

**2R - 53**

**MONITORING  
REPORTS  
DATE:**

**2007**

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

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## **2007 ANNUAL MONITORING REPORT**

**BALLARD GRAYBURG 5" SITE  
SW ¼ SW ¼ 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 REF: 2R-0053**

PREPARED FOR:



**PLAINS**

**PLAINS MARKETING, L.P.  
333 CLAY STEET, SUITE 1600  
HOUSTON, TEXAS 77002**

PREPARED BY:

**BASIN ENVIRONMENTAL SERVICE TECHNOLOGIES, LLC**

2800 Plains Highway  
P. O. Box 301  
Lovington, New Mexico 88260

**February 2008**

  
\_\_\_\_\_  
Ken Dutton  
Project Manager



**PLAINS  
ALL AMERICAN**

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14 March 2008

Mr. Ed Hansen  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division Environmental Bureau  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Re: Plains All American – Annual Monitoring Report  
1 Site in Lea 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 historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico Oil Conservation division (NMOCD). In accordance with the rules and regulations of the NMOCD, Plains All American hereby submits our Annual Monitoring report for the following site:

Ballard Grayburg 5" Section 10, Township 18 South, Range 29 East, Eddy County

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

Should you have any questions or comments, please contact me at (505) 441-0965.

Sincerely,

Camille Reynolds  
Remediation Coordinator  
Plains All American

Enclosure

cc: Mr. Mike Bratcher, NMOCD Artesia District II

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## INTRODUCTION

Basin Environmental Service Technologies, LLC (Basin), on behalf of Plains Marketing, L.P., (Plains), prepared this annual report in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an annual report by April 1 of each year. This report is intended to be viewed as a complete document with text, figures, tables, and appendices. This report presents the results of the quarterly groundwater monitoring events conducted in calendar year 2007 only. Additional site activities and remedial work is summarized in several letters and reports previously submitted to the NMOCD. For reference, the Site Location Map is provided as Figure 1.

Groundwater monitoring was conducted during the four (4) consecutive quarters of 2007 at the request of the NMOCD to monitor the groundwater from dissolved phase constituents. The groundwater monitoring event consisted of measuring static water levels in the monitoring wells, checking for the presence of phase-separated hydrocarbons (PSH) atop the water column, and purging and sampling of each well exhibiting sufficient recharge. Monitoring or recovery wells containing a thickness of PSH greater than 0.01 foot were not sampled.

## SITE DESCRIPTION AND BACKGROUND INFORMATION

The legal description of the site is SW¼ SW¼ Section 10, Township 18 South, Range 29 East. The site latitude is 32°, 45', 27.1" North and the site longitude is 104°, 04', 12.0" West. On 02 September 2004, Allstate Environmental Services responded to the pipeline release to repair the pipeline and excavate the impacted soil. At the request of Plains, Basin performed subsequent remediation of the site. The Ballard Grayburg 5" Pipeline was subsequently de-oiled, cold cut and capped. Approximately 80 barrels of crude oil were released from the Plains pipeline and 0 barrels were recovered. The site is characterized by a right-of-way for the pipeline in a pasture utilized for cattle grazing. The initial visibly surface stained area included the release point covering an area approximately 22 feet long by 23 feet wide. Excavation activities during the emergency response and subsequent remediation of the site covered an area approximately 225 feet long by 60 feet wide and ranged from approximately 10 to 20 feet below ground surface (bgs), respectively. Excavated soil was placed on a 6-mil poly-liner for future remedial action.

A Preliminary Site Investigation Report (PSIR) and Remediation Plan, dated 14 November 2004 was submitted and approved by NMOCD, Artesia District II and the U. S. Department of the Interior, Bureau of Land Management (BLM), Carlsbad Office. The approved plan included excavating to approximately 12 to 15 feet bgs, collecting confirmation soil samples, installing a 40-mil poly liner, blending of the clean segregated overburden and impacted soil on-site and backfilling 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 included excavating to a depth of approximately 18 to 20 feet bgs, installation of a 40-mil poly liner at the floor of the excavation, blending the excavated soil with clean segregated overburden, backfilling the excavation with blended stockpiled material on-site, collecting soil

samples at 500 cubic yard intervals ensuring TPH constituent concentrations were below 1000 mg/kg and reseed with approved BLM grass seed.

Based on initial delineation of the release site, two (2) groundwater monitoring wells were installed to evaluate the quality of groundwater and one (1) recovery well due to the presents of PSH from the soil samples during drilling activities. During the installation of the two (2) groundwater monitoring wells (October 2004), there were no visual signs of PSH and laboratory results of the selected soil samples did not indicate BTEX and TPH constituent concentrations above laboratory method detection limits or were significantly below NMOCD limits for the soil samples submitted to the laboratory. Two attempts to install an up gradient monitoring well proved futile due to drilling into subsurface limestone caverns. A hydrocarbon absorbent sock was installed in the recovery well to absorb the limited amount of crude oil on the groundwater and was replaced on a monthly basis. During excavation of the release area, recovery well RW-1 collapsed and was rendered unusable. The approved PSIR electronic revision stipulated that an additional recovery well north-northwest of the plugged and abandoned recovery well RW-1 be attempted once backfilling of the excavation was completed. In July 2006, an attempt to install the recovery well was initiated, however, as mentioned above, subsurface limestone caverns were encountered which negated the recovery well installation.

Currently, there are two (2) groundwater monitoring wells, MW-2 and MW-3 which are down gradient, on site.

## **FIELD ACTIVITIES**

The site monitoring wells were gauged and sampled on 19 March 2007, 05 June 2007, 27 September 2007 and 04 December 2007. During the quarterly sampling events, the monitoring wells, designated to be sampled, were purged of approximately 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 samplers. 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 at an approved disposal in Monument, New Mexico.

Locations of the groundwater monitoring wells and the inferred groundwater elevations, which were constructed from the measurements collected during the quarterly monitoring events, are depicted on Figures 2A through 2D. The groundwater elevation data are provided as Table 1. Research of the New Mexico State Engineers Office reflected a general south to southwest groundwater gradient in this area of Eddy County, New Mexico. The depth to groundwater, as measured from the top of the well casing, was 186.57, from the 04 December 2007 monitoring event.

## **LABORATORY RESULTS**

Groundwater samples were collected from the groundwater monitoring wells (MW-2 and MW-3) during the quarterly monitoring events and were delivered to Environmental Laboratory of Texas, Odessa, Texas for determination of benzene, toluene, ethylbenzene and xylenes (BTEX)

constituent concentrations by EPA Method SW846-8021b. A summary of BTEX constituent concentrations for 2007 is presented in Table 2 and the laboratory reports are provided as Appendix A.

Laboratory results for the two (2) site groundwater samples, obtained during the four (4) sampling periods, indicated that benzene and total BTEX constituent concentrations for monitoring well MW-2 were below applicable NMOCD limits for the third quarter monitoring event and exceeded NMOCD benzene limits at 0.043 mg/L, 0.012 mg/L and 0.013 mg/L, respectively, for the remaining three (3) monitoring events. Laboratory results indicated that benzene and total BTEX constituent concentrations for monitoring well MW-3 were not detected above laboratory method detection limits for the first quarter monitoring event and exceeded NMOCD benzene limits for the remaining three (3) monitoring events at 0.091mg/L, 0.017 mg/L and 0.013 mg/L, respectively. Laboratory results are depicted on 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.

## **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 monitoring period. Currently, there are two (2) groundwater monitoring wells (MW-2 and MW-3) on-site. Based on the limited data, groundwater elevations at the site are relatively similar and research of the New Mexico State Engineers Office reflected a general groundwater gradient to the south-southwest.

Laboratory results for the two (2) site groundwater samples, obtained during the four (4) sampling periods, indicated that benzene and total BTEX constituent concentrations for monitoring well MW-2 were below applicable NMOCD limits for the third quarter monitoring event and exceeded NMOCD benzene limits for the remaining three (3) monitoring events. Laboratory results indicated that benzene and total BTEX constituent concentrations for monitoring well MW-3 were not detected above laboratory method detection limits for the first quarter monitoring event and exceeded NMOCD benzene limits for the remaining three (3) monitoring events.

## **ANTICIPATED ACTIONS**

The NMOCD approved soil remediation activities at the Ballard Grayburg 5" site were completed and a site closure was submitted and approved by NMOCD Santa Fe. Based on the laboratory results from thirteen (13) consecutive quarterly sampling events, continued quarterly groundwater monitoring for MW-2 and MW-3 and annual reporting will be conducted in 2008.

## LIMITATIONS

Basin 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 has relied on oral statements made by certain individuals. Basin has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements 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 also 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. 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 and/or Plains.



