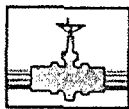


GW - 351

Land farm  
REPORTS

YEAR(S):

2008



PLAINS  
MARKETING, L.P.

RECEIVED

2009 MAR 31 PM 1 12

March 27, 2009

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: Plains Marketing, L.P. – 2008 Annual Report  
Lea Station Landfarm – Discharge Permit #GW-351  
Lea County, New Mexico

Dear Mr. Jones:

Enclosed for your review is a copy of the 2008 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 2009

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 – 2008  
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 *2008 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 93,891 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 and Cell-F. Approximately 12,096 cubic yards of impacted soil was transported to the Landfarm during the 2008 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 20, 2008, 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 and F) 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 188.6 mg/Kg for soil sample Cell E TZ G4 to 5,100 mg/Kg for soil sample Cell B TZ G1. Chloride concentrations ranged from less than the laboratory method detection limit (MDL) for soil samples Cell C TZ G1 and Cell E TZ G1-G4 to 106 mg/Kg for soil sample Cell D TZ G4. Please reference Table 1, 2008 Concentrations of Benzene, BTEX, TPH and Chloride in the Treatment Zone.

On November 13, 2008, Basin collected four (4) to five (5) four-point composite treatment zone soil samples from each of the treatment cells (Cells A, B, C, D, E and F) being utilized. The soil samples were analyzed for concentrations of TPH and chloride. The analytical results indicated TPH concentrations ranged from 36.1 mg/Kg for soil sample Cell C TZ G1 to 1,888 mg/Kg for soil sample Cell D TZ G5. Chloride concentrations ranged from less than the laboratory MDL for soil samples Cell A TZ G4-G5, Cell B TZ G1, G3, G4, G5, Cell C TZ G2-G5, Cell D TZ G5 and Cell E TZ G1-G4 to 193 mg/Kg for soil sample Cell F TZ G2.

The locations of soil samples collected in treatment cells A, B, C, D, E and F during the June and November 2008 sampling events are depicted on Figures 2, 3, 4, 5, 6 and 7, 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).

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 20, 2008, Basin collected 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, and D, four (4) grab samples from treatment Cell E and two (2) grab samples from treatment Cell F. 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 benzene, toluene, ethylbenzene and xylene (BTEX) using method EPA 8021b, TPH using method SW8015M and chloride using EPA 300. Please reference Table 4, 2008 Concentrations of Benzene, BTEX, TPH and Chloride in the Vadose Zone.

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

On November 14, 2008, Basin collected five (5) grab samples at a depth of three (3) to four (4) feet bgs (vadose zone) from treatment Cells A, B, C, D and F and four (4) grab samples from treatment Cell E. The grab samples were collected and analyzed for constituent concentrations of BTEX, TPH and chloride.

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

The analytical results indicated chloride concentrations were below the laboratory MDL in all soil samples, with the exception of soil sample Cell E VZ G3 (3'-4') which exhibited a chloride concentration of 32.1 mg/Kg. This chloride concentration is above the established background chloride concentration for the landfarm area of 10.6 mg/Kg but is still well within the range of concentrations which would be considered background levels.

The locations of soil samples collected in the vadose zone from treatment cells A, B, C, D, E and F during the June and November 2008 sampling events are depicted on Figures 2, 3, 4, 5, 6 and 7, 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. The laboratory analytical results indicate

hydrocarbon impact soil placed in the treatment cells is naturally attenuating within the lifts. The laboratory analytical results collected from the treatment cells on November 13, 2008, indicated soil samples Cell C (G1 thru G5), Cell B (G5) and Cell E (G4) contain concentrations less than the NMOCD remedial goals (100 mg/Kg TPH).

## **RECOMMENDATIONS**

Based on analytical results of the soil samples collected from the treatment cells Cell C (G1 thru G5), Cell B (G5) and Cell E (G4), Plains requests NMOCD approval to transport the remediated soil from the respective landfarm cells to a soil staging area located near the entrance of Cell D. The remediated soil will be used as backfill material at Plains remediation sites in the future. Bi-monthly tilling of the treatment zones will continue during the 2009 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 8021b (BTEX), method 8015M (TPH) and method EPA 300 (chloride). Treatment zone soil samples will be analyzed using method 8015M (TPH) and method EPA 300 (chloride). An Annual Report will be submitted in 2010 documenting the results of the 2009 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 express 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 November 2008  
Figure 3: Cell "B" Soil Sample Location Map – June and November 2008  
Figure 4: Cell "C" Soil Sample Location Map – June and November 2008  
Figure 5: Cell "D" Soil Sample Location Map – June and November 2008  
Figure 6: Cell "E" Soil Sample Location Map – June and November 2008  
Figure 7: Cell "F" Soil Sample Location Map – June and November 2008

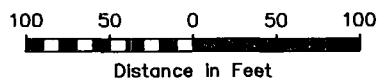
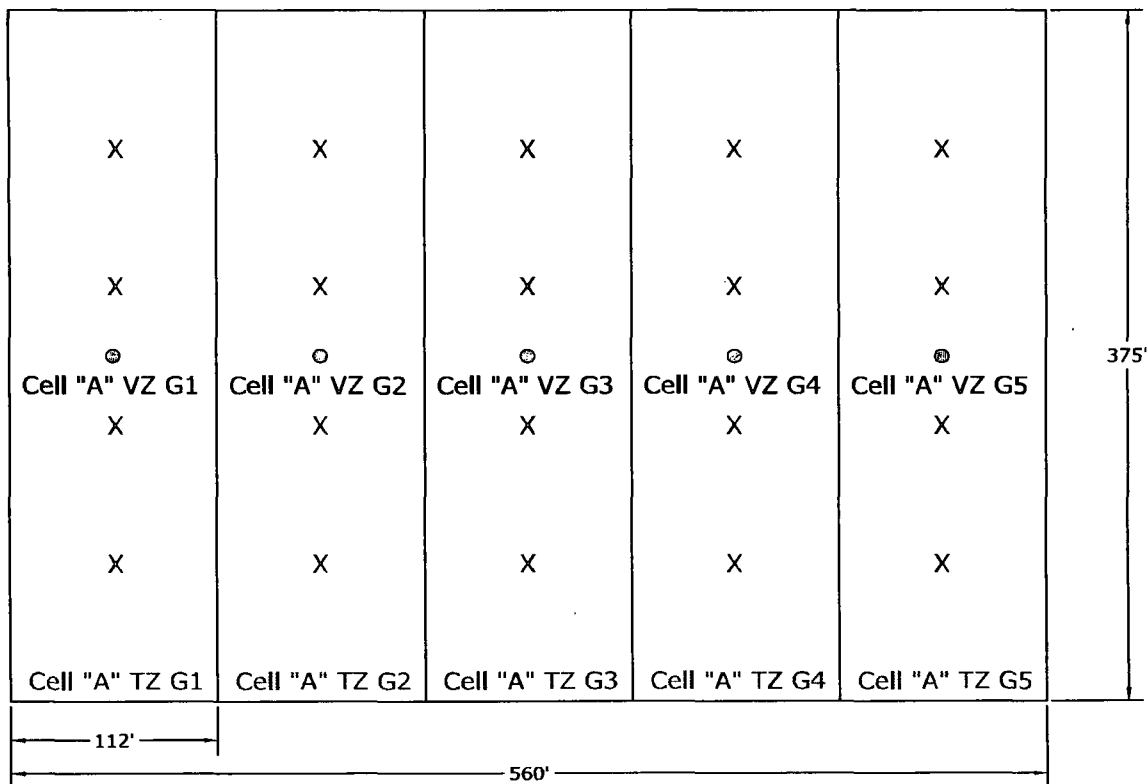
#### **Tables**

Table 1: 2008 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: 2008 Concentrations of Benzene, BTEX, TPH and Chloride in the Vadose Zone

#### **Laboratory Analytical Reports**

#### **Photographs**





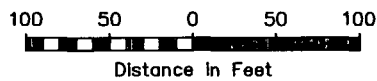
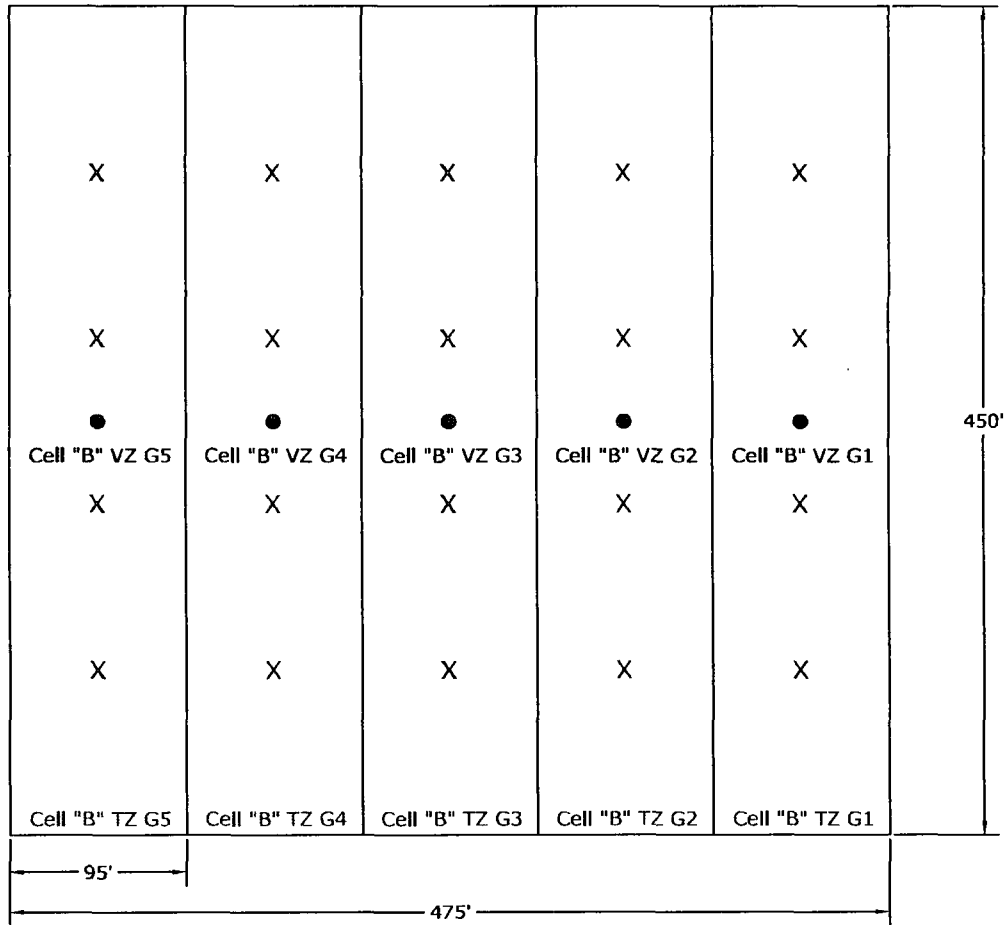
**LEGEND:**

- 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 2008  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Services**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 15, 2009		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		



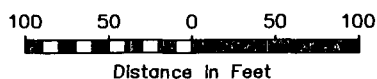
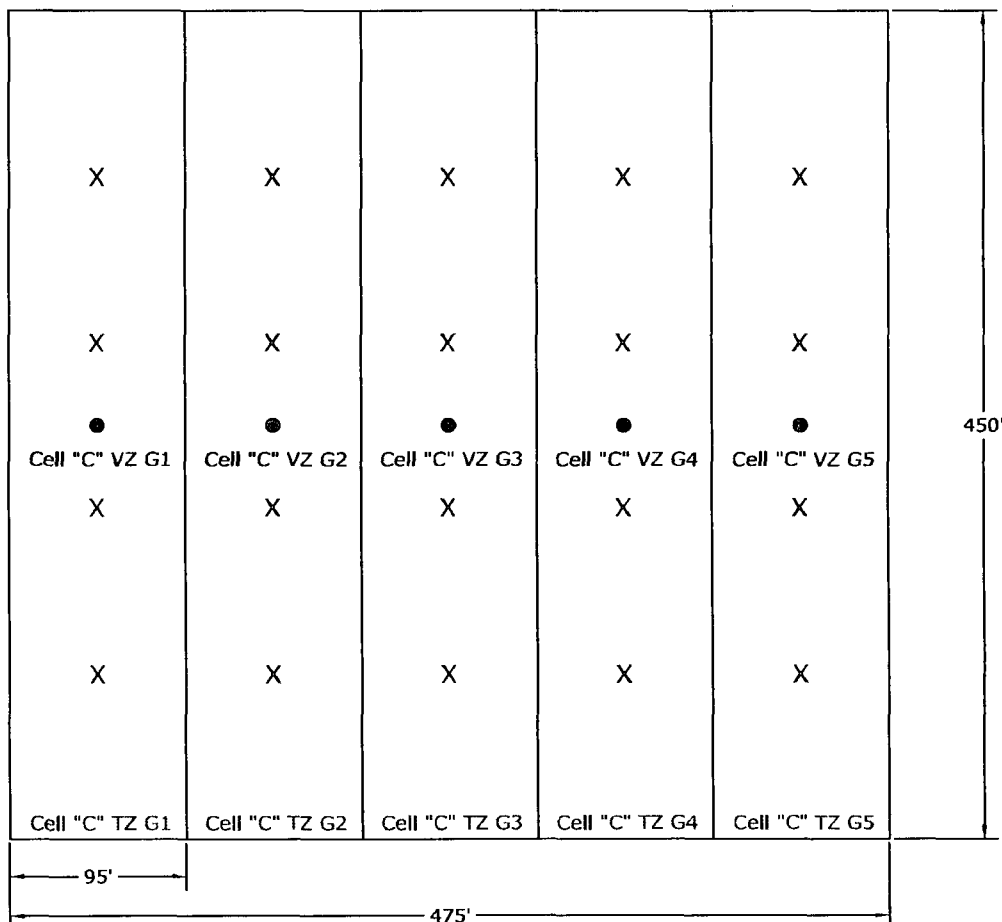
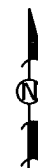
**LEGEND:**

