° 04' 12.0" West longitude.

On September 2, 2004, Allstate Environmental Services (Allstate) responded to a pipeline release to place a temporary clamp on the pipeline and excavate the impacted soil. At the request of Plains, Basin performed subsequent remediation at the site. The Ballard Grayburg 5" pipeline was de-oiled, cold cut, and capped. Approximately eighty (80) barrels of crude oil were released from the pipeline, with no recovery. The site is located in a pipeline right-of-way in a pasture utilized for cattle grazing. The initial surface stain covered an area approximately twenty-two (22) feet in length and twenty-three (23) feet in width. Excavation activities conducted during the initial response and subsequent remediation activities covered an area approximately two hundred and twenty-five (225) feet in length and sixty (60) feet in width, and ranged from approximately ten (10) to twenty (20) feet below ground surface (bgs). Excavated soil was placed adjacent to the excavation on a six (6)-mil poly liner for future remedial activities.

A *Preliminary Site Investigation Report and Remediation Plan* (PSIR), dated November 14, 2004, was submitted and approved by the NMOCD District II Artesia Office and the U. S. Department of the Interior, Bureau of Land Management (BLM), Carlsbad District Office. The approved plan required the excavation of the impacted area to approximately twelve (12) to fifteen (15) feet bgs, the collection of confirmation soil samples, the installation of a forty (40)-mil poly liner, the on-site blending of non-impacted segregated overburden and impacted soil, and backfilling of the excavation with the blended soil. In March 2006, an electronic revision was submitted and subsequently approved by NMOCD (Santa Fe) and BLM. The approved revision required the excavation of the impacted area to a depth of approximately eighteen (18) to twenty (20) feet bgs, the installation of a forty (40)-mil poly liner on the floor of the excavation, the blending of the non-impacted segregated overburden and impacted soil, and the collection of soil samples at five hundred (500) cubic yard (cy) intervals to ensure that total

petroleum hydrocarbon (TPH) constituent concentrations were less than 1,000 mg/Kg. Following the remediation activities, the plan required reseeding the site with BLM-approved grass seed.

Based on initial delineation of the release site, two (2) groundwater monitor wells were installed to evaluate the quality of groundwater, and one (1) recovery well was installed due to the presence of PSH detected in soil samples collected during drilling activities. There was no visual evidence of PSH impact in the soil samples collected during the installation of monitor wells MW-2 and MW-3.

Absorbent medium was placed in recovery well RW-1 to absorb the limited quantities of crude oil on the groundwater. The absorbent medium was inspected and replaced on a monthly schedule. During excavation of the release area, recovery well RW-1 collapsed. The approved PSIR revision stipulated installation of an additional recovery well located north-northwest of recovery well RW-1 would be attempted once backfilling of the excavation was completed. In July 2006, an attempt to install the additional recovery well was initiated; however, subsurface limestone caverns were encountered during drilling activities, and the installation of the recovery well was not possible.

Currently, there are two (2) groundwater monitor wells (MW-2 and MW-3) on site. In a letter dated October 2, 2009, the NMOCD granted Plains approval to modify the groundwater monitoring frequency at the site. Monitor well MW-2 will be sampled on an annual basis, and monitor well MW-3 will be sampled on a quarterly basis.

## **FIELD ACTIVITIES**

The on-site monitor wells were gauged and sampled on March 31 (1Q2010), June 1 (2Q2010), September 3 (3Q2010), and November 8, 2010 (4Q2010). 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.

Locations of the groundwater monitoring wells and the inferred groundwater elevations were constructed from the measurements collected during the quarterly monitoring events and are depicted on Figures 2A through 2D. The groundwater elevation data is provided as Table 1. An inferred groundwater gradient map cannot be constructed from the observed groundwater elevation data derived from the two (2) on-site monitor wells. An inferred groundwater gradient map requires a minimum of three (3) monitor wells to calculate an accurate groundwater gradient direction and magnitude. Review of New Mexico State Engineers Office (NMOSE) records indicate a general south to southwest groundwater gradient in this area of Eddy County, New Mexico. The corrected groundwater elevations ranged from 3,355.42 to 3,355.91 feet above mean sea level, in monitor well MW-3 on March 31, 2010, and November 3, 2010, respectively.

The groundwater elevation data presented above indicates observed groundwater elevations are approximately forty-four (44) feet more shallow than observed groundwater elevations presented in the 2007 and prior Groundwater Monitoring Reports. This inconsistency in observed groundwater elevation may be related to the karstic nature of the subsurface beneath the release site, as depicted in the monitor well and recovery well logs previously submitted to the NMOCD.

## **LABORATORY RESULTS**

Groundwater samples collected from the monitor wells during the quarterly sampling events (1Q2010, 2Q2010, 3Q2010, and 4Q2010) 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, "2010 Concentrations of Benzene & BTEX in Groundwater". Laboratory analytical reports are provided as Appendix A. "Groundwater Concentration" 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-2**

Monitor well MW-2 is sampled on an annual schedule. Laboratory analytical results from the sample collected on June 1, 2010, indicated a benzene concentration of 0.0293 mg/L. The toluene concentration was less than the laboratory MDL. The ethylbenzene concentration was 0.0053 mg/L. The total xylene concentration was 0.0079 mg/L. The benzene concentration exceeded NMOCD regulatory standards. Toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards.

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

Monitor well MW-3 is sampled on a quarterly schedule. Laboratory analytical results indicate benzene concentrations ranged from 0.0119 mg/L in 4Q2010 to 0.0198 mg/L 2Q2010. Toluene concentrations ranged from 0.0021 mg/L in 3Q2010 to 0.0046 mg/L in 2Q2010. 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 during all four quarters of the reporting period. Toluene, ethylbenzene, and total xylene concentrations were less than the NMOCD regulatory standard during all four quarters of the reporting period.

## **SUMMARY**

Based on the depth of the soil impact at this site, the NMOCD requested four (4) quarterly groundwater sampling events to be conducted at this site. This report presents the results of monitoring activities for the 2010 monitoring period. Currently, there are two (2) groundwater

monitoring wells (MW-2 and MW-3) on-site. Monitor well MW-2 is sampled on an annual basis, and monitor well MW-3 is sampled on a quarterly basis.

Review of NMOSE records indicate a general groundwater gradient to the south-southwest.

Groundwater elevation data indicates observed groundwater elevations are approximately forty-four (44) feet more shallow than observed groundwater elevations presented in the 2007 (and prior) *Annual Monitoring Report*. This inconsistency in observed groundwater elevation may be related to the karstic nature of the subsurface beneath the release site, as depicted in the monitor well and recovery well logs previously submitted to the NMOCD.

Laboratory analytical results indicated benzene concentrations exceeded NMOCD regulatory standards in all samples from monitor wells MW-2 and MW-3 submitted during the reporting period. Toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards during all four quarters of the reporting period.

### **ANTICIPATED ACTIONS**

On October 2, 2009, the NMOCD approved a modified sampling plan at the Ballard Grayburg 5-Inch release site. Monitor well MW-2 will be sampled on an annual basis, and monitor well MW-3 will be sampled on a quarterly basis.

A 2011 *Annual Monitoring Report* will be submitted to the NMOCD by April 1, 2012.

### **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 J. Hansen  
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P. O. Box 301  
Lovington, New Mexico 88260  
bjarguijo@basinenv.com

Copy Number: \_\_\_\_\_



# Figures

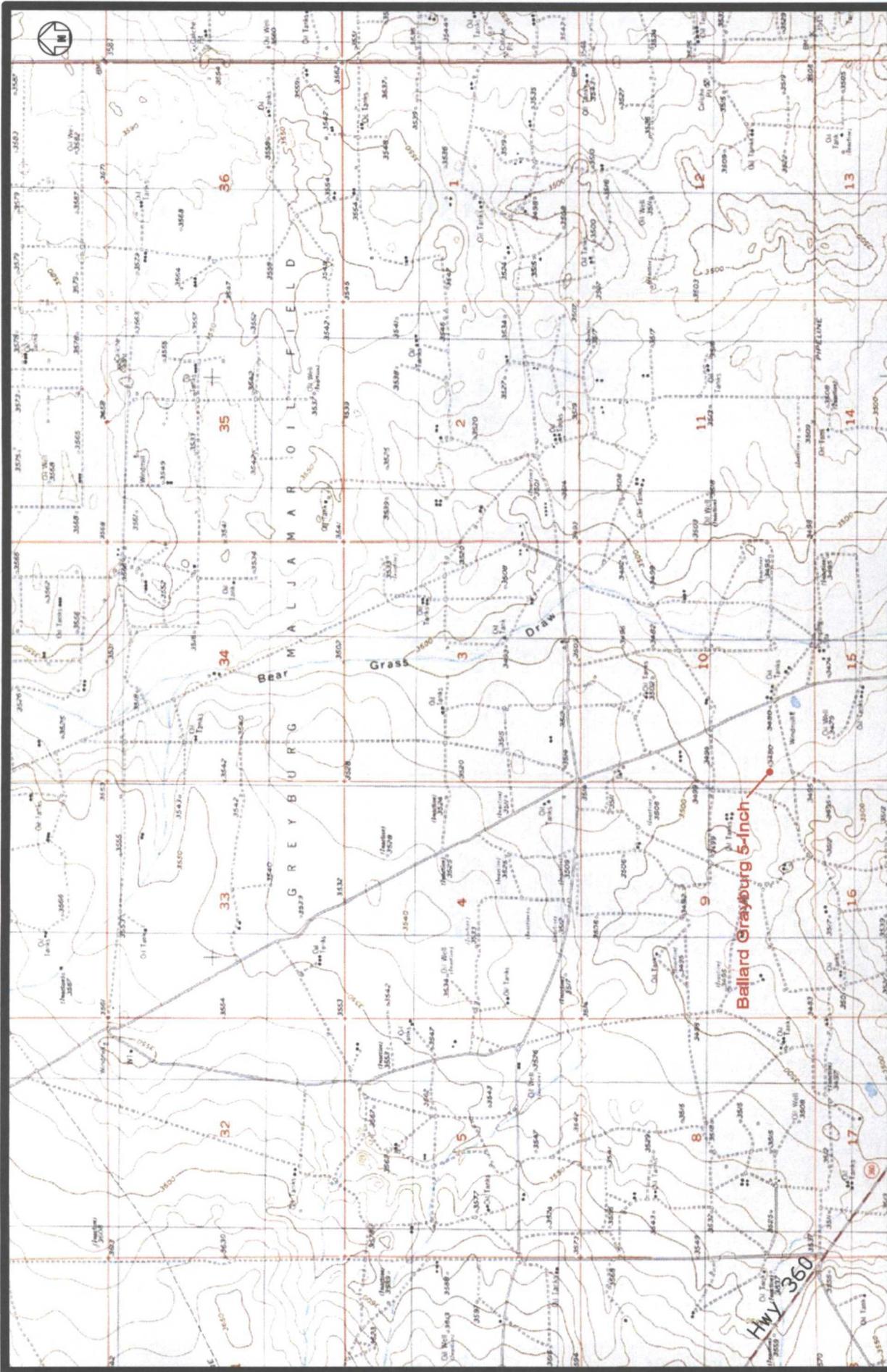
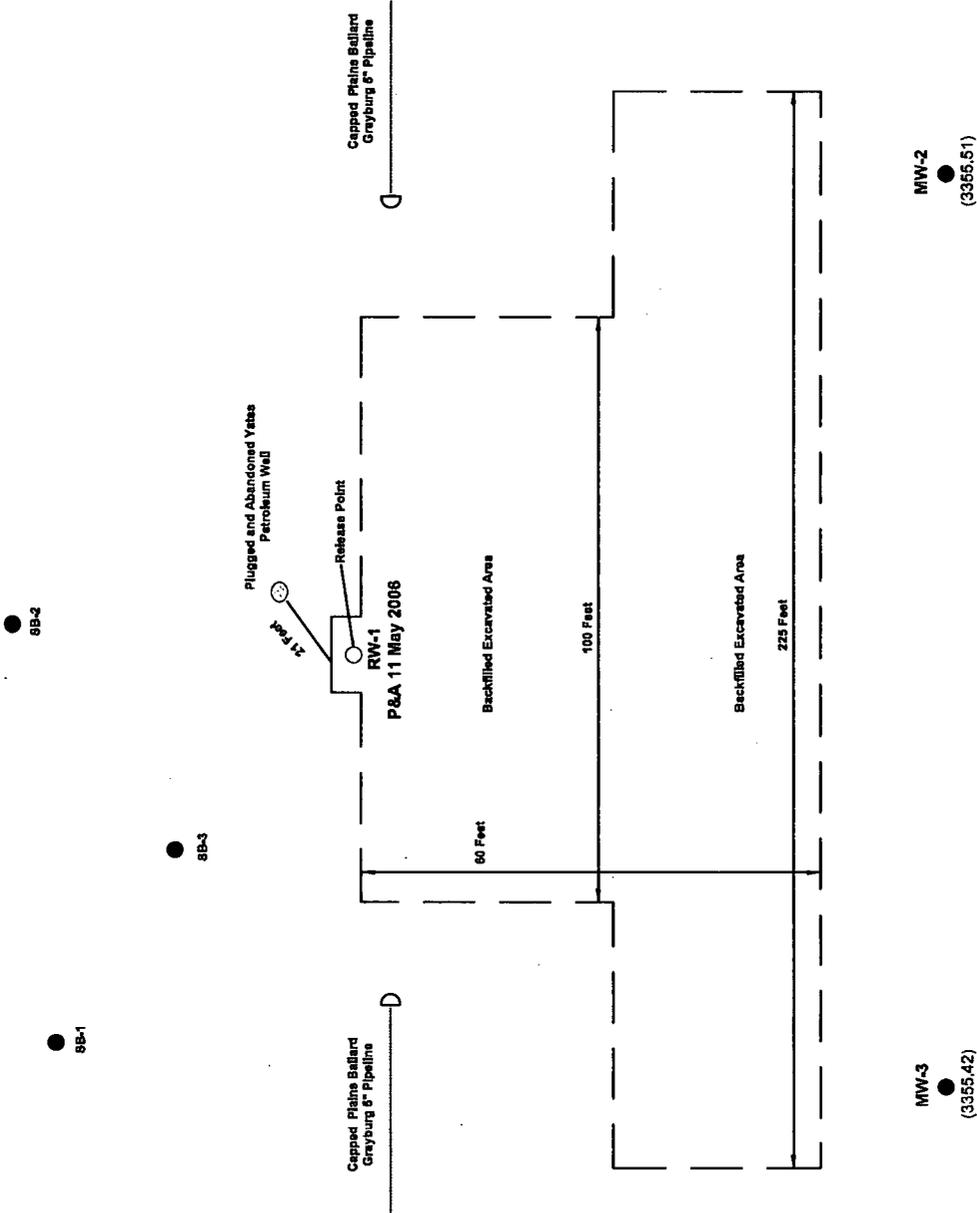
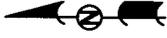