## DISTRIBUTION

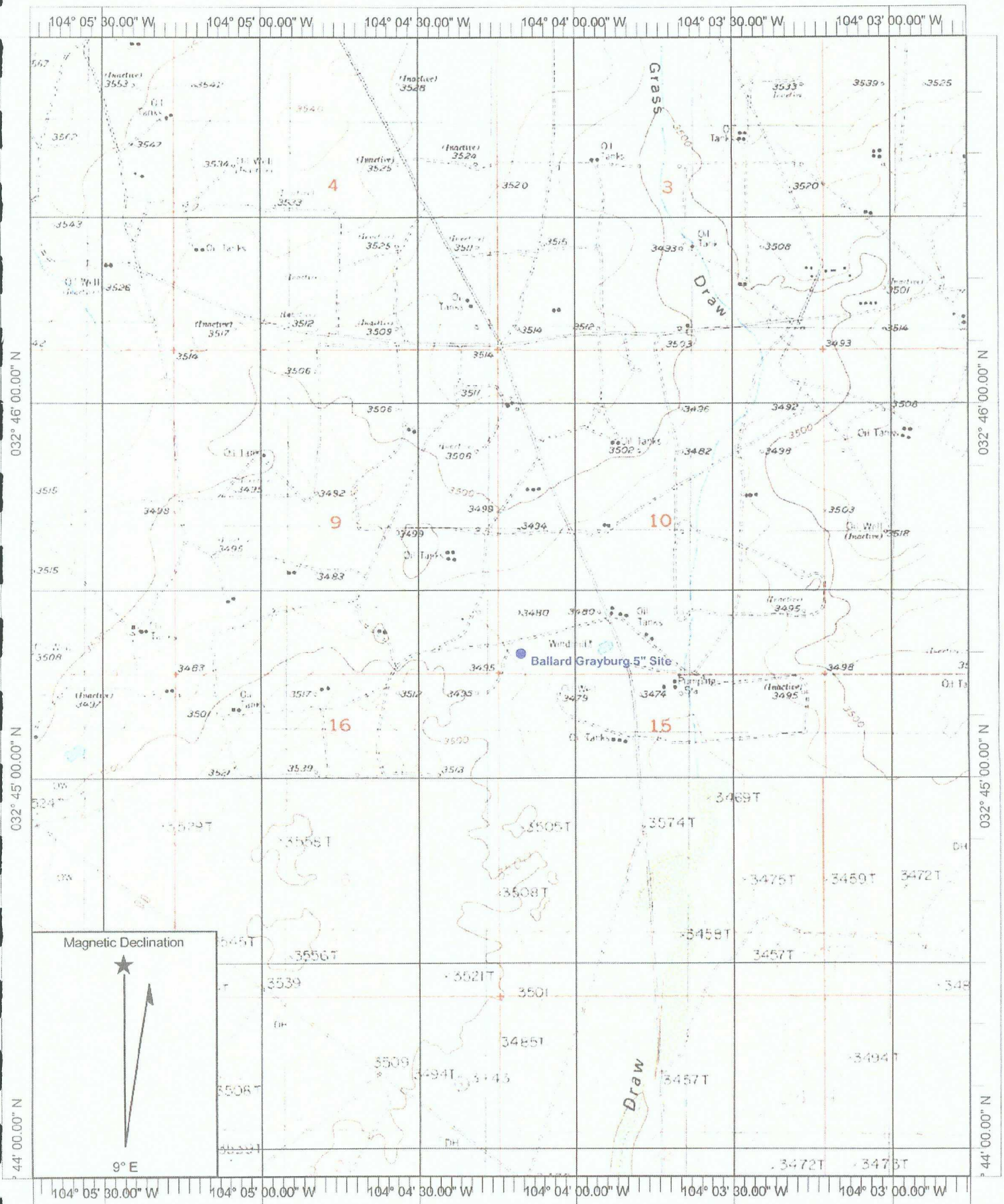
- Copy 1: Edward J. Hansen  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
[edwardj.hansen@state.nm.us](mailto:edwardj.hansen@state.nm.us)
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Artesia, New Mexico 88210  
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Copy Number: 1

# FIGURES

**FIGURE 1**

**SITE LOCATION MAP**



Name: RED LAKE SE  
 Date: 1/30/2007  
 Scale: 1 inch equals 2000 feet

Location: 032° 45' 27.39" N 104° 04' 14.57" W NAD 27  
 Caption: Figure 1, Site Location Map  
 Plains Marketing, L. P.  
 Ballard Grayburg 5" Site

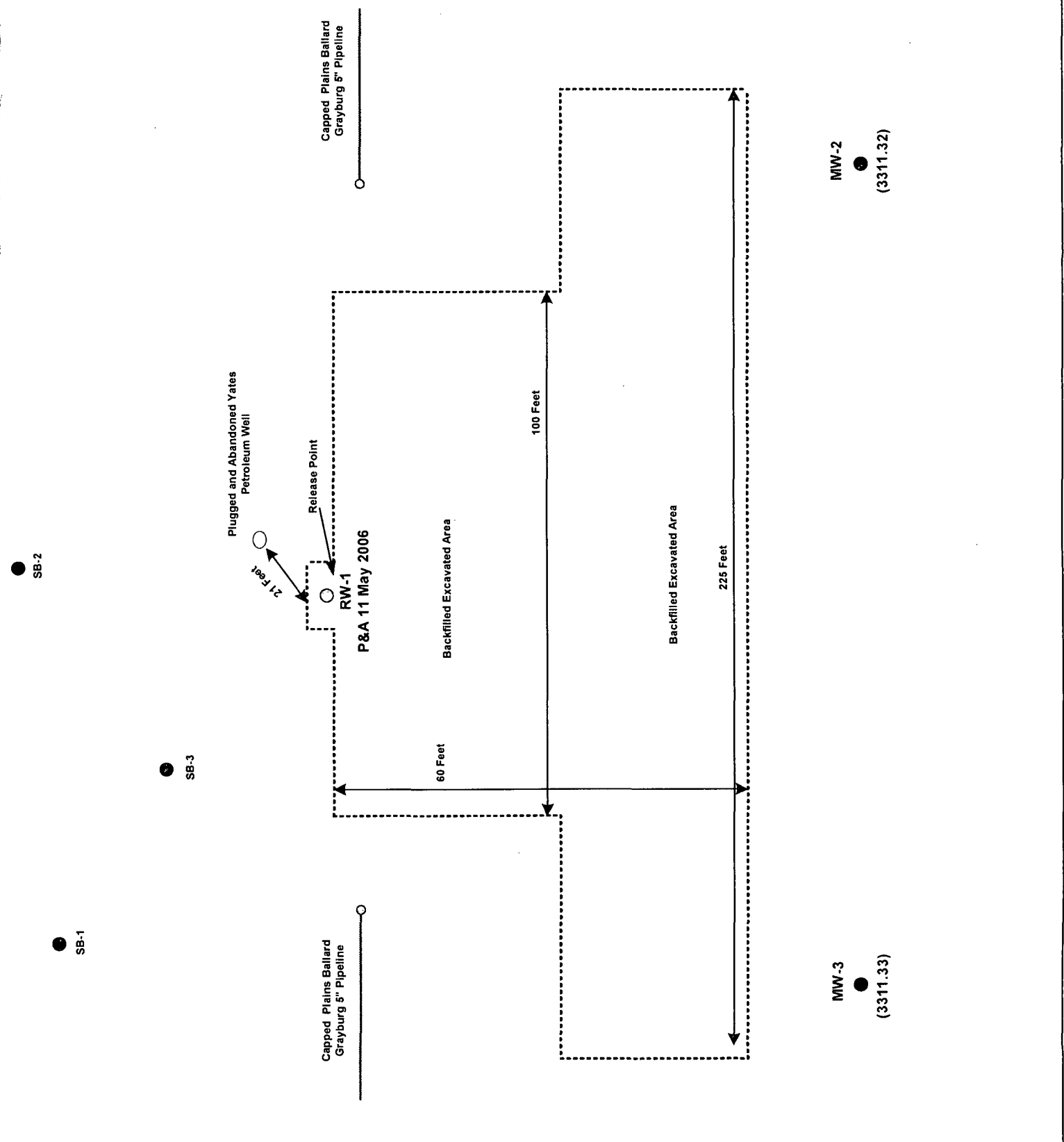
**FIGURE 2A**

**INFERRED GROUNDWATER  
ELEVATION MAP – 19 MARCH 2007**



Plains Marketing, L.P.  
Ballard Grayburg 5" Site  
SW/SW S10, T18S, R29E  
Eddy County, New Mexico  
SRS: 2004-00192  
NMOCD Ref: 2R-0053

LEGEND	
○	P&A Recovery Well
●	Soil Boring
—	Monitor Well
—	Groundwater
(3311)	Elevation in Feet