- 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 2008  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Services**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2009		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		



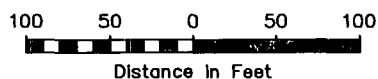
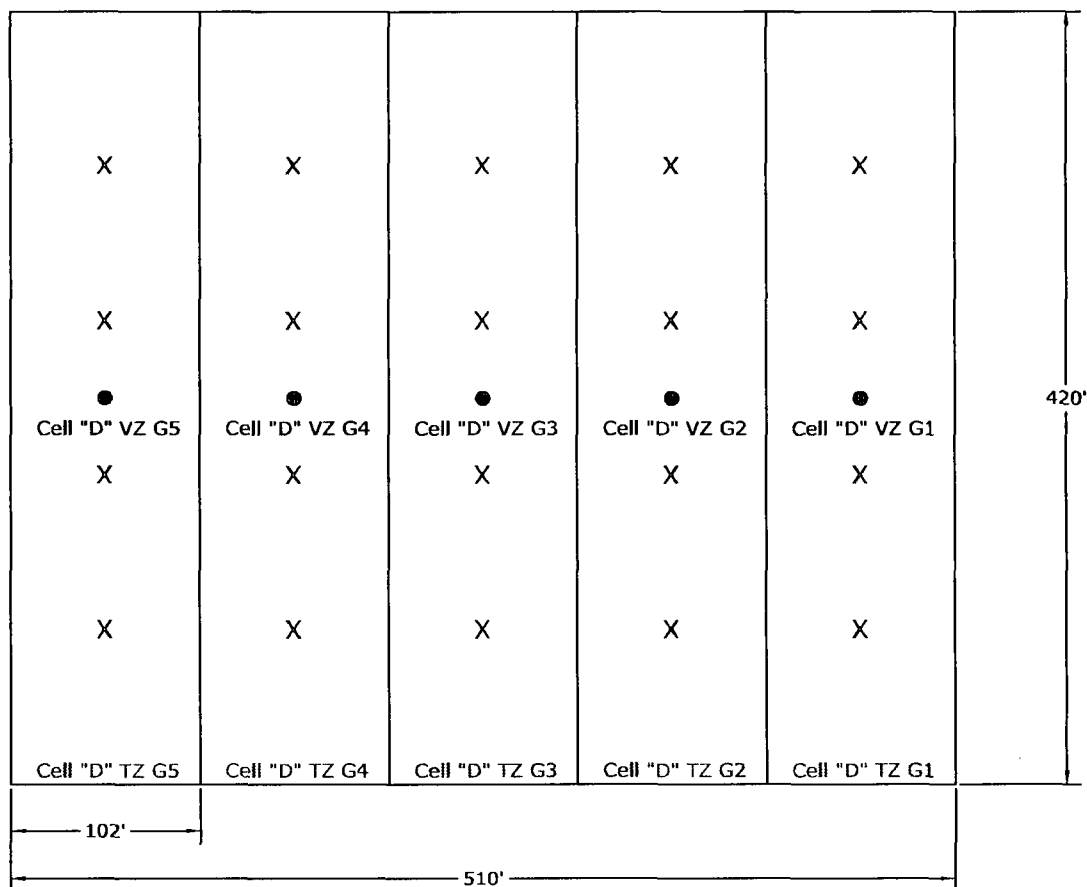
#### LEGEND:

- 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 2008  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

#### Basin Environmental Services

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2009		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		



**LEGEND:**

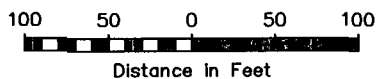
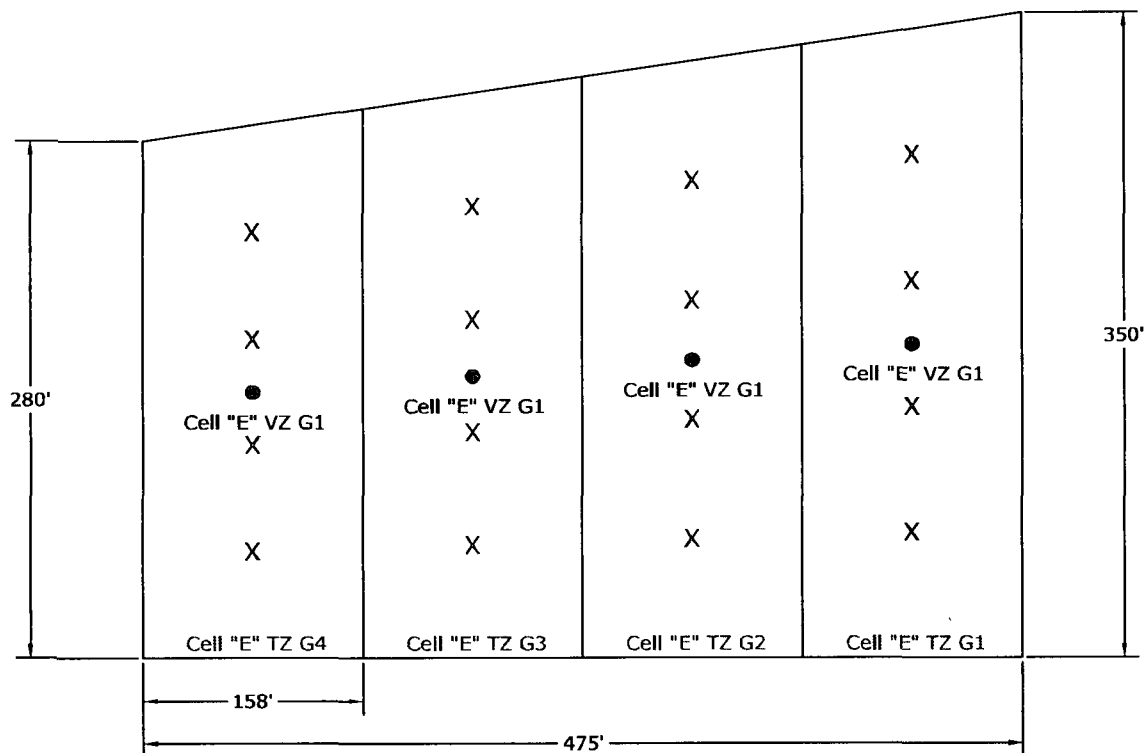
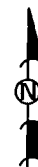
- X 4-Point Composite Treatment Cell Soil Sample Location
- Vadose Zone Soil Sample Location

Figure 5  
Cell "D" Soil Sample Location Map  
June and November 2008  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Services**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2009		
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 2008  
Plains Marketing, L.P.  
Lea Station Landfarm  
Lea County, NM  
SRS-2004-00061  
NMOCD #GW-351

**Basin Environmental Services**

Scale: 1" = 100'	Drawn By: CDS	Prepared By: CDS
March 16, 2009		
W 1/2 of NW 1/4 of Section 287, Township 20 South, Range 37 E		

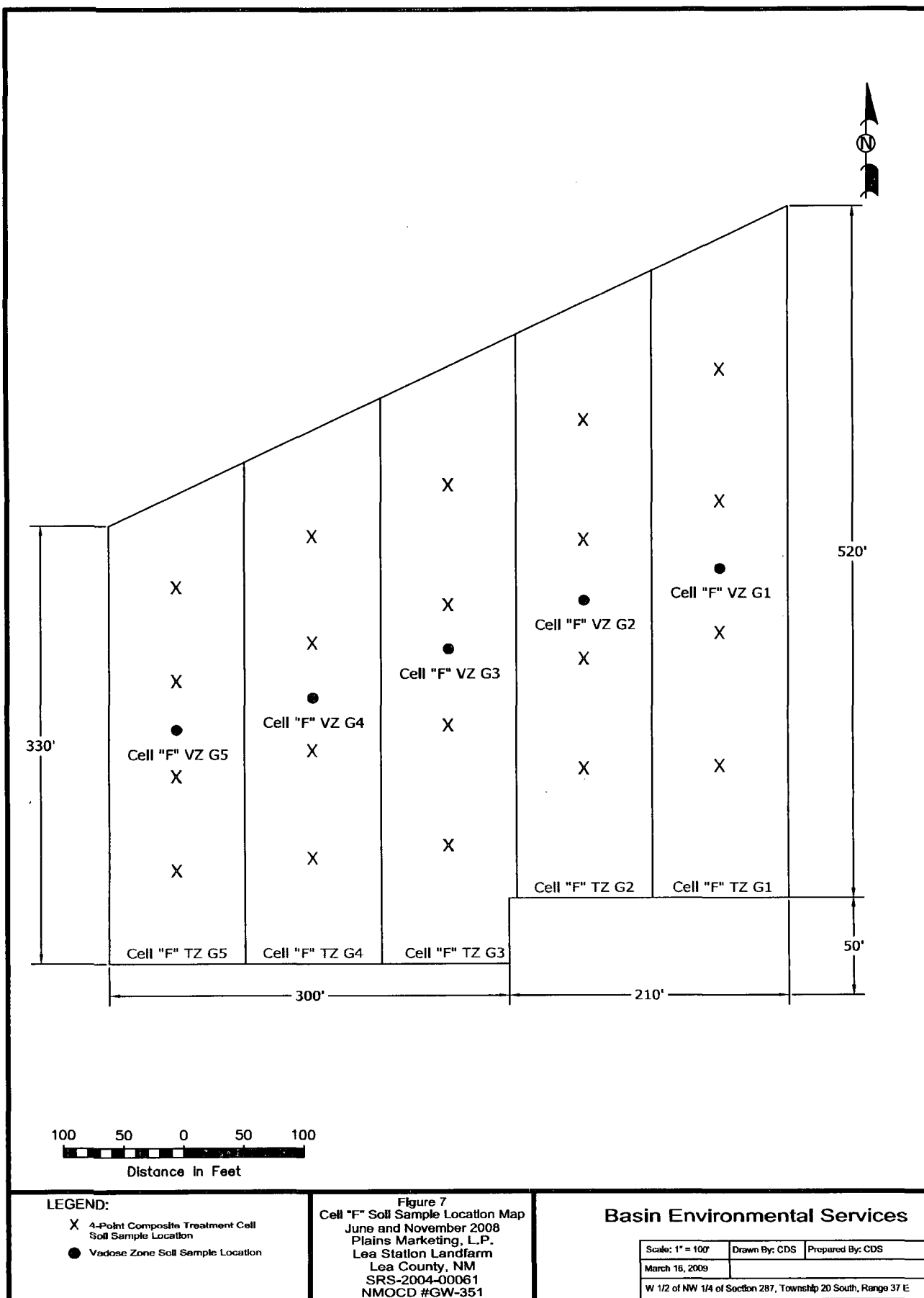


TABLE 1

## 2008 CONCENTRATIONS OF BENZENE, BTX, 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	
			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)	C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	TPH	Chloride (mg/kg)	
Cell A TZ G 1	8"	6/20/2008	-	-	-	-	-	-	-	20.7	2510	763	3,293.7	52.2	
Cell A TZ G 2	8"	6/20/2008	-	-	-	-	-	-	-	21.3	2740	774	3,535.3	59.0	
Cell A TZ G 3	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	1900	615	2,515	30.0	
Cell A TZ G 4	8"	6/20/2008	-	-	-	-	-	-	-	19.5	1430	554	2,003.5	36.6	
Cell A TZ G 5	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	384	196	580	8.2	
Cell B TZ G 1	8"	6/20/2008	-	-	-	-	-	-	-	<15.2	4010	1090	5,100	26.7	
Cell B TZ G 2	8"	6/20/2008	-	-	-	-	-	-	-	<15.2	2980	960	3,940	36.5	
Cell B TZ G 3	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	787	320	1,107	34.4	
Cell B TZ G 4	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	730	321	1,051	30.7	
Cell B TZ G 5	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	235	131	366	12	
Cell C TZ G 1	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	484	217	701	<5.04	
Cell C TZ G 2	8"	6/20/2008	-	-	-	-	-	-	-	<15.2	745	237	982	9.85	
Cell C TZ G 3	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	576	285	861	13.3	
Cell C TZ G 4	8"	6/20/2008	-	-	-	-	-	-	-	<15.2	345	186	531	12.1	
Cell C TZ G 5	8"	6/20/2008	-	-	-	-	-	-	-	<15.2	329	223	552	21.8	
Cell D TZ G 1	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	2460	659	3,119	15.9	
Cell D TZ G 2	8"	6/20/2008	-	-	-	-	-	-	-	20.3	2940	730	3,690.3	36.2	
Cell D TZ G 3	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	2970	763	3,733	103	
Cell D TZ G 4	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	1990	640	2,630	106	
Cell D TZ G 5	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	2080	565	2,645	61.1	
Cell E TZ G 1	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	718	371	1,089	<5.04	
Cell E TZ G 2	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	1140	521	1,661	<5.04	
Cell E TZ G 3	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	422	217	639	<5.02	
Cell E TZ G 4	8"	6/20/2008	-	-	-	-	-	-	-	<15.1	116	72.6	188.6	<5.02	