Figure 1  
 Site Location Map  
 Ballard Grayburg 5-inch  
 Plains Markering, L.P.  
 Lea County, New Mexico  
 2RP-0053



# Basin Environmental Services

Prep By: CBS  
 March 17, 2009  
 Checked By: CBS  
 Scale 1"=5000'



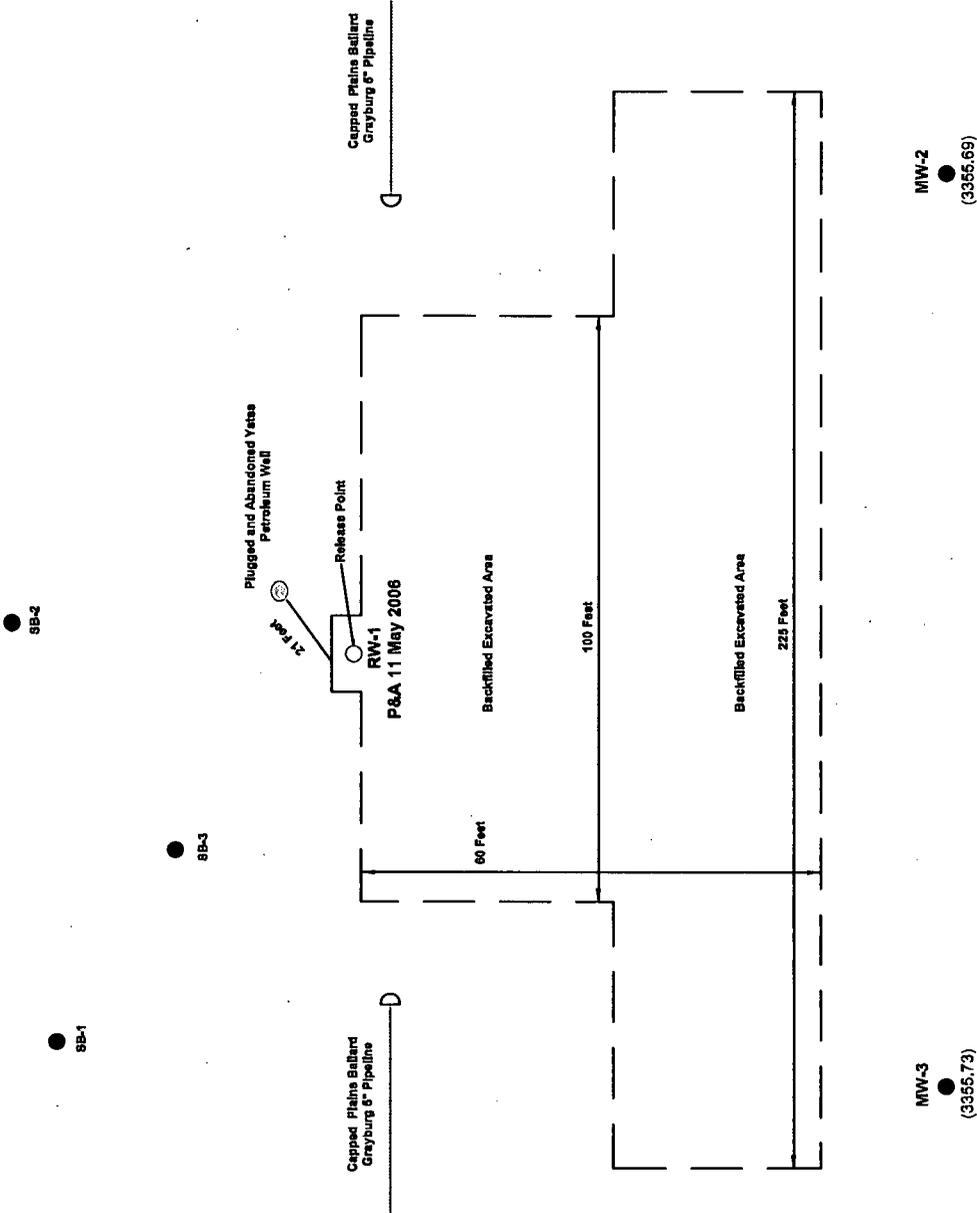
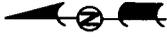
**LEGEND:**

- Monitor Well Location
- - - Excavation Extents
- - - Fence
- - - Pipeline
- - - Groundwater Gradient Contour Line
- (3357.42) Groundwater Elevation (feet)
- 0.003 ft/h Groundwater Gradient Direction and Magnitude

**Figure 2A**  
**Inferred Groundwater Gradient Map**  
 (03/31/10)  
 Plains Marketing, L.P.  
 Ballard Grayburg 5-inch  
 Lea County, NM  
 2RP-0063

**Basin Environmental Service Technologies**

|                   |                                |                       |
|-------------------|--------------------------------|-----------------------|
| Scale: 1" = 80'   | Drawn By: JWL                  | Prepared By: JWL      |
| December 08, 2010 | SE 1/4 NE 1/4 Sec 18 T17S R37E |                       |
|                   | Lat. N32° 51' 56"              | Long. W103° 17' 07.2" |



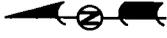
**LEGEND:**

- Monitor Well Location
- Excavation Extents
- Fence
- Pipeline
- Groundwater Gradient Contour Line
- (3357.46) Groundwater Elevation (feet)
- 0.003 1/h Groundwater Gradient Direction and Magnitude

**Figure 2B**  
**Inferred Groundwater**  
**Gradient Map**  
 (08/01/10)  
 Plains Marketing, L.P.  
 Ballard Grayburg 5-inch  
 Lea County, NM  
 2RP-0063

**Basin Environmental Service Technologies**

|                                         |                                |                  |
|-----------------------------------------|--------------------------------|------------------|
| Scale: 1" = 80'                         | Drawn By: JWL                  | Prepared By: JWL |
| December 08, 2010                       | SE 1/4 NE 1/4 Sec 18 T17S R31E |                  |
| Lat. N32° 51' 56" Long. W103° 17' 07.2" |                                |                  |



● BB-2

● BB-3

● BB-1

Plugged and Abandoned Yates  
Petroleum Well

Capped Plains Bulard  
Grayburg 6" Pipeline

Capped Plains Bulard  
Grayburg 6" Pipeline

Release Point

21 Feet

RW-1

P&A 11 May 2008

Backfilled Excavated Area

60 Feet

100 Feet

Backfilled Excavated Area

229 Feet

● MW-3  
(3355.52)

● MW-2  
(3355.48)

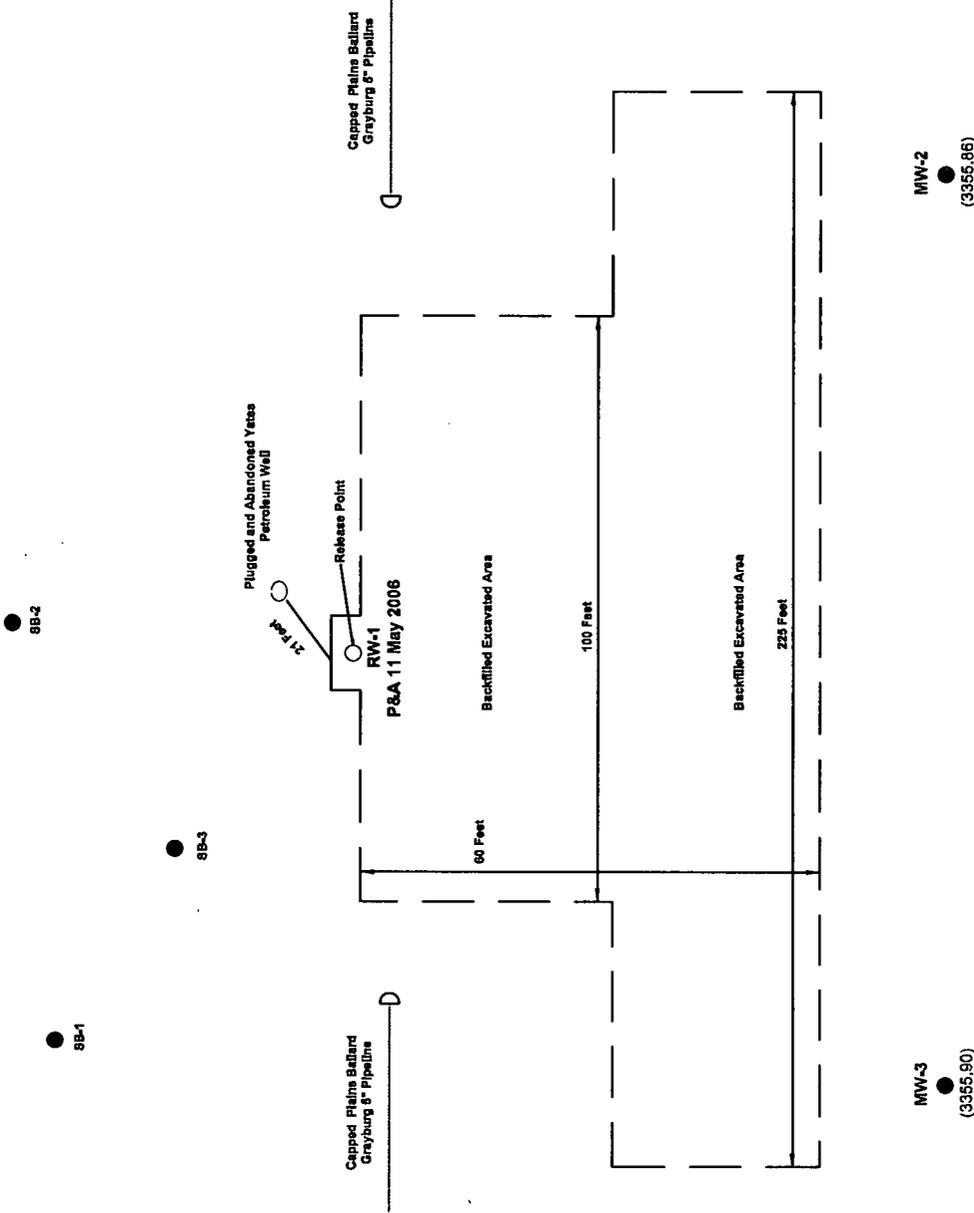
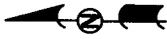
**LEGEND:**

- Monitor Well Location
- - - Excavation Extents
- Fence
- Pipeline
- Groundwater Gradient Contour Line
- Groundwater Elevation (feet)
- 0.003 ft/r Groundwater Gradient Direction and Magnitude

Figure 2C  
 Inferred Groundwater  
 Gradient Map  
 (09/03/10)  
 Plains Marketing, L.P.,  
 Bulard Grayburg 5-inch  
 Lea County, NM  
 ZRP-0063

**Basin Environmental Service Technologies**

|                   |                                |                                         |
|-------------------|--------------------------------|-----------------------------------------|
| Scale: 1" = 80'   | Drawn By: JWL                  | Prepared By: JWL                        |
| December 08, 2010 | SE 1/4 NE 1/4 Sec 18 T17S R37E | Lat. N32° 51' 56" Long. W103° 17' 07.2" |