DESCRIPTION
Figure 2A Inferred Groundwater Elevation Map 19 March 2007

**FIGURE 2B**

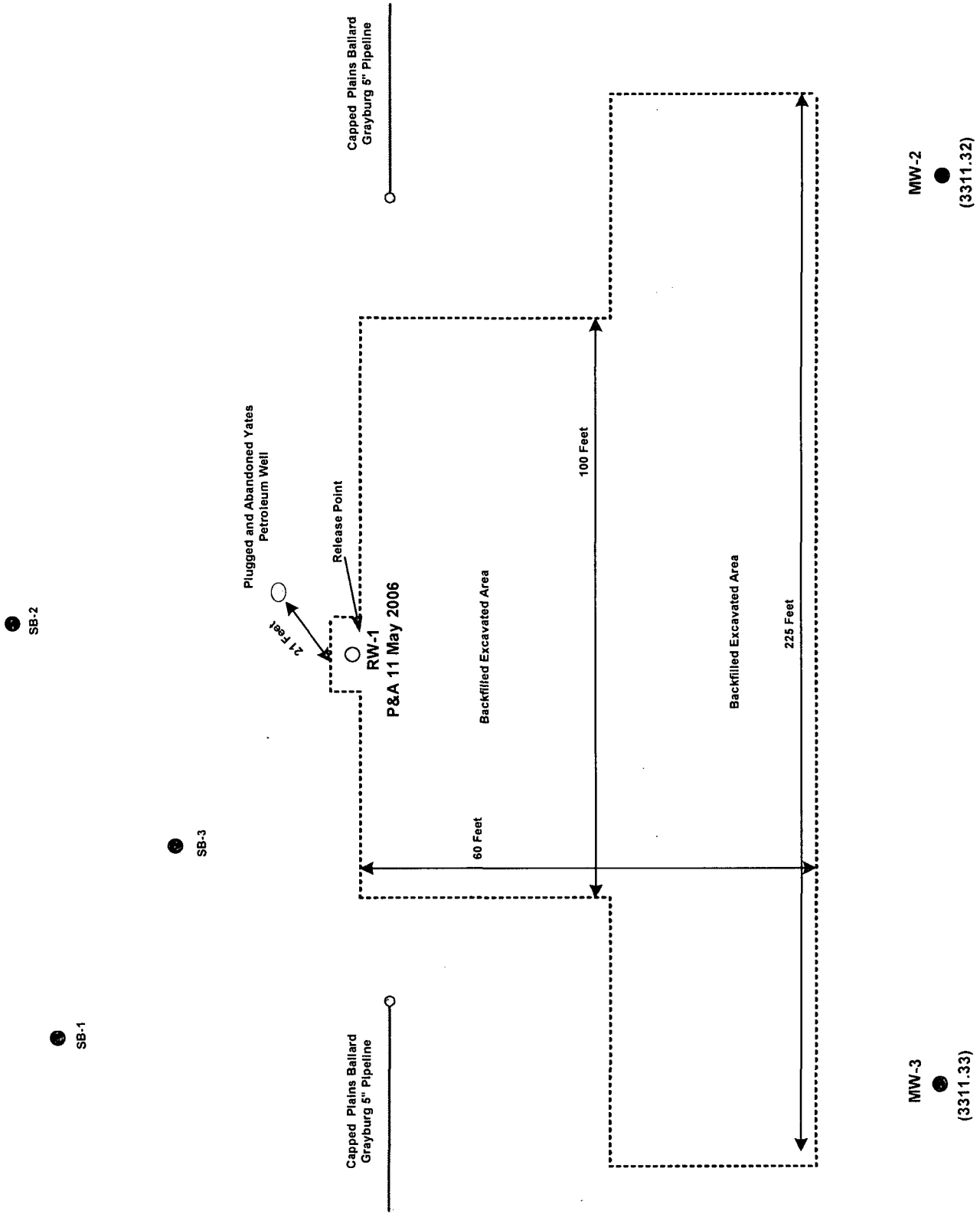
**INFERRED GROUNDWATER  
ELEVATION MAP – 05 JUNE 2007**



Plains Marketing, L.P.  
Ballard Grayburg 5" Site  
SW/4 SW 10, T18S, R29E  
Eddy County, New Mexico  
SRS: 2004-00192  
NMOCD Ref: 2RP-0053

**LEGEND**

- P&A Recovery Well
- Soil Boring
- Monitor Well
- Groundwater (3311) Elevation in Feet



DESCRIPTION
Figure 2B Inferred Groundwater Elevation Map 05 June 2007



**FIGURE 2C**

**INFERRED GROUNDWATER  
ELEVATION MAP – 27 SEPTEMBER  
2007**



Plains Marketing, L.P.  
Ballard Grayburg 5" Site  
SW/SW S10, T16S, R29E  
Eddy County, New Mexico  
SRS: 2004-00192  
NMOCD Ref: 2RP-0053

SB-2

SB-1

SB-3

Plugged and Abandoned Yates  
Petroleum Well

24 Feet

Release Point

P&A 11 May 2006

RW-1

Capped Plains Ballard  
Grayburg 5" Pipeline

Capped Plains Ballard  
Grayburg 5" Pipeline

LEGEND

- P&A Recovery Well
- Soil Boring
- Monitor Well
- Groundwater  
(3311) Elevation In Feet

Backfilled Excavated Area

60 Feet

100 Feet

Backfilled Excavated Area

225 Feet

MW-3  
(3311.33)

MW-2  
(3311.32)

DESCRIPTION

Figure 2C  
Inferred Groundwater Elevation Map  
27 September 2007

**FIGURE 2D**

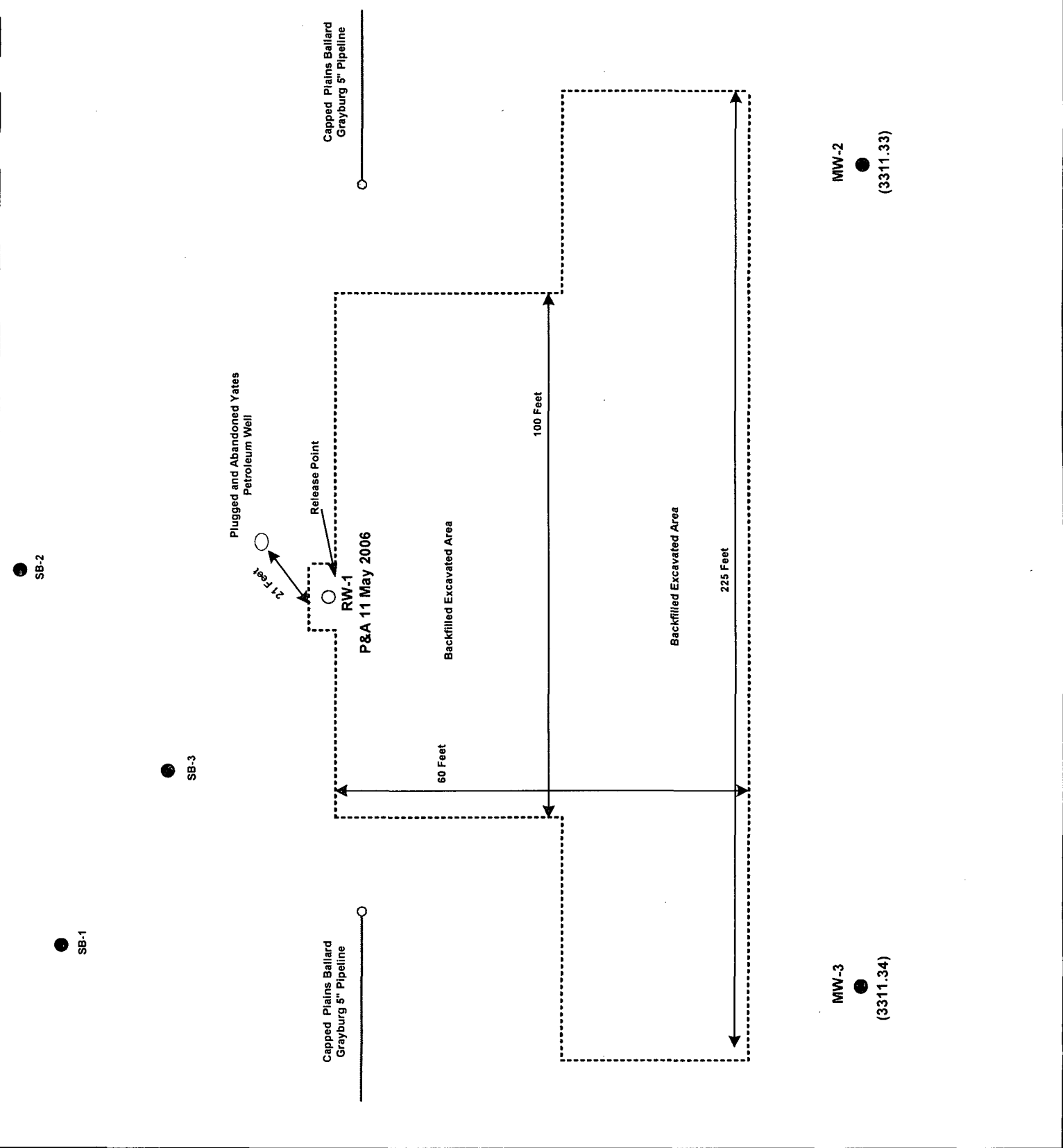
**INFERRED GROUNDWATER  
ELEVATION MAP – 04 DECEMBER  
2007**



Plains Marketing, L.P.  
Ballard Grayburg 5" Site  
SW/SW S10, T18S, R29E  
Eddy County, New Mexico  
SRS: 2004-00192  
NMOCD Ref: 2RP-0053

**LEGEND**

- P&A Recovery Well
- Soil Boring
- Monitor Well
- Groundwater (3311) Elevation in Feet



DESCRIPTION
Figure 2D Inferred Groundwater Elevation Map 04 December 2007

**FIGURE 3A**

**GROUNDWATER CONCENTRATION  
MAP – 19 MARCH 2007**



Plains Marketing, L.P.  
Ballard Grayburg 5" Site  
SW/SW S10, T18S, R29E  
Eddy County, New Mexico  
SRS: 2004-00192  
NMOCD Ref: 2RP-0053