TABLE 1

## 2008 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	
			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 TZ G 1	8"	6/20/2008	-	-	-	-	-	-	36.5	1840	402	2,278.5	26.1	
Cell F TZ G 2	8"	6/20/2008	-	-	-	-	-	-	39.1	1730	350	2,119.1	5.9	
Cell A TZ G 1	8"	11/13/2008	-	-	-	-	-	-	<15.6	396	247	643	36.3	
Cell A TZ G 2	8"	11/13/2008	-	-	-	-	-	-	<16.4	144	69.5	213.5	31.6	
Cell A TZ G 3	8"	11/13/2008	-	-	-	-	-	-	<16.2	115	66.1	181.1	10.9	
Cell A TZ G 4	8"	11/13/2008	-	-	-	-	-	-	<5.7	193	133	326	<5.24	
Cell A TZ G 5	8"	11/13/2008	-	-	-	-	-	-	<16.2	63.4	36.9	100.3	<5.40	
Cell B TZ G 1	8"	11/13/2008	-	-	-	-	-	-	<15.9	857	292	1,149	<5.30	
Cell B TZ G 2	8"	11/13/2008	-	-	-	-	-	-	<16.2	279	156	435	12	
Cell B TZ G 3	8"	11/13/2008	-	-	-	-	-	-	<16.1	75.6	50	125.6	<5.38	
Cell B TZ G 4	8"	11/13/2008	-	-	-	-	-	-	<16.1	110	45.6	155.6	<5.37	
Cell B TZ G 5	8"	11/13/2008	-	-	-	-	-	-	<15.9	63	35.1	98.1	<5.28	
Cell C TZ G 1	8"	11/13/2008	-	-	-	-	-	-	<16.2	36.1	<16.2	36.1	24.3	
Cell C TZ G 2	8"	11/13/2008	-	-	-	-	-	-	<16.1	52.6	19	71.6	<10.7	
Cell C TZ G 3	8"	11/13/2008	-	-	-	-	-	-	<16.3	46.8	22.4	69.2	<5.42	
Cell C TZ G 4	8"	11/13/2008	-	-	-	-	-	-	<15.9	50.7	16.9	67.6	<5.31	
Cell C TZ G 5	8"	11/13/2008	-	-	-	-	-	-	<16.3	53.8	27.7	81.5	<5.43	
Cell D TZ G 1	8"	11/13/2008	-	-	-	-	-	-	<15.9	467	158	625	16.8	
Cell D TZ G 2	8"	11/13/2008	-	-	-	-	-	-	<16.0	373	134	507	20.3	
Cell D TZ G 3	8"	11/13/2008	-	-	-	-	-	-	<16.2	557	209	766	56.4	
Cell D TZ G 4	8"	11/13/2008	-	-	-	-	-	-	<15.9	515	206	721	9.85	
Cell D TZ G 5	8"	11/13/2008	-	-	-	-	-	-	<15.9	1510	378	1,888	<5.31	
Cell E TZ G 1	8"	11/13/2008	-	-	-	-	-	-	<15.8	109	76.2	185.2	<5.27	
Cell F TZ G 2	8"	11/13/2008	-	-	-	-	-	-	<15.8	167	101	268	<5.25	

TABLE 1

## 2008 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 E TZ G 3	8"	11/13/2008	-	-	-	-	-	-	<15.8	79	44.8	123.8	<5.28	
Cell E TZ G 4	8"	11/13/2008	-	-	-	-	-	-	<16.1	20.4	17.4	37.8	<5.38	
Cell F TZ G 1	8"	11/13/2008	-	-	-	-	-	-	<16.7	214	109	323	166	
Cell F TZ G 2	8"	11/13/2008	-	-	-	-	-	-	<16.4	189	74.7	263.7	193	
Cell F TZ G 3	8"	11/13/2008	-	-	-	-	-	-	<16.7	415	96.6	511.6	131	
Cell F TZ G 4	8"	11/13/2008	-	-	-	-	-	-	<16.1	431	98.7	529.7	140	
Cell F TZ G 5	8"	11/13/2008	-	-	-	-	-	-	<15.9	139	60	199	30.7	

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)
CESLESLF11604BGS	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	--	--	--	--	--	--

A = Estimated value, analyte detected less than reported limit

-- = Not analyzed

nr = Not reported separately for the sample

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)
CESLESLF11604BGS	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
SPLSLF83104CC-4'	C	31-Aug-04	3.5-4.0	--	--	--	--	--	--	--	--	--	--	--	--
SPLSLF83104CE-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

## 2008 CONCENTRATIONS OF BENZENE, BTX, 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 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 VZ G 1 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.9	<15.9	<15.9	<15.9	<5.30	
Cell A VZ G 2 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.5	<15.5	<15.5	<15.5	<5.16	
Cell A VZ G 3 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.4	<15.4	<15.4	<15.4	<5.15	
Cell A VZ G 4 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<16.0	<16.0	<16.0	<16.0	<5.32	
Cell A VZ G 5 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.8	<15.8	<15.8	<15.8	<5.25	
Cell B VZ G 1 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.3	<15.3	<15.3	<15.3	<5.11	
Cell B VZ G 2 (3'-4')	3' - 4'	6/20/2008	<0.0013	<0.0026	<0.0013	<0.0026	<0.0013	<0.0026	<19.3	<19.3	<19.3	<19.3	<6.44	
Cell B VZ G 3 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.9	<15.9	<15.9	<15.9	<5.31	
Cell B VZ G 4 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.5	<15.5	<15.5	<15.5	<5.16	
Cell B VZ G 5 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0	<5.02	
Cell C VZ G 1 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.2	<16.2	<16.2	<16.2	<5.41	
Cell C VZ G 2 (3'-4')	3' - 4'	6/20/2008	<0.0012	<0.0023	<0.0012	<0.0023	<0.0012	<0.0023	<17.4	<17.4	<17.4	<17.4	<5.80	
Cell C VZ G 3 (3'-4')	3' - 4'	6/20/2008	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<17.8	<17.8	<17.8	<17.8	<5.94	
Cell C VZ G 4 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	<5.19	
Cell C VZ G 5 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.4	<16.4	<16.4	<16.4	<5.46	
Cell D VZ G 1 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<17.2	<17.2	<17.2	<17.2	<5.73	
Cell D VZ G 2 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<17.0	<17.0	<17.0	<17.0	<5.68	
Cell D VZ G 3 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.4	<15.4	<15.4	<15.4	<5.15	
Cell D VZ G 4 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<16.9	<16.9	<16.9	<16.9	<5.63	
Cell D VZ G 5 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.7	<16.7	<16.7	<16.7	<5.58	
Cell E VZ G 1 (3'-4')	3' - 4'	6/20/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.4	<16.4	<16.4	<16.4	<5.45	
Cell E VZ G 2 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.7	<15.7	<15.7	<15.7	<5.24	
Cell E VZ G 3 (3'-4')	3' - 4'	6/20/2008	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<17.6	<17.6	<17.6	<17.6	<5.87	
Cell E VZ G 4 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.7	<15.7	<15.7	<15.7	<5.24	
Cell F VZ G 1 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.3	<15.3	<15.3	<15.3	<5.08	
Cell F VZ G 2 (3'-4')	3' - 4'	6/20/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2	<5.06	



TABLE 4

## 2008 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'	11/14/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.5	<15.5	<15.5	<15.5	<5.17		
Cell A VZ G 2 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<16.0	<16.0	<16.0	<16.0	<5.34		
Cell A VZ G 3 (3'-4')	3' - 4'	11/14/2008	<0.0012	<0.0023	<0.0012	<0.0023	<0.0012	<0.0023	<17.3	<17.3	<17.3	<17.3	<5.76		
Cell A VZ G 4 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<17.1	<17.1	<17.1	<17.1	<5.71		
Cell A VZ G 5 (3'-4')	3' - 4'	11/14/2008	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<18.3	<18.3	<18.3	<18.3	<6.10		
Cell B VZ G 1 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.8	<16.8	<16.8	<16.8	<5.61		
Cell B VZ G 2 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.7	<16.7	<16.7	<16.7	<5.55		
Cell B VZ G 3 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.8	<15.8	<15.8	<15.8	<5.26		
Cell B VZ G 4 (3'-4')	3' - 4'	11/14/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.3	<15.3	<15.3	<15.3	<5.11		
Cell B VZ G 5 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.5	<16.5	<16.5	<16.5	<5.50		
Cell C VZ G 1 (3'-4')	3' - 4'	11/14/2008	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<18.3	<18.3	<18.3	<18.3	<6.09		
Cell C VZ G 2 (3'-4')	3' - 4'	11/14/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	<5.19		
Cell C VZ G 3 (3'-4')	3' - 4'	11/14/2008	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<18.4	<18.4	<18.4	<18.4	<6.12		
Cell C VZ G 4 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<17.2	<17.2	<17.2	<17.2	<5.74		
Cell C VZ G 5 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.8	<16.8	<16.8	<16.8	<5.60		
Cell D VZ G 1 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.6	<16.6	<16.6	<16.6	<5.53		
Cell D VZ G 2 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.2	<16.2	<16.2	<16.2	<5.41		
Cell D VZ G 3 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.6	<16.6	<16.6	<16.6	<5.53		
Cell D VZ G 4 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<17.2	<17.2	<17.2	<17.2	<5.73		
Cell D VZ G 5 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.8	<16.8	<16.8	<16.8	<5.61		
Cell E VZ G 1 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.3	<16.3	<16.3	<16.3	<5.44		
Cell E VZ G 2 (3'-4')	3' - 4'	11/14/2008	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.6	<15.6	<15.6	<15.6	<5.21		
Cell E VZ G 3 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.7	<16.7	<16.7	<16.7	32.1		
Cell E VZ G 4 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.2	<16.2	<16.2	<16.2	<5.40		
Cell F VZ G 1 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<15.9	<15.9	<15.9	<15.9	<5.29		
Cell F VZ G 2 (3'-4')	3' - 4'	11/14/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.3	<15.3	<15.3	<15.3	<5.10		
Cell F VZ G 3 (3'-4')	3' - 4'	11/14/2008	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<16.6	<16.6	<16.6	<16.6	<5.52		

TABLE 4

2008 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 F VZ G 4 (3'-4')	3' - 4'	11/14/2008	<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 F VZ G 5 (3'-4')	3' - 4'	11/14/2008	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.1	<15.1	<15.1	<15.1	<5.02
Background	3' - 4'	1/16/2004	<0.02	<0.02	<0.02	<0.04	<0.02	<0.04	<0.04	<5	<2.5	<2.5	<5	10.6

# **Analytical Report 306426**

**for**

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

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**27-JUN-08**



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

Texas certification numbers:  
Houston, TX T104704215

Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:  
Norcross(Atlanta), GA 98015

North Carolina certification numbers:  
Norcross(Atlanta), GA 483

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



27-JUN-08

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

Reference: XENCO Report No: **306426**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306426. 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. 306426 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 306426



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell A TZ G 1	S	Jun-20-08 08:00		306426-001
Cell A TZ G 2	S	Jun-20-08 08:10		306426-002
Cell A TZ G 3	S	Jun-20-08 08:20		306426-003
Cell A TZ G 4	S	Jun-20-08 08:30		306426-004
Cell A TZ G 5	S	Jun-20-08 08:40		306426-005



**Certificate of Analysis Summary 306426**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

**Project Id:** 2004-00061  
**Contact:** Camille Reynolds  
**Project Location:** Lea County, NM

**Project Name:** Lea Station Land Farm

**Date Received in Lab:** Mon Jun-23-08 05:06 pm  
**Report Date:** 27-JUN-08

**Project Manager:** Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	306426-001	306426-002	306426-003	306426-004	306426-005
	Cell A TZ G 1	Cell A TZ G 2	Cell A TZ G 3	Cell A TZ G 4	Cell A TZ G 5	SOIL	SOIL	SOIL	SOIL	SOIL
	Jun-20-08 08:00	Jun-20-08 08:10	Jun-20-08 08:20	Jun-20-08 08:30	Jun-20-08 08:40					
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	RL	RL	RL	RL	RL
Inorganic Anions by EPA 300	Extracted:	Extracted:	Extracted:	Extracted:	Extracted:					
	Analyzed:	Analyzed:	Analyzed:	Analyzed:	Analyzed:					
	Units/RL:	Units/RL:	Units/RL:	Units/RL:	Units/RL:					
Chloride	52.2	59.0	30.0	36.6	8.16	5.04	5.04	5.05	5.04	5.04
Percent Moisture	Extracted:	Extracted:	Extracted:	Extracted:	Extracted:					
	Analyzed:	Analyzed:	Analyzed:	Analyzed:	Analyzed:					
	Units/RL:	Units/RL:	Units/RL:	Units/RL:	Units/RL:					
Percent Moisture	ND	ND	ND	ND	ND	1.00	1.00	1.00	1.00	1.00
TPH by SW8015 Mod	Extracted:	Extracted:	Extracted:	Extracted:	Extracted:					
	Analyzed:	Analyzed:	Analyzed:	Analyzed:	Analyzed:					
	Units/RL:	Units/RL:	Units/RL:	Units/RL:	Units/RL:					
C6-C12 Gasoline Range Hydrocarbons	20.7	21.3	ND	19.5	ND	15.1	15.1	15.1	15.1	15.1
C12-C28 Diesel Range Hydrocarbons	2510	2740	1900	1430	384	15.1	15.1	15.1	15.1	15.1
C28-C35 Oil Range Hydrocarbons	763	774	615	554	196	15.1	15.1	15.1	15.1	15.1
Total TPH	3293.7	3535.3	2515	2003.5	580					

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(PQL) and above the SQL(MDL).
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.

\* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306426

Project ID: 2004-00061

Lab Batch #: 726495

Sample: 306426-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.5	100	72	70-135	
o-Terphenyl	38.3	50.0	77	70-135	

Lab Batch #: 726495

Sample: 306426-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	68.2	100	68	70-135	**
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 726495

Sample: 306426-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	65.9	100	66	70-135	**
o-Terphenyl	34.5	50.0	69	70-135	**

Lab Batch #: 726495

Sample: 306426-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	70.9	100	71	70-135	
o-Terphenyl	36.0	50.0	72	70-135	

Lab Batch #: 726495

Sample: 306426-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	59.9	100	60	70-135	**
o-Terphenyl	30.6	50.0	61	70-135	**

\*\* 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 Order #: 306426

Project ID: 2004-00061

Lab Batch #: 726495

Sample: 306427-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.8	100	76	70-135	
o-Terphenyl	33.4	50.0	67	70-135	**

Lab Batch #: 726495

Sample: 306427-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.1	100	75	70-135	
o-Terphenyl	33.3	50.0	67	70-135	**

Lab Batch #: 726495

Sample: 511212-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.1	100	88	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 726495

Sample: 511212-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.1	100	80	70-135	
o-Terphenyl	41.8	50.0	84	70-135	

Lab Batch #: 726495

Sample: 511212-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	37.0	50.0	74	70-135	

\*\* 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 #: 306426

Project ID:

2004-00061

Lab Batch #: 726416

Sample: 726416-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.3	113	75-125	

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

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



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306426

Analyst: ASA

Lab Batch ID: 726495

Sample: 511212-1-BKS

Date Prepared: 06/24/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
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
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	1080	108	1000	986	99	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	1120	112	1000	1010	101	10	70-135	35	

Relative Percent Difference RPD =  $200 * [(D-E)/(D+E)]$   
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 #: 306426

Lab Batch #: 726416

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

QC- Sample ID: 306426-001 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	52.2	101	179	126	75-125	X

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order # : 306426

Lab Batch ID: 726495

Date Analyzed: 06/25/2008

Reporting Units: mg/kg

Project ID: 2004-00061

QC- Sample ID: 306427-005 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/24/2008

Analyst: ASA

Reporting Units: mg/kg	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	
TPH by SW8015 Mod												
Analytes												
C6-C12 Gasoline Range Hydrocarbons	ND	1000	937	94	1000	923	92	2	70-135	2		
C12-C28 Diesel Range Hydrocarbons	235	1000	1130	90	1000	1090	86	5	70-135	5		

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306426

Lab Batch #: 726416

Date Analyzed: 06/25/2008

QC- Sample ID: 306426-001 D

Reporting Units: mg/kg

Project ID: 2004-00061

Analyst: LATCOR

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	52.2	52.6	1	20	

Lab Batch #: 726278

Date Analyzed: 06/25/2008

QC- Sample ID: 306390-006 D

Reporting Units: %

Date Prepared: 06/25/2008

Analyst: IRO

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.87	4.95	17	20	

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



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

Client: Plains  
Date/ Time: 06-23-08 @ 1706  
Lab ID #: 306-26  
Initials: AL

**Sample Receipt Checklist**

			Client Initials	
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.0	°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	<u>Not Present</u>	
#4	Custody Seals intact on sample bottles/ container?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<u>Not Present</u>	
#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	<u>Not Applicable</u>	
#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	<u>Not Applicable</u>	
#20	VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 306427**

**for**

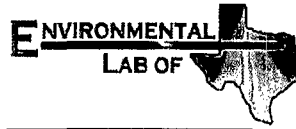
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**27-JUN-08**



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

Texas certification numbers:  
Houston, TX T104704215

Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:  
Norcross(Atlanta), GA 98015

North Carolina certification numbers:  
Norcross(Atlanta), GA 483

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



27-JUN-08

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

Reference: XENCO Report No: **306427**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306427. 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. 306427 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 306427



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell B TZ G 1	S	Jun-20-08 08:50		306427-001
Cell B TZ G 2	S	Jun-20-08 09:00		306427-002
Cell B TZ G 3	S	Jun-20-08 09:10		306427-003
Cell B TZ G 4	S	Jun-20-08 09:20		306427-004
Cell B TZ G 5	S	Jun-20-08 09:30		306427-005



**Certificate of Analysis Summary 306427**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

**Project Id:** 2004-00061  
**Contact:** Camille Reynolds  
**Project Location:** Lea County, NM


**Project Name:** Lea Station Land Farm

**Date Received in Lab:** Mon Jun-23-08 05:41 pm  
**Report Date:** 27-JUN-08  
**Project Manager:** Brent Barron, II

<i>Analysis Requested</i>		<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	<i>306427-001</i>	<i>306427-002</i>	<i>306427-003</i>	<i>306427-004</i>	<i>306427-005</i>
							Cell B TZ G 1	Cell B TZ G 2	Cell B TZ G 3	Cell B TZ G 4	Cell B TZ G 5
							Jun-20-08 08:50	Jun-20-08 09:00	Jun-20-08 09:10	Jun-20-08 09:20	Jun-20-08 09:30
							SOIL	SOIL	SOIL	SOIL	SOIL
<b>Inorganic Anions by EPA 300</b>		<i>Extracted:</i>									
Chloride		<i>Analyzed:</i>	Jun-25-08 20:58	Jun-25-08 20:58	Jun-25-08 20:58	Jun-25-08 20:58	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		<i>Units/RL:</i>	RL	RL	RL	RL					RL
			26.7	36.5	34.4	30.7	5.07	10.1	5.04	5.04	5.02
<b>Percent Moisture</b>		<i>Extracted:</i>									
Percent Moisture		<i>Analyzed:</i>	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	%	%	%	%	%
		<i>Units/RL:</i>	RL	RL	RL	RL					RL
			1.39	1.17	ND	ND	1.00	1.00	1.00	1.00	1.00
<b>TPH by SW8015 Mod</b>		<i>Extracted:</i>									
C6-Cl2 Gasoline Range Hydrocarbons		<i>Analyzed:</i>	Jun-24-08 17:30	Jun-24-08 17:30	Jun-24-08 17:30	Jun-24-08 17:30	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		<i>Units/RL:</i>	RL	RL	RL	RL					RL
			ND	ND	ND	ND	15.2	15.2	15.1	15.1	15.1
C12-C28 Diesel Range Hydrocarbons			4010	2980	787	730	15.2	15.1	15.1	235	15.1
			1090	960	320	321	15.2	15.1	15.1	131	15.1
			5100	3940	1107	1051				366	
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(PQL) and above the SQL(MDL).
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.

\* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306427

Project ID: 2004-00061

Lab Batch #: 726495

Sample: 306427-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	70.9	100	71	70-135	
o-Terphenyl	36.3	50.0	73	70-135	

Lab Batch #: 726495

Sample: 306427-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	100	84	70-135	
o-Terphenyl	44.4	50.0	89	70-135	

Lab Batch #: 726495

Sample: 306427-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	65.2	100	65	70-135	**
o-Terphenyl	34.2	50.0	68	70-135	**

Lab Batch #: 726495

Sample: 306427-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	68.5	100	69	70-135	**
o-Terphenyl	35.2	50.0	70	70-135	

Lab Batch #: 726495

Sample: 306427-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	74.1	100	74	70-135	
o-Terphenyl	38.5	50.0	77	70-135	

\*\* 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 Order #: 306427

Project ID: 2004-00061

Lab Batch #: 726495

Sample: 306427-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.8	100	76	70-135	
o-Terphenyl	33.4	50.0	67	70-135	**

Lab Batch #: 726495

Sample: 306427-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.1	100	75	70-135	
o-Terphenyl	33.3	50.0	67	70-135	**

Lab Batch #: 726495

Sample: 511212-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.1	100	88	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 726495

Sample: 511212-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.1	100	80	70-135	
o-Terphenyl	41.8	50.0	84	70-135	

Lab Batch #: 726495

Sample: 511212-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	37.0	50.0	74	70-135	

\*\* 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 #: 306427

Project ID:

2004-00061

Lab Batch #: 726416

Sample: 726416-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.3	113	75-125	

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

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





## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306427

Analyst: ASA

Lab Batch ID: 726495

Sample: 511212-1-BKS

Units: mg/kg

Date Prepared: 06/24/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/25/2008

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	1080	108	1000	986	99	9	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	ND	1000	1120	112	1000	1010	101	10	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306427

Lab Batch #: 726416

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

QC- Sample ID: 306426-001 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	52.2	101	179	126	75-125	X

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order # : 306427

Project ID: 2004-00061

Lab Batch ID: 726495

QC- Sample ID: 306427-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/25/2008

Date Prepared: 06/24/2008

Analyst: ASA

Reporting Units: mg/kg

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	ND	1000	937	94	1000	923	92	2	70-135	2	
C12-C28 Diesel Range Hydrocarbons	235	1000	1130	90	1000	1090	86	5	70-135	5	

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306427

Lab Batch #: 726416

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

QC- Sample ID: 306426-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	52.2	52.6	1	20	

Lab Batch #: 726285

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: IRO

QC- Sample ID: 306428-002 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	1.04	ND	NC	20	

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
12600 West I-20 East  
Odessa, Texas 79765  
Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager: Curt Stanley  
Company Name: Basin Environmental Service Technologies, LLC  
Company Address: P. O. Box 301  
City/State/Zip: Lovington, NM 88260  
Telephone No: (505) 441-2124  
Fax No: (505) 395-1425  
e-mail: cstanley@basinenv.com  
Project Name: LEA STATION LAND FARM  
Project #: SRS: 2004-00061  
Project Loc: Lea County, NM  
PO #: PAA - C. J. Reynolds  
Report Format: ☒ Standard ☐ TRRP ☐ MPOES

ORDER #: 306427

Lab # (fill use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers	Matrix
001	CELL B T2 G 1			6/20/2008	850		1	1	SOIL
002	CELL B T2 G 2			6/20/2008	900		1	1	SOIL
003	CELL B T2 G 3			6/20/2008	910		1	1	SOIL
004	CELL B T2 G 4			6/20/2008	920		1	1	SOIL
005	CELL B T2 G 5			6/20/2008	930		1	1	SOIL

Analysis for:

Parameter	001	002	003	004	005
As					
Cd					
Cr					
Pb					
Hg					
Mn					
Ni					
Se					
V					
Co					
Cu					
Fe					
Mg					
Zn					
Al					
Ca					
Na					
K					
Cl					
S					
P					
B					
I					
Br					
Li					
Rb					
Cs					
Ag					
Au					
Pt					
Sn					
Sb					
Bi					
Pb					
Mo					
W					
Re					
Os					
Ir					
Rh					
Co					
Ni					
Cu					
Zn					
Al					
Si					
Fe					
Mn					
Mg					
Ca					
Na					
K					
Cl					
S					
P					
B					
I					
Br					
Li					
Rb					
Cs					
Ag					
Au					
Pt					
Sn					
Sb					
Bi					
Pb					
Mo					
W					
Re					
Os					
Ir					
Rh					
Co					
Ni					
Cu					
Zn					
Al					
Si					
Fe					
Mn					
Mg					
Ca					
Na					
K					
Cl					
S					
P					
B					
I					
Br					
Li					
Rb					
Cs					
Ag					
Au					
Pt					
Sn					
Sb					
Bi					
Pb					
Mo					
W					
Re					
Os					
Ir					
Rh					
Co					
Ni					
Cu					
Zn					
Al					
Si					
Fe					
Mn					
Mg					
Ca					
Na					
K					
Cl					
S					
P					
B					
I					
Br					
Li					
Rb					
Cs					
Ag					
Au					
Pt					
Sn					
Sb					
Bi					
Pb					
Mo					
W					
Re					
Os					
Ir					
Rh					
Co					
Ni					
Cu					
Zn					
Al					
Si					
Fe					
Mn					
Mg					
Ca					
Na					
K					
Cl					
S					
P					
B					
I					
Br					
Li					
Rb					
Cs					
Ag					
Au					
Pt					
Sn					
Sb					
Bi					
Pb					
Mo					
W					
Re					
Os					
Ir					
Rh					
Co					
Ni					
Cu					
Zn					
Al					
Si					
Fe					
Mn					
Mg					
Ca					
Na					
K					
Cl					
S					
P					
B					
I					
Br					
Li					
Rb					
Cs					
Ag					
Au					
Pt					
Sn					
Sb					
Bi					
Pb					
Mo					
W					
Re					
Os					
Ir					
Rh					
Co					
Ni					
Cu					
Zn					
Al					
Si					
Fe					
Mn					
Mg					
Ca					
Na					
K					
Cl					
S					
P					
B					
I					
Br					
Li					
Rb					
Cs					
Ag					
Au					
Pt					
Sn					
Sb					
Bi					
Pb					
Mo					
W					
Re					
Os					
Ir					
Rh					
Co					
Ni					
Cu					
Zn					
Al					
Si					
Fe					
Mn					
Mg					
Ca					
Na					
K					
Cl					
S					
P					
B					
I					
Br					
Li					
Rb					
Cs					
Ag					
Au					
Pt					
Sn					
Sb					
Bi					
Pb					
Mo					
W					
Re					
Os					
Ir					
Rh					
Co					
Ni					
Cu					
Zn					
Al					
Si					
Fe					
Mn					
Mg					
Ca					
Na					
K					
Cl					
S					

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

Client: Plains  
Date/ Time: 06-23-08 @ 1706  
Lab ID #: 306427  
Initials: AL

**Sample Receipt Checklist**

				Client Initials
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	No	4.0 °C
#2	Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	No	
#3	Custody Seals Intact on shipping container/ cooler?	Yes	No	<u>Not Present</u>
#4	Custody Seals Intact on sample bottles/ container?	<input checked="" type="checkbox"/> Yes	No	Not Present
#5	Chain of Custody present?	<input checked="" type="checkbox"/> Yes	No	
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	No	
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	No	ID written on Cont./ Lid
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	No	
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	No	See Below
#13	Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No	See Below
#14	Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No	
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	No	See Below
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No	See Below
#19	Subcontract of sample(s)?	Yes	No	<u>Not Applicable</u>
#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 306428**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**27-JUN-08**



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

Texas certification numbers:  
Houston, TX T104704215

Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:  
Norcross(Atlanta), GA 98015

North Carolina certification numbers:  
Norcross(Atlanta), GA 483

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



27-JUN-08

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

Reference: XENCO Report No: **306428**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306428. 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. 306428 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 306428



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell C TZ G 1	S	Jun-20-08 09:40		306428-001
Cell C TZ G 2	S	Jun-20-08 09:50		306428-002
Cell C TZ G 3	S	Jun-20-08 10:00		306428-003
Cell C TZ G 4	S	Jun-20-08 10:10		306428-004
Cell C TZ G 5	S	Jun-20-08 10:20		306428-005