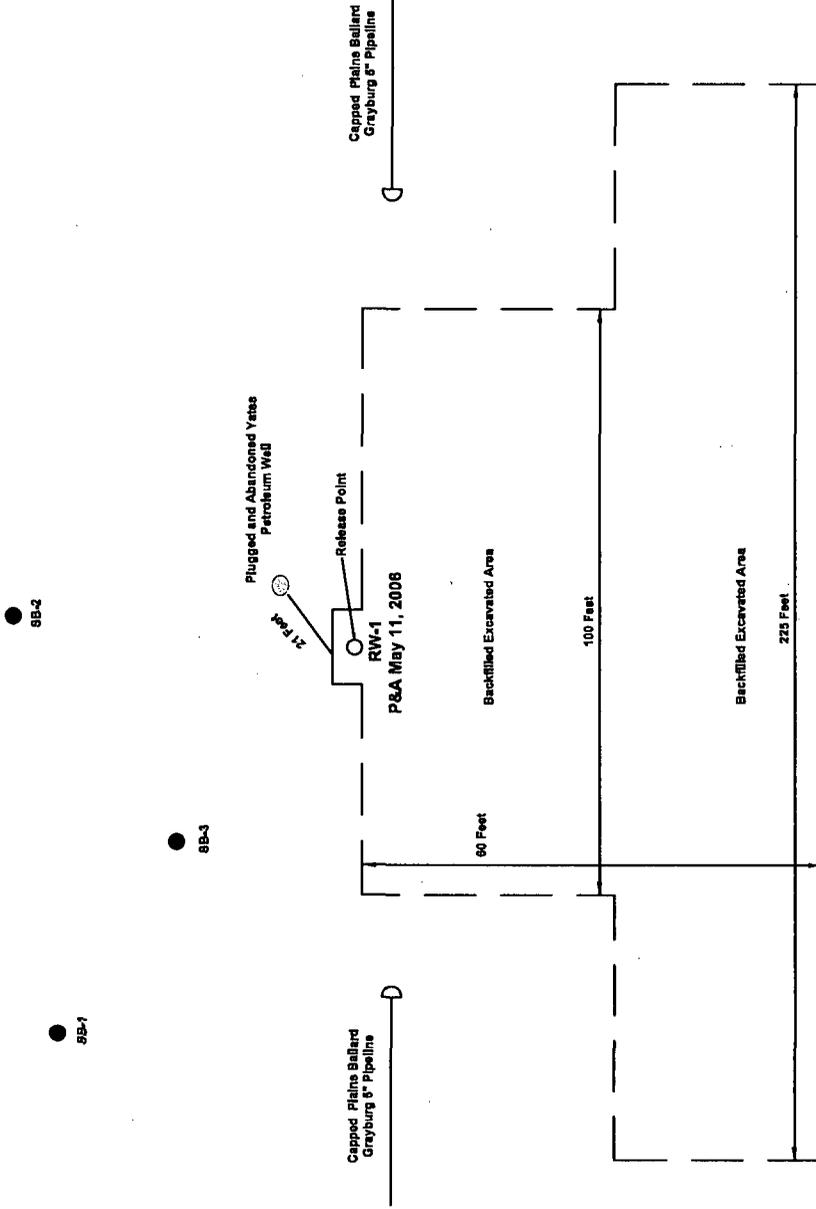
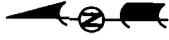
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- Monitor Well Location
- Excavation Extents
- - - Fence
- Pipeline
- Groundwater Gradient Contour Line
- (3307.49) Groundwater Elevation (feet)
- 0.0037/h Groundwater Gradient Direction and Magnitude

**Figure 2D**  
**Inferred Groundwater Gradient Map**  
 (1/08/10)  
 Plains Marketing, L.P.  
 Ballard Grayburg 5-inch  
 Lea County, NM  
 ZRP-0063

**Basin Environmental Service Technologies**

|                   |                                |                                         |
|-------------------|--------------------------------|-----------------------------------------|
| Scale: 1" = 80'   | Drawn By: JWL                  | Prepared By: JWL                        |
| December 08, 2010 | SE 1/4 NE 1/4 Sec 16 T17S R37E | Lat. N32° 51' 56" Long. W103° 17' 07.2" |



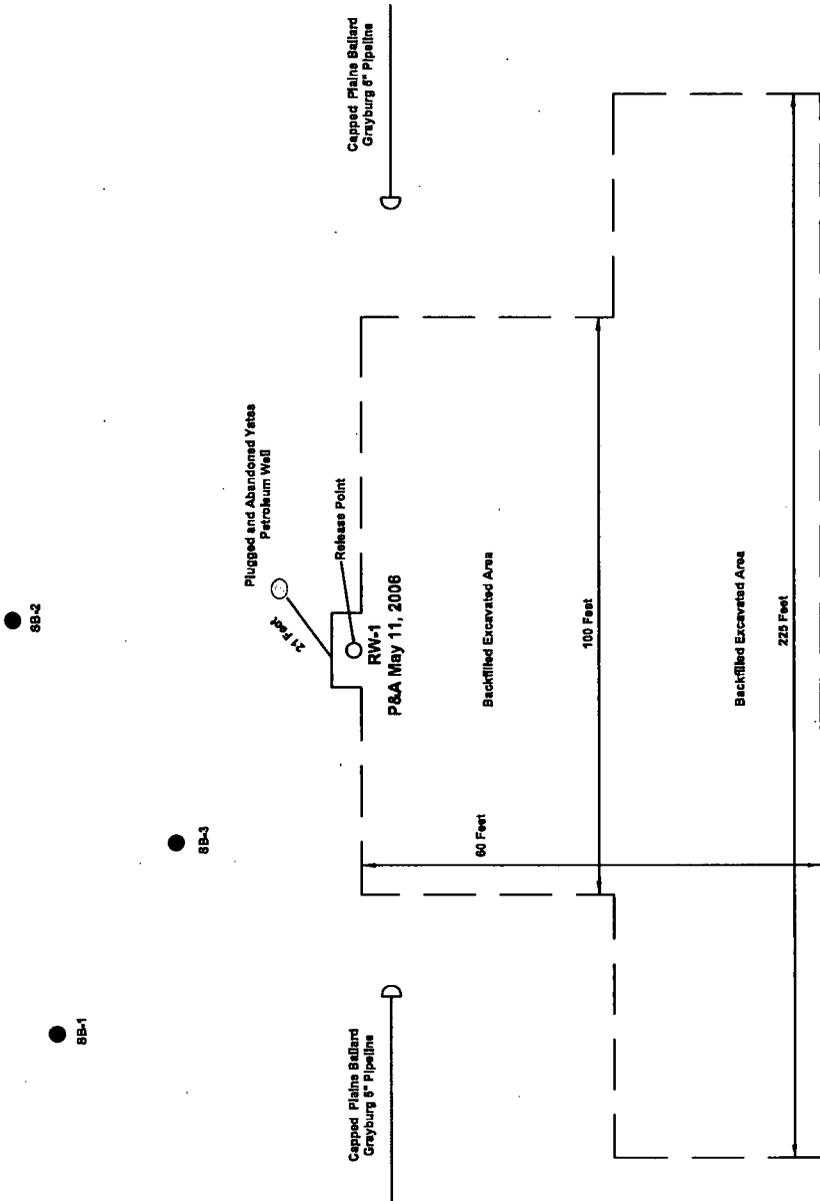
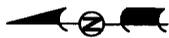
|              |         |
|--------------|---------|
| Benzene      | 0.0151  |
| Toluene      | 0.0023  |
| Ethylbenzene | <0.0010 |
| Total Xylene | <0.0020 |

**Basin Environmental Service Technologies**

**Figure 3A**  
Groundwater Concentration Map  
(03/31/10)  
Plains Marketing, L.P.  
Ballard Grayburg 5-Inch  
Eddy County, NM  
ZRP-0053

Scale: Not to Scale  
December 08, 2010  
Drawn By: JWL  
Prepared By: JWL  
SW1/4 SW1/4 Sec 10 T19S R9E  
Lat: N32° 48' 27.1" Long: W104° 04' 12.0"

**LEGEND:**  
 ● MW-1 Monitor Well Location  
 ○ MW-2 Monitor Well Location  
 ○ MW-3 Monitor Well Location  
 --- Excavation Extents  
 --- Pipeline  
 ○ Plugged and Abandoned Yates Petroleum Well  
 ○ Release Point  
 ○ Soil Boring Location  
 ● <0.001 Constituent Concentration (mg/L)



|              |         |
|--------------|---------|
| Benzene      | 0.0293  |
| Toluene      | <0.0020 |
| Ethylbenzene | 0.0053  |
| Total Xylene | 0.0026  |

|              |         |
|--------------|---------|
| Benzene      | 0.0198  |
| Toluene      | 0.0046  |
| Ethylbenzene | <0.0010 |
| Total Xylene | <0.0020 |

**Basin Environmental Service Technologies**

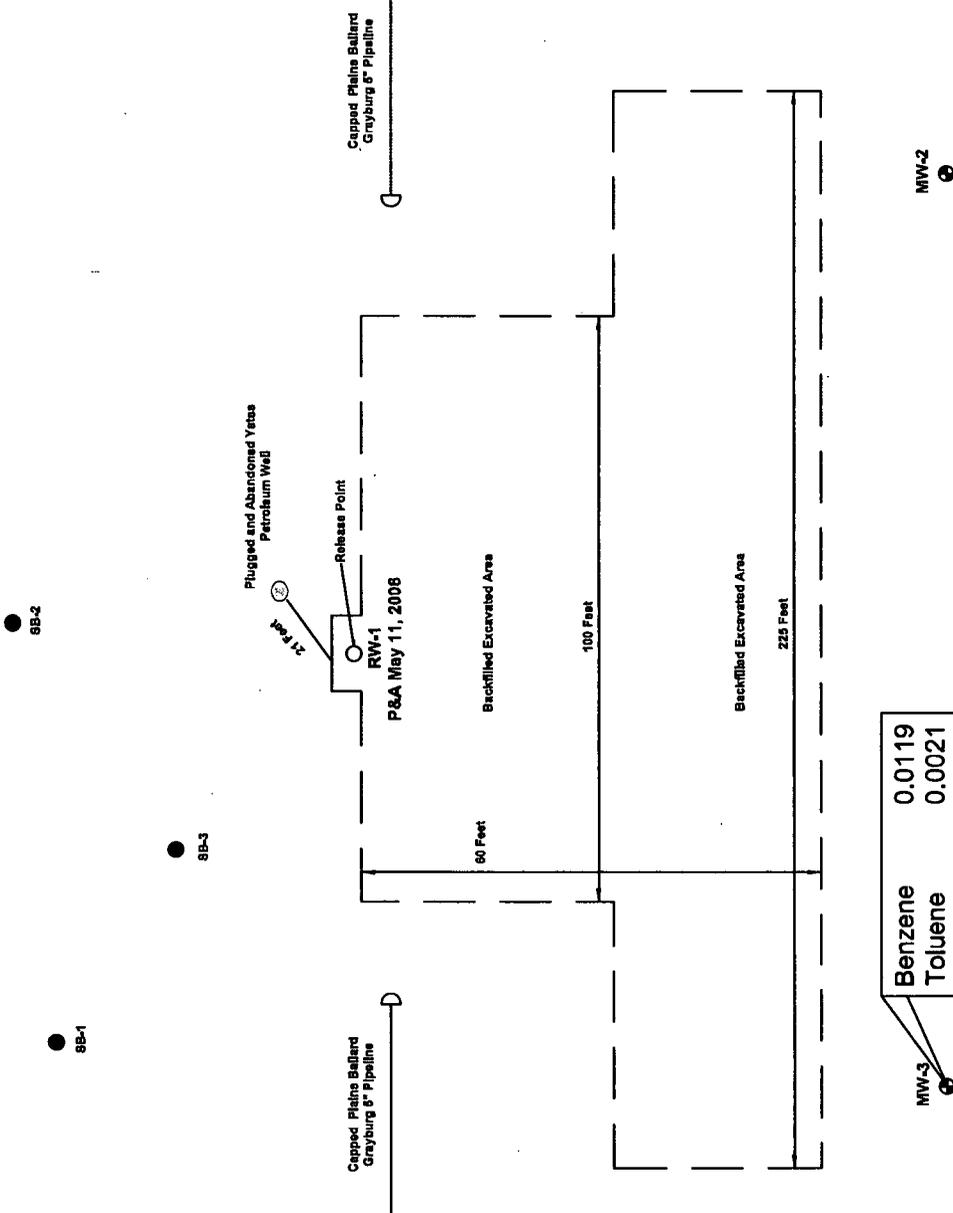
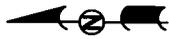
Scale: Not to Scale  
 December 08, 2010  
 Drawn By: JWL  
 Prepared By: JWL

