

GW - 351

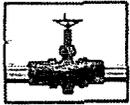
---

Land farm  
**MONITORING  
REPORTS**

**DATE:**

2009

---



**PLAINS  
MARKETING, L.P.**

March 30, 2010

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

Re: Plains Marketing, L.P. – 2009 Annual Report  
Lea Station Landfarm – Discharge Permit #GW-351  
Lea County, New Mexico

Dear Mr. Hansen:

Enclosed for your review is a copy of the 2009 Annual Report for the following Plains Marketing, L.P. facility:

Lea Station Landfarm                      GW-351                      Section 28, T20S, R37E, Lea County

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

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

Sincerely,

Jason Henry  
Remediation Coordinator  
Plains Marketing, L.P.

CC: Larry Johnson, NMOCD, Hobbs, NM

Enclosures

# *Basin Environmental Consulting, LLC*

2800 Plains Highway  
P. O. Box 381  
Lovington, New Mexico 88260  
cjbryant@basin-consulting.com  
Office: (575) 396-2378 Fax: (575) 396-1429



March 2010

Mr. Brad Jones  
New Mexico Energy, Minerals and Natural Resources Department  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Re: Annual Report – 2009  
Plains Marketing, L. P. (231735)  
Lea Station Landfarm – Discharge Permit #GW-351 (Plains Ref. # 2004-00061)  
W ½ of the NW ¼ of Section 28, Township 20 South, Range 37 East  
Lea County, New Mexico

Dear Mr. Jones:

Basin Environmental Consulting, LLC (Basin), at the request of Plains Marketing, L. P. (Plains), assumed maintenance responsibilities of the Lea Station Landfarm in October 2007. Basin, on behalf of Plains, is submitting the *2009 Annual Report* for the Plains Lea Station Landfarm. The Plains Lea Station Landfarm is being operated and maintained in accordance with New Mexico Oil Conservation Division (NMOCD), Natural Resources and Wildlife, Oil and Gas Surface Waste Management Facilities (Title 19 Chapter 15 Part 36). The Landfarm is operated by Plains as a “centralized” facility for Plains use only. A surveyor’s plat of the Lea Station Landfarm is provided as Figure 1.

## **DISPOSAL VOLUME**

Receipt of impacted soil began in January 2004. As of December 31, 2008, a total of approximately 102,969 cubic yards of crude oil impacted soil from within the Plains crude oil transportation system have been emplaced in Cell A, Cell B, Cell C, Cell D, Cell E, Cell F, Cell G and Cell H. Approximately 9,078 cubic yards of impacted soil was transported to the Landfarm during the 2009 reporting period.

## **MAINTENANCE**

Within 72-hours of being delivered to the landfarm, soil stockpiles were pushed down and contoured into a treatment lift. Mechanical disking of the soil contained in the treatment cells occurred every two weeks. Disking of the soil at ninety degree angles to the current windrow configuration allows for increased aeration within the lifts and more efficient movement of the soil, providing a potentially more favorable environment for bioremediation to occur within the lifts.

## **TREATMENT ZONE MONITORING**

On June 16, 2009, Basin collected two (2) to five (5) four-point composite treatment zone soil samples from each of the treatment cells (Cells A, B, C, D, E, F, G and H) being utilized. The soil samples were analyzed for concentrations of total petroleum hydrocarbons (TPH) using method SW8015M and chloride, using method EPA 300. The analytical results indicated TPH concentrations ranged from 63.5 mg/Kg for soil sample Cell E TZ G4 to 9,119 mg/Kg for soil sample Cell G TZ G5. Chloride concentrations ranged from less than the laboratory method detection limit (MDL) for soil samples Cell E TZ G1, Cell E TZ G3, Cell E TZ G4 and Cell H TZ G1 to 207 mg/Kg for soil sample Cell F TZ G3. Please reference Table 1, 2009 Concentrations of Benzene, BTEX, TPH and Chloride in the Treatment Zone.

On October 27, 2009, Basin collected three (3) to five (5) four-point composite treatment zone soil samples from each of the treatment cells (Cells A, B, D, E, F, G and H) being utilized. The soil samples were analyzed for concentrations of TPH and chloride. The analytical results indicated TPH concentrations ranged from 264.2 mg/Kg for soil sample Cell A TZ G5 to 8,448 mg/Kg for soil sample Cell G TZ G2. Chloride concentrations ranged from less than the laboratory MDL for soil samples Cell E TZ G1 through G3 and Cell H TZ G3 to 154 mg/Kg for soil sample Cell F TZ G2.

The locations of soil samples collected in treatment cells A, B, C, D, E, F, G and H during the June and October 2009 sampling events are depicted on Figures 2, 3, 4, 5, 6, 7, 8 and 9 respectively. Laboratory analytical reports are attached.

## **VADOSE ZONE MONITORING**

A single soil sample was collected on January 16, 2004, from the vadose zone in an undisturbed location within the Landfarm area to establish background concentrations of NMOCD constituents of concern (COCs) as listed below:

- Total petroleum hydrocarbons (TPH);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX);
- Anions and cations; and
- RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver).

Laboratory analytical results of the background samples indicated TPH was not detected at or above the laboratory MDL. Anions, cations, and RCRA metals concentrations of background samples were typical of native undisturbed soil. Please reference Table 2, Historic Concentrations of Hydrocarbons, Chlorides, Sulfates and Alkalinity in the Vadose Zone and Table 3, Historic Concentrations of Metals in the Vadose Zone.

On June 17 and 18, 2009, Basin collected two (2) to five (5) grab soil samples at a depth of three (3) to four (4) feet below ground surface (vadose zone) from treatment Cells A, B, C, D, E, F, G, and H. The soil samples were collected and submitted to the laboratory to determine the extent (if any) of impact to the underlying soil at the landfarm. The grab soil samples were collected and analyzed for constituent concentrations of BTEX using method EPA 8021b, TPH using method SW8015M and chloride using EPA 300. Please reference Table 4, 2009 Concentrations of Benzene, BTEX, TPH and Chloride in the Vadose Zone.

The laboratory analytical results indicated benzene, BTEX, TPH and chloride concentrations were below the laboratory MDL for all soil samples submitted.

On October 27 and 28, 2009, Basin collected two (2) to five (5) grab soil samples at a depth of three (3) to four (4) feet below ground surface (vadose zone) from treatment Cells A, B, C, D, E, F, G, and H. The grab samples were collected and analyzed for constituent concentrations of BTEX, TPH and chloride.

The laboratory analytical results indicated benzene, BTEX and TPH concentrations were below the laboratory MDL for all soil samples submitted.

The laboratory analytical results indicated chloride concentrations were below established background chloride concentration of 10.6 mg/Kg, with the exception of soil samples Cell B VZ G1 (3'-4'), Cell G VZ G1(3'-4'), Cell G VZ G2 (3'-4'), Cell G VZ G3 (3'-4'), Cell G VZ G4 (3'-4') and Cell G VZ G5 (3'-4'), which exhibited chloride concentrations of 10.8 mg/Kg, 337 mg/Kg, 29.3 mg/Kg, 123 mg/Kg, 178 mg/Kg and 19.8 mg/Kg, respectively. Please reference Table 4, 2009 Concentrations of Benzene, BTEX, TPH and Chloride in the Vadose Zone.

On December 23, 2009, Basin collected two (2) grab samples at a depth of three (3) to four (4) feet bgs (vadose zone) in undisturbed regions to the south and to the west of treatment Cell G for additional background comparison purposes. Soil samples BG South of Cell G and BG West of Cell G were collected and analyzed for chloride concentrations. Laboratory analytical results indicated chloride concentrations for both, BG South of Cell G and BG West of Cell G, were 100 mg/Kg, which is greater than the previously established background chloride concentration. Field observations and analytical results indicate variances in soil properties may account for the differing chloride concentrations in the Cell G region. The location of soil samples BG South of Cell G and BG West of Cell G are depicted on Figure 10.

The locations of soil samples collected in the vadose zone from treatment cells A, B, C, D, E, F, G and H during the June and October 2009 sampling events are depicted on Figures 2, 3, 4, 5, 6, 7, 8 and 9, respectively.



## CONCLUSIONS

The laboratory analytical results of vadose zone soil sampling indicate soil beneath the Lea Station Landfarm has not been affected above background levels established prior to the construction of the landfarm treatment cells with the exception of chlorides in Cell G. However, additional background sampling appears to indicate that background chloride concentrations in the area of Cell G may be higher than background concentrations in other areas of the landfarm. The laboratory analytical results indicate hydrocarbon impacted soil placed in the treatment cells is naturally attenuating within the lifts.

## RECOMMENDATIONS

Bi-monthly tilling of the treatment zones will continue during the 2010 reporting period. Soil samples of the vadose and treatment zones will be collected and submitted to the laboratory for determination of constituent concentrations on a bi-annual schedule. Vadose zone soil samples will be analyzed using method EPA 8021b (BTEX), method SW8015M (TPH) and method EPA 300 (chloride). Treatment zone soil samples will be analyzed using method SW8015M (TPH) and method EPA 300 (chloride). An Annual Report will be submitted in March 2011, documenting the results of the 2010 treatment cell and vadose zone sampling events.

## LIMITATIONS



Basin Environmental Consulting, LLC has prepared this Lea Station Landfarm Annual Report to the best of its ability. No other warranty, expressed or implied, is made or intended.

Basin Environmental Consulting, LLC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin Environmental Consulting, LLC 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 Environmental Consulting, LLC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental Consulting, LLC 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 Marketing, L.P. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the expressed consent of Basin Environmental Consulting, LLC and/or Plains Marketing, L.P.

Should you have any questions or concerns, please contact Jason Henry (575) 441-1099 or me at (575) 396-2378.

Sincerely,

Camille Bryant  
Basin Environmental Consulting, LLC

Cc: Ed Hansen, NMOCD-Santa Fe, New Mexico ([edwardj.hansen@state.nm.us](mailto:edwardj.hansen@state.nm.us))  
Jeff Dann, Plains Marketing–Houston, Texas ([jpdann@paalp.com](mailto:jpdann@paalp.com))  
Jason Henry, Plains Marketing–Lovington, New Mexico ([jhenry@paalp.com](mailto:jhenry@paalp.com))

Enclosures:

### **Figures**

Figure 1: Lea Station Landfarm Survey map  
Figure 2: Cell “A” Soil Sample Location Map – June and October 2009  
Figure 3: Cell “B” Soil Sample Location Map – June and October 2009  
Figure 4: Cell “C” Soil Sample Location Map – June and October 2009  
Figure 5: Cell “D” Soil Sample Location Map – June and October 2009  
Figure 6: Cell “E” Soil Sample Location Map – June and October 2009  
Figure 7: Cell “F” Soil Sample Location Map – June and October 2009  
Figure 8: Cell “G” Soil Sample Location Map – June and October 2009  
Figure 9: Cell “H” Soil Sample Location Map – June and October 2009  
Figure 10: BG South of Cell G and BG West of Cell G – December 2009

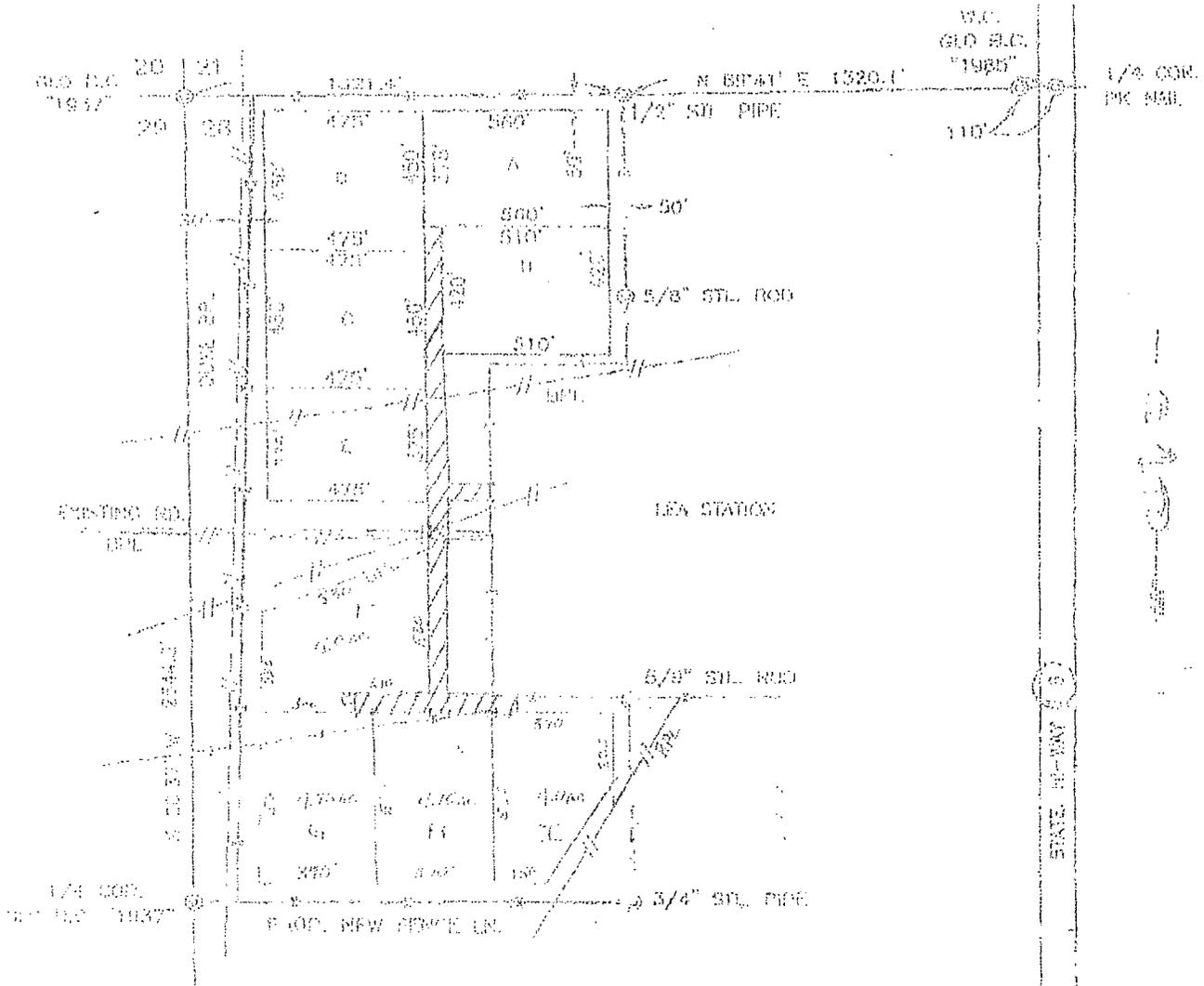
### **Tables**

Table 1: 2009 Concentrations of Benzene, BTEX, TPH and Chlorides in the Treatment Zone.  
Table 2: Historic Concentrations of Hydrocarbons, Chlorides, Sulfates and Alkalinity in the Vadose Zone.  
Table 3: Historic Concentrations of Metals in the Vadose Zone  
Table 4: 2009 Concentrations of Benzene, BTEX, TPH and Chloride in the Vadose Zone

### **Laboratory Analytical Reports**

### **Photographs**

# Figures



- LEGEND**
- DENOTES FOUND MONUMENT AS NOTED
  - DENOTES EXISTING FENCE
  - - - - DENOTES PROPOSED FENCE

**NOTE**  
 BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

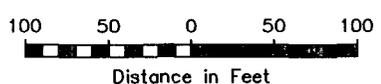
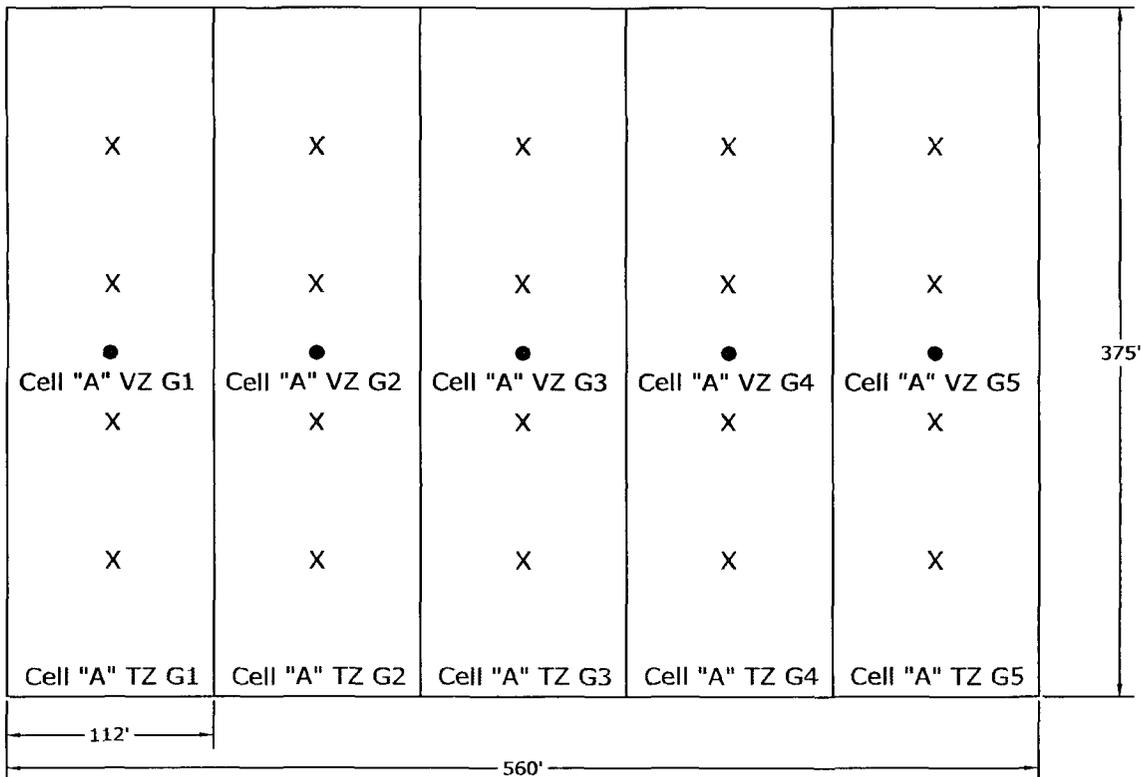
500' 0 500' 1000'  
 Scale 1"=500'

I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

*RJM/03*  
 City of Hobbs, N. M.  
**FORN WEST SURVEYING COMPANY**  
 112 N. WAG FASTER - HOBBES, N.M. 78040 - 505-335-2117

<b>LINK ENERGY PIPELINE LIMITED PARTNERSHIP</b>	
SURVEY TO LOCATE PROPERTY OWNERS.	
PROPOSED FENCE LINES AND WELL SITES IN SECTION 28.	
TOWNSHIP 20 SOUTH, RANGE 37 EAST.	
N.M.P.M., LEA COUNTY, NEW MEXICO.	
Survey Date: 12/04/03	Sheet 1 of 1 Sheets
W.O. Number: 03.11.1325	DRAWN BY: A.W.E
Date: 12/08/03	DATE OF LAND [Scale 1"=500']

Figure 1: Lea Station Landfarm Survey Map

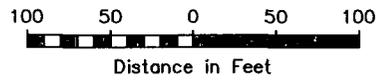
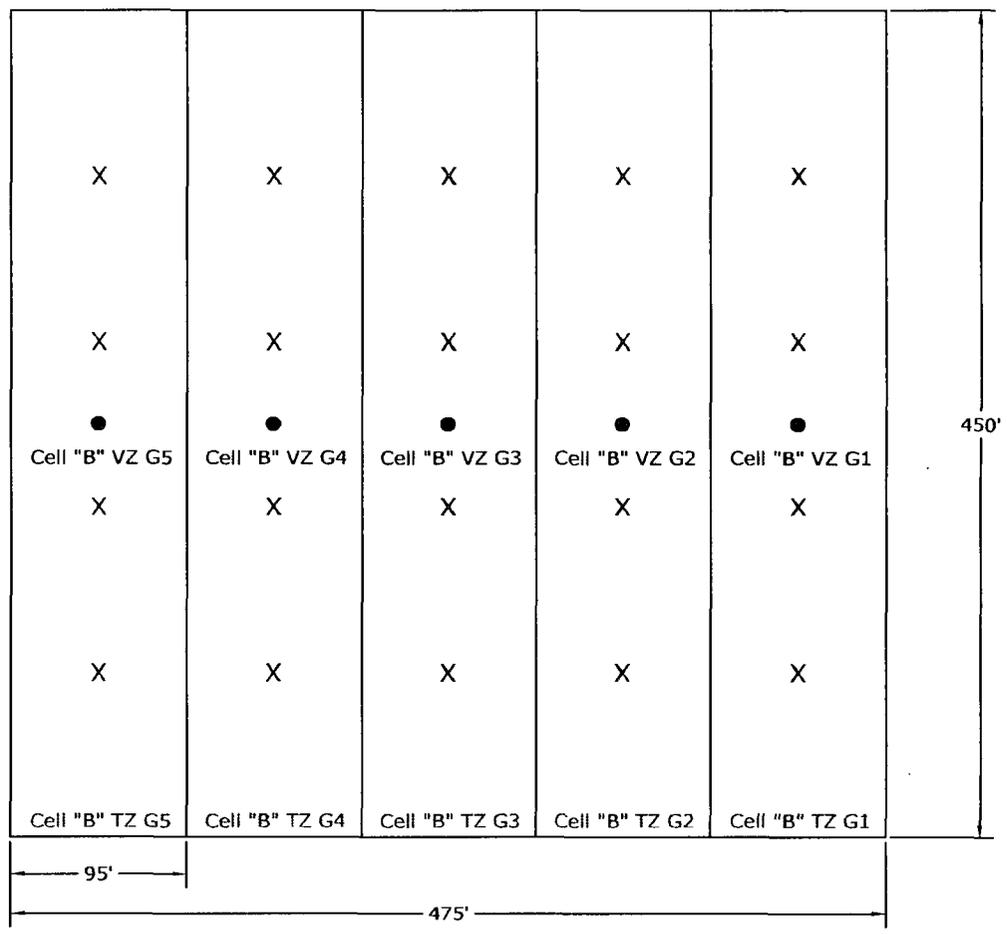
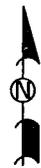


**LEGEND:**  
X 4-Point Composite Treatment Cell Soil Sample Location  
● Vadose Zone Soil Sample Location

Figure 2  
Cell "A" Soil Sample Location Map  
June and November 2009  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Consulting**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 15, 2010		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		

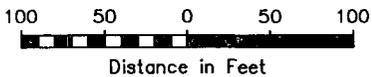
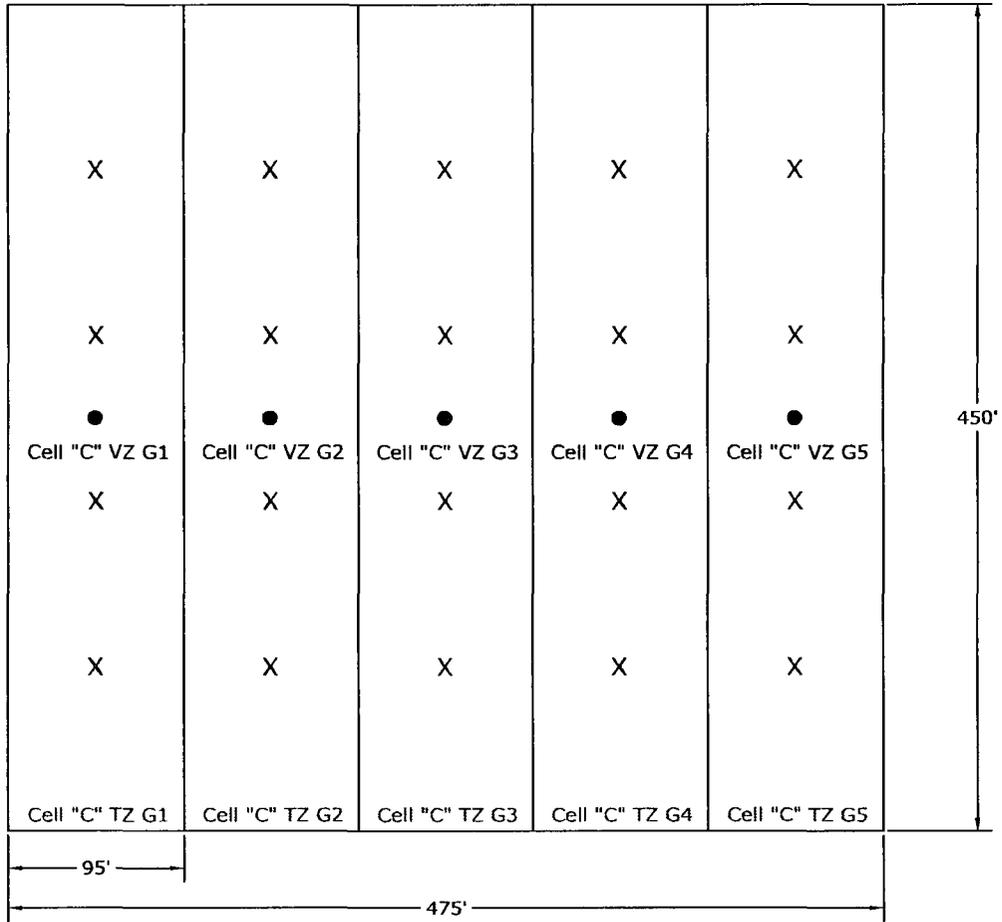


**LEGEND:**  
X 4-Point Composite Treatment Cell  
Soil Sample Location  
● Vadose Zone Soil Sample Location

**Figure 3**  
Cell "B" Soil Sample Location Map  
June and November 2009  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Consulting**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2010		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		



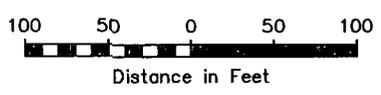
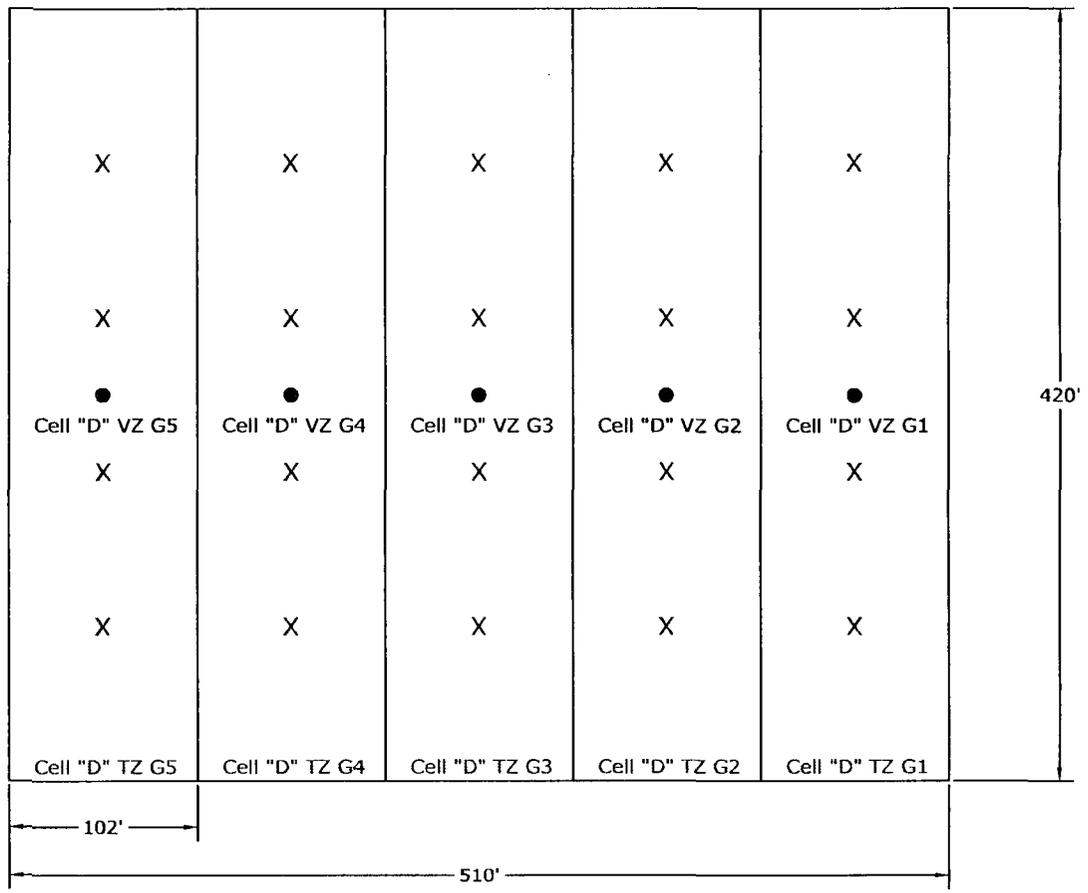
**LEGEND:**

- X 4-Point Composite Treatment Cell  
Soil Sample Location
- Vadose Zone Soil Sample Location

Figure 4  
Cell "C" Soil Sample Location Map  
June and November 2009  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Consulting**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 18, 2010		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		

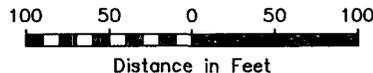
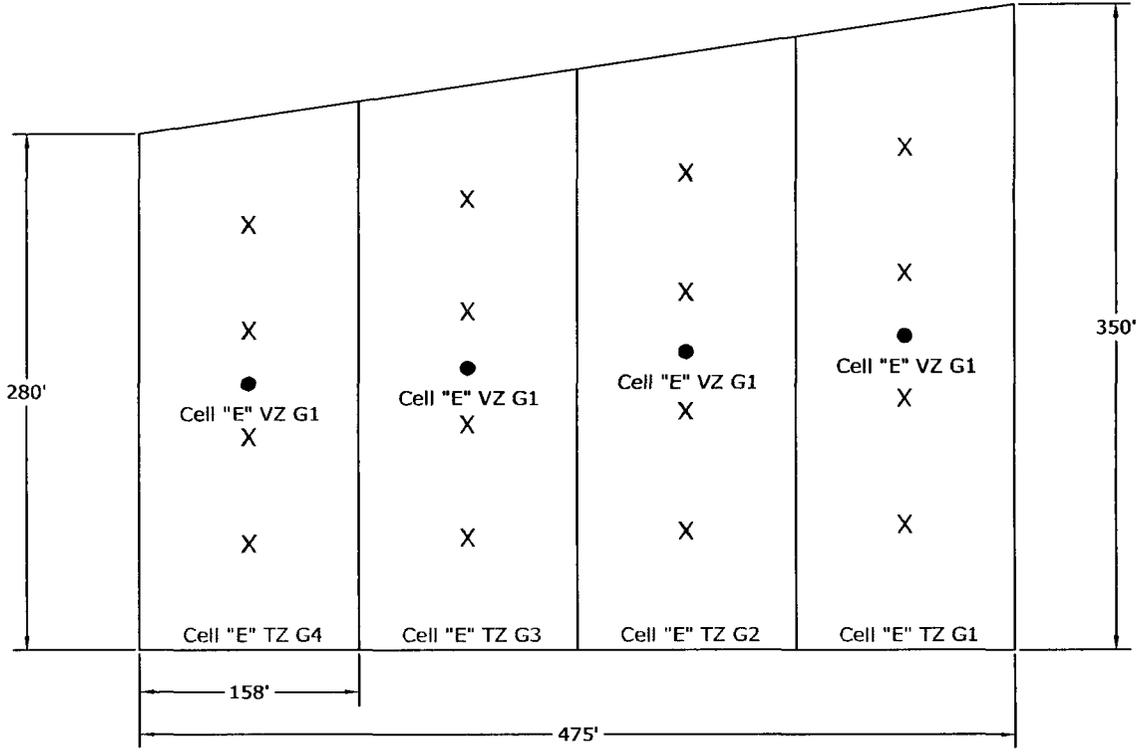


**LEGEND:**  
X 4-Point Composite Treatment Cell Soil Sample Location  
● Vadose Zone Soil Sample Location

**Figure 5**  
Cell "D" Soil Sample Location Map  
June and November 2009  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Consulting**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2010		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		

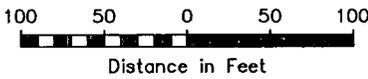
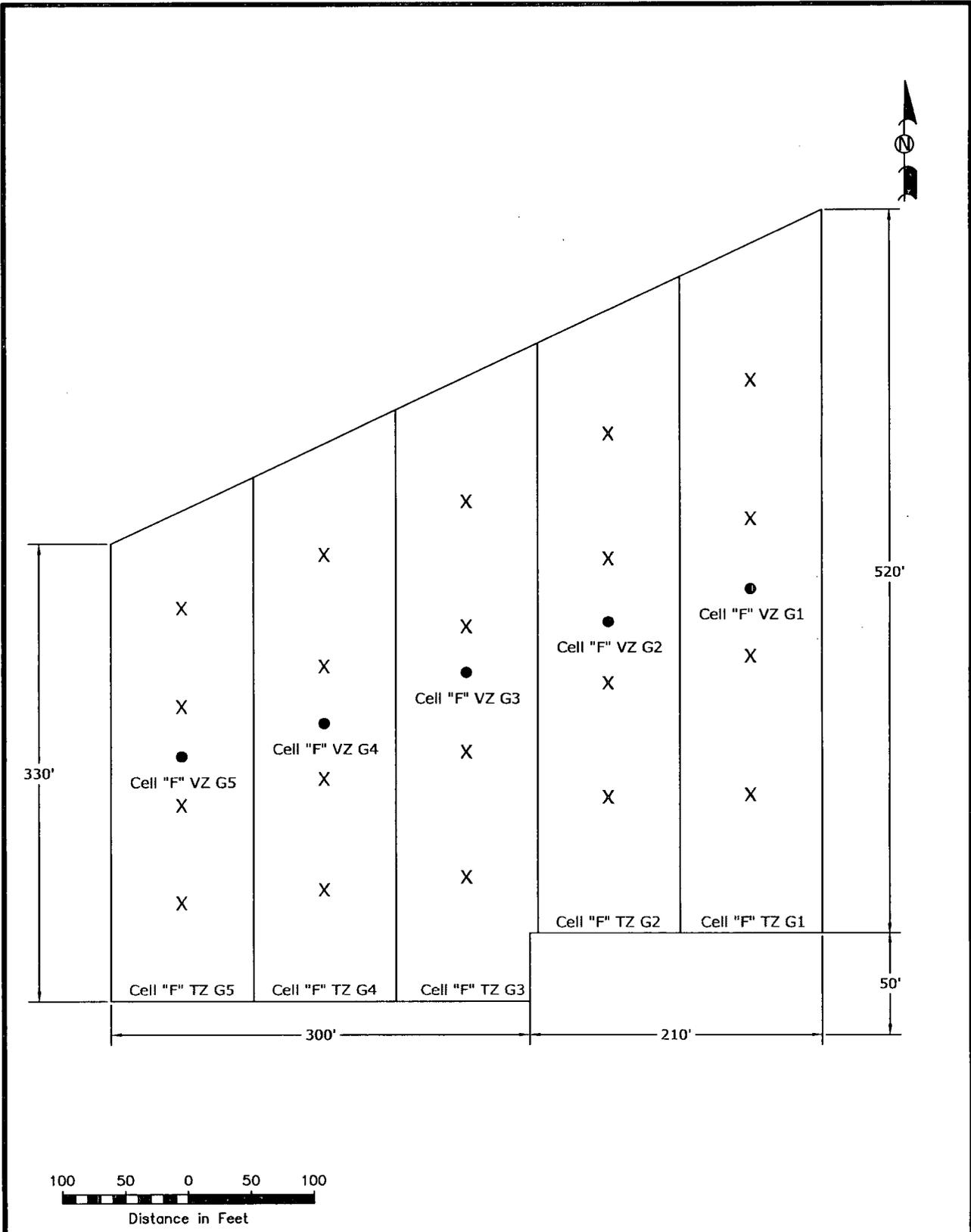


**LEGEND:**  
X 4-Point Composite Treatment Cell Soil Sample Location  
● Vadose Zone Soil Sample Location

Figure 6  
Cell "E" Soil Sample Location Map  
June and November 2009  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Consulting**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2010		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		



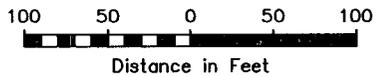
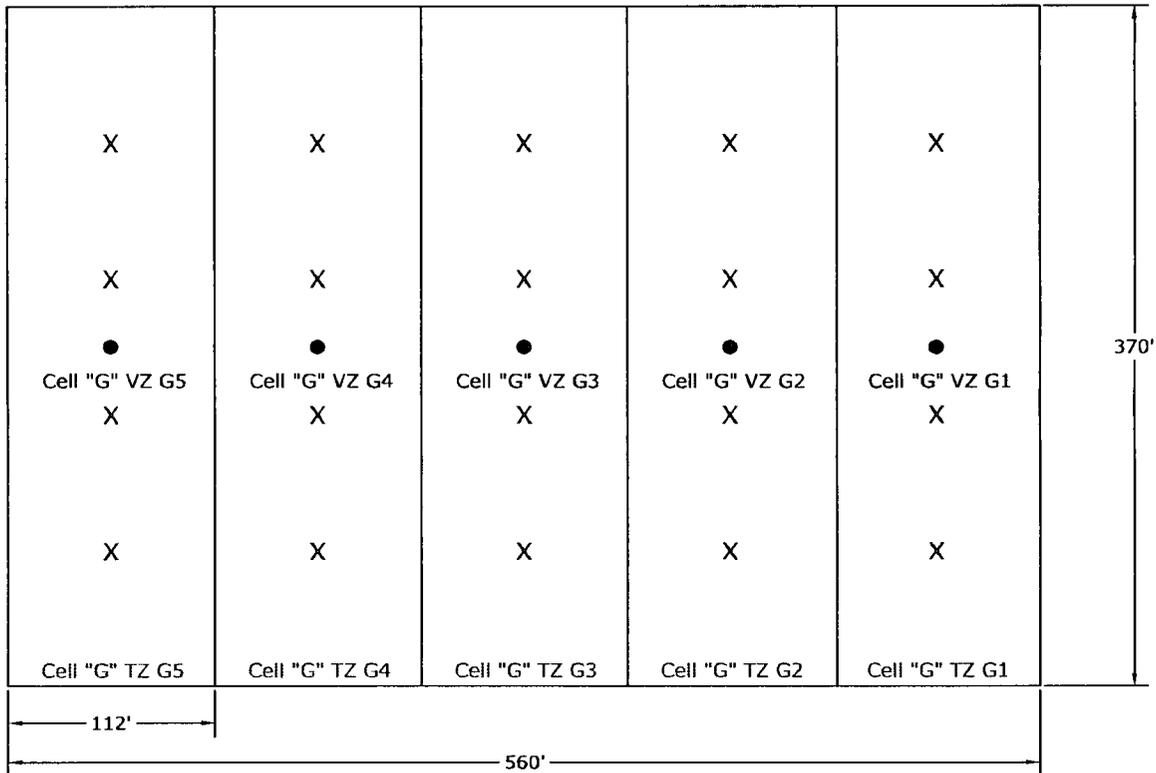
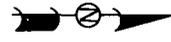
**LEGEND:**

- X 4-Point Composite Treatment Cell Soil Sample Location
- Vadose Zone Soil Sample Location

**Figure 7**  
 Cell "F" Soil Sample Location Map  
 June and November 2009  
 Plains Marketing, L.P.  
 Lea Station Landfarm  
 Lea County, NM  
 SRS-2004-00061  
 NMOCD #GW-351

**Basin Environmental Consulting**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2010		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		



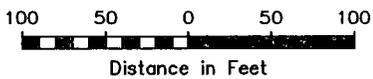
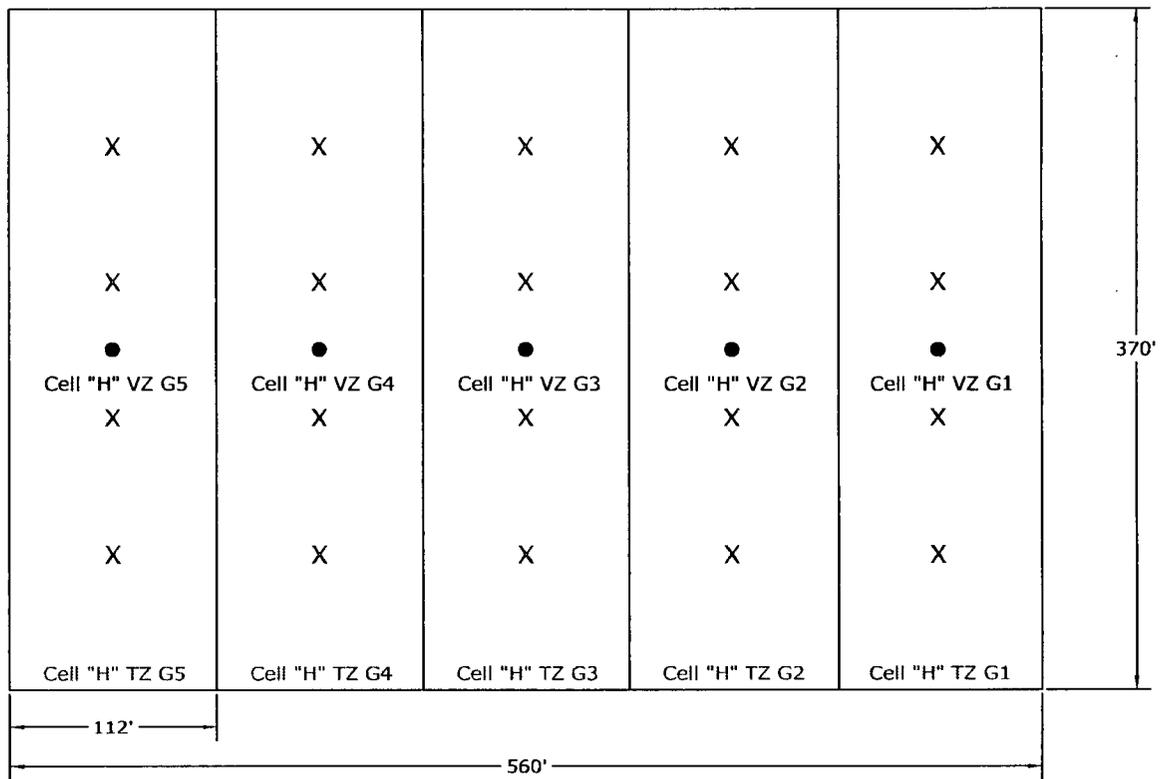
**LEGEND:**

- X 4-Point Composite Treatment Cell
- Vadose Zone Soil Sample Location

Figure 8  
Cell "G" Soil Sample Location Map  
June and November 2009  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Consulting**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2010		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		

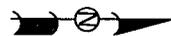


**LEGEND:**  
X 4-Point Composite Treatment Cell Soil Sample Location  
● Vadose Zone Soil Sample Location

**Figure 9**  
Cell "H" Soil Sample Location Map  
June and November 2009  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

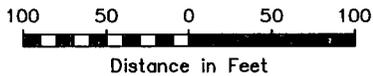
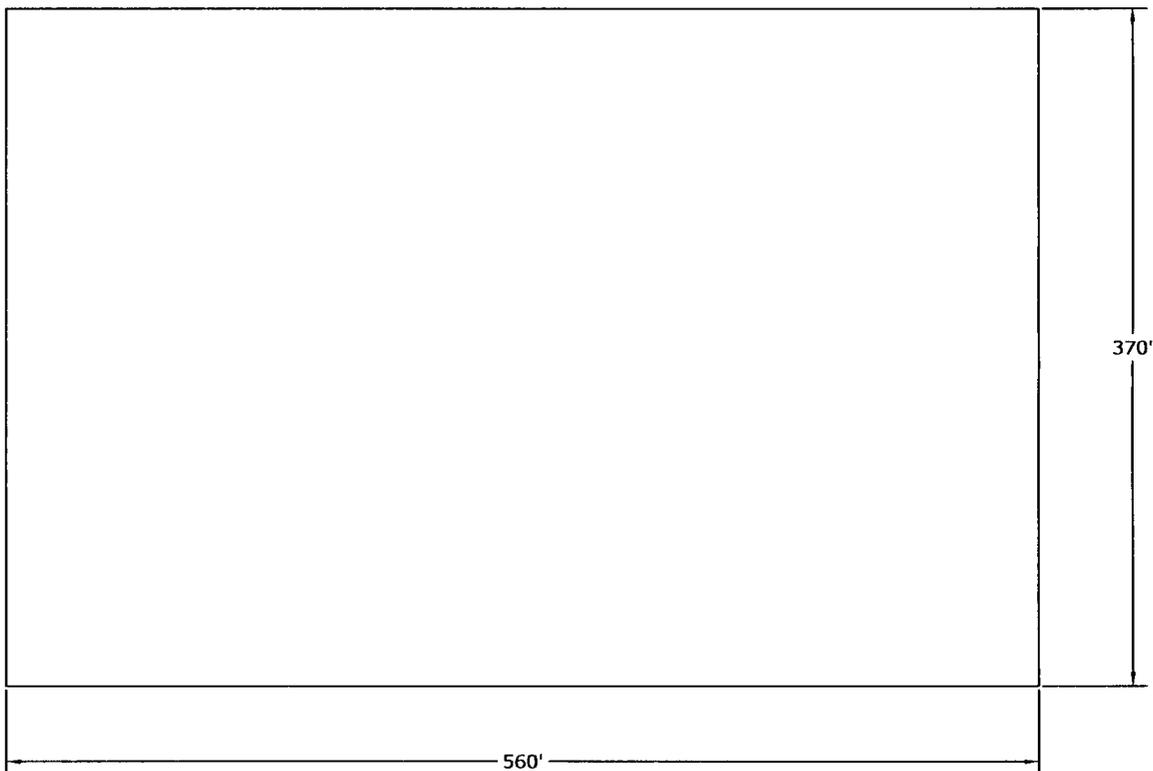
**Basin Environmental Consulting**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2010		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		



● BG West of Cell G

● BG South of Cell G



**LEGEND:**

- X 4-Point Composite Treatment Cell Soil Sample Location
- Vadose Zone Soil Sample Location

Figure 10  
Cell "G" Background Soil Sample  
Location Map  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Consulting**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2010		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		

# Tables

TABLE 1

2009 CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN THE TREATMENT ZONE

PLAINS MARKETING, L.P.  
 LEA STATION LAND FARM  
 LEA COUNTY, NEW MEXICO  
 PLAINS SRS: 2004-00061  
 NMOCD #GW-351

SAMPLE LOCATION	SAMPLE DEPTH (bgs)	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M					TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	EPA 300 Chloride (mg/kg)		
			BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M.P. XYLENES (mg/Kg)	O. XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)					
Cell A TZ G 1	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	38.5
Cell A TZ G 2	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	35.7
Cell A TZ G 3	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	30.1
Cell A TZ G 4	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	30.5
Cell A TZ G 5	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	17.5
Cell B TZ G 1	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	20
Cell B TZ G 2	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	14.7
Cell B TZ G 3	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	32
Cell B TZ G 4	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	21.5
Cell B TZ G 5	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	5.28
Cell C TZ G 1	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	36.6
Cell C TZ G 2	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	20.6
Cell C TZ G 3	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	16.7
Cell C TZ G 4	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	10.5
Cell C TZ G 5	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	10.8
Cell D TZ G 1	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	48.9
Cell D TZ G 2	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	80.8
Cell D TZ G 3	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	85
Cell D TZ G 4	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	25.7
Cell D TZ G 5	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	10.4
Cell E TZ G 1	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	<5.0
Cell E TZ G 2	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	5.57
Cell E TZ G 3	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	<5.02
Cell E TZ G 4	8"	6/16/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	<5.04

TABLE 1

2009 CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN THE TREATMENT ZONE

PLAINS MARKETING, L.P.  
 LEA STATION LAND FARM  
 LEA COUNTY, NEW MEXICO  
 PLAINS SRS: 2004-00061  
 NMOCD #GW-351

SAMPLE LOCATION	SAMPLE DEPTH (bgs)	SAMPLE DATE	METHOD: EPA SW 846-8021B, 8030				METHOD: 8015M						TOTAL TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	EPA 300 Chloride (mg/kg)	
			BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M,P-XYLENES (mg/Kg)	O-XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)				
Cell F TZ G 1	8"	6/16/2009	-	-	-	-	-	-	-	-	-	930	140	1,070	113
Cell F TZ G 2	8"	6/16/2009	-	-	-	-	-	-	-	-	-	1090	155	1,245	162
Cell F TZ G 3	8"	6/16/2009	-	-	-	-	-	-	-	-	-	1300	164	1,464	207
Cell F TZ G 4	8"	6/16/2009	-	-	-	-	-	-	-	-	-	1370	179	1,549	198
Cell F TZ G 5	8"	6/16/2009	-	-	-	-	-	-	-	-	-	927	137	1,064	168
Cell G TZ G 1	8"	6/18/2009	-	-	-	-	-	-	-	-	-	563	68.2	631.2	15.1
Cell G TZ G 2	8"	6/18/2009	-	-	-	-	-	-	-	-	-	3380	145	3,705	27.4
Cell G TZ G 3	8"	6/18/2009	-	-	-	-	-	-	-	-	-	5770	514	7,159	29.5
Cell G TZ G 4	8"	6/18/2009	-	-	-	-	-	-	-	-	-	6480	445	7,783	35.2
Cell G TZ G 5	8"	6/18/2009	-	-	-	-	-	-	-	-	-	7810	548	9,119	41
Cell H TZ G 1	8"	6/18/2009	-	-	-	-	-	-	-	-	-	459	2780	3,518	<5.02
Cell H TZ G 2	8"	6/18/2009	-	-	-	-	-	-	-	-	-	761	2710	3,755	10.3
Cell A TZ G 1	8"	10/27/2009	-	-	-	-	-	-	-	-	-	<15.5	891	945.5	51.2
Cell A TZ G 2	8"	10/27/2009	-	-	-	-	-	-	-	-	-	<16.2	518	546	29.7
Cell A TZ G 3	8"	10/27/2009	-	-	-	-	-	-	-	-	-	<15.2	1420	1,490.1	35.9
Cell A TZ G 4	8"	10/27/2009	-	-	-	-	-	-	-	-	-	<15.8	434	464.9	22.1
Cell A TZ G 5	8"	10/27/2009	-	-	-	-	-	-	-	-	-	<15.4	240	264.2	16.2
Cell B TZ G 1	8"	10/27/2009	-	-	-	-	-	-	-	-	-	<15.7	832	877.8	11.7
Cell B TZ G 2	8"	10/27/2009	-	-	-	-	-	-	-	-	-	<15.5	700	740.6	22
Cell B TZ G 3	8"	10/27/2009	-	-	-	-	-	-	-	-	-	<15.4	363	391.9	27.6
Cell B TZ G 4	8"	10/27/2009	-	-	-	-	-	-	-	-	-	<15.4	358	388.7	22.2
Cell B TZ G 5	8"	10/27/2009	-	-	-	-	-	-	-	-	-	-	-	-	-
Cell C TZ G 1	8"	10/27/2009	-	-	-	-	-	-	-	-	-	-	-	-	-
Cell C TZ G 2	8"	10/27/2009	-	-	-	-	-	-	-	-	-	-	-	-	-