**Certificate of Analysis Summary 306428**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

Project Id: 2004-00061  
Contact: Camille Reynolds  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Mon Jun-23-08 05:41 pm  
Report Date: 27-JUN-08  
Project Manager: Brent Barron, IL

<b>Analysis Requested</b>	Lab Id:	306428-001	306428-002	306428-003	306428-004	306428-005
	Field Id:	Cell C TZ G 1	Cell C TZ G 2	Cell C TZ G 3	Cell C TZ G 4	Cell C TZ G 5
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
<b>Inorganic Anions by EPA 300</b>	Sampled:	Jun-20-08 09:40	Jun-20-08 09:50	Jun-20-08 10:00	Jun-20-08 10:10	Jun-20-08 10:20
	Extracted:					
	Analyzed:	Jun-25-08 20:58	Jun-25-08 20:58	Jun-25-08 20:58	Jun-25-08 20:58	Jun-25-08 20:58
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
<b>Percent Moisture</b>		ND 5.04	9.85 5.05	13.3 10.1	12.1 10.1	21.8 5.05
	Extracted:					
	Analyzed:	Jun-25-08 07:50	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10
	Units/RL:	% RL	% RL	% RL	% RL	% RL
<b>TPH by SW8015 Mod</b>		ND 1.00	1.04 1.00	ND 1.00	1.09 1.00	1.03 1.00
	Extracted:	Jun-24-08 17:30	Jun-24-08 17:30	Jun-24-08 17:30	Jun-24-08 17:30	Jun-24-08 17:30
	Analyzed:	Jun-25-08 12:07	Jun-25-08 12:33	Jun-25-08 12:59	Jun-25-08 13:26	Jun-26-08 11:45
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.1	ND 15.2	ND 15.1	ND 15.2	ND 15.2
		484 15.1	745 15.2	576 15.1	345 15.2	329 15.2
	C12-C28 Diesel Range Hydrocarbons	217 15.1	237 15.2	285 15.1	186 15.2	223 15.2
	C28-C35 Oil Range Hydrocarbons	701	982	861	531	552
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 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(PQL) and above the SQL(MDL).
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.

\* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306428

Project ID: 2004-00061

Lab Batch #: 726495

Sample: 306427-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	75.8	100	76	70-135	
o-Terphenyl	33.4	50.0	67	70-135	**

Lab Batch #: 726495

Sample: 306427-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	75.1	100	75	70-135	
o-Terphenyl	33.3	50.0	67	70-135	**

Lab Batch #: 726495

Sample: 306428-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	60.7	100	61	70-135	**
o-Terphenyl	31.0	50.0	62	70-135	**

Lab Batch #: 726495

Sample: 306428-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	70.0	100	70	70-135	
o-Terphenyl	35.4	50.0	71	70-135	

Lab Batch #: 726495

Sample: 306428-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	70.6	100	71	70-135	
o-Terphenyl	35.6	50.0	71	70-135	

\*\* 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 Order #: 306428

Project ID: 2004-00061

Lab Batch #: 726495

Sample: 306428-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	65.7	100	66	70-135	**
o-Terphenyl	33.2	50.0	66	70-135	**

Lab Batch #: 726495

Sample: 306428-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.1	100	79	70-135	
o-Terphenyl	40.2	50.0	80	70-135	

Lab Batch #: 726495

Sample: 511212-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.1	100	88	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 726495

Sample: 511212-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.1	100	80	70-135	
o-Terphenyl	41.8	50.0	84	70-135	

Lab Batch #: 726495

Sample: 511212-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	37.0	50.0	74	70-135	

\*\* 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 #: 306428

Project ID:

2004-00061

Lab Batch #: 726416

Sample: 726416-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.3	113	75-125	

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

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



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306428

Analyst: ASA

Lab Batch ID: 726495

Sample: 511212-1-BKS

Date Prepared: 06/24/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Matrix: Solid

Units: mg/kg

TPH by SW8015 Mod

## Analytes

C6-C12 Gasoline Range Hydrocarbons

C12-C28 Diesel Range Hydrocarbons

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
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
	ND	1000	1080	108	1000	986	99	9	70-135	35	
	ND	1000	1120	112	1000	1010	101	10	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306428

Lab Batch #: 726416

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

QC- Sample ID: 306426-001 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	52.2	101	179	126	75-125	X

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

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

All Results are based on MDL and Validated for QC Purposes





# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order # : 306428

Lab Batch ID: 726495

Date Analyzed: 06/25/2008

Project ID: 2004-00061

QC- Sample ID: 306427-005 S

Date Prepared: 06/24/2008

Batch #: 1

Matrix: Soil

Analyst: ASA

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	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	1000	937	94	1000	923	92	2	70-135	2	
	C12-C28 Diesel Range Hydrocarbons	235	1000	1130	90	1000	1090	86	5	70-135	5	

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306428

Lab Batch #: 726416

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

QC- Sample ID: 306426-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	52.2	52.6	1	20	

Lab Batch #: 726278

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: IRO

QC- Sample ID: 306390-006 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	5.87	4.95	17	20	

Lab Batch #: 726285

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: IRO

QC- Sample ID: 306428-002 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	1.04	ND	NC	20	

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

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**  
12600 West I-20 East Phone: 432-563-1800  
Odessa, Texas 79765 Fax: 432-563-1713

Project Name: LEA STATION LAND FARM

Project #: SRS: 2004-00061

Project Loc: Lea County, NM

POB: PAA - C. J. Reynolds

Report Format: ☒ Standard ☐ TRAP ☐ NPDES

cstanley@basinenr.com

[illegible]

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

Client: Plains  
Date/ Time: 06-23-08 @ 1706  
Lab ID #: 306428  
Initials: AL

Sample Receipt Checklist

			Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	4.0 °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 306429**

**for**

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

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**27-JUN-08**



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

Texas certification numbers:  
Houston, TX T104704215

Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:  
Norcross(Atlanta), GA 98015

North Carolina certification numbers:  
Norcross(Atlanta), GA 483

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



27-JUN-08

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

Reference: XENCO Report No: **306429**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306429. 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. 306429 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 306429



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell D TZ G 1	S	Jun-20-08 10:30		306429-001
Cell D TZ G 2	S	Jun-20-08 10:40		306429-002
Cell D TZ G 3	S	Jun-20-08 10:50		306429-003
Cell D TZ G 4	S	Jun-20-08 11:00		306429-004
Cell D TZ G 5	S	Jun-20-08 11:10		306429-005



Certificate of Analysis Summary 306429  
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Id: 2004-00061  
Contact: Camille Reynolds  
Project Location: Lea County, NM

Date Received in Lab: Mon Jun-23-08 05:42 pm  
Report Date: 27-JUN-08  
Project Manager: Brent Barron, IL

Analysis Requested	Lab Id:	306429-001	306429-002	306429-003	306429-004	306429-005
	Field Id:	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
	Depth:					
Inorganic Anions by EPA 300	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jun-20-08 10:30	Jun-20-08 10:40	Jun-20-08 10:50	Jun-20-08 11:00	Jun-20-08 11:10
	Extracted:					
Chloride	Analyzed:	Jun-25-08 20:58	Jun-25-08 20:58	Jun-25-08 20:58	Jun-25-08 20:58	Jun-25-08 20:58
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		15.9 5.04	36.2 5.03	103 5.03	106 5.04	61.1 5.03
Percent Moisture	Extracted:					
	Analyzed:	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10
	Units/RL:	% RL	% RL	% RL	% RL	% RL
TPH by SW8015 Mod	Extracted:	ND 1.00	ND 1.00	ND 1.00	ND 1.00	ND 1.00
	Analyzed:	Jun-24-08 17:30	Jun-24-08 17:30	Jun-24-08 17:30	Jun-24-08 17:30	Jun-24-08 17:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.1	20.3 15.1	ND 15.1	ND 15.1	ND 15.1
		2460 15.1	2940 15.1	2970 15.1	1990 15.1	2080 15.1
		659 15.1	730 15.1	763 15.1	640 15.1	565 15.1
C12-C28 Diesel Range Hydrocarbons						
C28-C35 Oil Range Hydrocarbons						
Total TPH		3119	3690.3	3733	2630	2645

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(PQL) and above the SQL(MDL).
  - U** Analyte was not detected.
  - L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
  - H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
  - K** Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306429

Project ID: 2004-00061

Lab Batch #: 726495

Sample: 306427-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	75.8	100	76	70-135	
o-Terphenyl	33.4	50.0	67	70-135	**

Lab Batch #: 726495

Sample: 306427-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	75.1	100	75	70-135	
o-Terphenyl	33.3	50.0	67	70-135	**

Lab Batch #: 726495

Sample: 306429-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	70.1	100	70	70-135	
o-Terphenyl	36.3	50.0	73	70-135	

Lab Batch #: 726495

Sample: 306429-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	74.3	100	74	70-135	
o-Terphenyl	38.5	50.0	77	70-135	

Lab Batch #: 726495

Sample: 306429-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	66.2	100	66	70-135	**
o-Terphenyl	33.7	50.0	67	70-135	**

\*\* 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 Order #: 306429

Project ID: 2004-00061

Lab Batch #: 726495

Sample: 306429-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	74.3	100	74	70-135	
o-Terphenyl	38.8	50.0	78	70-135	

Lab Batch #: 726495

Sample: 306429-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	72.7	100	73	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

Lab Batch #: 726495

Sample: 511212-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.1	100	88	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 726495

Sample: 511212-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	80.1	100	80	70-135	
o-Terphenyl	41.8	50.0	84	70-135	

Lab Batch #: 726495

Sample: 511212-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	37.0	50.0	74	70-135	

\*\* 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 #: 306429

Project ID:

2004-00061

Lab Batch #: 726416

Sample: 726416-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.3	113	75-125	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306429

Analyst: ASA

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Lab Batch ID: 726495

Date Prepared: 06/24/2008

Sample: 511212-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
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	1080	108	1000	986	99	9	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	ND	1000	1120	112	1000	1010	101	10	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306429

Lab Batch #: 726416

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

QC- Sample ID: 306426-001 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	52.2	101	179	126	75-125	X

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order # : 306429

Lab Batch ID: 726495

Date Analyzed: 06/25/2008

Reporting Units: mg/kg

Project ID: 2004-00061

QC- Sample ID: 306427-005 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/24/2008 Analyst: ASA

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 %
C6-C12 Gasoline Range Hydrocarbons	ND	1000	937	94	1000	923	92	2
C12-C28 Diesel Range Hydrocarbons	235	1000	1130	90	1000	1090	86	5

Control  
Limits  
%RPD

Control  
Limits  
%R

RPD  
%

Spiked  
Dup.  
%R  
[G]

Duplicate  
Spiked Sample  
Result [F]

Spike  
Added  
[E]

Spiked  
Sample  
%R  
[D]

Spiked Sample  
Result  
[C]

Spike  
Added  
[B]

Parent  
Sample  
Result  
[A]

Flag

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306429

Lab Batch #: 726416

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: LATCOR

QC- Sample ID: 306426-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	52.2	52.6	1	20	

Lab Batch #: 726285

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: IRO

QC- Sample ID: 306428-002 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	1.04	ND	NC	20	

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

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





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

Client: Plains  
Date/ Time: 06-23-08 @ 1706  
Lab ID #: 306429  
Initials: AL

**Sample Receipt Checklist**

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	4.0 °C	
#2 Shipping container in good condition?	(Yes)	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	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	<del>(Not Applicable)</del>	
#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 306430**

**for**

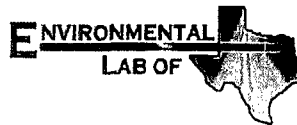
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**27-JUN-08**



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

Texas certification numbers:  
Houston, TX T104704215

Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:  
Norcross(Atlanta), GA 98015

North Carolina certification numbers:  
Norcross(Atlanta), GA 483

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



27-JUN-08

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

Reference: XENCO Report No: **306430**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306430. 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. 306430 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 306430



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell E TZ G 1	S	Jun-20-08 11:00		306430-001
Cell E TZ G 2	S	Jun-20-08 11:30		306430-002
Cell E TZ G 3	S	Jun-20-08 11:40		306430-003
Cell E TZ G 4	S	Jun-20-08 11:50		306430-004



**Certificate of Analysis Summary 306430**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

**Project Id:** 2004-00061  
**Contact:** Camille Reynolds  
**Project Location:** Lea County, NM


**Project Name:** Lea Station Land Farm

**Date Received in Lab:** Mon Jun-23-08 05:42 pm  
**Report Date:** 27-JUN-08  
**Project Manager:** Brent Barron, II

Analysis Requested	Lab Id:	306430-001	306430-002	306430-003	306430-004	
	Field Id:	Cell E TZ G 1	Cell E TZ G 2	Cell E TZ G 3	Cell E TZ G 4	
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Jun-20-08 11:00	Jun-20-08 11:30	Jun-20-08 11:40	Jun-20-08 11:50	
Inorganic Anions by EPA 300	Extracted:					
	Analyzed:	Jun-26-08 06:26	Jun-26-08 06:26	Jun-26-08 06:26	Jun-26-08 06:26	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		ND 5.04	ND 5.04	ND 5.02	ND 5.02	
Percent Moisture	Extracted:					
	Analyzed:	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	
	Units/RL:	% RL	% RL	% RL	% RL	
Percent Moisture		ND 1.00	ND 1.00	ND 1.00	ND 1.00	
TPH by SW8015 Mod	Extracted:					
	Analyzed:	Jun-25-08 10:00	Jun-25-08 10:00	Jun-25-08 10:00	Jun-25-08 10:00	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		ND 15.1	ND 15.1	ND 15.1	ND 15.1	
C12-C28 Diesel Range Hydrocarbons		718 15.1	1140 15.1	422 15.1	116 15.1	
C28-C35 Oil Range Hydrocarbons		371 15.1	521 15.1	217 15.1	72.6 15.1	
Total TPH		1089	1661	639	188.6	