SW1/4 SW1/4 Sec. 10 T.6S R28E  
 Lat. N32° 45' 27.1" Long. W104° 04' 12.0"

**Figure 3B**  
 Groundwater  
 Concentration Map  
 (08/01/10)  
 Plains Marketing, L.P.,  
 Ballard Grayburg 5-inch  
 Eddy County, NM  
 ZRP-0063

**LEGEND:**

- MW-1 Monitor Well Location
- Excavation Extents
- Pipeline
- Soil Boring Location
- <0.001 Constituent Concentration (mg/L)



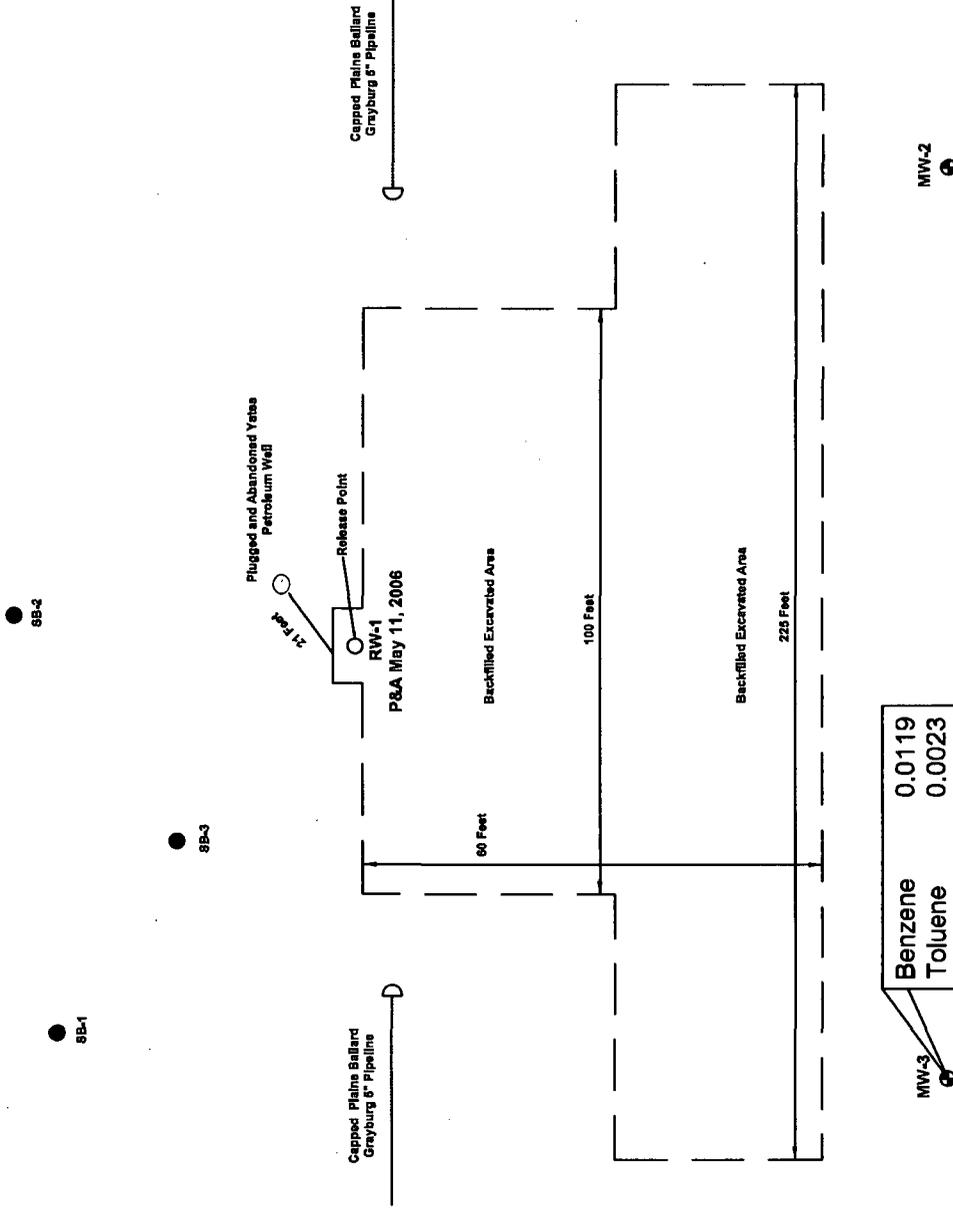
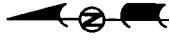
**LEGEND:**

- MW-1 Monitor Well Location
- Excavation Extents
- Pipeline
- 88-1 Soil Boring Location
- <0.001 Constituent Concentration (mg/L)

**Figure 3C**  
 Groundwater Concentration Map  
 (09/03/10)  
 Plains Marketing, L.P.  
 Ballard Grayburg 5-inch  
 Eddy County, NM  
 ZRP-0063

**Basin Environmental Service Technologies**

|                     |                               |                       |
|---------------------|-------------------------------|-----------------------|
| Scale: Not to Scale | Drawn By: JWJ                 | Prepared By: JWJ      |
| December 08, 2010   | SW1/4 SW1/4 Sec. 10 T16S R28E |                       |
|                     | Lat. N32° 45' 27.1"           | Long. W104° 04' 12.0" |



|              |         |
|--------------|---------|
| Benzene      | 0.0119  |
| Toluene      | 0.0023  |
| Ethylbenzene | <0.0010 |
| Total Xylene | <0.0020 |

**Basin Environmental Service Technologies**

**Figure 3D**  
Groundwater Concentration Map (1/08/10)  
Plains Marketing, L.P.  
Ballard Grayburg 6-inch Eddy County, NM  
2RP-0053

Scale: Not to Scale  
December 08, 2010  
Drawn By: JWL  
Prepared By: JWL  
SW1/4 SW1/4 Sec 10 T18S R95E  
Lat: N32° 45' 27.1" Long: W104° 04' 12.0"

**LEGEND:**  
 ● MW-1 Monitor Well Location  
 ○ MW-2 Monitor Well Location  
 ○ MW-3 Monitor Well Location  
 --- Excavation Extents  
 --- Pipeline  
 ● SB-1 Soil Boring Location  
 <0.001 Constituent Concentration (mg/L)



# Tables

**TABLE 1**

**2010 GROUNDWATER ELEVATION DATA**

**PLAINS PIPELINE, L.P.  
 BALLARD GRAYBURG 5-INCH  
 EDDY COUNTY, NEW MEXICO  
 PLAINS SRS NO: 2004-192  
 NMOCD REFERENCE NO: 2RP-0053**

| <b>WELL NUMBER</b>                          | <b>DATE MEASURED</b> | <b>CASING WELL ELEVATION</b> | <b>DEPTH TO PRODUCT</b> | <b>DEPTH TO WATER</b> | <b>PSH THICKNESS</b> | <b>CORRECTED GROUNDWATER ELEVATION</b> |
|---------------------------------------------|----------------------|------------------------------|-------------------------|-----------------------|----------------------|----------------------------------------|
| MW - 2                                      | 03/31/10             | 3,497.90                     | -                       | 142.39                | 0.00                 | 3,355.51                               |
|                                             | 06/01/10             | 3,497.90                     | -                       | 142.21                | 0.00                 | 3,355.69                               |
|                                             | 09/03/10             | 3,497.90                     | -                       | 142.42                | 0.00                 | 3,355.48                               |
|                                             | 11/08/10             | 3,497.90                     | -                       | 142.04                | 0.00                 | 3,355.86                               |
| MW-3                                        | 03/31/10             | 3,497.91                     | -                       | 142.49                | 0.00                 | 3,355.42                               |
|                                             | 06/01/10             | 3,497.91                     | -                       | 142.18                | 0.00                 | 3,355.73                               |
|                                             | 09/03/10             | 3,497.91                     | -                       | 142.39                | 0.00                 | 3,355.52                               |
|                                             | 11/08/10             | 3,497.91                     | -                       | 142.01                | 0.00                 | 3,355.90                               |
| NOTE: RW-1 Plugged & Abandoned May 11, 2006 |                      |                              |                         |                       |                      |                                        |

TABLE 2

CONCENTRATIONS OF BENZENE & BTEX IN GROUNDWATER

PLAINS MARKETING, L.P.  
 BALLARD GRAYBURG 5"  
 EDDY COUNTY, NEW MEXICO  
 PLAINS EMS NO. 2004-00206

| SAMPLE LOCATION         | SAMPLE DATE | METHODS: EPA SW 846-8021b |                |                      |                           |                  |        | TOTAL BTEX (mg/L) |
|-------------------------|-------------|---------------------------|----------------|----------------------|---------------------------|------------------|--------|-------------------|
|                         |             | BENZENE (mg/L)            | TOLUENE (mg/L) | ETHYL-BENZENE (mg/L) | M,P-XYLENES (mg/L)        | O-XYLENES (mg/L) |        |                   |
| MW-2                    | 06/01/10    | 0.0293                    | <0.002         | 0.0053               | 0.0026                    | <0.001           | 0.0372 |                   |
| MW-3                    | 03/31/10    | 0.0151                    | 0.0023         | <0.0010              | <0.0020                   | <0.0010          | 0.0174 |                   |
|                         | 06/01/10    | 0.0198                    | 0.0046         | <0.0010              | <0.0020                   | <0.0010          | 0.0244 |                   |
|                         | 09/03/10    | 0.0119                    | 0.0021         | <0.0010              | <0.0020                   | <0.0010          | 0.0140 |                   |
|                         | 11/08/10    | 0.0119                    | 0.0023         | <0.0010              | <0.0020                   | <0.0010          | 0.0142 |                   |
| <b>INMOC D CRITERIA</b> |             | <b>0.01</b>               | <b>0.75</b>    | <b>0.75</b>          | <b>TOTAL XYLENES 0.62</b> |                  |        |                   |



# **Appendices**



**Appendix A**  
**Laboratory Analytical Reports**

# Analytical Report 367145

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Ballard Greyburg**

**SRS# 2004-192**

**01-APR-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-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: FL00449):

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

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



01-APR-10

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

Reference: XENCO Report No: **367145**  
**Ballard Greyburg**  
Project Address: Eddy 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 367145. 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. 367145 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.*

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



**Sample Cross Reference 367145**



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

| <b>Sample Id</b> | <b>Matrix</b> | <b>Date Collected</b> | <b>Sample Depth</b> | <b>Lab Sample Id</b> |
|------------------|---------------|-----------------------|---------------------|----------------------|
| MW-2             | W             | Mar-26-10 10:00       |                     | 367145-001           |



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Ballard Greyburg*

*Project ID: SRS# 2004-192*

*Work Order Number: 367145*

*Report Date: 01-APR-10*

*Date Received: 03/29/2010*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-800413 BTEX by EPA 8021

SW8021BM

Batch 800413, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 366845-004 S,366845-004 SD.



# Certificate of Analysis Summary 367145

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

**Project Id:** SRS# 2004-192  
**Contact:** Jason Henry  
**Project Location:** Eddy County, NM

**Project Name:** Ballard Greyburg

**Date Received in Lab:** Mon Mar-29-10 08:50 am  
**Report Date:** 01-APR-10  
**Project Manager:** Brent Barron, II

| <i>Analysis Requested</i> |  | <i>Lab Id:</i> | <i>Field Id:</i> | <i>Depth:</i> | <i>Matrix:</i> | <i>Sampled:</i> | <i>Extracted:</i> | <i>Analyzed:</i> | <i>Units/RL:</i> |
|---------------------------|--|----------------|------------------|---------------|----------------|-----------------|-------------------|------------------|------------------|
| <b>BTEX by EPA 8021</b>   |  | 367145-001     | MW-2             |               | WATER          | Mar-26-10 10:00 | Mar-30-10 08:00   | Mar-30-10 18:29  | mg/L RL          |
| Benzene                   |  |                |                  |               |                |                 |                   |                  | ND 0.0010        |
| Toluene                   |  |                |                  |               |                |                 |                   |                  | ND 0.0020        |
| Ethylbenzene              |  |                |                  |               |                |                 |                   |                  | ND 0.0010        |
| m,p-Xylenes               |  |                |                  |               |                |                 |                   |                  | ND 0.0020        |
| o-Xylene                  |  |                |                  |               |                |                 |                   |                  | ND 0.0010        |
| Xylenes, Total            |  |                |                  |               |                |                 |                   |                  | ND 0.0010        |
| Total BTEX                |  |                |                  |               |                |                 |                   |                  | ND 0.0010        |

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

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

  
 Brent Barron, II  
 Odessa Laboratory Manager



## Flagging Criteria

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

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|                                             | Phone          | Fax            |
|---------------------------------------------|----------------|----------------|
| 4143 Greenbriar Dr, Stafford, Tx 77477      | (281) 240-4200 | (281) 240-4280 |
| 9701 Harry Hines Blvd , Dallas, TX 75220    | (214) 902 0300 | (214) 351-9139 |
| 5332 Blackberry Drive, San Antonio TX 78238 | (210) 509-3334 | (210) 509-3335 |
| 2505 North Falkenburg Rd, Tampa, FL 33619   | (813) 620-2000 | (813) 620-2033 |
| 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: Ballard Greyburg