TABLE 2

HISTORIC CONCENTRATIONS OF HYDROCARBONS, CHLORIDES, SULFATES AND ALKALINITY IN THE VADOSE ZONE

PLAINS MARKETING, L.P.  
 LEA STATION LANDFARM  
 LEA COUNTY, NEW MEXICO  
 PLAINS SRS #2004-00061  
 NMOCD #GW-351

Sample ID	Landfarm Cell	Sample Date	PID analyses (ppm)	Sample Depth (feet-bgs)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	m,p-xylene (mg/Kg)	o-xylene (mg/Kg)	Total BTEX (mg/Kg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)	Carbonate Alkalinity (mg/Kg)	Bicarbonate Alkalinity (mg/Kg)	Hydroxide Alkalinity (mg/Kg)	Total Alkalinity (mg/Kg)
CESLSL11604BGS	Background	16-Jan-04	--	3.5-4.0	<0.020	<0.020	<0.020	<0.040	<0.020	<0.040	<5.0	<2.5	<5.0	10.60	<5	<50	<50	--	<50
SPLSLF83104CC-4'	C	31-Aug-04	--	3.5-4.0	<0.020	<0.020	<0.020	<0.040	<0.020	<0.040	<5.0	<2.5	<5.0	--	--	--	--	--	--
SPLSLF83104CE-4'	E	31-Aug-04	--	3.5-4.0	<0.020	<0.020	<0.020	<0.040	<0.020	<0.040	<5.0	<2.5	<5.0	--	--	--	--	--	--
Cell B Treatment Zone	B	28-Oct-05	0.80	3.5-4.0	<0.025	0.0159 <sup>A</sup>	0.0273	0.0896	0.0190 <sup>A</sup>	0.30	<10.0	<10.0	<10.0	9.37	24.4	nr	nr	--	433
Cell C Treatment Zone	C	28-Oct-05	1.20	3.5-4.0	<0.025	<0.025	<0.025	0.0235 <sup>A</sup>	<0.025	<0.025	<10.0	<10.0	<10.0	7.74	23.1	nr	nr	--	433
Cell E Treatment Zone	E	28-Oct-05	0.30	3.5-4.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	20.9	35.2	nr	nr	--	1,580
Cell A Treatment Zone-3' to 4'	A	26-Jul-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	1.17 <sup>A</sup>	8.35	<0.500	240	<0.500	240
Cell B Treatment Zone-3' to 4'	B	26-Jul-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	4.76 <sup>A</sup>	9.51	40.0	180	<0.500	220
Cell C Treatment Zone-3' to 4'	C	26-Jul-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	1.45 <sup>A</sup>	45.8	<0.500	220	<0.500	220
Cell E Treatment Zone-3' to 4'	E	26-Jul-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	2.95 <sup>A</sup>	44.7	<0.500	225	<0.500	225
Cell A Treatment Zone-3' to 4'	A	14-Dec-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	--	--	--	--	--	--
Cell B Treatment Zone-3' to 4'	B	14-Dec-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	--	--	--	--	--	--
Cell C Treatment Zone-3' to 4'	C	14-Dec-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	--	--	--	--	--	--
Cell E Treatment Zone-3' to 4'	E	14-Dec-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	--	--	--	--	--	--
BG South of Cell "G"	G	23-Dec-09	--	--	--	--	--	--	--	--	--	--	--	100.00	--	--	--	--	--
BG West of Cell "G"	G	23-Dec-09	--	--	--	--	--	--	--	--	--	--	--	100.00	--	--	--	--	--

TABLE 3

HISTORIC CONCENTRATIONS OF METALS IN THE VADOSE ZONE  
 PLAINS MARKETING, L.P.  
 LEA STATION LANDFARM  
 LEA COUNTY, NEW MEXICO  
 PLAINS SRS: 2004-00061  
 NMOCD #GW-351

Sample ID	Landfarm Cell	Sample Date	Sample Depth (feet-bgs)	SW-846 6010 & 200.7		258.1 & 7670		SW-6010 & 200.7							
				Calcium (mg/kg)	Magnesium (mg/kg)	Potassium (mg/kg)	Sodium (mg/kg)	Mercury (mg/kg)	Chromium (mg/kg)	Arsenic (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Cadmium (mg/kg)	Barium (mg/kg)	Lead (mg/kg)
CESLEISLF11604BGS	Background	16-Jan-04	3.5-4.0	664	1,540	744	30.1	<0.04	4.42	<1	<5.0	<2.5	<2	15.2	<1
SPLSIF83104CC-4	C	31-Aug-04	3.5-4.0	--	--	--	--	--	--	--	--	--	--	--	--
SPLSIF83104CE-4	E	31-Aug-04	3.5-4.0	--	--	--	--	--	--	--	--	--	--	--	--
Cell B Treatment Zone	B	28-Oct-05	3.5-4.0	30,400	1,350	235	1,420	0.01230 <sup>A</sup>	1.43	<0.400	<0.200	<0.250	0.423	35.8	2.30
Cell C Treatment Zone	C	28-Oct-05	3.5-4.0	20,800	902	238	1,700	0.02204 <sup>A</sup>	3.81	<0.400	<0.200	<0.250	0.973	47.4	<0.550
Cell E Treatment Zone	E	28-Oct-05	3.5-4.0	89,900	3,680	506	2,670	0.01847 <sup>A</sup>	3.52	1.36	<0.200	<0.250	1.13	111	2.80
Cell A Treatment Zone- 3' to 4'	A	26-Jul-06	3.0-4.0	47.8	5.82	4.48	2.26	0.009424 <sup>A</sup>	<2.44	1.65 <sup>A</sup>	<7.51	1.01	<1.73	17.3	<0.740
Cell B Treatment Zone- 3' to 4'	B	26-Jul-06	3.0-4.0	27.9	8.16	9.17	3.78	0.03174	<2.44	3.33 <sup>A</sup>	1.71 <sup>A</sup>	<1.01	<1.73	147	<0.740
Cell C Treatment Zone- 3' to 4'	C	26-Jul-06	3.0-4.0	51.5	6.06	3.07	12.1	0.009956 <sup>A</sup>	<2.44	0.953 <sup>A</sup>	<7.51	<1.01	<1.73	40.0	<0.740
Cell E Treatment Zone- 3' to 4'	E	26-Jul-06	3.0-4.0	57.5	10.3	16.0	9.17	0.01564	1.47 <sup>A</sup>	1.29 <sup>A</sup>	2.47 <sup>A</sup>	<1.01	<1.73	50.4	<0.740

<sup>A</sup> = Estimated value, analyte detected less than reported limit  
 -- = Not analyzed

TABLE 4

2009 CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN THE VADOSE ZONE

PLAINS MARKETING, L.P.  
 LEA STATION LAND FARM  
 LEA COUNTY, NEW MEXICO  
 PLAINS SRS: 2004-00061  
 NMOCD #GW-351

SAMPLE LOCATION	SAMPLE DEPTH (bgs)	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M					TOTAL		
			BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M,P-XYLENES (mg/Kg)	O-XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	Chloride (mg/kg)		
Cell A VZ G 1 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.4	<15.4	<15.4	<15.4	<5.12
Cell A VZ G 2 (3'-4')	3' - 4'	6/17/2009	<0.0009	<0.0019	<0.0009	<0.0019	<0.0009	<0.0019	<0.0009	<0.0019	<14.0	<14.0	<14.0	<14.0	<4.65
Cell A VZ G 3 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.02
Cell A VZ G 4 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2	<5.05
Cell A VZ G 5 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2	<5.05
Cell B VZ G 1 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.01
Cell B VZ G 2 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.01
Cell B VZ G 3 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.1	<15.1	<15.1	<15.1	<5.03
Cell B VZ G 4 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.1	<15.1	<15.1	<15.1	<5.02
Cell B VZ G 5 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.03
Cell C VZ G 1 (3'-4')	3' - 4'	6/17/2009	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<16.1	<16.1	<16.1	<16.1	<5.37
Cell C VZ G 2 (3'-4')	3' - 4'	6/17/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.5	<16.5	<16.5	<16.5	<5.49
Cell C VZ G 3 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.1	<15.1	<15.1	<15.1	<5.05
Cell C VZ G 4 (3'-4')	3' - 4'	6/17/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.1	<16.1	<16.1	<16.1	6.06
Cell C VZ G 5 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2	<5.08
Cell D VZ G 1 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.01
Cell D VZ G 2 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.4	<15.4	<15.4	<15.4	<5.14
Cell D VZ G 3 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.02
Cell D VZ G 4 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2	<5.06
Cell D VZ G 5 (3'-4')	3' - 4'	6/17/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.1	<15.1	<15.1	<15.1	<5.03
Cell E VZ G 1 (3'-4')	3' - 4'	6/18/2009	<0.0051	<0.0103	<0.0051	<0.0103	<0.0051	<0.0103	<0.0051	<0.0103	<15.4	<15.4	<15.4	<15.4	<5.15
Cell E VZ G 2 (3'-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.01
Cell E VZ G 3 (3'-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2	<5.08
Cell E VZ G 4 (3'-4')	3' - 4'	6/18/2009	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.9	<15.9	<15.9	<15.9	<5.32
Cell F VZ G 1 (3'-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.01
Cell F VZ G 2 (3'-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<4.99
Cell F VZ G 3 (3'-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.01

TABLE 4

2009 CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN THE VADOSE ZONE

PLAINS MARKETING, L.P.  
 LEA STATION LAND FARM  
 LEA COUNTY, NEW MEXICO  
 PLAINS SRS: 2004-00061  
 NIMODC #GW-351

SAMPLE LOCATION	SAMPLE DEPTH (bgs)	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030						METHOD: 8015M				TOTAL			
			BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M,P-XYLENES (mg/Kg)	O-XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	Chloride (mg/kg)			
Cell F VZ G 4 (3-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.2	<15.2	<15.8	<15.2	<5.08
Cell F VZ G 5 (3-4')	3' - 4'	6/18/2009	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<15.2	<15.8	<15.8	<15.8	<5.25
Cell G VZ G 1 (3-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.3	<15.3	<15.3	<15.3	169
Cell G VZ G 2 (3-4')	3' - 4'	6/18/2009	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.5	<15.5	<15.5	<15.5	<5.16
Cell G VZ G 3 (3-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.3	<15.3	<15.3	<15.3	153
Cell G VZ G 4 (3-4')	3' - 4'	6/18/2009	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.5	<15.5	<15.5	<15.5	88.4
Cell G VZ G 5 (3-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.3	<15.3	<15.3	<15.3	75.6
Cell H VZ G 1 (3-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.1	<15.1	<15.1	<15.1	<5.04
Cell H VZ G 2 (3-4')	3' - 4'	6/18/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.2	<15.2	<15.2	<15.2	<5.07
Cell A VZ G 1 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.5	<15.5	<15.5	<15.5	<5.17
Cell A VZ G 2 (3-4')	3' - 4'	10/27/2009	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<15.8	<15.8	<15.8	<15.8	5.75
Cell A VZ G 3 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.3	<15.3	<15.3	<15.3	<5.11
Cell A VZ G 4 (3-4')	3' - 4'	10/27/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.8	<16.8	<16.8	<16.8	<5.61
Cell A VZ G 5 (3-4')	3' - 4'	10/27/2009	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<16.1	<16.1	<16.1	<16.1	<5.38
Cell B VZ G 1 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.4	<15.4	<15.4	<15.4	10.8
Cell B VZ G 2 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.8	<15.8	<15.8	<15.8	<5.28
Cell B VZ G 3 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.5	<15.5	<15.5	<15.5	<5.17
Cell B VZ G 4 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.3	<15.3	<15.3	<15.3	<5.11
Cell B VZ G 5 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.2	<15.2	<15.2	<15.2	<5.10
Cell C VZ G 1 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.7	<15.7	<15.7	<15.7	<5.23
Cell C VZ G 2 (3-4')	3' - 4'	10/27/2009	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<17.4	<17.4	<17.4	<17.4	<5.79
Cell C VZ G 3 (3-4')	3' - 4'	10/27/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.4	<16.4	<16.4	<16.4	<5.48
Cell C VZ G 4 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.1	<15.1	<15.1	<15.1	5.17
Cell C VZ G 5 (3-4')	3' - 4'	10/27/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.3	<16.3	<16.3	<16.3	6.72
Cell D VZ G 1 (3-4')	3' - 4'	10/27/2009	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.5	<15.5	<15.5	<15.5	<5.16
Cell D VZ G 2 (3-4')	3' - 4'	10/27/2009	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<0.0024	<17.7	<17.7	<17.7	<17.7	<5.89

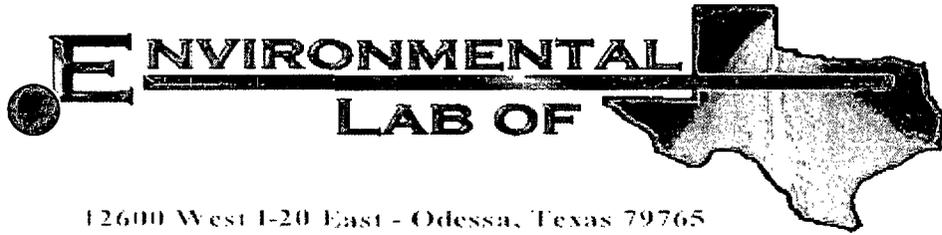
TABLE 4

2009 CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN THE VADOSE ZONE

PLAINS MARKETING, L.P.  
LEA STATION LAND FARM  
LEA COUNTY, NEW MEXICO  
PLAINS SRS: 2004-00061  
NMOCD #GW-351

SAMPLE LOCATION	SAMPLE DEPTH (bgs)	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030						METHOD: 8015M				TOTAL		EPA 300 Chloride (mg/Kg)		
			BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M.P.-XYLENES (mg/Kg)	O-XYLENES (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)					
Cell D VZ G 3 (3'-4')	3' - 4'	10/27/2009	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0022	<15.9	<16.7	<15.9	<16.7	<15.9	<5.31
Cell D VZ G 4 (3'-4')	3' - 4'	10/27/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.7	<16.7	<16.7	<16.7	<16.7	<5.55
Cell D VZ G 5 (3'-4')	3' - 4'	10/27/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.3	<15.3	<15.3	<15.3	<15.3	<5.11
Cell E VZ G 1 (3'-4')	3' - 4'	10/27/2009	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<16.9	<16.9	<16.9	<16.9	<16.9	<5.63
Cell E VZ G 2 (3'-4')	3' - 4'	10/27/2009	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<16.9	<16.9	<16.9	<16.9	<16.9	<5.63
Cell E VZ G 3 (3'-4')	3' - 4'	10/28/2009	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<15.7	<15.7	<15.7	<15.7	<15.7	5.26
Cell E VZ G 4 (3'-4')	3' - 4'	10/28/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.1	<15.1	<15.1	<15.1	<15.1	<5.06
Cell F VZ G 1 (3'-4')	3' - 4'	10/28/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.1	<15.1	<15.1	<15.1	<15.1	7.36
Cell F VZ G 2 (3'-4')	3' - 4'	10/28/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.3	<15.3	<15.3	<15.3	<15.3	<5.09
Cell F VZ G 3 (3'-4')	3' - 4'	10/28/2009	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<15.8	<15.8	<15.8	<15.8	<15.8	<5.27
Cell F VZ G 4 (3'-4')	3' - 4'	10/28/2009	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.6	<15.6	<15.6	<15.6	<15.6	<5.20
Cell F VZ G 5 (3'-4')	3' - 4'	10/28/2009	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.7	<15.7	<15.7	<15.7	<15.7	<5.23
Cell G VZ G 1 (3'-4')	3' - 4'	10/28/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.4	<16.4	<16.4	<16.4	<16.4	337
Cell G VZ G 2 (3'-4')	3' - 4'	10/28/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.7	<16.7	<16.7	<16.7	<16.7	29.3
Cell G VZ G 3 (3'-4')	3' - 4'	10/28/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.8	<16.8	<16.8	<16.8	<16.8	123
Cell G VZ G 4 (3'-4')	3' - 4'	10/28/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.2	<16.2	<16.2	<16.2	<16.2	178
Cell G VZ G 5 (3'-4')	3' - 4'	10/28/2009	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.2	<16.2	<16.2	<16.2	<16.2	19.8
Cell H VZ G 1 (3'-4')	3' - 4'	10/28/2009	<0.0012	<0.0023	<0.0012	<0.0023	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<17.3	<17.3	<17.3	<17.3	<17.3	<5.76
Cell H VZ G 2 (3'-4')	3' - 4'	10/28/2009	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<17.1	<17.1	<17.1	<17.1	<17.1	<5.71
Cell H VZ G 3 (3'-4')	3' - 4'	10/28/2009	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<0.0024	<17.8	<17.8	<17.8	<17.8	<17.8	6.87
Background	3' - 4'	1/16/2004	<0.02	<0.02	<0.02	<0.04	<0.02	<0.04	<0.02	<0.04	<0.04	<5	<2.5	<2.5	<5	<5	10.6

# 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: Lea Station Landfarm

Project Number: 2004-00061

Location: Sect. 28, T 20 S, R 37 E

Lab Order Number: 7D13017

Report Date: 04/23/07

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A1	7D13017-01	Soil	04/12/07 16:50	04-13-2007 13:00
A2	7D13017-02	Soil	04/12/07 17:01	04-13-2007 13:00
A3	7D13017-03	Soil	04/12/07 17:30	04-13-2007 13:00
A4	7D13017-04	Soil	04/12/07 16:43	04-13-2007 13:00
A5	7D13017-05	Soil	04/12/07 16:35	04-13-2007 13:00
A6	7D13017-06	Soil	04/12/07 16:25	04-13-2007 13:00
A7	7D13017-07	Soil	04/12/07 16:12	04-13-2007 13:00
A8	7D13017-08	Soil	04/12/07 16:01	04-13-2007 13:00
A9	7D13017-09	Soil	04/12/07 15:53	04-13-2007 13:00

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A1 (7D13017-01) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71905	04/19/07	04/19/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		95.6 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.0 %	75-125		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED71607	04/16/07	04/18/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>69.9</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>J [7.54]</b>	10.0	"	"	"	"	"	"	J
<b>Total Hydrocarbons</b>	<b>69.9</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		87.4 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		104 %	70-130		"	"	"	"	

**A2 (7D13017-02) Soil**

Benzene	ND	0.00200	mg/kg dry	2	ED71905	04/19/07	04/19/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	<b>0.00269</b>	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		90.6 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.6 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>21.4</b>	10.0	mg/kg dry	1	ED71607	04/16/07	04/18/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>118</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>31.0</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>170</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		89.4 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		101 %	70-130		"	"	"	"	

**A3 (7D13017-03) Soil**

Benzene	ND	0.00200	mg/kg dry	2	ED71905	04/19/07	04/19/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	<b>0.00389</b>	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		95.4 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.2 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>24.6</b>	10.0	mg/kg dry	1	ED71607	04/16/07	04/18/07	EPA 8015M	

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

A Xenco Laboratories Company

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A3 (7D13017-03) Soil</b>									
<b>Carbon Ranges C12-C28</b>	<b>162</b>	10.0	mg/kg dry	1	ED71607	04/16/07	04/18/07	EPA 8015M	
<b>Carbon Ranges C28-C35</b>	<b>36.2</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>223</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		89.4 %	70-130	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		101 %	70-130	"	"	"	"	"	
<b>A4 (7D13017-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED71905	04/19/07	04/19/07	EPA 8021B	
<b>Toluene</b>	<b>0.0859</b>	0.0250	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.179</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>0.320</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>0.168</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		105 %	75-125	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		116 %	75-125	"	"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>163</b>	20.0	mg/kg dry	2	ED71607	04/16/07	04/18/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>924</b>	20.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>170</b>	20.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>1260</b>	20.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		43.4 %	70-130	"	"	"	"	"	S-06
<i>Surrogate: 1-Chlorooctadecane</i>		52.0 %	70-130	"	"	"	"	"	S-06
<b>A5 (7D13017-05) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED71905	04/19/07	04/20/07	EPA 8021B	
<b>Toluene</b>	<b>J [0.0129]</b>	0.0250	"	"	"	"	"	"	J
<b>Ethylbenzene</b>	<b>0.0531</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>0.0915</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>0.0276</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		93.2 %	75-125	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.6 %	75-125	"	"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>661</b>	50.0	mg/kg dry	5	ED71607	04/16/07	04/18/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>7030</b>	50.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>717</b>	50.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>8410</b>	50.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		17.7 %	70-130	"	"	"	"	"	S-06
<i>Surrogate: 1-Chlorooctadecane</i>		37.6 %	70-130	"	"	"	"	"	S-06

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>A6 (7D13017-06) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71905	04/19/07	04/19/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	<b>J [0.00118]</b>	0.00200	"	"	"	"	"	"	J
Xylene (p/m)	<b>0.00230</b>	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
Surrogate: a.a.a-Trifluorotoluene		85.0 %	75-125		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.0 %	75-125		"	"	"	"	
Carbon Ranges C6-C12	<b>50.6</b>	10.0	mg/kg dry	1	ED71607	04/16/07	04/18/07	EPA 8015M	
Carbon Ranges C12-C28	<b>523</b>	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	<b>70.6</b>	10.0	"	"	"	"	"	"	
Total Hydrocarbons	<b>645</b>	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		99.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		115 %	70-130		"	"	"	"	
<b>A7 (7D13017-07) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED71905	04/19/07	04/19/07	EPA 8021B	
Toluene	<b>0.132</b>	0.0250	"	"	"	"	"	"	
Ethylbenzene	<b>0.567</b>	0.0250	"	"	"	"	"	"	
Xylene (p/m)	<b>1.64</b>	0.0250	"	"	"	"	"	"	
Xylene (o)	<b>1.98</b>	0.0250	"	"	"	"	"	"	
Surrogate: a.a.a-Trifluorotoluene		111 %	75-125		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		148 %	75-125		"	"	"	"	S-04
Carbon Ranges C6-C12	<b>641</b>	10.0	mg/kg dry	1	ED71607	04/16/07	04/18/07	EPA 8015M	
Carbon Ranges C12-C28	<b>2340</b>	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	<b>171</b>	10.0	"	"	"	"	"	"	
Total Hydrocarbons	<b>3150</b>	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		113 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		135 %	70-130		"	"	"	"	S-04
<b>A8 (7D13017-08) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED71905	04/19/07	04/19/07	EPA 8021B	
Toluene	<b>J [0.0116]</b>	0.0250	"	"	"	"	"	"	J
Ethylbenzene	<b>0.0469</b>	0.0250	"	"	"	"	"	"	
Xylene (p/m)	<b>0.0697</b>	0.0250	"	"	"	"	"	"	
Xylene (o)	<b>0.0446</b>	0.0250	"	"	"	"	"	"	
Surrogate: a.a.a-Trifluorotoluene		110 %	75-125		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	75-125		"	"	"	"	
Carbon Ranges C6-C12	<b>588</b>	10.0	mg/kg dry	1	ED71607	04/16/07	04/18/07	EPA 8015M	

Environmental Lab of Texas

A Xenco Laboratories Company

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>A8 (7D13017-08) Soil</b>									
<b>Carbon Ranges C12-C28</b>	<b>2180</b>	10.0	mg/kg dry	1	ED71607	04/16/07	04/18/07	EPA 8015M	
<b>Carbon Ranges C28-C35</b>	<b>155</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>2920</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		114 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		132 %	70-130		"	"	"	"	S-04
<b>A9 (7D13017-09) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71905	04/19/07	04/19/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>ND</b>	0.00200	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>ND</b>	0.00200	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>ND</b>	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		77.8 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		77.4 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>118</b>	10.0	mg/kg dry	1	ED71607	04/16/07	04/18/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>1500</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>197</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>1820</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		104 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		124 %	70-130		"	"	"	"	

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A1 (7D13017-01) Soil</b>									
% Moisture	17.4	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>A2 (7D13017-02) Soil</b>									
% Moisture	21.5	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>A3 (7D13017-03) Soil</b>									
% Moisture	24.8	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>A4 (7D13017-04) Soil</b>									
% Moisture	23.2	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>A5 (7D13017-05) Soil</b>									
% Moisture	6.8	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>A6 (7D13017-06) Soil</b>									
% Moisture	16.8	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>A7 (7D13017-07) Soil</b>									
% Moisture	16.4	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>A8 (7D13017-08) Soil</b>									
% Moisture	11.3	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>A9 (7D13017-09) Soil</b>									
% Moisture	18.4	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	

Environmental Lab of Texas

A Xenco Laboratories Company

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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
<b>Batch ED71607 - Solvent Extraction (GC)</b>										
<b>Blank (ED71607-BLK1)</b>					Prepared: 04/16/07 Analyzed: 04/18/07					
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	47.0		mg/kg	50.0		94.0	70-130			
Surrogate: 1-Chlorooctadecane	59.3		"	50.0		119	70-130			
<b>LCS (ED71607-BS1)</b>					Prepared: 04/16/07 Analyzed: 04/18/07					
Carbon Ranges C6-C12	591	1.00	mg/kg wet	500		118	75-125			
Carbon Ranges C12-C28	472	1.00	"	500		94.4	75-125			
Carbon Ranges C28-C35	ND	1.00	"	0.00			75-125			
Total Hydrocarbons	1060	1.00	"	1000		106	75-125			
Surrogate: 1-Chlorooctane	50.9		mg/kg	50.0		102	70-130			
Surrogate: 1-Chlorooctadecane	53.5		"	50.0		107	70-130			
<b>LCS Dup (ED71607-BSD1)</b>					Prepared: 04/16/07 Analyzed: 04/18/07					
Carbon Ranges C6-C12	591	10.0	mg/kg wet	500		118	75-125	0.00	20	
Carbon Ranges C12-C28	472	10.0	"	500		94.4	75-125	0.00	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125		20	
Total Hydrocarbons	1060	10.0	"	1000		106	75-125	0.00	20	
Surrogate: 1-Chlorooctane	51.5		mg/kg	50.0		103	70-130			
Surrogate: 1-Chlorooctadecane	46.8		"	50.0		93.6	70-130			
<b>Calibration Check (ED71607-CCV1)</b>					Prepared: 04/16/07 Analyzed: 04/18/07					
Carbon Ranges C6-C12	242		mg/kg	250		96.8	80-120			
Carbon Ranges C12-C28	243		"	250		97.2	80-120			
Total Hydrocarbons	484		"	500		96.8	80-120			
Surrogate: 1-Chlorooctane	52.8		"	50.0		106	70-130			
Surrogate: 1-Chlorooctadecane	54.1		"	50.0		108	70-130			

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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 ED71905 - EPA 5030C (GC)**

**Blank (ED71905-BLK1)**

Prepared & Analyzed: 04/19/07

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	53.3		ug/kg	50.0		107	75-125			
Surrogate: 4-Bromofluorobenzene	47.5		"	50.0		95.0	75-125			

**LCS (ED71905-BS1)**

Prepared & Analyzed: 04/19/07

Benzene	0.0507	0.00100	mg/kg wet	0.0500		101	80-120			
Toluene	0.0512	0.00100	"	0.0500		102	80-120			
Ethylbenzene	0.0547	0.00100	"	0.0500		109	80-120			
Xylene (p/m)	0.101	0.00100	"	0.100		101	80-120			
Xylene (o)	0.0558	0.00100	"	0.0500		112	80-120			
Surrogate: a,a,a-Trifluorotoluene	52.6		ug/kg	50.0		105	75-125			
Surrogate: 4-Bromofluorobenzene	50.4		"	50.0		101	75-125			

**LCS Dup (ED71905-BS1)**

Prepared: 04/19/07 Analyzed: 04/20/07

Benzene	0.0535	0.00100	mg/kg wet	0.0500		107	80-120	5.77	20	
Toluene	0.0536	0.00100	"	0.0500		107	80-120	4.78	20	
Ethylbenzene	0.0564	0.00100	"	0.0500		113	80-120	3.60	20	
Xylene (p/m)	0.104	0.00100	"	0.100		104	80-120	2.93	20	
Xylene (o)	0.0575	0.00100	"	0.0500		115	80-120	2.64	20	
Surrogate: a,a,a-Trifluorotoluene	55.0		ug/kg	50.0		110	75-125			
Surrogate: 4-Bromofluorobenzene	52.2		"	50.0		104	75-125			

**Calibration Check (ED71905-CCV1)**

Prepared: 04/19/07 Analyzed: 04/20/07

Benzene	55.0		ug/kg	50.0		110	80-120			
Toluene	53.3		"	50.0		107	80-120			
Ethylbenzene	55.0		"	50.0		110	80-120			
Xylene (p/m)	99.8		"	100		99.8	80-120			
Xylene (o)	55.8		"	50.0		112	80-120			
Surrogate: a,a,a-Trifluorotoluene	53.1		"	50.0		106	75-125			
Surrogate: 4-Bromofluorobenzene	48.3		"	50.0		96.6	75-125			

Environmental Lab of Texas  
 A Xenco Laboratories Company

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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 ED71905 - EPA 5030C (GC)**

**Matrix Spike (ED71905-MS1)**

Source: 7D13016-09

Prepared: 04/19/07 Analyzed: 04/20/07

Benzene	0.129	0.00200	mg/kg dry	0.130	ND	99.2	80-120			
Toluene	0.126	0.00200	"	0.130	ND	96.9	80-120			
Ethylbenzene	0.133	0.00200	"	0.130	ND	102	80-120			
Xylene (p/m)	0.229	0.00200	"	0.260	ND	88.1	80-120			
Xylene (o)	0.126	0.00200	"	0.130	ND	96.9	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	47.2		ug/kg	50.0		94.4	75-125			
Surrogate: 4-Bromofluorobenzene	44.9		"	50.0		89.8	75-125			

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

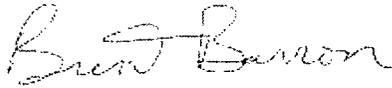
**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch ED71702 - General Preparation (Prep)</b>									
<b>Blank (ED71702-BLK1)</b>					Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	100	0.1	%						
<b>Blank (ED71702-BLK2)</b>					Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	100	0.1	%						
<b>Duplicate (ED71702-DUP1)</b>					Source: 7D13016-01 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	79.1	0.1	%		79.6		0.630	20	
<b>Duplicate (ED71702-DUP2)</b>					Source: 7D13001-01 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	86.5	0.1	%		86.6		0.116	20	
<b>Duplicate (ED71702-DUP3)</b>					Source: 7D13008-05 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	86.2	0.1	%		87.0		0.924	20	
<b>Duplicate (ED71702-DUP4)</b>					Source: 7D13010-06 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	89.3	0.1	%		89.6		0.335	20	
<b>Duplicate (ED71702-DUP5)</b>					Source: 7D12010-20 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	91.6	0.1	%		90.8		0.877	20	
<b>Duplicate (ED71702-DUP6)</b>					Source: 7D13018-01 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	73.1	0.1	%		77.9		6.36	20	

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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:

4/23/2007

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

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

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

# Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231  
 (505) 394-3481 FAX: (505) 394-2601

P.O. Box 1558, Eunice, NM 88231

# Chain of Custody Form

<b>Company Name</b> Environmental Plus, Inc. <b>EPI Project Manager</b> Jason Stegemoller <b>Mailing Address</b> P.O. BOX 1558 <b>City, State, Zip</b> Eunice New Mexico 88231 <b>EPI Phone#/Fax#</b> 505-394-3481 / 505-394-2601 <b>Client Company</b> Plains Marketing <b>Facility Name</b> Lea Station Landfarm <b>Location</b> Sect. 28, T 20 S, R 37 E <b>Project Reference</b> 2004-00061 <b>EPI Sampler Name</b> George Blackburn		<b>Bill To:</b>  Attn: ENV Accounts Payable PO Box 4648 Houston, TX 77210-4648		<b>ANALYSIS REQUEST</b> CHLORIDES (Cl) SULFATES (SO <sub>4</sub> ) PH Anions & Cations RCRA Metals (8) PAH									
280791 LAB I.D. 7D1307	SAMPLE I.D.		MATRIX		PRESERV.		SAMPLING		TPH 8015M		BTEX 8021B		
			WASTEWATER		ICE/COOL		DATE		TIME				
			GROUND WATER		ACID/BASE		12-Apr-07		16:50		X		
			# CONTAINERS		OTHER:		12-Apr-07		17:01		X		
			(G)RAB OR (C)OMP.		SLUDGE		12-Apr-07		17:30		X		
					GAUDE OIL		12-Apr-07		16:43		X		
					SOIL		12-Apr-07		16:35		X		
					WASTEWATER		12-Apr-07		16:25		X		
					SOIL		12-Apr-07		16:12		X		
					GROUND WATER		12-Apr-07		16:01		X		
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			
				GROUND WATER		12-Apr-07		15:53		X			
				WASTEWATER		12-Apr-07		15:53		X			

# Environmental Lab of Texas

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

Location: Plains/ EPI  
 Date/ Time: 4/13/07 1:00  
 Sample ID #: TD3017  
 Analyst: CK

### Sample Receipt Checklist

Client Initials

Question	Yes	No	Response	Client Initials
1 Temperature of container/ cooler?			2.0 °C	
2 Shipping container in good condition?	<del>Yes</del>	No		
3 Custody Seals intact on shipping container/ cooler?	Yes	No	<del>Not Present</del>	
4 Custody Seals intact on sample bottles/ container?	Yes	No	<del>Not Present</del>	
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 Observations 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

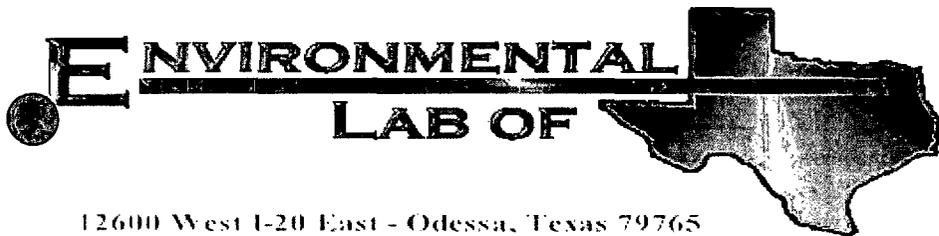
Contacted: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

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: Lea Station Landfarm

Project Number: 2004-00061

Location: Sect, 28, T 20 S, R 37 E

Lab Order Number: 7D13016

Report Date: 04/23/07

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B1	7D13016-01	Soil	04/12/07 14:10	04-13-2007 13:00
B2	7D13016-02	Soil	04/12/07 14:23	04-13-2007 13:00
B3	7D13016-03	Soil	04/12/07 14:39	04-13-2007 13:00
B4	7D13016-04	Soil	04/12/07 15:11	04-13-2007 13:00
B5	7D13016-05	Soil	04/12/07 15:01	04-13-2007 13:00
B6	7D13016-06	Soil	04/12/07 14:50	04-13-2007 13:00
B7	7D13016-07	Soil	04/12/07 13:45	04-13-2007 13:00
B8	7D13016-08	Soil	04/12/07 15:35	04-13-2007 13:00
B9	7D13016-09	Soil	04/12/07 15:25	04-13-2007 13:00

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>B1 (7D13016-01) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	<b>J [0.00120]</b>	0.00200	"	"	"	"	"	"	J
Xylene (p/m)	<b>J [0.00196]</b>	0.00200	"	"	"	"	"	"	J
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		78.2 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.8 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>48.3</b>	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>872</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>127</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>1050</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		91.0 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		105 %	70-130		"	"	"	"	
<b>B2 (7D13016-02) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	<b>0.00267</b>	0.00200	"	"	"	"	"	"	
Xylene (p/m)	<b>0.00454</b>	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		80.6 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>88.1</b>	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>1520</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>166</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>1770</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		87.4 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		112 %	70-130		"	"	"	"	
<b>B3 (7D13016-03) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		82.2 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.8 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>38.7</b>	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>B3 (7D13016-03) Soil</b>									
<b>Carbon Ranges C12-C28</b>	<b>1420</b>	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	
<b>Carbon Ranges C28-C35</b>	<b>169</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>1630</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		92.8 %	70-130	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		117 %	70-130	"	"	"	"	"	
<b>B4 (7D13016-04) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		79.6 %	75-125	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		77.2 %	75-125	"	"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>ND</b>	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>206</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>45.9</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>252</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		93.0 %	70-130	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		111 %	70-130	"	"	"	"	"	
<b>B5 (7D13016-05) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		86.8 %	75-125	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		80.8 %	75-125	"	"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>J [6.20]</b>	20.0	mg/kg dry	"	ED71318	04/16/07	04/17/07	EPA 8015M	J
<b>Carbon Ranges C12-C28</b>	<b>499</b>	20.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>111</b>	20.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>610</b>	20.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		49.0 %	70-130	"	"	"	"	"	S-06
<i>Surrogate: 1-Chlorooctadecane</i>		54.0 %	70-130	"	"	"	"	"	S-06

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>B6 (7D13016-06) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		88.8 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.0 %	75-125		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>155</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>41.8</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>197</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		89.8 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		107 %	70-130		"	"	"	"	
<b>B7 (7D13016-07) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		79.4 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		78.8 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>12.0</b>	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>175</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>32.7</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>220</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		88.8 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		105 %	70-130		"	"	"	"	
<b>B8 (7D13016-08) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		86.6 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.8 %	75-125		"	"	"	"	
Carbon Ranges C6-C12	ND	20.0	mg/kg dry	"	ED71318	04/16/07	04/18/07	EPA 8015M	

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>B8 (7D13016-08) Soil</b>									
<b>Carbon Ranges C12-C28</b>	<b>354</b>	20.0	mg/kg dry	2	ED71318	04/16/07	04/18/07	EPA 8015M	
<b>Carbon Ranges C28-C35</b>	<b>83.4</b>	20.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>437</b>	20.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		45.4 %	70-130		"	"	"	"	S-06
<i>Surrogate: 1-Chlorooctadecane</i>		48.8 %	70-130		"	"	"	"	S-06
<b>B9 (7D13016-09) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71905	04/19/07	04/19/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		91.0 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		78.0 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>10.8</b>	10.0	mg/kg dry	1	ED71318	04/16/07	04/18/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>180</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>41.1</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>232</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		88.4 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		104 %	70-130		"	"	"	"	

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>B1 (7D13016-01) Soil</b>									
% Moisture	20.4	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>B2 (7D13016-02) Soil</b>									
% Moisture	13.3	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>B3 (7D13016-03) Soil</b>									
% Moisture	12.9	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>B4 (7D13016-04) Soil</b>									
% Moisture	20.7	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>B5 (7D13016-05) Soil</b>									
% Moisture	22.8	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>B6 (7D13016-06) Soil</b>									
% Moisture	23.3	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>B7 (7D13016-07) Soil</b>									
% Moisture	14.0	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>B8 (7D13016-08) Soil</b>									
% Moisture	24.1	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>B9 (7D13016-09) Soil</b>									
% Moisture	23.0	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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 ED71318 - Solvent Extraction (GC)**

**Blank (ED71318-BLK1)**

Prepared: 04/13/07 Analyzed: 04/17/07

Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	46.3		mg/kg	50.0		92.6	70-130			
Surrogate: 1-Chlorooctadecane	58.5		"	50.0		117	70-130			

**LCS (ED71318-BS1)**

Prepared: 04/13/07 Analyzed: 04/17/07

Carbon Ranges C6-C12	624	10.0	mg/kg wet	500		125	75-125			
Carbon Ranges C12-C28	520	10.0	"	500		104	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	1140	10.0	"	1000		114	75-125			
Surrogate: 1-Chlorooctane	59.8		mg/kg	50.0		120	70-130			
Surrogate: 1-Chlorooctadecane	58.2		"	50.0		116	70-130			

**Calibration Check (ED71318-CCV1)**

Prepared: 04/13/07 Analyzed: 04/18/07

Carbon Ranges C6-C12	242		mg/kg	250		96.8	80-120			
Carbon Ranges C12-C28	262		"	250		105	80-120			
Total Hydrocarbons	505		"	500		101	80-120			
Surrogate: 1-Chlorooctane	57.3		"	50.0		115	70-130			
Surrogate: 1-Chlorooctadecane	59.1		"	50.0		118	70-130			

**Matrix Spike (ED71318-MS1)**

Source: 7D13015-07

Prepared: 04/13/07 Analyzed: 04/18/07

Carbon Ranges C6-C12	745	10.0	mg/kg dry	639	ND	117	75-125			
Carbon Ranges C12-C28	580	10.0	"	639	ND	90.8	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1330	10.0	"	1280	ND	104	75-125			
Surrogate: 1-Chlorooctane	57.1		mg/kg	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	56.0		"	50.0		112	70-130			

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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 ED71318 - Solvent Extraction (GC)**

Matrix Spike Dup (ED71318-MSD1)	Source: 7D13015-07	Prepared: 04/13/07	Analyzed: 04/18/07						
Carbon Ranges C6-C12	743	10.0	mg/kg dry	639	ND	116	75-125	0.858	20
Carbon Ranges C12-C28	583	10.0	"	639	ND	91.2	75-125	0.440	20
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20
Total Hydrocarbons	1330	10.0	"	1280	ND	104	75-125	0.00	20
Surrogate: 1-Chlorooctane	55.9		mg/kg	50.0		112	70-130		
Surrogate: 1-Chlorooctadecane	57.7		"	50.0		115	70-130		

**Batch ED71706 - EPA 5030C (GC)**

Blank (ED71706-BLK1)	Prepared: 04/17/07	Analyzed: 04/18/07					
Benzene	ND	0.00100	mg/kg wet				
Toluene	ND	0.00100	"				
Ethylbenzene	ND	0.00100	"				
Xylene (p/m)	ND	0.00100	"				
Xylene (o)	ND	0.00100	"				
Surrogate: a.a.a-Trifluorotoluene	53.5		ug/kg	50.0		107	75-125
Surrogate: 4-Bromofluorobenzene	49.0		"	50.0		98.0	75-125

CS (ED71706-BS1)	Prepared: 04/17/07	Analyzed: 04/18/07					
Benzene	0.0546	0.00100	mg/kg wet	0.0500		109	80-120
Toluene	0.0548	0.00100	"	0.0500		110	80-120
Ethylbenzene	0.0579	0.00100	"	0.0500		116	80-120
Xylene (p/m)	0.107	0.00100	"	0.100		107	80-120
Xylene (o)	0.0589	0.00100	"	0.0500		118	80-120
Surrogate: a.a.a-Trifluorotoluene	55.5		ug/kg	50.0		111	75-125
Surrogate: 4-Bromofluorobenzene	54.1		"	50.0		108	75-125

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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 ED71706 - EPA 5030C (GC)**

**Calibration Check (ED71706-CCV1)**

Prepared: 04/17/07 Analyzed: 04/19/07

Benzene	56.8		ug/kg	50.0		114	80-120			
Toluene	55.8		"	50.0		112	80-120			
Ethylbenzene	57.5		"	50.0		115	80-120			
Xylene (p/m)	105		"	100		105	80-120			
Xylene (o)	58.1		"	50.0		116	80-120			
Surrogate: a,a,a-Trifluorotoluene	54.9		"	50.0		110	75-125			
Surrogate: 4-Bromofluorobenzene	49.6		"	50.0		99.2	75-125			

**Matrix Spike (ED71706-MS1)**

Source: 7D13015-02

Prepared: 04/17/07 Analyzed: 04/19/07

Benzene	0.130	0.00200	mg/kg dry	0.130	ND	100	80-120			
Toluene	0.128	0.00200	"	0.130	ND	98.5	80-120			
Ethylbenzene	0.133	0.00200	"	0.130	ND	102	80-120			
Xylene (p/m)	0.237	0.00200	"	0.259	ND	91.5	80-120			
Xylene (o)	0.129	0.00200	"	0.130	ND	99.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	46.3		ug/kg	50.0		92.6	75-125			
Surrogate: 4-Bromofluorobenzene	43.8		"	50.0		87.6	75-125			

**Matrix Spike Dup (ED71706-MSD1)**

Source: 7D13015-02

Prepared: 04/17/07 Analyzed: 04/19/07

Benzene	0.129	0.00200	mg/kg dry	0.130	ND	99.2	80-120	0.803	20	
Toluene	0.125	0.00200	"	0.130	ND	96.2	80-120	2.36	20	
Ethylbenzene	0.129	0.00200	"	0.130	ND	99.2	80-120	2.78	20	
Xylene (p/m)	0.224	0.00200	"	0.259	ND	86.5	80-120	5.62	20	
Xylene (o)	0.122	0.00200	"	0.130	ND	93.8	80-120	5.60	20	
Surrogate: a,a,a-Trifluorotoluene	46.2		ug/kg	50.0		92.4	75-125			
Surrogate: 4-Bromofluorobenzene	42.5		"	50.0		85.0	75-125			

**Batch ED71905 - EPA 5030C (GC)**

**Blank (ED71905-BLK1)**

Prepared & Analyzed: 04/19/07

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	53.3		ug/kg	50.0		107	75-125			
Surrogate: 4-Bromofluorobenzene	47.5		"	50.0		95.0	75-125			

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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
<b>Batch ED71905 - EPA 5030C (GC)</b>										
<b>LCS (ED71905-BS1)</b>										
Prepared & Analyzed: 04/19/07										
Benzene	0.0507	0.00100	mg/kg wet	0.0500		101	80-120			
Toluene	0.0512	0.00100	"	0.0500		102	80-120			
Ethylbenzene	0.0547	0.00100	"	0.0500		109	80-120			
Xylene (p/m)	0.101	0.00100	"	0.100		101	80-120			
Xylene (o)	0.0558	0.00100	"	0.0500		112	80-120			
Surrogate: a,a,a-Trifluorotoluene	52.6		ug/kg	50.0		105	75-125			
Surrogate: 4-Bromofluorobenzene	50.4		"	50.0		101	75-125			
<b>LCS Dup (ED71905-BS1)</b>										
Prepared: 04/19/07 Analyzed: 04/20/07										
Benzene	0.0535	0.00100	mg/kg wet	0.0500		107	80-120	5.77	20	
Toluene	0.0536	0.00100	"	0.0500		107	80-120	4.78	20	
Ethylbenzene	0.0564	0.00100	"	0.0500		113	80-120	3.60	20	
Xylene (p/m)	0.104	0.00100	"	0.100		104	80-120	2.93	20	
Xylene (o)	0.0575	0.00100	"	0.0500		115	80-120	2.64	20	
Surrogate: a,a,a-Trifluorotoluene	55.0		ug/kg	50.0		110	75-125			
Surrogate: 4-Bromofluorobenzene	52.2		"	50.0		104	75-125			
<b>Calibration Check (ED71905-CCV1)</b>										
Prepared: 04/19/07 Analyzed: 04/20/07										
Benzene	55.0		ug/kg	50.0		110	80-120			
Toluene	53.3		"	50.0		107	80-120			
Ethylbenzene	55.0		"	50.0		110	80-120			
Xylene (p/m)	99.8		"	100		99.8	80-120			
Xylene (o)	55.8		"	50.0		112	80-120			
Surrogate: a,a,a-Trifluorotoluene	53.1		"	50.0		106	75-125			
Surrogate: 4-Bromofluorobenzene	48.3		"	50.0		96.6	75-125			
<b>Matrix Spike (ED71905-MS1)</b>										
Source: 7D13016-09 Prepared: 04/19/07 Analyzed: 04/20/07										
Benzene	0.129	0.00200	mg/kg dry	0.130	ND	99.2	80-120			
Toluene	0.126	0.00200	"	0.130	ND	96.9	80-120			
Ethylbenzene	0.133	0.00200	"	0.130	ND	102	80-120			
Xylene (p/m)	0.229	0.00200	"	0.260	ND	88.1	80-120			
Xylene (o)	0.126	0.00200	"	0.130	ND	96.9	80-120			
Surrogate: a,a,a-Trifluorotoluene	47.2		ug/kg	50.0		94.4	75-125			
Surrogate: 4-Bromofluorobenzene	44.9		"	50.0		89.8	75-125			

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch ED71702 - General Preparation (Prep)</b>										
<b>Blank (ED71702-BLK1)</b>				Prepared: 04/13/07 Analyzed: 04/14/07						
% Solids	100	0.1	%							
<b>Blank (ED71702-BLK2)</b>				Prepared: 04/13/07 Analyzed: 04/14/07						
% Solids	100	0.1	%							
<b>Duplicate (ED71702-DUP1)</b>				Source: 7D13016-01		Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	79.1	0.1	%		79.6			0.630	20	
<b>Duplicate (ED71702-DUP2)</b>				Source: 7D13001-01		Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	86.5	0.1	%		86.6			0.116	20	
<b>Duplicate (ED71702-DUP3)</b>				Source: 7D13008-05		Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	86.2	0.1	%		87.0			0.924	20	
<b>Duplicate (ED71702-DUP4)</b>				Source: 7D13010-06		Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	89.3	0.1	%		89.6			0.335	20	
<b>Duplicate (ED71702-DUP5)</b>				Source: 7D12010-20		Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	91.6	0.1	%		90.8			0.877	20	
<b>Duplicate (ED71702-DUP6)</b>				Source: 7D13018-01		Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	73.1	0.1	%		77.9			6.36	20	

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

### Notes and Definitions

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

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: 4/23/2007

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

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

 Environmental Lab of Texas  
A Xenco Laboratories Company

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

Page 12 of 12

# Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231  
 (505) 394-3481 FAX: (505) 394-2601

P.O. Box 1558, Eunice, NM 88231

# Chain of Custody Form

		<b>Bill To</b> Attn: ENV Accounts Payable PO Box 4648 Houston, TX 77210-4648		<b>ANALYSIS REQUEST</b>													
Company Name: Environmental Plus, Inc. EPI Project Manager: Jason Stegemoller Mailing Address: P.O. BOX 1558 City, State, Zip: Eunice New Mexico 88231 EPI Phone#/Fax#: 505-394-3481 / 505-394-2601 Client Company: Plains Marketing Facility Name: Lea Station Landfarm Location: Sect. 28, T 20 S, R 37 E Project Reference: 2004-00061 EPI Sampler Name: George Blackburn		MATRIX # CONTAINERS (G)RAB OR (C)OMP. GROUND WATER WASTEWATER SOIL CRUDE OIL SLUDGE OTHER: ACID/BASE ICE/COOL OTHER		PRESERV. DATE TIME SAMPLING													
SAMPLE I.D. 280790 1013016		PH SULFATES (SO <sub>4</sub> ) CHLORIDES (Cl) TPH 8015M BTEX 8021B		PH Anions & Cations RCRA Metals (8) PAH													
1 B1	C 1	X	X	12-Apr-07	14:10	X	X										
2 B2	C 1	X	X	12-Apr-07	14:23	X	X										
3 B3	C 1	X	X	12-Apr-07	14:39	X	X										
4 B4	C 1	X	X	12-Apr-07	15:11	X	X										
5 B5	C 1	X	X	12-Apr-07	15:01	X	X										
6 B6	C 1	X	X	12-Apr-07	14:50	X	X										
7 B7	C 1	X	X	12-Apr-07	13:45	X	X										
8 B8	C 1	X	X	12-Apr-07	15:35	X	X										
9 B9	C 1	X	X	12-Apr-07	15:25	X	X										
10																	

Sampler Relinquished: *[Signature]*  
 Relinquished by: *[Signature]*  
 Delivered by: *[Signature]*

Received By: *[Signature]*  
 Received By: (lab staff) *[Signature]*  
 Date: 4.13.07  
 Time: 1:00  
 Sample Cool & Intact:  No

Checked By: *[Signature]*

E-mail results to: jstegemoller@envplus.net and cireynolds@paalp.net  
 REMARKS:  
 Apr 20  
 W/ labels on jar

# Environmental Lab of Texas

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

ent: Plains/ EPI  
 Date/ Time: 4/13/07 1:00  
 Job ID #: TTD13016  
 Initials: CR

### Sample Receipt Checklist

Client Initials

Question	Yes	No	Notes	Client Initials
Temperature of container/ cooler?			2.0 °C	
Shipping container in good condition?	<del>Yes</del>	No		
Custody Seals intact on shipping container/ cooler?	Yes	No	<del>Not Present</del>	
Custody Seals intact on sample bottles/ container?	Yes	No	<del>Not Present</del>	
Chain of Custody present?	<del>Yes</del>	No		
Sample instructions complete of Chain of Custody?	<del>Yes</del>	No		
Chain of Custody signed when relinquished/ received?	<del>Yes</del>	No		
Chain of Custody agrees with sample label(s)?	<del>Yes</del>	No	ID written on Cont./ Lid	
Container label(s) legible and intact?	<del>Yes</del>	No	Not Applicable	
Sample matrix/ properties agree with Chain of Custody?	<del>Yes</del>	No		
Containers supplied by ELOT?	<del>Yes</del>	No		
Samples in proper container/ bottle?	<del>Yes</del>	No	See Below	
Samples properly preserved?	<del>Yes</del>	No	See Below	
Sample bottles intact?	<del>Yes</del>	No		
Observations documented on Chain of Custody?	<del>Yes</del>	No		
Containers documented on Chain of Custody?	<del>Yes</del>	No		
Sufficient sample amount for indicated test(s)?	<del>Yes</del>	No	See Below	
All samples received within sufficient hold time?	<del>Yes</del>	No	See Below	
Subcontract of sample(s)?	Yes	No	<del>Not Applicable</del>	
VOC samples have zero headspace?	<del>Yes</del>	No	Not Applicable	

### Variance Documentation

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

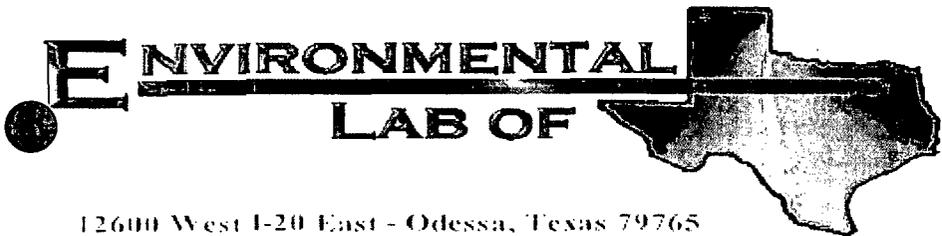
Regarding: \_\_\_\_\_

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: Lea Station Landfarm

Project Number: 2004-00061

Location: Sec. 28, T20S, R37E

Lab Order Number: 7D13014

Report Date: 04/18/07

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C1	7D13014-01	Soil	04/12/07 11:15	04-13-2007 13:00
C2	7D13014-02	Soil	04/12/07 11:36	04-13-2007 13:00
C3	7D13014-03	Soil	04/12/07 13:52	04-13-2007 13:00
C4	7D13014-04	Soil	04/12/07 12:53	04-13-2007 13:00
C5	7D13014-05	Soil	04/12/07 12:31	04-13-2007 13:00
C6	7D13014-06	Soil	04/12/07 12:10	04-13-2007 13:00
C7	7D13014-07	Soil	04/12/07 13:55	04-13-2007 13:00
C8	7D13014-08	Soil	04/12/07 13:28	04-13-2007 13:00
C9	7D13014-09	Soil	04/12/07 13:14	04-13-2007 13:00