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 - 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(PQL) and above the SQL(MDL).
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306430

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 306430-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	70.4	100	70	70-135	
o-Terphenyl	36.5	50.0	73	70-135	

Lab Batch #: 726461

Sample: 306430-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.0	100	75	70-135	
o-Terphenyl	38.3	50.0	77	70-135	

Lab Batch #: 726461

Sample: 306430-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.0	100	73	70-135	
o-Terphenyl	36.8	50.0	74	70-135	

Lab Batch #: 726461

Sample: 306430-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	68.9	100	69	70-135	**
o-Terphenyl	34.7	50.0	69	70-135	**

Lab Batch #: 726461

Sample: 306432-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.2	100	85	70-135	
o-Terphenyl	40.1	50.0	80	70-135	

\*\* 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 Order #: 306430

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 306432-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	85.7	100	86	70-135	
o-Terphenyl	40.2	50.0	80	70-135	

Lab Batch #: 726461

Sample: 511196-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	38.8	50.0	78	70-135	

Lab Batch #: 726461

Sample: 511196-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	100	80	70-135	
o-Terphenyl	42.4	50.0	85	70-135	

Lab Batch #: 726461

Sample: 511196-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.0	100	81	70-135	
o-Terphenyl	38.3	50.0	77	70-135	

\*\* 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 #: 306430

Project ID:

2004-00061

Lab Batch #: 726538

Sample: 726538-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.7	117	75-125	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306430

Analyst: ASA

Lab Batch ID: 726461

Sample: 511196-1-BKS

Date Prepared: 06/25/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
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
Analytes											
C6-C12 Gasoline Range Hydrocarbons	ND	1000	898	90	1000	890	89	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	888	89	1000	882	88	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306430

Lab Batch #: 726538

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306430-001 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	101	122	121	75-125	F

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

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

All Results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries

Project Name: Lea Station Land Farm

Work Order #: 306430      Project ID: 2004-00061  
Lab Batch ID: 726461      QC- Sample ID: 306432-001 S      Batch #: 1      Matrix: Soil  
Date Analyzed: 06/26/2008      Date Prepared: 06/25/2008      Analyst: ASA  
Reporting Units: mg/kg

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	1060	1000	94	1060	992	94	0	70-135	0
	C12-C28 Diesel Range Hydrocarbons	ND	1060	1010	95	1060	1000	94	1	70-135	1

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B  
Relative Percent Difference RPD = 200\*(D-G)/(D+G)  
ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit  
Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306430

Lab Batch #: 726538

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306430-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

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

Lab Batch #: 726285

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: IRO

QC- Sample ID: 306428-002 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	1.04	ND	NC	20	

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
12600 West I-20 East  
Odessa, Texas 79765  
Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager: Curt Stanley

Project Name: LEA STATION LAND FARM

Company Name: Basin Environmental Service Technologies, LLC

Project #: SRS: 2004-00061

Company Address: P. O. Box 301

Project Loc: Lea County, NM


City/State/Zip: Lovington, NM 88260

PO #: PAA - C. J. Reynolds

Telephone No: (985) 441-2124

Fax No: (985) 396-1429

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: 



e-mail: cstanley@basinenv.com

Lab (see only)

ORDER #: 306430

Lab # (first use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filter?	Total # of Containers	Matrix	Preservation & # of Containers	Analysis For:
001	CELL ETZ G 1			6/20/2008	1130		1	SOIL	1	<input checked="" type="checkbox"/> TOC <input checked="" type="checkbox"/> TOTAL <input checked="" type="checkbox"/> BTEX 4021 BTEX 30 <input checked="" type="checkbox"/> SVOCs <input checked="" type="checkbox"/> Metals: As, Ag, Ba, Cd, Cr, Pb, Hg, Se <input checked="" type="checkbox"/> SAR/ESP/CEC <input checked="" type="checkbox"/> Anions (Cl, SO <sub>4</sub> , NO <sub>3</sub> , Arsenite) <input checked="" type="checkbox"/> Cations (Ca, Mg, Na, K) <input checked="" type="checkbox"/> TPH: 1X 1005 <input checked="" type="checkbox"/> TPH: 418.1 3015M 3015B <input checked="" type="checkbox"/> RW - Non-halogenated <input checked="" type="checkbox"/> RW - Drinking Water SL - Subg <input checked="" type="checkbox"/> Other (Specify)
002	CELL ETZ G 2			6/20/2008	1130		1	SOIL	1	<input checked="" type="checkbox"/> TOC <input checked="" type="checkbox"/> TOTAL <input checked="" type="checkbox"/> BTEX 4021 BTEX 30 <input checked="" type="checkbox"/> SVOCs <input checked="" type="checkbox"/> Metals: As, Ag, Ba, Cd, Cr, Pb, Hg, Se <input checked="" type="checkbox"/> SAR/ESP/CEC <input checked="" type="checkbox"/> Anions (Cl, SO <sub>4</sub> , NO <sub>3</sub> , Arsenite) <input checked="" type="checkbox"/> Cations (Ca, Mg, Na, K) <input checked="" type="checkbox"/> TPH: 1X 1005 <input checked="" type="checkbox"/> TPH: 418.1 3015M 3015B <input checked="" type="checkbox"/> RW - Non-halogenated <input checked="" type="checkbox"/> RW - Drinking Water SL - Subg <input checked="" type="checkbox"/> Other (Specify)
003	CELL ETZ G 3			6/20/2008	1140		1	SOIL	1	<input checked="" type="checkbox"/> TOC <input checked="" type="checkbox"/> TOTAL <input checked="" type="checkbox"/> BTEX 4021 BTEX 30 <input checked="" type="checkbox"/> SVOCs <input checked="" type="checkbox"/> Metals: As, Ag, Ba, Cd, Cr, Pb, Hg, Se <input checked="" type="checkbox"/> SAR/ESP/CEC <input checked="" type="checkbox"/> Anions (Cl, SO <sub>4</sub> , NO <sub>3</sub> , Arsenite) <input checked="" type="checkbox"/> Cations (Ca, Mg, Na, K) <input checked="" type="checkbox"/> TPH: 1X 1005 <input checked="" type="checkbox"/> TPH: 418.1 3015M 3015B <input checked="" type="checkbox"/> RW - Non-halogenated <input checked="" type="checkbox"/> RW - Drinking Water SL - Subg <input checked="" type="checkbox"/> Other (Specify)
004	CELL ETZ G 4			6/20/2008	1150		1	SOIL	1	<input checked="" type="checkbox"/> TOC <input checked="" type="checkbox"/> TOTAL <input checked="" type="checkbox"/> BTEX 4021 BTEX 30 <input checked="" type="checkbox"/> SVOCs <input checked="" type="checkbox"/> Metals: As, Ag, Ba, Cd, Cr, Pb, Hg, Se <input checked="" type="checkbox"/> SAR/ESP/CEC <input checked="" type="checkbox"/> Anions (Cl, SO <sub>4</sub> , NO <sub>3</sub> , Arsenite) <input checked="" type="checkbox"/> Cations (Ca, Mg, Na, K) <input checked="" type="checkbox"/> TPH: 1X 1005 <input checked="" type="checkbox"/> TPH: 418.1 3015M 3015B <input checked="" type="checkbox"/> RW - Non-halogenated <input checked="" type="checkbox"/> RW - Drinking Water SL - Subg <input checked="" type="checkbox"/> Other (Specify)
										<input checked="" type="checkbox"/> CHLORIDES EPA 300.1 <input checked="" type="checkbox"/> NORM <input checked="" type="checkbox"/> RUSH TAT (pre-shipment) 24, 48, 72 hr

Special Instructions:

Received by:	Date	Time	Received by:	Date	Time
	6/23/08	1700		6/20/08	17:00
Relinquished by:			Relinquished by:		

Laboratory Comments:  
 Sample Containers filled?  
 VOCs Free of Headspace?  
 Labels on containers?  
 Custody seals on containers?  
 Custody seals on bags?  
 Sample Hand Delivered?  
 By Courier?  
 By Truck?  
 By Air?  
 Temperature: 4.0 °C

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

Client: Plains  
Date/ Time: 06-23-08 @ 1706  
Lab ID #: 306430  
Initials: AL

**Sample Receipt Checklist**

			Client Initials	
#1	Temperature of container/ cooler?	(Yes) No	4.0	°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 ELDT?	(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 306431**

**for**

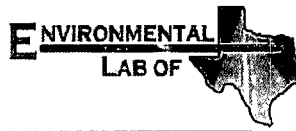
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**27-JUN-08**



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

**Texas certification numbers:  
Houston, TX T104704215**

**Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429**

**South Carolina certification numbers:  
Norcross(Atlanta), GA 98015**

**North Carolina certification numbers:  
Norcross(Atlanta), GA 483**

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



27-JUN-08

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

Reference: XENCO Report No: **306431**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306431. 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. 306431 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 306431



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell F TZ G 1	S	Jun-20-08 12:00		306431-001
Cell F TZ G 2	S	Jun-20-08 12:10		306431-002



**Certificate of Analysis Summary 300431**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

Project Id: 2004-00061  
Contact: Camille Reynolds  
Project Location: Lea County, NM


Project Name: Lea Station Land Farm

Date Received in Lab: Mon Jun-23-08 05:42 pm  
Report Date: 27-JUN-08  
Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	306431-001	306431-002		
	Field Id:	Cell F T Z G 1	Cell F T Z G 2		
Inorganic Anions by EPA 300	Depth:	SOIL	SOIL		
	Matrix:	Jun-20-08 12:00	Jun-20-08 12:10		
	Sampled:				
Chloride	Extracted:	Jun-26-08 06:26	Jun-26-08 06:26		
	Analyzed:	mg/kg RL	mg/kg RL		
	Units/RL:	26.1 5.03	5.90 5.03		
Percent Moisture	Extracted:	Jun-25-08 08:10	Jun-25-08 08:10		
	Analyzed:	% RL	% RL		
	Units/RL:	ND 1.00	ND 1.00		
TPH by SW8015 Mod	Extracted:	Jun-25-08 10:00	Jun-25-08 10:00		
	Analyzed:	Jun-26-08 01:23	Jun-26-08 01:50		
	Units/RL:	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		36.5 15.1	39.1 15.1		
C12-C28 Diesel Range Hydrocarbons		1840 15.1	1730 15.1		
C28-C35 Oil Range Hydrocarbons		402 15.1	350 15.1		
Total TPH		2278.5	2119.1		

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 - 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(PQL) and above the SQL(MDL).
  - U** Analyte was not detected.
  - L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
  - H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
  - K** Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd, Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306431

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 306431-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
I-Chlorooctane	61.6	100	62	70-135	**
o-Terphenyl	31.7	50.0	63	70-135	**

Lab Batch #: 726461

Sample: 306431-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
I-Chlorooctane	71.7	100	72	70-135	
o-Terphenyl	36.5	50.0	73	70-135	

Lab Batch #: 726461

Sample: 306432-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
I-Chlorooctane	85.2	100	85	70-135	
o-Terphenyl	40.1	50.0	80	70-135	

Lab Batch #: 726461

Sample: 306432-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
I-Chlorooctane	85.7	100	86	70-135	
o-Terphenyl	40.2	50.0	80	70-135	

Lab Batch #: 726461

Sample: 511196-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
I-Chlorooctane	81.8	100	82	70-135	
o-Terphenyl	38.8	50.0	78	70-135	

\*\* 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 Order #: 306431

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 511196-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	100	80	70-135	
o-Terphenyl	42.4	50.0	85	70-135	

Lab Batch #: 726461

Sample: 511196-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.0	100	81	70-135	
o-Terphenyl	38.3	50.0	77	70-135	

\*\* 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 #: 306431

Project ID:

2004-00061

Lab Batch #: 726538

Sample: 726538-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.7	117	75-125	

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

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





## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306431

Analyst: ASA

Lab Batch ID: 726461

Sample: 511196-1-BKS

Units: mg/kg

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Matrix: Solid

Date Prepared: 06/25/2008

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
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	898	90	1000	890	89	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	ND	1000	888	89	1000	882	88	1	70-135	35	

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

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

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 #: 306431

Lab Batch #: 726538

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306430-001 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	122	121	75-125	F

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

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

All Results are based on MDL and Validated for QC Purposes

Project Name: Lea Station Land Farm

Work Order #: 306431

Project ID: 2004-00061

Lab Batch ID: 726461

QC- Sample ID: 306432-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/26/2008

Date Prepared: 06/25/2008 Analyst: ASA

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	1060	1000	94	1060	992	94	0	70-135	0	
C12-C28 Diesel Range Hydrocarbons	ND	1060	1010	95	1060	1000	94	1	70-135	1	

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

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306431

Lab Batch #: 726538

Date Analyzed: 06/26/2008

QC- Sample ID: 306430-001 D

Reporting Units: mg/kg

Project ID: 2004-00061

Analyst: LATCOR

Date Prepared: 06/26/2008

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	20	20	

Lab Batch #: 726285

Date Analyzed: 06/25/2008

QC- Sample ID: 306428-002 D

Reporting Units: %

Date Prepared: 06/25/2008

Analyst: IRO

Batch #: 1

Matrix: Soil

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

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



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

Client: Plains  
Date/ Time: 06-23-08 @ 1706  
Lab ID #: 306431  
Initials: AL

**Sample Receipt Checklist**

			Client Initials	
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes No <u>4.0</u> °C		
#2	Shipping container in good condition?	<input checked="" type="checkbox"/> Yes No		
#3	Custody Seals intact on shipping container/ cooler?	Yes No <u>Not Present</u>		
#4	Custody Seals intact on sample bottles/ container?	<input checked="" type="checkbox"/> Yes No Not Present		
#5	Chain of Custody present?	<input checked="" type="checkbox"/> Yes No		
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes No		
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes No		
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes No ID written on Cont./ Lid		
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes No Not Applicable		
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes No		
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes No		
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes No See Below		
#13	Samples properly preserved?	<input checked="" type="checkbox"/> Yes No See Below		
#14	Sample bottles intact?	<input checked="" type="checkbox"/> Yes No		
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes No		
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes No		
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes No See Below		
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes No See Below		
#19	Subcontract of sample(s)?	Yes No <u>Not Applicable</u>		
#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 306432**