Work Orders : 367145,

Project ID: SRS# 2004-192

Lab Batch #: 800413

Sample: 559446-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/10 07:58

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0313           | 0.0300          | 104             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0278           | 0.0300          | 93              | 80-120            |       |

Lab Batch #: 800413

Sample: 559446-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/10 08:19

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0294           | 0.0300          | 98              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0267           | 0.0300          | 89              | 80-120            |       |

Lab Batch #: 800413

Sample: 559446-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/10 09:21

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0281           | 0.0300          | 94              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0272           | 0.0300          | 91              | 80-120            |       |

Lab Batch #: 800413

Sample: 367145-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/10 18:29

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0277           | 0.0300          | 92              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0245           | 0.0300          | 82              | 80-120            |       |

Lab Batch #: 800413

Sample: 366845-004 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/10 21:35

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0297           | 0.0300          | 99              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0221           | 0.0300          | 74              | 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: Ballard Greyburg

Work Orders : 367145,

Project ID: SRS# 2004-192

Lab Batch #: 800413

Sample: 366845-004 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 03/30/10 21:55

## SURROGATE RECOVERY STUDY

| <b>BTEX by EPA 8021</b> | <b>Amount Found [A]</b> | <b>True Amount [B]</b> | <b>Recovery %R [D]</b> | <b>Control Limits %R</b> | <b>Flags</b> |
|-------------------------|-------------------------|------------------------|------------------------|--------------------------|--------------|
| <b>Analytes</b>         |                         |                        |                        |                          |              |
| 1,4-Difluorobenzene     | 0.0291                  | 0.0300                 | 97                     | 80-120                   |              |
| 4-Bromofluorobenzene    | 0.0225                  | 0.0300                 | 75                     | 80-120                   | *            |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

**Project Name: Ballard Greyburg**

Work Order #: 367145  
 Analyst: ASA  
 Lab Batch ID: 800413  
 Sample: 559446-1-BKS  
 Date Prepared: 03/30/2010  
 Batch #: 1  
 Project ID: SRS# 2004-192  
 Date Analyzed: 03/30/2010  
 Matrix: Water

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| Analytes         | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| BTEX by EPA 8021 |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene          | ND                      | 0.1000          | 0.0824                 | 82                 | 0.1             | 0.0877                           | 88                   | 6     | 70-125            | 25                  |      |
| Toluene          | ND                      | 0.1000          | 0.0832                 | 83                 | 0.1             | 0.0889                           | 89                   | 7     | 70-125            | 25                  |      |
| Ethylbenzene     | ND                      | 0.1000          | 0.0848                 | 85                 | 0.1             | 0.0905                           | 91                   | 7     | 71-129            | 25                  |      |
| m,p-Xylenes      | ND                      | 0.2000          | 0.1744                 | 87                 | 0.2             | 0.1855                           | 93                   | 6     | 70-131            | 25                  |      |
| o-Xylene         | ND                      | 0.1000          | 0.0866                 | 87                 | 0.1             | 0.0924                           | 92                   | 6     | 71-133            | 25                  |      |

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



# Form 3 - MS / MSD Recoveries



Project Name: Ballard Greyburg

Work Order #: 367145      Project ID: SRS# 2004-192  
 Lab Batch ID: 800413      QC- Sample ID: 366845-004 S      Batch #: 1      Matrix: Water  
 Date Analyzed: 03/30/2010      Date Prepared: 03/30/2010      Analyst: ASA  
 Reporting Units: mg/L

| MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |
|------------------------------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| 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                                              | ND                       | 0.1000          | 0.0808                   | 81                   | 0.1000          | 0.0794                             | 79                 | 2     | 70-125            | 25                  |      |
| Toluene                                              | ND                       | 0.1000          | 0.0810                   | 81                   | 0.1000          | 0.0806                             | 81                 | 0     | 70-125            | 25                  |      |
| Ethylbenzene                                         | ND                       | 0.1000          | 0.0833                   | 83                   | 0.1000          | 0.0827                             | 83                 | 1     | 71-129            | 25                  |      |
| m,p-Xylenes                                          | ND                       | 0.2000          | 0.1694                   | 85                   | 0.2000          | 0.1674                             | 84                 | 1     | 70-131            | 25                  |      |
| o-Xylene                                             | ND                       | 0.1000          | 0.0852                   | 85                   | 0.1000          | 0.0850                             | 85                 | 0     | 71-133            | 25                  |      |

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



**Environmental Lab of Texas**  
**Variance/ Corrective Action Report- Sample Log-In**

Client: Plains  
 Date/ Time: 03-29-10 0850  
 Lab ID #: 367145  
 Initials: JMP

**Sample Receipt Checklist**

Client Initials

|                                                              | Yes                              | No                               |                          |  |
|--------------------------------------------------------------|----------------------------------|----------------------------------|--------------------------|--|
| #1 Temperature of container/ cooler?                         | <input checked="" type="radio"/> | <input type="radio"/>            | 1.6 °C                   |  |
| #2 Shipping container in good condition?                     | <input checked="" type="radio"/> | <input type="radio"/>            |                          |  |
| #3 Custody Seals intact on shipping container/ cooler?       | <input checked="" type="radio"/> | <input type="radio"/>            | Not Present              |  |
| #4 Custody Seals intact on sample bottles/ container? /label | <input checked="" type="radio"/> | <input type="radio"/>            | Not Present              |  |
| #5 Chain of Custody present?                                 | <input checked="" type="radio"/> | <input type="radio"/>            |                          |  |
| #6 Sample instructions complete of Chain of Custody?         | <input checked="" type="radio"/> | <input type="radio"/>            |                          |  |
| #7 Chain of Custody signed when relinquished/ received?      | <input checked="" type="radio"/> | <input type="radio"/>            |                          |  |
| #8 Chain of Custody agrees with sample label(s)?             | <input checked="" type="radio"/> | <input type="radio"/>            | ID written on Cont./ Lid |  |
| #9 Container label(s) legible and intact?                    | <input checked="" type="radio"/> | <input type="radio"/>            | Not Applicable           |  |
| #10 Sample matrix/ properties agree with Chain of Custody?   | <input checked="" type="radio"/> | <input type="radio"/>            |                          |  |
| #11 Containers supplied by ELOT?                             | <input checked="" type="radio"/> | <input type="radio"/>            |                          |  |
| #12 Samples in proper container/ bottle?                     | <input checked="" type="radio"/> | <input type="radio"/>            | See Below                |  |
| #13 Samples properly preserved?                              | <input checked="" type="radio"/> | <input type="radio"/>            | See Below                |  |
| #14 Sample bottles intact?                                   | <input checked="" type="radio"/> | <input type="radio"/>            |                          |  |
| #15 Preservations documented on Chain of Custody?            | <input checked="" type="radio"/> | <input type="radio"/>            |                          |  |
| #16 Containers documented on Chain of Custody?               | <input checked="" type="radio"/> | <input type="radio"/>            |                          |  |
| #17 Sufficient sample amount for indicated test(s)?          | <input checked="" type="radio"/> | <input type="radio"/>            | See Below                |  |
| #18 All samples received within sufficient hold time?        | <input checked="" type="radio"/> | <input type="radio"/>            | See Below                |  |
| #19 Subcontract of sample(s)?                                | <input checked="" type="radio"/> | <input checked="" type="radio"/> | Not Applicable           |  |
| #20 VOC samples have zero headspace?                         | <input checked="" type="radio"/> | <input type="radio"/>            | Not Applicable           |  |

**Variance Documentation**

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

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

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

- Check all that Apply:
- See attached e-mail/ fax
  - Client understands and would like to proceed with analysis
  - Cooling process had begun shortly after sampling event

# Analytical Report 368066

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Ballard Grayburg 5"**

**2004-00192**

**08-APR-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-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: FL00449):

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

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



08-APR-10

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

Reference: XENCO Report No: **368066**  
**Ballard Grayburg 5"**  
Project Address: Eddy 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 368066. 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. 368066 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.*

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**Sample Cross Reference 368066**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Ballard Grayburg 5"

| <b>Sample Id</b> | <b>Matrix</b> | <b>Date Collected</b> | <b>Sample Depth</b> | <b>Lab Sample Id</b> |
|------------------|---------------|-----------------------|---------------------|----------------------|
| MW-3             | W             | Mar-31-10 13:30       |                     | 368066-001           |



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Ballard Grayburg 5"*



*Project ID: 2004-00192*

*Work Order Number: 368066*

*Report Date: 08-APR-10*

*Date Received: 04/06/2010*

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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-801539 BTEX by EPA 8021

SW8021BM

Batch 801539, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 368066-001 S,368066-001 SD.



# Certificate of Analysis Summary 368066

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



**Project Id:** 2004-00192  
**Contact:** Jason Henry  
**Project Location:** Eddy County, NM

**Project Name:** Ballard Grayburg 5"  
**Date Received in Lab:** Tue Apr-06-10 09:05 am  
**Report Date:** 08-APR-10  
**Project Manager:** Brent Barron, II

| <i>Analysis Requested</i> | <i>Lab Id:</i> | <i>Field Id:</i> | <i>Depth:</i> | <i>Matrix:</i> | <i>Sampled:</i> | <i>Extracted:</i> | <i>Analyzed:</i> | <i>Units/RL:</i> |  |  |  |
|---------------------------|----------------|------------------|---------------|----------------|-----------------|-------------------|------------------|------------------|--|--|--|
| <b>BTEX by EPA 8021</b>   | 368066-001     | MW-3             |               | WATER          | Mar-31-10 13:30 | Apr-07-10 16:00   | Apr-07-10 19:23  | mg/L RL          |  |  |  |
| Benzene                   |                |                  |               |                |                 |                   |                  | 0.0151 0.0010    |  |  |  |
| Toluene                   |                |                  |               |                |                 |                   |                  | 0.0023 0.0020    |  |  |  |
| Ethylbenzene              |                |                  |               |                |                 |                   |                  | ND 0.0010        |  |  |  |
| m,p-Xylenes               |                |                  |               |                |                 |                   |                  | ND 0.0020        |  |  |  |
| o-Xylene                  |                |                  |               |                |                 |                   |                  | ND 0.0010        |  |  |  |
| Xylenes, Total            |                |                  |               |                |                 |                   |                  | ND 0.0010        |  |  |  |
| Total BTEX                |                |                  |               |                |                 |                   |                  | 0.0174 0.0010    |  |  |  |

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

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**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

\* Outside XENCO's scope of NELAC Accreditation.

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|                                             | Phone          | Fax            |
|---------------------------------------------|----------------|----------------|
| 4143 Greenbriar Dr, Stafford, Tx 77477      | (281) 240-4200 | (281) 240-4280 |
| 9701 Harry Hines Blvd , Dallas, TX 75220    | (214) 902 0300 | (214) 351-9139 |
| 5332 Blackberry Drive, San Antonio TX 78238 | (210) 509-3334 | (210) 509-3335 |
| 2505 North Falkenburg Rd, Tampa, FL 33619   | (813) 620-2000 | (813) 620-2033 |
| 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: Ballard Grayburg 5"

Work Orders : 368066,

Project ID: 2004-00192

Lab Batch #: 801539

Sample: 560153-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/07/10 17:39

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0293           | 0.0300          | 98              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0274           | 0.0300          | 91              | 80-120            |       |

Lab Batch #: 801539

Sample: 560153-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/07/10 18:00

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0316           | 0.0300          | 105             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0275           | 0.0300          | 92              | 80-120            |       |

Lab Batch #: 801539

Sample: 560153-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/07/10 19:03

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0283           | 0.0300          | 94              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0255           | 0.0300          | 85              | 80-120            |       |

Lab Batch #: 801539

Sample: 368066-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/07/10 19:23

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0271           | 0.0300          | 90              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0356           | 0.0300          | 119             | 80-120            |       |

Lab Batch #: 801539

Sample: 368066-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/07/10 22:49

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0286           | 0.0300          | 95              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0415           | 0.0300          | 138             | 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: Ballard Grayburg 5"

Work Orders : 368066,

Project ID: 2004-00192

Lab Batch #: 801539

Sample: 368066-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/08/10 23:10

## SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0271           | 0.0300          | 90              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0493           | 0.0300          | 164             | 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: Ballard Grayburg 5"