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>C1 (7D13014-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED71704	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		93.2 %	75-125	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.2 %	75-125	"	"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		86.4 %	70-130	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		101 %	70-130	"	"	"	"	"	
<b>C2 (7D13014-02) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71704	04/17/07	04/17/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		87.4 %	75-125	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.6 %	75-125	"	"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>28.3</b>	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>28.3</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		86.6 %	70-130	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		103 %	70-130	"	"	"	"	"	
<b>C3 (7D13014-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED71704	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		104 %	75-125	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.0 %	75-125	"	"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>18.3</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	

Environmental Lab of Texas

A Xenco Laboratories Company

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>C3 (7D13014-03) Soil</b>									
<b>Carbon Ranges C12-C28</b>	<b>532</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C28-C35</b>	<b>121</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>671</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		89.4 %	70-130	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		103 %	70-130	"	"	"	"	"	
<b>C4 (7D13014-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED71704	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		95.8 %	75-125	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.6 %	75-125	"	"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>13.0</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>233</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>52.6</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>286</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		88.6 %	70-130	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		104 %	70-130	"	"	"	"	"	
<b>C5 (7D13014-05) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71704	04/17/07	04/17/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		92.0 %	75-125	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		80.4 %	75-125	"	"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>ND</b>	20.0	mg/kg dry	"	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>J [16.7]</b>	20.0	"	"	"	"	"	"	J
<b>Carbon Ranges C28-C35</b>	<b>ND</b>	20.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>ND</b>	20.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		29.4 %	70-130	"	"	"	"	"	S-06
<i>Surrogate: 1-Chlorooctadecane</i>		42.0 %	70-130	"	"	"	"	"	S-06

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C6 (7D13014-06) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED71704	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		103 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.4 %	75-125		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>111</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>25.5</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>136</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		90.4 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		105 %	70-130		"	"	"	"	
<b>C7 (7D13014-07) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED71704	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		103 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.2 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>10.6</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>166</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>38.3</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>204</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		82.8 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		100 %	70-130		"	"	"	"	
<b>C8 (7D13014-08) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71704	04/17/07	04/17/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		79.8 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		75.8 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>24.6</b>	20.0	mg/kg dry	"	ED71317	04/13/07	04/16/07	EPA 8015M	

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>C8 (7D13014-08) Soil</b>									
<b>Carbon Ranges C12-C28</b>	<b>98.8</b>	20.0	mg/kg dry	2	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C28-C35</b>	<b>26.3</b>	20.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>125</b>	20.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		25.8 %	70-130		"	"	"	"	S-06
<i>Surrogate: 1-Chlorooctadecane</i>		37.6 %	70-130		"	"	"	"	S-06
<b>C9 (7D13014-09) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71704	04/17/07	04/17/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		79.4 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		75.8 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>11.3</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>107</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>25.8</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>133</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		84.8 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		100 %	70-130		"	"	"	"	

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C1 (7D13014-01) Soil</b>									
% Moisture	26.6	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>C2 (7D13014-02) Soil</b>									
% Moisture	25.9	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>C3 (7D13014-03) Soil</b>									
% Moisture	12.2	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>C4 (7D13014-04) Soil</b>									
% Moisture	27.9	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>C5 (7D13014-05) Soil</b>									
% Moisture	29.8	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>C6 (7D13014-06) Soil</b>									
% Moisture	22.2	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>C7 (7D13014-07) Soil</b>									
% Moisture	10.8	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>C8 (7D13014-08) Soil</b>									
% Moisture	23.9	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>C9 (7D13014-09) Soil</b>									
% Moisture	12.0	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	

**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 ED71317 - Solvent Extraction (GC)**

**Blank (ED71317-BLK1)**

Prepared: 04/13/07 Analyzed: 04/16/07

Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	47.7		mg/kg	50.0		95.4	70-130			
Surrogate: 1-Chlorooctadecane	58.0		"	50.0		116	70-130			

**LCS (ED71317-BS1)**

Prepared: 04/13/07 Analyzed: 04/16/07

Carbon Ranges C6-C12	613	10.0	mg/kg wet	500		123	75-125			
Carbon Ranges C12-C28	492	10.0	"	500		98.4	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	1110	10.0	"	1000		111	75-125			
Surrogate: 1-Chlorooctane	55.2		mg/kg	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	54.5		"	50.0		109	70-130			

**Calibration Check (ED71317-CCV1)**

Prepared: 04/13/07 Analyzed: 04/17/07

Carbon Ranges C6-C12	243		mg/kg	250		97.2	80-120			
Carbon Ranges C12-C28	252		"	250		101	80-120			
Total Hydrocarbons	496		"	500		99.2	80-120			
Surrogate: 1-Chlorooctane	54.1		"	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	57.1		"	50.0		114	70-130			

**Matrix Spike (ED71317-MS1)**

Source: 7D13014-01

Prepared: 04/13/07 Analyzed: 04/17/07

Carbon Ranges C6-C12	775	10.0	mg/kg dry	681	ND	114	75-125			
Carbon Ranges C12-C28	592	10.0	"	681	ND	86.9	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1370	10.0	"	1360	ND	101	75-125			
Surrogate: 1-Chlorooctane	48.3		mg/kg	50.0		96.6	70-130			
Surrogate: 1-Chlorooctadecane	53.7		"	50.0		107	70-130			

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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 ED71317 - Solvent Extraction (GC)**

Matrix Spike Dup (ED71317-MSD1)	Source: 7D13014-01	Prepared: 04/13/07	Analyzed: 04/17/07						
Carbon Ranges C6-C12	773	10.0	mg/kg dry	681	ND	114	75-125	0.00	20
Carbon Ranges C12-C28	593	10.0	"	681	ND	87.1	75-125	0.230	20
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20
Total Hydrocarbons	1370	10.0	"	1360	ND	101	75-125	0.00	20
Surrogate: 1-Chlorooctane	46.9		mg/kg	50.0		93.8	70-130		
Surrogate: 1-Chlorooctadecane	50.6		"	50.0		101	70-130		

**Batch ED71704 - EPA 5030C (GC)**

Blank (ED71704-BLK1)	Prepared & Analyzed: 04/17/07								
Benzene	ND	0.00100	mg/kg wet						
Toluene	ND	0.00100	"						
Ethylbenzene	ND	0.00100	"						
Xylene (p/m)	ND	0.00100	"						
Xylene (o)	ND	0.00100	"						
Surrogate: a,a,a-Trifluorotoluene	41.6		ug/kg	50.0		83.2	75-125		
Surrogate: 4-Bromofluorobenzene	41.6		"	50.0		83.2	75-125		

CS (ED71704-BS1)	Prepared & Analyzed: 04/17/07								
Benzene	0.0524	0.00100	mg/kg wet	0.0500		105	80-120		
Toluene	0.0527	0.00100	"	0.0500		105	80-120		
Ethylbenzene	0.0524	0.00100	"	0.0500		105	80-120		
Xylene (p/m)	0.104	0.00100	"	0.100		104	80-120		
Xylene (o)	0.0558	0.00100	"	0.0500		112	80-120		
Surrogate: a,a,a-Trifluorotoluene	50.6		ug/kg	50.0		101	75-125		
Surrogate: 4-Bromofluorobenzene	48.0		"	50.0		96.0	75-125		

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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 ED71704 - EPA 5030C (GC)**

**Calibration Check (ED71704-CCV1)**

Prepared & Analyzed: 04/17/07

Benzene	58.8		ug/kg	50.0		118	80-120			
Toluene	57.8		"	50.0		116	80-120			
Ethylbenzene	59.0		"	50.0		118	80-120			
Xylene (p/m)	109		"	100		109	80-120			
Xylene (o)	60.1		"	50.0		120	80-120			
Surrogate: a,a,a-Trifluorotoluene	51.1		"	50.0		102	75-125			
Surrogate: 4-Bromofluorobenzene	50.6		"	50.0		101	75-125			

**Matrix Spike (ED71704-MS1)**

Source: 7D13009-06

Prepared & Analyzed: 04/17/07

Benzene	0.0993	0.00200	mg/kg dry	0.102	ND	97.4	80-120			
Toluene	0.100	0.00200	"	0.102	ND	98.0	80-120			
Ethylbenzene	0.102	0.00200	"	0.102	ND	100	80-120			
Xylene (p/m)	0.191	0.00200	"	0.203	ND	94.1	80-120			
Xylene (o)	0.104	0.00200	"	0.102	ND	102	80-120			
Surrogate: a,a,a-Trifluorotoluene	44.4		ug/kg	50.0		88.8	75-125			
Surrogate: 4-Bromofluorobenzene	43.5		"	50.0		87.0	75-125			

**Matrix Spike Dup (ED71704-MSD1)**

Source: 7D13009-06

Prepared & Analyzed: 04/17/07

Benzene	0.0959	0.00200	mg/kg dry	0.102	ND	94.0	80-120	3.55	20	
Toluene	0.0960	0.00200	"	0.102	ND	94.1	80-120	4.06	20	
Ethylbenzene	0.101	0.00200	"	0.102	ND	99.0	80-120	1.01	20	
Xylene (p/m)	0.185	0.00200	"	0.203	ND	91.1	80-120	3.24	20	
Xylene (o)	0.101	0.00200	"	0.102	ND	99.0	80-120	2.99	20	
Surrogate: a,a,a-Trifluorotoluene	46.0		ug/kg	50.0		92.0	75-125			
Surrogate: 4-Bromofluorobenzene	45.8		"	50.0		91.6	75-125			

Environmental Lab of Texas

A Xenco Laboratories Company

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

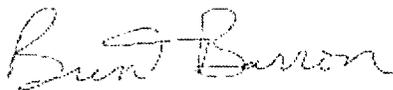
**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Notes
<b>Batch ED71702 - General Preparation (Prep)</b>									
<b>Blank (ED71702-BLK1)</b>					Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	100	0.1	%						
<b>Blank (ED71702-BLK2)</b>					Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	100	0.1	%						
<b>Duplicate (ED71702-DUP1)</b>					Source: 7D13016-01 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	79.1	0.1	%		79.6		0.630	20	
<b>Duplicate (ED71702-DUP2)</b>					Source: 7D13001-01 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	86.5	0.1	%		86.6		0.116	20	
<b>Duplicate (ED71702-DUP3)</b>					Source: 7D13008-05 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	86.2	0.1	%		87.0		0.924	20	
<b>Duplicate (ED71702-DUP4)</b>					Source: 7D13010-06 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	89.3	0.1	%		89.6		0.335	20	
<b>Duplicate (ED71702-DUP5)</b>					Source: 7D12010-20 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	91.6	0.1	%		90.8		0.877	20	
<b>Duplicate (ED71702-DUP6)</b>					Source: 7D13018-01 Prepared: 04/13/07 Analyzed: 04/14/07				
% Solids	73.1	0.1	%		77.9		6.36	20	

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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: 4/18/2007

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

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

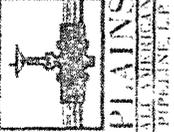
If you have received this material in error, please notify us immediately at 432-563-1800.

# Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231  
 (505) 394-3481 FAX: (505) 394-2601

P.O. Box 1558, Eunice, NM 88231

# Chain of Custody Form

<b>Company Name</b> Environmental Plus, Inc. <b>EPI Project Manager</b> Jason Stegemoller <b>Mailing Address</b> P.O. BOX 1558 <b>City, State, Zip</b> Eunice New Mexico 88231 <b>EPI Phone#/Fax#</b> 505-394-3481 / 505-394-2601 <b>Client Company</b> Plains Marketing <b>Facility Name</b> Lea Station Landfarm <b>Location</b> Sect. 28, T 20 S, R 37 E <b>Project Reference</b> 2004-00061 <b>EPI Sampler Name</b> George Blackburn		<b>Bill To</b>  Attn: ENV Accounts Payable PO Box 4648 Houston, TX 77210-4648		<b>ANALYSIS REQUEST</b> CHLORIDES (Cl) <input type="checkbox"/> SULFATES (SO <sub>4</sub> ) <input type="checkbox"/> PH <input type="checkbox"/> ANIONS & CATIONS <input type="checkbox"/> RCRA METALS (8) <input type="checkbox"/> PAH <input type="checkbox"/> TPH 8015M <input type="checkbox"/> BTEX 8021B <input type="checkbox"/>									
2-8-0706 LAB I.D. 1703014	SAMPLE I.D. 1 C1 2 C2 3 C3 4 C4 5 C5 6 C6 7 C7 8 C8 9 C9 10	(GRAB OR (C)OMP. # CONTAINERS GROUND WATER WASTEWATER SOIL CRUDE OIL SLUDGE OTHER:		MATRIX ACID/BASE ICE/COOL OTHER		PRESERV. DATE TIME		SAMPLING BTEX 8021B TPH 8015M		ANALYSIS REQUEST CHLORIDES (Cl) <input type="checkbox"/> SULFATES (SO <sub>4</sub> ) <input type="checkbox"/> PH <input type="checkbox"/> ANIONS & CATIONS <input type="checkbox"/> RCRA METALS (8) <input type="checkbox"/> PAH <input type="checkbox"/>			
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Received By:** [Signature]  
**Received By: (lab sign)** [Signature]  
**Sample Cool & Intact** Yes  No   
**Checked By:** [Signature]

**E-mail results to:** jstegemoller@envplus.net and cjreynolds@paalp.net  
**REMARKS:**  
 4oz glass 2.0  
 w labels on jar

# Environmental Lab of Texas

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

Client: Plains/ EPA  
 Date/ Time: 4/13/07 1:00  
 Lab ID #: TD13014  
 Initials: CK

### Sample Receipt Checklist

Client Initials

#	Question	Yes	No	Notes	Client Initials
#1	Temperature of container/ cooler?	Yes	No	2.0 °C	
#2	Shipping container in good condition?	<del>Yes</del>	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	<del>Not Present</del>	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	<del>Not Present</del>	
#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	

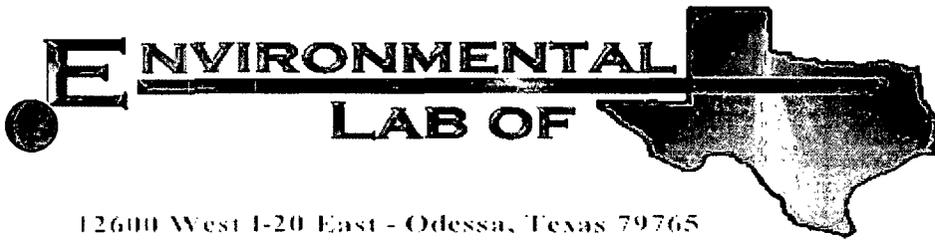
### Variance Documentation

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: Lea Station Landfarm

Project Number: 2004-00061

Location: Sec. 28, T20S, R37E

Lab Order Number: 7D13015

Report Date: 04/19/07

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E1	7D13015-01	Soil	04/12/07 07:00	04-13-2007 13:00
E2	7D13015-02	Soil	04/12/07 07:28	04-13-2007 13:00
E3	7D13015-03	Soil	04/12/07 08:01	04-13-2007 13:00
E4	7D13015-04	Soil	04/12/07 09:20	04-13-2007 13:00
E5	7D13015-05	Soil	04/12/07 08:55	04-13-2007 13:00
E6	7D13015-06	Soil	04/12/07 08:28	04-13-2007 13:00
E7	7D13015-07	Soil	04/12/07 10:55	04-13-2007 13:00
E8	7D13015-08	Soil	04/12/07 10:20	04-13-2007 13:00
E9	7D13015-09	Soil	04/12/07 09:50	04-13-2007 13:00

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>E1 (7D13015-01) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71704	04/17/07	04/17/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a.-Trifluorotoluene</i>		76.2 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.2 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>11.7</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>317</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>97.4</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>426</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		85.8 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		101 %	70-130		"	"	"	"	

**E2 (7D13015-02) Soil**

Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a.-Trifluorotoluene</i>		94.0 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		83.0 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>ND</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>24.6</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>ND</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>24.6</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		88.2 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		102 %	70-130		"	"	"	"	

**E3 (7D13015-03) Soil**

Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a.-Trifluorotoluene</i>		94.2 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		82.6 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>12.6</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	

Environmental Lab of Texas

A Xenco Laboratories Company

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>E3 (7D13015-03) Soil</b>									
<b>Carbon Ranges C12-C28</b>	<b>188</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C28-C35</b>	<b>49.5</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>237</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		90.4 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		107 %	70-130		"	"	"	"	
<b>E4 (7D13015-04) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		92.0 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.0 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>12.4</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/16/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>141</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>34.8</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>188</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		99.2 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		117 %	70-130		"	"	"	"	
<b>E5 (7D13015-05) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		78.6 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		80.8 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>10.7</b>	10.0	mg/kg dry	1	ED71317	04/13/07	04/17/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>185</b>	10.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>48.9</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>234</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		96.8 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		114 %	70-130		"	"	"	"	

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>E6 (7D13015-06) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		90.6 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		81.4 %	75-125		"	"	"	"	
<b>Carbon Ranges C6-C12</b>	<b>28.1</b>	20.0	mg/kg dry	"	ED71317	04/13/07	04/17/07	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>434</b>	20.0	"	"	"	"	"	"	
<b>Carbon Ranges C28-C35</b>	<b>125</b>	20.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>587</b>	20.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		42.0 %	70-130		"	"	"	"	S-06
<i>Surrogate: 1-Chlorooctadecane</i>		55.8 %	70-130		"	"	"	"	S-06
<b>E7 (7D13015-07) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		104 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.0 %	75-125		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		96.0 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		100 %	70-130		"	"	"	"	
<b>E8 (7D13015-08) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
<i>Surrogate: a.a.a-Trifluorotoluene</i>		92.2 %	75-125		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.0 %	75-125		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	

Environmental Lab of Texas  
 A Xenco Laboratories Company

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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>E8 (7D13015-08) Soil</b>									
Carbon Ranges C12-C28	42.2	10.0	mg/kg dry	1	ED71318	04/16/07	04/17/07	EPA 8015M	
Carbon Ranges C28-C35	J [7.61]	10.0	"	"	"	"	"	"	J
<b>Total Hydrocarbons</b>	<b>42.2</b>	<b>10.0</b>	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		98.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	70-130		"	"	"	"	
<b>E9 (7D13015-09) Soil</b>									
Benzene	ND	0.00200	mg/kg dry	2	ED71706	04/17/07	04/18/07	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00200	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00200	"	"	"	"	"	"	
Surrogate: a.a.a-Trifluorotoluene		97.6 %	75-125		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.8 %	75-125		"	"	"	"	
Carbon Ranges C6-C12	ND	20.0	mg/kg dry	"	ED71318	04/16/07	04/17/07	EPA 8015M	
Carbon Ranges C12-C28	124	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	39.5	20.0	"	"	"	"	"	"	
<b>Total Hydrocarbons</b>	<b>164</b>	<b>20.0</b>	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		42.2 %	70-130		"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		45.6 %	70-130		"	"	"	"	S-06

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>E1 (7D13015-01) Soil</b>									
% Moisture	9.3	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>E2 (7D13015-02) Soil</b>									
% Moisture	22.8	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>E3 (7D13015-03) Soil</b>									
% Moisture	21.6	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>E4 (7D13015-04) Soil</b>									
% Moisture	17.6	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>E5 (7D13015-05) Soil</b>									
% Moisture	12.1	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>E6 (7D13015-06) Soil</b>									
% Moisture	26.9	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>E7 (7D13015-07) Soil</b>									
% Moisture	21.7	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>E8 (7D13015-08) Soil</b>									
% Moisture	6.2	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	
<b>E9 (7D13015-09) Soil</b>									
% Moisture	24.7	0.1	%	1	ED71702	04/13/07	04/14/07	% calculation	

Environmental Lab of Texas  
A Xenco Laboratories Company

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 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 ED71317 - Solvent Extraction (GC)**

**Blank (ED71317-BLK1)**

Prepared: 04/13/07 Analyzed: 04/16/07

Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	47.7		mg/kg	50.0		95.4	70-130			
Surrogate: 1-Chlorooctadecane	58.0		"	50.0		116	70-130			

**LCS (ED71317-BS1)**

Prepared: 04/13/07 Analyzed: 04/16/07

Carbon Ranges C6-C12	613	10.0	mg/kg wet	500		123	75-125			
Carbon Ranges C12-C28	492	10.0	"	500		98.4	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	1110	10.0	"	1000		111	75-125			
Surrogate: 1-Chlorooctane	55.2		mg/kg	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	54.5		"	50.0		109	70-130			

**Calibration Check (ED71317-CCV1)**

Prepared: 04/13/07 Analyzed: 04/17/07

Carbon Ranges C6-C12	243		mg/kg	250		97.2	80-120			
Carbon Ranges C12-C28	252		"	250		101	80-120			
Total Hydrocarbons	496		"	500		99.2	80-120			
Surrogate: 1-Chlorooctane	54.1		"	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	57.1		"	50.0		114	70-130			

**Matrix Spike (ED71317-MS1)**

Source: 7D13014-01

Prepared: 04/13/07 Analyzed: 04/17/07

Carbon Ranges C6-C12	775	10.0	mg/kg dry	681	ND	114	75-125			
Carbon Ranges C12-C28	592	10.0	"	681	ND	86.9	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1370	10.0	"	1360	ND	101	75-125			
Surrogate: 1-Chlorooctane	48.3		mg/kg	50.0		96.6	70-130			
Surrogate: 1-Chlorooctadecane	53.7		"	50.0		107	70-130			

Environmental Lab of Texas

A Xenco Laboratories Company

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

**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 ED71317 - Solvent Extraction (GC)**

<b>Matrix Spike Dup (ED71317-MSD1)</b>		<b>Source: 7D13014-01</b>		Prepared: 04/13/07		Analyzed: 04/17/07				
Carbon Ranges C6-C12	773	10.0	mg/kg dry	681	ND	114	75-125	0.00	20	
Carbon Ranges C12-C28	593	10.0	"	681	ND	87.1	75-125	0.230	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1370	10.0	"	1360	ND	101	75-125	0.00	20	
Surrogate: 1-Chlorooctane	46.9		mg/kg	50.0		93.8	70-130			
Surrogate: 1-Chlorooctadecane	50.6		"	50.0		101	70-130			

**Batch ED71318 - Solvent Extraction (GC)**

<b>Blank (ED71318-BLK1)</b>				Prepared: 04/13/07		Analyzed: 04/17/07				
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	46.3		mg/kg	50.0		92.6	70-130			
Surrogate: 1-Chlorooctadecane	58.5		"	50.0		117	70-130			

**LCS (ED71318-BS1)**

				Prepared: 04/13/07		Analyzed: 04/17/07				
Carbon Ranges C6-C12	624	10.0	mg/kg wet	500		125	75-125			
Carbon Ranges C12-C28	520	10.0	"	500		104	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	1140	10.0	"	1000		114	75-125			
Surrogate: 1-Chlorooctane	59.8		mg/kg	50.0		120	70-130			
Surrogate: 1-Chlorooctadecane	58.2		"	50.0		116	70-130			

**Calibration Check (ED71318-CCV1)**

				Prepared: 04/13/07		Analyzed: 04/18/07				
Carbon Ranges C6-C12	242		mg/kg	250		96.8	80-120			
Carbon Ranges C12-C28	262		"	250		105	80-120			
Total Hydrocarbons	505		"	500		101	80-120			
Surrogate: 1-Chlorooctane	57.3		"	50.0		115	70-130			
Surrogate: 1-Chlorooctadecane	59.1		"	50.0		118	70-130			

**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 ED71318 - Solvent Extraction (GC)**

<b>Matrix Spike (ED71318-MS1)</b>		<b>Source: 7D13015-07</b>		<b>Prepared: 04/13/07</b>		<b>Analyzed: 04/18/07</b>	
Carbon Ranges C6-C12	745	10.0	mg/kg dry	639	ND	117	75-125
Carbon Ranges C12-C28	580	10.0	"	639	ND	90.8	75-125
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125
Total Hydrocarbons	1330	10.0	"	1280	ND	104	75-125
Surrogate: 1-Chlorooctane	57.1		mg/kg	50.0		114	70-130
Surrogate: 1-Chlorooctadecane	56.0		"	50.0		112	70-130

<b>Matrix Spike Dup (ED71318-MSD1)</b>		<b>Source: 7D13015-07</b>		<b>Prepared: 04/13/07</b>		<b>Analyzed: 04/18/07</b>	
Carbon Ranges C6-C12	743	10.0	mg/kg dry	639	ND	116	75-125 0.858 20
Carbon Ranges C12-C28	583	10.0	"	639	ND	91.2	75-125 0.440 20
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125 20
Total Hydrocarbons	1330	10.0	"	1280	ND	104	75-125 0.00 20
Surrogate: 1-Chlorooctane	55.9		mg/kg	50.0		112	70-130
Surrogate: 1-Chlorooctadecane	57.7		"	50.0		115	70-130

**Batch ED71704 - EPA 5030C (GC)**

<b>Blank (ED71704-BLK1)</b>				<b>Prepared &amp; Analyzed: 04/17/07</b>	
Benzene	ND	0.00100	mg/kg wet		
Toluene	ND	0.00100	"		
Ethylbenzene	ND	0.00100	"		
Xylene (p/m)	ND	0.00100	"		
Xylene (o)	ND	0.00100	"		
Surrogate: a,a,a-Trifluorotoluene	41.6		ug/kg	50.0	83.2 75-125
Surrogate: 4-Bromofluorobenzene	41.6		"	50.0	83.2 75-125

<b>LCS (ED71704-BS1)</b>				<b>Prepared &amp; Analyzed: 04/17/07</b>	
Benzene	0.0524	0.00100	mg/kg wet	0.0500	105 80-120
Toluene	0.0527	0.00100	"	0.0500	105 80-120
Ethylbenzene	0.0524	0.00100	"	0.0500	105 80-120
Xylene (p/m)	0.104	0.00100	"	0.100	104 80-120
Xylene (o)	0.0558	0.00100	"	0.0500	112 80-120
Surrogate: a,a,a-Trifluorotoluene	50.6		ug/kg	50.0	101 75-125
Surrogate: 4-Bromofluorobenzene	48.0		"	50.0	96.0 75-125

**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 ED71704 - EPA 5030C (GC)**

**Calibration Check (ED71704-CCV1)**

Prepared & Analyzed: 04/17/07

Benzene	58.8		ug/kg	50.0		118	80-120			
Toluene	57.8		"	50.0		116	80-120			
Ethylbenzene	59.0		"	50.0		118	80-120			
Xylene (p/m)	109		"	100		109	80-120			
Xylene (o)	60.1		"	50.0		120	80-120			
Surrogate: a,a,a-Trifluorotoluene	51.1		"	50.0		102	75-125			
Surrogate: 4-Bromofluorobenzene	50.6		"	50.0		101	75-125			

**Matrix Spike (ED71704-MS1)**

Source: 7D13009-06

Prepared & Analyzed: 04/17/07

Benzene	0.0993	0.00200	mg/kg dry	0.102	ND	97.4	80-120			
Toluene	0.100	0.00200	"	0.102	ND	98.0	80-120			
Ethylbenzene	0.102	0.00200	"	0.102	ND	100	80-120			
Xylene (p/m)	0.191	0.00200	"	0.203	ND	94.1	80-120			
Xylene (o)	0.104	0.00200	"	0.102	ND	102	80-120			
Surrogate: a,a,a-Trifluorotoluene	44.4		ug/kg	50.0		88.8	75-125			
Surrogate: 4-Bromofluorobenzene	43.5		"	50.0		87.0	75-125			

**Matrix Spike Dup (ED71704-MSD1)**

Source: 7D13009-06

Prepared & Analyzed: 04/17/07

Benzene	0.0959	0.00200	mg/kg dry	0.102	ND	94.0	80-120	3.55	20	
Toluene	0.0960	0.00200	"	0.102	ND	94.1	80-120	4.06	20	
Ethylbenzene	0.101	0.00200	"	0.102	ND	99.0	80-120	1.01	20	
Xylene (p/m)	0.185	0.00200	"	0.203	ND	91.1	80-120	3.24	20	
Xylene (o)	0.101	0.00200	"	0.102	ND	99.0	80-120	2.99	20	
Surrogate: a,a,a-Trifluorotoluene	46.0		ug/kg	50.0		92.0	75-125			
Surrogate: 4-Bromofluorobenzene	45.8		"	50.0		91.6	75-125			

**Batch ED71706 - EPA 5030C (GC)**

**Blank (ED71706-BLK1)**

Prepared: 04/17/07 Analyzed: 04/18/07

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	53.5		ug/kg	50.0		107	75-125			
Surrogate: 4-Bromofluorobenzene	49.0		"	50.0		98.0	75-125			

**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 ED71706 - EPA 5030C (GC)**

<b>LCS (ED71706-BS1)</b>			Prepared: 04/17/07 Analyzed: 04/18/07							
Benzene	0.0546	0.00100	mg/kg wet	0.0500		109	80-120			
Toluene	0.0548	0.00100	"	0.0500		110	80-120			
Ethylbenzene	0.0579	0.00100	"	0.0500		116	80-120			
Xylene (p/m)	0.107	0.00100	"	0.100		107	80-120			
Xylene (o)	0.0589	0.00100	"	0.0500		118	80-120			
Surrogate: a,a,a-Trifluorotoluene	55.5		ug/kg	50.0		111	75-125			
Surrogate: 4-Bromofluorobenzene	54.1		"	50.0		108	75-125			

<b>Calibration Check (ED71706-CCV1)</b>			Prepared: 04/17/07 Analyzed: 04/19/07							
Benzene	56.8		ug/kg	50.0		114	80-120			
Toluene	55.8		"	50.0		112	80-120			
Ethylbenzene	57.5		"	50.0		115	80-120			
Xylene (p/m)	105		"	100		105	80-120			
Xylene (o)	58.1		"	50.0		116	80-120			
Surrogate: a,a,a-Trifluorotoluene	54.9		"	50.0		110	75-125			
Surrogate: 4-Bromofluorobenzene	49.6		"	50.0		99.2	75-125			

<b>Matrix Spike (ED71706-MS1)</b>			Source: 7D13015-02		Prepared: 04/17/07 Analyzed: 04/19/07					
Benzene	0.130	0.00200	mg/kg dry	0.130	ND	100	80-120			
Toluene	0.128	0.00200	"	0.130	ND	98.5	80-120			
Ethylbenzene	0.133	0.00200	"	0.130	ND	102	80-120			
Xylene (p/m)	0.237	0.00200	"	0.259	ND	91.5	80-120			
Xylene (o)	0.129	0.00200	"	0.130	ND	99.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	46.3		ug/kg	50.0		92.6	75-125			
Surrogate: 4-Bromofluorobenzene	43.8		"	50.0		87.6	75-125			

<b>Matrix Spike Dup (ED71706-MSD1)</b>			Source: 7D13015-02		Prepared: 04/17/07 Analyzed: 04/19/07					
Benzene	0.129	0.00200	mg/kg dry	0.130	ND	99.2	80-120	0.803	20	
Toluene	0.125	0.00200	"	0.130	ND	96.2	80-120	2.36	20	
Ethylbenzene	0.129	0.00200	"	0.130	ND	99.2	80-120	2.78	20	
Xylene (p/m)	0.224	0.00200	"	0.259	ND	86.5	80-120	5.62	20	
Xylene (o)	0.122	0.00200	"	0.130	ND	93.8	80-120	5.60	20	
Surrogate: a,a,a-Trifluorotoluene	46.2		ug/kg	50.0		92.4	75-125			
Surrogate: 4-Bromofluorobenzene	42.5		"	50.0		85.0	75-125			

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

Project: Lea Station Landfarm  
 Project Number: 2004-00061  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch ED71702 - General Preparation (Prep)</b>										
<b>Blank (ED71702-BLK1)</b>					Prepared: 04/13/07 Analyzed: 04/14/07					
% Solids	100	0.1	%							
<b>Blank (ED71702-BLK2)</b>					Prepared: 04/13/07 Analyzed: 04/14/07					
% Solids	100	0.1	%							
<b>Duplicate (ED71702-DUP1)</b>					Source: 7D13016-01 Prepared: 04/13/07 Analyzed: 04/14/07					
% Solids	79.1	0.1	%		79.6			0.630	20	
<b>Duplicate (ED71702-DUP2)</b>					Source: 7D13001-01 Prepared: 04/13/07 Analyzed: 04/14/07					
% Solids	86.5	0.1	%		86.6			0.116	20	
<b>Duplicate (ED71702-DUP3)</b>					Source: 7D13008-05 Prepared: 04/13/07 Analyzed: 04/14/07					
% Solids	86.2	0.1	%		87.0			0.924	20	
<b>Duplicate (ED71702-DUP4)</b>					Source: 7D13010-06 Prepared: 04/13/07 Analyzed: 04/14/07					
% Solids	89.3	0.1	%		89.6			0.335	20	
<b>Duplicate (ED71702-DUP5)</b>					Source: 7D12010-20 Prepared: 04/13/07 Analyzed: 04/14/07					
% Solids	91.6	0.1	%		90.8			0.877	20	
<b>Duplicate (ED71702-DUP6)</b>					Source: 7D13018-01 Prepared: 04/13/07 Analyzed: 04/14/07					
% Solids	73.1	0.1	%		77.9			6.36	20	

### Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- 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: 4/19/2007

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

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.



# Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains/ EPI  
 Date/ Time: 4/13/07 1:00  
 Lab ID #: 1713015  
 Initials: CK

## Sample Receipt Checklist

Client Initials

Question	Yes	No	Notes	Client Initials
1 Temperature of container/ cooler?			2.0 °C	
2 Shipping container in good condition?	<del>Yes</del>	No		
3 Custody Seals intact on shipping container/ cooler?	Yes	No	<del>Not Present</del>	
4 Custody Seals intact on sample bottles/ container?	Yes	No	<del>Not Present</del>	
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

# Analytical Report 356767

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-061**

**29-DEC-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



29-DEC-09

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

Reference: XENCO Report No: **356767**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 356767. 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. 356767 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 356767**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
BG South of Cell "G"	S	Dec-23-09 10:05		356767-001
BG West of Cell "G"	S	Dec-23-09 10:10		356767-002



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-061*  
*Work Order Number: 356767*

*Report Date: 29-DEC-09*  
*Date Received: 12/23/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-787397 Percent Moisture

None

Batch: LBA-787406 Inorganic Anions In Soil by E300

None





# 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



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 356767

Project ID: 2004-061

Lab Batch #: 787406

Sample: 787406-1-BKS

Matrix: Solid

Date Analyzed: 12/28/2009

Date Prepared: 12/28/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions In Soil by E300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.73	97	75-125	

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

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

BRL - Below Reporting Limit



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 356767

Lab Batch #: 787406

Date Analyzed: 12/28/2009

Date Prepared: 12/28/2009

Project ID: 2004-061

Analyst: LATCOR

QC- Sample ID: 356767-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
	Chloride	ND	101	103	102	75-125

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

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

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



# Sample Duplicate Recovery

Project Name: Lea Station Land Farm

Work Order #: 356767

Lab Batch #: 787406

Project ID: 2004-061

Date Analyzed: 12/28/2009

Date Prepared: 12/28/2009

Analyst: LATCOR

QC- Sample ID: 356767-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Batch #: 787397

Date Analyzed: 12/28/2009

Date Prepared: 12/28/2009

Analyst: MOV

QC- Sample ID: 356767-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.14	1.04	9	20	

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



# Environmental Lab of Texas

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

Client: Basin Plains  
 Date/ Time: 12-26-23 09:16:40  
 Lab ID #: 356767  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	22.6 °C	
#2 Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not Present</del>	
#4 Custody Seals intact on sample bottles/ container?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Present	
#5 Chain of Custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	ID written on Cont./ Lid	
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#13 Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#14 Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not Applicable</del>	
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not Applicable</del>	

### 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 335964

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335964**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335964. 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. 335964 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.  
Certified and approved by numerous States and Agencies.  
A Small Business and Minority Status Company that delivers SERVICE and QUALITY  
Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America*



**Sample Cross Reference 335964**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell A TZ G 1	S	Jun-16-09 09:00		335964-001
Cell A TZ G 2	S	Jun-16-09 09:05		335964-002
Cell A TZ G 3	S	Jun-16-09 09:10		335964-003
Cell A TZ G 4	S	Jun-16-09 09:15		335964-004
Cell A TZ G 5	S	Jun-16-09 09:20		335964-005





# 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**

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335964,  
Lab Batch #: 763323

Project ID: SRS: 2004-00061

Sample: 532416-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 07:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.8	100	81	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

Lab Batch #: 763323

Sample: 532416-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 07:42

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.8	100	81	70-135	
o-Terphenyl	37.5	50.0	75	70-135	

Lab Batch #: 763323

Sample: 532416-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 08:08

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.9	100	76	70-135	
o-Terphenyl	39.1	50.0	78	70-135	

Lab Batch #: 763323

Sample: 335964-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 10:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.5	99.8	83	70-135	
o-Terphenyl	44.5	49.9	89	70-135	

Lab Batch #: 763323

Sample: 335964-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 10:43

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.7	100	86	70-135	
o-Terphenyl	50.0	50.0	100	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335964,  
Lab Batch #: 763323

Sample: 335964-003 / SMP

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/23/09 11:09		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		83.0	99.8	83	70-135	
o-Terphenyl		45.0	49.9	90	70-135	

Lab Batch #: 763323 Sample: 335964-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/23/09 11:35		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		84.3	99.9	84	70-135	
o-Terphenyl		46.3	50.0	93	70-135	

Lab Batch #: 763323 Sample: 335964-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/23/09 12:02		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		84.0	99.7	84	70-135	
o-Terphenyl		45.2	49.9	91	70-135	

Lab Batch #: 763323 Sample: 335951-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/23/09 17:45		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		119	99.6	119	70-135	
o-Terphenyl		53.7	49.8	108	70-135	

Lab Batch #: 763323 Sample: 335951-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/23/09 18:11		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		87.6	99.7	88	70-135	
o-Terphenyl		38.9	49.9	78	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335964

Project ID:

SRS: 2004-00061

Lab Batch #: 763125

Sample: 763125-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.01	90	90-110	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335964

Project ID: SRS: 2004-00061

Analyst: BHW

Date Prepared: 06/22/2009

Date Analyzed: 06/23/2009

Lab Batch ID: 763323

Sample: 532416-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons	ND	1000	773	77	1000	736	74	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	715	72	1000	763	76	6	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335964

Project ID: SRS: 2004-00061

Lab Batch #: 763125

Date Prepared: 06/22/2009

Analyst: LATCOR

Date Analyzed: 06/22/2009

Batch #: 1

Matrix: Soil

QC- Sample ID: 335964-001 S

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
	Chloride	38.5	100	135	97	80-120

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

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

All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335964

Project ID: SRS: 2004-00061

Lab Batch ID: 763323

QC- Sample ID: 335951-001 S

Batch #: 1

Matrix: Soil

Date Analyzed: 06/23/2009

Date Prepared: 06/22/2009

Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	TPH By SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons		56.8	998	943	89	999	895	84	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons		603	998	1600	100	999	1390	79	14	70-135	35	

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, EQJ = Estimated Quantitation Limit



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335964

Lab Batch #: 763125

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335964-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	38.5	39.6	3	20	

Lab Batch #: 763001

Date Prepared: 06/22/2009

Analyst: BEV

Date Analyzed: 06/22/2009

QC- Sample ID: 335900-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.45	10.1	7	20	

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



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

Client: Plains / Basin  
 Date/ Time: 06 19-09 08 0040  
 Lab ID #: 335964  
 Initials: JMF

Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	1.6 °C
#2	Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#3	Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not Present</del>
#4	Custody Seals intact on sample bottles/ container? / <del>label</del>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Present
#5	Chain of Custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	ID written on Cont / Lid
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below
#13	Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below
#14	Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below
#19	Subcontract of sample(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>NOT APPLICABLE</del>
#20	VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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 335966

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335966**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335966. 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. 335966 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335966**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell B TZ G 1	S	Jun-16-09 09:30		335966-001
Cell B TZ G 2	S	Jun-16-09 09:35		335966-002
Cell B TZ G 3	S	Jun-16-09 09:40		335966-003
Cell B TZ G 4	S	Jun-16-09 09:45		335966-004
Cell B TZ G 5	S	Jun-16-09 09:50		335966-005



**Certificate of Analysis Summary 335966**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



**Project Id:** SRS: 2004-00061  
**Contact:** Jason Henry  
**Project Location:** Lea County, NM

**Date Received in Lab:** Fri Jun-19-09 08:40 am

**Report Date:** 25-JUN-09

**Project Manager:** Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	335966-001	335966-002	335966-003	335966-004	335966-005
<b>Anions by EPA 300</b>	Extracted:	Jun-22-09 09:44	Jun-16-09 09:30	SOIL	Jun-16-09 09:35	Jun-22-09 09:44	Jun-22-09 09:44	Jun-16-09 09:40	Jun-16-09 09:45	Jun-16-09 09:50
	Analyzed:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:	20.0 5.05	14.7 5.04	32.0 5.03	21.5 5.04	5.28 5.02				
<b>Percent Moisture</b>	Extracted:	Jun-22-09 10:23	Jun-22-09 10:23	% RL	Jun-22-09 10:23	Jun-22-09 10:30				
	Analyzed:	% RL	% RL	% RL	% RL	% RL	% RL	% RL	% RL	% RL
	Units/RL:	ND 1.00	ND 1.00	ND 1.00	ND 1.00	ND 1.00	ND 1.00	ND 1.00	ND 1.00	ND 1.00
<b>TPH By SW8015 Mod</b>	Extracted:	Jun-22-09 08:57	Jun-22-09 08:57	mg/kg RL	Jun-22-09 08:57					
	Analyzed:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:	ND 15.1	ND 15.1	ND 15.0	ND 15.1	ND 15.0	ND 15.1	ND 15.1	ND 15.1	ND 15.0
C6-C12 Gasoline Range Hydrocarbons	Extracted:	1400 15.1	954 15.1	356 15.0	210 15.1	48.3 15.0				
	Analyzed:	238 15.1	206 15.1	121 15.0	76.0 15.1	30.8 15.0				
	Units/RL:	1638 15.1	1160 15.1	477 15.0	286 15.1	79.1 15.0				
C12-C28 Diesel Range Hydrocarbons	Extracted:									
	Analyzed:									
	Units/RL:									
C28-C35 Oil Range Hydrocarbons	Extracted:									
	Analyzed:									
	Units/RL:									
Total TPH	Extracted:									
	Analyzed:									
	Units/RL:									

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The information 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 user 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  
 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.
- 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**

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335966,  
Lab Batch #: 763323

Sample: 532416-1-BKS / BKS

Project ID: SRS: 2004-00061  
Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 07:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.8	100	81	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

Lab Batch #: 763323

Sample: 532416-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 07:42

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.8	100	81	70-135	
o-Terphenyl	37.5	50.0	75	70-135	

Lab Batch #: 763323

Sample: 532416-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 08:08

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.9	100	76	70-135	
o-Terphenyl	39.1	50.0	78	70-135	

Lab Batch #: 763323

Sample: 335966-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 12:28

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.5	99.6	83	70-135	
o-Terphenyl	50.1	49.8	101	70-135	

Lab Batch #: 763323

Sample: 335966-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 13:21

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.5	99.8	85	70-135	
o-Terphenyl	47.6	49.9	95	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335966,  
Lab Batch #: 763323

Sample: 335966-003 / SMP

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.0	99.6	99	70-135	
o-Terphenyl	51.6	49.8	104	70-135	

Lab Batch #: 763323

Sample: 335966-004 / SMP

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.4	99.8	82	70-135	
o-Terphenyl	43.8	49.9	88	70-135	

Lab Batch #: 763323

Sample: 335966-005 / SMP

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.8	99.8	80	70-135	
o-Terphenyl	42.5	49.9	85	70-135	

Lab Batch #: 763323

Sample: 335951-001 S / MS

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	119	99.6	119	70-135	
o-Terphenyl	53.7	49.8	108	70-135	

Lab Batch #: 763323

Sample: 335951-001 SD / MSD

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	87.6	99.7	88	70-135	
o-Terphenyl	38.9	49.9	78	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335966

Project ID:

SRS: 2004-00061

Lab Batch #: 763125

Sample: 763125-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.01	90	90-110	

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

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

- Below Reporting Limit



**Project Name: Lea Station Land Farm**

**Work Order #: 335966**

**Analyst: BHW**

**Lab Batch ID: 763323**

**Sample: 532416-1-BKS**

**Project ID: SRS: 2004-00061**

**Date Analyzed: 06/23/2009**

**Date Prepared: 06/22/2009**

**Batch #: 1**

**Matrix: Solid**

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		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
C6-C12 Gasoline Range Hydrocarbons		ND	1000	773	77	1000	736	74	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	715	72	1000	763	76	6	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335966

Lab Batch #: 763125

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335964-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	38.5	100	135	97	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335966

Project ID: SRS: 2004-00061

Lab Batch ID: 763323

QC-Sample ID: 335951-001 S

Batch #: I Matrix: Soil

Date Analyzed: 06/23/2009

Date Prepared: 06/22/2009

Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons	56.8	998	943	89	999	895	84	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	603	998	1600	100	999	1390	79	14	70-135	35	

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335966

Lab Batch #: 763125

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335964-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
<b>Analyte</b>					
Chloride	38.5	39.6	3	20	

Lab Batch #: 763001

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335900-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
<b>Analyte</b>					
Percent Moisture	9.45	10.1	7	20	

Lab Batch #: 763002

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335966-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
<b>Analyte</b>					
Percent Moisture	ND	ND	NC	20	

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
 12600 West 120 East  
 Odessa, Texas 79765  
 Phone: 432-563-1800  
 Fax: 432-563-1713

Project Manager: Camille Bryant PAGE 01 OF 01

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Livingston, NM 89200

Telephone No: 505-625-7210

Sampler Signature: Camille Bryant

Fax No: (575) 396-1429

e-mail: cbryant@basin-consulting.com

Project Name: LEA STATION LAND FARM

Project #: SRS: 2004-00061

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format:  Standard  TRRP  MPDES

LAB # (lab use only)

ORDER #: 3359060

Preservation & of Constituents

Metric

Analysis For:

Standard TAT

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Found	Total # of Constituents	Preservation & of Constituents	Metric	Analysis For	Standard TAT
01	CELL BTZ G 1		6/16/2009	0930		1	40	Soil	SOIL	CHLORIDES EPA 300.1	X
02	CELL BTZ G 2		6/16/2009	0935		1	40	Soil	SOIL	NORM	X
03	CELL BTZ G 3		6/16/2009	0940		1	40	Soil	SOIL	NO3	X
04	CELL BTZ G 4		6/16/2009	0945		1	40	Soil	SOIL	NO2	X
05	CELL BTZ G 5		6/16/2009	0950		1	40	Soil	SOIL	NO	X

Special Instructions:

Requested by: Camille Bryant  
 Date: 6/18/09  
 Time: 1500  
 Received by: John Smith  
 Date: 6/19/09  
 Time: 0900  
 Requested by: John Smith  
 Date: 6/18/09  
 Time: 1500  
 Received by: John Smith  
 Date: 6/18/09  
 Time: 1500

Laboratory Comments:  
 Sample Captive's Initials? W  
 VOC's Free of Headspace? N  
 Labile on collection? N  
 Cautely seals on container(s)? N  
 Cautely seals on cooler(s)? N  
 Sample Hand Delivered? N  
 by Sampler/Client? N  
 by Courier? N  
 DHL N  
 FedEx N  
 Lems Str N  
 Temperature Upon Receipt: 1.6 °C

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

Client: Plains / Basin  
 Date/ Time: 06 19-09 08:40  
 Lab ID #: 335966  
 Initials: JMF

Sample Receipt Checklist

	Yes	No	Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/>	No	J.M.C.
#2 Shipping container in good condition?	<input checked="" type="checkbox"/>	No	
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/>	No	<del>Not Present</del>
#4 Custody Seals intact on sample bottles/ container? / label	<input checked="" type="checkbox"/>	No	Not Present
#5 Chain of Custody present?	<input checked="" type="checkbox"/>	No	
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>	No	
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>	No	
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>	No	ID written on Cont./ Lid
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/>	No	Not Applicable
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>	No	
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/>	No	
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/>	No	See Below
#13 Samples properly preserved?	<input checked="" type="checkbox"/>	No	See Below
#14 Sample bottles intact?	<input checked="" type="checkbox"/>	No	
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>	No	See Below
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No	See Below
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/>	No	Not Applicable
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/>	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 335967

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335967**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335967. 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. 335967 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335967**

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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell C TZ G 1	S	Jun-16-09 10:00		335967-001
Cell C TZ G 2	S	Jun-16-09 10:05		335967-002
Cell C TZ G 3	S	Jun-16-09 10:10		335967-003
Cell C TZ G 4	S	Jun-16-09 10:15		335967-004
Cell C TZ G 5	S	Jun-16-09 10:20		335967-005





# 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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335967,  
Lab Batch #: 763323

Project ID: SRS: 2004-00061

Sample: 532416-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg      Date Analyzed: 06/23/09 07:17		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		80.8	100	81	70-135	
o-Terphenyl		39.0	50.0	78	70-135	

Lab Batch #: 763323

Sample: 532416-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg      Date Analyzed: 06/23/09 07:42		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		80.8	100	81	70-135	
o-Terphenyl		37.5	50.0	75	70-135	

Lab Batch #: 763323

Sample: 532416-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg      Date Analyzed: 06/23/09 08:08		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		75.9	100	76	70-135	
o-Terphenyl		39.1	50.0	78	70-135	

Lab Batch #: 763323

Sample: 335967-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg      Date Analyzed: 06/23/09 15:06		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		82.9	100	83	70-135	
o-Terphenyl		44.7	50.0	89	70-135	

Lab Batch #: 763323

Sample: 335967-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg      Date Analyzed: 06/23/09 15:33		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		85.3	99.8	85	70-135	
o-Terphenyl		45.7	49.9	92	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335967,  
Lab Batch #: 763323

Sample: 335967-003 / SMP

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 15:59

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.9	99.8	81	70-135	
o-Terphenyl	43.8	49.9	88	70-135	

Lab Batch #: 763323

Sample: 335967-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 16:25

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.7	99.7	96	70-135	
o-Terphenyl	50.2	49.9	101	70-135	

Lab Batch #: 763323

Sample: 335967-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 16:52

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.8	99.7	85	70-135	
o-Terphenyl	45.6	49.9	91	70-135	

Lab Batch #: 763323

Sample: 335951-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 17:45

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.6	119	70-135	
o-Terphenyl	53.7	49.8	108	70-135	

Lab Batch #: 763323

Sample: 335951-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 18:11

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.6	99.7	88	70-135	
o-Terphenyl	38.9	49.9	78	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335967

Project ID:

SRS: 2004-00061

Lab Batch #: 763125

Sample: 763125-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.01	90	90-110	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335967

Project ID: SRS: 2004-00061

Analyst: BHW

Date Prepared: 06/22/2009

Date Analyzed: 06/23/2009

Lab Batch ID: 763323

Batch #: 1

Sample: 532416-1-BKS

Matrix: Solid

Units: mg/kg

## 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
ND	1000	773	77	1000	736	74	5	70-135	35	
ND	1000	715	72	1000	763	76	6	70-135	35	

TPH By SW8015 Mod

Analytes

C6-C12 Gasoline Range Hydrocarbons

C12-C28 Diesel Range Hydrocarbons

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335967  
Lab Batch #: 763125  
Date Analyzed: 06/22/2009  
QC- Sample ID: 335964-001 S  
Reporting Units: mg/kg

Date Prepared: 06/22/2009  
Batch #: 1  
Matrix: Soil  
Project ID: SRS: 2004-00061  
Analyst: LATCOR

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	38.5	100	135	97	80-120	

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

Below Reporting Limit



# Form 3 - MMSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335967

Project ID: SRS: 2004-00061

Lab Batch ID: 763323

QC-Sample ID: 335951-001 S

Date Analyzed: 06/23/2009

Date Prepared: 06/22/2009

Reporting Units: mg/kg

Analyst: BHW

Batch #: 1

Matrix: Soil

## 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
TPH By SW8015 Mod	56.8	998	943	89	999	895	84	5	70-135	35	
C6-C12 Gasoline Range Hydrocarbons	603	998	1600	100	999	1390	79	14	70-135	35	
C12-C28 Diesel Range Hydrocarbons											

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335967

Lab Batch #: 763125

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335964-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	38.5	39.6	3	20	

Lab Batch #: 763002

Date Prepared: 06/22/2009

Analyst: BEV

Date Analyzed: 06/22/2009

QC- Sample ID: 335966-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	ND	ND	NC	20	