Capped Plains Ballard  
Grayburg 5" Pipeline

Plugged and Abandoned Yates  
Petroleum Well

Release Point

RW-1  
P&A: 11 May 2006

Backfilled Excavated Area

Backfilled Excavated Area

Capped Plains Ballard  
Grayburg 5" Pipeline

# LEGEND

- P&A Recovery Well
- Soil Boring
- Monitor Well
- mg/L = milligrams per liter
- B - Benzene
- T - Toluene
- E - Ethylbenzene
- X - Xylenes

MW-2  
Benzene: 0.043 mg/L  
BTEX: 0.056 mg/L

MW-3  
Benzene: < 0.001 mg/L  
BTEX: < 0.001 mg/L

DESCRIPTION

Figure 3A  
Groundwater Concentration Map  
19 March 2007

**FIGURE 3B**

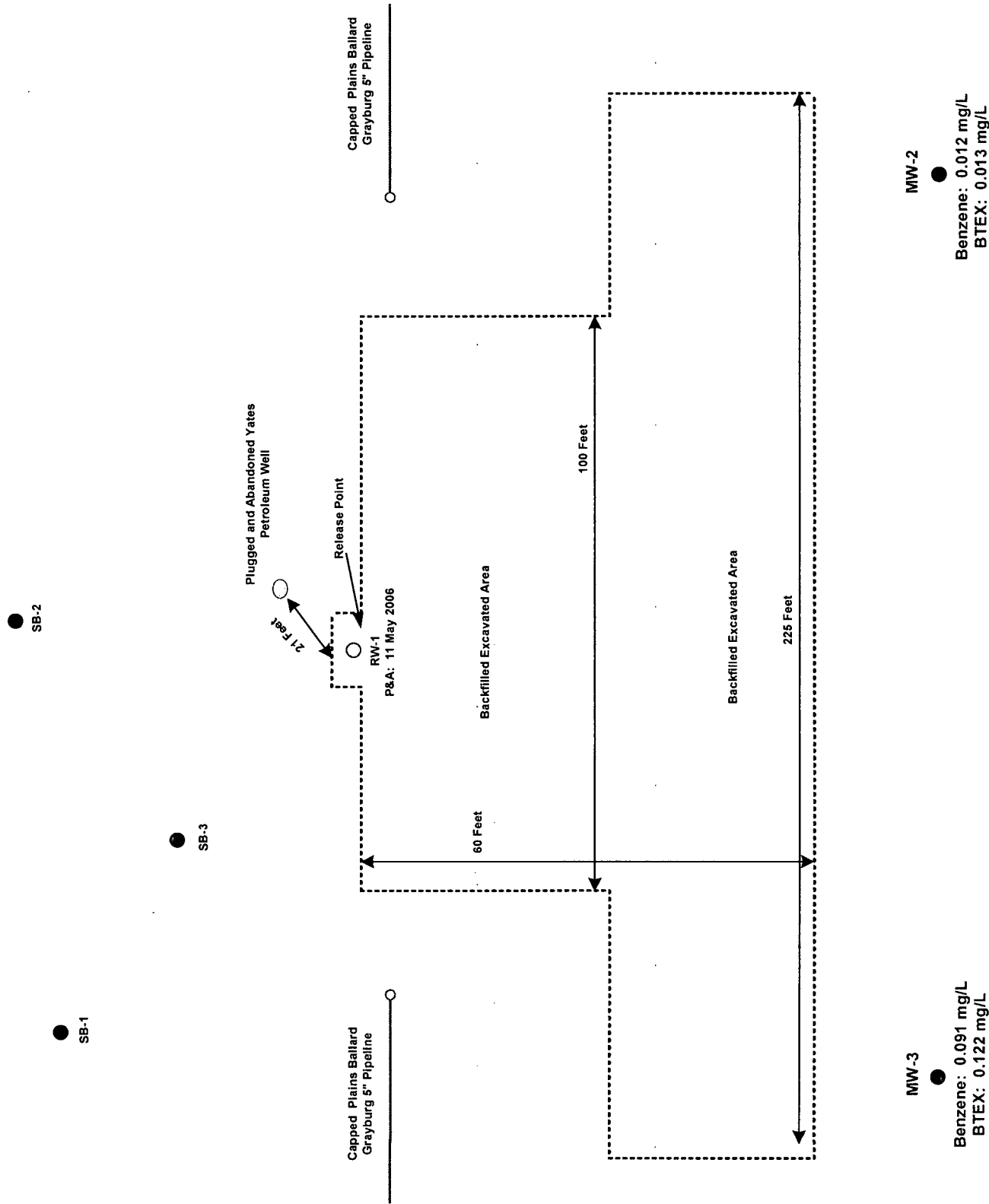
**GROUNDWATER CONCENTRATION  
MAP – 05 JUNE 2007**

Plains Marketing, L.P.  
 Ballard Grayburg 5" Site  
 SW/SW S10, T18S, R29E  
 Eddy County, New Mexico  
 SRS: 2004-00192  
 NMOCD Ref: ZRP-0053



**LEGEND**

- P&A Recovery Well
- Soil Boring
- Monitor Well
- mg/L = milligrams per liter
- B - Benzene
- T - Toluene
- E - Ethylbenzene
- X - Xylenes



Benzene: 0.012 mg/L  
 BTEX: 0.013 mg/L

Benzene: 0.091 mg/L  
 BTEX: 0.122 mg/L

**DESCRIPTION**

Figure 3B  
 Groundwater Concentration Map  
 05 June 2007



**FIGURE 3C**

**GROUNDWATER CONCENTRATION  
MAP – 27 SEPTEMBER 2007**



Plains Marketing, L.P.  
Ballard Grayburg 5" Site  
SW/SW S10, T18S, R29E  
Eddy County, New Mexico  
SRS: 2004-00192  
NMOCD Ref: 2RP-0053

**LEGEND**

- P&A Recovery Well
- Soil Boring
- Monitor Well
- mg/L = milligrams per liter
- B - Benzene
- T - Toluene
- E - Ethylbenzene
- X - Xylenes