Work Order #: 368066

Analyst: ASA

Lab Batch ID: 801539

Sample: 560153-1-BKS

Date Prepared: 04/07/2010

Batch #: 1

Project ID: 2004-00192

Date Analyzed: 04/07/2010

Matrix: Water

Units: mg/L

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

| Analytes         | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| BTEX by EPA 8021 |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene          | ND                      | 0.1000          | 0.0791                 | 79                 | 0.1             | 0.0857                           | 86                   | 8     | 70-125            | 25                  |      |
| Toluene          | ND                      | 0.1000          | 0.0788                 | 79                 | 0.1             | 0.0859                           | 86                   | 9     | 70-125            | 25                  |      |
| Ethylbenzene     | ND                      | 0.1000          | 0.0811                 | 81                 | 0.1             | 0.0882                           | 88                   | 8     | 71-129            | 25                  |      |
| m,p-Xylenes      | ND                      | 0.2000          | 0.1660                 | 83                 | 0.2             | 0.1803                           | 90                   | 8     | 70-131            | 25                  |      |
| o-Xylene         | ND                      | 0.1000          | 0.0838                 | 84                 | 0.1             | 0.0909                           | 91                   | 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 - MS / MSD Recoveries



Project Name: Ballard Grayburg 5"

Work Order #: 368066

Project ID: 2004-00192

Lab Batch ID: 801539

QC-Sample ID: 368066-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 04/07/2010

Date Prepared: 04/07/2010

Analyst: ASA

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| 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 |
|------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
|                  |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |
| BTEX by EPA 8021 |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |
| Benzene          | 0.0151                   | 0.1000          | 0.0948                   | 80                   | 0.1000          | 0.0870                             | 72                 | 9     | 70-125            | 25                  |      |
| Toluene          | 0.0023                   | 0.1000          | 0.0844                   | 82                   | 0.1000          | 0.0745                             | 72                 | 12    | 70-125            | 25                  |      |
| Ethylbenzene     | ND                       | 0.1000          | 0.0816                   | 82                   | 0.1000          | 0.0732                             | 73                 | 11    | 71-129            | 25                  |      |
| m,p-Xylenes      | ND                       | 0.2000          | 0.1604                   | 80                   | 0.2000          | 0.1417                             | 71                 | 12    | 70-131            | 25                  |      |
| o-Xylene         | ND                       | 0.1000          | 0.0855                   | 86                   | 0.1000          | 0.0744                             | 74                 | 14    | 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



# Environmental Lab of Texas

## Variance/ Corrective Action Report- Sample Log-In

Client: Plains / Basin  
 Date/ Time: 04-06-10 C 0905  
 Lab ID #: 368066  
 Initials: JMF

### Sample Receipt Checklist

|                                                               |     |    |                          | Client Initials |
|---------------------------------------------------------------|-----|----|--------------------------|-----------------|
| #1 Temperature of container/ cooler?                          | Yes | No | 4.6 °C                   |                 |
| #2 Shipping container in good condition?                      | Yes | No |                          |                 |
| #3 Custody Seals intact on shipping container/ cooler?        | Yes | No | Not Present              |                 |
| #4 Custody Seals intact on sample bottles/ container? / label | Yes | No | Not Present              |                 |
| #5 Chain of Custody present?                                  | Yes | No |                          |                 |
| #6 Sample instructions complete of Chain of Custody?          | Yes | No |                          |                 |
| #7 Chain of Custody signed when relinquished/ received?       | Yes | No |                          |                 |
| #8 Chain of Custody agrees with sample label(s)?              | Yes | No | ID written on Cont./ Lid |                 |
| #9 Container label(s) legible and intact?                     | Yes | No | Not Applicable           |                 |
| #10 Sample matrix/ properties agree with Chain of Custody?    | Yes | No |                          |                 |
| #11 Containers supplied by ELOT?                              | Yes | No |                          |                 |
| #12 Samples in proper container/ bottle?                      | Yes | No | See Below                |                 |
| #13 Samples properly preserved?                               | Yes | No | See Below                |                 |
| #14 Sample bottles intact?                                    | Yes | No |                          |                 |
| #15 Preservations documented on Chain of Custody?             | Yes | No |                          |                 |
| #16 Containers documented on Chain of Custody?                | Yes | No |                          |                 |
| #17 Sufficient sample amount for indicated test(s)?           | Yes | No | See Below                |                 |
| #18 All samples received within sufficient hold time?         | Yes | No | See Below                |                 |
| #19 Subcontract of sample(s)?                                 | Yes | No | Not Applicable           |                 |
| #20 VOC samples have zero headspace?                          | Yes | No | Not Applicable           |                 |

### Variance Documentation

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

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

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

- Check all that Apply:
- See attached e-mail/ fax
  - Client understands and would like to proceed with analysis
  - Cooling process had begun shortly after sampling event

# Analytical Report 375474

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Ballard Grayburg 5"**

**2004-00192**

**09-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-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: FL00449):

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

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



09-JUN-10

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

Reference: XENCO Report No: **375474**  
**Ballard Grayburg 5"**  
Project Address: Eddy 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 375474. 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. 375474 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 375474**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Ballard Grayburg 5"

| <b>Sample Id</b> | <b>Matrix</b> | <b>Date Collected</b> | <b>Sample Depth</b> | <b>Lab Sample Id</b> |
|------------------|---------------|-----------------------|---------------------|----------------------|
| MW-3             | W             | Jun-01-10 13:30       |                     | 375474-001           |
| MW-2             | W             | Jun-01-10 12:30       |                     | 375474-002           |



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Ballard Grayburg 5"*

*Project ID: 2004-00192*

*Work Order Number: 375474*

*Report Date: 09-JUN-10*

*Date Received: 06/03/2010*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-809848 BTEX by EPA 8021

None

Batch: LBA-809918 BTEX by EPA 8021

None



**Certificate of Analysis Summary 375474**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

**Project Id:** 2004-00192  
**Contact:** Jason Henry  
**Project Location:** Eddy County, NM

**Project Name:** Ballard Grayburg 5"

**Date Received in Lab:** Thu Jun-03-10 04:48 pm  
**Report Date:** 09-JUN-10  
**Project Manager:** Brent Barron, II

| <i>Analysis Requested</i> | 375474-001      |                  | 375474-002    |                |
|---------------------------|-----------------|------------------|---------------|----------------|
|                           | <i>Lab Id:</i>  | <i>Field Id:</i> | <i>Depth:</i> | <i>Matrix:</i> |
|                           | MW-3            | MW-2             |               |                |
|                           | WATER           | WATER            |               |                |
|                           | Jun-01-10 13:30 | Jun-01-10 12:30  |               |                |
| <b>BTEX by EPA 8021</b>   | Jun-09-10 06:45 | Jun-08-10 16:00  |               |                |
|                           | Jun-09-10 11:07 | Jun-08-10 21:17  |               |                |
|                           | mg/L RL         | mg/L RL          |               |                |
| Benzene                   | 0.0198 0.0010   | 0.0293 0.0010    |               |                |
| Toluene                   | 0.0046 0.0020   | ND 0.0020        |               |                |
| Ethylbenzene              | ND 0.0010       | 0.0053 0.0010    |               |                |
| m,p-Xylenes               | ND 0.0020       | 0.0026 0.0020    |               |                |
| o-Xylene                  | ND 0.0010       | ND 0.0010        |               |                |
| Xylenes, Total            | ND 0.0010       | 0.0026 0.0010    |               |                |
| Total BTEX                | 0.0244 0.0010   | 0.0372 0.0010    |               |                |

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

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**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
- \* Outside XENCO's scope of NELAC Accreditation.

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

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



# Form 2 - Surrogate Recoveries

Project Name: Ballard Grayburg 5"

Work Orders : 375474,

Project ID: 2004-00192

Lab Batch #: 809848

Sample: 565236-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/08/10 18:17

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0302           | 0.0300          | 101             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0294           | 0.0300          | 98              | 80-120            |       |

Lab Batch #: 809848

Sample: 565236-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/08/10 18:39

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0304           | 0.0300          | 101             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0300           | 0.0300          | 100             | 80-120            |       |

Lab Batch #: 809848

Sample: 565236-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/08/10 19:47

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0241           | 0.0300          | 80              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0295           | 0.0300          | 98              | 80-120            |       |

Lab Batch #: 809848

Sample: 375474-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/08/10 21:17

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0284           | 0.0300          | 95              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0297           | 0.0300          | 99              | 80-120            |       |

Lab Batch #: 809848

Sample: 375188-002 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/09/10 04:23

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0268           | 0.0300          | 89              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0286           | 0.0300          | 95              | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: Ballard Grayburg 5"

Work Orders : 375474,

Project ID: 2004-00192

Lab Batch #: 809848

Sample: 375188-002 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/09/10 04:45

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0280           | 0.0300          | 93              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0281           | 0.0300          | 94              | 80-120            |       |

Lab Batch #: 809918

Sample: 565281-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/09/10 06:58

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0301           | 0.0300          | 100             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0315           | 0.0300          | 105             | 80-120            |       |

Lab Batch #: 809918

Sample: 565281-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/09/10 07:21

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0278           | 0.0300          | 93              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0274           | 0.0300          | 91              | 80-120            |       |

Lab Batch #: 809918

Sample: 565281-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/09/10 08:28

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0271           | 0.0300          | 90              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0262           | 0.0300          | 87              | 80-120            |       |

Lab Batch #: 809918

Sample: 375474-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/09/10 11:07

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0272           | 0.0300          | 91              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0240           | 0.0300          | 80              | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: Ballard Grayburg 5"

Work Orders : 375474,

Project ID: 2004-00192

Lab Batch #: 809918

Sample: 374793-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/09/10 12:36

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0336           | 0.0300          | 112             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0312           | 0.0300          | 104             | 80-120            |       |

Lab Batch #: 809918

Sample: 374793-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/09/10 12:58

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0298           | 0.0300          | 99              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0287           | 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  
 All results are based on MDL and validated for QC purposes.



# BS / BSD Recoveries



## Project Name: Ballard Grayburg 5"

Work Order #: 375474

Analyst: ASA

Lab Batch ID: 809848

Sample: 565236-1-BKS

Date Prepared: 06/08/2010

Batch #: 1

Project ID: 2004-00192

Date Analyzed: 06/08/2010

Matrix: Water

Units: mg/L

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

| Analytes         | BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
|------------------|----------------------------------------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
|                  | 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 |
| BTEX by EPA 8021 |                                                          |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene          | ND                                                       | 0.1000          | 0.0959                 | 96                 | 0.1             | 0.1012                           | 101                  | 5     | 70-125            | 25                  |      |
| Toluene          | ND                                                       | 0.1000          | 0.0961                 | 96                 | 0.1             | 0.1019                           | 102                  | 6     | 70-125            | 25                  |      |
| Ethylbenzene     | ND                                                       | 0.1000          | 0.1011                 | 101                | 0.1             | 0.1066                           | 107                  | 5     | 71-129            | 25                  |      |
| m,p-Xylenes      | ND                                                       | 0.2000          | 0.2021                 | 101                | 0.2             | 0.2135                           | 107                  | 5     | 70-131            | 25                  |      |
| o-Xylene         | ND                                                       | 0.1000          | 0.0998                 | 100                | 0.1             | 0.1061                           | 106                  | 6     | 71-133            | 25                  |      |

Analyst: ASA

Lab Batch ID: 809918

Sample: 565281-1-BKS

Date Prepared: 06/09/2010

Batch #: 1

Date Analyzed: 06/09/2010

Matrix: Water

Units: mg/L

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

| Analytes         | BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
|------------------|----------------------------------------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
|                  | 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 |
| BTEX by EPA 8021 |                                                          |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene          | ND                                                       | 0.1000          | 0.0860                 | 86                 | 0.1             | 0.0804                           | 80                   | 7     | 70-125            | 25                  |      |
| Toluene          | ND                                                       | 0.1000          | 0.0932                 | 93                 | 0.1             | 0.0865                           | 87                   | 7     | 70-125            | 25                  |      |
| Ethylbenzene     | ND                                                       | 0.1000          | 0.0910                 | 91                 | 0.1             | 0.0851                           | 85                   | 7     | 71-129            | 25                  |      |
| m,p-Xylenes      | ND                                                       | 0.2000          | 0.1988                 | 99                 | 0.2             | 0.1820                           | 91                   | 9     | 70-131            | 25                  |      |
| o-Xylene         | ND                                                       | 0.1000          | 0.0980                 | 98                 | 0.1             | 0.0903                           | 90                   | 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 - MS / MSD Recoveries



Project Name: Ballard Grayburg 5"

Work Order #: 375474

Project ID: 2004-00192

Lab Batch ID: 809848

QC-Sample ID: 375188-002 S

Batch #: 1 Matrix: Water

Date Analyzed: 06/09/2010

Date Prepared: 06/08/2010

Analyst: ASA

Reporting Units: mg/L

| MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |
|------------------------------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| 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                                              | ND                       | 0.1000          | 0.0845                   | 85                   | 0.1000          | 0.0882                             | 88                 | 4     | 70-125            | 25                  |      |
| Toluene                                              | ND                       | 0.1000          | 0.0869                   | 87                   | 0.1000          | 0.0908                             | 91                 | 4     | 71-129            | 25                  |      |
| Ethylbenzene                                         | ND                       | 0.2000          | 0.1727                   | 86                   | 0.2000          | 0.1773                             | 89                 | 3     | 70-131            | 25                  |      |
| m,p-Xylenes                                          | ND                       | 0.1000          | 0.0845                   | 85                   | 0.1000          | 0.0886                             | 89                 | 5     | 71-133            | 25                  |      |
| o-Xylene                                             |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |

Lab Batch ID: 809918

QC-Sample ID: 374793-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 06/09/2010

Date Prepared: 06/09/2010

Analyst: ASA

Reporting Units: mg/L

| MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |
|------------------------------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| 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                                              | ND                       | 0.1000          | 0.0976                   | 98                   | 0.1000          | 0.0941                             | 94                 | 4     | 70-125            | 25                  |      |
| Toluene                                              | ND                       | 0.1000          | 0.0939                   | 94                   | 0.1000          | 0.0893                             | 89                 | 5     | 71-129            | 25                  |      |
| Ethylbenzene                                         | ND                       | 0.2000          | 0.2029                   | 101                  | 0.2000          | 0.1949                             | 97                 | 4     | 70-131            | 25                  |      |
| m,p-Xylenes                                          | ND                       | 0.1000          | 0.1020                   | 102                  | 0.1000          | 0.0971                             | 97                 | 5     | 71-133            | 25                  |      |
| o-Xylene                                             |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |

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

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

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

# Environmental Lab of Texas

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12800 West I-20 East  
Odessa, Texas 79765

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

PAGE 01 OF 01

Project Name: **BALLARD GRAYBURG 5"**

Project Manager: Camille Bryant

Company Name: Basin Environmental Consulting

Project #: 2004-00192

Company Address: PO Box 381

Project Loc: Eddy County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA J. Henry

Telephone No: 975-605-7210

Report Format:  Standard  TRRP  NPDES

Fax No: (575) 396-1429

Sampler Signature: See away for Lance Reynolds e-mail: cbryant@basin-consulting.com

ORDER #: 375474

Matrix: GW

Time Sampled: 1330

Date Sampled: 1-Jun-10

Beginning Depth:

Ending Depth:

Field Filtered: 3

Total # of Containers: 3

Ice: X

HNO<sub>3</sub>: X

H<sub>2</sub>SO<sub>4</sub>: X

NaOH: X

Na<sub>2</sub>S<sub>2</sub>O<sub>8</sub>: X

Other (Specify): None

DW - Drinking Water SL - Sludge

GW - Groundwater S - Soil/Sediment

NP - Non-Portable Specify Dm

TPH: 4181 8015M 8015B

TPH: TX 1005 TX 1008

Cations (Ca, Mg, Na, K)

Anions (Cl, SO<sub>4</sub>, Alkalinity)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTX (BTEX 80218/5030 or BTEX 8260)

TOCLP: X

TOTAL: X

Analyze For:

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

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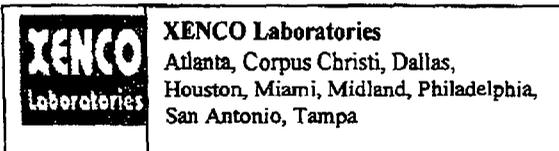
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Special Instructions:

Laboratory Comments:  
VOCs Free of Headspace?  
Custody seals on container(s)  
Sample Hand Delivered  
by Sampler/Client Rep.?  
by Courier? UPS DHL FedEx Lone Star  
Temperature Upon Receipt: 4.1 °C

| Relinquished by: | Date          | Time         | Received by:    | Date          | Time         |
|------------------|---------------|--------------|-----------------|---------------|--------------|
| <u>See away</u>  | <u>6/3/10</u> | <u>13:00</u> | <u>EL</u>       | <u>6/3/10</u> | <u>13:00</u> |
| <u>See away</u>  | <u>6/3/10</u> | <u>16:48</u> | <u>See away</u> | <u>6/3/10</u> | <u>16:48</u> |
| <u>See away</u>  | <u>6/3/10</u> | <u>16:48</u> | <u>See away</u> | <u>6/3/10</u> | <u>16:48</u> |



Document Title: Sample Receipt Checklist  
 Document No.: SYS - SRC  
 Revision/Date : No.00 , 05/18/10  
 Effective Date: 05/20/10  
 Page No.: 1 of 1

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

Client: Basin Env. / Plains  
 Date/Time: 6-3-10 16:48  
 Lab ID #: 375474  
 Initials: AL

**Sample Receipt Checklist**

|                                                                            |              |              |              |              |
|----------------------------------------------------------------------------|--------------|--------------|--------------|--------------|
| 1. Sample 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 lable(s)?                           | <u>Yes</u>   | No           |              |              |
| 9. Container labels legible legible and intact?                            | <u>Yes</u>   | No           |              |              |
| 10. Sample matrix / properties agree with chain of custody?                | <u>Yes</u>   | No           |              |              |
| 11. Samples in proper container / bottle?                                  | <u>Yes</u>   | No           |              |              |
| 12. Samples properly preserved?                                            | <u>Yes</u>   | No           | N/A          |              |
| 13. Sample container intact?                                               | <u>Yes</u>   | No           |              |              |
| 14. Sufficient sample amount for indicated test(s)?                        | <u>Yes</u>   | No           |              |              |
| 15. All samples received within sufficient hold time?                      | <u>Yes</u>   | No           |              |              |
| 16. Subcontract of sample(s)?                                              | Yes          | No           | <u>N/A</u>   |              |
| 17. Voc sample have zero head space?                                       | <u>Yes</u>   | No           | N/A          |              |
| 18. Cooler 1 No.                                                           | Cooler 2 No. | Cooler 3 No. | Cooler 4 No. | Cooler 5 No. |
| lbs <u>4.1</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 388945**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Ballard Grayburg 5"**

**2004-00192**

**14-SEP-10**



**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), California(06244CA), 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)**



14-SEP-10

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

Reference: XENCO Report No: **388945**  
**Ballard Grayburg 5"**  
Project Address: Eddy 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 388945. 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. 388945 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 388945**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Ballard Grayburg 5"

| Sample Id | Matrix | Date Collected  | Sample Depth | Lab Sample Id |
|-----------|--------|-----------------|--------------|---------------|
| MW-3      | W      | Sep-03-10 13:45 |              | 388945-001    |



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Ballard Grayburg 5"*



*Project ID: 2004-00192*

*Work Order Number: 388945*

*Report Date: 14-SEP-10*

*Date Received: 09/08/2010*

---

**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-822408 BTEX by EPA 8021

None



**Certificate of Analysis Summary 388945**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



**Project Id:** 2004-00192  
**Contact:** Jason Henry  
**Project Location:** Eddy County, NM

**Project Name:** Ballard Grayburg 5"  
**Date Received in Lab:** Wed Sep-08-10 01:30 am  
**Report Date:** 14-SEP-10  
**Project Manager:** Brent Barron, II

| <i>Analysis Requested</i> |  | <i>Lab Id:</i> | <i>Field Id:</i> | <i>Depth:</i> | <i>Matrix:</i> | <i>Sampled:</i> | <i>Extracted:</i> | <i>Analyzed:</i> | <i>Units/RL:</i> |
|---------------------------|--|----------------|------------------|---------------|----------------|-----------------|-------------------|------------------|------------------|
| <b>BTEX by EPA 8021</b>   |  | 388945-001     | MW-3             |               | WATER          | Sep-03-10 13:45 | Sep-08-10 09:00   | Sep-10-10 10:21  | RL               |
| Benzene                   |  |                |                  |               |                |                 |                   | mg/L             |                  |
| Toluene                   |  |                |                  |               |                |                 |                   | 0.0119           | 0.0010           |
| Ethylbenzene              |  |                |                  |               |                |                 |                   | 0.0021           | 0.0020           |
| m,p-Xylenes               |  |                |                  |               |                |                 |                   | ND               | 0.0010           |
| o-Xylene                  |  |                |                  |               |                |                 |                   | ND               | 0.0020           |
| Xylenes, Total            |  |                |                  |               |                |                 |                   | ND               | 0.0010           |
| Total BTEX                |  |                |                  |               |                |                 |                   | 0.0140           | 0.0010           |

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

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

**Brent Barron, II**  
 Odessa Laboratory Manager

**Flagging Criteria**

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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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|                                                                                                  | Phone          | Fax            |
|--------------------------------------------------------------------------------------------------|----------------|----------------|
| Houston - Dallas - San Antonio - Corpus Christi - Midland/Odessa - Tampa - Miami - Latin America |                |                |
| 4143 Greenbriar Dr, Stafford, Tx 77477                                                           | (281) 240-4200 | (281) 240-4280 |
| 9701 Harry Hines Blvd , Dallas, TX 75220                                                         | (214) 902 0300 | (214) 351-9139 |
| 5332 Blackberry Drive, San Antonio TX 78238                                                      | (210) 509-3334 | (210) 509-3335 |
| 2505 North Falkenburg Rd, Tampa, FL 33619                                                        | (813) 620-2000 | (813) 620-2033 |
| 5757 NW 158th St, Miami Lakes, FL 33014                                                          | (305) 823-8500 | (305) 823-8555 |
| 12600 West I-20 East, Odessa, TX 79765                                                           | (432) 563-1800 | (432) 563-1713 |
| 842 Cantwell Lane, Corpus Christi, TX 78408                                                      | (361) 884-0371 | (361) 884-9116 |



# Form 2 - Surrogate Recoveries

Project Name: Ballard Grayburg 5"

Work Orders : 388945,

Project ID: 2004-00192

Lab Batch #: 822408

Sample: 572943-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/09/10 16:01

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0331           | 0.0300          | 110             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0332           | 0.0300          | 111             | 80-120            |       |

Lab Batch #: 822408

Sample: 572943-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/09/10 16:24

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0335           | 0.0300          | 112             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0334           | 0.0300          | 111             | 80-120            |       |

Lab Batch #: 822408

Sample: 572943-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/09/10 18:02

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0289           | 0.0300          | 96              | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0337           | 0.0300          | 112             | 80-120            |       |

Lab Batch #: 822408

Sample: 388134-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/09/10 18:49

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0331           | 0.0300          | 110             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0337           | 0.0300          | 112             | 80-120            |       |

Lab Batch #: 822408

Sample: 388134-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/09/10 19:12

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene          | 0.0328           | 0.0300          | 109             | 80-120            |       |
| 4-Bromofluorobenzene         | 0.0329           | 0.0300          | 110             | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: Ballard Grayburg 5"

Work Orders : 388945,

Project ID: 2004-00192

Lab Batch #: 822408

Sample: 388945-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 09/10/10 10:21

## SURROGATE RECOVERY STUDY

| <b>BTEX by EPA 8021</b> | <b>Amount Found [A]</b> | <b>True Amount [B]</b> | <b>Recovery %R [D]</b> | <b>Control Limits %R</b> | <b>Flags</b> |
|-------------------------|-------------------------|------------------------|------------------------|--------------------------|--------------|
| <b>Analytes</b>         |                         |                        |                        |                          |              |
| 1,4-Difluorobenzene     | 0.0299                  | 0.0300                 | 100                    | 80-120                   |              |
| 4-Bromofluorobenzene    | 0.0335                  | 0.0300                 | 112                    | 80-120                   |              |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



**Project Name: Ballard Grayburg 5"**

Work Order #: 388945

Analyst: SEE

Lab Batch ID: 822408

Sample: 572943-1-BKS

Date Prepared: 09/08/2010

Batch #: 1

Project ID: 2004-00192

Date Analyzed: 09/09/2010

Matrix: Water

Units: mg/L

| BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
|-----------------------------------------------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes                                                  | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| BTEX by EPA 8021                                          |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene                                                   | ND                      | 0.1000          | 0.0917                 | 92                 | 0.1             | 0.0968                           | 97                   | 5     | 70-125            | 25                  |      |
| Toluene                                                   | ND                      | 0.1000          | 0.0908                 | 91                 | 0.1             | 0.0961                           | 96                   | 6     | 70-125            | 25                  |      |
| Ethylbenzene                                              | ND                      | 0.1000          | 0.0940                 | 94                 | 0.1             | 0.0999                           | 100                  | 6     | 71-129            | 25                  |      |
| m,p-Xylenes                                               | ND                      | 0.2000          | 0.1819                 | 91                 | 0.2             | 0.1932                           | 97                   | 6     | 70-131            | 25                  |      |
| o-Xylene                                                  | ND                      | 0.1000          | 0.0940                 | 94                 | 0.1             | 0.1003                           | 100                  | 6     | 71-133            | 25                  |      |

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



# Form 3 - MS / MSD Recoveries



Project Name: Ballard Grayburg 5"