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

BRL - Below Reporting Limit



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

Client: Plains / Basin  
 Date/ Time: 06 19-09 0840  
 Lab ID #: 335967  
 Initials: JMF

**Sample Receipt Checklist**

			Client Initials		
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	1.6 °C	
#2	Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#3	Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Present	
#4	Custody Seals intact on sample bottles/ container? / <u>1.6.6.1</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Present	
#5	Chain of Custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#13	Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#14	Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#19	Subcontract of sample(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable	
#20	VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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 335968

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335968**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335968. 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. 335968 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335968**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell D TZ G 1	S	Jun-16-09 10:30		335968-001
Cell D TZ G 2	S	Jun-16-09 10:35		335968-002
Cell D TZ G 3	S	Jun-16-09 10:40		335968-003
Cell D TZ G 4	S	Jun-16-09 10:45		335968-004
Cell D TZ G 5	S	Jun-16-09 10:50		335968-005



**Certificate of Analysis Summary 335968**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Fri Jun-19-09 08:40 am  
 Report Date: 25-JUN-09

Project Manager: Brent Barron, II

Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:	335968-001	335968-002	335968-003	335968-004	335968-005
<b>Analysis Requested</b>												
<b>Anions by EPA 300</b>												
Cell D TZ G 1	Cell D TZ G 2	Cell D TZ G 3	Cell D TZ G 4	Cell D TZ G 5	SOIL							
Jun-16-09 10:30	Jun-16-09 10:35	Jun-16-09 10:40	Jun-16-09 10:45	Jun-16-09 10:50	Jun-22-09 09:44							
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	RL							
48.9	80.8	85.0	25.7	10.4	5.05	5.04	5.03	5.01				
<b>Percent Moisture</b>												
Jun-22-09 10:30	Jun-22-09 10:30	Jun-22-09 10:30	Jun-22-09 10:30	Jun-22-09 10:30	%	%	%	%	%	%	%	%
ND	ND	ND	ND	ND	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>TPH By SW8015 Mod</b>												
Jun-22-09 08:57	Jun-22-09 09:49	Jun-22-09 09:49	Jun-22-09 09:49	Jun-22-09 09:49	mg/kg							
Jun-23-09 17:18	Jun-23-09 22:10	Jun-23-09 22:36	Jun-23-09 23:02	Jun-23-09 23:28	RL							
ND	ND	ND	ND	ND	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.0
643	1000	1300	1320	1090	15.1	15.1	15.1	15.0	15.0	15.0	15.0	15.0
133	185	210	196	169	15.1	15.1	15.1	15.0	15.0	15.0	15.0	15.0
776	1185	1510	1516	1259	15.1	15.1	15.1	15.0	15.0	15.0	15.0	15.0
<b>Total TPH</b>												

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 user 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  
 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.
- 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: Lea Station Land Farm

Work Orders : 335968,  
Lab Batch #: 763323

Sample: 532416-1-BKS / BKS

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 07:17					
SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
l-Chlorooctane	80.8	100	81	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

Lab Batch #: 763323 Sample: 532416-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 07:42					
SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
l-Chlorooctane	80.8	100	81	70-135	
o-Terphenyl	37.5	50.0	75	70-135	

Lab Batch #: 763323 Sample: 532416-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 08:08					
SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
l-Chlorooctane	75.9	100	76	70-135	
o-Terphenyl	39.1	50.0	78	70-135	

Lab Batch #: 763323 Sample: 335968-001 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 17:18					
SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
l-Chlorooctane	79.3	99.9	79	70-135	
o-Terphenyl	42.4	50.0	85	70-135	

Lab Batch #: 763323 Sample: 335951-001 S / MS Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 17:45					
SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
l-Chlorooctane	119	99.6	119	70-135	
o-Terphenyl	53.7	49.8	108	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335968,  
Lab Batch #: 763323

Project ID: SRS: 2004-00061

Sample: 335951-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 18:11

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.6	99.7	88	70-135	
o-Terphenyl	38.9	49.9	78	70-135	

Lab Batch #: 763339

Sample: 532423-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 20:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.2	100	80	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

Lab Batch #: 763339

Sample: 532423-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 21:18

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.3	100	76	70-135	
o-Terphenyl	36.1	50.0	72	70-135	

Lab Batch #: 763339

Sample: 532423-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 21:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.3	100	75	70-135	
o-Terphenyl	37.1	50.0	74	70-135	

Lab Batch #: 763339

Sample: 335968-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 22:10

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.8	99.6	88	70-135	
o-Terphenyl	46.5	49.8	93	70-135	

\* 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: Lea Station Land Farm



Work Orders : 335968,

Project ID: SRS: 2004-00061

Lab Batch #: 763339

Sample: 335968-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 22:36

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.5	99.8	82	70-135	
o-Terphenyl	44.4	49.9	89	70-135	

Lab Batch #: 763339

Sample: 335968-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 23:02

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.1	99.8	83	70-135	
o-Terphenyl	48.7	49.9	98	70-135	

Lab Batch #: 763339

Sample: 335968-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 23:28

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.6	100	84	70-135	
o-Terphenyl	44.2	50.0	88	70-135	

Lab Batch #: 763339

Sample: 335973-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 07:10

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	45.7	50.1	91	70-135	

Lab Batch #: 763339

Sample: 335973-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 07:36

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	45.2	50.0	90	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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





# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335968

Project ID:

SRS: 2004-00061

Lab Batch #: 763125

Sample: 763125-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.01	90	90-110	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335968

Analyst: BHW

Lab Batch ID: 763323

Sample: 532416-1-BKS

Batch #: 1

Date Prepared: 06/22/2009

Project ID: SRS: 2004-00061

Date Analyzed: 06/23/2009

Matrix: Solid

Units: mg/kg

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
C6-C12 Gasoline Range Hydrocarbons	ND	1000	773	77	1000	736	74	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	715	72	1000	763	76	6	70-135	35	

Analyst: BHW

Lab Batch ID: 763339

Sample: 532423-1-BKS

Batch #: 1

Date Prepared: 06/22/2009

Date Analyzed: 06/23/2009

Matrix: Solid

Units: mg/kg

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
C6-C12 Gasoline Range Hydrocarbons	ND	1000	763	76	1000	735	74	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	748	75	1000	723	72	3	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335968

Lab Batch #: 763125

Date Analyzed: 06/22/2009

QC- Sample ID: 335964-001 S

Reporting Units: mg/kg

Date Prepared: 06/22/2009

Batch #: 1

Project ID: SRS: 2004-00061

Analyst: LATCOR

Matrix: Soil

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	38.5	100	135	97	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes

RPL - Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335968

Project ID: SRS: 2004-00061

Lab Batch ID: 763323

QC- Sample ID: 335951-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/23/2009

Date Prepared: 06/22/2009

Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spiked Sample %R [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	56.8	998	943	89	999	895	84	5	70-135	35
C12-C28 Diesel Range Hydrocarbons	603	998	1600	100	999	1390	79	1.4	70-135	35	

Lab Batch ID: 763339

QC- Sample ID: 335973-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/24/2009

Date Prepared: 06/22/2009

Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spiked Sample %R [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	ND	1020	820	80	1020	807	79	2	70-135	35
C12-C28 Diesel Range Hydrocarbons	ND	1020	910	89	1020	900	88	1	70-135	35	

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335968

Lab Batch #: 763125

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335964-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	38.5	39.6	3	20	

Lab Batch #: 763002

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335966-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	ND	ND	NC	20	

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
 12600 West 120 East  
 Odessa, Texas 79765  
 Phone: 432-563-1800  
 Fax: 432-563-1713

Project Name: LEA STATION LAND FARM  
 Project #: SRS: 2004-00061  
 Project Loc: Lea County, NM  
 PO R: PAA - J. Henry  
 Report Format:  Standard  TRRP  HPDES  
 Project Manager: Carmille Bryant PACE 01 OF 01  
 Company Name: Basin Environmental Service Technologies, LLC  
 Company Address: P. O. Box 301  
 City/State/Zip:  Lovington, NM 89760  
 Telephone No: (505) 805-7210 Fax No: (575) 396-1439  
 Sampler Signature: Carmille Bryant e-mail: cibryant@basin-consulting.com

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	Ending Depth	Beginning Depth	Time	Temp	Temp	Temp
01	CELL D T Z G 1	6/16/2009	1030			6/18/09 1500	6/18/09 1500		
02	CELL D T Z G 2	6/16/2009	1035						
03	CELL D T Z G 3	6/16/2009	1040						
04	CELL D T Z G 4	6/16/2009	1045						
05	CELL D T Z G 5	6/16/2009	1050						

Special Instructions:

Requested by: Carmille Bryant Date: 6/18/09 Time: 1500  
 Received by: [Signature] Date: 6/18/09 Time: 1500  
 Requisitioned by: [Signature] Date: 6/18/09 Time: 1500  
 Received by: [Signature] Date: 6/19/09 Time: 0840

Temperature: 16.0

ANALYZE FOR	UNIT	RESULT	REMARKS
RUSH FAT (Pre-Saturated) 24, 44, 72, 120			
CHLORIDES EPA 300.1			
NORM			
NI			
OTX 80212020 - 812X 4.50			
Semivolatiles			
Volatiles			
Meth. A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z			
SAR, ESP, CFC			
Ambic (C, S, H, A, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z)			
Classes (for Mg, Ni, Mn)			
TPH, TX, TDS, 7X, 1005			
TPH, 4.15, 1			
MP - Non-halogenated Species (Cl, Br, F, I)			
OW - Gravimetric Solids			
DW - Dissolved Water Solids			
Other Specifics			
Mercury			
As			
Se			
Hg			
Pb			
Cd			
Cr			
Mn			
Fe			
Al			
Ca			
Mg			
K			
Na			
Cl			
S			
NO <sub>3</sub> -N			
NO <sub>2</sub> -N			
Ammonia-N			
Total N			
Total P			
Total Solids			
Total Suspended Solids			
Total Dissolved Solids			
Total Hardness			
Total Alkalinity			
Total Acidity			
Total Chloride			
Total Sulfate			
Total Nitrate			
Total Nitrite			
Total Ammonia			
Total Phosphate			
Total Silica			
Total Fluoride			
Total Cyanide			
Total Zinc			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			
Total Iron			
Total Cobalt			
Total Silver			
Total Barium			
Total Strontium			
Total Boron			
Total Beryllium			
Total Vanadium			
Total Chromium			
Total Molybdenum			
Total Selenium			
Total Tellurium			
Total Antimony			
Total Arsenic			
Total Bismuth			
Total Cadmium			
Total Lead			
Total Copper			
Total Nickel			
Total Manganese			

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

Client: Plains / Basin  
Date/ Time: 06-19-09 0840  
Lab ID #: 335968  
Initials: JMF

**Sample Receipt Checklist**

			Client Initials		
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	1.6 °C	
#2	Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#3	Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Present	
#4	Custody Seals intact on sample bottles/ container? /label	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Present	
#5	Chain of Custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#13	Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#14	Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#19	Subcontract of sample(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable	
#20	VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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 335969

for

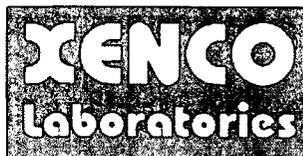
## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**26-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



26-JUN-09

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

Reference: XENCO Report No: **335969**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335969. 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. 335969 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**  
Odessa Laboratory Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.  
Certified and approved by numerous States and Agencies.  
A Small Business and Minority Status Company that delivers SERVICE and QUALITY  
Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America*



**Sample Cross Reference 335969**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell E TZ G 1	S	Jun-16-09 11:00		335969-001
Cell E TZ G 2	S	Jun-16-09 11:05		335969-002
Cell E TZ G 3	S	Jun-16-09 11:10		335969-003
Cell E TZ G 4	S	Jun-16-09 11:15		335969-004



# Certificate of Analysis Summary 335969

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



Project Id: SRS: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Fri Jun-19-09 08:40 am

Report Date: 26-JUN-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	335969-001	335969-002	335969-003	335969-004
	Field Id: Depth: Matrix: Sampled:	Cell E TZ G 1 Jun-16-09 11:00 SOIL	Cell E TZ G 2 Jun-16-09 11:05 SOIL	Cell E TZ G 3 Jun-16-09 11:10 SOIL	Cell E TZ G 4 Jun-16-09 11:15 SOIL
Anions by EPA 300	Extracted:	Jun-22-09 15:38	Jun-22-09 15:38	Jun-22-09 15:38	Jun-22-09 15:38
	Analyzed: Units/RL:	mg/kg RL ND 5.00	mg/kg RL 5.57 5.02	mg/kg RL ND 5.02	mg/kg RL ND 5.04
Percent Moisture	Extracted:	Jun-22-09 10:30	Jun-22-09 10:30	Jun-22-09 10:30	Jun-22-09 10:43
	Analyzed: Units/RL:	% RL ND 1.00	% RL ND 1.00	% RL ND 1.00	% RL ND 1.00
TPH By SW8015 Mod	Extracted:	Jun-22-09 09:49	Jun-22-09 09:49	Jun-22-09 09:49	Jun-22-09 09:49
	Analyzed: Units/RL:	Jun-23-09 23:54 mg/kg RL ND 15.0	Jun-24-09 00:20 mg/kg RL ND 15.0	Jun-24-09 00:45 mg/kg RL ND 15.0	Jun-24-09 01:11 mg/kg RL ND 15.0
C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons C28-C35 Oil Range Hydrocarbons Total TPH		273 15.0	387 15.0	139 15.0	37.3 15.0
		94.1 15.0	123 15.0	59.5 15.0	26.2 15.0
		367.1 15.0	510 15.0	198.5 15.0	63.5 15.0

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  
 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.
- 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: Lea Station Land Farm

Work Orders : 335969,

Lab Batch #: 763339

Sample: 532423-1-BKS / BKS

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 20:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.2	100	80	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

Lab Batch #: 763339

Sample: 532423-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 21:18

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.3	100	76	70-135	
o-Terphenyl	36.1	50.0	72	70-135	

Lab Batch #: 763339

Sample: 532423-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 21:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.3	100	75	70-135	
o-Terphenyl	37.1	50.0	74	70-135	

Lab Batch #: 763339

Sample: 335969-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 23:54

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.6	99.9	84	70-135	
o-Terphenyl	44.4	50.0	89	70-135	

Lab Batch #: 763339

Sample: 335969-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 00:20

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.0	99.8	86	70-135	
o-Terphenyl	45.4	49.9	91	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335969,  
Lab Batch #: 763339

Sample: 335969-003 / SMP

Project ID: SRS: 2004-00061  
Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 00:45

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.4	99.8	86	70-135	
o-Terphenyl	44.8	49.9	90	70-135	

Lab Batch #: 763339

Sample: 335969-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 01:11

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.5	99.5	86	70-135	
o-Terphenyl	45.6	49.8	92	70-135	

Lab Batch #: 763339

Sample: 335973-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 07:10

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	45.7	50.1	91	70-135	

Lab Batch #: 763339

Sample: 335973-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 07:36

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	45.2	50.0	90	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335969

Project ID:

SRS: 2004-00061

Lab Batch #: 763126

Sample: 763126-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.17	92	90-110	

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

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

ND - Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335969

Analyst: BHW

Lab Batch ID: 763339

Sample: 532423-1-BKS

Date Prepared: 06/22/2009

Batch #: 1

Project ID: SRS: 2004-00061

Date Analyzed: 06/23/2009

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Analytes	TPH By SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons		ND	1000	763	76	1000	735	74	4	70-135	3.5	
C12-C28 Diesel Range Hydrocarbons		ND	1000	748	75	1000	723	72	3	70-135	3.5	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335969

Lab Batch #: 763126

Date Analyzed: 06/22/2009

QC- Sample ID: 335969-001 S

Reporting Units: mg/kg

Project ID: SRS: 2004-00061

Analyst: LATCOR

Date Prepared: 06/22/2009

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	ND	100	91.4	91	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes

BDL - Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335969

Project ID: SRS: 2004-00061

Lab Batch ID: 763339

QC-Sample ID: 335973-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/24/2009

Date Prepared: 06/22/2009

Analyst: BHW

Reporting Units: mg/kg

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
C6-C12 Gasoline Range Hydrocarbons	ND	1020	820	80	1020	807	79	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1020	910	89	1020	900	88	1	70-135	35	

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, EQ = Estimated Quantitation Limit

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335969

Lab Batch #: 763126

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335969-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
<b>Analyte</b>					
Chloride	ND	ND	NC	20	

Lab Batch #: 763002

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335966-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
<b>Analyte</b>					
Percent Moisture	ND	ND	NC	20	

Lab Batch #: 763005

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335973-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
<b>Analyte</b>					
Percent Moisture	ND	ND	NC	20	

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
 12600 West 1-20 East  
 Odessa, Texas 79765  
 Phone: 432-563-1800  
 Fax: 432-563-1773

Project Name: LEA STATION LAND FARM  
 Project #: SRS: 2004-00061  
 Project Loc: Lea County, NM  
 PO #: PA - J Henry  
 Report Format:  Standard  THRP  APDES  
 Project Manager: Camille Bryant Fax No: (575) 398-1429  
 Company Name: Basin Environmental Service Technologies, LLC e-mail: cbryant@basin-consulting.com  
 Company Address: P. O. Box 301  
 City/State/Zip: Longton, NM 88260  
 Telephone No: (575) 441-2244  
 Sampler Signature: Camille Bryant

LAB # (lab use only)	FIELD CODE	Time Sampled	Date Sampled	Ending Depth	Beginning Depth	Time	Date	Time	Date
01	CELL ETZ G 1	1100	6/16/2009			1500	6/18/09	1500	6/18/09
02	CELL ETZ G 2	1105	6/16/2009						
03	CELL ETZ G 3	1110	6/16/2009						
04	CELL ETZ G 4	1115	6/16/2009						

LAB # (lab use only)	FIELD CODE	Time Sampled	Date Sampled	Ending Depth	Beginning Depth	Time	Date	Time	Date
01	CELL ETZ G 1	1100	6/16/2009			1500	6/18/09	1500	6/18/09
02	CELL ETZ G 2	1105	6/16/2009						
03	CELL ETZ G 3	1110	6/16/2009						
04	CELL ETZ G 4	1115	6/16/2009						

Special Instructions:  
 Requested by: Camille Bryant  
 Requested by: Camille Bryant  
 Requested by: Camille Bryant  
 Requested by: Camille Bryant

LAB # (lab use only)  
 FIELD CODE  
 Time Sampled  
 Date Sampled  
 Ending Depth  
 Beginning Depth  
 Time  
 Date  
 Time  
 Date

ORDER #: 33591689  
 Total # of Containers: 4  
 Total # of Containers: 4  
 Analyze For:  
 TPA:  TOTAL  
 Volatiles  
 Semivolatiles  
 BTEX (M, P, O, X, Y, Z)  
 RCI  
 NORA  
 CHLORIDES EPA 300.1  
 RUSH TAT (Pre-shipment) 25, 40, 75, 100

LAB # (lab use only)  
 FIELD CODE  
 Time Sampled  
 Date Sampled  
 Ending Depth  
 Beginning Depth  
 Time  
 Date  
 Time  
 Date

LAB # (lab use only)  
 FIELD CODE  
 Time Sampled  
 Date Sampled  
 Ending Depth  
 Beginning Depth  
 Time  
 Date  
 Time  
 Date

LAB # (lab use only)  
 FIELD CODE  
 Time Sampled  
 Date Sampled  
 Ending Depth  
 Beginning Depth  
 Time  
 Date  
 Time  
 Date

LAB # (lab use only)  
 FIELD CODE  
 Time Sampled  
 Date Sampled  
 Ending Depth  
 Beginning Depth  
 Time  
 Date  
 Time  
 Date

LAB # (lab use only)  
 FIELD CODE  
 Time Sampled  
 Date Sampled  
 Ending Depth  
 Beginning Depth  
 Time  
 Date  
 Time  
 Date

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

Client: Plains / Basin  
 Date/ Time: 06 19-09 C 0840  
 Lab ID #: 335969  
 Initials: JMF

Sample Receipt Checklist

			Client Initials		
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	1.6 °C	
#2	Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#3	Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not Present</del>	
#4	Custody Seals intact on sample bottles/ container? / labeled	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Present	
#5	Chain of Custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#13	Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#14	Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below	
#19	Subcontract of sample(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not Applicable</del>	
#20	VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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 335970

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335970**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335970. 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. 335970 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335970**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell F TZ G 1	S	Jun-16-09 11:30		335970-001
Cell F TZ G 2	S	Jun-16-09 11:35		335970-002
Cell F TZ G 3	S	Jun-16-09 11:40		335970-003
Cell F TZ G 4	S	Jun-16-09 11:45		335970-004
Cell F TZ G 5	S	Jun-16-09 11:50		335970-005



# Certificate of Analysis Summary 335970

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



Project Id: SRS: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Fri Jun-19-09 08:40 am

Report Date: 25-JUN-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	335970-001	335970-002	335970-003	335970-004	335970-005
	Cell F TZ G 1	Cell F TZ G 2	Cell F TZ G 3	Cell F TZ G 4	Cell F TZ G 5	SOIL	SOIL	SOIL	SOIL	SOIL
	Jun-16-09 11:30	Jun-16-09 11:35	Jun-16-09 11:40	Jun-16-09 11:45	Jun-16-09 11:50					
<b>Anions by EPA 300</b>	Jun-22-09 15:38	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
Chloride	113	5.02	207	198	168	RL	RL	RL	RL	RL
			10.1	10.1	10.1					
<b>Percent Moisture</b>	Jun-22-09 10:30	%	%	%	%	%				
Percent Moisture	ND	1.00	ND	ND	ND	RL	RL	RL	RL	RL
			1.00	1.00	1.00					
<b>TPH By SW8015 Mod</b>	Jun-22-09 09:49	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
C6-C12 Gasoline Range Hydrocarbons	ND	15.1	ND	ND	ND	RL	RL	RL	RL	RL
C12-C28 Diesel Range Hydrocarbons	930	15.1	1300	1370	927	RL	RL	RL	RL	RL
C28-C35 Oil Range Hydrocarbons	140	15.1	164	179	137	RL	RL	RL	RL	RL
Total TPH	1070	15.1	1464	1549	1064	RL	RL	RL	RL	RL

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  
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..
  - 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: Lea Station Land Farm

Work Orders : 335970,  
Lab Batch #: 763339

Project ID: SRS: 2004-00061

Sample: 532423-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 20:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.2	100	80	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

Lab Batch #: 763339

Sample: 532423-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 21:18

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.3	100	76	70-135	
o-Terphenyl	36.1	50.0	72	70-135	

Lab Batch #: 763339

Sample: 532423-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 21:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.3	100	75	70-135	
o-Terphenyl	37.1	50.0	74	70-135	

Lab Batch #: 763339

Sample: 335970-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 01:37

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.7	100	86	70-135	
o-Terphenyl	47.2	50.0	94	70-135	

Lab Batch #: 763339

Sample: 335970-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 02:02

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	100	85	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335970,  
Lab Batch #: 763339

Sample: 335970-003 / SMP

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 02:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.8	100	87	70-135	
o-Terphenyl	53.8	50.0	108	70-135	

Lab Batch #: 763339

Sample: 335970-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 03:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	100	85	70-135	
o-Terphenyl	53.2	50.0	106	70-135	

Lab Batch #: 763339

Sample: 335970-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 03:45

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.6	100	84	70-135	
o-Terphenyl	44.7	50.0	89	70-135	

Lab Batch #: 763339

Sample: 335973-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 07:10

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	45.7	50.1	91	70-135	

Lab Batch #: 763339

Sample: 335973-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 07:36

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	45.2	50.0	90	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



**Project Name: Lea Station Land Farm**

**Work Order #: 335970**

**Project ID:**

**SRS: 2004-00061**

**Lab Batch #: 763126**

**Sample: 763126-1-BKS**

**Matrix: Solid**

**Date Analyzed: 06/22/2009**

**Date Prepared: 06/22/2009**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.17	92	90-110	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335970

Analyst: BHW

Lab Batch ID: 763339

Sample: 532423-1-BKS

Date Prepared: 06/22/2009

Batch #: 1

Project ID: SRS: 2004-00061

Date Analyzed: 06/23/2009

Matrix: Solid

Units: mg/kg

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
C6-C12 Gasoline Range Hydrocarbons	ND	1000	763	76	1000	735	74	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	748	75	1000	723	72	3	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335970

Lab Batch #: 763126

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335969-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	ND	100	91.4	91	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes

BPL - Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335970

Project ID: SRS: 2004-00061

Lab Batch ID: 763339

QC- Sample ID: 335973-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/24/2009

Date Prepared: 06/22/2009

Analyst: BHW

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons	ND	1020	820	80	1020	807	79	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1020	910	89	1020	900	88	1	70-135	35	

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335970

Lab Batch #: 763126

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335969-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300 Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	ND	ND	NC	20	

Lab Batch #: 763002

Date Prepared: 06/22/2009

Analyst: BEV

Date Analyzed: 06/22/2009

QC- Sample ID: 335966-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	ND	ND	NC	20	

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



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

Client: Plains / Basin  
 Date/ Time: 06 19-09 C 0840  
 Lab ID #: 335970  
 Initials: JMF

Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	<u>Yes</u>	No	1.6 °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>in box</u>	<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	<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 335982

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**24-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



24-JUN-09

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

Reference: XENCO Report No: **335982**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335982. 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. 335982 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335982**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell G TZ G 1	S	Jun-18-09 13:00		335982-001
Cell G TZ G 2	S	Jun-18-09 13:20		335982-002
Cell G TZ G 3	S	Jun-18-09 13:40		335982-003
Cell G TZ G 4	S	Jun-18-09 14:00		335982-004
Cell G TZ G 5	S	Jun-18-09 14:20		335982-005

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: SRS: 2004-00061*  
*Work Order Number: 335982*

*Report Date: 24-JUN-09*  
*Date Received: 06/19/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-763007 Percent Moisture  
AD2216A

Batch 763007, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity.

Samples affected are: 335982-005, -001, -002, -003, -004.

Batch: LBA-763129 Inorganic Anions by EPA 300  
None

Batch: LBA-763233 TPH by SW8015 Mod  
None



# Certificate of Analysis Summary 335982

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



**Project Id:** SRS: 2004-00061  
**Contact:** Jason Henry  
**Project Location:** Lea County, NM

**Project Name:** Lea Station Land Farm

**Date Received in Lab:** Fri Jun-19-09 08:40 am  
**Report Date:** 24-JUN-09  
**Project Manager:** Brent Barron, II

Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	335982-001	335982-002	335982-003	335982-004	335982-005
			SOIL	Jun-18-09 13:00	Cell G TZ G 1	Cell G TZ G 2	Cell G TZ G 3	Cell G TZ G 4	Cell G TZ G 5
			SOIL	Jun-18-09 13:20					
			SOIL	Jun-18-09 14:00					
			SOIL	Jun-18-09 14:20					
<b>Analysis Requested</b>									
<b>Anions by EPA 300</b>									
Extracted:									
Analyzed:									
Units/RL:									
Chloride					15.1	27.4	29.5	35.2	41.0
					5.02	5.01	5.03	5.02	5.02
					RL	RL	RL	RL	RL
					Jun-23-09 02:04				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	ND	ND	ND	ND
					1.00	1.00	1.00	1.00	1.00
					RL	RL	RL	RL	RL
					Jun-22-09 10:52				
					%	%	%	%	%
					ND	ND	ND	ND	ND
					1.00	1.00	1.00	1.00	1.00
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-23-09 20:57	Jun-22-09 21:47	Jun-23-09 13:15	Jun-23-09 13:41	Jun-23-09 14:06
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	ND	ND	ND	ND
					1.00	1.00	1.00	1.00	1.00
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2
					631.2	3705	7159	7783	9119
					15.0	15.0	75.5	75.3	75.2
					RL	RL	RL	RL	RL
					Jun-22-09 10:17				
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					ND	180	875	858	761
					15.0	15.0	75.5	75.3	75.2
					563	3380	5770	6480	7810
					15.0	15.0	75.5	75.3	75.2
					68.2	145	514	445	548
					15.0	15.0	75.5	75.3	75.2



# 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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335982,  
Lab Batch #: 763233

Sample: 532361-1-BKS / BKS

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/22/09 15:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.5	100	79	70-135	
o-Terphenyl	35.5	50.0	71	70-135	

Lab Batch #: 763233

Sample: 532361-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/22/09 16:18

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.2	100	76	70-135	
o-Terphenyl	36.3	50.0	73	70-135	

Lab Batch #: 763233

Sample: 532361-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/22/09 16:43

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.1	100	81	70-135	
o-Terphenyl	36.5	50.0	73	70-135	

Lab Batch #: 763233

Sample: 335982-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/22/09 20:57

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.5	100	80	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

Lab Batch #: 763233

Sample: 335982-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/22/09 21:47

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.3	100	86	70-135	
o-Terphenyl	40.0	50.0	80	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335982,  
Lab Batch #: 763233

Sample: 335979-001 S / MS

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 01:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.5	100	98	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

Lab Batch #: 763233

Sample: 335979-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 02:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	100	98	70-135	
o-Terphenyl	39.2	50.0	78	70-135	

Lab Batch #: 763233

Sample: 335982-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 13:15

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.6	100	85	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 763233

Sample: 335982-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 13:41

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.4	100	86	70-135	
o-Terphenyl	39.8	50.0	80	70-135	

Lab Batch #: 763233

Sample: 335982-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 14:06

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.5	100	96	70-135	
o-Terphenyl	44.3	50.0	89	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Land Farm



Work Order #: 335982

Project ID:

SRS: 2004-00061

Lab Batch #: 763129

Sample: 763129-1-BKS

Matrix: Solid

Date Analyzed: 06/23/2009

Date Prepared: 06/23/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	8.91	89	80-120	



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

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



- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335982

Analyst: BHW

Lab Batch ID: 763233

Sample: 532361-1-BKS

Date Prepared: 06/22/2009

Batch #: 1

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Analytes	TPH By SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons		ND	1000	713	71	1000	711	71	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	754	75	1000	738	74	2	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335982  
Lab Batch #: 763129  
Date Analyzed: 06/23/2009  
QC- Sample ID: 335981-003 S  
Reporting Units: mg/kg

Date Prepared: 06/23/2009  
Batch #: 1  
Matrix: Soil  
Project ID: SRS: 2004-00061  
Analyst: LATCOR

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	153	204	337	90	80-120	

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

BRL - Below Reporting Limit



# Form 3 - MSD Recoveries

Project Name: Lea Station Land Farm

Work Order #: 335982

Lab Batch ID: 763233

Date Analyzed: 06/23/2009

Project ID: SRS: 2004-00061

QC- Sample ID: 335979-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2009 Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
C12-C28 Diesel Range Hydrocarbons	ND	1030	1030	100	1030	1040	101	1	70-135	35	

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, EQ = Estimated Quantitation Limit

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335982

Lab Batch #: 763129

Project ID: SRS: 2004-00061

Date Analyzed: 06/23/2009

Date Prepared: 06/23/2009

Analyst: LATCOR

QC- Sample ID: 335981-003 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	153	149	3	20	

Lab Batch #: 763007

Date Prepared: 06/22/2009

Analyst: BEV

Date Analyzed: 06/22/2009

QC- Sample ID: 335979-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.83	3.63	25	20	F

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

BRL - Below Reporting Limit



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

Client: Plains / Basin  
 Date/ Time: 06-19-09 0840  
 Lab ID #: 339982  
 Initials: JMF

**Sample Receipt Checklist**

	Yes	No	Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	JMF °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 335983

for

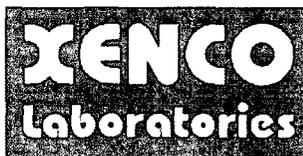
## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335983**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335983. 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. 335983 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335983**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell H TZ G 1	S	Jun-18-09 15:00		335983-001
Cell H TZ G 2	S	Jun-18-09 15:20		335983-002



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-00061*

*Work Order Number: 335983*

*Report Date: 25-JUN-09*

*Date Received: 06/19/2009*

---

**Sample receipt non conformances and Comments:**

*None*

---

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

*None*

**Analytical Non Conformances and Comments:**

*Batch: LBA-763007 Percent Moisture*

*AD2216A*

*Batch 763007, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity.*

*Samples affected are: 335983-001.*

*Batch: LBA-763013 Percent Moisture*

*None*

*Batch: LBA-763129 Inorganic Anions by EPA 300*

*None*

*Batch: LBA-763339 TPH by SW8015 Mod*

*None*



**Certificate of Analytical Summary 335983**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Jun-19-09 08:40 am

Report Date: 25-JUN-09

Project Manager: Brent Barron, II

Project Name: Lea Station Land Farm

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:
Anions by EPA 300	335983-001	Cell H TZ G 1		SOIL	Jun-18-09 15:00	Jun-23-09 02:04	mg/kg RL	ND 5.02
	335983-002	Cell H TZ G 2		SOIL	Jun-18-09 15:20	Jun-23-09 02:04	mg/kg RL	10.3 5.01
Percent Moisture						Jun-22-09 11:00	% RL	ND 1.00
TPH By SW8015 Mod						Jun-22-09 09:49	mg/kg RL	459 75.2
						Jun-24-09 06:19	mg/kg RL	2780 75.2
								279 75.2
C6-C12 Gasoline Range Hydrocarbons								3518 75.2
C12-C28 Diesel Range Hydrocarbons								
C28-C35 Oil Range Hydrocarbons								
Total TPH								

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  
 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.
- 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.

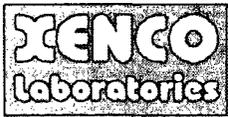
*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.*

*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: Lea Station Land Farm

Work Orders : 335983,  
Lab Batch #: 763339

Project ID: 2004-00061

Sample: 532423-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 20:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.2	100	80	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

Lab Batch #: 763339

Sample: 532423-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 21:18

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.3	100	76	70-135	
o-Terphenyl	36.1	50.0	72	70-135	

Lab Batch #: 763339

Sample: 532423-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 21:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.3	100	75	70-135	
o-Terphenyl	37.1	50.0	74	70-135	

Lab Batch #: 763339

Sample: 335983-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 06:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	48.6	50.0	97	70-135	

Lab Batch #: 763339

Sample: 335983-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 06:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.9	100	97	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335983,  
Lab Batch #: 763339

Sample: 335973-001 S / MS

Project ID: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 07:10

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	45.7	50.1	91	70-135	

Lab Batch #: 763339

Sample: 335973-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 07:36

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	45.2	50.0	90	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335983

Project ID: 2004-00061

Lab Batch #: 763129  
Date Analyzed: 06/23/2009  
Reporting Units: mg/kg

Sample: 763129-1-BKS  
Date Prepared: 06/23/2009

Matrix: Solid  
Analyst: LATCOR

Batch #: 1

## BLANK/BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	8.91	89	80-120	

Blank Spike Recovery [D] = 100\*[C]/[B]  
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335983

Analytst: BHW

Lab Batch ID: 763339

Sample: 532423-1-BKS

Date Prepared: 06/22/2009

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/23/2009

Matrix: Solid

Units: mg/kg

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
C6-C12 Gasoline Range Hydrocarbons	ND	1000	763	76	1000	735	74	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	748	75	1000	723	72	3	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335983

Lab Batch #: 763129

Date Analyzed: 06/23/2009

QC- Sample ID: 335981-003 S

Reporting Units: mg/kg

Project ID: 2004-00061

Analyst: LATCOR

Date Prepared: 06/23/2009

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	153	204	337	90	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335983

Project ID: 2004-00061

Lab Batch ID: 763339

QC- Sample ID: 335973-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/24/2009

Date Prepared: 06/22/2009 Analyst: BHW

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Analytes	TPH By SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons		ND	1020	820	80	1020	807	79	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1020	910	89	1020	900	88	1	70-135	35	

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335983

Lab Batch #: 763129

Project ID: 2004-00061

Date Analyzed: 06/23/2009

Date Prepared: 06/23/2009

Analyst: LATCOR

QC- Sample ID: 335981-003 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	153	149	3	20	

Lab Batch #: 763007

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335979-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.83	3.63	25	20	F

Lab Batch #: 763013

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335983-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	ND	ND	NC	20	

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

BRL - Below Reporting Limit



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

Client: Plains / Basin  
 Date/ Time: 06 19-09 0840  
 Lab ID #: 335983  
 Initials: JMF

**Sample Receipt Checklist**

				Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	No	1.0 °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	<del>Not Present</del>	
#4 Custody Seals intact on sample bottles/ container? / (label)	<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	<del>NOT APPLICABLE</del>	
#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 335973

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335973**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335973. 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. 335973 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335973**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell A VZ G 1 (3'-4')	S	Jun-17-09 08:00	3 - 4 ft	335973-001
Cell A VZ G 2 (3'-4')	S	Jun-17-09 08:20	3 - 4 ft	335973-002
Cell A VZ G 3 (3'-4')	S	Jun-17-09 08:40	3 - 4 ft	335973-003
Cell A VZ G 4 (3'-4')	S	Jun-17-09 09:00	3 - 4 ft	335973-004
Cell A VZ G 5 (3'-4')	S	Jun-17-09 09:20	3 - 4 ft	335973-005

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: SRS: 2004-00061*

*Report Date: 25-JUN-09*

*Work Order Number: 335973*

*Date Received: 06/19/2009*

---

**Sample receipt non conformances and Comments:**

*None*

---

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

*None*

**Analytical Non Conformances and Comments:**

*Batch: LBA-763002 Percent Moisture*

*None*

*Batch: LBA-763005 Percent Moisture*

*None*

*Batch: LBA-763080 BTEX-MTBE EPA 8021B*

*SW8021BM*

*Batch 763080, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 335973-005.*

*Batch: LBA-763126 Inorganic Anions by EPA 300*

*None*

*Batch: LBA-763339 TPH by SW8015 Mod*

*None*





# 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: Lea Station Land Farm

Work Orders : 335973,  
Lab Batch #: 763080

Sample: 532266-1-BKS / BKS

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/19/09 12:45

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0330	0.0300	110	80-120	

Lab Batch #: 763080

Sample: 532266-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/19/09 13:07

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 763080

Sample: 532266-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/19/09 13:51

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Lab Batch #: 763080

Sample: 335973-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/19/09 19:38

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

Lab Batch #: 763080

Sample: 335973-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/19/09 19:59

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0246	0.0300	82	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: Lea Station Land Farm

Work Orders : 335973,  
Lab Batch #: 763080

Project ID: SRS: 2004-00061

Sample: 335973-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/19/09 21:04

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 763080

Sample: 335973-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/19/09 21:25

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0253	0.0300	84	80-120	

Lab Batch #: 763080

Sample: 335973-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/19/09 21:47

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0230	0.0300	77	80-120	*

Lab Batch #: 763080

Sample: 335973-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/20/09 00:39

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 763080

Sample: 335973-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/20/09 01:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0337	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.



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335973,

Project ID: SRS: 2004-00061

Lab Batch #: 763339

Sample: 532423-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 20:51

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.2	100	80	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

Lab Batch #: 763339

Sample: 532423-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 21:18

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.3	100	76	70-135	
o-Terphenyl	36.1	50.0	72	70-135	

Lab Batch #: 763339

Sample: 532423-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/09 21:44

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.3	100	75	70-135	
o-Terphenyl	37.1	50.0	74	70-135	

Lab Batch #: 763339

Sample: 335973-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 04:11

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.8	100	85	70-135	
o-Terphenyl	46.3	50.0	93	70-135	

Lab Batch #: 763339

Sample: 335973-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 04:36

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	44.2	50.0	88	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335973,  
Lab Batch #: 763339

Project ID: SRS: 2004-00061

Sample: 335973-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/24/09 05:02		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		89.8	100	90	70-135	
o-Terphenyl		47.9	50.0	96	70-135	

Lab Batch #: 763339 Sample: 335973-004 / SMP  
Units: mg/kg Date Analyzed: 06/24/09 05:27

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/24/09 05:27		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		89.4	100	89	70-135	
o-Terphenyl		48.6	50.0	97	70-135	

Lab Batch #: 763339 Sample: 335973-005 / SMP  
Units: mg/kg Date Analyzed: 06/24/09 05:53

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/24/09 05:53		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		81.8	100	82	70-135	
o-Terphenyl		45.0	50.0	90	70-135	

Lab Batch #: 763339 Sample: 335973-001 S / MS  
Units: mg/kg Date Analyzed: 06/24/09 07:10

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/24/09 07:10		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		103	100	103	70-135	
o-Terphenyl		45.7	50.1	91	70-135	

Lab Batch #: 763339 Sample: 335973-001 SD / MSD  
Units: mg/kg Date Analyzed: 06/24/09 07:36

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/24/09 07:36		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		101	100	101	70-135	
o-Terphenyl		45.2	50.0	90	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm



Work Order #: 335973

Project ID:

SRS: 2004-00061

Lab Batch #: 763126

Sample: 763126-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.17	92	90-110	



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

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



- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335973

Analyst: ASA

Lab Batch ID: 763080

Sample: 532266-1-BKS

Date Prepared: 06/19/2009

Batch #: 1

Project ID: SRS: 2004-00061

Date Analyzed: 06/19/2009

Matrix: Solid

Units: mg/kg

## 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	0.0934	93	0.1	0.0934	93	0	70-130	35	
Toluene	ND	0.1000	0.0916	92	0.1	0.0916	92	0	70-130	35	
Ethylbenzene	ND	0.1000	0.0980	98	0.1	0.0976	98	0	71-129	35	
m,p-Xylenes	ND	0.2000	0.1972	99	0.2	0.1960	98	1	70-135	35	
o-Xylene	ND	0.1000	0.0938	94	0.1	0.0929	93	1	71-133	35	

Analyst: BHW

Lab Batch ID: 763339

Sample: 532423-1-BKS

Date Prepared: 06/22/2009

Batch #: 1

Date Analyzed: 06/23/2009

Matrix: Solid

Units: mg/kg

## 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
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	ND	1000	763	76	1000	735	74	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	748	75	1000	723	72	3	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335973

Lab Batch #: 763126

Date Analyzed: 06/22/2009

QC- Sample ID: 335969-001 S

Reporting Units: mg/kg

Project ID: SRS: 2004-00061

Analyst: LATCOR

Date Prepared: 06/22/2009

Batch #: 1

Matrix: Soil

Inorganic Anions by EPA 300		MATRIX / MATRIX SPIKE RECOVERY STUDY				
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	ND	100	91.4	91	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335973

Project ID: SRS: 2004-00061

Lab Batch ID: 763080

QC-Sample ID: 335973-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/20/2009

Date Prepared: 06/19/2009 Analyst: ASA

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.1008	0.0832	83	0.1008	0.0869	86	4	70-130	35	
Toluene	ND	0.1008	0.0816	81	0.1008	0.0852	85	4	70-130	35	
Ethylbenzene	ND	0.1008	0.0869	86	0.1008	0.0913	91	5	71-129	35	
m,p-Xylenes	ND	0.2016	0.1742	86	0.2016	0.1829	91	5	70-135	35	
o-Xylene	ND	0.1008	0.0814	81	0.1008	0.0860	85	5	71-133	35	

Lab Batch ID: 763339

QC-Sample ID: 335973-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/24/2009

Date Prepared: 06/22/2009 Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	ND	1020	820	80	1020	807	79	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1020	910	89	1020	900	88	1	70-135	35	

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, EQJ = Estimated Quantitation Limit



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335973

Lab Batch #: 763126

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335969-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Batch #: 763002

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335966-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	ND	ND	NC	20	

Lab Batch #: 763005

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335973-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	ND	ND	NC	20	

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



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

Client: Plains / Basin  
 Date/ Time: 06 19-09 0840  
 Lab ID #: 335973  
 Initials: JMF

Sample Receipt Checklist

			Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	1.6 ° C
#2 Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not Present</del>
#4 Custody Seals Intact on sample bottles/ container? / <u>label</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Present
#5 Chain of Custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	iD written on Cont./ Lid
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below
#13 Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below
#14 Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	See Below
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not Applicable</del>
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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 335976

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335976**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335976. 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. 335976 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335976**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell B VZ G 1 (3'-4')	S	Jun-17-09 09:40	3 - 4 ft	335976-001
Cell B VZ G 2 (3'-4')	S	Jun-17-09 10:00	3 - 4 ft	335976-002
Cell B VZ G 3 (3'-4')	S	Jun-17-09 10:20	3 - 4 ft	335976-003
Cell B VZ G 4 (3'-4')	S	Jun-17-09 10:40	3 - 4 ft	335976-004
Cell B VZ G 5 (3'-4')	S	Jun-17-09 11:00	3 - 4 ft	335976-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: SRS: 2004-00061*  
*Work Order Number: 335976*

*Report Date: 25-JUN-09*  
*Date Received: 06/19/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-763005 Percent Moisture*  
None

*Batch: LBA-763080 BTEX-MTBE EPA 8021B*  
*SW8021BM*

*Batch 763080, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis*  
*Samples affected are: 335976-001,335976-005,335976-004,335976-003.*

*Batch: LBA-763126 Inorganic Anions by EPA 300*  
None

*Batch: LBA-763311 TPH by SW8015 Mod*  
None



# Certificate of Analysis Summary 335976

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



Project Id: SRS: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Fri Jun-19-09 08:40 am

Report Date: 25-JUN-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	335976-001	335976-002	335976-003	335976-004	335976-005											
		Cell B VZ G 1 (3-4')	3-4 ft	SOIL	Jun-17-09 09:40	Cell B VZ G 2 (3-4')	3-4 ft	SOIL	Jun-17-09 10:00	Cell B VZ G 3 (3-4')	3-4 ft	SOIL	Jun-17-09 10:20	Cell B VZ G 4 (3-4')	3-4 ft	SOIL	Jun-17-09 10:40	Cell B VZ G 5 (3-4')	3-4 ft	SOIL	Jun-17-09 11:00
<b>Anions by EPA 300</b>		Jun-22-09 15:38	mg/kg	RL	5.01	Jun-22-09 15:38	mg/kg	RL	5.01	Jun-22-09 15:38	mg/kg	RL	5.03	Jun-22-09 15:38	mg/kg	RL	5.02	Jun-22-09 15:38	mg/kg	RL	5.03
		Jun-19-09 14:47				Jun-19-09 14:47				Jun-19-09 14:47				Jun-19-09 14:47				Jun-19-09 14:47			
<b>BTEX by EPA 8021B</b>		Jun-19-09 22:08	mg/kg	RL		Jun-19-09 22:30	mg/kg	RL		Jun-19-09 22:51	mg/kg	RL		Jun-19-09 23:13	mg/kg	RL		Jun-19-09 23:34	mg/kg	RL	
Chloride		ND	0.0010	RL	5.01	ND	0.0010	RL	5.01	ND	0.0010	RL	5.03	ND	0.0010	RL	5.02	ND	0.0010	RL	5.03
Benzene		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL	
Toluene		ND	0.0020	RL		ND	0.0020	RL		ND	0.0020	RL		ND	0.0020	RL		ND	0.0020	RL	
Ethylbenzene		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL	
m,p-Xylenes		ND	0.0020	RL		ND	0.0020	RL		ND	0.0020	RL		ND	0.0020	RL		ND	0.0020	RL	
o-Xylene		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL	
Total Xylenes		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL	
Total BTEX		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL		ND	0.0010	RL	
<b>Percent Moisture</b>		Jun-22-09 10:43	%	RL	1.00	Jun-22-09 10:43	%	RL	1.00	Jun-22-09 10:43	%	RL	1.00	Jun-22-09 10:43	%	RL	1.00	Jun-22-09 10:43	%	RL	1.00
		ND	1.00	RL		ND	1.00	RL		ND	1.00	RL		ND	1.00	RL		ND	1.00	RL	
<b>TPH By SW8015 Mod</b>		Jun-22-09 10:17	mg/kg	RL		Jun-22-09 10:17	mg/kg	RL		Jun-22-09 10:17	mg/kg	RL		Jun-22-09 10:17	mg/kg	RL		Jun-22-09 10:17	mg/kg	RL	
		Jun-23-09 05:58	mg/kg	RL		Jun-23-09 06:23	mg/kg	RL		Jun-23-09 06:49	mg/kg	RL		Jun-23-09 07:14	mg/kg	RL		Jun-23-09 07:39	mg/kg	RL	
C6-C12 Gasoline Range Hydrocarbons		ND	15.0	RL		ND	15.0	RL		ND	15.1	RL		ND	15.1	RL		ND	15.0	RL	
C12-C28 Diesel Range Hydrocarbons		ND	15.0	RL		ND	15.0	RL		ND	15.1	RL		ND	15.1	RL		ND	15.0	RL	
C28-C35 Oil Range Hydrocarbons		ND	15.0	RL		ND	15.0	RL		ND	15.1	RL		ND	15.1	RL		ND	15.0	RL	
Total TPH		ND	15.0	RL		ND	15.0	RL		ND	15.1	RL		ND	15.1	RL		ND	15.0	RL	

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  
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.
- 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**

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335976,  
Lab Batch #: 763080

Project ID: SRS: 2004-00061

Sample: 532266-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/19/09 12:45

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0330	0.0300	110	80-120	

Lab Batch #: 763080

Sample: 532266-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/19/09 13:07

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 763080

Sample: 532266-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/19/09 13:51

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Lab Batch #: 763080

Sample: 335976-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/19/09 22:08

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0228	0.0300	76	80-120	*

Lab Batch #: 763080

Sample: 335976-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/19/09 22:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0247	0.0300	82	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: Lea Station Land Farm

Work Orders : 335976,  
Lab Batch #: 763080

Project ID: SRS: 2004-00061

Sample: 335976-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/19/09 22:51

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0235	0.0300	78	80-120	*

Lab Batch #: 763080

Sample: 335976-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/19/09 23:13

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0230	0.0300	77	80-120	*

Lab Batch #: 763080

Sample: 335976-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/19/09 23:34

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0231	0.0300	77	80-120	*

Lab Batch #: 763080

Sample: 335973-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/20/09 00:39

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 763080

Sample: 335973-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/20/09 01:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0337	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.



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Orders : 335976,  
Lab Batch #: 763311

Sample: 532405-1-BKS / BKS

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 04:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.3	100	77	70-135	
o-Terphenyl	37.9	50.0	76	70-135	

Lab Batch #: 763311

Sample: 532405-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 05:09

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.8	100	74	70-135	
o-Terphenyl	35.5	50.0	71	70-135	

Lab Batch #: 763311

Sample: 532405-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 05:34

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.3	100	83	70-135	
o-Terphenyl	35.4	50.0	71	70-135	

Lab Batch #: 763311

Sample: 335976-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 05:58

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.7	100	83	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 763311

Sample: 335976-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 06:23

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.2	100	80	70-135	
o-Terphenyl	39.5	50.0	79	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335976,

Lab Batch #: 763311

Sample: 335976-003 / SMP

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 06:49

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.0	100	79	70-135	
o-Terphenyl	38.8	50.0	78	70-135	

Lab Batch #: 763311

Sample: 335976-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 07:14

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.7	100	76	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 763311

Sample: 335976-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 07:39

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.2	99.8	81	70-135	
o-Terphenyl	40.0	49.9	80	70-135	

Lab Batch #: 763311

Sample: 335976-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 17:25

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	100	85	70-135	
o-Terphenyl	35.1	50.0	70	70-135	

Lab Batch #: 763311

Sample: 335976-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 17:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.6	100	79	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



**Project Name: Lea Station Land Farm**



**Work Order #:** 335976

**Project ID:**

**SRS:** 2004-00061

**Lab Batch #:** 763126

**Sample:** 763126-1-BKS

**Matrix:** Solid

**Date Analyzed:** 06/22/2009

**Date Prepared:** 06/22/2009

**Analyst:** LATCOR

**Reporting Units:** mg/kg

**Batch #:** 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.17	92	90-110	



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

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



- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335976

Project ID: SRS: 2004-00061

Analyst: ASA

Date Analyzed: 06/19/2009

Date Prepared: 06/19/2009

Lab Batch ID: 763080

Sample: 532266-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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	0.0934	93	0.1	0.0934	93	0	70-130	35	
Toluene	ND	0.1000	0.0916	92	0.1	0.0916	92	0	70-130	35	
Ethylbenzene	ND	0.1000	0.0980	98	0.1	0.0976	98	0	71-129	35	
m,p-Xylenes	ND	0.2000	0.1972	99	0.2	0.1960	98	1	70-135	35	
o-Xylene	ND	0.1000	0.0938	94	0.1	0.0929	93	1	71-133	35	

Analyst: BHW

Date Prepared: 06/22/2009

Date Analyzed: 06/23/2009

Lab Batch ID: 763311

Sample: 532405-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	ND	1000	720	72	1000	709	71	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	798	80	1000	772	77	3	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335976  
Lab Batch #: 763126  
Date Analyzed: 06/22/2009  
QC- Sample ID: 335969-001 S  
Reporting Units: mg/kg

Date Prepared: 06/22/2009

Project ID: SRS: 2004-00061  
Analyst: LATCOR  
Batch #: 1  
Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	ND	100	91.4	91	80-120	

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

Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335976

Project ID: SRS: 2004-00061

Lab Batch ID: 763080

QC- Sample ID: 335973-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/20/2009

Date Prepared: 06/19/2009 Analyst: ASA

Reporting Units: mg/kg

## 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	0.1008	0.0832	83	0.1008	0.0869	86	4	70-130	35	
Toluene	ND	0.1008	0.0816	81	0.1008	0.0852	85	4	70-130	35	
Ethylbenzene	ND	0.1008	0.0869	86	0.1008	0.0913	91	5	71-129	35	
m,p-Xylenes	ND	0.2016	0.1742	86	0.2016	0.1829	91	5	70-135	35	
o-Xylene	ND	0.1008	0.0814	81	0.1008	0.0860	85	5	71-133	35	

Lab Batch ID: 763311

QC- Sample ID: 335976-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/23/2009

Date Prepared: 06/22/2009 Analyst: BHW

Reporting Units: mg/kg

## 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
C6-C12 Gasoline Range Hydrocarbons	ND	502	413	82	502	404	80	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	502	528	105	502	454	90	15	70-135	35	

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335976

Lab Batch #: 763126

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335969-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Batch #: 763005

Date Prepared: 06/22/2009

Analyst: BEV

Date Analyzed: 06/22/2009

QC- Sample ID: 335973-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	ND	ND	NC	20	

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

BRL - Below Reporting Limit



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

Client: Plains / Basin  
 Date/ Time: 06-19-09 08:40  
 Lab ID #: 335976  
 Initials: JMF

Sample Receipt Checklist

	Yes	No	Temp	Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.6 °C	
#2 Shipping container in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present	
#4 Custody Seals intact on sample bottles/ container? / (2 bottles)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present	
#5 Chain of Custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID written on Cont/ Lid	
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#13 Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#14 Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable	
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 335977

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335977**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335977. 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. 335977 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335977**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell C VZ G 1 (3'-4')	S	Jun-17-09 11:20	3 - 4 ft	335977-001
Cell C VZ G 2 (3'-4')	S	Jun-17-09 11:40	3 - 4 ft	335977-002
Cell C VZ G 3 (3'-4')	S	Jun-17-09 12:00	3 - 4 ft	335977-003
Cell C VZ G 4 (3'-4')	S	Jun-17-09 12:20	3 - 4 ft	335977-004
Cell C VZ G 5 (3'-4')	S	Jun-17-09 12:40	3 - 4 ft	335977-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: SRS: 2004-00061*

*Report Date: 25-JUN-09*

*Work Order Number: 335977*

*Date Received: 06/19/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-763005 Percent Moisture

None

Batch: LBA-763080 BTEX-MTBE EPA 8021B  
SW8021BM

Batch 763080, 4-Bromofluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis  
Samples affected are: 335977-002.