Capped Plains Ballard  
Grayburg 5" Pipeline

Plugged and Abandoned Yates  
Petroleum Well

Release Point

RW-1  
P&A: 11 May 2006

Backfilled Excavated Area

Backfilled Excavated Area

MW-2  
Benzene: 0.003 mg/L  
BTX: 0.004 mg/L

MW-3  
Benzene: 0.017 mg/L  
BTX: 0.020 mg/L

DESCRIPTION

Figure 3C  
Groundwater Concentration Map  
27 September 2007

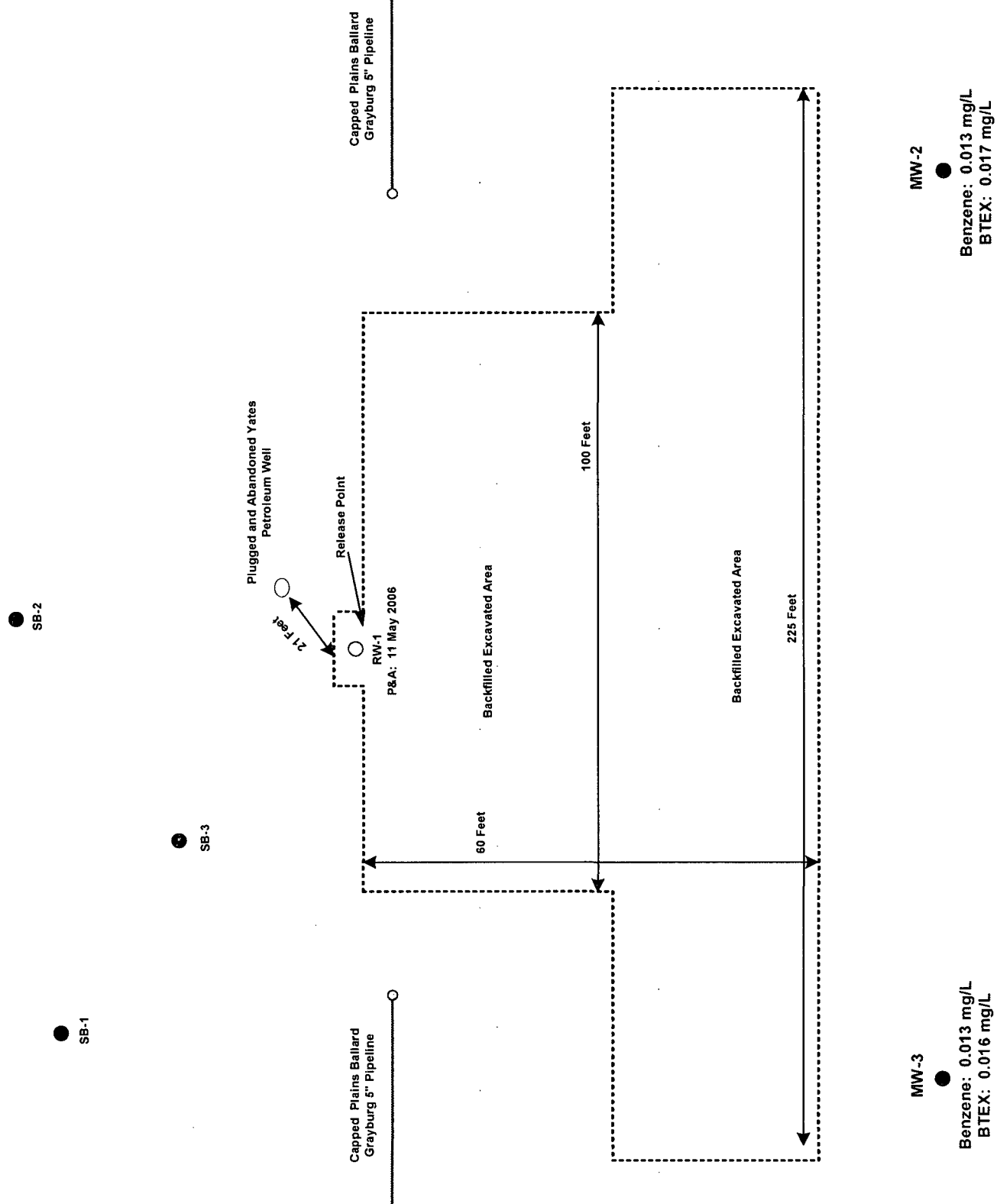
**FIGURE 3D**

**GROUNDWATER CONCENTRATION  
MAP – 04 DECEMBER 2007**



Plains Marketing, L.P.  
Ballard Grayburg 5" Site  
SW/SW S10, T18S, R29E  
Eddy County, New Mexico  
SRS: 2004-00192  
NMOCD Ref: 2RP-0053

- LEGEND**
- P&A Recovery Well
  - Soil Boring
  - Monitor Well
  - mg/L = milligrams per liter
  - B - Benzene
  - T - Toluene
  - E - Ethylbenzene
  - X - Xylenes



DESCRIPTION

Figure 3D  
Groundwater Concentration Map  
04 December 2007

# TABLES

**TABLE 1**

**GROUNDWATER ELEVATION DATA**

TABLE 1

## GROUNDWATER ELEVATION DATA

PLAINS MARKETING, L.P.  
 BALLARD-GRAYBURG 5"  
 EDDY COUNTY, NEW MEXICO  
 PLAINS SRS NO: 2004-00192  
 NMOCD REFERENCE NO: 2RP-0053

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 2	11/10/04	3,497.90	-	186.58	0.00	3,311.32
	03/29/05	3,497.90	-	186.58	0.00	3,311.32
	05/26/05	3,497.90	-	186.58	0.00	3,311.32
	08/11/05	3,497.90	-	186.57	0.00	3,311.33
	12/27/05	3,497.90	-	186.58	0.00	3,311.32
	03/30/06	3,497.90	-	186.57	0.00	3,311.33
	06/14/06	3,497.90	-	186.56	0.00	3,311.34
	09/20/06	3,497.90	-	186.57	0.00	3,311.33
	12/14/06	3,497.90	-	186.58	0.00	3,311.32
	03/19/07	3,497.90	-	186.58	0.00	3,311.32
	06/05/07	3,497.90	-	186.58	0.00	3,311.32
	09/27/07	3,497.90	-	186.58	0.00	3,311.32
	12/04/07	3,497.90	-	186.57	0.00	3,311.33
MW - 3	11/10/04	3,497.91	-	186.59	0.00	3,311.32
	03/29/05	3,497.91	-	186.59	0.00	3,311.32
	05/26/05	3,497.91	-	186.58	0.00	3,311.33
	08/11/05	3,497.91	-	186.58	0.00	3,311.33
	12/27/05	3,497.91	-	186.59	0.00	3,311.32
	03/30/06	3,497.91	-	186.59	0.00	3,311.32
	06/14/06	3,497.91	-	186.59	0.00	3,311.32
	09/20/06	3,497.91	-	186.58	0.00	3,311.33

TABLE 1

## GROUNDWATER ELEVATION DATA (CONT)

PLAINS MARKETING, L.P.  
 BALLARD-GRAYBURG 5"  
 EDDY COUNTY, NEW MEXICO  
 PLAINS SRS NO. 2004-00192  
 NMOC D REFERENCE NO: 2RP-0053

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
	12/14/06	3,497.91	-	186.58	0.00	3,311.33
	03/19/07	3,497.91	-	186.58	0.00	3,311.33
	06/05/07	3,497.91	-	186.58	0.00	3,311.33
	09/27/07	3,497.91	-	186.58	0.00	3,311.33
	12/04/07	3,497.91	-	186.57	0.00	3,311.34
RW-1	11/10/04	3,497.94	186.56	186.60	0.04	3,311.37
	03/29/05	3,497.94	186.56	186.60	0.04	3,311.37
	05/26/05	3,497.94	186.57	186.60	0.03	3,311.37
	08/11/05	3,497.94	186.57	186.60	0.03	3,311.37
	12/27/05	3,497.94	186.56	186.58	0.02	3,311.38
	03/30/06	3,497.94	186.56	186.57	0.01	3,311.38
NOTE: RW-1 Plugged & Abandoned 11 May 2006						



**TABLE 2**

**CONCENTRATIONS OF BENZENE  
AND BTEX IN GROUNDWATER**


TABLE 2

## CONCENTRATIONS OF BENZENE AND BTEX IN GROUNDWATER

PLAINS MARKETING, L.P.  
 BALLARD GRAYBURG 5"  
 EDDY COUNTY, NEW MEXICO  
 PLAINS SRS NO. 2004-00192  
 NMOCD REFERENCE NO: 2RP-0053

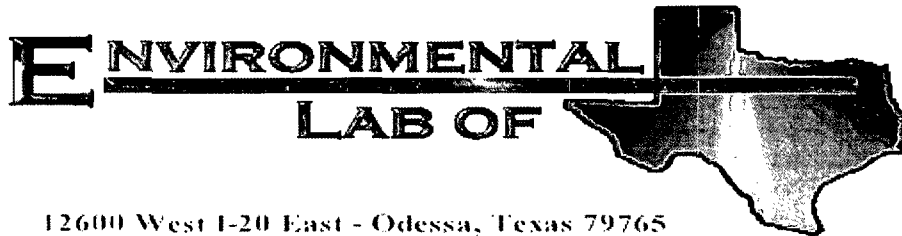
SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021B, 5030					Method: 160.1	
		BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P- XYLENES (mg/L)	O-XYLENES (mg/L)	TDS (mg/L)	
MW-2	12/04/04	<0.001	<0.001	<0.001	<0.001	<0.001	7730	
	03/29/05	0.006	0.001	<0.001	<0.001	<0.001		
	05/26/05	0.002	0.001	<0.001	<0.001	<0.001		
	08/11/05	0.001	0.001	<0.001	<0.001	<0.001		
	12/27/05	0.008	0.003	<0.001	<0.001	<0.001		
	03/30/06	0.003	0.003	<0.001	<0.001	<0.001		
	06/14/06	0.005	0.001	<0.001	<0.001	<0.001		
	09/20/06	0.003	<0.001	<0.001	<0.001	<0.001		
	12/14/06	0.010	0.002	<0.001	0.001	<0.001		
	03/19/07	0.043	0.013	<0.001	<0.001	<0.001		
	06/05/07	0.012	0.001	<0.001	<0.001	<0.001		
	09/27/07	0.003	0.001	<0.001	<0.002	<0.001		
	12/04/07	0.013	0.004	<0.001	<0.002	<0.001		
MW-3	12/04/04	<0.001	<0.001	<0.001	<0.001	<0.001	8530	
	03/29/05	0.054	0.004	<0.001	<0.001	<0.001		
	05/26/05	0.014	0.003	<0.001	<0.001	<0.001		
	08/11/05	0.002	<0.001	<0.001	<0.001	<0.001		
	12/27/05	0.024	0.002	<0.001	<0.001	<0.001		
	03/30/06	0.009	0.003	<0.001	<0.001	<0.001		
	06/14/06	0.005	<0.001	<0.001	<0.001	<0.001		
	09/20/06	0.004	<0.001	<0.001	<0.001	<0.001		
	12/14/06	0.011	0.003	<0.001	0.003	<0.001		
	03/19/07	<0.001	<0.001	<0.001	<0.001	<0.001		
	06/05/07	0.091	0.031	<0.001	<0.001	<0.001		
	09/27/07	0.017	0.003	<0.001	<0.002	<0.001		
	12/04/07	0.013	0.003	<0.001	<0.002	<0.001		
NMOCD CRITERIA		0.01	0.75	0.75	TOTAL XYLENES 0.62			

# APPENDICES



# **APPENDIX A**

## **LABORATORY REPORTS**



12600 West I-20 East - Odessa, Texas 79765

A Xenco Laboratories Company

## Analytical Report

**Prepared for:**

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Ballard- Grayburg 5inch

Project Number: EMS: 2004-00192

Location: Eddy County, NM

Lab Order Number: 7C20011

Report Date: 03/28/07

Plains All American EH & S  
1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Ballard- Grayburg 5inch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	7C20011-01	Water	03/19/07 14:40	03-20-2007 11:30
MW-3	7C20011-02	Water	03/19/07 10:30	03-20-2007 11:30