Work Order #: 388945

Project ID: 2004-00192

Lab Batch ID: 822408

QC-Sample ID: 388134-001 S Batch #: 1 Matrix: Water

Date Analyzed: 09/09/2010

Date Prepared: 09/08/2010 Analyst: SEE

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| 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 |
|------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
|                  |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |
| BTEX by EPA 8021 |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |
| Benzene          | ND                       | 0.1000          | 0.0977                   | 98                   | 0.1000          | 0.0979                             | 98                 | 0     | 70-125            | 25                  |      |
| Toluene          | ND                       | 0.1000          | 0.0966                   | 97                   | 0.1000          | 0.0974                             | 97                 | 1     | 70-125            | 25                  |      |
| Ethylbenzene     | ND                       | 0.1000          | 0.0994                   | 99                   | 0.1000          | 0.1007                             | 101                | 1     | 71-129            | 25                  |      |
| m,p-Xylenes      | ND                       | 0.2000          | 0.1925                   | 96                   | 0.2000          | 0.1946                             | 97                 | 1     | 70-131            | 25                  |      |
| o-Xylene         | ND                       | 0.1000          | 0.0999                   | 100                  | 0.1000          | 0.1004                             | 100                | 0     | 71-133            | 25                  |      |

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

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

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





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

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

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

Client: Basin Env.  
 Date/Time: 9/8/10 1:30  
 Lab ID #: 388945  
 Initials: TB

**Sample Receipt Checklist**

|                                                                     |              |              |              |                       |
|---------------------------------------------------------------------|--------------|--------------|--------------|-----------------------|
| 1. Samples on ice?                                                  | Blue         | <u>Water</u> | No           |                       |
| 2. Shipping container in good condition?                            | <u>Yes</u>   | No           | None         |                       |
| 3. Custody seals intact on shipping container (cooler) and bottles? | <u>Yes</u>   | No           | N/A          | <u>Labels as seen</u> |
| 4. Chain of Custody present?                                        | <u>Yes</u>   | No           |              |                       |
| 5. Sample instructions complete on chain of custody?                | <u>Yes</u>   | No           |              |                       |
| 6. Any missing / extra samples?                                     | 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          | <u>NO</u>    | N/A          |                       |
| 17. VOC sample have zero head space?                                | <u>Yes</u>   | No           | N/A          |                       |
| 18. Cooler 1 No.                                                    | Cooler 2 No. | Cooler 3 No. | Cooler 4 No. | Cooler 5 No.          |
| lbs <u>5.1</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 397218

for  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Ballard Grayburg 5"**

**2004-00192**

**17-NOV-10**



**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), California(06244CA), 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)



17-NOV-10

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

Reference: XENCO Report No: **397218**  
**Ballard Grayburg 5"**  
Project Address: Eddy 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 397218. 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. 397218 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.*

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**Sample Cross Reference 397218**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Ballard Grayburg 5"

| Sample Id | Matrix | Date Collected  | Sample Depth | Lab Sample Id |
|-----------|--------|-----------------|--------------|---------------|
| MW-3      | W      | Nov-08-10 11:00 |              | 397218-001    |



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Ballard Grayburg 5"*



*Project ID: 2004-00192*

*Work Order Number: 397218*

*Report Date: 17-NOV-10*

*Date Received: 11/12/2010*

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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 397218**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



**Project Id:** 2004-00192  
**Contact:** Jason Henry  
**Project Location:** Eddy County, NM

**Project Name:** Ballard Grayburg 5"  
**Date Received in Lab:** Fri Nov-12-10 04:20 pm  
**Report Date:** 17-NOV-10  
**Project Manager:** Brent Barron, II

| <i>Analysis Requested</i> |  | <i>Lab Id:</i> | <i>Field Id:</i> | <i>Depth:</i> | <i>Matrix:</i> | <i>Sampled:</i> | <i>Extracted:</i> | <i>Analyzed:</i> | <i>Units/RL:</i> |
|---------------------------|--|----------------|------------------|---------------|----------------|-----------------|-------------------|------------------|------------------|
| <b>BTEX by EPA 8021B</b>  |  | 397218-001     | MW-3             |               | WATER          | Nov-08-10 11:00 | Nov-15-10 16:45   | Nov-16-10 16:35  | mg/L RL          |
| Benzene                   |  |                |                  |               |                |                 |                   |                  | 0.0119 0.0010    |
| Toluene                   |  |                |                  |               |                |                 |                   |                  | 0.0023 0.0020    |
| Ethylbenzene              |  |                |                  |               |                |                 |                   |                  | ND 0.0010        |
| m_p-Xylenes               |  |                |                  |               |                |                 |                   |                  | ND 0.0020        |
| o-Xylene                  |  |                |                  |               |                |                 |                   |                  | ND 0.0010        |
| Total Xylenes             |  |                |                  |               |                |                 |                   |                  | ND 0.0010        |
| Total BTEX                |  |                |                  |               |                |                 |                   |                  | 0.0142 0.0010    |

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

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

**Brent Barron, II**  
 Odessa Laboratory Manager

## Flagging Criteria

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

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| 4143 Greenbriar Dr, Stafford, Tx 77477      | (281) 240-4200 | (281) 240-4280 |
| 9701 Harry Hines Blvd , Dallas, TX 75220    | (214) 902 0300 | (214) 351-9139 |
| 5332 Blackberry Drive, San Antonio TX 78238 | (210) 509-3334 | (210) 509-3335 |
| 2505 North Falkenburg Rd, Tampa, FL 33619   | (813) 620-2000 | (813) 620-2033 |
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| 842 Cantwell Lane, Corpus Christi, TX 78408 | (361) 884-0371 | (361) 884-9116 |



# Form 2 - Surrogate Recoveries

Project Name: Ballard Grayburg 5"

Work Orders : 397218,

Project ID: 2004-00192

Lab Batch #: 832334

Sample: 578959-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 09:43

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0344           | 0.0300          | 115             | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0313           | 0.0300          | 104             | 80-120            |       |

Lab Batch #: 832334

Sample: 578959-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 10:05

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0323           | 0.0300          | 108             | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0353           | 0.0300          | 118             | 80-120            |       |

Lab Batch #: 832334

Sample: 578959-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 10:48

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0252           | 0.0300          | 84              | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0311           | 0.0300          | 104             | 80-120            |       |

Lab Batch #: 832334

Sample: 397215-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 14:46

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>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          | 0.0269           | 0.0300          | 90              | 80-120            |       |

Lab Batch #: 832334

Sample: 397215-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 15:08

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0296           | 0.0300          | 99              | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0279           | 0.0300          | 93              | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: Ballard Grayburg 5"

Work Orders : 397218,

Project ID: 2004-00192

Lab Batch #: 832334

Sample: 397218-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 16:35

## SURROGATE RECOVERY STUDY

| <b>BTEX by EPA 8021B</b> | <b>Amount Found [A]</b> | <b>True Amount [B]</b> | <b>Recovery %R [D]</b> | <b>Control Limits %R</b> | <b>Flags</b> |
|--------------------------|-------------------------|------------------------|------------------------|--------------------------|--------------|
| <b>Analytes</b>          |                         |                        |                        |                          |              |
| 1,4-Difluorobenzene      | 0.0274                  | 0.0300                 | 91                     | 80-120                   |              |
| 4-Bromofluorobenzene     | 0.0314                  | 0.0300                 | 105                    | 80-120                   |              |

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# BS / BSD Recoveries

Project Name: Ballard Grayburg 5"

Work Order #: 397218

Project ID: 2004-00192

Analyst: ASA

Date Prepared: 11/15/2010

Date Analyzed: 11/16/2010

Lab Batch ID: 832334

Batch #: 1

Sample: 578959-1-BKS

Matrix: Water

Units: mg/L

| BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
|-----------------------------------------------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes                                                  | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| BTEX by EPA 8021B                                         |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene                                                   | ND                      | 0.1000          | 0.0961                 | 96                 | 0.1             | 0.1026                           | 103                  | 7     | 70-125            | 25                  |      |
| Toluene                                                   | ND                      | 0.1000          | 0.0930                 | 93                 | 0.1             | 0.0996                           | 100                  | 7     | 70-125            | 25                  |      |
| Ethylbenzene                                              | ND                      | 0.1000          | 0.0935                 | 94                 | 0.1             | 0.1008                           | 101                  | 8     | 71-129            | 25                  |      |
| m_p-Xylenes                                               | ND                      | 0.2000          | 0.1896                 | 95                 | 0.2             | 0.2038                           | 102                  | 7     | 70-131            | 25                  |      |
| o-Xylene                                                  | ND                      | 0.1000          | 0.0924                 | 92                 | 0.1             | 0.0972                           | 97                   | 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



# Form 3 - MS / MSD Recoveries



Project Name: Ballard Grayburg 5"

Work Order #: 397218

Project ID: 2004-00192

Lab Batch ID: 832334

Batch #: 1 Matrix: Water

Date Analyzed: 11/16/2010

QC-Sample ID: 397215-001 S

Date Prepared: 11/15/2010 Analyst: ASA

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| 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 |
|-------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
|                   |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |
| BTEX by EPA 8021B |                          |                 |                          |                      |                 |                                    |                    |       |                   |                     |      |
| Benzene           | 0.2795                   | 0.1000          | 0.3749                   | 95                   | 0.1000          | 0.3882                             | 109                | 3     | 70-125            | 25                  |      |
| Toluene           | 0.1807                   | 0.1000          | 0.2835                   | 103                  | 0.1000          | 0.2916                             | 111                | 3     | 70-125            | 25                  |      |
| Ethylbenzene      | 0.0126                   | 0.1000          | 0.1002                   | 88                   | 0.1000          | 0.1015                             | 89                 | 1     | 71-129            | 25                  |      |
| m,p-Xylenes       | 0.0114                   | 0.2000          | 0.1834                   | 86                   | 0.2000          | 0.1834                             | 86                 | 0     | 70-131            | 25                  |      |
| o-Xylene          | 0.0049                   | 0.1000          | 0.0928                   | 88                   | 0.1000          | 0.0934                             | 89                 | 1     | 71-133            | 25                  |      |

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

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

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





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

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

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

Client: Plains Basin Environmental  
 Date/Time: 11-18-10 16:20  
 Lab ID #: 397218  
 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           | <u>N/A</u>   |              |
| 4. Chain of Custody present?                                        | <u>Yes</u>   | No           |              |              |
| 5. Sample instructions complete on chain of custody?                | <u>Yes</u>   | No           |              |              |
| 6. Any missing / extra samples?                                     | 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          | <u>No</u>    | N/A          |              |
| 17. VOC sample have zero head space?                                | Yes          | <u>No</u>    | N/A          |              |
| 18. Cooler 1 No.                                                    | Cooler 2 No. | Cooler 3 No. | Cooler 4 No. | Cooler 5 No. |
| lbs 3.1 °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  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

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

**Release Notification and Corrective Action**

**OPERATOR**  Initial Report  Final Report

|                                              |                                 |
|----------------------------------------------|---------------------------------|
| Name of Company Plains Marketing, LP         | Contact Camille Reynolds        |
| Address 5805 East Hwy. 80, Midland, TX 79706 | Telephone No. 505-441-0965      |
| Facility Name Ballard Greyburg 5" #2         | Facility Type 5" Steel Pipeline |

|                   |               |           |
|-------------------|---------------|-----------|
| Surface Owner BLM | Mineral Owner | Lease No. |
|-------------------|---------------|-----------|

**LOCATION OF RELEASE**

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| M           | 10      | 18S      | 29E   |               |                  |               |                | Eddy   |

Latitude 32°45'27.1" Longitude 104°04'12.0"

**NATURE OF RELEASE**

|                                                                                                                                          |                                               |                                              |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------|
| Type of Release Crude Oil                                                                                                                | Volume of Release 80 barrels                  | Volume Recovered 0 barrels                   |
| Source of Release 5" Steel Pipeline                                                                                                      | Date and Hour of Occurrence<br>9-2-04 @ 06:00 | Date and Hour of Discovery<br>9-2-04 @ 08:45 |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?<br>Van Barton                |                                              |
| By Whom? Ken Dutton                                                                                                                      | Date and Hour 9-2-04 @ 14:32                  |                                              |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                        | If YES, Volume Impacting the Watercourse.     |                                              |

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* External corrosion of the 5" steel pipeline. A line clamp was installed to mitigate the release. The line is a 5-inch steel gathering line that produces approximately 95 barrels of crude per day. The pressure on the line varies from 50 to 70 psi and the gravity of the sour crude oil is 39. The sour crude has an H<sub>2</sub>S content of 20 ppm

Describe Area Affected and Cleanup Action Taken.\* The impacted soil was excavated and stockpiled on plastic. Aerial extent of surface impact was 10 x 6 feet, subsequent excavation of impacted soil resulted in an area of approximately 22 x 23 x 13 feet.

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.

|                                      |                                  |                                   |
|--------------------------------------|----------------------------------|-----------------------------------|
| Signature: <i>Camille Reynolds</i>   | <b>OIL CONSERVATION DIVISION</b> |                                   |
| Printed Name: Camille Reynolds       | Approved by District Supervisor: |                                   |
| Title: Remediation Coordinator       | Approval Date:                   | Expiration Date:                  |
| E-mail Address: cireynolds@paalp.com | Conditions of Approval:          |                                   |
| Date: 9-7-04                         | Phone: 505-441-0965              | Attached <input type="checkbox"/> |

\* Attach Additional Sheets If Necessary