Batch: LBA-763126 Inorganic Anions by EPA 300

None

Batch: LBA-763127 Inorganic Anions by EPA 300

None

Batch: LBA-763311 TPH by SW8015 Mod

None

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: SRS: 2004-00061*

*Report Date: 25-JUN-09*

*Work Order Number: 335977*

*Date Received: 06/19/2009*

---

*Batch: LBA-763367 BTEX-MTBE EPA 8021B  
SW8021BM*

*Batch 763367, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 532430-1-BLK,335977-004,335977-005,335977-003.*

*SW8021BM*

*Batch 763367, Benzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Ethylbenzene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 335977-005, -003, -004.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*



# Certificate of Analysis Summary 335977

## PLAINS ALL AMERICAN EHS, Midland, TX



Project Id: SRS: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Fri Jun-19-09 08:40 am

Report Date: 25-JUN-09  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:	335977-001	335977-002	335977-003	335977-004	335977-005
<b>Anions by EPA 300</b>		Cell C VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 11:20	Jun-22-09 15:38	Jun-19-09 14:47	ND	5.37	ND	5.49	6.06	ND
		Cell C VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 11:40	Jun-22-09 20:46	Jun-19-09 14:47	ND	5.49	ND	5.05	5.39	5.08
		Cell C VZ G 3 (3'-4')	3-4 ft	SOIL	Jun-17-09 12:00	Jun-22-09 20:46	Jun-23-09 10:00	ND	5.05	ND	5.00	5.39	5.08
		Cell C VZ G 4 (3'-4')	3-4 ft	SOIL	Jun-17-09 12:20	Jun-22-09 20:46	Jun-24-09 01:49	mg/kg	RL	mg/kg	RL	mg/kg	RL
		Cell C VZ G 5 (3'-4')	3-4 ft	SOIL	Jun-17-09 12:40	Jun-22-09 20:46	Jun-24-09 02:11	mg/kg	RL	mg/kg	RL	mg/kg	RL
<b>BTEX by EPA 8021B</b>													
Chloride													
Benzene													
Toluene													
Ethylbenzene													
m,p-Xylenes													
o-Xylene													
Total Xylenes													
Total BTEX													
<b>Percent Moisture</b>													
<b>TPH By SW8015 Mod</b>													
C6-C12 Gasoline Range Hydrocarbons													
C12-C28 Diesel Range Hydrocarbons													
C28-C35 Oil Range Hydrocarbons													
Total TPH													

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  
 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.
- 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**

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335977,  
Lab Batch #: 763080

Project ID: SRS: 2004-00061

Sample: 532266-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/19/09 12:45

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0330	0.0300	110	80-120	

Lab Batch #: 763080

Sample: 532266-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/19/09 13:07

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 763080

Sample: 532266-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/19/09 13:51

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Lab Batch #: 763080

Sample: 335977-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/19/09 23:56

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0245	0.0300	82	80-120	

Lab Batch #: 763080

Sample: 335977-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/20/09 00:17

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0235	0.0300	78	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: Lea Station Land Farm

Work Orders : 335977,  
Lab Batch #: 763080

Project ID: SRS: 2004-00061

Sample: 335973-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/20/09 00:39

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 763080

Sample: 335973-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/20/09 01:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0337	0.0300	112	80-120	

Lab Batch #: 763367

Sample: 532430-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 09:17

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 763367

Sample: 532430-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 09:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 763367

Sample: 532430-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 10:21

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0211	0.0300	70	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: Lea Station Land Farm

Work Orders : 335977,  
Lab Batch #: 763367

Project ID: SRS: 2004-00061

Sample: 335977-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 01:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0225	0.0300	75	80-120	*

Lab Batch #: 763367

Sample: 335977-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 01:49

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0224	0.0300	75	80-120	*

Lab Batch #: 763367

Sample: 335977-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 02:11

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0160	0.0300	53	80-120	*

Lab Batch #: 763367

Sample: 335977-003 S / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 06:49

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 763367

Sample: 335977-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/09 07:11

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0334	0.0300	111	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: Lea Station Land Farm

Work Orders : 335977,  
Lab Batch #: 763311

Project ID: SRS: 2004-00061

Sample: 532405-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 06/23/09 04:44		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		77.3	100	77	70-135	
o-Terphenyl		37.9	50.0	76	70-135	

Lab Batch #: 763311

Sample: 532405-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 06/23/09 05:09		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		73.8	100	74	70-135	
o-Terphenyl		35.5	50.0	71	70-135	

Lab Batch #: 763311

Sample: 532405-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 06/23/09 05:34		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		83.3	100	83	70-135	
o-Terphenyl		35.4	50.0	71	70-135	

Lab Batch #: 763311

Sample: 335977-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/23/09 08:04		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		83.3	100	83	70-135	
o-Terphenyl		42.0	50.0	84	70-135	

Lab Batch #: 763311

Sample: 335977-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/23/09 08:28		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		80.4	100	80	70-135	
o-Terphenyl		40.5	50.0	81	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335977,  
Lab Batch #: 763311

Project ID: SRS: 2004-00061

Sample: 335977-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.2	99.7	81	70-135	
o-Terphenyl	40.7	49.9	82	70-135	

Lab Batch #: 763311

Sample: 335977-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 09:43

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.4	99.7	80	70-135	
o-Terphenyl	39.8	49.9	80	70-135	

Lab Batch #: 763311

Sample: 335977-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 10:08

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.4	100	79	70-135	
o-Terphenyl	39.7	50.0	79	70-135	

Lab Batch #: 763311

Sample: 335976-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 17:25

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	100	85	70-135	
o-Terphenyl	35.1	50.0	70	70-135	

Lab Batch #: 763311

Sample: 335976-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 17:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.6	100	79	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Land Farm



Work Order #: 335977

Project ID:

SRS: 2004-00061

Lab Batch #: 763126

Sample: 763126-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.17	92	90-110	

Lab Batch #: 763127

Sample: 763127-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.12	91	90-110	



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

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



- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335977

Project ID: SRS: 2004-00061

Analyt: ASA

Date Prepared: 06/19/2009

Date Analyzed: 06/19/2009

Lab Batch ID: 763080

Batch #: 1

Sample: 532266-1-BKS

Matrix: Solid

Units: mg/kg

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	0.0934	93	0.1	0.0934	93	0	70-130	35	
Toluene	ND	0.1000	0.0916	92	0.1	0.0916	92	0	70-130	35	
Ethylbenzene	ND	0.1000	0.0980	98	0.1	0.0976	98	0	71-129	35	
m,p-Xylenes	ND	0.2000	0.1972	99	0.2	0.1960	98	1	70-135	35	
o-Xylene	ND	0.1000	0.0938	94	0.1	0.0929	93	1	71-133	35	

Analyt: ASA

Date Prepared: 06/23/2009

Date Analyzed: 06/23/2009

Lab Batch ID: 763367

Batch #: 1

Sample: 532430-1-BKS

Matrix: Solid

Units: mg/kg

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	0.1069	107	0.1	0.1081	108	1	70-130	35	
Toluene	ND	0.1000	0.1033	103	0.1	0.1051	105	2	70-130	35	
Ethylbenzene	ND	0.1000	0.1087	109	0.1	0.1118	112	3	71-129	35	
m,p-Xylenes	ND	0.2000	0.2185	109	0.2	0.2246	112	3	70-135	35	
o-Xylene	ND	0.1000	0.1041	104	0.1	0.1070	107	3	71-133	35	

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



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335977

Project ID: SRS: 2004-00061

Analyst: BHW

Date Prepared: 06/22/2009

Date Analyzed: 06/23/2009

Lab Batch ID: 763311

Sample: 532405-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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
TPH By SW8015 Mod	ND	1000	720	72	1000	709	71	2	70-135	35	
C6-C12 Gasoline Range Hydrocarbons	ND	1000	798	80	1000	772	77	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons											

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335977

Lab Batch #: 763126

Date Analyzed: 06/22/2009

QC- Sample ID: 335969-001 S

Reporting Units: mg/kg

Project ID: SRS: 2004-00061

Analyst: LATCOR

Date Prepared: 06/22/2009

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	ND	100	91.4	91	80-120	

Lab Batch #: 763127

Date Analyzed: 06/22/2009

QC- Sample ID: 335977-002 S

Reporting Units: mg/kg

Date Prepared: 06/22/2009

Analyst: LATCOR

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	ND	110	108	98	80-120	

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

Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335977

Project ID: SRS: 2004-00061

Lab Batch ID: 763080

QC- Sample ID: 335973-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/20/2009

Date Prepared: 06/19/2009 Analyst: ASA

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.1008	0.0832	83	0.1008	0.0869	86	4	70-130	35	
Toluene	ND	0.1008	0.0816	81	0.1008	0.0852	85	4	70-130	35	
Ethylbenzene	ND	0.1008	0.0869	86	0.1008	0.0913	91	5	71-129	35	
m,p-Xylenes	ND	0.2016	0.1742	86	0.2016	0.1829	91	5	70-135	35	
o-Xylene	ND	0.1008	0.0814	81	0.1008	0.0860	85	5	71-133	35	

Lab Batch ID: 763367

QC- Sample ID: 335977-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/24/2009

Date Prepared: 06/23/2009 Analyst: ASA

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	0.1009	0.0578	57	0.1007	0.0771	77	29	70-130	35	X
Toluene	ND	0.1009	0.0576	57	0.1007	0.0742	74	25	70-130	35	X
Ethylbenzene	ND	0.1009	0.0411	41	0.1007	0.0554	55	30	71-129	35	X
m,p-Xylenes	ND	0.2018	0.1281	63	0.2014	0.1588	79	21	70-135	35	X
o-Xylene	ND	0.1009	0.0618	61	0.1007	0.0744	74	19	71-133	35	X

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

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

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



# Form 3 - MMSD Recoveries

Project Name: Lea Station Land Farm



Work Order #: 335977

Project ID: SRS: 2004-00061

Lab Batch ID: 763311

QC- Sample ID: 335976-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/23/2009

Date Prepared: 06/22/2009 Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
	C6-C12 Gasoline Range Hydrocarbons	ND	502	413	82	502	404	80	2	70-135	35
C12-C28 Diesel Range Hydrocarbons	ND	502	528	105	502	454	90	15	70-135	35	

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335977

Lab Batch #: 763126

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335969-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Batch #: 763127

Date Prepared: 06/22/2009

Analyst: LATCOR

Date Analyzed: 06/22/2009

QC- Sample ID: 335977-002 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Batch #: 763005

Date Prepared: 06/22/2009

Analyst: BEV

Date Analyzed: 06/22/2009

QC- Sample ID: 335973-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	ND	ND	NC	20	

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



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

Client: Pigons / Basin  
 Date/ Time: 06 19-09 0840  
 Lab ID #: 335977  
 Initials: JMF

Sample Receipt Checklist

	Yes	No	Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.6 °C
#2 Shipping container in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<del>Not Present</del>
#4 Custody Seals intact on sample bottles/ container? / (a,b,c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present
#5 Chain of Custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID written on Cont./ Lic
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#13 Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#14 Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<del>Not Applicable</del>
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 335978

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335978**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335978. 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. 335978 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335978**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell D VZ G 1 (3'-4')	S	Jun-17-09 13:00	3 - 4 ft	335978-001
Cell D VZ G 2 (3'-4')	S	Jun-17-09 13:20	3 - 4 ft	335978-002
Cell D VZ G 3 (3'-4')	S	Jun-17-09 13:40	3 - 4 ft	335978-003
Cell D VZ G 4 (3'-4')	S	Jun-17-09 14:00	3 - 4 ft	335978-004
Cell D VZ G 5 (3'-4')	S	Jun-17-09 14:20	3 - 4 ft	335978-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: SRS: 2004-00061*  
*Work Order Number: 335978*

*Report Date: 25-JUN-09*  
*Date Received: 06/19/2009*

---

**Sample receipt non conformances and Comments:**

*None*

---

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

*None*

**Analytical Non Conformances and Comments:**

*Batch: LBA-763005 Percent Moisture*  
*None*

*Batch: LBA-763127 Inorganic Anions by EPA 300*  
*None*

*Batch: LBA-763218 BTEX-MTBE EPA 8021B*  
*SW8021BM*

*Batch 763218, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 532286-1-BLK, 335980-005 D, 335978-004, 335978-005, 335978-002, 335978-001, 335978-003. Matrix interference is suspected in sample surrogate failures.*

*Batch: LBA-763311 TPH by SW8015 Mod*  
*None*



**Certificate of Analytical Summary 335978**  
**PLAINS ALL AMERICAN EHS, Midland, TX**



Project Id: SRS: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Fri Jun-19-09 08:40 am  
 Report Date: 25-JUN-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	335978-001	335978-002	335978-003	335978-004	335978-005
		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
<b>Anions by EPA 300</b>		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
<b>BTEX by EPA 8021B</b>		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
Chloride		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
Benzene		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
Toluene		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
Ethylbenzene		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
m,p-Xylenes		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
o-Xylene		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
Total Xylenes		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
Total BTEX		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46	mg/kg	RL	ND	Jun-22-09 20:46
	Analyzed:	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30	mg/kg	RL	ND	Jun-20-09 17:30
	Units/RL:	Jun-21-09 01:26	mg/kg	RL	ND	Jun-21-09 01:47	mg/kg	RL	ND	Jun-21-09 02:52
<b>Percent Moisture</b>		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 10:43	%	RL	ND	Jun-22-09 10:43	%	RL	ND	Jun-22-09 10:43
	Analyzed:	Jun-20-09 10:43	%	RL	ND	Jun-20-09 10:43	%	RL	ND	Jun-20-09 10:43
	Units/RL:	Jun-21-09 10:43	%	RL	ND	Jun-21-09 10:43	%	RL	ND	Jun-21-09 10:43
<b>TPH By SW8015 Mod</b>		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17
	Analyzed:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52
	Units/RL:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52
C6-C12 Gasoline Range Hydrocarbons		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17
	Analyzed:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52
	Units/RL:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52
C12-C28 Diesel Range Hydrocarbons		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17
	Analyzed:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52
	Units/RL:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52
C28-C35 Oil Range Hydrocarbons		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17
	Analyzed:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52
	Units/RL:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52
Total TPH		Cell D VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-17-09 13:00	Cell D VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-17-09 14:00	Cell D VZ G 3 (3'-4')
	Extracted:	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17	mg/kg	RL	ND	Jun-22-09 10:17
	Analyzed:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52
	Units/RL:	Jun-23-09 11:24	mg/kg	RL	ND	Jun-23-09 12:15	mg/kg	RL	ND	Jun-23-09 14:52

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 under unless otherwise agreed to in writing.

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

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.
- 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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335978,  
Lab Batch #: 763218

Project ID: SRS: 2004-00061  
Sample: 532286-1-BKS / BKS      Batch: 1      Matrix: Solid

Units: mg/kg      Date Analyzed: 06/21/09 00:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 763218      Sample: 532286-1-BSD / BSD      Batch: 1      Matrix: Solid

Units: mg/kg      Date Analyzed: 06/21/09 00:22

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 763218      Sample: 532286-1-BLK / BLK      Batch: 1      Matrix: Solid

Units: mg/kg      Date Analyzed: 06/21/09 01:04

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0199	0.0300	66	80-120	*

Lab Batch #: 763218      Sample: 335978-001 / SMP      Batch: 1      Matrix: Soil

Units: mg/kg      Date Analyzed: 06/21/09 01:26

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0181	0.0300	60	80-120	*

Lab Batch #: 763218      Sample: 335978-002 / SMP      Batch: 1      Matrix: Soil

Units: mg/kg      Date Analyzed: 06/21/09 01:47

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0223	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: Lea Station Land Farm

Work Orders : 335978,  
Lab Batch #: 763218

Sample: 335978-003 / SMP

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/21/09 02:09		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0263	0.0300	88	80-120	
4-Bromofluorobenzene		0.0184	0.0300	61	80-120	*

Lab Batch #: 763218 Sample: 335978-004 / SMP  
Units: mg/kg Date Analyzed: 06/21/09 02:31

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/21/09 02:31		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0261	0.0300	87	80-120	
4-Bromofluorobenzene		0.0214	0.0300	71	80-120	*

Lab Batch #: 763218 Sample: 335978-005 / SMP  
Units: mg/kg Date Analyzed: 06/21/09 02:52

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/21/09 02:52		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0263	0.0300	88	80-120	
4-Bromofluorobenzene		0.0211	0.0300	70	80-120	*

Lab Batch #: 763218 Sample: 335980-005 D / MD  
Units: mg/kg Date Analyzed: 06/21/09 09:20

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/21/09 09:20		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0264	0.0300	88	80-120	
4-Bromofluorobenzene		0.0229	0.0300	76	80-120	*

Lab Batch #: 763311 Sample: 532405-1-BKS / BKS  
Units: mg/kg Date Analyzed: 06/23/09 04:44

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 06/23/09 04:44		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		77.3	100	77	70-135	
o-Terphenyl		37.9	50.0	76	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335978,  
Lab Batch #: 763311

Sample: 532405-1-BSD / BSD

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 05:09

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.8	100	74	70-135	
o-Terphenyl	35.5	50.0	71	70-135	

Lab Batch #: 763311

Sample: 532405-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 05:34

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.3	100	83	70-135	
o-Terphenyl	35.4	50.0	71	70-135	

Lab Batch #: 763311

Sample: 335978-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 11:24

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.7	99.8	78	70-135	
o-Terphenyl	37.5	49.9	75	70-135	

Lab Batch #: 763311

Sample: 335978-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 11:49

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.6	100	76	70-135	
o-Terphenyl	37.5	50.0	75	70-135	

Lab Batch #: 763311

Sample: 335978-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 12:15

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.7	99.7	75	70-135	
o-Terphenyl	37.1	49.9	74	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335978,  
Lab Batch #: 763311

Sample: 335978-004 / SMP

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 12:40

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.1	99.9	73	70-135	
o-Terphenyl	35.1	50.0	70	70-135	

Lab Batch #: 763311

Sample: 335978-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 14:52

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.0	100	76	70-135	
o-Terphenyl	36.5	50.0	73	70-135	

Lab Batch #: 763311

Sample: 335976-004 S / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 17:25

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	100	85	70-135	
o-Terphenyl	35.1	50.0	70	70-135	

Lab Batch #: 763311

Sample: 335976-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 17:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.6	100	79	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335978

Project ID:

SRS: 2004-00061

Lab Batch #: 763127

Sample: 763127-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.12	91	90-110	

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

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

L - Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335978

Analyst: ASA

Lab Batch ID: 763218

Sample: 532286-1-BKS

Date Prepared: 06/20/2009

Batch #: 1

Project ID: SRS: 2004-00061

Date Analyzed: 06/21/2009

Matrix: Solid

Units: mg/kg

## 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	0.0949	95	0.1	0.0973	97	2	70-130	35	
Toluene	ND	0.1000	0.0914	91	0.1	0.0940	94	3	70-130	35	
Ethylbenzene	ND	0.1000	0.0950	95	0.1	0.0988	99	4	71-129	35	
m,p-Xylenes	ND	0.2000	0.1916	96	0.2	0.1988	99	4	70-135	35	
o-Xylene	ND	0.1000	0.0913	91	0.1	0.0943	94	3	71-133	35	

Analyst: BHW

Date Prepared: 06/22/2009

Date Analyzed: 06/23/2009

Lab Batch ID: 763311

Sample: 532405-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## 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
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	ND	1000	720	72	1000	709	71	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	798	80	1000	772	77	3	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335978

Project ID: SRS: 2004-00061

Lab Batch #: 763127

Date Prepared: 06/22/2009

Analyst: LATCOR

Date Analyzed: 06/22/2009

Batch #: 1

Matrix: Soil

QC- Sample ID: 335977-002 S

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
	Chloride	ND	110	108	98	80-120

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

BEL - Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335978

Project ID: SRS: 2004-00061

Lab Batch ID: 763311

QC- Sample ID: 335976-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/23/2009

Date Prepared: 06/22/2009

Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	TPH By SW8015 Mod	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
		ND	502	413	82	502	404	80	2	70-135	3.5	
C6-C12 Gasoline Range Hydrocarbons		ND	502	413	82	502	404	80	2	70-135	3.5	
C12-C28 Diesel Range Hydrocarbons		ND	502	528	105	502	454	90	1.5	70-135	3.5	

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335978

Lab Batch #: 763127

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335977-002 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Batch #: 763218

Date Analyzed: 06/21/2009

Date Prepared: 06/20/2009

Analyst: ASA

QC- Sample ID: 335980-005 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

BTEX by EPA 8021B	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Benzene	ND	ND	NC	35	
Toluene	ND	ND	NC	35	
Ethylbenzene	ND	ND	NC	35	
m,p-Xylenes	ND	ND	NC	35	
o-Xylene	ND	ND	NC	35	

Lab Batch #: 763005

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335973-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	ND	ND	NC	20	

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
 12600 West 120 East  
 Odessa, Texas 79765  
 Phone: 432-563-1800  
 Fax: 432-563-1713

Project Manager: Camille Bryant PAGE 01 OF 01

Company Name: Basin Environmental Services Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Livingston, NM 88260

Telephone No: (575) 665-7210

Sampler Signature: Camille Bryant

Fax No: (575) 396-1429

e-mail: cbryant@basin-consulting.com

Project Name: LEA STATION LAND FARM

Project #: SRS\_2004-00061

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format:  Standard  TRRP  NPDES

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Total # of Containers	Field #	Method	Matrix	Analysis	Standard
01	CELL D VZ G 1 (3' - 4')			6/17/2009	1300	1	X	SOIL	SW - Groundwater	Asbestos (CM, NM, NS, N5)	Standard TAT
02	CELL D VZ G 2 (3' - 4')			6/17/2009	1320	1	X	SOIL	SW - Groundwater	Asbestos (CM, NM, NS, N5)	Standard TAT
03	CELL D VZ G 3 (3' - 4')			6/17/2009	1340	1	X	SOIL	SW - Groundwater	Asbestos (CM, NM, NS, N5)	Standard TAT
04	CELL D VZ G 4 (3' - 4')			6/17/2009	1400	1	X	SOIL	SW - Groundwater	Asbestos (CM, NM, NS, N5)	Standard TAT
05	CELL D VZ G 5 (3' - 4')			6/17/2009	1420	1	X	SOIL	SW - Groundwater	Asbestos (CM, NM, NS, N5)	Standard TAT

Special Instructions:

Requested by: Camille Bryant Date: 6/18/09 Time: 1500  
 Received by: [Signature] Date: 6/19/09 Time: 0840  
 Requested by: [Signature] Date: 6/19/09 Time: 0840  
 Received by: James Fitch Date: 6/19/09 Time: 0840

Laboratory Comments:  
 Sampling Collocation Point?  
 VOCs Free of Headspace?  
 Labelling complete?  
 Custody seals on containers?  
 Custody seals on buckets?  
 Samples Hand Delivered  
 by Sender/Client Rep  
 by Courier?    
 Temp. Upon Receipt: 1.6

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains / Basin  
 Date/ Time: 06-19-09 0840  
 Lab ID #: 335978  
 Initials: JMF

Sample Receipt Checklist

	Yes	No	Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.6 °C
#2 Shipping container in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<del>Not Present</del>
#4 Custody Seals intact on sample bottles/ container? /label	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present
#5 Chain of Custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID written on Cont./ Lid
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#13 Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#14 Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<del>Not Applicable</del>
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 335979

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**24-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



24-JUN-09

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

Reference: XENCO Report No: **335979**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335979. 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. 335979 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335979**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell E VZ G 1 (3'-4')	S	Jun-18-09 08:50	3 - 4 ft	335979-001
Cell E VZ G 2 (3'-4')	S	Jun-18-09 09:10	3 - 4 ft	335979-002
Cell E VZ G 3 (3'-4')	S	Jun-18-09 09:30	3 - 4 ft	335979-003
Cell E VZ G 4 (3'-4')	S	Jun-18-09 09:50	3 - 4 ft	335979-004

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: SRS: 2004-00061*

*Work Order Number: 335979*

*Report Date: 24-JUN-09*

*Date Received: 06/19/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-763007 Percent Moisture*

*AD2216A*

*Batch 763007, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity.*

*Samples affected are: 335979-004, -002, -001, -003.*

*Batch: LBA-763127 Inorganic Anions by EPA 300*

None

*Batch: LBA-763218 BTEX-MTBE EPA 8021B*

*SW8021BM*

*Batch 763218, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 532286-1-BLK, 335980-005 D, 335979-004, 335979-003, 335979-001, 335979-002. Matrix interference is suspected in sample surrogate failures.*

*Batch: LBA-763233 TPH by SW8015 Mod*

None



# Certificate of Analysis Summary 335979

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



Project Id: SRS: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Fri Jun-19-09 08:40 am  
 Report Date: 24-JUN-09  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	335979-001	335979-002	335979-003	335979-004
		Cell E VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-18-09 08:50	Cell E VZ G 2 (3'-4')	3-4 ft	SOIL	Cell E VZ G 4 (3'-4')
		Cell E VZ G 3 (3'-4')	3-4 ft	SOIL	Jun-18-09 09:10	Cell E VZ G 3 (3'-4')	3-4 ft	SOIL	Cell E VZ G 4 (3'-4')
		Cell E VZ G 4 (3'-4')	3-4 ft	SOIL	Jun-18-09 09:30	Cell E VZ G 4 (3'-4')	3-4 ft	SOIL	Cell E VZ G 4 (3'-4')
<b>Anions by EPA 300</b>	<b>Extracted:</b>								
	<b>Analyzed:</b>	Jun-22-09 20:46	mg/kg	RL	5.15	Jun-22-09 20:46	mg/kg	RL	5.32
	<b>Units/RL:</b>	ND				ND			5.32
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	Jun-20-09 17:30				Jun-20-09 17:30			Jun-20-09 17:30
	<b>Analyzed:</b>	Jun-21-09 03:13	mg/kg	RL	0.0051	Jun-21-09 03:35	mg/kg	RL	0.0011
	<b>Units/RL:</b>	ND				ND			0.0011
Benzene		ND				ND			ND
Toluene		ND				ND			ND
Ethylbenzene		ND				ND			ND
m,p-Xylenes		ND				ND			ND
o-Xylene		ND				ND			ND
Total Xylenes		ND				ND			ND
Total BTEX		ND				ND			ND
<b>Percent Moisture</b>	<b>Extracted:</b>	Jun-22-09 10:52	%	RL	1.00	Jun-22-09 10:52	%	RL	1.00
	<b>Analyzed:</b>	2.83				1.53			5.94
	<b>Units/RL:</b>	ND				ND			1.00
<b>TPH By SW8015 Mod</b>	<b>Extracted:</b>	Jun-22-09 10:17	mg/kg	RL	15.4	Jun-22-09 10:17	mg/kg	RL	15.9
	<b>Analyzed:</b>	Jun-22-09 17:09	mg/kg	RL	15.4	Jun-22-09 17:34	mg/kg	RL	15.9
	<b>Units/RL:</b>	ND				ND			15.9
C6-C12 Gasoline Range Hydrocarbons		ND				ND			ND
C12-C28 Diesel Range Hydrocarbons		ND				ND			ND
C28-C35 Oil Range Hydrocarbons		ND				ND			ND
Total TPH		ND				ND			ND

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 - Atlanta - Latin America - Corpus Christi

  
 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.
- 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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335979,  
Lab Batch #: 763218

Sample: 532286-1-BKS / BKS

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/21/09 00:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 763218

Sample: 532286-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/21/09 00:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 763218

Sample: 532286-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/21/09 01:04

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0199	0.0300	66	80-120	*

Lab Batch #: 763218

Sample: 335979-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/21/09 03:13

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0205	0.0300	68	80-120	*

Lab Batch #: 763218

Sample: 335979-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/21/09 03:35

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0180	0.0300	60	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: Lea Station Land Farm

Work Orders : 335979,  
Lab Batch #: 763218

Sample: 335979-003 / SMP

Project ID: SRS: 2004-00061  
Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/21/09 03:57

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0218	0.0300	73	80-120	*

Lab Batch #: 763218 Sample: 335979-004 / SMP  
Units: mg/kg Date Analyzed: 06/21/09 04:19

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0177	0.0300	59	80-120	*

Lab Batch #: 763218 Sample: 335980-005 D / MD  
Units: mg/kg Date Analyzed: 06/21/09 09:20

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0229	0.0300	76	80-120	*

Lab Batch #: 763233 Sample: 532361-1-BKS / BKS  
Units: mg/kg Date Analyzed: 06/22/09 15:53

Batch: 1 Matrix: Solid

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.5	100	79	70-135	
o-Terphenyl	35.5	50.0	71	70-135	

Lab Batch #: 763233 Sample: 532361-1-BSD / BSD  
Units: mg/kg Date Analyzed: 06/22/09 16:18

Batch: 1 Matrix: Solid

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.2	100	76	70-135	
o-Terphenyl	36.3	50.0	73	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335979,  
Lab Batch #: 763233

Sample: 532361-1-BLK / BLK

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/22/09 16:43

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.1	100	81	70-135	
o-Terphenyl	36.5	50.0	73	70-135	

Lab Batch #: 763233 Sample: 335979-001 / SMP  
Units: mg/kg Date Analyzed: 06/22/09 17:09

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.4	100	81	70-135	
o-Terphenyl	40.2	50.0	80	70-135	

Lab Batch #: 763233 Sample: 335979-002 / SMP  
Units: mg/kg Date Analyzed: 06/22/09 17:34

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.4	100	81	70-135	
o-Terphenyl	39.3	50.0	79	70-135	

Lab Batch #: 763233 Sample: 335979-003 / SMP  
Units: mg/kg Date Analyzed: 06/22/09 18:00

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.0	100	81	70-135	
o-Terphenyl	39.2	50.0	78	70-135	

Lab Batch #: 763233 Sample: 335979-004 / SMP  
Units: mg/kg Date Analyzed: 06/22/09 18:25

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.3	100	79	70-135	
o-Terphenyl	38.5	50.0	77	70-135	

\* 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: **Lea Station Land Farm**

Work Orders : 335979,  
Lab Batch #: 763233

Sample: 335979-001 S / MS

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 01:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.5	100	98	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

Lab Batch #: 763233

Sample: 335979-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/09 02:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	100	98	70-135	
o-Terphenyl	39.2	50.0	78	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



**Project Name: Lea Station Land Farm**

**Work Order #: 335979**

**Project ID:**

**SRS: 2004-00061**

**Lab Batch #: 763127**

**Sample: 763127-1-BKS**

**Matrix: Solid**

**Date Analyzed: 06/22/2009**

**Date Prepared: 06/22/2009**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.12	91	90-110	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335979

Project ID: SRS: 2004-00061

Analyst: ASA

Date Prepared: 06/20/2009

Date Analyzed: 06/21/2009

Lab Batch ID: 763218

Sample: 532286-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## 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	0.0949	95	0.1	0.0973	97	2	70-130	35	
Toluene	ND	0.1000	0.0914	91	0.1	0.0940	94	3	70-130	35	
Ethylbenzene	ND	0.1000	0.0950	95	0.1	0.0988	99	4	71-129	35	
m,p-Xylenes	ND	0.2000	0.1916	96	0.2	0.1988	99	4	70-135	35	
o-Xylene	ND	0.1000	0.0913	91	0.1	0.0943	94	3	71-133	35	

Analyst: BHW

Date Prepared: 06/22/2009

Date Analyzed: 06/22/2009

Lab Batch ID: 763233

Sample: 532361-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## 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
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	ND	1000	713	71	1000	711	71	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	754	75	1000	738	74	2	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335979  
Lab Batch #: 763127  
Date Analyzed: 06/22/2009  
QC- Sample ID: 335977-002 S  
Reporting Units: mg/kg

Date Prepared: 06/22/2009  
Batch #: 1  
Matrix: Soil  
Project ID: SRS: 2004-00061  
Analyst: LATCOR

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.33	110	108	92	80-120	

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

Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335979

Project ID: SRS: 2004-00061

Lab Batch ID: 763233

QC-Sample ID: 335979-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/23/2009

Date Prepared: 06/23/2009

Analyst: BHW

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod 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
	C6-C12 Gasoline Range Hydrocarbons	ND	1030	863	84	1030	865	84	0	70-135	35
C12-C28 Diesel Range Hydrocarbons	ND	1030	1030	100	1030	1040	101	1	70-135	35	

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, EQ = Estimated Quantitation Limit



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335979

Lab Batch #: 763127

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335977-002 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	6.33	6.01	5	20	

Lab Batch #: 763218

Date Analyzed: 06/21/2009

Date Prepared: 06/20/2009

Analyst: ASA

QC- Sample ID: 335980-005 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

BTEX by EPA 8021B	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Benzene	ND	ND	NC	35	
Toluene	ND	ND	NC	35	
Ethylbenzene	ND	ND	NC	35	
m,p-Xylenes	ND	ND	NC	35	
o-Xylene	ND	ND	NC	35	
a,a,a-Trifluorotoluene	0.032	0.032	0	35	

Lab Batch #: 763007

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335979-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.83	3.63	25	20	F

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

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

BRL - Below Reporting Limit



**Environmental Lab of Texas**

Variance/ Corrective Action Report- Sample Log-In

Client: Plains / Basin  
 Date/ Time: 06 19-09 0840  
 Lab ID #: 335979  
 Initials: JMF

**Sample Receipt Checklist**

	Yes	No	Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.6 °C
#2 Shipping container in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present
#4 Custody Seals intact on sample bottles/ container? /label	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present
#5 Chain of Custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID written on Cont./ Lid
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#13 Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#14 Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 335980

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**25-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



25-JUN-09

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

Reference: XENCO Report No: **335980**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335980. 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. 335980 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335980**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell F VZ G 1 (3'-4')	S	Jun-18-09 10:40	3 - 4 ft	335980-001
Cell F VZ G 2 (3'-4')	S	Jun-18-09 11:00	3 - 4 ft	335980-002
Cell F VZ G 3 (3'-4')	S	Jun-18-09 11:20	3 - 4 ft	335980-003
Cell F VZ G 4 (3'-4')	S	Jun-18-09 11:40	3 - 4 ft	335980-004
Cell F VZ G 5 (3'-4')	S	Jun-18-09 12:00	3 - 4 ft	335980-005

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: SRS: 2004-00061*  
*Work Order Number: 335980*

*Report Date: 25-JUN-09*  
*Date Received: 06/19/2009*

---

### **Sample receipt non conformances and Comments:**

*None*

---

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

*None*

#### **Analytical Non Conformances and Comments:**

*Batch: LBA-763007 Percent Moisture  
AD2216A*

*Batch 763007, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity.*

*Samples affected are: 335980-001, -005, -002, -004, -003.*

*Batch: LBA-763127 Inorganic Anions by EPA 300  
None*

*Batch: LBA-763218 BTEX-MTBE EPA 8021B  
SW8021BM*

*Batch 763218, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 532286-1-BLK, 335980-005 D, 335980-004, 335980-005, 335980-002, 335980-001, 335980-003. Matrix interference is suspected in sample surrogate failures.*

*Batch: LBA-763311 TPH by SW8015 Mod  
None*



**Certificate of Analysis Summary 335980**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Fri Jun-19-09 08:40 am  
 Report Date: 25-JUN-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	335980-001	335980-002	335980-003	335980-004	335980-005
<b>Anions by EPA 300</b>		Cell F VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-18-09 10:40	Jun-22-09 20:46				
	<i>Extracted:</i>					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	<i>Analyzed:</i>					RL	RL	RL	RL	RL
	<i>Units/RL:</i>					ND 5.01	ND 4.99	ND 5.01	ND 5.08	ND 5.25
<b>BTEX by EPA 8021B</b>		Cell F VZ G 3 (3'-4')	3-4 ft	SOIL	Jun-18-09 11:20	Jun-20-09 17:30				
	<i>Extracted:</i>					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	<i>Analyzed:</i>					RL	RL	RL	RL	RL
	<i>Units/RL:</i>					ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0011
Benzene						ND 0.0020	ND 0.0020	ND 0.0020	ND 0.0020	ND 0.0021
Toluene						ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0011
Ethylbenzene						ND 0.0020	ND 0.0020	ND 0.0020	ND 0.0020	ND 0.0021
m,p-Xylenes						ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0011
o-Xylene						ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0011
Total Xylenes						ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0011
Total BTEX						ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0011
<b>Percent Moisture</b>										
	<i>Extracted:</i>									
	<i>Analyzed:</i>					Jun-22-09 10:52				
	<i>Units/RL:</i>					%	%	%	%	%
						ND 1.00				
<b>TPH By SW8015 Mod</b>		Cell F VZ G 5 (3'-4')	3-4 ft	SOIL	Jun-18-09 12:00	Jun-22-09 20:46				
	<i>Extracted:</i>					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	<i>Analyzed:</i>					RL	RL	RL	RL	RL
	<i>Units/RL:</i>					ND 15.0	ND 15.0	ND 15.0	ND 15.2	ND 15.8
C6-C12 Gasoline Range Hydrocarbons						ND 15.0	ND 15.0	ND 15.0	ND 15.2	ND 15.8
C12-C28 Diesel Range Hydrocarbons						ND 15.0	ND 15.0	ND 15.0	ND 15.2	ND 15.8
C28-C35 Oil Range Hydrocarbons						ND 15.0	ND 15.0	ND 15.0	ND 15.2	ND 15.8
Total TPH						ND 15.0	ND 15.0	ND 15.0	ND 15.2	ND 15.8

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  
 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.
- 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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335980,  
Lab Batch #: 763218

Project ID: SRS: 2004-00061

Sample: 532286-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/09 00:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 763218

Sample: 532286-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/09 00:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 763218

Sample: 532286-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/09 01:04

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0199	0.0300	66	80-120	*

Lab Batch #: 763218

Sample: 335980-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/09 04:40

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0159	0.0300	53	80-120	*

Lab Batch #: 763218

Sample: 335980-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/09 05:45

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0168	0.0300	56	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: Lea Station Land Farm

Work Orders : 335980,  
Lab Batch #: 763218

Project ID: SRS: 2004-00061

Sample: 335980-003 / SMP

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/21/09 06:07	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0262	0.0300	87	80-120	
4-Bromofluorobenzene		0.0195	0.0300	65	80-120	*

Lab Batch #: 763218 Sample: 335980-004 / SMP  
Units: mg/kg Date Analyzed: 06/21/09 06:28

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/21/09 06:28	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0262	0.0300	87	80-120	
4-Bromofluorobenzene		0.0218	0.0300	73	80-120	*

Lab Batch #: 763218 Sample: 335980-005 / SMP  
Units: mg/kg Date Analyzed: 06/21/09 06:50

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/21/09 06:50	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0262	0.0300	87	80-120	
4-Bromofluorobenzene		0.0193	0.0300	64	80-120	*

Lab Batch #: 763218 Sample: 335980-005 D / MD  
Units: mg/kg Date Analyzed: 06/21/09 09:20

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/21/09 09:20	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0264	0.0300	88	80-120	
4-Bromofluorobenzene		0.0229	0.0300	76	80-120	*

Lab Batch #: 763311 Sample: 532405-1-BKS / BKS  
Units: mg/kg Date Analyzed: 06/23/09 04:44

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/23/09 04:44	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
TPH By SW8015 Mod						
Analytes						
1-Chlorooctane		77.3	100	77	70-135	
o-Terphenyl		37.9	50.0	76	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335980,  
Lab Batch #: 763311

Project ID: SRS: 2004-00061

Sample: 532405-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 05:09

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.8	100	74	70-135	
o-Terphenyl	35.5	50.0	71	70-135	

Lab Batch #: 763311

Sample: 532405-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/23/09 05:34

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.3	100	83	70-135	
o-Terphenyl	35.4	50.0	71	70-135	

Lab Batch #: 763311

Sample: 335980-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 15:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.9	100	78	70-135	
o-Terphenyl	36.0	50.0	72	70-135	

Lab Batch #: 763311

Sample: 335980-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 15:43

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.7	100	76	70-135	
o-Terphenyl	35.6	50.0	71	70-135	

Lab Batch #: 763311

Sample: 335980-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 16:08

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.4	100	83	70-135	
o-Terphenyl	36.3	50.0	73	70-135	

\* 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: **Lea Station Land Farm**



Work Orders : 335980,  
Lab Batch #: 763311

Sample: 335980-004 / SMP

Project ID: SRS: 2004-00061  
Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 16:34

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.6	100	79	70-135	
o-Terphenyl	36.2	50.0	72	70-135	

Lab Batch #: 763311

Sample: 335980-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 16:59

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.3	100	78	70-135	
o-Terphenyl	36.0	50.0	72	70-135	

Lab Batch #: 763311

Sample: 335976-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 17:25

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.1	100	85	70-135	
o-Terphenyl	35.1	50.0	70	70-135	

Lab Batch #: 763311

Sample: 335976-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 17:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.6	100	79	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.





# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335980

Project ID:

SRS: 2004-00061

Lab Batch #: 763127

Sample: 763127-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.12	91	90-110	

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

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

L - Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335980

Project ID: SRS: 2004-00061

Analyst: ASA

Date Prepared: 06/20/2009

Date Analyzed: 06/21/2009

Lab Batch ID: 763218

Sample: 532286-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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	0.0949	95	0.1	0.0973	97	2	70-130	35	
Toluene	ND	0.1000	0.0914	91	0.1	0.0940	94	3	70-130	35	
Ethylbenzene	ND	0.1000	0.0950	95	0.1	0.0988	99	4	71-129	35	
m,p-Xylenes	ND	0.2000	0.1916	96	0.2	0.1988	99	4	70-135	35	
o-Xylene	ND	0.1000	0.0913	91	0.1	0.0943	94	3	71-133	35	

Analyst: BHW

Date Prepared: 06/22/2009

Date Analyzed: 06/23/2009

Lab Batch ID: 763311

Sample: 532405-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	ND	1000	720	72	1000	709	71	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	798	80	1000	772	77	3	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335980  
Lab Batch #: 763127  
Date Analyzed: 06/22/2009  
QC- Sample ID: 335977-002 S  
Reporting Units: mg/kg

Date Prepared: 06/22/2009  
Batch #: 1  
Matrix: Soil  
Project ID: SRS: 2004-00061  
Analyst: LATCOR

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	ND	110	108	98	80-120	

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

Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335980

Project ID: SRS: 2004-00061

Lab Batch ID: 763311

QC- Sample ID: 335976-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/23/2009

Date Prepared: 06/22/2009 Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
	C6-C12 Gasoline Range Hydrocarbons	ND	502	413	82	502	404	80	2	70-135	35
C12-C28 Diesel Range Hydrocarbons	ND	502	528	105	502	454	90	1.5	70-135	35	

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

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

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



# Sample Duplicate Recovery



**Project Name: Lea Station Land Farm**

**Work Order #: 335980**

**Lab Batch #: 763127**

**Project ID: SRS: 2004-00061**

**Date Analyzed: 06/22/2009**

**Date Prepared: 06/22/2009**

**Analyst: LATCOR**

**QC- Sample ID: 335977-002 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

**SAMPLE / SAMPLE DUPLICATE RECOVERY**

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

**Lab Batch #: 763218**

**Date Analyzed: 06/21/2009**

**Date Prepared: 06/20/2009**

**Analyst: ASA**

**QC- Sample ID: 335980-005 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

**SAMPLE / SAMPLE DUPLICATE RECOVERY**

BTEX by EPA 8021B	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Benzene	ND	ND	NC	35	
Toluene	ND	ND	NC	35	
Ethylbenzene	ND	ND	NC	35	
m,p-Xylenes	ND	ND	NC	35	
o-Xylene	ND	ND	NC	35	

**Lab Batch #: 763007**

**Date Analyzed: 06/22/2009**

**Date Prepared: 06/22/2009**

**Analyst: BEV**

**QC- Sample ID: 335979-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

**SAMPLE / SAMPLE DUPLICATE RECOVERY**

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.83	3.63	25	20	F

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



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

Client: Plains / Basin  
 Date/ Time: 06-19-09 0840  
 Lab ID #: 335980  
 Initials: JMF

**Sample Receipt Checklist**

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

**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 335981

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**SRS: 2004-00061**

**01-JUL-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



01-JUL-09

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

Reference: XENCO Report No: **335981**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335981. 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. 335981 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 335981**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell G VZ G 1 (3'-4')	S	Jun-18-09 12:30	3 - 4 ft	335981-001
Cell G VZ G 2 (3'-4')	S	Jun-18-09 12:35	3 - 4 ft	335981-002
Cell G VZ G 3 (3'-4')	S	Jun-18-09 12:40	3 - 4 ft	335981-003
Cell G VZ G 4 (3'-4')	S	Jun-18-09 12:45	3 - 4 ft	335981-004
Cell G VZ G 5 (3'-4')	S	Jun-18-09 12:50	3 - 4 ft	335981-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: SRS: 2004-00061*  
*Work Order Number: 335981*

*Report Date: 01-JUL-09*  
*Date Received: 06/19/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-763007 Percent Moisture*  
*AD2216A*

*Batch 763007, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity.*

*Samples affected are: 335981-002, -005, -001, -004, -003.*

*Batch: LBA-763127 Inorganic Anions by EPA 300*  
*None*

*Batch: LBA-763129 Inorganic Anions by EPA 300*  
*None*

*Batch: LBA-763218 BTEX-MTBE EPA 8021B*  
*SW8021BM*

*Batch 763218, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 532286-1-BLK, 335980-005 D, 335981-004, 335981-005, 335981-002, 335981-001, 335981-003.*

*Batch: LBA-763233 TPH by SW8015 Mod*  
*None*



# Certificate of Analysis Summary 335981

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



Project Id: SRS: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Fri Jun-19-09 08:40 am  
 Report Date: 01-JUL-09  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	335981-001	335981-002	335981-003	335981-004	335981-005
Anions by EPA 300	Extracted:	Cell G VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-18-09 12:30	Jun-22-09 20:46	Jun-22-09 20:46	Jun-23-09 02:04	Jun-23-09 02:04	Jun-23-09 02:04
	Analyzed:	mg/kg	RL	ND	5.16	153	10.2	88.4	10.3	75.6
	Units/RL:									
BTEX by EPA 8021B	Extracted:	Cell G VZ G 2 (3'-4')	3-4 ft	SOIL	Jun-18-09 12:35	Jun-20-09 17:30				
	Analyzed:	mg/kg	RL	ND	0.0010	ND	0.0010	ND	0.0010	ND
	Units/RL:									
Percent Moisture	Extracted:	Cell G VZ G 3 (3'-4')	3-4 ft	SOIL	Jun-18-09 12:40	Jun-22-09 10:52				
	Analyzed:	%	RL	1.92	1.00	3.18	1.00	2.14	1.00	3.08
	Units/RL:									
TPH By SW8015 Mod	Extracted:	Cell G VZ G 4 (3'-4')	3-4 ft	SOIL	Jun-18-09 12:45	Jun-22-09 10:17				
	Analyzed:	mg/kg	RL	ND	15.3	ND	15.3	ND	15.3	ND
	Units/RL:									
C6-C12 Gasoline Range Hydrocarbons	Extracted:	Cell G VZ G 5 (3'-4')	3-4 ft	SOIL	Jun-18-09 12:50	Jun-22-09 20:32				
	Analyzed:	mg/kg	RL	ND	15.3	ND	15.3	ND	15.3	ND
	Units/RL:									
C12-C28 Diesel Range Hydrocarbons	Extracted:									
	Analyzed:									
	Units/RL:									
C28-C35 Oil Range Hydrocarbons	Extracted:									
	Analyzed:									
	Units/RL:									
Total TPH	Extracted:									
	Analyzed:									
	Units/RL:									

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  
 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.
- 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**

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335981,  
Lab Batch #: 763218

Sample: 532286-1-BKS / BKS

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/09 00:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 763218

Sample: 532286-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/09 00:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 763218

Sample: 532286-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/09 01:04

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0199	0.0300	66	80-120	*

Lab Batch #: 763218

Sample: 335981-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/09 07:11

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0208	0.0300	69	80-120	*

Lab Batch #: 763218

Sample: 335981-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/09 07:33

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0162	0.0300	54	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: Lea Station Land Farm

Work Orders : 335981,  
Lab Batch #: 763218

Sample: 335981-003 / SMP

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/21/09 07:55		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0264	0.0300	88	80-120	
4-Bromofluorobenzene		0.0226	0.0300	75	80-120	*

Lab Batch #: 763218 Sample: 335981-004 / SMP  
Units: mg/kg Date Analyzed: 06/21/09 08:16

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/21/09 08:16		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0261	0.0300	87	80-120	
4-Bromofluorobenzene		0.0225	0.0300	75	80-120	*

Lab Batch #: 763218 Sample: 335981-005 / SMP  
Units: mg/kg Date Analyzed: 06/21/09 08:37

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/21/09 08:37		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0265	0.0300	88	80-120	
4-Bromofluorobenzene		0.0227	0.0300	76	80-120	*

Lab Batch #: 763218 Sample: 335980-005 D / MD  
Units: mg/kg Date Analyzed: 06/21/09 09:20

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/21/09 09:20		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0264	0.0300	88	80-120	
4-Bromofluorobenzene		0.0229	0.0300	76	80-120	*

Lab Batch #: 763233 Sample: 532361-1-BKS / BKS  
Units: mg/kg Date Analyzed: 06/22/09 15:53

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 06/22/09 15:53		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		78.5	100	79	70-135	
o-Terphenyl		35.5	50.0	71	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335981,  
Lab Batch #: 763233

Sample: 532361-1-BSD / BSD

Project ID: SRS: 2004-00061  
Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/22/09 16:18

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.2	100	76	70-135	
o-Terphenyl	36.3	50.0	73	70-135	

Lab Batch #: 763233

Sample: 532361-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/22/09 16:43

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.1	100	81	70-135	
o-Terphenyl	36.5	50.0	73	70-135	

Lab Batch #: 763233

Sample: 335981-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/22/09 18:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.9	100	83	70-135	
o-Terphenyl	41.1	50.0	82	70-135	

Lab Batch #: 763233

Sample: 335981-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/22/09 19:16

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.3	100	85	70-135	
o-Terphenyl	41.7	50.0	83	70-135	

Lab Batch #: 763233

Sample: 335981-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/22/09 19:42

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	39.7	50.0	79	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335981,  
Lab Batch #: 763233

Sample: 335981-004 / SMP

Project ID: SRS: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/22/09 20:07		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		82.3	100	82	70-135	
o-Terphenyl		40.7	50.0	81	70-135	

Lab Batch #: 763233 Sample: 335981-005 / SMP  
Units: mg/kg Date Analyzed: 06/22/09 20:32

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/22/09 20:32		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		85.4	100	85	70-135	
o-Terphenyl		42.0	50.0	84	70-135	

Lab Batch #: 763233 Sample: 335979-001 S / MS  
Units: mg/kg Date Analyzed: 06/23/09 01:53

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/23/09 01:53		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		97.5	100	98	70-135	
o-Terphenyl		39.0	50.0	78	70-135	

Lab Batch #: 763233 Sample: 335979-001 SD / MSD  
Units: mg/kg Date Analyzed: 06/23/09 02:17

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/23/09 02:17		SURROGATE RECOVERY STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		97.9	100	98	70-135	
o-Terphenyl		39.2	50.0	78	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335981

Project ID:

SRS: 2004-00061

Lab Batch #: 763127

Sample: 763127-1-BKS

Matrix: Solid

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.12	91	90-110	

Lab Batch #: 763129

Sample: 763129-1-BKS

Matrix: Solid

Date Analyzed: 06/23/2009

Date Prepared: 06/23/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	8.91	89	80-120	

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

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

- Below Reporting Limit



Project Name: Lea Station Land Farm

Work Order #: 335981

Analyst: ASA

Lab Batch ID: 763218

Sample: 532286-1-BKS

Batch #: 1

Matrix: Solid

Project ID: SRS: 2004-00061

Date Analyzed: 06/21/2009

Units: mg/kg

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	0.0949	95	0.1	0.0973	97	2	70-130	35	
Toluene	ND	0.1000	0.0914	91	0.1	0.0940	94	3	70-130	35	
Ethylbenzene	ND	0.1000	0.0950	95	0.1	0.0988	99	4	71-129	35	
m,p-Xylenes	ND	0.2000	0.1916	96	0.2	0.1988	99	4	70-135	35	
o-Xylene	ND	0.1000	0.0913	91	0.1	0.0943	94	3	71-133	35	

Analyst: BHW

Date Prepared: 06/22/2009

Date Analyzed: 06/22/2009

Lab Batch ID: 763233

Sample: 532361-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	ND	1000	713	71	1000	711	71	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	754	75	1000	738	74	2	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335981

Lab Batch #: 763127

Date Analyzed: 06/22/2009

QC- Sample ID: 335977-002 S

Reporting Units: mg/kg

Project ID: SRS: 2004-00061

Analyst: LATCOR

Date Prepared: 06/22/2009

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	ND	110	108	98	80-120	

Lab Batch #: 763129

Date Analyzed: 06/23/2009

QC- Sample ID: 335981-003 S

Reporting Units: mg/kg

Date Prepared: 06/23/2009

Analyst: LATCOR

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	153	204	337	90	80-120	

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

Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335981

Project ID: SRS: 2004-00061

Lab Batch ID: 763233

QC- Sample ID: 335979-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/23/2009

Date Prepared: 06/22/2009 Analyst: BHW

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
	C6-C12 Gasoline Range Hydrocarbons	ND	1030	863	84	1030	865	84	0	70-135	35
C12-C28 Diesel Range Hydrocarbons	ND	1030	1030	100	1030	1040	101	1	70-135	35	

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335981

Lab Batch #: 763127

Project ID: SRS: 2004-00061

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: LATCOR

QC- Sample ID: 335977-002 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300 Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	ND	ND	NC	20	

Lab Batch #: 763129

Date Prepared: 06/23/2009

Analyst: LATCOR

Date Analyzed: 06/23/2009

QC- Sample ID: 335981-003 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300 Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	153	149	3	20	

Lab Batch #: 763218

Date Prepared: 06/20/2009

Analyst: ASA

Date Analyzed: 06/21/2009

QC- Sample ID: 335980-005 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

BTEX by EPA 8021B Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	ND	ND	NC	35	
Toluene	ND	ND	NC	35	
Ethylbenzene	ND	ND	NC	35	
m,p-Xylenes	ND	ND	NC	35	
o-Xylene	ND	ND	NC	35	
a,a,a-Trifluorotoluene	0.032	0.032	0	35	

Lab Batch #: 763007

Date Prepared: 06/22/2009

Analyst: BEV

Date Analyzed: 06/22/2009

QC- Sample ID: 335979-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.83	3.63	25	20	F

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

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

BRL - Below Reporting Limit



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

Client: Plains / Basin  
 Date/ Time: 06 19-09 0840  
 Lab ID #: 335981  
 Initials: JMF

Sample Receipt Checklist

	Yes	No	Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.6 °C
#2 Shipping container in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<del>Not Present</del>
#4 Custody Seals intact on sample bottles/ container? / label	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present
#5 Chain of Custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID written on Cont / Lid
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#13 Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#14 Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<del>NOT APPLICABLE</del>
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 335984

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-00061**

**24-JUN-09**



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

Texas certification numbers:

Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX  
Corpus Christi, TX T104704370-08-TX - Dallas, TX T104704295-08-TX

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Miramar, FL E86349  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:

Norcross(Atlanta), GA 98015

North Carolina certification numbers:

Norcross(Atlanta), GA 483

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



24-JUN-09

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

Reference: XENCO Report No: **335984**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 335984. 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. 335984 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.  
Certified and approved by numerous States and Agencies.  
A Small Business and Minority Status Company that delivers SERVICE and QUALITY  
Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America*



**Sample Cross Reference 335984**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm



<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell H VZ G 1 (3'-4')	S	Jun-18-09 16:00	3 - 4 ft	335984-001
Cell H VZ G 2 (3'-4')	S	Jun-18-09 16:20	3 - 4 ft	335984-002





## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-00061*

*Work Order Number: 335984*

*Report Date: 24-JUN-09*

*Date Received: 06/19/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-763013 Percent Moisture

None

Batch: LBA-763129 Inorganic Anions by EPA 300

None

Batch: LBA-763218 BTEX-MTBE EPA 8021B

SW8021BM

Batch 763218, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 532286-1-BLK,335980-005 D,335984-001.