**for**

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

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**27-JUN-08**



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

Texas certification numbers:  
Houston, TX T104704215

Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:  
Norcross(Atlanta), GA 98015

North Carolina certification numbers:  
Norcross(Atlanta), GA 483

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



27-JUN-08

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

Reference: XENCO Report No: **306432**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306432. 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. 306432 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 306432



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell A VZ G 1 (3'-4')	S	Jun-20-08 12:20	3 - 4 ft	306432-001
Cell A VZ G 2 (3'-4')	S	Jun-20-08 12:30	3 - 4 ft	306432-002
Cell A VZ G 3 (3'-4')	S	Jun-20-08 12:40	3 - 4 ft	306432-003
Cell A VZ G 4 (3'-4')	S	Jun-20-08 12:50	3 - 4 ft	306432-004
Cell A VZ G 5 (3'-4')	S	Jun-20-08 13:00	3 - 4 ft	306432-005



**Certificate of Analysis Summary 306432**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

Project Id: 2004-00061  
Contact: Camille Reynolds  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Mon Jun-23-08 05:53 pm  
Report Date: 27-JUN-08

Project Manager: Brent Barron, II

<i>Analysis Requested</i>		Lab Id:	306432-001	306432-002	306432-003	306432-004	306432-005
	<i>Field Id:</i>	Cell A VZ G 1 (3'-4')	Cell A VZ G 2 (3'-4')	Cell A VZ G 3 (3'-4')	Cell A VZ G 4 (3'-4')	Cell A VZ G 5 (3'-4')	
	<i>Depth:</i>	3-4 ft	3-4 ft	3-4 ft	3-4 ft	3-4 ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Jun-20-08 12:20	Jun-20-08 12:30	Jun-20-08 12:40	Jun-20-08 12:50	Jun-20-08 13:00	
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	
	<i>Analyzed:</i>	Jun-25-08 20:30	Jun-25-08 20:54	Jun-25-08 21:17	Jun-25-08 21:41	Jun-25-08 22:05	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
	Benzene	ND 0.0011	ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0011	
	Toluene	ND 0.0021	ND 0.0021	ND 0.0021	ND 0.0021	ND 0.0021	
Ethylbenzene		ND 0.0011	ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0011	
	m,p-Xylenes	ND 0.0021	ND 0.0021	ND 0.0021	ND 0.0021	ND 0.0021	
	o-Xylene	ND 0.0011	ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0011	
Total Xylenes		ND	ND	ND	ND	ND	
Total BTEX		ND	ND	ND	ND	ND	
<b>Inorganic Anions by EPA 300</b>							
	<i>Extracted:</i>	Jun-26-08 06:26	Jun-26-08 06:26	Jun-26-08 06:26	Jun-26-08 06:26	Jun-26-08 06:26	
	<i>Analyzed:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
	<i>Units/RL:</i>	ND 5.30	ND 5.16	ND 5.15	ND 5.32	ND 5.25	
Chloride		ND	ND	ND	ND	ND	
<b>Percent Moisture</b>							
	<i>Extracted:</i>	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	
	<i>Analyzed:</i>	% RL	% RL	% RL	% RL	% RL	
	<i>Units/RL:</i>	5.72 1.00	3.05 1.00	2.84 1.00	6.03 1.00	4.80 1.00	
Percent Moisture		ND	ND	ND	ND	ND	
<b>TPH by SW8015 Mod</b>							
	<i>Extracted:</i>	Jun-25-08 10:00	Jun-25-08 10:00	Jun-25-08 10:00	Jun-25-08 10:00	Jun-25-08 10:00	
	<i>Analyzed:</i>	Jun-26-08 15:56	Jun-26-08 02:43	Jun-26-08 03:10	Jun-26-08 03:36	Jun-26-08 04:29	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		ND 15.9	ND 15.5	ND 15.4	ND 16.0	ND 15.8	
C12-C28 Diesel Range Hydrocarbons		ND 15.9	ND 15.5	ND 15.4	ND 16.0	ND 15.8	
C28-C35 Oil Range Hydrocarbons		ND 15.9	ND 15.5	ND 15.4	ND 16.0	ND 15.8	
Total TPH		ND	ND	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 - 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(PQL) and above the SQL(MDL).
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.

\* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306432

Project ID: 2004-00061

Lab Batch #: 726470

Sample: 306432-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 726470

Sample: 306432-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 726470

Sample: 306432-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0337	0.0300	112	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 726470

Sample: 306432-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 726470

Sample: 306432-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0334	0.0300	111	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306432

Project ID: 2004-00061

Lab Batch #: 726470

Sample: 306434-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	0.0393	0.0300	131	80-120	**

Lab Batch #: 726470

Sample: 306434-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	0.0396	0.0300	132	80-120	**

Lab Batch #: 726470

Sample: 511203-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 726470

Sample: 511203-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0342	0.0300	114	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 726470

Sample: 511203-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306432

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 306432-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	76.7	100	77	70-135	
o-Terphenyl	39.9	50.0	80	70-135	

Lab Batch #: 726461

Sample: 306432-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	85.2	100	85	70-135	
o-Terphenyl	40.1	50.0	80	70-135	

Lab Batch #: 726461

Sample: 306432-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	85.7	100	86	70-135	
o-Terphenyl	40.2	50.0	80	70-135	

Lab Batch #: 726461

Sample: 306432-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	73.3	100	73	70-135	
o-Terphenyl	38.6	50.0	77	70-135	

Lab Batch #: 726461

Sample: 306432-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	72.1	100	72	70-135	
o-Terphenyl	38.4	50.0	77	70-135	

\*\* 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 Order #: 306432

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 306432-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.0	100	73	70-135	
o-Terphenyl	38.5	50.0	77	70-135	

Lab Batch #: 726461

Sample: 306432-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.2	100	75	70-135	
o-Terphenyl	39.9	50.0	80	70-135	

Lab Batch #: 726461

Sample: 511196-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	38.8	50.0	78	70-135	

Lab Batch #: 726461

Sample: 511196-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	42.4	50.0	85	70-135	

Lab Batch #: 726461

Sample: 511196-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	38.3	50.0	77	70-135	

\*\* 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 #: 306432

Project ID:

2004-00061

Lab Batch #: 726538

Sample: 726538-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.7	117	75-125	

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

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





## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306432

Analyst: BRB

Lab Batch ID: 726470

Sample: 511203-1-BKS

Date Prepared: 06/25/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
BTEX by EPA 8021B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		ND	0.1000	0.0941	94	0.1	0.1093	109	15	70-130	35	
Toluene		ND	0.1000	0.0906	91	0.1	0.1058	106	15	70-130	35	
Ethylbenzene		ND	0.1000	0.1002	100	0.1	0.1173	117	16	71-129	35	
m,p-Xylenes		ND	0.2000	0.2034	102	0.2	0.2381	119	16	70-135	35	
o-Xylene		ND	0.1000	0.0985	99	0.1	0.1154	115	16	71-133	35	

Analyst: ASA

Date Prepared: 06/25/2008

Date Analyzed: 06/25/2008

Lab Batch ID: 726461

Sample: 511196-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
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	898	90	1000	890	89	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		ND	1000	888	89	1000	882	88	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306432

Lab Batch #: 726538

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306430-001 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	122	121	75-125	F

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

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

All Results are based on MDL and Validated for QC Purposes

**Project Name: Lea Station Land Farm**

**Work Order # : 306432**

**Lab Batch ID: 726470**

**Date Analyzed: 06/26/2008**

**Reporting Units: mg/kg**

**Project ID: 2004-00061**

**QC- Sample ID: 306434-005 S**

**Date Prepared: 06/25/2008**

**Batch #: 1 Matrix: Soil**

**Analyst: BRB**

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1092	0.1041	95	0.1092	0.1081	99	4	70-130	0
	Toluene	ND	0.1092	0.0989	91	0.1092	0.1032	95	4	70-130	0
	Ethylbenzene	ND	0.1092	0.1060	97	0.1092	0.1112	102	5	71-129	0
	m,p-Xylenes	ND	0.2184	0.2156	99	0.2184	0.2264	104	5	70-135	0
	o-Xylene	ND	0.1092	0.1050	96	0.1092	0.1115	102	6	71-133	0

**Lab Batch ID: 726461**

**Date Analyzed: 06/26/2008**

**Reporting Units: mg/kg**

**QC- Sample ID: 306432-001 S**

**Date Prepared: 06/25/2008**

**Batch #: 1 Matrix: Soil**

**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
C6-C12 Gasoline Range Hydrocarbons	ND	1060	1000	94	1060	992	94	0	70-135	0	
C12-C28 Diesel Range Hydrocarbons	ND	1060	1010	95	1060	1000	94	1	70-135	1	

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306432

Lab Batch #: 726538

Date Analyzed: 06/26/2008

QC- Sample ID: 306430-001 D

Reporting Units: mg/kg

Date Prepared: 06/26/2008

Batch #: 1

Project ID: 2004-00061

Analyst: LATCOR

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	20	20	

Lab Batch #: 726290

Date Analyzed: 06/25/2008

QC- Sample ID: 306432-001 D

Reporting Units: %

Date Prepared: 06/25/2008

Batch #: 1

Analyst: IRO

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.72	5.68	1	20	

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

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

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**  
12600 West I-20 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#: PAA - C. J. Reynolds

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

e-mail: [cstanley@basineny.com](mailto:cstanley@basineny.com)

Special Instructions:

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

Client: Plains  
Date/ Time: 06-23-08 @ 1700  
Lab ID #: 306432  
Initials: AL

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	4.0 °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?	<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 306433**

**for**

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

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**30-JUN-08**



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

**Texas certification numbers:  
Houston, TX T104704215**

**Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429**

**South Carolina certification numbers:  
Norcross(Atlanta), GA 98015**

**North Carolina certification numbers:  
Norcross(Atlanta), GA 483**

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



30-JUN-08

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

Reference: XENCO Report No: **306433**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306433. 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. 306433 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 306433



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell B VZ G 1 (3'-4')	S	Jun-20-08 13:10	3 - 4 ft	306433-001
Cell B VZ G 2 (3'-4')	S	Jun-20-08 13:20	3 - 4 ft	306433-002
Cell B VZ G 3 (3'-4')	S	Jun-20-08 13:30	3 - 4 ft	306433-003
Cell B VZ G 4 (3'-4')	S	Jun-20-08 13:40	3 - 4 ft	306433-004
Cell B VZ G 5 (3'-4')	S	Jun-20-08 13:50	3 - 4 ft	306433-005

# Certificate of Analysis Summary 300433

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



**Project Name:** Lea Station Land Farm  
**Date Received in Lab:** Mon Jun-23-08 05:57 pm  
**Report Date:** 30-JUN-08  
**Project Manager:** Brent Barron, II

**Project Id:** 2004-00061  
**Contact:** Camille Reynolds  
**Project Location:** Lea County, NM

Analysis Requested		Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	306433-001	306433-002	306433-003	306433-004	306433-005
							Cell B VZ G 1 (3'-4')	Cell B VZ G 2 (3'-4')	Cell B VZ G 3 (3'-4')	Cell B VZ G 4 (3'-4')	Cell B VZ G 5 (3'-4')
							3-4 ft	3-4 ft	3-4 ft	3-4 ft	3-4 ft
							SOIL	SOIL	SOIL	SOIL	SOIL
							Jun-20-08 13:10	Jun-20-08 13:20	Jun-20-08 13:30	Jun-20-08 13:40	Jun-20-08 13:50
BTEX by EPA 8021B											
	Extracted:						Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00
	Analyzed:						Jun-25-08 22:28	Jun-25-08 22:52	Jun-25-08 23:15	Jun-25-08 23:39	Jun-26-08 00:03
	Units/RL:						mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
							ND 0.0010	ND 0.0013	ND 0.0011	ND 0.0010	ND 0.0010
							ND 0.0020	ND 0.0026	ND 0.0021	ND 0.0020	ND 0.0010
Benzene							ND 0.0010	ND 0.0013	ND 0.0011	ND 0.0010	ND 0.0010
Toluene							ND 0.0020	ND 0.0026	ND 0.0021	ND 0.0020	ND 0.0010
Ethylbenzene							ND 0.0010	ND 0.0013	ND 0.0011	ND 0.0010	ND 0.0010
m,p-Xylenes							ND 0.0020	ND 0.0026	ND 0.0021	ND 0.0020	0.0032 0.0020
o-Xylene							ND 0.0010	ND 0.0013	ND 0.0011	ND 0.0010	0.0012 0.0010
Total Xylenes							ND	ND	ND	ND	0.0044
Total BTEX							ND	ND	ND	ND	0.0044
Inorganic Anions by EPA 300											
	Extracted:						Jun-26-08 06:26	Jun-26-08 06:26	Jun-26-08 06:26	Jun-26-08 06:26	Jun-26-08 06:26
	Analyzed:						mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:						ND 5.11	ND 6.44	ND 5.31	ND 5.16	ND 5.02
Chloride							ND 5.11	ND 6.44	ND 5.31	ND 5.16	ND 5.02
Percent Moisture											
	Extracted:						Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10	Jun-25-08 08:10
	Analyzed:						% RL	% RL	% RL	% RL	% RL
	Units/RL:						2.12 1.00	22.3 1.00	5.78 1.00	3.01 1.00	ND 1.00
TPH by SW8015 Mod											
	Extracted:						Jun-25-08 10:00	Jun-25-08 10:00	Jun-25-08 10:00	Jun-25-08 10:00	Jun-25-08 10:00
	Analyzed:						Jun-26-08 04:55	Jun-26-08 05:22	Jun-26-08 05:49	Jun-26-08 06:15	Jun-26-08 06:42
	Units/RL:						mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons							ND 15.3	ND 19.3	ND 15.9	ND 15.5	ND 15.0
C12-C28 Diesel Range Hydrocarbons							ND 15.3	ND 19.3	ND 15.9	ND 15.5	ND 15.0
C28-C35 Oil Range Hydrocarbons							ND 15.3	ND 19.3	ND 15.9	ND 15.5	ND 15.0
Total TPH							ND	ND	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 - 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(PQL) and above the SQL(MDL).
  - U** Analyte was not detected.
  - L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
  - H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
  - K** Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakcs, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306433