Plains All American EH & S  
1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Ballard- Grayburg 5inch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2 (7C20011-01) Water</b>									
<b>Benzene</b>	<b>0.0434</b>	0.00100	mg/L	1	EC72601	03/26/07	03/27/07	EPA 8021B	
<b>Toluene</b>	<b>0.0135</b>	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>I [0.000575]</b>	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		89.2 %	80-120	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		83.0 %	80-120	"	"	"	"	"	
<b>MW-3 (7C20011-02) Water</b>									
<b>Benzene</b>	<b>I [0.000792]</b>	0.00100	mg/L	1	EC72601	03/26/07	03/27/07	EPA 8021B	
<b>Toluene</b>	<b>I [0.000544]</b>	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.0 %	80-120	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.6 %	80-120	"	"	"	"	"	

Environmental Lab of Texas

A Xenco Laboratories Company

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Plains All American EH & S  
1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Ballard- Grayburg 5inch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EC72601 - EPA 5030C (GC)**

**Blank (EC72601-BLK1)**

Prepared & Analyzed: 03/26/07

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	40.8		ug/l	50.0		81.6	80-120			
Surrogate: 4-Bromofluorobenzene	40.6		"	50.0		81.2	80-120			

**LCS (EC72601-BS1)**

Prepared & Analyzed: 03/26/07

Benzene	0.0442	0.00100	mg/L	0.0500		88.4	80-120			
Toluene	0.0431	0.00100	"	0.0500		86.2	80-120			
Ethylbenzene	0.0419	0.00100	"	0.0500		83.8	80-120			
Xylene (p/m)	0.0890	0.00100	"	0.100		89.0	80-120			
Xylene (o)	0.0450	0.00100	"	0.0500		90.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.5		ug/l	50.0		81.0	80-120			
Surrogate: 4-Bromofluorobenzene	43.5		"	50.0		87.0	80-120			

**Calibration Check (EC72601-CCV1)**

Prepared & Analyzed: 03/26/07

Benzene	45.8		ug/l	50.0		91.6	80-120			
Toluene	44.4		"	50.0		88.8	80-120			
Ethylbenzene	45.9		"	50.0		91.8	80-120			
Xylene (p/m)	89.2		"	100		89.2	80-120			
Xylene (o)	45.9		"	50.0		91.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.8		"	50.0		81.6	80-120			
Surrogate: 4-Bromofluorobenzene	43.9		"	50.0		87.8	80-120			

**Duplicate (EC72601-DUP1)**

Source: 7C23001-10

Prepared & Analyzed: 03/26/07

Benzene	ND	0.00100	mg/L		ND				20	
Toluene	0.00353	0.00100	"		0.00330			6.73	20	
Ethylbenzene	0.000521	0.00100	"		0.000349			39.5	20	R4
Xylene (p/m)	0.00502	0.00100	"		0.00430			15.5	20	
Xylene (o)	0.00123	0.00100	"		0.000981			22.5	20	R5
Surrogate: a,a,a-Trifluorotoluene	41.0		ug/l	50.0		82.0	80-120			
Surrogate: 4-Bromofluorobenzene	42.4		"	50.0		84.8	80-120			

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Plains All American EH & S  
1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Ballard- Grayburg 5inch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EC72601 - EPA 5030C (GC)**

**Matrix Spike (EC72601-MS1)**

**Source: 7C23001-10**

**Prepared & Analyzed: 03/26/07**

Benzene	0.0449	0.00100	mg/L	0.0500	ND	89.8	80-120			
Toluene	0.0470	0.00100	"	0.0500	0.00330	87.4	80-120			
Ethylbenzene	0.0424	0.00100	"	0.0500	0.000349	84.1	80-120			
Xylene (p/m)	0.0924	0.00100	"	0.100	0.00430	88.1	80-120			
Xylene (o)	0.0464	0.00100	"	0.0500	0.000981	90.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.0		ug/l	50.0		80.0	80-120			
Surrogate: 4-Bromofluorobenzene	44.7		"	50.0		89.4	80-120			

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1301 S. County Road 1150  
Midland TX, 79706-4476

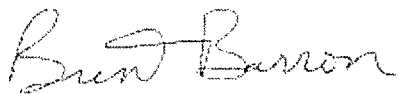
Project: Ballard- Grayburg Sinch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

### Notes and Definitions

R5 RPD is outside of historic values  
R4 Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date:

3/28/2007

Brent Barron, Laboratory Director/Corp. Technical Director  
Celey D. Keene, Org. Tech Director  
Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer  
Jeanne Mc Murrey, Inorg. Tech Director

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## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 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 #: 2004-00192

Project Loc: Eddy County, NM

PO #: PAA - C. J. Reynolds

Fax No: (505) 396-1429

[kad@basinenv.com](mailto:kad@basinenv.com)

**Report Format:**

Standard	
X	

Standard	
X	

☐ NPDES

(lab use only)

ORDER #: TC20011

[illegible]

**Special Instructions:**

	Laboratory Comments:
--	----------------------

### Sample Containers Intact?

## VOCs Free of Headspace?

Labels on container(s)  
Custody seals on container(s)

Custody seals on cooler(s)

Sample Hand Delivered  
by Sample Client Ben ?

by Courier? UPS

Temperature / Inon Receipt:

Temperature of hot reservoir:

---

# Environmental Lab of Texas

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

Client: Plains  
 Date/ Time: 3/24/07 11:30  
 Job ID #: 7020011  
 Initials: CK

### Sample Receipt Checklist

Client Initials

1 Temperature of container/ cooler?	Yes	No	1.0 °C	
2 Shipping container in good condition?	<del>Yes</del>	No		
3 Custody Seals intact on shipping container/ cooler?	<del>Yes</del>	No	Not Present	
4 Custody Seals intact on sample bottles/ container?	<del>Yes</del>	No	Not Present	
5 Chain of Custody present?	<del>Yes</del>	No		
6 Sample instructions complete of Chain of Custody?	<del>Yes</del>	No		
7 Chain of Custody signed when relinquished/ received?	<del>Yes</del>	No		
8 Chain of Custody agrees with sample label(s)?	<del>Yes</del>	No	ID written on Cont./ Lid	
9 Container label(s) legible and intact?	<del>Yes</del>	No	Not Applicable	
10 Sample matrix/ properties agree with Chain of Custody?	<del>Yes</del>	No		
11 Containers supplied by ELOT?	<del>Yes</del>	No		
12 Samples in proper container/ bottle?	<del>Yes</del>	No	See Below	
13 Samples properly preserved?	<del>Yes</del>	No	See Below	
14 Sample bottles intact?	<del>Yes</del>	No		
15 Preservations documented on Chain of Custody?	<del>Yes</del>	No		
16 Containers documented on Chain of Custody?	<del>Yes</del>	No		
17 Sufficient sample amount for indicated test(s)?	<del>Yes</del>	No	See Below	
18 All samples received within sufficient hold time?	<del>Yes</del>	No	See Below	
19 Subcontract of sample(s)?	Yes	No	<del>Not Applicable</del>	
20 VOC samples have zero headspace?	<del>Yes</del>	No	Not Applicable	

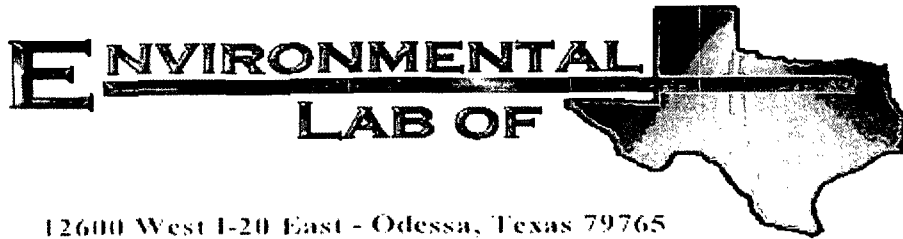
### Variance Documentation

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



12600 West I-20 East - Odessa, Texas 79765

A Xenco Laboratories Company

## Analytical Report

**Prepared for:**

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Ballard- Grayburg 5inch

Project Number: EMS: 2004-00192

Location: Eddy County, NM

Lab Order Number: 7F06011

Report Date: 06/11/07

Plains All American EH & S  
1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Ballard- Grayburg Sinch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	7F06011-01	Water	06/05/07 15:00	06-06-2007 12:21
MW-3	7F06011-02	Water	06/05/07 15:30	06-06-2007 12:21

Plains All American EH & S  
1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Ballard- Grayburg 5inch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2 (7F06011-01) Water</b>									
<b>Benzene</b>	<b>0.0123</b>	0.00100	mg/L	1	EF70802	06/08/07	06/09/07	EPA 8021B	
<b>Toluene</b>	<b>0.00161</b>	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		105 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.4 %	80-120		"	"	"	"	
<b>MW-3 (7F06011-02) Water</b>									
<b>Benzene</b>	<b>0.0912</b>	0.00100	mg/L	1	EF70802	06/08/07	06/09/07	EPA 8021B	
<b>Toluene</b>	<b>0.0313</b>	0.00100	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1 [0.000505]</b>	0.00100	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>1 [0.000978]</b>	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		117 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.4 %	80-120		"	"	"	"	