Batch: LBA-763233 TPH by SW8015 Mod

None

Batch: LBA-763367 BTEX-MTBE EPA 8021B

SW8021BM

Batch 763367, 4-Bromofluorobenzene recovered below QC limits Data not confirmed by re-analysis. Samples affected are: 532430-1-BLK,335984-002.

SW8021BM

Batch 763367, Benzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Ethylbenzene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 335984-002.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits



# Certificate of Analysis Summary 335984

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



Project Name: Lea Station Land Farm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Jun-19-09 08:40 am

Report Date: 24-JUN-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	335984-001	335984-002
<b>Anions by EPA 300</b>		Cell H VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-18-09 16:00	Jun-23-09 02:04	Cell H VZ G 2 (3'-4') 3-4 ft SOIL Jun-18-09 16:20
Chloride	Extracted:	mg/kg	RL	ND	5.04	mg/kg	RL
	Analyzed:	Units/RL:					
<b>BTEX by EPA 8021B</b>		Cell H VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-20-09 17:30	Jun-23-09 10:00	
Benzene	Extracted:	mg/kg	RL	ND	0.0010	mg/kg	RL
Toluene	Analyzed:	Units/RL:					
Ethylbenzene	Extracted:	mg/kg	RL	ND	0.0020	mg/kg	RL
m,p-Xylenes	Analyzed:	Units/RL:					
o-Xylene	Extracted:	mg/kg	RL	ND	0.0010	mg/kg	RL
Total Xylenes	Analyzed:	Units/RL:					
Total BTEX	Extracted:	mg/kg	RL	ND	0.0010	mg/kg	RL
	Analyzed:	Units/RL:					
<b>Percent Moisture</b>		Cell H VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-22-09 11:00	Jun-22-09 11:00	
	Extracted:	%	RL	ND	1.00	%	RL
	Analyzed:	Units/RL:					
<b>TPH By SW8015 Mod</b>		Cell H VZ G 1 (3'-4')	3-4 ft	SOIL	Jun-22-09 10:17	Jun-22-09 10:17	
C6-C12 Gasoline Range Hydrocarbons	Extracted:	mg/kg	RL	ND	15.1	mg/kg	RL
C12-C28 Diesel Range Hydrocarbons	Analyzed:	Units/RL:					
C28-C35 Oil Range Hydrocarbons	Extracted:	mg/kg	RL	ND	15.1	mg/kg	RL
Total TPH	Analyzed:	Units/RL:					

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  
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.
- 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**

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 335984,  
Lab Batch #: 763218

Project ID: 2004-00061

Sample: 532286-1-BKS / BKS

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/21/09 00:00	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0297	0.0300	99	80-120	
4-Bromofluorobenzene		0.0318	0.0300	106	80-120	

Lab Batch #: 763218

Sample: 532286-1-bsd / BSD

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/21/09 00:22	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0298	0.0300	99	80-120	
4-Bromofluorobenzene		0.0314	0.0300	105	80-120	

Lab Batch #: 763218

Sample: 532286-1-BLK / BLK

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/21/09 01:04	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0261	0.0300	87	80-120	
4-Bromofluorobenzene		0.0199	0.0300	66	80-120	*

Lab Batch #: 763218

Sample: 335984-001 / SMP

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/21/09 08:58	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0260	0.0300	87	80-120	
4-Bromofluorobenzene		0.0210	0.0300	70	80-120	*

Lab Batch #: 763218

Sample: 335980-005 D / MD

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 06/21/09 09:20	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0264	0.0300	88	80-120	
4-Bromofluorobenzene		0.0229	0.0300	76	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: Lea Station Land Farm

Work Orders : 335984,  
Lab Batch #: 763367

Project ID: 2004-00061

Sample: 532430-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 06/23/09 09:17		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0301	0.0300	100	80-120	
4-Bromofluorobenzene		0.0310	0.0300	103	80-120	

Lab Batch #: 763367

Sample: 532430-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 06/23/09 09:38		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0298	0.0300	99	80-120	
4-Bromofluorobenzene		0.0329	0.0300	110	80-120	

Lab Batch #: 763367

Sample: 532430-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 06/23/09 10:21		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0261	0.0300	87	80-120	
4-Bromofluorobenzene		0.0211	0.0300	70	80-120	*

Lab Batch #: 763367

Sample: 335984-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/24/09 02:32		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0255	0.0300	85	80-120	
4-Bromofluorobenzene		0.0209	0.0300	70	80-120	*

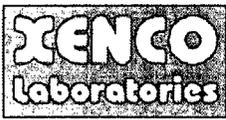
Lab Batch #: 763367

Sample: 335977-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 06/24/09 06:49		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0292	0.0300	97	80-120	
4-Bromofluorobenzene		0.0321	0.0300	107	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: Lea Station Land Farm

Work Orders : 335984,  
Lab Batch #: 763367

Project ID: 2004-00061

Sample: 335977-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/09 07:11

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0334	0.0300	111	80-120	

Lab Batch #: 763233

Sample: 532361-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/09 15:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	78.5	100	79	70-135	
o-Terphenyl	35.5	50.0	71	70-135	

Lab Batch #: 763233

Sample: 532361-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/09 16:18

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	76.2	100	76	70-135	
o-Terphenyl	36.3	50.0	73	70-135	

Lab Batch #: 763233

Sample: 532361-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/09 16:43

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.1	100	81	70-135	
o-Terphenyl	36.5	50.0	73	70-135	

Lab Batch #: 763233

Sample: 335984-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/09 23:26

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.6	100	85	70-135	
o-Terphenyl	40.9	50.0	82	70-135	

\* 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: Lea Station Land Farm

Work Orders : 335984,  
Lab Batch #: 763233

Sample: 335984-002 / SMP

Project ID: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/22/09 23:50

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.3	100	84	70-135	
o-Terphenyl	41.8	50.0	84	70-135	

Lab Batch #: 763233

Sample: 335979-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 01:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.5	100	98	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

Lab Batch #: 763233

Sample: 335979-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/09 02:17

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	100	98	70-135	
o-Terphenyl	39.2	50.0	78	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 335984

Project ID:

2004-00061

Lab Batch #: 763129

Sample: 763129-1-BKS

Matrix: Solid

Date Analyzed: 06/23/2009

Date Prepared: 06/23/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	8.91	89	80-120	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



## Project Name: Lea Station Land Farm

Work Order #: 335984

Analyst: ASA

Lab Batch ID: 763218

Sample: 532286-1-BKS

Batch #: 1

Matrix: Solid

Project ID: 2004-00061

Date Analyzed: 06/21/2009

Units: mg/kg

### 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	0.0949	95	0.1	0.0973	97	2	70-130	35	
Toluene	ND	0.1000	0.0914	91	0.1	0.0940	94	3	70-130	35	
Ethylbenzene	ND	0.1000	0.0950	95	0.1	0.0988	99	4	71-129	35	
m,p-Xylenes	ND	0.2000	0.1916	96	0.2	0.1988	99	4	70-135	35	
o-Xylene	ND	0.1000	0.0913	91	0.1	0.0943	94	3	71-133	35	

Analyst: ASA

Lab Batch ID: 763367

Sample: 532430-1-BKS

Batch #: 1

Date Prepared: 06/23/2009

Date Analyzed: 06/23/2009

Matrix: Solid

Units: mg/kg

### 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	0.1069	107	0.1	0.1081	108	1	70-130	35	
Toluene	ND	0.1000	0.1033	103	0.1	0.1051	105	2	70-130	35	
Ethylbenzene	ND	0.1000	0.1087	109	0.1	0.1118	112	3	71-129	35	
m,p-Xylenes	ND	0.2000	0.2185	109	0.2	0.2246	112	3	70-135	35	
o-Xylene	ND	0.1000	0.1041	104	0.1	0.1070	107	3	71-133	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335984

Analyst: BHW

Lab Batch ID: 763233

Sample: 532361-1-BKS

Batch #: 1

Date Prepared: 06/22/2009

Project ID: 2004-00061

Date Analyzed: 06/22/2009

Matrix: Solid

Units: mg/kg

## 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
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	ND	1000	713	71	1000	711	71	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	754	75	1000	738	74	2	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335984  
Lab Batch #: 763129  
Date Analyzed: 06/23/2009  
QC- Sample ID: 335981-003 S  
Reporting Units: mg/kg

Date Prepared: 06/23/2009  
Batch #: 1  
Matrix: Soil  
Project ID: 2004-00061  
Analyst: LATCOR

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	153	204	337	90	80-120	

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

RL - Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 335984

Lab Batch ID: 763367

Date Analyzed: 06/24/2009

Reporting Units: mg/kg

Project ID: 2004-00061

QC- Sample ID: 335977-003 S

Date Prepared: 06/23/2009

Batch #: 1 Matrix: Soil

Analyst: ASA

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag	
	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		
BTEX by EPA 8021B												
Benzene	ND	0.1009	0.0578	57	0.1007	0.0771	77	29	70-130	35	X	
Toluene	ND	0.1009	0.0576	57	0.1007	0.0742	74	25	70-130	35	X	
Ethylbenzene	ND	0.1009	0.0411	41	0.1007	0.0554	55	30	71-129	35	X	
m,p-Xylenes	ND	0.2018	0.1281	63	0.2014	0.1588	79	21	70-135	35	X	
o-Xylene	ND	0.1009	0.0618	61	0.1007	0.0744	74	19	71-133	35	X	

Lab Batch ID: 763233

Date Analyzed: 06/23/2009

Reporting Units: mg/kg

QC- Sample ID: 335979-001 S

Date Prepared: 06/22/2009

Batch #: 1 Matrix: Soil

Analyst: BHW

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag	
	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		
TPH By SW8015 Mod												
C6-C12 Gasoline Range Hydrocarbons	ND	1030	863	84	1030	865	84	0	70-135	35		
C12-C28 Diesel Range Hydrocarbons	ND	1030	1030	100	1030	1040	101	1	70-135	35		

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, N/R = Not Requested, I = Interference, NA = Not Applicable  
N = See Narrative, EQ = Estimated Quantitation Limit

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 335984

Lab Batch #: 763129

Project ID: 2004-00061

Date Analyzed: 06/23/2009

Date Prepared: 06/23/2009

Analyst: LATCOR

QC- Sample ID: 335981-003 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	153	149	3	20	

Lab Batch #: 763218

Date Analyzed: 06/21/2009

Date Prepared: 06/20/2009

Analyst: ASA

QC- Sample ID: 335980-005 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

BTEX by EPA 8021B	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Benzene	ND	ND	NC	35	
Toluene	ND	ND	NC	35	
Ethylbenzene	ND	ND	NC	35	
m,p-Xylenes	ND	ND	NC	35	
o-Xylene	ND	ND	NC	35	
a,a,a-Trifluorotoluene	0.032	0.032	0	35	

Lab Batch #: 763013

Date Analyzed: 06/22/2009

Date Prepared: 06/22/2009

Analyst: BEV

QC- Sample ID: 335983-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	ND	ND	NC	20	

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

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

BRL - Below Reporting Limit



**Environmental Lab of Texas**

Variance/ Corrective Action Report- Sample Log-in

Client: Plains / Basin  
 Date/ Time: 06-19-09 0840  
 Lab ID #: 335984  
 Initials: JMF

**Sample Receipt Checklist**

	Yes	No	Temp °C	Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.1	
#2 Shipping container in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present	
#4 Custody Seals intact on sample bottles/ container? / labeled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present	
#5 Chain of Custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID written on Cont./ Lid	
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#13 Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#14 Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below	
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable	
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 349964

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-0061**

**29-OCT-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



29-OCT-09

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

Reference: XENCO Report No: **349964**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 349964. 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. 349964 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 349964**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell A TZ G1	S	Oct-27-09 07:30		349964-001
Cell A TZ G2	S	Oct-27-09 07:40		349964-002
Cell A TZ G3	S	Oct-27-09 07:50		349964-003
Cell A TZ G4	S	Oct-27-09 08:00		349964-004
Cell A TZ G5	S	Oct-27-09 08:05		349964-005

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-0061*

*Report Date: 29-OCT-09*

*Work Order Number: 349964*

*Date Received: 10/27/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779308 Percent Moisture

None

Batch: LBA-779341 Determination of Inorganic Anions In Water By Ion

None

Batch: LBA-779359 TPH by SW8015 Mod

None



# Certificate of Analysis Summary 349964

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



Project Id: 2004-0061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Tue Oct-27-09 04:50 pm

Report Date: 29-OCT-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	349964-001	349964-002	349964-003	349964-004	349964-005
	Depth:	Cell A TZ G1	Cell A TZ G2	Cell A TZ G3	Cell A TZ G4	Cell A TZ G5	Cell A TZ G5
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-27-09 07:30	Oct-27-09 07:40	Oct-27-09 07:50	Oct-27-09 08:00	Oct-27-09 08:05	Oct-27-09 08:05
Determination of Inorganic Anions In Water By Ion	Extracted:	Oct-28-09 12:34					
	Analyzed:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Units/RL:	51.2 4.34	29.7 4.54	35.9 4.27	22.1 4.44	16.2 4.34	16.2 4.34
Chloride	Extracted:						
	Analyzed:	Oct-28-09 17:00					
	Units/RL:	%	%	%	%	%	%
Percent Moisture	Extracted:	3.17 1.00	7.52 1.00	1.59 1.00	5.46 1.00	3.12 1.00	3.12 1.00
	Analyzed:	Oct-28-09 10:45					
TPH by SW8015 Mod	Extracted:	Oct-28-09 22:26	Oct-28-09 22:52	Oct-28-09 23:17	Oct-29-09 00:07	Oct-29-09 00:31	Oct-29-09 00:31
	Analyzed:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Units/RL:	BRL 15.5	BRL 16.2	BRL 15.2	BRL 15.8	BRL 15.4	BRL 15.4
C6-C12 Gasoline Range Hydrocarbons		891 15.5	518 16.2	1420 15.2	434 15.8	240 15.4	240 15.4
C12-C28 Diesel Range Hydrocarbons		54.5 15.5	28.0 16.2	70.1 15.2	30.9 15.8	24.2 15.4	24.2 15.4
C28-C35 Oil Range Hydrocarbons		946 15.5	546 16.2	1490 15.2	465 15.8	264 15.4	264 15.4
Total TPH							

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.

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.  
Certified and approved by numerous States and Agencies.*

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

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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 349964,  
Lab Batch #: 779359

Project ID: 2004-0061

Sample: 541825-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/28/09 18:14

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	97.1	105	70-135	
o-Terphenyl	43.6	48.5	90	70-135	

Lab Batch #: 779359

Sample: 541825-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/28/09 18:38

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	45.6	50.0	91	70-135	

Lab Batch #: 779359

Sample: 541825-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/28/09 19:03

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.6	99.8	91	70-135	
o-Terphenyl	47.9	49.9	96	70-135	

Lab Batch #: 779359

Sample: 349964-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/28/09 22:26

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	176	200	88	70-135	
o-Terphenyl	93.1	100	93	70-135	

Lab Batch #: 779359

Sample: 349964-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/28/09 22:52

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.5	100	96	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

\* 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: Lea Station Land Farm

Work Orders : 349964,

Project ID: 2004-0061

Lab Batch #: 779359

Sample: 349964-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/28/09 23:17

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	89.0	100	89	70-135	
o-Terphenyl	46.1	50.0	92	70-135	

Lab Batch #: 779359

Sample: 349964-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 00:07

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	88.4	99.5	89	70-135	
o-Terphenyl	46.9	49.8	94	70-135	

Lab Batch #: 779359

Sample: 349964-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 00:31

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	173	199	87	70-135	
o-Terphenyl	91.6	99.5	92	70-135	

Lab Batch #: 779359

Sample: 349959-001 S / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 03:34

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	99.2	99.6	100	70-135	
o-Terphenyl	42.9	49.8	86	70-135	

Lab Batch #: 779359

Sample: 349959-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 03:58

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	103	100	103	70-135	
o-Terphenyl	42.7	50.0	85	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 349964

Project ID:

2004-0061

Lab Batch #: 779341

Sample: 779341-1-BKS

Matrix: Solid

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK / BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	<0.420	10.0	10.2	102	75-125	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349964

Analyst: BEV

Lab Batch ID: 779359

Sample: 541825-1-BKS

Date Prepared: 10/28/2009

Batch #: 1

Project ID: 2004-0061

Date Analyzed: 10/28/2009

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Spike Added [E]	Blank Spike %R [D]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	971	998	1000	103	1030	103	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	971	977	1000	101	1010	101	3	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349964

Lab Batch #: 779341

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Project ID: 2004-0061

Analyst: LATCOR

QC- Sample ID: 349964-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	51.2	103	152	98	75-125	

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

- Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349964

Project ID: 2004-0061

Lab Batch ID: 779359

QC- Sample ID: 349959-001 S

Batch #: 1

Matrix: Soil

Date Analyzed: 10/29/2009

Date Prepared: 10/28/2009

Analyst: BEV

Reporting Units: mg/kg

TPH by SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
C6-C12 Gasoline Range Hydrocarbons	<15.2	1010	905	90	1010	953	94	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	27.7	1010	894	86	1010	954	92	6	70-135	35	

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

Matrix Spikes 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, EQ = Estimated Quantitation Limit



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 349964

Lab Batch #: 779341

Project ID: 2004-0061

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

QC- Sample ID: 349964-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

Determination of Inorganic Anions In Water By Ion Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	51.2	44.6	14	20	

Lab Batch #: 779308

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: WRU

QC- Sample ID: 349959-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	1.17	<1.00	NC	20	

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



# Environmental Lab of Texas

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

Client: Basin Env. / Plains  
 Date/ Time: 10.27.09 16:50  
 Lab ID #: 3199104  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	3.0 °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?	(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 349965

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-0061**

**29-OCT-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



29-OCT-09

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

Reference: XENCO Report No: **349965**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 349965. 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. 349965 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 349965**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell B TZ G1	S	Oct-27-09 08:15		349965-001
Cell B TZ G2	S	Oct-27-09 08:25		349965-002
Cell B TZ G3	S	Oct-27-09 08:35		349965-003
Cell B TZ G4	S	Oct-27-09 08:45		349965-004



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-0061*

*Work Order Number: 349965*

*Report Date: 29-OCT-09*

*Date Received: 10/27/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-779308 Percent Moisture*

None

*Batch: LBA-779341 Inorganic Anions by EPA 300*

None

*Batch: LBA-779359 TPH by SW8015 Mod*

None



# Certificate of Analysis Summary 349965

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



Project Id: 2004-0061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Oct-27-09 04:50 pm

Report Date: 29-OCT-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	349965-001	349965-002	349965-003	349965-004
	Field Id:	Cell B TZ G1	Cell B TZ G2	Cell B TZ G3	Cell B TZ G4
	Depth:				
	Matrix:	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-27-09 08:15	Oct-27-09 08:25	Oct-27-09 08:35	Oct-27-09 08:45
<b>Determination of Inorganic Anions In Water By Ion</b>	Extracted:				
	Analyzed:	Oct-28-09 12:34	Oct-28-09 12:34	Oct-28-09 12:34	Oct-28-09 12:34
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		11.7 4.42	22.0 4.37	27.6 4.35	22.2 4.34
<b>Percent Moisture</b>	Extracted:				
	Analyzed:	Oct-28-09 17:00	Oct-28-09 17:00	Oct-28-09 17:00	Oct-28-09 17:00
	Units/RL:	% RL	% RL	% RL	% RL
Percent Moisture		5.06 1.00	3.86 1.00	3.36 1.00	3.25 1.00
<b>TPH by SW8015 Mod</b>	Extracted:				
	Analyzed:	Oct-28-09 10:45	Oct-28-09 10:45	Oct-28-09 10:45	Oct-28-09 10:45
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		BRL 15.7	BRL 15.5	BRL 15.4	BRL 15.4
C12-C28 Diesel Range Hydrocarbons		832 15.7	700 15.5	363 15.4	358 15.4
C28-C35 Oil Range Hydrocarbons		45.8 15.7	40.6 15.5	28.9 15.4	30.7 15.4
Total TPH		878 15.7	741 15.5	392 15.4	389 15.4

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.

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

*Certified and approved by numerous States and Agencies.*

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

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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 349965,  
Lab Batch #: 779359

Project ID: 2004-0061

Sample: 541825-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/28/09 18:14

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	102	97.1	105	70-135	
o-Terphenyl	43.6	48.5	90	70-135	

Lab Batch #: 779359

Sample: 541825-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/28/09 18:38

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	104	100	104	70-135	
o-Terphenyl	45.6	50.0	91	70-135	

Lab Batch #: 779359

Sample: 541825-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/28/09 19:03

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	90.6	99.8	91	70-135	
o-Terphenyl	47.9	49.9	96	70-135	

Lab Batch #: 779359

Sample: 349965-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 00:57

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	73.6	99.5	74	70-135	
o-Terphenyl	38.5	49.8	77	70-135	

Lab Batch #: 779359

Sample: 349965-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 01:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	86.8	99.6	87	70-135	
o-Terphenyl	45.4	49.8	91	70-135	

\* 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: Lea Station Land Farm

Work Orders : 349965,  
Lab Batch #: 779359

Project ID: 2004-0061

Sample: 349965-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 01:49

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	99.5	91	70-135	
o-Terphenyl	47.8	49.8	96	70-135	

Lab Batch #: 779359

Sample: 349965-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 02:16

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.7	99.5	95	70-135	
o-Terphenyl	50.1	49.8	101	70-135	

Lab Batch #: 779359

Sample: 349959-001 S / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 03:34

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	99.6	100	70-135	
o-Terphenyl	42.9	49.8	86	70-135	

Lab Batch #: 779359

Sample: 349959-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 03:58

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	42.7	50.0	85	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 349965

Project ID:

2004-0061

Lab Batch #: 779341

Sample: 779341-1-BKS

Matrix: Solid

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.420	10.0	10.2	102	75-125	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349965

Project ID: 2004-0061

Analyst: BEV

Date Prepared: 10/28/2009

Date Analyzed: 10/28/2009

Lab Batch ID: 779359

Sample: 541825-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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

TPH by SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons	<15.0	971	998	103	1000	1030	103	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	971	977	101	1000	1010	101	3	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349965

Lab Batch #: 779341

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Project ID: 2004-0061

Analyst: LATCOR

QC- Sample ID: 349964-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	51.2	103	152	98	75-125	

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

Below Reporting Limit



# Form 3 - MMSD Recoveries

Project Name: Lea Station Land Farm

Work Order #: 349965

Project ID: 2004-0061

Lab Batch ID: 779359

QC- Sample ID: 349959-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/29/2009

Date Prepared: 10/28/2009

Analyst: BEV

Reporting Units: mg/kg

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
C6-C12 Gasoline Range Hydrocarbons	<15.2	1010	905	90	1010	953	94	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	27.7	1010	894	86	1010	954	92	6	70-135	35	

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, EQ = Estimated Quantitation Limit



# Sample Duplicate Recovery



**Project Name:** Lea Station Land Farm

**Work Order #:** 349965

**Lab Batch #:** 779341

**Project ID:** 2004-0061

**Date Analyzed:** 10/28/2009

**Date Prepared:** 10/28/2009

**Analyst:** LATCOR

**QC- Sample ID:** 349964-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	51.2	44.6	14	20	

**Lab Batch #:** 779308

**Date Analyzed:** 10/28/2009

**Date Prepared:** 10/28/2009

**Analyst:** WRU

**QC- Sample ID:** 349959-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	1.17	<1.00	NC	20	

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



# Environmental Lab of Texas

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

Client: Basin Env. / Plains  
 Date/ Time: 10.27.09 16:50  
 Lab ID #: 349965  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	3.10 °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?	(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 349969

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-0061**

**30-OCT-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



30-OCT-09

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

Reference: XENCO Report No: **349969**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 349969. 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. 349969 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 349969**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell D TZ G1	S	Oct-27-09 08:55		349969-001
Cell D TZ G2	S	Oct-27-09 09:05		349969-002
Cell D TZ G3	S	Oct-27-09 09:15		349969-003
Cell D TZ G4	S	Oct-27-09 09:25		349969-004
Cell D TZ G5	S	Oct-27-09 09:35		349969-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-0061*

*Report Date: 30-OCT-09*

*Work Order Number: 349969*

*Date Received: 10/27/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779308 Percent Moisture

None

Batch: LBA-779311 Percent Moisture

None

Batch: LBA-779341 Inorganic Anions by EPA 300

None

Batch: LBA-779359 TPH by SW8015 Mod

None

Batch: LBA-779637 TPH by SW8015 Mod

SW8015MOD\_NM

Batch 779637, o-Terphenyl recovered below QC limits . Matrix interferences is suspected;

Sample data confirmed by re-analysis

Samples affected are: 349969-003 SD,349969-004. QC data not confirmed by reanalysis.

1-Chlorooctane recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 349969-004.

SW8015MOD\_NM

Batch 779637, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. C6-C12 Gasoline Range Hydrocarbons recovered below QC limits in the Matrix Spike Duplicate.

Samples affected are: 349969-003, -004, -005.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons, C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits



# Certificate of Analysis Summary 349969

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

### Project Name: Lea Station Land Farm



Project Id: 2004-0061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Tue Oct-27-09 04:50 pm  
 Report Date: 30-OCT-09  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	349969-001	349969-002	349969-003	349969-004	349969-005
<b>Determination of Inorganic Anions In Water By Ion</b>	Cell D TZ G1	Cell D TZ G2	Cell D TZ G3	Cell D TZ G4	Cell D TZ G5	SOIL	SOIL	SOIL	SOIL	SOIL
	Oct-27-09 08:55	Oct-27-09 09:05	Oct-27-09 09:15	Oct-27-09 09:25	Oct-27-09 09:35					
	Oct-28-09 12:34	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
Chloride	60.1	73.0	110	25.5	11.5	RL	RL	RL	RL	RL
	4.40	4.41	4.41	4.31	4.22					
<b>Percent Moisture</b>	Oct-28-09 17:00	%	%	%	%	%				
	4.57	4.76	4.77	2.66	1.00	RL	RL	RL	RL	RL
	1.00	1.00	1.00	1.00	1.00					
<b>TPH by SW8015 Mod</b>	Oct-28-09 10:45	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
	Oct-29-09 02:42	Oct-29-09 03:08	Oct-29-09 07:51	Oct-29-09 08:16	Oct-29-09 08:42	RL	RL	RL	RL	RL
	BRL	BRL	BRL	BRL	BRL					
C6-C12 Gasoline Range Hydrocarbons	15.7	15.7	15.8	15.4	15.1					
C12-C28 Diesel Range Hydrocarbons	516	1210	1340	1190	1320					
C28-C35 Oil Range Hydrocarbons	33.3	67.1	77.8	65.1	65.6					
Total TPH	549	1277	1418	1255	1386					

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.



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

*Certified and approved by numerous States and Agencies.*

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

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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: **Lea Station Land Farm**

Work Orders : 349969,  
Lab Batch #: 779359

Project ID: 2004-0061

Sample: 541825-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 10/28/09 18:14		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		102	97.1	105	70-135	
o-Terphenyl		43.6	48.5	90	70-135	

Units: mg/kg		Date Analyzed: 10/28/09 18:38		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		104	100	104	70-135	
o-Terphenyl		45.6	50.0	91	70-135	

Units: mg/kg		Date Analyzed: 10/28/09 19:03		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		90.6	99.8	91	70-135	
o-Terphenyl		47.9	49.9	96	70-135	

Units: mg/kg		Date Analyzed: 10/29/09 02:42		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		86.7	100	87	70-135	
o-Terphenyl		45.6	50.0	91	70-135	

Units: mg/kg		Date Analyzed: 10/29/09 03:08		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		86.6	99.5	87	70-135	
o-Terphenyl		45.5	49.8	91	70-135	

\* 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: Lea Station Land Farm

Work Orders : 349969,  
Lab Batch #: 779359

Project ID: 2004-0061

Sample: 349959-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/29/09 03:34		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		99.2	99.6	100	70-135	
o-Terphenyl		42.9	49.8	86	70-135	

Lab Batch #: 779359 Sample: 349959-001 SD / MSD Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/29/09 03:58		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		103	100	103	70-135	
o-Terphenyl		42.7	50.0	85	70-135	

Lab Batch #: 779637 Sample: 541929-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 10/29/09 06:34		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		97.4	99.8	98	70-135	
o-Terphenyl		41.2	49.9	83	70-135	

Lab Batch #: 779637 Sample: 541929-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 10/29/09 06:59		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		97.7	98.0	100	70-135	
o-Terphenyl		42.1	49.0	86	70-135	

Lab Batch #: 779637 Sample: 541929-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 10/29/09 07:25		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		82.7	100	83	70-135	
o-Terphenyl		43.8	50.0	88	70-135	

\* 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: Lea Station Land Farm

Work Orders : 349969,  
Lab Batch #: 779637

Project ID: 2004-0061

Sample: 349969-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 10/29/09 07:51

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.8	100	82	70-135	
o-Terphenyl	43.7	50.0	87	70-135	

Lab Batch #: 779637 Sample: 349969-004 / SMP  
Units: mg/kg Date Analyzed: 10/29/09 08:16

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	59.4	99.8	60	70-135	**
o-Terphenyl	31.0	49.9	62	70-135	**

Lab Batch #: 779637 Sample: 349969-005 / SMP  
Units: mg/kg Date Analyzed: 10/29/09 08:42

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.5	100	93	70-135	
o-Terphenyl	47.8	50.0	96	70-135	

Lab Batch #: 779637 Sample: 349969-003 S / MS  
Units: mg/kg Date Analyzed: 10/30/09 11:10

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	99.7	90	70-135	
o-Terphenyl	38.9	49.9	78	70-135	

Lab Batch #: 779637 Sample: 349969-003 SD / MSD  
Units: mg/kg Date Analyzed: 10/30/09 11:36

Batch: 1 Matrix: Soil

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.3	100	71	70-135	
o-Terphenyl	30.8	50.0	62	70-135	*

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm



Work Order #: 349969

Project ID:

2004-0061

Lab Batch #: 779341

Sample: 779341-1-BKS

Matrix: Solid

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	<0.420	10.0	10.2	102	75-125	



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

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



- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349969

Analyst: BEV

Lab Batch ID: 779359

Sample: 541825-1-BKS

Date Prepared: 10/28/2009

Batch #: 1

Project ID: 2004-0061

Date Analyzed: 10/28/2009

Matrix: Solid

Units: mg/kg

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

TPH by SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons	<15.0	971	998	103	1000	1030	103	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	971	977	101	1000	1010	101	3	70-135	35	

Analyst: BEV

Lab Batch ID: 779637

Sample: 541929-1-BKS

Date Prepared: 10/28/2009

Batch #: 1

Date Analyzed: 10/29/2009

Matrix: Solid

Units: mg/kg

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

TPH by SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	947	95	980	978	100	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	924	93	980	961	98	4	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349969

Lab Batch #: 779341

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Project ID: 2004-0061

Analyst: LATCOR

QC- Sample ID: 349964-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	51.2	103	152	98	75-125	

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

Below Reporting Limit



# Form 3 - M/MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349969

Project ID: 2004-0061

Lab Batch ID: 779359

QC- Sample ID: 349959-001 S

Batch #: 1

Matrix: Soil

Date Analyzed: 10/29/2009

Date Prepared: 10/28/2009

Analyst: BEV

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spiked Sample %R [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	<15.2	1010	905	90	1010	953	94	5	70-135	35
C12-C28 Diesel Range Hydrocarbons	27.7	1010	894	86	1010	954	92	6	70-135	35	

Lab Batch ID: 779637

QC- Sample ID: 349969-003 S

Batch #: 1

Matrix: Soil

Date Analyzed: 10/30/2009

Date Prepared: 10/28/2009

Analyst: BEV

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spiked Sample %R [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	<15.8	1050	858	82	1050	677	64	24	70-135	35
C12-C28 Diesel Range Hydrocarbons	1340	1050	1730	37	1050	1410	7	20	70-135	35	X

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

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

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



# Sample Duplicate Recovery



**Project Name: Lea Station Land Farm**

**Work Order #: 349969**

**Lab Batch #: 779341**

**Project ID: 2004-0061**

**Date Analyzed: 10/28/2009**

**Date Prepared: 10/28/2009**

**Analyst: LATCOR**

**QC- Sample ID: 349964-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	51.2	44.6	14	20	

**Lab Batch #: 779308**

**Date Analyzed: 10/28/2009**

**Date Prepared: 10/28/2009**

**Analyst: WRU**

**QC- Sample ID: 349959-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	1.17	<1.00	NC	20	

**Lab Batch #: 779311**

**Date Analyzed: 10/28/2009**

**Date Prepared: 10/28/2009**

**Analyst: WRU**

**QC- Sample ID: 349969-005 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	<1.00	2.01	NC	20	

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

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

BRL - Below Reporting Limit



# Environmental Lab of Texas

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

Client: Basin Env. / Plains  
 Date/ Time: 10.27.09 16.50  
 Lab ID #: 349969  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	3.0 °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?	(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 349971

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-0061**

**30-OCT-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



30-OCT-09

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

Reference: XENCO Report No: **349971**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 349971. 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. 349971 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.*  
*Certified and approved by numerous States and Agencies.*  
*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*  
Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



**Sample Cross Reference 349971**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell E TZ G1	S	Oct-27-09 09:45		349971-001
Cell E TZ G2	S	Oct-27-09 09:55		349971-002
Cell E TZ G3	S	Oct-27-09 10:05		349971-003



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-0061*  
*Work Order Number: 349971*

*Report Date: 30-OCT-09*  
*Date Received: 10/27/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779311 Percent Moisture

None

Batch: LBA-779341 Inorganic Anions by EPA 300

None

Batch: LBA-779637 TPH by SW8015 Mod  
SW8015MOD\_NM

Batch 779637, o-Terphenyl recovered below QC limits . Matrix interferences is suspected; QC data not confirmed by re-analysis  
Samples affected are: 349969-003 SD.

SW8015MOD\_NM

Batch 779637, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. C6-C12 Gasoline Range Hydrocarbons recovered below QC limits in the Matrix Spike Duplicate.

Samples affected are: 349971-001, -003, -002.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons, C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits



# Certificate of Analysis Summary 349971

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



Project Id: 2004-0061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Tue Oct-27-09 04:50 pm  
 Report Date: 30-OCT-09  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	349971-001	349971-002	349971-003
<b>Determination of Inorganic Anions In Water By Ion</b>	<i>Extracted:</i>	Cell E TZ G1	SOIL	SOIL	Oct-27-09 09:45	Oct-27-09 09:55	Oct-27-09 10:05	
	<i>Analyzed:</i>	Oct-28-09 12:34	Oct-28-09 12:34	Oct-28-09 12:34	mg/kg	mg/kg	mg/kg	RL
	<i>Units/RL:</i>	BRL 4.28	BRL 4.28	BRL 4.27				
<b>Percent Moisture</b>	<i>Extracted:</i>	Cell E TZ G1	SOIL	SOIL	Oct-27-09 09:45	Oct-27-09 09:55	Oct-27-09 10:05	
	<i>Analyzed:</i>	Oct-28-09 17:00	Oct-28-09 17:00	Oct-28-09 17:00	%	%	%	RL
	<i>Units/RL:</i>	1.92	1.89	1.70	1.00	1.00	1.00	
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Cell E TZ G1	SOIL	SOIL	Oct-27-09 09:45	Oct-27-09 09:55	Oct-27-09 10:05	
	<i>Analyzed:</i>	Oct-28-09 10:45	Oct-28-09 10:45	Oct-28-09 10:45	mg/kg	mg/kg	mg/kg	RL
	<i>Units/RL:</i>	BRL 15.2	BRL 15.3	BRL 15.2	544	567	250	28.8
C6-C12 Gasoline Range Hydrocarbons	<i>Extracted:</i>	Cell E TZ G1	SOIL	SOIL	Oct-27-09 09:45	Oct-27-09 09:55	Oct-27-09 10:05	
	<i>Analyzed:</i>	Oct-28-09 15:2	Oct-28-09 15:2	Oct-28-09 15:2	48.7	50.9	28.8	15.2
	<i>Units/RL:</i>	593	618	279	15.2	15.3	15.2	
C12-C28 Diesel Range Hydrocarbons	<i>Extracted:</i>	Cell E TZ G1	SOIL	SOIL	Oct-27-09 09:45	Oct-27-09 09:55	Oct-27-09 10:05	
	<i>Analyzed:</i>	Oct-28-09 15:2	Oct-28-09 15:2	Oct-28-09 15:2	48.7	50.9	28.8	15.2
	<i>Units/RL:</i>	593	618	279	15.2	15.3	15.2	
C28-C35 Oil Range Hydrocarbons	<i>Extracted:</i>	Cell E TZ G1	SOIL	SOIL	Oct-27-09 09:45	Oct-27-09 09:55	Oct-27-09 10:05	
	<i>Analyzed:</i>	Oct-28-09 15:2	Oct-28-09 15:2	Oct-28-09 15:2	48.7	50.9	28.8	15.2
	<i>Units/RL:</i>	593	618	279	15.2	15.3	15.2	
Total TPH								

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.

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

*Certified and approved by numerous States and Agencies.*

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

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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 349971,  
Lab Batch #: 779637

Project ID: 2004-0061

Sample: 541929-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 06:34

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.4	99.8	98	70-135	
o-Terphenyl	41.2	49.9	83	70-135	

Lab Batch #: 779637

Sample: 541929-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 06:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	98.0	100	70-135	
o-Terphenyl	42.1	49.0	86	70-135	

Lab Batch #: 779637

Sample: 541929-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 07:25

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.7	100	83	70-135	
o-Terphenyl	43.8	50.0	88	70-135	

Lab Batch #: 779637

Sample: 349971-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 09:09

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	99.5	94	70-135	
o-Terphenyl	48.8	49.8	98	70-135	

Lab Batch #: 779637

Sample: 349971-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 09:35

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.2	100	87	70-135	
o-Terphenyl	44.8	50.0	90	70-135	

\* 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: Lea Station Land Farm

Work Orders : 349971,  
Lab Batch #: 779637

Project ID: 2004-0061

Sample: 349971-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 10:00

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.4	99.5	91	70-135	
o-Terphenyl	47.5	49.8	95	70-135	

Lab Batch #: 779637

Sample: 349969-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 11:10

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	99.7	90	70-135	
o-Terphenyl	38.9	49.9	78	70-135	

Lab Batch #: 779637

Sample: 349969-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 11:36

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.3	100	71	70-135	
o-Terphenyl	30.8	50.0	62	70-135	*

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 349971

Project ID: 2004-0061

Lab Batch #: 779341  
Date Analyzed: 10/28/2009  
Reporting Units: mg/kg

Sample: 779341-1-BKS  
Date Prepared: 10/28/2009  
Batch #: 1

Matrix: Solid  
Analyst: LATCOR

## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.420	10.0	10.2	102	75-125	

Blank Spike Recovery [D] = 100\*[C]/[B]  
All results are based on MDL and validated for QC purposes.

1 - Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349971

Project ID: 2004-0061

Analyst: BEV

Date Analyzed: 10/29/2009

Lab Batch ID: 779637

Date Prepared: 10/28/2009

Batch #: 1

Sample: 541929-1-BKS

Matrix: Solid

Units: mg/kg

## 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
TPH by SW8015 Mod	<15.0	998	947	95	980	978	100	3	70-135	35	
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	924	93	980	961	98	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons											

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349971

Lab Batch #: 779341

Project ID: 2004-0061

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

QC- Sample ID: 349964-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	51.2	103	152	98	75-125	

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

 Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349971

Project ID: 2004-0061

Lab Batch ID: 779637

QC- Sample ID: 349969-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/30/2009

Date Prepared: 10/28/2009 Analyst: BEV

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod 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
	C6-C12 Gasoline Range Hydrocarbons	<15.8	1050	858	82	1050	677	64	24	70-135	35
C12-C28 Diesel Range Hydrocarbons	1.340	1050	1730	37	1050	1410	7	20	70-135	35	X

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 349971

Lab Batch #: 779341

Project ID: 2004-0061

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

QC- Sample ID: 349964-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	51.2	44.6	14	20	

Lab Batch #: 779311

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: WRU

QC- Sample ID: 349969-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	<1.00	2.01	NC	20	

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



# Environmental Lab of Texas

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

Client: Basin Env. / Plains  
 Date/ Time: 10.27.09 16:50  
 Lab ID #: 349971  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	3.10 °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?	(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 349972

for

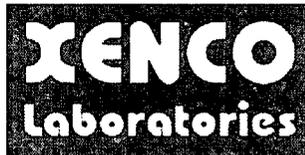
## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-0061**

**30-OCT-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



30-OCT-09

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

Reference: XENCO Report No: **349972**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 349972. 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. 349972 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 349972**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell F TZ G1	S	Oct-27-09 10:15		349972-001
Cell F TZ G2	S	Oct-27-09 10:25		349972-002
Cell F TZ G3	S	Oct-27-09 10:35		349972-003
Cell F TZ G4	S	Oct-27-09 10:45		349972-004
Cell F TZ G5	S	Oct-27-09 10:55		349972-005

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-0061*

*Work Order Number: 349972*

*Report Date: 30-OCT-09*

*Date Received: 10/27/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779311 Percent Moisture

None

Batch: LBA-779341 Inorganic Anions by EPA 300

None

Batch: LBA-779345 Determination of Inorganic Anions In Water By Ion

None

Batch: LBA-779637 TPH by SW8015 Mod

SW8015MOD\_NM

Batch 779637, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. C6-C12 Gasoline Range Hydrocarbons recovered below QC limits in the Matrix Spike Duplicate.

Samples affected are: 349972-002, -004, -001, -005, -003.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons, C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits

SW8015MOD\_NM

Batch 779637, o-Terphenyl recovered below QC limits . Matrix interferences is suspected; QC data not confirmed by re-analysis

Samples affected are: 349969-003 SD.



# Certificate of Analysis Summary 349972

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



Project Name: Lea Station Land Farm

Project Id: 2004-0061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Tue Oct-27-09 04:50 pm  
 Report Date: 30-OCT-09  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	349972-001	349972-002	349972-003	349972-004	349972-005
Determination of Inorganic Anions In Water By Ion	Cell F TZ G1	Cell F TZ G2	Cell F TZ G3	Cell F TZ G4	Cell F TZ G5	SOIL	SOIL	SOIL	SOIL	SOIL
	Oct-28-09 12:34	Oct-27-09 10:25	Oct-28-09 12:34	Oct-27-09 10:45	Oct-28-09 18:03	Oct-27-09 10:15	Oct-27-09 10:25	Oct-27-09 10:35	Oct-27-09 10:45	Oct-27-09 10:55
	mg/kg RL 4.38	mg/kg RL 4.44	mg/kg RL 4.37	mg/kg RL 4.40	mg/kg RL 4.28					
Percent Moisture	Extracted:	Extracted:	Extracted:	Extracted:	Extracted:					
	Analysed:	Analysed:	Analysed:	Analysed:	Analysed:	Oct-28-09 17:00				
	Units/RL: 4.11 1.00	Units/RL: 5.44 1.00	Units/RL: 3.80 1.00	Units/RL: 4.57 1.00	Units/RL: 1.83 1.00					
TPH by SW8015 Mod	Extracted:	Extracted:	Extracted:	Extracted:	Extracted:	Oct-28-09 10:45				
	Analysed:	Analysed:	Analysed:	Analysed:	Analysed:	Oct-29-09 10:25	Oct-29-09 10:51	Oct-29-09 11:17	Oct-29-09 11:42	Oct-29-09 12:32
	Units/RL: 771 15.6	Units/RL: 982 15.8	Units/RL: 1270 15.6	Units/RL: 1230 15.7	Units/RL: 953 15.2					
C6-C12 Gasoline Range Hydrocarbons	Analysed:	Analysed:	Analysed:	Analysed:	Analysed:	42.3 15.6	58.2 15.8	59.1 15.6	55.4 15.7	52.3 15.2
	Units/RL: 813 15.6	Units/RL: 1040 15.8	Units/RL: 1329 15.6	Units/RL: 1285 15.7	Units/RL: 1005 15.2					
	Total TPH									

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.

*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 Hary 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: Lea Station Land Farm

Work Orders : 349972,

Project ID: 2004-0061

Lab Batch #: 779637

Sample: 541929-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 06:34

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	97.4	99.8	98	70-135	
o-Terphenyl	41.2	49.9	83	70-135	

Lab Batch #: 779637

Sample: 541929-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 06:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	97.7	98.0	100	70-135	
o-Terphenyl	42.1	49.0	86	70-135	

Lab Batch #: 779637

Sample: 541929-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 07:25

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	82.7	100	83	70-135	
o-Terphenyl	43.8	50.0	88	70-135	

Lab Batch #: 779637

Sample: 349972-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 10:25

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	75.3	100	75	70-135	
o-Terphenyl	39.4	50.0	79	70-135	

Lab Batch #: 779637

Sample: 349972-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 10:51

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
l-Chlorooctane	91.2	99.8	91	70-135	
o-Terphenyl	47.4	49.9	95	70-135	

\* 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: Lea Station Land Farm

Work Orders : 349972,

Project ID: 2004-0061

Lab Batch #: 779637

Sample: 349972-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 11:17

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.0	99.9	86	70-135	
o-Terphenyl	45.5	50.0	91	70-135	

Lab Batch #: 779637

Sample: 349972-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 11:42

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.6	99.8	84	70-135	
o-Terphenyl	44.3	49.9	89	70-135	

Lab Batch #: 779637

Sample: 349972-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 12:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.1	99.6	82	70-135	
o-Terphenyl	43.0	49.8	86	70-135	

Lab Batch #: 779637

Sample: 349969-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 11:10

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	99.7	90	70-135	
o-Terphenyl	38.9	49.9	78	70-135	

Lab Batch #: 779637

Sample: 349969-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 11:36

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.3	100	71	70-135	
o-Terphenyl	30.8	50.0	62	70-135	*

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 349972

Project ID:

2004-0061

Lab Batch #: 779341

Sample: 779341-1-BKS

Matrix: Solid

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	<0.420	10.0	10.2	102	75-125	

Lab Batch #: 779345

Sample: 779345-1-BKS

Matrix: Solid

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	<0.420	10.0	10.6	106	75-125	

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

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

BRL - Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349972

Analyst: BEV

Lab Batch ID: 779637

Sample: 541929-1-BKS

Batch #: 1

Date Prepared: 10/28/2009

Project ID: 2004-0061

Date Analyzed: 10/29/2009

Matrix: Solid

Units: mg/kg

## 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
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	947	95	980	978	100	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	924	93	980	961	98	4	70-135	35	

TPH by SW8015 Mod

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349972

Lab Batch #: 779341

Project ID: 2004-0061

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

QC- Sample ID: 349964-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
<b>Analytes</b>						
Chloride	51.2	103	152	98	75-125	

Lab Batch #: 779345

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

QC- Sample ID: 349972-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
<b>Analytes</b>						
Chloride	135	105	242	102	75-125	

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

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

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



# Form 3 - N / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349972

Project ID: 2004-0061

Lab Batch ID: 779637

QC-Sample ID: 349969-003 S

Batch #: 1

Matrix: Soil

Date Analyzed: 10/30/2009

Date Prepared: 10/28/2009

Analyst: BEV

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod 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
	C6-C12 Gasoline Range Hydrocarbons	<15.8	1050	858	82	1050	677	64	24	70-135	35
C12-C28 Diesel Range Hydrocarbons	1340	1050	1730	37	1050	1410	7	20	70-135	35	X

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

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



# Sample Duplicate Recovery



**Project Name: Lea Station Land Farm**

**Work Order #: 349972**

**Lab Batch #: 779341**

**Project ID: 2004-0061**

**Date Analyzed: 10/28/2009**

**Date Prepared: 10/28/2009**

**Analyst: LATCOR**

**QC- Sample ID: 349964-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	51.2	44.6	14	20	

**Lab Batch #: 779345**

**Date Analyzed: 10/28/2009**

**Date Prepared: 10/28/2009**

**Analyst: LATCOR**

**QC- Sample ID: 349972-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	135	131	3	20	

**Lab Batch #: 779311**

**Date Analyzed: 10/28/2009**

**Date Prepared: 10/28/2009**

**Analyst: WRU**

**QC- Sample ID: 349969-005 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	<1.00	2.01	NC	20	

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



# Environmental Lab of Texas

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

Client: Basin Env. / Plains  
 Date/ Time: 10.27.09 16.50  
 Lab ID #: 349972  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	3.0 °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?	(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 349974

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-0061**

**30-OCT-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida (E86240),

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



30-OCT-09

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

Reference: XENCO Report No: **349974**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 349974. 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. 349974 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 349974**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell G TZ G1	S	Oct-27-09 11:05		349974-001
Cell G TZ G2	S	Oct-27-09 11:15		349974-002
Cell G TZ G3	S	Oct-27-09 11:25		349974-003
Cell G TZ G4	S	Oct-27-09 11:35		349974-004
Cell G TZ G5	S	Oct-27-09 11:45		349974-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-0061*  
*Work Order Number: 349974*

*Report Date: 30-OCT-09*  
*Date Received: 10/27/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779311 Percent Moisture

None

Batch: LBA-779345 Inorganic Anions by EPA 300

None

Batch: LBA-779637 TPH by SW8015 Mod

SW8015MOD\_NM

Batch 779637, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. C6-C12 Gasoline Range Hydrocarbons recovered below QC limits in the Matrix Spike Duplicate.