Environmental Lab of Texas

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1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Ballard- Grayburg Sinch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EF70802 - EPA 5030C (GC)**

**Blank (EF70802-BLK1)**

Prepared & Analyzed: 06/08/07

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	54.1		ug/l	50.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	45.4		"	50.0		90.8	80-120			

**LCS (EF70802-BS1)**

Prepared & Analyzed: 06/08/07

Benzene	0.0548	0.00100	mg/L	0.0500		110	80-120			
Toluene	0.0556	0.00100	"	0.0500		111	80-120			
Ethylbenzene	0.0543	0.00100	"	0.0500		109	80-120			
Xylene (p/m)	0.101	0.00100	"	0.100		101	80-120			
Xylene (o)	0.0569	0.00100	"	0.0500		114	80-120			
Surrogate: a,a,a-Trifluorotoluene	54.6		ug/l	50.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	51.7		"	50.0		103	80-120			

**Calibration Check (EF70802-CCV1)**

Prepared: 06/08/07 Analyzed: 06/09/07

Benzene	0.0576		mg/L	0.0500		115	80-120			
Toluene	0.0567		"	0.0500		113	80-120			
Ethylbenzene	0.0537		"	0.0500		107	80-120			
Xylene (p/m)	0.0999		"	0.100		99.9	80-120			
Xylene (o)	0.0573		"	0.0500		115	80-120			
Surrogate: a,a,a-Trifluorotoluene	57.9		ug/l	50.0		116	80-120			
Surrogate: 4-Bromofluorobenzene	53.0		"	50.0		106	80-120			

**Matrix Spike (EF70802-MS1)**

Source: 7F06019-03

Prepared: 06/08/07 Analyzed: 06/09/07

Benzene	0.0598	0.00100	mg/L	0.0500	ND	120	80-120			
Toluene	0.0593	0.00100	"	0.0500	ND	119	80-120			
Ethylbenzene	0.0584	0.00100	"	0.0500	ND	117	80-120			
Xylene (p/m)	0.107	0.00100	"	0.100	ND	107	80-120			
Xylene (o)	0.0614	0.00100	"	0.0500	ND	123	80-120			M1
Surrogate: a,a,a-Trifluorotoluene	58.4		ug/l	50.0		117	80-120			
Surrogate: 4-Bromofluorobenzene	56.2		"	50.0		112	80-120			

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1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Ballard- Grayburg 5inch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EF70802 - EPA 5030C (GC)**

**Matrix Spike Dup (EF70802-MSD1)**

**Source: 7F06019-03**

Prepared: 06/08/07 Analyzed: 06/09/07

Benzene	0.0565	0.00100	mg/L	0.0500	ND	113	80-120	6.01	20	
Toluene	0.0566	0.00100	"	0.0500	ND	113	80-120	5.17	20	
Ethylbenzene	0.0556	0.00100	"	0.0500	ND	111	80-120	5.26	20	
Xylene (p/m)	0.102	0.00100	"	0.100	ND	102	80-120	4.78	20	
Xylene (o)	0.0584	0.00100	"	0.0500	ND	117	80-120	5.00	20	
Surrogate: a,a,a-Trifluorotoluene	58.3		ug/l	50.0		117	80-120			
Surrogate: 4-Bromofluorobenzene	54.2		"	50.0		108	80-120			

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1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Ballard- Grayburg Sinch  
Project Number: EMS: 2004-00192  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

#### Notes and Definitions

M1 The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By: 

Date: 6/11/2007

Brent Barron, Laboratory Director/Corp. Technical Director  
Celey D. Keene, Org. Tech Director  
Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer  
Jeanne Mc Murrey, Inorg. Tech Director

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# Environmental Lab of Texas

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

Client: Plains  
 Date/ Time: 6-6-07 12:21  
 Lab ID #: 7F06011  
 Initials: AL

### Sample Receipt Checklist

Client Initials

#1	Temperature of container/ cooler?	<u>Yes</u>	No	<u>4.5</u> °C	
#2	Shipping container in good condition?	<u>Yes</u>	No		
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	<u>Not Present</u>	
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	Not Present	
#5	Chain of Custody present?	<u>Yes</u>	No		
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
#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	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
#11	Containers supplied by EL0T?	<u>Yes</u>	No		
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	See Below	
#13	Samples properly preserved?	<u>Yes</u>	No	See Below	
#14	Sample bottles intact?	<u>Yes</u>	No		
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No		
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No		
#17	Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below	
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	See Below	
#19	Subcontract of sample(s)?	<u>Yes</u>	No	<u>Not Applicable</u>	
#20	VOC samples have zero headspace?	<u>Yes</u>	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 290462**

**for**

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

**Project Manager: Camille Reynolds**

**Ballard Grayburg 5"**

**2004-00192**

**03-OCT-07**



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

**A Xenco Laboratories Company**

**Texas certification numbers:**

**Houston, TX T104704215**

**Florida certification numbers:**

**Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675**

**Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America**

**Midland - Corpus Christi - Atlanta**



03-OCT-07

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

Reference: XENCO Report No: **290462**  
**Ballard Grayburg 5"**  
Project Address: Eddy County, NM

**Camille Reynolds:**

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 290462. 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. 290462 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,

A handwritten signature in black ink, appearing to read "Brent Barron", written over a horizontal line.

**Brent Barron**

Odessa Laboratory Director

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

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## Sample Cross Reference 290462

PLAINS ALL AMERICAN EH&S, Midland, TX

Ballard Grayburg 5"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	Sep-27-07 11:15		290462-001
MW-3	W	Sep-27-07 14:30		290462-002



Certificate of Analysis Summary 290462  
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Id: 2004-00192

Contact: Camille Reynolds

Project Location: Eddy County, NM

Project Name: Ballard Grayburg 5"

Date Received in Lab: Fri Sep-28-07 01:45 pm


Report Date: 03-OCT-07

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	290462-001	290462-002	
	Field Id:	MW-2	MW-3	
	Depth:			
	Matrix:	WATER	WATER	
	Sampled:	Sep-27-07 11:15	Sep-27-07 14:30	
BTEx by EPA 8021B	Extracted:	Oct-02-07 16:30	Oct-02-07 16:30	
	Analyzed:	Oct-03-07 03:15	Oct-03-07 03:31	
	Units/RL:	mg/L RL	mg/L RL	
Benzene		0.0037 0.0010	0.0174 0.0010	
Toluene		0.0017 0.0010	0.0038 0.0010	
Ethylbenzene		ND 0.0010	ND 0.0010	
m,p-Xylene		ND 0.0020	ND 0.0020	
o-Xylene		ND 0.0010	ND 0.0010	
Total Xylenes		ND	ND	
Total BTEx		0.0054	0.0212	

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

  
Brent Barron  
Odessa Laboratory Director





## Flagging Criteria

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

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9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(201) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555



## Form 2 - Surrogate Recoveries

Project Name: Ballard Grayburg 5"

Work Order #: 290462

Project ID: 2004-00192

Lab Batch #: 705593

Sample: 290462-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 705593

Sample: 290462-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0270	0.0300	90	80-120	

Lab Batch #: 705593

Sample: 290566-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 705593

Sample: 290566-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 705593

Sample: 500023-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

\*\* 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 Order #: 290462

Project ID: 2004-00192

Lab Batch #: 705593

Sample: 500023-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Blank Spike Recovery

Project Name: Ballard Grayburg 5"

Work Order #: 290462

Project ID:

2004-00192

Lab Batch #: 705593

Sample: 500023-1-BKS

Matrix: Water

Date Analyzed: 10/03/2007

Date Prepared: 10/02/2007

Analyst: SHE

Reporting Units: mg/L

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by EPA 8021B		Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes							
Benzene		ND	0.1000	0.0958	96	70-125	
Toluene		ND	0.1000	0.0937	94	70-125	
Ethylbenzene		ND	0.1000	0.0915	92	71-129	
m,p-Xylene		ND	0.2000	0.1830	92	70-131	
o-Xylene		ND	0.1000	0.0913	91	71-133	

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

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



# Form 3 - MS / MSD Recoveries

Project Name: Ballard Grayburg 5"

Work Order # : 290462

Lab Batch ID: 705593

Date Analyzed: 10/03/2007

Reporting Units: mg/L

Project ID: 2004-00192

QC- Sample ID: 290566-001 S

Batch #: 1 Matrix: Water

Date Prepared: 10/02/2007

Analyst: SHE

Reporting Units: mg/L											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1000	0.0940	94	0.1000	0.0935	94	0	70-125	25
	Toluene	ND	0.1000	0.0894	89	0.1000	0.0883	88	1	70-125	25
	Ethylbenzene	ND	0.1000	0.0897	90	0.1000	0.0849	85	6	71-129	25
	m,p-Xylene	ND	0.2000	0.1761	88	0.2000	0.1650	83	6	70-131	25
	o-Xylene	ND	0.1000	0.0854	85	0.1000	0.0836	84	1	71-133	25

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

Relative Percent Difference  $RPD = 200 \times (D-G)/(D+G)$

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  $[G] = 100 \times (F-A)/E$

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
12500 West 120 East  
Odessa, Texas 79765  
Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager: Ken Dutton PAGE 01 OF 01