Samples affected are: 349974-003, -004, -002, -001, -005.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons, C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits

SW8015MOD\_NM

Batch 779637, o-Terphenyl recovered below QC limits . Matrix interferences is suspected; QC data not confirmed by re-analysis

Samples affected are: 349969-003 SD.



# Certificate of Analytical Summary 349974

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



Project Id: 2004-0061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Tue Oct-27-09 04:50 pm  
 Report Date: 30-OCT-09  
 Project Manager: Brent Barron, II

Project Name: Lea Station Land Farm

Analysis Requested	Lab Id:	349974-001	Field Id:	349974-002	Depth:	349974-003	Matrix:	349974-004	Sampled:	349974-005
	Cell G TZ G1	Cell G TZ G2 <td>Cell G TZ G3 <td>Cell G TZ G4 <td>Cell G TZ G5 <th>SOIL</th> <th>SOIL</th> <th>SOIL</th> <th>SOIL</th> </td></td></td>	Cell G TZ G3 <td>Cell G TZ G4 <td>Cell G TZ G5 <th>SOIL</th> <th>SOIL</th> <th>SOIL</th> <th>SOIL</th> </td></td>	Cell G TZ G4 <td>Cell G TZ G5 <th>SOIL</th> <th>SOIL</th> <th>SOIL</th> <th>SOIL</th> </td>	Cell G TZ G5 <th>SOIL</th> <th>SOIL</th> <th>SOIL</th> <th>SOIL</th>	SOIL	SOIL	SOIL	SOIL	
Determination of Inorganic Anions In Water By Ion	Sampled:	Oct-27-09 11:05	Sampled:	Oct-27-09 11:15	Sampled:	Oct-27-09 11:25	Sampled:	Oct-27-09 11:35	Sampled:	Oct-27-09 11:45
Chloride	Extracted:	Oct-28-09 18:03	Extracted:	Oct-28-09 18:03	Extracted:	Oct-28-09 18:03	Extracted:	Oct-28-09 18:03	Extracted:	Oct-28-09 18:03
	Analyzed:	mg/kg	Analyzed:	mg/kg	Analyzed:	mg/kg	Analyzed:	mg/kg	Analyzed:	mg/kg
Percent Moisture	Units/RL:	20.4 4.28	Units/RL:	23.2 4.31	Units/RL:	50.9 4.35	Units/RL:	53.3 4.31	Units/RL:	42.6 4.28
	Extracted:	%	Extracted:	%	Extracted:	%	Extracted:	%	Extracted:	%
TPH by SW8015 Mod	Analyzed:	1.90 1.00	Analyzed:	2.55 1.00	Analyzed:	3.55 1.00	Analyzed:	2.66 1.00	Analyzed:	1.95 1.00
	Units/RL:	Oct-28-09 17:00	Units/RL:	Oct-28-09 17:00	Units/RL:	Oct-28-09 17:00	Units/RL:	Oct-28-09 17:00	Units/RL:	Oct-28-09 17:00
C6-C12 Gasoline Range Hydrocarbons	Extracted:	Oct-28-09 10:45	Extracted:	Oct-28-09 10:45	Extracted:	Oct-28-09 10:45	Extracted:	Oct-28-09 10:45	Extracted:	Oct-28-09 10:45
	Analyzed:	mg/kg	Analyzed:	mg/kg	Analyzed:	mg/kg	Analyzed:	mg/kg	Analyzed:	mg/kg
C12-C28 Diesel Range Hydrocarbons	Units/RL:	45.2 15.3	Units/RL:	296 77.0	Units/RL:	79.1 15.5	Units/RL:	90.1 15.4	Units/RL:	16.8 15.2
	Extracted:	1570 15.3	Extracted:	7910 77.0	Extracted:	4200 15.5	Extracted:	4410 15.4	Extracted:	1470 15.2
C28-C35 Oil Range Hydrocarbons	Analyzed:	59.0 15.3	Analyzed:	242 77.0	Analyzed:	85.1 15.5	Analyzed:	85.0 15.4	Analyzed:	54.3 15.2
	Units/RL:	1674 15.3	Units/RL:	8448 77.0	Units/RL:	4364 15.5	Units/RL:	4585 15.4	Units/RL:	1541 15.2
Total TPH										

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.

*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: Lea Station Land Farm

Work Orders : 349974,

Project ID: 2004-0061

Lab Batch #: 779637

Sample: 541929-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 06:34

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.4	99.8	98	70-135	
o-Terphenyl	41.2	49.9	83	70-135	

Lab Batch #: 779637

Sample: 541929-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 06:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	98.0	100	70-135	
o-Terphenyl	42.1	49.0	86	70-135	

Lab Batch #: 779637

Sample: 541929-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 07:25

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.7	100	83	70-135	
o-Terphenyl	43.8	50.0	88	70-135	

Lab Batch #: 779637

Sample: 349974-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 12:58

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	69.5	99.8	70	70-135	
o-Terphenyl	36.9	49.9	74	70-135	

Lab Batch #: 779637

Sample: 349974-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 13:48

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.9	99.5	78	70-135	
o-Terphenyl	41.9	49.8	84	70-135	

\* 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: Lea Station Land Farm

Work Orders : 349974,

Project ID: 2004-0061

Lab Batch #: 779637

Sample: 349974-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 14:13

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.8	100	88	70-135	
o-Terphenyl	46.6	50.0	93	70-135	

Lab Batch #: 779637

Sample: 349974-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 14:39

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.5	99.5	92	70-135	
o-Terphenyl	48.0	49.8	96	70-135	

Lab Batch #: 779637

Sample: 349974-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 18:26

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	58.6	50.0	117	70-135	

Lab Batch #: 779637

Sample: 349969-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 11:10

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	99.7	90	70-135	
o-Terphenyl	38.9	49.9	78	70-135	

Lab Batch #: 779637

Sample: 349969-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 11:36

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.3	100	71	70-135	
o-Terphenyl	30.8	50.0	62	70-135	*

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Land Farm



Work Order #: 349974

Project ID:

2004-0061

Lab Batch #: 779345

Sample: 779345-1-BKS

Matrix: Solid

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.420	10.0	10.6	106	75-125	



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

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

BPL - Below Reporting Limit





# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349974

Project ID: 2004-0061

Analyst: BEV

Date Prepared: 10/28/2009

Date Analyzed: 10/29/2009

Lab Batch ID: 779637

Sample: 541929-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
TPH by SW8015 Mod	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
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	947	95	980	978	100	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	924	93	980	961	98	4	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349974

Project ID: 2004-0061

Lab Batch #: 779345

Date Prepared: 10/28/2009

Analyst: LATCOR

Date Analyzed: 10/28/2009

Batch #: 1

Matrix: Soil

QC- Sample ID: 349972-004 S

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
	Chloride	135	105	242	102	75-125

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

BRL - Below Reporting Limit



# Form 3 - M / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349974

Project ID: 2004-0061

Lab Batch ID: 779637

QC- Sample ID: 349969-003 S Batch #: 1 Matrix: Soil

Date Analyzed: 10/30/2009

Date Prepared: 10/28/2009 Analyst: BEV

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	TPH by SW8015 Mod	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
		<15.8 1340	1050 1050	858 1730	82 37	1050 1050	677 1410	64 7	24 20	70-135 70-135	35 35	X X
C6-C12 Gasoline Range Hydrocarbons												
C12-C28 Diesel Range Hydrocarbons												

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



# Sample Duplicate Recovery



**Project Name: Lea Station Land Farm**

**Work Order #: 349974**

**Lab Batch #: 779345**

**Project ID: 2004-0061**

**Date Analyzed: 10/28/2009**

**Date Prepared: 10/28/2009**

**Analyst: LATCOR**

**QC- Sample ID: 349972-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	135	131	3	20	

**Lab Batch #: 779311**

**Analyst: WRU**

**Date Analyzed: 10/28/2009**

**Date Prepared: 10/28/2009**

**QC- Sample ID: 349969-005 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	<1.00	2.01	NC	20	

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



# Environmental Lab of Texas

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

Client: Basin Env. / Plains  
 Date/ Time: 10-27-09 16:50  
 Lab ID #: 349974  
 Initials: AL

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="radio"/> Yes	No	3.0 °C	
#2 Shipping container in good condition?	<input checked="" type="radio"/> Yes	No		
#3 Custody Seals intact on shipping container/ cooler?	Yes	No	<del>Not Present</del>	
#4 Custody Seals intact on sample bottles/ container?	<input checked="" type="radio"/> Yes	No	Not Present	
#5 Chain of Custody present?	<input checked="" type="radio"/> Yes	No		
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="radio"/> Yes	No		
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="radio"/> Yes	No		
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="radio"/> Yes	No	ID written on Cont./ Lid	
#9 Container label(s) legible and intact?	<input checked="" type="radio"/> Yes	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="radio"/> Yes	No		
#11 Containers supplied by ELOT?	<input checked="" type="radio"/> Yes	No		
#12 Samples in proper container/ bottle?	<input checked="" type="radio"/> Yes	No	See Below	
#13 Samples properly preserved?	<input checked="" type="radio"/> Yes	No	See Below	
#14 Sample bottles intact?	<input checked="" type="radio"/> Yes	No		
#15 Preservations documented on Chain of Custody?	<input checked="" type="radio"/> Yes	No		
#16 Containers documented on Chain of Custody?	<input checked="" type="radio"/> Yes	No		
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="radio"/> Yes	No	See Below	
#18 All samples received within sufficient hold time?	<input checked="" type="radio"/> Yes	No	See Below	
#19 Subcontract of sample(s)?	Yes	No	<del>Not Applicable</del>	
#20 VOC samples have zero headspace?	<input checked="" type="radio"/> 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 349976

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Land Farm**

**2004-0061**

**30-OCT-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



30-OCT-09

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

Reference: XENCO Report No: **349976**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 349976. 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. 349976 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 349976**



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

Lea Station Land Farm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
Cell H TZ G1	S	Oct-27-09 11:55		349976-001
Cell H TZ G2	S	Oct-27-09 12:00		349976-002
Cell H TZ G3	S	Oct-27-09 12:10		349976-003

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Land Farm*

*Project ID: 2004-0061*

*Work Order Number: 349976*

*Report Date: 30-OCT-09*

*Date Received: 10/27/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779311 Percent Moisture

None

Batch: LBA-779345 Inorganic Anions by EPA 300

None

Batch: LBA-779637 TPH by SW8015 Mod

SW8015MOD\_NM

Batch 779637, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. C6-C12 Gasoline Range Hydrocarbons recovered below QC limits in the Matrix Spike Duplicate.

Samples affected are: 349976-002, -001, -003.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons, C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits

SW8015MOD\_NM

Batch 779637, o-Terphenyl recovered below QC limits . Matrix interferences is suspected; QC data not confirmed by re-analysis

Samples affected are: 349969-003 SD.



# Certificate of Analytical Summary 349976

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



Project Id: 2004-0061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Tue Oct-27-09 04:50 pm

Report Date: 30-OCT-09

Project Manager: Brent Barron, II

Project Name: Lea Station Land Farm

Analysis Requested	Lab Id:	349976-001	349976-002	349976-003
	Field Id:	Cell H TZ G1	Cell H TZ G2	Cell H TZ G3
Depth:				
Matrix:	SOIL	SOIL	SOIL	
Sampled:	Oct-27-09 11:55	Oct-27-09 12:00	Oct-27-09 12:10	
<b>Determination of Inorganic Anions In Water By Ion</b>	Extracted:			
	Analyzed:	Oct-28-09 18:03	Oct-28-09 18:03	Oct-28-09 18:03
	Units/RL:	mg/kg RL 26.8 4.48	mg/kg RL 15.8 4.41	mg/kg RL BRL 4.35
<b>Percent Moisture</b>	Extracted:			
	Analyzed:	Oct-28-09 17:00	Oct-28-09 17:00	Oct-28-09 17:00
	Units/RL:	% RL 6.21 1.00	% RL 4.83 1.00	% RL 3.44 1.00
<b>TPH by SW8015 Mod</b>	Extracted:	Oct-28-09 10:45	Oct-28-09 10:45	Oct-28-09 10:45
	Analyzed:	Oct-29-09 15:05	Oct-30-09 10:19	Oct-30-09 10:45
	Units/RL:	mg/kg RL 138 16.0	mg/kg RL 138 15.8	mg/kg RL 124 15.5
C6-C12 Gasoline Range Hydrocarbons		4170 16.0	5190 15.8	5050 15.5
C12-C28 Diesel Range Hydrocarbons		83.7 16.0	85.0 15.8	94.6 15.5
C28-C35 Oil Range Hydrocarbons		4392 16.0	5413 15.8	5269 15.5
Total TPH				

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.

*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: Lea Station Land Farm

Work Orders : 349976,

Project ID: 2004-0061

Lab Batch #: 779637

Sample: 541929-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 06:34

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.4	99.8	98	70-135	
o-Terphenyl	41.2	49.9	83	70-135	

Lab Batch #: 779637

Sample: 541929-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 06:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	98.0	100	70-135	
o-Terphenyl	42.1	49.0	86	70-135	

Lab Batch #: 779637

Sample: 541929-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/29/09 07:25

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.7	100	83	70-135	
o-Terphenyl	43.8	50.0	88	70-135	

Lab Batch #: 779637

Sample: 349976-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/29/09 15:05

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.0	100	92	70-135	
o-Terphenyl	49.4	50.0	99	70-135	

Lab Batch #: 779637

Sample: 349976-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 10:19

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.1	100	82	70-135	
o-Terphenyl	44.4	50.0	89	70-135	

\* 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: Lea Station Land Farm**

**Work Orders :** 349976,

**Project ID:** 2004-0061

**Lab Batch #:** 779637

**Sample:** 349976-003 / SMP

**Batch:** 1    **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 10/30/09 10:45

**SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.8	100	80	70-135	
o-Terphenyl	43.2	50.0	86	70-135	

**Lab Batch #:** 779637

**Sample:** 349969-003 S / MS

**Batch:** 1    **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 10/30/09 11:10

**SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	99.7	90	70-135	
o-Terphenyl	38.9	49.9	78	70-135	

**Lab Batch #:** 779637

**Sample:** 349969-003 SD / MSD

**Batch:** 1    **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 10/30/09 11:36

**SURROGATE RECOVERY STUDY**

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.3	100	71	70-135	
o-Terphenyl	30.8	50.0	62	70-135	*

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 349976

Project ID:

2004-0061

Lab Batch #: 779345

Sample: 779345-1-BKS

Matrix: Solid

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	<0.420	10.0	10.6	106	75-125	

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

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

BRL - Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349976  
Analyst: BEV  
Lab Batch ID: 779637  
Sample: 541929-1-BKS  
Units: mg/kg

Project ID: 2004-0061  
Date Analyzed: 10/29/2009  
Matrix: Solid

Date Prepared: 10/28/2009  
Batch #: 1

## 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
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	947	95	980	978	100	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	924	93	980	961	98	4	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349976

Lab Batch #: 779345

Project ID: 2004-0061

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

QC- Sample ID: 349972-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	135	105	242	102	75-125	

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

BRL - Below Reporting Limit



# Form 3 - NO/MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 349976

Project ID: 2004-0061

Lab Batch ID: 779637

QC-Sample ID: 349969-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/30/2009

Date Prepared: 10/28/2009

Analyst: BEV

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod 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
	C6-C12 Gasoline Range Hydrocarbons	<15.8	1050	858	82	1050	677	64	24	70-135	35
C12-C28 Diesel Range Hydrocarbons	1340	1050	1730	37	1050	1410	7	20	70-135	35	X

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

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 349976

Lab Batch #: 779345

Project ID: 2004-0061

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: LATCOR

QC- Sample ID: 349972-004 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	135	131	3	20	

Lab Batch #: 779311

Date Analyzed: 10/28/2009

Date Prepared: 10/28/2009

Analyst: WRU

QC- Sample ID: 349969-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	<1.00	2.01	NC	20	

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



# Environmental Lab of Texas

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

Client: Basin Env. / Plains  
 Date/ Time: 10-27-09 16:50  
 Lab ID #: 349970  
 Initials: AL

### Sample Receipt Checklist

Client Initials

#1	Temperature of container/ cooler?	(Yes)	No	3.0 °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?	(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 350342

for

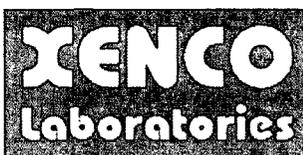
## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**05-NOV-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



05-NOV-09

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

Reference: XENCO Report No: **350342**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 350342. 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. 350342 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 350342**



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

Lea Station Landfarm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
VZ Cell A G-1	S	Oct-27-09 12:35		350342-001
VZ Cell A G-2	S	Oct-27-09 12:45		350342-002
VZ Cell A G-3	S	Oct-27-09 13:00		350342-003
VZ Cell A G-4	S	Oct-27-09 13:11		350342-004
VZ Cell A G-5	S	Oct-27-09 13:25		350342-005

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*

*Project ID: 2004-00061*

*Report Date: 05-NOV-09*

*Work Order Number: 350342*

*Date Received: 10/30/2009*

---

**Sample receipt non conformances and Comments:**

*None*

---

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

*None*

**Analytical Non Conformances and Comments:**

*Batch: LBA-779763 Percent Moisture*

*None*

*Batch: LBA-779806 BTEX by EPA 8021*

*None*

*Batch: LBA-779937 Determination of Inorganic Anions In Water By Ion*

*None*

*Batch: LBA-779973 TPH by SW8015 Mod*

*SW8015MOD\_NM*

*Batch 779973, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 350342-003.*



# Certificate of Analysis Summary 350342

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



Project Id: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Project Name: Lea Station Landfarm

Date Received in Lab: Fri Oct-30-09 08:55 am

Report Date: 05-NOV-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	350342-001	350342-002	350342-003	350342-004	350342-005
		VZ Cell A G-1		SOIL	Oct-27-09 12:35		VZ Cell A G-2	VZ Cell A G-3	VZ Cell A G-4	VZ Cell A G-5
<b>BTEX by EPA 8021</b>										
Benzene	Extracted:	Oct-30-09 13:00				mg/kg	Oct-30-09 13:00	Oct-30-09 13:00	Oct-30-09 13:00	Oct-30-09 13:00
	Units/RL:	RL					RL	RL	RL	RL
Toluene	Extracted:	Oct-30-09 20:27				mg/kg	Oct-30-09 20:48	Oct-30-09 21:10	Oct-30-09 21:31	Oct-30-09 21:53
	Units/RL:	RL					RL	RL	RL	RL
Ethylbenzene	Extracted:	Oct-30-09 13:00				mg/kg	Oct-30-09 13:00	Oct-30-09 13:00	Oct-30-09 13:00	Oct-30-09 13:00
	Units/RL:	RL					RL	RL	RL	RL
m,p-Xylenes	Extracted:	Oct-30-09 16:39				mg/kg	Oct-30-09 16:39	Oct-30-09 16:39	Oct-30-09 16:39	Oct-30-09 16:39
	Units/RL:	RL					RL	RL	RL	RL
o-Xylene	Extracted:	Oct-30-09 17:00				mg/kg	Oct-30-09 17:00	Oct-30-09 17:00	Oct-30-09 17:00	Oct-30-09 17:00
	Units/RL:	RL					RL	RL	RL	RL
Xylenes, Total	Extracted:	Oct-30-09 16:39				mg/kg	Oct-30-09 16:39	Oct-30-09 16:39	Oct-30-09 16:39	Oct-30-09 16:39
	Units/RL:	RL					RL	RL	RL	RL
Total BTEX	Extracted:	Oct-30-09 17:00				%	Oct-30-09 17:00	Oct-30-09 17:00	Oct-30-09 17:00	Oct-30-09 17:00
	Units/RL:	RL					RL	RL	RL	RL
<b>Determination of Inorganic Anions In Water By Ion</b>										
Chloride	Extracted:	Oct-30-09 16:39				mg/kg	Oct-30-09 16:39	Oct-30-09 16:39	Oct-30-09 16:39	Oct-30-09 16:39
	Units/RL:	RL					RL	RL	RL	RL
<b>Percent Moisture</b>										
	Extracted:	Oct-30-09 17:00				%	Oct-30-09 17:00	Oct-30-09 17:00	Oct-30-09 17:00	Oct-30-09 17:00
	Units/RL:	RL					RL	RL	RL	RL
<b>TPH by SW8015 Mod</b>										
	Extracted:	Oct-30-09 14:45				mg/kg	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45
	Units/RL:	RL					RL	RL	RL	RL
C6-C12 Gasoline Range Hydrocarbons	Extracted:	Nov-02-09 11:11				mg/kg	Nov-02-09 22:29	Nov-02-09 11:40	Nov-02-09 23:22	Nov-02-09 16:22
	Units/RL:	RL					RL	RL	RL	RL
C12-C28 Diesel Range Hydrocarbons	Extracted:	Oct-30-09 14:45				mg/kg	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45
	Units/RL:	RL					RL	RL	RL	RL
C28-C35 Oil Range Hydrocarbons	Extracted:	Oct-30-09 14:45				mg/kg	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45
	Units/RL:	RL					RL	RL	RL	RL
Total TPH	Extracted:	Oct-30-09 14:45				mg/kg	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45
	Units/RL:	RL					RL	RL	RL	RL

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.

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

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

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





# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350342,

Project ID: 2004-00061

Lab Batch #: 779806

Sample: 542066-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 19:00

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 779806

Sample: 542066-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 19:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 779806

Sample: 542066-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 20:05

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 779806

Sample: 350342-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 20:27

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 779806

Sample: 350342-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 20:48

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350342,

Project ID: 2004-00061

Lab Batch #: 779806

Sample: 350342-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 21:10

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 779806

Sample: 350342-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 21:31

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0323	0.0300	108	80-120	

Lab Batch #: 779806

Sample: 350342-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 21:53

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 779806

Sample: 350350-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 04:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 779806

Sample: 350350-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 05:19

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350342,  
Lab Batch #: 779973

Project ID: 2004-00061

Sample: 542162-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 10/30/09 20:42

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	99.7	99	70-135	
o-Terphenyl	46.5	49.9	93	70-135	

Lab Batch #: 779973

Sample: 542162-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 10/30/09 21:09

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.7	99.6	92	70-135	
o-Terphenyl	42.7	49.8	86	70-135	

Lab Batch #: 779973

Sample: 542162-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 10/30/09 21:36

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.6	100	96	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 779973

Sample: 350342-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 10/30/09 22:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.3	100	85	70-135	
o-Terphenyl	44.2	50.0	88	70-135	

Lab Batch #: 779973

Sample: 350342-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 10/30/09 23:22

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.2	99.8	82	70-135	
o-Terphenyl	43.2	49.9	87	70-135	

\* 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: Lea Station Landfarm



Work Orders : 350342,  
Lab Batch #: 779973

Sample: 350342-001 / SMP

Project ID: 2004-00061  
Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/02/09 11:11

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	64.3	50.0	129	70-135	

Lab Batch #: 779973

Sample: 350342-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/02/09 11:40

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	126	99.9	126	70-135	
o-Terphenyl	69.9	50.0	140	70-135	*

Lab Batch #: 779973

Sample: 350342-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/02/09 16:22

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	111	99.9	111	70-135	
o-Terphenyl	65.3	50.0	131	70-135	



\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.





# Blank Spike Recovery



**Project Name: Lea Station Landfarm**

**Work Order #: 350342**

**Project ID:**

2004-00061

**Lab Batch #: 779937**

**Sample: 779937-1-BKS**

**Matrix: Solid**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

### BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.500	11.0	11.3	103	75-125	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350342

Project ID: 2004-00061

Analyst: ASA

Date Prepared: 10/30/2009

Date Analyzed: 10/30/2009

Lab Batch ID: 779806

Sample: 542066-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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	<0.0010	0.1000	0.0812	81	0.1	0.0802	80	1	70-130	35	
Toluene	<0.0020	0.1000	0.0791	79	0.1	0.0785	79	1	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0822	82	0.1	0.0786	79	4	71-129	35	
m,p-Xylenes	<0.0020	0.2000	0.1700	85	0.2	0.1707	85	0	70-135	35	
o-Xylene	<0.0010	0.1000	0.0849	85	0.1	0.0848	85	0	71-133	35	

Analyst: BEV

Date Prepared: 10/30/2009

Date Analyzed: 10/30/2009

Lab Batch ID: 779973

Sample: 542162-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<15.0	997	801	80	996	744	75	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	997	771	77	996	718	72	7	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350342  
Lab Batch #: 779937  
Date Analyzed: 10/30/2009  
QC- Sample ID: 350342-001 S  
Reporting Units: mg/kg

Date Prepared: 10/30/2009

Project ID: 2004-00061  
Analyst: LATCOR

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<5.17	114	121	106	75-125	

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

Below Reporting Limit



# Form 3 - MSO/MSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350342

Project ID: 2004-00061

Lab Batch ID: 779806

QC- Sample ID: 350350-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/31/2009

Date Prepared: 10/30/2009 Analyst: ASA

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<0.0010	0.1021	0.0722	71	0.1013	0.0728	72	1	70-130	35	
Toluene	<0.0020	0.1021	0.0723	71	0.1013	0.0718	71	1	70-130	35	
Ethylbenzene	<0.0010	0.1021	0.0721	71	0.1013	0.0720	71	0	71-129	35	
m,p-Xylenes	<0.0020	0.2042	0.1548	76	0.2026	0.1544	76	0	70-135	35	
o-Xylene	<0.0010	0.1021	0.0779	76	0.1013	0.0773	76	1	71-133	35	

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, EQ = Estimated Quantitation Limit



# Sample Duplicate Recovery



**Project Name: Lea Station Landfarm**

**Work Order #: 350342**

**Lab Batch #: 779937**

**Project ID: 2004-00061**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: LATCOR**

**QC- Sample ID: 350342-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<5.17	<5.17	NC	20	

**Lab Batch #: 779763**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: WRU**

**QC- Sample ID: 350342-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.24	2.74	17	20	

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



# Environmental Lab of Texas

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

Client: Plains / Basin  
 Date/ Time: 10-30-09 @ 0855  
 Lab ID #: 350342  
 Initials: JMF

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	Yes	No	1.6 °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? / labels	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 350346

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**05-NOV-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALH1), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



05-NOV-09

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

Reference: XENCO Report No: **350346**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 350346. 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. 350346 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 350346**



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

Lea Station Landfarm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
VZ Cell B G-1	S	Oct-27-09 13:39		350346-001
VZ Cell B G-2	S	Oct-27-09 13:48		350346-002
VZ Cell B G-3	S	Oct-27-09 13:59		350346-003
VZ Cell B G-4	S	Oct-27-09 14:09		350346-004
VZ Cell B G-5	S	Oct-27-09 14:19		350346-005

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*

*Project ID: 2004-00061*

*Work Order Number: 350346*

*Report Date: 05-NOV-09*

*Date Received: 10/30/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779763 Percent Moisture

None

Batch: LBA-779806 BTEX by EPA 8021

None

Batch: LBA-779937 Inorganic Anions by EPA 300

None

Batch: LBA-779973 TPH by SW8015 Mod

SW8015MOD\_NM

Batch 779973, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 350346-004.



# Certificate of Analysis Summary 350346

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



Project Id: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Project Name: Lea Station Landfarm

Date Received in Lab: Fri Oct-30-09 08:55 am

Report Date: 05-NOV-09

Project Manager: Brent Barron, II

Analysis Requested		Lab Id:	350346-001	350346-002	350346-003	350346-004	350346-005
		Field Id:	VZ Cell B G-1	VZ Cell B G-2	VZ Cell B G-3	VZ Cell B G-4	VZ Cell B G-5
		Depth:					
		Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled:	Oct-27-09 13:39	Oct-27-09 13:48	Oct-27-09 13:59	Oct-27-09 14:09	Oct-27-09 14:19
<b>BTEX by EPA 8021</b>		Extracted:	Oct-30-09 13:00				
		Analyzed:	Oct-30-09 22:14	Oct-30-09 22:35	Oct-30-09 22:57	Oct-30-09 23:18	Oct-30-09 23:39
		Units/RL:	mg/kg RL				
Benzene			BRL 0.0010				
Toluene			BRL 0.0020	BRL 0.0021	BRL 0.0021	BRL 0.0020	BRL 0.0020
Ethylbenzene			BRL 0.0010				
m,p-Xylenes			BRL 0.0020	BRL 0.0021	BRL 0.0021	BRL 0.0020	BRL 0.0020
o-Xylene			BRL 0.0010				
Xylenes, Total			BRL 0.0010				
Total BTEX			BRL 0.0010				
<b>Determination of Inorganic Anions In Water By Ion</b>		Extracted:					
		Analyzed:	Oct-30-09 16:39				
		Units/RL:	mg/kg RL				
Chloride			10.8 5.15	BRL 5.28	BRL 5.17	BRL 5.11	BRL 5.10
<b>Percent Moisture</b>		Extracted:					
		Analyzed:	Oct-30-09 17:00				
		Units/RL:	% RL				
Percent Moisture			2.90 1.00	5.25 1.00	3.24 1.00	2.16 1.00	1.89 1.00
<b>TPH by SW8015 Mod</b>		Extracted:					
		Analyzed:	Oct-30-09 14:45				
		Units/RL:	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons			BRL 15.4	BRL 15.8	BRL 15.5	BRL 15.3	BRL 15.2
C12-C28 Diesel Range Hydrocarbons			BRL 15.4	BRL 15.8	BRL 15.5	BRL 15.3	BRL 15.2
C28-C35 Oil Range Hydrocarbons			BRL 15.4	BRL 15.8	BRL 15.5	BRL 15.3	BRL 15.2
Total TPH			BRL 15.4	BRL 15.8	BRL 15.5	BRL 15.3	BRL 15.2

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.



*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: Lea Station Landfarm

Work Orders : 350346,  
Lab Batch #: 779806

Project ID: 2004-00061

Sample: 542066-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 19:00

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 779806

Sample: 542066-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 19:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 779806

Sample: 542066-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 20:05

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 779806

Sample: 350346-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 22:14

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 779806

Sample: 350346-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 22:35

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350346,

Project ID: 2004-00061

Lab Batch #: 779806

Sample: 350346-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 22:57

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 779806

Sample: 350346-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 23:18

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 779806

Sample: 350346-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/30/09 23:39

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 779806

Sample: 350350-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 04:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 779806

Sample: 350350-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 05:19

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350346,

Project ID: 2004-00061

Lab Batch #: 779973

Sample: 542162-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 20:42

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	99.7	99	70-135	
o-Terphenyl	46.5	49.9	93	70-135	

Lab Batch #: 779973

Sample: 542162-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 21:09

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.7	99.6	92	70-135	
o-Terphenyl	42.7	49.8	86	70-135	

Lab Batch #: 779973

Sample: 542162-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 21:36

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.6	100	96	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 779973

Sample: 350346-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/09 12:06

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.9	115	70-135	
o-Terphenyl	64.0	50.0	128	70-135	

Lab Batch #: 779973

Sample: 350346-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/09 12:31

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	66.9	50.0	134	70-135	

\* 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: Lea Station Landfarm

Work Orders : 350346,  
Lab Batch #: 779973

Project ID: 2004-00061

Sample: 350346-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/09 12:58

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	64.6	50.0	129	70-135	

Lab Batch #: 779973

Sample: 350346-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/09 13:24

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	99.8	126	70-135	
o-Terphenyl	71.1	49.9	142	70-135	*

Lab Batch #: 779973

Sample: 350346-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/09 13:50

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.6	117	70-135	
o-Terphenyl	64.1	49.8	129	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Landfarm

Work Order #: 350346

Project ID:

2004-00061

Lab Batch #: 779937

Sample: 779937-1-BKS

Matrix: Solid

Date Analyzed: 10/30/2009

Date Prepared: 10/30/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

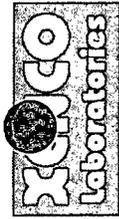
## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.500	11.0	11.3	103	75-125	

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

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

- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350346

Project ID: 2004-00061

Analyst: ASA

Date Prepared: 10/30/2009

Date Analyzed: 10/30/2009

Lab Batch ID: 779806

Batch #: 1

Sample: 542066-1-BKS

Matrix: Solid

Units: mg/kg

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	<0.0010	0.1000	0.0812	81	0.1	0.0802	80	1	70-130	35	
Toluene	<0.0020	0.1000	0.0791	79	0.1	0.0785	79	1	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0822	82	0.1	0.0786	79	4	71-129	35	
m,p-Xylenes	<0.0020	0.2000	0.1700	85	0.2	0.1707	85	0	70-135	35	
o-Xylene	<0.0010	0.1000	0.0849	85	0.1	0.0848	85	0	71-133	35	

Analyst: BEV Date Prepared: 10/30/2009

Date Analyzed: 10/30/2009

Lab Batch ID: 779973

Batch #: 1

Sample: 542162-1-BKS

Matrix: Solid

Units: mg/kg

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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<15.0	997	801	80	996	744	75	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	997	771	77	996	718	72	7	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350346

Lab Batch #: 779937

Project ID: 2004-00061

Date Analyzed: 10/30/2009

Date Prepared: 10/30/2009

Analyst: LATCOR

QC- Sample ID: 350342-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<5.17	114	121	106	75-125	

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

- Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350346

Project ID: 2004-00061

Lab Batch ID: 779806

Batch #: 1 Matrix: Soil

Date Analyzed: 10/31/2009

QC- Sample ID: 350350-005 S Date Prepared: 10/30/2009 Analyst: ASA

Reporting Units: mg/kg

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	<0.0010	0.1021	0.0722	71	0.1013	0.0728	72	1	70-130	35	
Toluene	<0.0020	0.1021	0.0723	71	0.1013	0.0718	71	1	70-130	35	
Ethylbenzene	<0.0010	0.1021	0.0721	71	0.1013	0.0720	71	0	71-129	35	
m,p-Xylenes	<0.0020	0.2042	0.1548	76	0.2026	0.1544	76	0	70-135	35	
o-Xylene	<0.0010	0.1021	0.0779	76	0.1013	0.0773	76	1	71-133	35	

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

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

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



# Sample Duplicate Recovery



**Project Name: Lea Station Landfarm**

Work Order #: 350346

Lab Batch #: 779937

Project ID: 2004-00061

Date Analyzed: 10/30/2009

Date Prepared: 10/30/2009

Analyst: LATCOR

QC- Sample ID: 350342-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<5.17	<5.17	NC	20	

Lab Batch #: 779763

Date Analyzed: 10/30/2009

Date Prepared: 10/30/2009

Analyst: WRU

QC- Sample ID: 350342-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.24	2.74	17	20	

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



# Environmental Lab of Texas

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

Client: Plains / Basin  
 Date/ Time: 10-30-09 @ 0855  
 Lab ID #: 350340  
 Initials: JMF

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	Yes	No	6.6 °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? / labels	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 350348

for

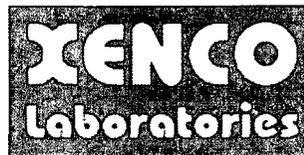
## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**05-NOV-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida (E86240),

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



05-NOV-09

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

Reference: XENCO Report No: **350348**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 350348. 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. 350348 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 350348**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Landfarm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
VZ Cell C G-1	S	Oct-27-09 14:29		350348-001
VZ Cell C G-2	S	Oct-27-09 14:39		350348-002
VZ Cell C G-3	S	Oct-27-09 14:49		350348-003
VZ Cell C G-4	S	Oct-27-09 14:59		350348-004
VZ Cell C G-5	S	Oct-27-09 15:09		350348-005

## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*

*Project ID: 2004-00061*

*Work Order Number: 350348*

*Report Date: 05-NOV-09*

*Date Received: 10/30/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779763 Percent Moisture

None

Batch: LBA-779806 BTEX by EPA 8021

None

Batch: LBA-779937 Inorganic Anions by EPA 300

None

Batch: LBA-779973 TPH by SW8015 Mod

SW8015MOD\_NM

Batch 779973, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 350348-003.



# Certificate of Analysis Summary 350348

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



Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Oct-30-09 08:55 am

Report Date: 05-NOV-09

Project Manager: Brent Barron, II

Project Name: Lea Station Landfarm

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	350348-001	350348-002	350348-003	350348-004	350348-005
		VZ Cell C G-1		SOIL	Oct-27-09 14:29		VZ Cell C G-2	VZ Cell C G-3	VZ Cell C G-4	VZ Cell C G-5
		Oct-30-09 13:00		SOIL	Oct-27-09 14:39		SOIL	SOIL	SOIL	SOIL
<b>BTEX by EPA 8021</b>		Oct-31-09 00:43		RL	Oct-30-09 13:00					
		mg/kg		RL	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		ND 0.0010		RL	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0010	ND 0.0011
Benzene		ND 0.0021		RL	ND 0.0023	ND 0.0022	ND 0.0022	ND 0.0020	ND 0.0022	ND 0.0022
Toluene		ND 0.0010		RL	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
Ethylbenzene		ND 0.0021		RL	ND 0.0023	ND 0.0022	ND 0.0022	ND 0.0020	ND 0.0022	ND 0.0022
m,p-Xylenes		ND 0.0010		RL	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
o-Xylene		ND 0.0010		RL	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
Xylenes, Total		ND 0.0010		RL	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
Total BTEX		ND 0.0010		RL	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
<b>Determination of Inorganic Anions In Water By Ion</b>		Oct-30-09 16:39		RL	Oct-30-09 16:39					
		mg/kg		RL	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Chloride		ND 5.23		RL	ND 5.79	ND 5.48	ND 5.17	5.17	5.05	6.72
				RL						5.44
<b>Percent Moisture</b>		Oct-30-09 17:00		RL	Oct-30-09 17:00					
		%		RL	%	%	%	%	%	%
Percent Moisture		4.42		RL	13.6	8.79	8.79	ND	1.00	8.09
				RL						1.00
<b>TPH by SW8015 Mod</b>		Oct-30-09 14:45		RL	Oct-30-09 14:45					
		Nov-02-09 14:15		RL	Oct-31-09 03:24	Nov-03-09 09:39	Oct-31-09 04:18	Oct-31-09 04:44	Oct-31-09 04:44	Oct-31-09 04:44
		mg/kg		RL	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
C6-C12 Gasoline Range Hydrocarbons		ND 15.7		RL	ND 17.4	ND 16.4	ND 15.1	ND 15.1	ND 16.3	ND 16.3
C12-C28 Diesel Range Hydrocarbons		ND 15.7		RL	ND 17.4	ND 16.4	ND 15.1	ND 15.1	ND 16.3	ND 16.3
C28-C35 Oil Range Hydrocarbons		ND 15.7		RL	ND 17.4	ND 16.4	ND 15.1	ND 15.1	ND 16.3	ND 16.3
Total TPH		ND 15.7		RL	ND 17.4	ND 16.4	ND 15.1	ND 15.1	ND 16.3	ND 16.3

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.

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

*Certified and approved by numerous States and Agencies.*

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

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

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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350348,

Project ID: 2004-00061

Lab Batch #: 779806

Sample: 542066-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 19:00

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 779806

Sample: 542066-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 19:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 779806

Sample: 542066-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 20:05

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 779806

Sample: 350348-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 00:43

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 779806

Sample: 350348-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 01:05

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	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: Lea Station Landfarm

Work Orders : 350348,

Project ID: 2004-00061

Lab Batch #: 779806

Sample: 350348-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 01:26

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 779806

Sample: 350348-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 01:47

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 779806

Sample: 350348-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 02:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 779806

Sample: 350350-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 04:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 779806

Sample: 350350-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 05:19

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350348,

Project ID: 2004-00061

Lab Batch #: 779973

Sample: 542162-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 20:42

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	99.7	99	70-135	
o-Terphenyl	46.5	49.9	93	70-135	

Lab Batch #: 779973

Sample: 542162-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 21:09

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.7	99.6	92	70-135	
o-Terphenyl	42.7	49.8	86	70-135	

Lab Batch #: 779973

Sample: 542162-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/30/09 21:36

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.6	100	96	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 779973

Sample: 350348-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 03:24

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.3	100	88	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

Lab Batch #: 779973

Sample: 350348-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 04:18

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.6	99.5	100	70-135	
o-Terphenyl	49.5	49.8	99	70-135	

\* 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: Lea Station Landfarm

Work Orders : 350348,  
Lab Batch #: 779973

Project ID: 2004-00061

Sample: 350348-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 04:44

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.2	100	86	70-135	
o-Terphenyl	42.7	50.0	85	70-135	

Lab Batch #: 779973

Sample: 350348-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/09 14:15

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	67.2	50.0	134	70-135	

Lab Batch #: 779973

Sample: 350348-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 09:39

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	99.5	122	70-135	
o-Terphenyl	70.1	49.8	141	70-135	*

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



**Project Name: Lea Station Landfarm**

**Work Order #: 350348**

**Project ID:**

2004-00061

**Lab Batch #: 779937**

**Sample: 779937-1-BKS**

**Matrix: Solid**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

### BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	11.0	11.3	103	75-125	

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

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

RL - Below Reporting Limit



# BS / BSD Recoveries



## Project Name: Lea Station Landfarm

Work Order #: 350348

Analyst: ASA

Lab Batch ID: 779806

Date Prepared: 10/30/2009

Sample: 542066-1-BKS

Project ID: 2004-00061

Date Analyzed: 10/30/2009

Matrix: Solid

Batch #: 1

Units: mg/kg

### 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	0.0812	81	0.1	0.0802	80	1	70-130	35	
Toluene	ND	0.1000	0.0791	79	0.1	0.0785	79	1	70-130	35	
Ethylbenzene	ND	0.1000	0.0822	82	0.1	0.0786	79	4	71-129	35	
m,p-Xylenes	ND	0.2000	0.1700	85	0.2	0.1707	85	0	70-135	35	
o-Xylene	ND	0.1000	0.0849	85	0.1	0.0848	85	0	71-133	35	

Analyst: BEV

Lab Batch ID: 779973

Date Prepared: 10/30/2009

Sample: 542162-1-BKS

Date Analyzed: 10/30/2009

Matrix: Solid

Units: mg/kg

### 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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	ND	997	801	80	996	744	75	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	997	771	77	996	718	72	7	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350348

Lab Batch #: 779937

Project ID: 2004-00061

Date Analyzed: 10/30/2009

Date Prepared: 10/30/2009

Analyst: LATCOR

QC- Sample ID: 350342-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	ND	114	121	106	75-125	

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

BRL - Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350348

Project ID: 2004-00061

Lab Batch ID: 779806

Batch #: 1 Matrix: Soil

Date Analyzed: 10/31/2009

QC-Sample ID: 350350-005 S Date Prepared: 10/30/2009 Analyst: ASA

Reporting Units: mg/kg

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	0.1021	0.0722	71	0.1013	0.0728	72	1	70-130	35	
Toluene	ND	0.1021	0.0723	71	0.1013	0.0718	71	1	70-130	35	
Ethylbenzene	ND	0.1021	0.0721	71	0.1013	0.0720	71	0	71-129	35	
m,p-Xylenes	ND	0.2042	0.1548	76	0.2026	0.1544	76	0	70-135	35	
o-Xylene	ND	0.1021	0.0779	76	0.1013	0.0773	76	1	71-133	35	

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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



# Sample Duplicate Recovery



**Project Name: Lea Station Landfarm**

**Work Order #: 350348**

**Lab Batch #: 779937**

**Project ID: 2004-00061**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: LATCOR**

**QC- Sample ID: 350342-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	ND	ND	NC	20	

**Lab Batch #: 779763**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: WRU**

**QC- Sample ID: 350342-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.24	2.74	17	20	

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



# Environmental Lab of Texas

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

Client: Plains / Basin  
 Date/ Time: 10-30-09 @ 0855  
 Lab ID #: 330348  
 Initials: JMF

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	Yes	No	1.6 °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? / labels	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 350350

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**05-NOV-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)  
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)  
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)  
Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),  
South Carolina(96031001), Louisiana(04154), Georgia(917)



05-NOV-09

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

Reference: XENCO Report No: **350350**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 350350. 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. 350350 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.  
Certified and approved by numerous States and Agencies.  
A Small Business and Minority Status Company that delivers SERVICE and QUALITY  
Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America*



**Sample Cross Reference 350350**



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

Lea Station Landfarm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
VZ Cell D G-1	S	Oct-27-09 15:19		350350-001
VZ Cell D G-2	S	Oct-27-09 15:29		350350-002
VZ Cell D G-3	S	Oct-27-09 15:39		350350-003
VZ Cell D G-4	S	Oct-27-09 15:49		350350-004
VZ Cell D G-5	S	Oct-27-09 15:59		350350-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*

*Project ID: 2004-00061*  
*Work Order Number: 350350*

*Report Date: 05-NOV-09*  
*Date Received: 10/30/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779763 Percent Moisture  
None

Batch: LBA-779806 BTEX by EPA 8021  
None

Batch: LBA-779937 Inorganic Anions by EPA 300  
None

Batch: LBA-779973 TPH by SW8015 Mod  
SW8015MOD\_NM

Batch 779973, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis  
Samples affected are: 350350-005.

Batch: LBA-780097 BTEX by EPA 8021  
SW8021BM

Batch 780097, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 350350-002, -003.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits



# Certificate of Analytical Summary 350350

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



Project Id: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Fri Oct-30-09 08:55 am  
 Report Date: 05-NOV-09  
 Project Manager: Brent Barron, II

Project Name: Lea Station Landfarm

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	350350-001	350350-002	350350-003	350350-004	350350-005
<b>BTEX by EPA 8021</b>		VZ Cell D G-1	SOIL		Oct-27-09 15:19	VZ Cell D G-1	SOIL	VZ Cell D G-3	SOIL	VZ Cell D G-5
		Oct-30-09 13:00			Oct-27-09 15:29	Oct-27-09 15:29	SOIL	Oct-27-09 15:39	SOIL	Oct-27-09 15:59
		Nov-02-09 15:00			Nov-03-09 01:46	Nov-02-09 15:00	SOIL	Nov-02-09 15:00	SOIL	Oct-30-09 13:00
		Oct-31-09 02:30			Nov-03-09 02:07	Nov-03-09 02:07	SOIL	Nov-03-09 02:07	SOIL	Oct-31-09 03:12
		mg/kg RL			mg/kg RL	mg/kg RL		mg/kg RL		mg/kg RL
Benzene		BRL 0.0010			BRL 0.0012	BRL 0.0011		BRL 0.0011		BRL 0.0010
Toluene		BRL 0.0021			BRL 0.0024	BRL 0.0021		BRL 0.0022		BRL 0.0020
Ethylbenzene		BRL 0.0010			BRL 0.0012	BRL 0.0011		BRL 0.0011		BRL 0.0010
m,p-Xylenes		BRL 0.0021			BRL 0.0024	BRL 0.0021		BRL 0.0022		BRL 0.0020
o-Xylene		BRL 0.0010			BRL 0.0012	BRL 0.0011		BRL 0.0011		BRL 0.0010
Xylenes, Total		BRL 0.0010			BRL 0.0012	BRL 0.0011		BRL 0.0011		BRL 0.0010
Total BTEX		BRL 0.0010			BRL 0.0012	BRL 0.0011		BRL 0.0011		BRL 0.0010
<b>Determination of Inorganic Anions In Water By Ion</b>										
		Oct-30-09 16:39			Oct-30-09 16:39	Oct-30-09 16:39		Oct-30-09 16:39		Oct-30-09 16:39
		mg/kg RL			mg/kg RL	mg/kg RL		mg/kg RL		mg/kg RL
Chloride		BRL 5.16			BRL 5.89	BRL 5.31		BRL 5.55		BRL 5.11
<b>Percent Moisture</b>										
		Oct-30-09 17:00			Oct-30-09 17:00	Oct-30-09 17:00		Oct-30-09 17:00		Oct-30-09 17:00
		% RL			% RL	% RL		% RL		% RL
Percent Moisture		3.17 1.00			15.1 1.00	5.79 1.00		9.93 1.00		2.24 1.00
<b>TPH by SW8015 Mod</b>										
		Oct-30-09 14:45			Oct-30-09 14:45	Oct-30-09 14:45		Oct-30-09 14:45		Oct-30-09 14:45
		Nov-02-09 14:41			Oct-31-09 05:38	Oct-31-09 06:05		Oct-31-09 06:32		Nov-02-09 15:06
		mg/kg RL			mg/kg RL	mg/kg RL		mg/kg RL		mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		BRL 15.5			BRL 17.7	BRL 15.9		BRL 16.7		BRL 15.3
C12-C28 Diesel Range Hydrocarbons		BRL 15.5			BRL 17.7	BRL 15.9		BRL 16.7		BRL 15.3
C28-C35 Oil Range Hydrocarbons		BRL 15.5			BRL 17.7	BRL 15.9		BRL 16.7		BRL 15.3
Total TPH		BRL 15.5			BRL 17.7	BRL 15.9		BRL 16.7		BRL 15.3

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.

*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: Lea Station Landfarm

Work Orders : 350350,  
Lab Batch #: 779806

Project ID: 2004-00061

Sample: 542066-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 10/30/09 19:00

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 779806

Sample: 542066-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 10/30/09 19:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 779806

Sample: 542066-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 10/30/09 20:05

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 779806

Sample: 350350-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 10/31/09 02:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 779806

Sample: 350350-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 10/31/09 02:51

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350350,  
Lab Batch #: 779806

Project ID: 2004-00061

Sample: 350350-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/31/09 03:12		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0268	0.0300	89	80-120	
4-Bromofluorobenzene		0.0300	0.0300	100	80-120	

Lab Batch #: 779806

Sample: 350350-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/31/09 04:58		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0296	0.0300	99	80-120	
4-Bromofluorobenzene		0.0322	0.0300	107	80-120	

Lab Batch #: 779806

Sample: 350350-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/31/09 05:19		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0295	0.0300	98	80-120	
4-Bromofluorobenzene		0.0313	0.0300	104	80-120	

Lab Batch #: 780097

Sample: 542219-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 11/02/09 23:58		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0305	0.0300	102	80-120	
4-Bromofluorobenzene		0.0308	0.0300	103	80-120	

Lab Batch #: 780097

Sample: 542219-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 11/03/09 00:20		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0307	0.0300	102	80-120	
4-Bromofluorobenzene		0.0308	0.0300	103	80-120	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350350,  
Lab Batch #: 780097

Project ID: 2004-00061

Sample: 542219-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 11/03/09 01:24		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0267	0.0300	89	80-120	
4-Bromofluorobenzene		0.0307	0.0300	102	80-120	

Lab Batch #: 780097

Sample: 350350-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 11/03/09 01:46		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0276	0.0300	92	80-120	
4-Bromofluorobenzene		0.0327	0.0300	109	80-120	

Lab Batch #: 780097

Sample: 350350-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 11/03/09 02:07		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0275	0.0300	92	80-120	
4-Bromofluorobenzene		0.0320	0.0300	107	80-120	

Lab Batch #: 780097

Sample: 350350-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 11/03/09 08:09		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0298	0.0300	99	80-120	
4-Bromofluorobenzene		0.0327	0.0300	109	80-120	

Lab Batch #: 780097

Sample: 350350-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 11/03/09 08:30		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0299	0.0300	100	80-120	
4-Bromofluorobenzene		0.0325	0.0300	108	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: Lea Station Landfarm

Work Orders : 350350,  
Lab Batch #: 779973

Project ID: 2004-00061

Sample: 542162-1-BKS / BKS

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.2	99.7	99	70-135	
o-Terphenyl	46.5	49.9	93	70-135	

Lab Batch #: 779973

Sample: 542162-1-BSD / BSD

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	91.7	99.6	92	70-135	
o-Terphenyl	42.7	49.8	86	70-135	

Lab Batch #: 779973

Sample: 542162-1-BLK / BLK

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.6	100	96	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 779973

Sample: 350350-002 / SMP

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.9	100	89	70-135	
o-Terphenyl	45.5	50.0	91	70-135	

Lab Batch #: 779973

Sample: 350350-003 / SMP

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	52.5	50.0	105	70-135	

\* 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: Lea Station Landfarm

Work Orders : 350350,  
Lab Batch #: 779973

Project ID: 2004-00061

Sample: 350350-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 10/31/09 06:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	52.6	50.0	105	70-135	

Lab Batch #: 779973 Sample: 350350-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/02/09 14:41

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	65.1	50.0	130	70-135	

Lab Batch #: 779973 Sample: 350350-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/02/09 15:06

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	74.2	50.0	148	70-135	*

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Landfarm

Work Order #: 350350

Project ID:

2004-00061

Lab Batch #: 779937

Sample: 779937-1-BKS

Matrix: Solid

Date Analyzed: 10/30/2009

Date Prepared: 10/30/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.500	11.0	11.3	103	75-125	

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

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

L - Below Reporting Limit



# BS / BSD Recoveries



## Project Name: Lea Station Landfarm

Work Order #: 350350

Project ID: 2004-00061

Analyst: ASA

Date Prepared: 10/30/2009

Date Analyzed: 10/30/2009

Lab Batch ID: 779806

Sample: 542066-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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	<0.0010	0.1000	0.0812	81	0.1	0.0802	80	1	70-130	35	
Toluene	<0.0020	0.1000	0.0791	79	0.1	0.0785	79	1	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0822	82	0.1	0.0786	79	4	71-129	35	
m,p-Xylenes	<0.0020	0.2000	0.1700	85	0.2	0.1707	85	0	70-135	35	
o-Xylene	<0.0010	0.1000	0.0849	85	0.1	0.0848	85	0	71-133	35	

Analyst: ASA

Date Prepared: 11/02/2009

Date Analyzed: 11/02/2009

Lab Batch ID: 780097

Sample: 542219-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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	<0.0010	0.1000	0.0928	93	0.1	0.0935	94	1	70-130	35	
Toluene	<0.0020	0.1000	0.0899	90	0.1	0.0914	91	2	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0910	91	0.1	0.0920	92	1	71-129	35	
m,p-Xylenes	<0.0020	0.2000	0.1982	99	0.2	0.2010	101	1	70-135	35	
o-Xylene	<0.0010	0.1000	0.0986	99	0.1	0.0996	100	1	71-133	35	

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



# BS / BSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350350

Analyst: BEV

Lab Batch ID: 779973

Sample: 542162-1-BKS

Date Prepared: 10/30/2009

Project ID: 2004-00061

Date Analyzed: 10/30/2009

Batch #: 1

Matrix: Solid

Units: mg/kg

## 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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<15.0	997	801	80	996	744	75	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	997	771	77	996	718	72	7	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350350

Project ID: 2004-00061

Lab Batch #: 779937

Analyst: LATCOR

Date Prepared: 10/30/2009

Date Analyzed: 10/30/2009

QC- Sample ID: 350342-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<5.17	114	121	106	75-125	

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

BRL - Below Reporting Limit



# Form 3 - N/MSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350350

Lab Batch ID: 779806

Date Analyzed: 10/31/2009

Reporting Units: mg/kg

Project ID: 2004-00061

QC- Sample ID: 350350-005 S Batch #: 1 Matrix: Soil

Date Prepared: 10/30/2009 Analyst: ASA

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spiked Sample %R [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0010	0.1021	0.0722	71	0.1013	0.0728	72	1	70-130	35	
Toluene	<0.0020	0.1021	0.0723	71	0.1013	0.0718	71	1	70-130	35	
Ethylbenzene	<0.0010	0.1021	0.0721	71	0.1013	0.0720	71	0	71-129	35	
m,p-Xylenes	<0.0020	0.2042	0.1548	76	0.2026	0.1544	76	0	70-135	35	
o-Xylene	<0.0010	0.1021	0.0779	76	0.1013	0.0773	76	1	71-133	35	

Lab Batch ID: 780097

Date Analyzed: 11/03/2009

Reporting Units: mg/kg

QC- Sample ID: 350350-003 S

Date Prepared: 11/02/2009

Batch #: 1 Matrix: Soil

Analyst: ASA

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spiked Sample %R [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0011	0.1061	0.0555	52	0.1061	0.0568	54	2	70-130	35	X
Toluene	<0.0021	0.1061	0.0567	53	0.1061	0.0572	54	1	70-130	35	X
Ethylbenzene	<0.0011	0.1061	0.0581	55	0.1061	0.0585	55	1	71-129	35	X
m,p-Xylenes	<0.0021	0.2123	0.1259	59	0.2123	0.1269	60	1	70-135	35	X
o-Xylene	<0.0011	0.1061	0.0631	59	0.1061	0.0629	59	0	71-133	35	X

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, EQ = Estimated Quantitation Limit

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



# Sample Duplicate Recovery



Project Name: Lea Station Landfarm

Work Order #: 350350

Lab Batch #: 779937

Project ID: 2004-00061

Date Analyzed: 10/30/2009

Date Prepared: 10/30/2009

Analyst: LATCOR

QC- Sample ID: 350342-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<5.17	<5.17	NC	20	

Lab Batch #: 779763

Date Analyzed: 10/30/2009

Date Prepared: 10/30/2009

Analyst: WRU

QC- Sample ID: 350342-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.24	2.74	17	20	

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



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

Client: Plains / Basin  
 Date/ Time: 10-30-09 @ 0855  
 Lab ID #: 350350  
 Initials: JMF

**Sample Receipt Checklist**

			Client Initials		
#1	Temperature of container/ cooler?	<input checked="" type="radio"/> Yes	No	<u>1.6</u> °C	
#2	Shipping container in good condition?	<input checked="" type="radio"/> Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	<input checked="" type="radio"/> Not Present	
#4	Custody Seals intact on sample bottles/ container? / labels	<input checked="" type="radio"/> Yes	No	Not Present	
#5	Chain of Custody present?	<input checked="" type="radio"/> Yes	No		
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="radio"/> Yes	No		
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="radio"/> Yes	No		
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="radio"/> Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<input checked="" type="radio"/> Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="radio"/> Yes	No		
#11	Containers supplied by ELOT?	<input checked="" type="radio"/> Yes	No		
#12	Samples in proper container/ bottle?	<input checked="" type="radio"/> Yes	No	See Below	
#13	Samples properly preserved?	<input checked="" type="radio"/> Yes	No	See Below	
#14	Sample bottles intact?	<input checked="" type="radio"/> Yes	No		
#15	Preservations documented on Chain of Custody?	<input checked="" type="radio"/> Yes	No		
#16	Containers documented on Chain of Custody?	<input checked="" type="radio"/> Yes	No		
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="radio"/> Yes	No	See Below	
#18	All samples received within sufficient hold time?	<input checked="" type="radio"/> Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	<input checked="" type="radio"/> Not Applicable	
#20	VOC samples have zero headspace?	<input checked="" type="radio"/> 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 350351

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**05-NOV-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



05-NOV-09

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

Reference: XENCO Report No: **350351**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 350351. 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. 350351 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 350351**



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

Lea Station Landfarm



<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
VZ Cell E G-1	S	Oct-27-09 16:09		350351-001
VZ Cell E G-2	S	Oct-27-09 16:19		350351-002
VZ Cell E G-3	S	Oct-28-09 07:10		350351-003
VZ Cell E G-4	S	Oct-28-09 07:20		350351-004





## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*

*Project ID: 2004-00061*

*Work Order Number: 350351*

*Report Date: 05-NOV-09*

*Date Received: 10/30/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779764 Percent Moisture

None

Batch: LBA-779820 TPH by SW8015 Mod

None

Batch: LBA-779943 Determination of Inorganic Anions In Water By Ion

None

Batch: LBA-780097 BTEX by EPA 8021

SW8021BM

Batch 780097, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 350351-003, -001, -004, -002.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits



# Certificate of Analytical Summary 350351

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



Project Id: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Project Name: Lea Station Landfarm

Date Received in Lab: Fri Oct-30-09 08:55 am  
 Report Date: 05-NOV-09  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	350351-001	350351-002	350351-003	350351-004
	Field Id:	VZ Cell E G-1	VZ Cell E G-2	VZ Cell E G-3	VZ Cell E G-4
Depth:					
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
Sampled:	Oct-27-09 16:09	Oct-27-09 16:19	Oct-28-09 07:10	Oct-28-09 07:20	Oct-28-09 07:20
Extracted:	Nov-02-09 15:00				
Analyzed:	Nov-03-09 02:28	Nov-03-09 02:50	Nov-03-09 03:11	Nov-03-09 03:33	Nov-03-09 03:33
Units/RL:	mg/kg RL				
Benzene	BRL 0.0011	BRL 0.0011	BRL 0.0011	BRL 0.0011	BRL 0.0010
Toluene	BRL 0.0023	BRL 0.0023	BRL 0.0021	BRL 0.0020	BRL 0.0020
Ethylbenzene	BRL 0.0011	BRL 0.0011	BRL 0.0011	BRL 0.0010	BRL 0.0010
m,p-Xylenes	BRL 0.0023	BRL 0.0023	BRL 0.0021	BRL 0.0020	BRL 0.0020
o-Xylene	BRL 0.0011	BRL 0.0011	BRL 0.0011	BRL 0.0010	BRL 0.0010
Xylenes, Total	BRL 0.0011	BRL 0.0011	BRL 0.0011	BRL 0.0010	BRL 0.0010
Total BTEX	BRL 0.0011	BRL 0.0011	BRL 0.0011	BRL 0.0010	BRL 0.0010
<b>Determination of Inorganic Anions In Water By Ion</b>					
Extracted:	Nov-02-09 15:56				
Analyzed:	mg/kg RL				
Units/RL:	BRL 5.63	BRL 5.63	5.26 5.26	BRL 5.06	BRL 5.06
Chloride					
Extracted:	Oct-30-09 17:00				
Analyzed:	% RL				
Units/RL:	11.2 1.00	11.2 1.00	5.01 1.00	1.24 1.00	1.24 1.00
Percent Moisture					
Extracted:	Oct-30-09 14:45				
Analyzed:	mg/kg RL				
Units/RL:	BRL 16.9	BRL 16.9	BRL 15.7	BRL 15.1	BRL 15.1
C6-C12 Gasoline Range Hydrocarbons					
C12-C28 Diesel Range Hydrocarbons	BRL 16.9	BRL 16.9	BRL 15.7	BRL 15.1	BRL 15.1
C28-C35 Oil Range Hydrocarbons	BRL 16.9	BRL 16.9	BRL 15.7	BRL 15.1	BRL 15.1
Total TPH	BRL 16.9	BRL 16.9	BRL 15.7	BRL 15.1	BRL 15.1

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.

*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: Lea Station Landfarm

Work Orders : 350351,  
Lab Batch #: 780097

Project ID: 2004-00061

Sample: 542219-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 11/02/09 23:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 780097

Sample: 542219-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 11/03/09 00:20

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 780097

Sample: 542219-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 11/03/09 01:24

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 780097

Sample: 350351-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/03/09 02:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 780097

Sample: 350351-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/03/09 02:50

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	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: Lea Station Landfarm

Work Orders : 350351,

Project ID: 2004-00061

Lab Batch #: 780097

Sample: 350351-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 03:11

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 780097

Sample: 350351-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 03:33

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 780097

Sample: 350350-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 08:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

Lab Batch #: 780097

Sample: 350350-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 08:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

Lab Batch #: 779820

Sample: 542075-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 10:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	51.8	49.9	104	70-135	

\* 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: Lea Station Landfarm

Work Orders : 350351,

Project ID: 2004-00061

Lab Batch #: 779820

Sample: 542075-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 10:57

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.8	107	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 779820

Sample: 542075-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 11:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 779820

Sample: 350351-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 12:14

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	100	98	70-135	
o-Terphenyl	51.4	50.0	103	70-135	

Lab Batch #: 779820

Sample: 350351-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 12:39

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.1	100	99	70-135	
o-Terphenyl	51.9	50.0	104	70-135	

Lab Batch #: 779820

Sample: 350351-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 13:04

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	99.5	97	70-135	
o-Terphenyl	49.6	49.8	100	70-135	

\* 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: Lea Station Landfarm

Work Orders : 350351,

Project ID: 2004-00061

Lab Batch #: 779820

Sample: 350351-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 13:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.3	99.7	98	70-135	
o-Terphenyl	48.2	49.9	97	70-135	

Lab Batch #: 779820

Sample: 350365-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 20:43

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

Lab Batch #: 779820

Sample: 350365-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 21:10

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.2	100	92	70-135	
o-Terphenyl	42.2	50.0	84	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



**Project Name: Lea Station Landfarm**

**Work Order #: 350351**

**Project ID: 2004-00061**

**Lab Batch #: 779943**

**Sample: 779943-1-BKS**

**Matrix: Solid**

**Date Analyzed: 11/02/2009**

**Date Prepared: 11/02/2009**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.500	11.0	11.1	101	75-125	

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

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

BRL - Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350351

Analyst: ASA

Lab Batch ID: 780097

Date Prepared: 11/02/2009

Batch #: 1

Sample: 542219-1-BKS

Project ID: 2004-00061

Date Analyzed: 11/02/2009

Matrix: Solid

Units: mg/kg

## 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	<0.0010	0.1000	0.0928	93	0.1	0.0935	94	1	70-130	35	
Toluene	<0.0020	0.1000	0.0899	90	0.1	0.0914	91	2	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0910	91	0.1	0.0920	92	1	71-129	35	
m,p-Xylenes	<0.0020	0.2000	0.1982	99	0.2	0.2010	101	1	70-135	35	
o-Xylene	<0.0010	0.1000	0.0986	99	0.1	0.0996	100	1	71-133	35	

Analyst: BEV

Lab Batch ID: 779820

Sample: 542075-1-BKS

Date Prepared: 10/30/2009

Batch #: 1

Date Analyzed: 10/31/2009

Matrix: Solid

Units: mg/kg

## 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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<15.0	997	887	89	998	861	86	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	997	835	84	998	809	81	3	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350351

Project ID: 2004-00061

Lab Batch #: 779943

Analyst: LATCOR

Date Prepared: 11/02/2009

Date Analyzed: 11/02/2009

Batch #: 1

Matrix: Soil

QC- Sample ID: 350351-001 S

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<5.63	124	129	104	75-125	

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

BRL - Below Reporting Limit



# Form 3 - N/MSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350351

Project ID: 2004-00061

Lab Batch ID: 780097

QC- Sample ID: 350350-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 11/03/2009

Date Prepared: 11/02/2009

Analyst: ASA

Reporting Units: mg/kg

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	<0.0021	0.1061	0.0567	53	0.1061	0.0572	54	1	70-130	35	X
Toluene	<0.0011	0.1061	0.0581	55	0.1061	0.0585	55	1	71-129	35	X
Ethylbenzene	<0.0021	0.2123	0.1259	59	0.2123	0.1269	60	1	70-135	35	X
m,p-Xylenes	<0.0011	0.1061	0.0631	59	0.1061	0.0629	59	0	71-133	35	X
o-Xylene											

Lab Batch ID: 779820 Batch #: 1 Matrix: Soil

QC- Sample ID: 350365-003 S

Batch #: 1 Matrix: BEV

Date Analyzed: 10/31/2009

Date Prepared: 10/30/2009

Reporting Units: mg/kg

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
C6-C12 Gasoline Range Hydrocarbons	<17.8	1180	1030	87	1180	940	80	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons											

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

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

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



# Sample Duplicate Recovery



**Project Name: Lea Station Landfarm**

**Work Order #: 350351**

**Lab Batch #: 779943**

**Project ID: 2004-00061**

**Date Analyzed: 11/02/2009**

**Date Prepared: 11/02/2009**

**Analyst: LATCOR**

**QC- Sample ID: 350351-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<5.63	<5.63	NC	20	

**Lab Batch #: 779764**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: WRU**

**QC- Sample ID: 350351-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	11.2	10.8	3	20	

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



# Environmental Lab of Texas

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

Client: Plains / Basin  
 Date/ Time: 10-30-09 @ 0855  
 Lab ID #: 350351  
 Initials: JMF

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	Yes	No	1.6 °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?/labels	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 350353

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**05-NOV-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida (E86240),

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



05-NOV-09

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

Reference: XENCO Report No: **350353**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 350353. 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. 350353 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 350353**



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

Lea Station Landfarm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
VZ Cell F G-1	S	Oct-28-09 07:40		350353-001
VZ Cell F G-2	S	Oct-28-09 07:50		350353-002
VZ Cell F G-3	S	Oct-28-09 08:00		350353-003
VZ Cell F G-4	S	Oct-28-09 08:10		350353-004
VZ Cell F G-5	S	Oct-28-09 08:25		350353-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*

*Project ID: 2004-00061*

*Report Date: 05-NOV-09*

*Work Order Number: 350353*

*Date Received: 10/30/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779764 Percent Moisture

None

Batch: LBA-779820 TPH by SW8015 Mod

None

Batch: LBA-779943 Inorganic Anions by EPA 300

None

Batch: LBA-780097 BTEX by EPA 8021

SW8021BM

Batch 780097, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 350353-003, -005, -004, -001, -002.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits



# Certificate of Analysis Summary 350353

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



Project Name: Lea Station Landfarm

Project Id: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Fri Oct-30-09 08:55 am  
 Report Date: 05-NOV-09  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	350353-001	350353-002	350353-003	350353-004	350353-005
		VZ Cell F G-1		SOIL	Oct-28-09 07:40				VZ Cell F G-4	VZ Cell F G-5
<b>BTEX by EPA 8021</b>	<i>Extracted:</i>	Nov-02-09 15:00								
	<i>Analyzed:</i>	Nov-03-09 03:54								
	<i>Units/RL:</i>	mg/kg RL								
Benzene		BRL 0.0010							BRL 0.0010	BRL 0.0010
Toluene		BRL 0.0020							BRL 0.0021	BRL 0.0021
Ethylbenzene		BRL 0.0010							BRL 0.0010	BRL 0.0010
m,p-Xylenes		BRL 0.0020							BRL 0.0021	BRL 0.0021
o-Xylene		BRL 0.0010							BRL 0.0010	BRL 0.0010
Xylenes, Total		BRL 0.0010							BRL 0.0010	BRL 0.0010
Total BTEX		BRL 0.0010							BRL 0.0010	BRL 0.0010
<b>Determination of Inorganic Anions In Water By Ion</b>	<i>Extracted:</i>									
	<i>Analyzed:</i>	Nov-02-09 15:56								
	<i>Units/RL:</i>	mg/kg RL								
Chloride		7.36 5.04							BRL 5.20	BRL 5.23
<b>Percent Moisture</b>	<i>Extracted:</i>									
	<i>Analyzed:</i>	Oct-30-09 17:00								
	<i>Units/RL:</i>	% RL								
Percent Moisture		BRL 1.00							3.92 1.00	4.31 1.00
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>									
	<i>Analyzed:</i>	Oct-30-09 14:45								
	<i>Units/RL:</i>	mg/kg RL								
C6-C12 Gasoline Range Hydrocarbons		BRL 15.1							BRL 15.6	BRL 15.7
C12-C28 Diesel Range Hydrocarbons		BRL 15.1							BRL 15.6	BRL 15.7
C28-C35 Oil Range Hydrocarbons		BRL 15.1							BRL 15.6	BRL 15.7
Total TPH		BRL 15.1							BRL 15.6	BRL 15.7

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.

*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: Lea Station Landfarm

Work Orders : 350353,  
Lab Batch #: 780097

Project ID: 2004-00061

Sample: 542219-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/09 23:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 780097

Sample: 542219-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/09 00:20

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 780097

Sample: 542219-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/09 01:24

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 780097

Sample: 350353-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 03:54

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 780097

Sample: 350353-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 04:16

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350353,  
Lab Batch #: 780097

Project ID: 2004-00061

Sample: 350353-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 11/03/09 04:37		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0274	0.0300	91	80-120	
4-Bromofluorobenzene		0.0317	0.0300	106	80-120	

Lab Batch #: 780097 Sample: 350353-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 11/03/09 04:58		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0274	0.0300	91	80-120	
4-Bromofluorobenzene		0.0308	0.0300	103	80-120	

Lab Batch #: 780097 Sample: 350353-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 11/03/09 06:02		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0274	0.0300	91	80-120	
4-Bromofluorobenzene		0.0309	0.0300	103	80-120	

Lab Batch #: 780097 Sample: 350350-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 11/03/09 08:09		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0298	0.0300	99	80-120	
4-Bromofluorobenzene		0.0327	0.0300	109	80-120	

Lab Batch #: 780097 Sample: 350350-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 11/03/09 08:30		SURROGATE RECOVERY STUDY		
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0299	0.0300	100	80-120	
4-Bromofluorobenzene		0.0325	0.0300	108	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: **Lea Station Landfarm**

Work Orders : 350353,  
Lab Batch #: 779820

Project ID: 2004-00061

Sample: 542075-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 10:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	51.8	49.9	104	70-135	

Lab Batch #: 779820

Sample: 542075-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 10:57

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.8	107	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 779820

Sample: 542075-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 11:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 779820

Sample: 350353-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 13:54

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.3	100	94	70-135	
o-Terphenyl	46.7	50.0	93	70-135	

Lab Batch #: 779820

Sample: 350353-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 14:18

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	202	200	101	70-135	
o-Terphenyl	102	100	102	70-135	

\* 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: Lea Station Landfarm

Work Orders : 350353,  
Lab Batch #: 779820

Project ID: 2004-00061

Sample: 350353-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 14:43

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.2	99.7	93	70-135	
o-Terphenyl	48.0	49.9	96	70-135	

Lab Batch #: 779820

Sample: 350353-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 15:08

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.1	100	94	70-135	
o-Terphenyl	48.1	50.0	96	70-135	

Lab Batch #: 779820

Sample: 350353-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 15:33

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	51.3	50.0	103	70-135	

Lab Batch #: 779820

Sample: 350365-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 20:43

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

Lab Batch #: 779820

Sample: 350365-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 21:10

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.2	100	92	70-135	
o-Terphenyl	42.2	50.0	84	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Landfarm



Work Order #: 350353

Project ID:

2004-00061

Lab Batch #: 779943

Sample: 779943-1-BKS

Matrix: Solid

Date Analyzed: 11/02/2009

Date Prepared: 11/02/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	<0.500	11.0	11.1	101	75-125	



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

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



- Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350353

Project ID: 2004-00061

Analyst: ASA

Date Prepared: 11/02/2009

Date Analyzed: 11/02/2009

Lab Batch ID: 780097

Sample: 542219-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## 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	<0.0010	0.1000	0.0928	93	0.1	0.0935	94	1	70-130	35	
Toluene	<0.0020	0.1000	0.0899	90	0.1	0.0914	91	2	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0910	91	0.1	0.0920	92	1	71-129	35	
m,p-Xylenes	<0.0020	0.2000	0.1982	99	0.2	0.2010	101	1	70-135	35	
o-Xylene	<0.0010	0.1000	0.0986	99	0.1	0.0996	100	1	71-133	35	

Analyst: BEV

Date Prepared: 10/30/2009

Date Analyzed: 10/31/2009

Lab Batch ID: 779820

Sample: 542075-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## 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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<15.0	997	887	89	998	861	86	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	997	835	84	998	809	81	3	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350353

Lab Batch #: 779943

Date Analyzed: 11/02/2009

Date Prepared: 11/02/2009

Project ID: 2004-00061

Analyst: LATCOR

QC- Sample ID: 350351-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
	Chloride	<5.63	124	129	104	75-125

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

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

All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit



# Form 3 - MMSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350353

Project ID: 2004-00061

Lab Batch ID: 780097

Batch #: 1 Matrix: Soil

Date Analyzed: 11/03/2009

QC- Sample ID: 350350-003 S Date Prepared: 11/02/2009 Analyst: ASA

Reporting Units: mg/kg

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	<0.0011	0.1061	0.0555	52	0.1061	0.0568	54	2	70-130	35	X
Toluene	<0.0021	0.1061	0.0567	53	0.1061	0.0572	54	1	70-130	35	X
Ethylbenzene	<0.0011	0.1061	0.0581	55	0.1061	0.0585	55	1	71-129	35	X
m,p-Xylenes	<0.0021	0.2123	0.1259	59	0.2123	0.1269	60	1	70-135	35	X
o-Xylene	<0.0011	0.1061	0.0631	59	0.1061	0.0629	59	0	71-133	35	X

Lab Batch ID: 779820

QC- Sample ID: 350365-003 S Batch #: 1 Matrix: Soil

Date Analyzed: 10/31/2009

Date Prepared: 10/30/2009 Analyst: BEV

Reporting Units: mg/kg

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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<17.8	1180	1060	90	1180	969	82	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.8	1180	1030	87	1180	940	80	9	70-135	35	

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

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

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



# Sample Duplicate Recovery



**Project Name: Lea Station Landfarm**

**Work Order #: 350353**

**Lab Batch #: 779943**

**Project ID: 2004-00061**

**Date Analyzed: 11/02/2009**

**Date Prepared: 11/02/2009**

**Analyst: LATCOR**

**QC- Sample ID: 350351-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<5.63	<5.63	NC	20	

**Lab Batch #: 779764**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: WRU**

**QC- Sample ID: 350351-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	11.2	10.8	3	20	

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



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

Client: Plains / Basin  
 Date/ Time: 10-30-09 @ 0855  
 Lab ID #: 350353  
 Initials: JMF

**Sample Receipt Checklist**

				Client Initials
#1	Temperature of container/ cooler?	<u>Yes</u>	No	<u>i.b</u> °C
#2	Shipping container in good condition?	<u>Yes</u>	No	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	<u>Not Present</u>
#4	Custody Seals intact on sample bottles/ container? / labels	<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)?	Yes	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 350362

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**05-NOV-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



05-NOV-09

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

Reference: XENCO Report No: **350362**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 350362. 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. 350362 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 350362**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Landfarm



<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
VZ Cell G G-1	S	Oct-28-09 08:40		350362-001
VZ Cell G G-2	S	Oct-28-09 08:55		350362-002
VZ Cell G G-3	S	Oct-28-09 09:10		350362-003
VZ Cell G G-4	S	Oct-28-09 09:25		350362-004
VZ Cell G G-5	S	Oct-28-09 09:40		350362-005



## CASE NARRATIVE



*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*

*Project ID: 2004-00061*

*Work Order Number: 350362*

*Report Date: 05-NOV-09*

*Date Received: 10/30/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-779764 Percent Moisture*

None

*Batch: LBA-779820 TPH by SW8015 Mod*

None

*Batch: LBA-779943 Inorganic Anions by EPA 300*

None

*Batch: LBA-780097 BTEX by EPA 8021*

SW8021BM

*Batch 780097, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 350362-004, -002, -005, -001, -003.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*Batch: LBA-780329 TPH by SW8015 Mod*

None



# Certificate of Analytical Summary 350362

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

Project Name: Lea Station Landfarm



Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Oct-30-09 08:55 am

Report Date: 05-NOV-09

Project Manager: Brent Barron, II

<i>Analysis Requested</i>		<i>Lab Id:</i>	350362-001	350362-002	350362-003	350362-004	350362-005
		<i>Field Id:</i>	VZ Cell G G-1	VZ Cell G G-2	VZ Cell G G-3	VZ Cell G G-4	VZ Cell G G-5
		<i>Depth:</i>					
		<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL
		<i>Sampled:</i>	Oct-28-09 08:40	Oct-28-09 08:55	Oct-28-09 09:10	Oct-28-09 09:25	Oct-28-09 09:40
<b>BTEX by EPA 8021</b>		<i>Extracted:</i>	Nov-02-09 15:00				
		<i>Analyzed:</i>	Nov-03-09 06:23	Nov-03-09 06:44	Nov-03-09 07:05	Nov-03-09 07:27	Nov-03-09 07:48
		<i>Units/RL:</i>	mg/kg RL BRL 0.0011				
Benzene			BRL 0.0011	BRL 0.0022	BRL 0.0011	BRL 0.0022	BRL 0.0011
Toluene			BRL 0.0022	BRL 0.0011	BRL 0.0011	BRL 0.0022	BRL 0.0011
Ethylbenzene			BRL 0.0011	BRL 0.0022	BRL 0.0011	BRL 0.0022	BRL 0.0011
m,p-Xylenes			BRL 0.0022	BRL 0.0011	BRL 0.0011	BRL 0.0022	BRL 0.0011
o-Xylene			BRL 0.0011				
Xylenes, Total			BRL 0.0011				
Total BTEX			BRL 0.0011				
<b>Determination of Inorganic Anions In Water By Ion</b>		<i>Extracted:</i>	Nov-02-09 15:56				
		<i>Analyzed:</i>					
		<i>Units/RL:</i>	mg/kg RL 337 11.0	mg/kg RL 29.3 5.57	mg/kg RL 123 11.2	mg/kg RL 178 10.8	mg/kg RL 19.8 5.41
Chloride			BRL 11.0	BRL 5.57	BRL 11.2	BRL 10.8	BRL 5.41
<b>Percent Moisture</b>		<i>Extracted:</i>	Oct-30-09 17:00				
		<i>Analyzed:</i>					
		<i>Units/RL:</i>	% RL 8.79 1.00	% RL 10.2 1.00	% RL 10.6 1.00	% RL 7.52 1.00	% RL 7.66 1.00
Percent Moisture			BRL 1.00				
<b>TPH by SW8015 Mod</b>		<i>Extracted:</i>	Oct-30-09 14:45	Nov-04-09 10:45	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45
		<i>Analyzed:</i>	Oct-31-09 16:23	Nov-04-09 15:00	Oct-31-09 17:13	Oct-31-09 17:38	Oct-31-09 18:03
		<i>Units/RL:</i>	mg/kg RL BRL 16.4	mg/kg RL BRL 16.7	mg/kg RL BRL 16.8	mg/kg RL BRL 16.2	mg/kg RL BRL 16.2
C6-C12 Gasoline Range Hydrocarbons			BRL 16.4	BRL 16.7	BRL 16.8	BRL 16.2	BRL 16.2
C12-C28 Diesel Range Hydrocarbons			BRL 16.4	BRL 16.7	BRL 16.8	BRL 16.2	BRL 16.2
C28-C35 Oil Range Hydrocarbons			BRL 16.4	BRL 16.7	BRL 16.8	BRL 16.2	BRL 16.2
Total TPH			BRL 16.4	BRL 16.7	BRL 16.8	BRL 16.2	BRL 16.2

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.

*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: Lea Station Landfarm

Work Orders : 350362,

Project ID: 2004-00061

Lab Batch #: 780097

Sample: 542219-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/09 23:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 780097

Sample: 542219-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/09 00:20

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 780097

Sample: 542219-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/09 01:24

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 780097

Sample: 350362-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 06:23

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 780097

Sample: 350362-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 06:44

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	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: Lea Station Landfarm

Work Orders : 350362,

Project ID: 2004-00061

Lab Batch #: 780097

Sample: 350362-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 07:05

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 780097

Sample: 350362-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 07:27

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0328	0.0300	109	80-120	

Lab Batch #: 780097

Sample: 350362-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 07:48

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 780097

Sample: 350350-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 08:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

Lab Batch #: 780097

Sample: 350350-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 08:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	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: Lea Station Landfarm

Work Orders : 350362,

Project ID: 2004-00061

Lab Batch #: 779820

Sample: 542075-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 10:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	51.8	49.9	104	70-135	

Lab Batch #: 779820

Sample: 542075-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 10:57

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.8	107	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 779820

Sample: 542075-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 11:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 779820

Sample: 350362-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 16:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	99.9	98	70-135	
o-Terphenyl	50.8	50.0	102	70-135	

Lab Batch #: 779820

Sample: 350362-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 17:13

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.1	100	92	70-135	
o-Terphenyl	47.0	50.0	94	70-135	

\* 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: Lea Station Landfarm

Work Orders : 350362,

Project ID: 2004-00061

Lab Batch #: 779820

Sample: 350362-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/31/09 17:38		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		91.4	100	91	70-135	
o-Terphenyl		46.6	50.0	93	70-135	

Lab Batch #: 779820

Sample: 350362-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/31/09 18:03		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		88.6	100	89	70-135	
o-Terphenyl		45.2	50.0	90	70-135	

Lab Batch #: 779820

Sample: 350365-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/31/09 20:43		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		102	100	102	70-135	
o-Terphenyl		45.3	50.0	91	70-135	

Lab Batch #: 779820

Sample: 350365-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 10/31/09 21:10		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		92.2	100	92	70-135	
o-Terphenyl		42.2	50.0	84	70-135	

Lab Batch #: 780329

Sample: 542375-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 11/04/09 13:17		SURROGATE RECOVERY STUDY		
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		105	99.8	105	70-135	
o-Terphenyl		43.4	49.9	87	70-135	

\* 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: Lea Station Landfarm

Work Orders : 350362,  
Lab Batch #: 780329

Project ID: 2004-00061

Sample: 542375-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg      Date Analyzed: 11/04/09 13:43		SURROGATE RECOVERY STUDY				
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		106	99.9	106	70-135	
o-Terphenyl		43.9	50.0	88	70-135	

Lab Batch #: 780329

Sample: 542375-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg      Date Analyzed: 11/04/09 14:08		SURROGATE RECOVERY STUDY				
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		85.5	100	86	70-135	
o-Terphenyl		48.0	50.0	96	70-135	

Lab Batch #: 780329

Sample: 350362-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg      Date Analyzed: 11/04/09 15:00		SURROGATE RECOVERY STUDY				
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		86.8	100	87	70-135	
o-Terphenyl		47.9	50.0	96	70-135	

Lab Batch #: 780329

Sample: 350777-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg      Date Analyzed: 11/05/09 02:23		SURROGATE RECOVERY STUDY				
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		103	100	103	70-135	
o-Terphenyl		42.3	50.0	85	70-135	

Lab Batch #: 780329

Sample: 350777-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg      Date Analyzed: 11/05/09 02:49		SURROGATE RECOVERY STUDY				
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		107	99.6	107	70-135	
o-Terphenyl		44.5	49.8	89	70-135	

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Blank Spike Recovery



Project Name: Lea Station Landfarm

Work Order #: 350362

Project ID:

2004-00061

Lab Batch #: 779943

Sample: 779943-1-BKS

Matrix: Solid

Date Analyzed: 11/02/2009

Date Prepared: 11/02/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	<0.500	11.0	11.1	101	75-125	

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

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

RL - Below Reporting Limit



# BS / BSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350362

Analyst: ASA

Lab Batch ID: 780097

Sample: 542219-1-BKS

Batch #: 1

Date Prepared: 11/02/2009

Project ID: 2004-00061

Date Analyzed: 11/02/2009

Matrix: Solid

Units: mg/kg

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	<0.0010	0.1000	0.0928	93	0.1	0.0935	94	1	70-130	35	
Toluene	<0.0020	0.1000	0.0899	90	0.1	0.0914	91	2	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0910	91	0.1	0.0920	92	1	71-129	35	
m,p-Xylenes	<0.0020	0.2000	0.1982	99	0.2	0.2010	101	1	70-135	35	
o-Xylene	<0.0010	0.1000	0.0986	99	0.1	0.0996	100	1	71-133	35	

Analyst: BEV Date Prepared: 10/30/2009

Date Analyzed: 10/31/2009

Lab Batch ID: 779820

Sample: 542075-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<15.0	997	887	89	998	861	86	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	997	835	84	998	809	81	3	70-135	35	

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



# BS / BSD Recoveries



## Project Name: Lea Station Landfarm

Work Order #: 350362

Analyst: BEV

Lab Batch ID: 780329

Sample: 542375-1-BKS

Date Prepared: 11/04/2009

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 11/04/2009

Matrix: Solid

Units: mg/kg

### TPH by SW8015 Mod

#### 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
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	905	91	999	920	92	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	758	76	999	801	80	6	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350362

Lab Batch #: 779943

Date Analyzed: 11/02/2009

QC- Sample ID: 350351-001 S

Reporting Units: mg/kg

Project ID: 2004-00061

Analyst: LATCOR

Date Prepared: 11/02/2009

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<5.63	124	129	104	75-125	

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

- Below Reporting Limit



# Form 3 - MSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350362

Lab Batch ID: 780097

Date Analyzed: 11/03/2009

Reporting Units: mg/kg

Project ID: 2004-00061

QC- Sample ID: 350350-003 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/02/2009 Analyst: ASA

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	<0.0011	0.1061	0.0555	52	0.1061	0.0568	54	2	70-130	35	X
Toluene	<0.0021	0.1061	0.0567	53	0.1061	0.0572	54	1	70-130	35	X
Ethylbenzene	<0.0011	0.1061	0.0581	55	0.1061	0.0585	55	1	71-129	35	X
m,p-Xylenes	<0.0021	0.2123	0.1259	59	0.2123	0.1269	60	1	70-135	35	X
o-Xylene	<0.0011	0.1061	0.0631	59	0.1061	0.0629	59	0	71-133	35	X

Lab Batch ID: 779820

Date Analyzed: 10/31/2009

Reporting Units: mg/kg

QC- Sample ID: 350365-003 S

Batch #: 1 Matrix: Soil

Date Prepared: 10/30/2009 Analyst: BEV

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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<17.8	1180	1060	90	1180	969	82	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.8	1180	1030	87	1180	940	80	9	70-135	35	

Lab Batch ID: 780329

Date Analyzed: 11/05/2009

Reporting Units: mg/kg

QC- Sample ID: 350777-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/04/2009 Analyst: BEV

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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<17.3	1150	1080	94	1150	1110	97	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.3	1150	1120	97	1150	1150	100	3	70-135	35	

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, EQ = Estimated Quantitation Limit

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



# Sample Duplicate Recovery



**Project Name: Lea Station Landfarm**

**Work Order #: 350362**

**Lab Batch #: 779943**

**Project ID: 2004-00061**

**Date Analyzed: 11/02/2009**

**Date Prepared: 11/02/2009**

**Analyst: LATCOR**

**QC- Sample ID: 350351-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<5.63	<5.63	NC	20	

**Lab Batch #: 779764**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: WRU**

**QC- Sample ID: 350351-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	11.2	10.8	3	20	

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



# Environmental Lab of Texas

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

Client: Plains / Basin  
 Date/ Time: 10-30-09 @ 0855  
 Lab ID #: 350362  
 Initials: JMF

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	Yes	No	66 °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?/labels	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 350365

for

## PLAINS ALL AMERICAN EH&S

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**05-NOV-09**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), 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 (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

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



05-NOV-09

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

Reference: XENCO Report No: **350365**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 350365. 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. 350365 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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



**Sample Cross Reference 350365**



**PLAINS ALL AMERICAN EH&S, Midland, TX**  
Lea Station Landfarm

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
VZ Cell H G-1	S	Oct-28-09 09:55		350365-001
VZ Cell H G-2	S	Oct-28-09 10:10		350365-002
VZ Cell H G-3	S	Oct-28-09 10:25		350365-003



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*

*Project ID: 2004-00061*

*Report Date: 05-NOV-09*

*Work Order Number: 350365*

*Date Received: 10/30/2009*

---

**Sample receipt non conformances and Comments:**

None

---

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-779764 Percent Moisture

None

Batch: LBA-779820 TPH by SW8015 Mod

None

Batch: LBA-779943 Inorganic Anions by EPA 300

None

Batch: LBA-780096 BTEX by EPA 8021

SW8021BM

Batch 780096, Benzene, Ethylbenzene, Toluene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Samples affected are: 350365-001, -002, -003.

The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits



**Certificate of Analytical Summary 350365**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**  
**Project Name: Lea Station Landfarm**



Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Oct-30-09 08:55 am

Report Date: 05-NOV-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	350365-001	350365-002	350365-003
	Field Id: Depth: Matrix: Sampled:	VZ Cell H G-1 SOIL Oct-28-09 09:55	VZ Cell H G-2 SOIL Oct-28-09 10:10	VZ Cell H G-3 SOIL Oct-28-09 10:25
<b>BTEX by EPA 8021</b>	Extracted:	Nov-02-09 15:00	Nov-02-09 15:00	Nov-02-09 15:00
	Analyzed:	Nov-03-09 10:41	Nov-03-09 11:03	Nov-03-09 11:24
	Units/RL:	mg/kg RL BRL 0.0012	mg/kg RL BRL 0.0011	mg/kg RL BRL 0.0012
Benzene		BRL 0.0023	BRL 0.0023	BRL 0.0024
Toluene		BRL 0.0012	BRL 0.0011	BRL 0.0012
Ethylbenzene		BRL 0.0023	BRL 0.0023	BRL 0.0024
m,p-Xylenes		BRL 0.0012	BRL 0.0011	BRL 0.0012
o-Xylene		BRL 0.0012	BRL 0.0011	BRL 0.0012
Xylenes, Total		BRL 0.0012	BRL 0.0011	BRL 0.0012
Total BTEX		BRL 0.0012	BRL 0.0011	BRL 0.0012
<b>Determination of Inorganic Anions In Water By Ion</b>	Extracted:			
	Analyzed:	Nov-02-09 15:56	Nov-02-09 15:56	Nov-02-09 15:56
	Units/RL:	mg/kg RL BRL 5.76	mg/kg RL BRL 5.71	mg/kg RL 6.87 5.92
Chloride	Extracted:			
	Analyzed:	Oct-30-09 17:00	Oct-30-09 17:00	Oct-30-09 17:00
	Units/RL:	% RL 13.1 1.00	% RL 12.5 1.00	% RL 15.5 1.00
<b>Percent Moisture</b>	Extracted:			
	Analyzed:	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45
	Units/RL:	mg/kg RL BRL 17.3	mg/kg RL BRL 17.1	mg/kg RL BRL 17.8
<b>TPH by SW8015 Mod</b>	Extracted:	Oct-30-09 14:45	Oct-30-09 14:45	Oct-30-09 14:45
	Analyzed:	Oct-31-09 18:29	Oct-31-09 18:56	Oct-31-09 19:22
	Units/RL:	mg/kg RL BRL 17.3	mg/kg RL BRL 17.1	mg/kg RL BRL 17.8
C6-C12 Gasoline Range Hydrocarbons		BRL 17.3	BRL 17.1	BRL 17.8
C12-C28 Diesel Range Hydrocarbons		BRL 17.3	BRL 17.1	BRL 17.8
C28-C35 Oil Range Hydrocarbons		BRL 17.3	BRL 17.1	BRL 17.8
Total TPH		BRL 17.3	BRL 17.1	BRL 17.8

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.

*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: Lea Station Landfarm

Work Orders : 350365,  
Lab Batch #: 780096

Sample: 542220-1-BKS / BKS

Project ID: 2004-00061  
Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/09 09:13

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 780096

Sample: 542220-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/09 09:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

Lab Batch #: 780096

Sample: 542220-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/09 10:20

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 780096

Sample: 350365-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 10:41

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 780096

Sample: 350365-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/09 11:03

### SURROGATE RECOVERY STUDY

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

\* Surrogate outside of Laboratory QC limits  
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis  
 \*\*\* Poor recoveries due to dilution  
 Surrogate Recovery [D] = 100 \* A / B  
 All results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 350365,  
Lab Batch #: 780096

Sample: 350365-003 / SMP

Project ID: 2004-00061

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/03/09 11:24

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 780096

Sample: 350365-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/03/09 14:16

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

Lab Batch #: 780096

Sample: 350365-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/03/09 14:37

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 779820

Sample: 542075-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 10/31/09 10:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	51.8	49.9	104	70-135	

Lab Batch #: 779820

Sample: 542075-1-BSD / BSD

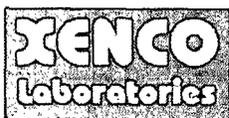
Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 10/31/09 10:57

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.8	107	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

\* 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: Lea Station Landfarm

Work Orders : 350365,  
Lab Batch #: 779820

Project ID: 2004-00061

Sample: 542075-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/09 11:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 779820

Sample: 350365-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 18:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	55.1	50.0	110	70-135	

Lab Batch #: 779820

Sample: 350365-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 18:56

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.9	100	83	70-135	
o-Terphenyl	42.0	50.0	84	70-135	

Lab Batch #: 779820

Sample: 350365-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 19:22

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	53.9	50.0	108	70-135	

Lab Batch #: 779820

Sample: 350365-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 20:43

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

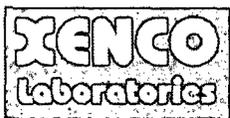
\* Surrogate outside of Laboratory QC limits

\*\* 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: Lea Station Landfarm

Work Orders : 350365,

Project ID: 2004-00061

Lab Batch #: 779820

Sample: 350365-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/09 21:10

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.2	100	92	70-135	
o-Terphenyl	42.2	50.0	84	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Landfarm

Work Order #: 350365

Project ID:

2004-00061

Lab Batch #: 779943

Sample: 779943-1-BKS

Matrix: Solid

Date Analyzed: 11/02/2009

Date Prepared: 11/02/2009

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Determination of Inorganic Anions In Water By	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	<0.500	11.0	11.1	101	75-125	

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

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

L - Below Reporting Limit



# BS / BSD Recoveries



## Project Name: Lea Station Landfarm

Work Order #: 350365

Analyst: ASA

Lab Batch ID: 780096

Units: mg/kg

Project ID: 2004-00061

Date Analyzed: 11/03/2009

Matrix: Solid

Date Prepared: 11/02/2009

Batch #: 1

Sample: 542220-1-BKS

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	<0.0010	0.1000	0.0925	93	0.1	0.0950	95	3	70-130	35	
Toluene	<0.0020	0.1000	0.0892	89	0.1	0.0924	92	4	70-130	35	
Ethylbenzene	<0.0010	0.1000	0.0897	90	0.1	0.0933	93	4	71-129	35	
m,p-Xylenes	<0.0020	0.2000	0.1947	97	0.2	0.2033	102	4	70-135	35	
o-Xylene	<0.0010	0.1000	0.0970	97	0.1	0.1017	102	5	71-133	35	

Date Prepared: 10/30/2009

Batch #: 1

Sample: 542075-1-BKS

Date Analyzed: 10/31/2009

Matrix: Solid

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
TPH by SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<15.0	997	887	89	998	861	86	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	997	835	84	998	809	81	3	70-135	35	

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



# Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350365

Lab Batch #: 779943

Date Analyzed: 11/02/2009

Date Prepared: 11/02/2009

Project ID: 2004-00061

Analyst: LATCOR

QC- Sample ID: 350351-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
	Chloride	<5.63	124	129	104	75-125

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

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

All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit



# Form 3 - MSMSD Recoveries



Project Name: Lea Station Landfarm

Work Order #: 350365

Lab Batch ID: 780096

Date Analyzed: 11/03/2009

Project ID: 2004-00061

QC- Sample ID: 350365-003 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/02/2009 Analyst: ASA

Reporting Units: mg/kg

## 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	<0.0012	0.1184	0.0797	67	0.1184	0.0767	65	4	70-130	35	X
Toluene	<0.0024	0.1184	0.0781	66	0.1184	0.0751	63	4	70-130	35	X
Ethylbenzene	<0.0012	0.1184	0.0782	66	0.1184	0.0758	64	3	71-129	35	X
m,p-Xylenes	<0.0024	0.2368	0.1693	71	0.2368	0.1650	70	3	70-135	35	
o-Xylene	<0.0012	0.1184	0.0851	72	0.1184	0.0820	69	4	71-133	35	X

Lab Batch ID: 779820

Date Analyzed: 10/31/2009

Reporting Units: mg/kg

QC- Sample ID: 350365-003 S

Batch #: 1 Matrix: Soil

Date Prepared: 10/30/2009 Analyst: BEV

## 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
C6-C12 Gasoline Range Hydrocarbons	<17.8	1180	1060	90	1180	969	82	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.8	1180	1030	87	1180	940	80	9	70-135	35	

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, EQ.L = Estimated Quantitation Limit

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



# Sample Duplicate Recovery



**Project Name: Lea Station Landfarm**

**Work Order #: 350365**

**Lab Batch #: 779943**

**Project ID: 2004-00061**

**Date Analyzed: 11/02/2009**

**Date Prepared: 11/02/2009**

**Analyst: LATCOR**

**QC- Sample ID: 350351-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Determination of Inorganic Anions In Water By Ion Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<5.63	<5.63	NC	20	

**Lab Batch #: 779764**

**Date Analyzed: 10/30/2009**

**Date Prepared: 10/30/2009**

**Analyst: WRU**

**QC- Sample ID: 350351-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	11.2	10.8	3	20	

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

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

BRL - Below Reporting Limit



# Environmental Lab of Texas

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

Client: Plains / Basin  
 Date/ Time: 10-30-09 @ 0855  
 Lab ID #: 350365  
 Initials: JMF

### Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	Yes	No	1.6	° 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? / labels	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

**Photographs**



Lea Station Landfarm Cell A



Lea Station Landfarm Cell B



Lea Station Landfarm Cell C



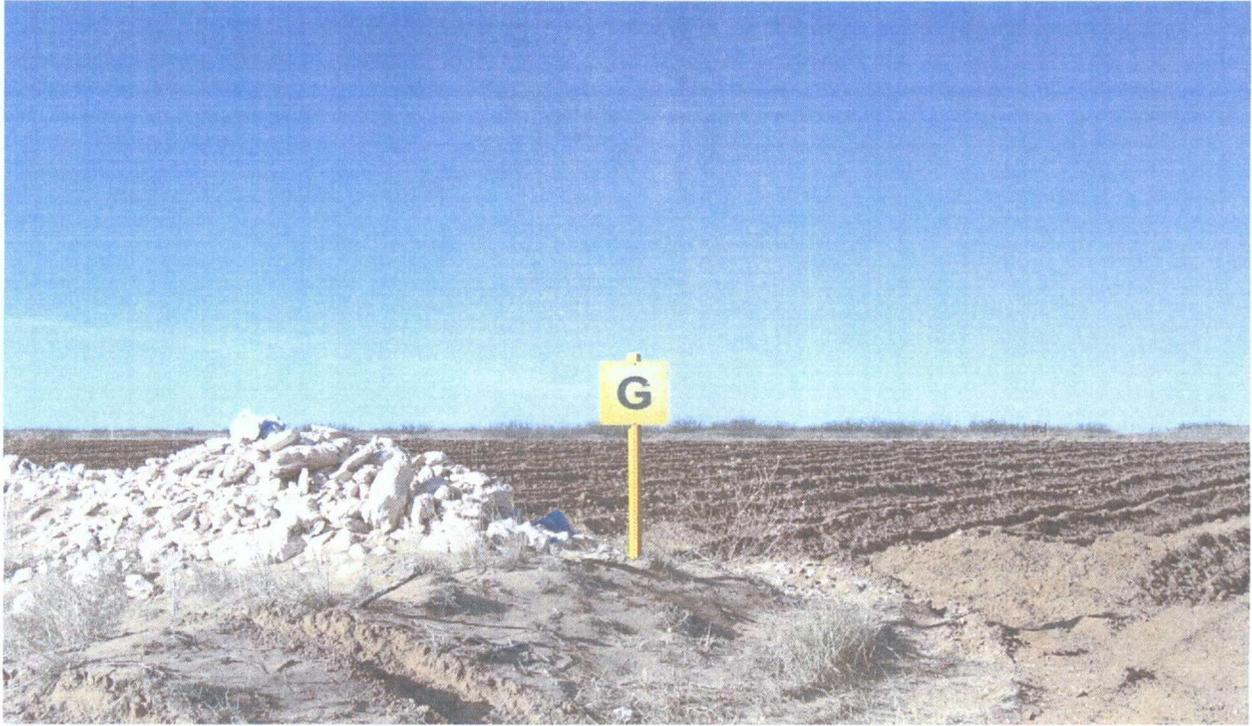
Lea Station Landfarm Cell D



Lea Station Landfarm Cell E



Lea Station Landfarm Cell F



Lea Station Landfarm Cell G



Lea Station Landfarm Cell H