Company Name: Basin Environmental Services Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (505) 441-2124

Sampler Signature: *Ken Dutton*

Fax No: (505) 396-1429

e-mail: kdutton@basinenv.com

Project Name: BALLARD GRAYBURG 5"

Project #: 2004-00192

Project Loc: Eddy County, NM

PO #: PAA - C. J. Reynolds

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 290462

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preparation & # of Containers	Matrix	Analyze For:
01	MW-2			27-Sep-07	1115		2	<input checked="" type="checkbox"/> H <sub>2</sub> O <input checked="" type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input checked="" type="checkbox"/> HCl <input checked="" type="checkbox"/> HNO <sub>3</sub> <input checked="" type="checkbox"/> H <sub>2</sub> O <sub>2</sub> <input checked="" type="checkbox"/> Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub> <input checked="" type="checkbox"/> NaOH <input checked="" type="checkbox"/> Na <sub>2</sub> CO <sub>3</sub> <input checked="" type="checkbox"/> Other (Specify)	GW GW	Analyze For: TC/DP TOTAL SAR / ESP / CEC Anions (Cl, SO <sub>4</sub> , Alkalinity) Cations (Ca, Mg, Na, K) TPH: TX 1005 TX 1006 TPH: 418.1 8015M 8015B Metals: As, Ag, Ba, Cd, Cr, Pb, Hg, Se Volatiles BTEX 8015B/8015M BTEX 8260 NORM RUSH TAT (Pre-Schedule) 24, 48, 72 hr
02	MW-3			27-Sep-07	1430		2	<input checked="" type="checkbox"/> H <sub>2</sub> O <input checked="" type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input checked="" type="checkbox"/> HCl <input checked="" type="checkbox"/> HNO <sub>3</sub> <input checked="" type="checkbox"/> H <sub>2</sub> O <sub>2</sub> <input checked="" type="checkbox"/> Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub> <input checked="" type="checkbox"/> NaOH <input checked="" type="checkbox"/> Na <sub>2</sub> CO <sub>3</sub> <input checked="" type="checkbox"/> Other (Specify)	GW GW	

Special Instructions:

Requisitioned by	Date	Time	Received by	Date	Time	Requisitioned by	Date	Time	Received by	Date	Time
Ken Dutton	28-Sep-07	9:30	Ken Dutton	28-Sep-07	1:30	Ken Dutton	28-Sep-07	9:30	Ken Dutton	28-Sep-07	1:30
Requisitioned by			Received by			Requisitioned by			Received by		

Laboratory Comments:  
 Sample Containers Intact? ☒  
 VOCs Free of Headpace? ☒  
 Labels on container(s) ☒  
 Custody seals on container(s) ☒  
 Custody seals on cooler(s) ☒  
 Sample Hand Delivered ☒  
 by Sampler/Client Rep. ? ☒  
 by Courier? ☐ UPS ☐ DHL ☐  
 Temperature Upon Receipt: 2.5 °C

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

Client: Basin 1 Plains  
 Date/ Time: 9-28-07 1:45  
 Lab ID #: 290462  
 Initials: al

**Sample Receipt Checklist**

				Client Initials
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	No	2.5 °C
#2	Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	No	
#3	Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/> Yes	No	Not Present
#4	Custody Seals intact on sample bottles/ container?	<input checked="" type="checkbox"/> Yes	No	Not Present
#5	Chain of Custody present?	<input checked="" type="checkbox"/> Yes	No	
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	No	
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	No	ID written on Cont./ Lid
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	No	
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	No	See Below
#13	Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No	See Below
#14	Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No	
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	No	See Below
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No	See Below
#19	Subcontract of sample(s)?	<input checked="" type="checkbox"/> Yes	No	Not Applicable
#20	VOC samples have zero headspace?	<input checked="" type="checkbox"/> 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 293992**

**for**

**PLAINS ALL AMERICAN EH&S**

**Project Manager: JIMMY BRYANT**

**Ballard Grayburg 5"**

**2004-00192**

**06-DEC-07**



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

**A Xenco Laboratories Company**

**Texas certification numbers:**

**Houston, TX T104704215**

**Florida certification numbers:**

**Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675**

**Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America**

**Midland - Corpus Christi - Atlanta**





06-DEC-07

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

Reference: XENCO Report No: **293992**  
**Ballard Grayburg 5"**  
Project Address: Eddy County, NM

**JIMMY BRYANT:**

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 293992. 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. 293992 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,

A handwritten signature in black ink, appearing to read "Brent Barron, II", written over a horizontal line.

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 293992

PLAINS ALL AMERICAN EH&S, Midland, TX

Ballard Grayburg 5"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	Dec-04-07 11:55		293992-001
MW-3	W	Dec-04-07 10:50		293992-002



**Certificate of Analysis Summary 293992**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**


Project Id: 2004-00192  
Contact: JIMMY BRYANT  
Project Location: Eddy County, NM

Project Name: Ballard Grayburg 5"  
Date Received in Lab: Wed Dec-05-07 08:40 am  
Report Date: 06-DEC-07  
Project Manager: Brent Barron, II

Analysis Requested		Lab Id:	293992-001	293992-002		
		Field Id:	MW-2	MW-3		
		Depth:				
		Matrix:	WATER	WATER		
		Sampled:	Dec-04-07 11:55	Dec-04-07 10:50		
BTEX by EPA 8021B	Extracted:	Dec-05-07 11:30	Dec-05-07 11:30			
	Analyzed:	Dec-06-07 01:15	Dec-06-07 01:32			
	Units/RL:	mg/L RL	mg/L RL			
	Benzene	0.0139 0.0010	0.0138 0.0010			
	Toluene	0.0049 0.0020	0.0033 0.0020			
Ethylbenzene		ND 0.0010	ND 0.0010			
m,p-Xylenes		ND 0.0020	ND 0.0020			
o-Xylene		ND 0.0010	ND 0.0010			
Xylenes, Total		ND	ND			
Total BTEX		0.0188	0.0171			

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

  
Brent Barron  
Odessa Laboratory Director



## Flagging Criteria

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

\* Outside XENCO'S scope of NELAC Accreditation

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Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America

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9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(201) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555



## Form 2 - Surrogate Recoveries

Project Name: Ballard Grayburg 5"

Work Order #: 293992

Project ID: 2004-00192

Lab Batch #: 709872

Sample: 293992-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0257	0.0300	86	80-120	

Lab Batch #: 709872

Sample: 293992-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 709872

Sample: 502211-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 709872

Sample: 502211-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0261	0.0300	87	80-120	

Lab Batch #: 709872

Sample: 502211-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## BS / BSD Recoveries

Project Name: Ballard Grayburg 5"

Work Order #: 293992

Analyst: SHE

Lab Batch ID: 709872

Sample: 502211-1-BKS

Date Prepared: 12/05/2007

Batch #: 1

Project ID: 2004-00192

Date Analyzed: 12/05/2007

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/L										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1000	0.0970	97	0.1	0.0936	94	4	70-125	25
	Toluene	ND	0.1000	0.0953	95	0.1	0.0933	93	2	70-125	25
	Ethylbenzene	ND	0.1000	0.0955	96	0.1	0.0934	93	2	71-129	25
	m,p-Xylenes	ND	0.2000	0.1863	93	0.2	0.1821	91	2	70-131	25
	o-Xylene	ND	0.1000	0.0956	96	0.1	0.0935	94	2	71-133	25

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

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



# Environmental Lab of Texas

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

Client: Basin Enviro. / Plains  
 Date/ Time: 12/05/07 18:40  
 Lab ID #: 298992  
 Initials: gma

### Sample Receipt Checklist

Client Initials

#1	Temperature of container/ cooler?	<u>Yes</u>	No	<u>5.0</u> °C	
#2	Shipping container in good condition?	<u>Yes</u>	No		
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	Not Present	
#5	Chain of Custody present?	<u>Yes</u>	No		
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
#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	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
#11	Containers supplied by ELOT?	<u>Yes</u>	No		
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	See Below	
#13	Samples properly preserved?	<u>Yes</u>	No	See Below	
#14	Sample bottles intact?	<u>Yes</u>	No		
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No		
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No		
#17	Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below	
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	See Below	
#19	Subcontract of sample(s)?	<u>Yes</u>	No	Not Applicable	
#20	VOC samples have zero headspace?	<u>Yes</u>	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



**APPENDIX B**

**RELEASE NOTIFICATION AND  
CORRECTIVE ACTION (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

<b>OPERATOR</b> <input checked="" type="checkbox"/> Initial Report <input type="checkbox"/> 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 M	Section 10	Township 18S	Range 29E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
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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 9-2-04 @ 06:00	Date and Hour of Discovery 9-2-04 @ 08:45
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Van Barton	
By Whom? Ken Dutton	Date and Hour 9-2-04 @ 14:32	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
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: <u>Camille Reynolds</u>		<b>OIL CONSERVATION DIVISION</b>
Printed Name: Camille Reynolds		Approved by District Supervisor:
Title: Remediation Coordinator	Approval Date:	Expiration Date:
E-mail Address: cireynolds@penlp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 9-7-04	Phone: 505-441-0965	

\* Attach Additional Sheets if Necessary