Project ID: 2004-00061

Lab Batch #: 726470

Sample: 306433-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 726470

Sample: 306433-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0337	0.0300	112	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 726470

Sample: 306433-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 726470

Sample: 306433-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 726470

Sample: 306433-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306433

Project ID: 2004-00061

Lab Batch #: 726470

Sample: 306434-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	0.0393	0.0300	131	80-120	**

Lab Batch #: 726470

Sample: 306434-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	0.0396	0.0300	132	80-120	**

Lab Batch #: 726470

Sample: 511203-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 726470

Sample: 511203-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0342	0.0300	114	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 726470

Sample: 511203-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306433

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 306432-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	85.2	100	85	70-135	
o-Terphenyl	40.1	50.0	80	70-135	

Lab Batch #: 726461

Sample: 306432-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	85.7	100	86	70-135	
o-Terphenyl	40.2	50.0	80	70-135	

Lab Batch #: 726461

Sample: 306433-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	73.7	100	74	70-135	
o-Terphenyl	37.9	50.0	76	70-135	

Lab Batch #: 726461

Sample: 306433-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	72.5	100	73	70-135	
o-Terphenyl	38.5	50.0	77	70-135	

Lab Batch #: 726461

Sample: 306433-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	70.6	100	71	70-135	
o-Terphenyl	37.1	50.0	74	70-135	

\*\* 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 Order #: 306433

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 306433-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	66.7	100	67	70-135	**
o-Terphenyl	34.3	50.0	69	70-135	**

Lab Batch #: 726461

Sample: 306433-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	65.5	100	66	70-135	**
o-Terphenyl	32.8	50.0	66	70-135	**

Lab Batch #: 726461

Sample: 511196-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	38.8	50.0	78	70-135	

Lab Batch #: 726461

Sample: 511196-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	100	80	70-135	
o-Terphenyl	42.4	50.0	85	70-135	

Lab Batch #: 726461

Sample: 511196-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.0	100	81	70-135	
o-Terphenyl	38.3	50.0	77	70-135	

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

\*\*\* Poor recoveries due to dilution

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

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



# Blank Spike Recovery



Project Name: Lea Station Land Farm

Work Order #: 306433

Project ID:

2004-00061

Lab Batch #: 726538

Sample: 726538-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.7	117	75-125	

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

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





## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306433

Analyst: BRB

Lab Batch ID: 726470

Date Prepared: 06/25/2008

Sample: 511203-1-BKS

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
BTEX by EPA 8021B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		ND	0.1000	0.0941	94	0.1	0.1093	109	15	70-130	35	
Toluene		ND	0.1000	0.0906	91	0.1	0.1058	106	15	70-130	35	
Ethylbenzene		ND	0.1000	0.1002	100	0.1	0.1173	117	16	71-129	35	
m,p-Xylenes		ND	0.2000	0.2034	102	0.2	0.2381	119	16	70-135	35	
o-Xylene		ND	0.1000	0.0985	99	0.1	0.1154	115	16	71-133	35	

Analyst: ASA

Lab Batch ID: 726461

Sample: 511196-1-BKS

Date Prepared: 06/25/2008

Batch #: 1

Date Analyzed: 06/25/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
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	898	90	1000	890	89	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		ND	1000	888	89	1000	882	88	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306433

Lab Batch #: 726538

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306430-001 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	122	121	75-125	F

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

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

All Results are based on MDL and Validated for QC Purposes



Project Name: Lea Station Land Farm

Project ID: 2004-00061

Work Order #: 306433

Lab Batch ID: 726470

QC-Sample ID: 306434-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/26/2008

Date Prepared: 06/25/2008

Analyst: BRB

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1092	0.1041	95	0.1092	0.1081	99	4	70-130	0
	Toluene	ND	0.1092	0.0989	91	0.1092	0.1032	95	4	70-130	0
	Ethylbenzene	ND	0.1092	0.1060	97	0.1092	0.1112	102	5	71-129	0
	m,p-Xylenes	ND	0.2184	0.2156	99	0.2184	0.2264	104	5	70-135	0
	o-Xylene	ND	0.1092	0.1050	96	0.1092	0.1115	102	6	71-133	0

Lab Batch ID: 726461

QC-Sample ID: 306432-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/26/2008

Date Prepared: 06/25/2008

Analyst: ASA

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	1060	1000	94	1060	992	94	0	70-135	0	
C12-C28 Diesel Range Hydrocarbons	ND	1060	1010	95	1060	1000	94	1	70-135	1	

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306433

Lab Batch #: 726538

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306430-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	20	20	

Lab Batch #: 726290

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: IRO

QC- Sample ID: 306432-001 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	5.72	5.68	1	20	

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

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

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**  
12600 West I-20 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 #: PAA - C. J. Reynolds

Fax No: (505) 396-1429

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

306432

306435

**Laboratory Comments:**

Sample Containers Intact?

VOC's Free of Headspace?

Bulklets on container(s)?

Crisbury seals on container(s)?

Crucible Seals on crucibles?

Samples Hand Delivered?

N N N N N N N N

by Sample Client Rep.? ☐ Dil.

by Analyst? ☒

Fred E. Lons Star

Temperature Recd: 40 °C

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

Client: Plains  
Date/ Time: 06-23-08 @ 1700  
Lab ID #: 306433  
Initials: AL

Sample Receipt Checklist

			Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	No	4.0 °C
#2 Shipping container in good condition?	<input checked="" type="checkbox"/> 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="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)?	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 306434**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**27-JUN-08**



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

**Texas certification numbers:  
Houston, TX T104704215**

**Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429**

**South Carolina certification numbers:  
Norcross(Atlanta), GA 98015**

**North Carolina certification numbers:  
Norcross(Atlanta), GA 483**

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



27-JUN-08

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

Reference: XENCO Report No: **306434**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306434. 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. 306434 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 306434



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell C VZ G 1 (3'-4')	S	Jun-20-08 14:00	3 - 4 ft	306434-001
Cell C VZ G 2 (3'-4')	S	Jun-20-08 14:10	3 - 4 ft	306434-002
Cell C VZ G 3 (3'-4')	S	Jun-20-08 14:20	3 - 4 ft	306434-003
Cell C VZ G 4 (3'-4')	S	Jun-20-08 14:30	3 - 4 ft	306434-004
Cell C VZ G 5 (3'-4')	S	Jun-20-08 14:40	3 - 4 ft	306434-005



**Certificate of Analysis Summary 306434**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

Project Id: 2004-00061  
Contact: Camille Reynolds  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Mon Jun-23-08 05:57 pm  
Report Date: 27-JUN-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	306434-001	306434-002	306434-003	306434-004	306434-005
	Extracted:	Analyzed:	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg
BTEX by EPA 8021B	Benzene			ND	0.0011	ND	0.0012	ND	0.0012	ND
	Toluene			ND	0.0022	ND	0.0023	ND	0.0024	ND
	Ethylbenzene			ND	0.0011	ND	0.0012	ND	0.0010	ND
	m,p-Xylenes			ND	0.0022	ND	0.0023	ND	0.0024	ND
	o-Xylene			ND	0.0011	ND	0.0012	ND	0.0010	ND
Total Xylenes				ND		ND		ND		ND
Total BTEX				ND		ND		ND		ND
Inorganic Anions by EPA 300	Extracted:									
	Analyzed:									
	Units/RL:									
Chloride				ND	5.41	ND	5.80	ND	5.94	ND
Percent Moisture	Extracted:									
	Analyzed:									
	Units/RL:									
TPH by SW8015 Mod	C6-C12 Gasoline Range Hydrocarbons			ND	16.2	ND	17.4	ND	17.8	ND
	C12-C28 Diesel Range Hydrocarbons			ND	16.2	ND	17.4	ND	17.8	ND
	C28-C35 Oil Range Hydrocarbons			ND	16.2	ND	17.4	ND	17.8	ND
	Total TPH			ND		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 - 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(PQL) and above the SQL(MDL).
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.

\* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306434

Project ID: 2004-00061

Lab Batch #: 726470

Sample: 306434-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0337	0.0300	112	80-120	

Lab Batch #: 726470

Sample: 306434-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0309	0.0300	103	80-120	
4-Bromofluorobenzene	0.0343	0.0300	114	80-120	

Lab Batch #: 726470

Sample: 306434-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0346	0.0300	115	80-120	

Lab Batch #: 726470

Sample: 306434-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0343	0.0300	114	80-120	

Lab Batch #: 726470

Sample: 306434-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0340	0.0300	113	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306434

Project ID: 2004-00061

Lab Batch #: 726470

Sample: 306434-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	0.0393	0.0300	131	80-120	**

Lab Batch #: 726470

Sample: 306434-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	0.0396	0.0300	132	80-120	**

Lab Batch #: 726470

Sample: 511203-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 726470

Sample: 511203-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0342	0.0300	114	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 726470

Sample: 511203-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306434

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 306432-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.2	100	85	70-135	
o-Terphenyl	40.1	50.0	80	70-135	

Lab Batch #: 726461

Sample: 306432-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	40.2	50.0	80	70-135	

Lab Batch #: 726461

Sample: 306434-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.4	100	73	70-135	
o-Terphenyl	38.5	50.0	77	70-135	

Lab Batch #: 726461

Sample: 306434-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	69.2	100	69	70-135	**
o-Terphenyl	36.6	50.0	73	70-135	

Lab Batch #: 726461

Sample: 306434-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	70.5	100	71	70-135	
o-Terphenyl	37.5	50.0	75	70-135	

\*\* 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 Order #: 306434

Project ID: 2004-00061

Lab Batch #: 726461

Sample: 306434-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	73.9	100	74	70-135	
o-Terphenyl	38.6	50.0	77	70-135	

Lab Batch #: 726461

Sample: 511196-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	38.8	50.0	78	70-135	

Lab Batch #: 726461

Sample: 511196-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	100	80	70-135	
o-Terphenyl	42.4	50.0	85	70-135	

Lab Batch #: 726461

Sample: 511196-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.0	100	81	70-135	
o-Terphenyl	38.3	50.0	77	70-135	

Lab Batch #: 726548

Sample: 306434-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	73.1	100	73	70-135	
o-Terphenyl	38.7	50.0	77	70-135	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306434

Project ID: 2004-00061

Lab Batch #: 726548

Sample: 306435-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	40.5	50.0	81	70-135	

Lab Batch #: 726548

Sample: 306435-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.1	100	86	70-135	
o-Terphenyl	40.3	50.0	81	70-135	

Lab Batch #: 726548

Sample: 511227-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	93.4	100	93	70-135	
o-Terphenyl	44.3	50.0	89	70-135	

Lab Batch #: 726548

Sample: 511227-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	73.6	100	74	70-135	
o-Terphenyl	39.3	50.0	79	70-135	

Lab Batch #: 726548

Sample: 511227-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	48.4	50.0	97	70-135	

\*\* 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 #: 306434

Project ID:

2004-00061

Lab Batch #: 726538

Sample: 726538-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.7	117	75-125	

Lab Batch #: 726542

Sample: 726542-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.6	116	75-125	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306434

Analyst: BRB

Lab Batch ID: 726470

Sample: 511203-1-BKS

Date Prepared: 06/25/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/25/2008

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
	Benzene	ND	0.1000	0.0941	94	0.1	0.1093	109	15	70-130	35
	Toluene	ND	0.1000	0.0906	91	0.1	0.1058	106	15	70-130	35
	Ethylbenzene	ND	0.1000	0.1002	100	0.1	0.1173	117	16	71-129	35
	m,p-Xylenes	ND	0.2000	0.2034	102	0.2	0.2381	119	16	70-135	35
	o-Xylene	ND	0.1000	0.0985	99	0.1	0.1154	115	16	71-133	35

Analyst: ASA

Lab Batch ID: 726461

Sample: 511196-1-BKS

Date Prepared: 06/25/2008

Batch #: 1

Date Analyzed: 06/25/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	TPH by SW8015 Mod	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	898	90	1000	890	89	1	70-135	35		
		C12-C28 Diesel Range Hydrocarbons	ND	1000	888	89	1000	882	88	1	70-135	35		

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

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

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

All results are based on MDL and Validated for QC Purposes



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306434

Analyst: ASA

Lab Batch ID: 726548

Sample: 511227-1-BKS

Date Prepared: 06/25/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
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. [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	1030	103	1000	1110	111	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	1030	103	1000	1120	112	8	70-135	35	

### Analytes

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



# Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306434

Lab Batch #: 726538

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306430-001 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	101	122	121	75-125	F

Lab Batch #: 726542

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306434-005 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	109	123	113	75-125	

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

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

All Results are based on MDL and Validated for QC Purposes

Project Name: Lea Station Land Farm

Work Order #: 306434

Lab Batch ID: 726470

Date Analyzed: 06/26/2008

Reporting Units: mg/kg

Project ID: 2004-00061

QC- Sample ID: 306434-005 S

Date Prepared: 06/25/2008

Batch #: 1 Matrix: Soil

Analyst: BRB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021B											
	Analytes											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1092	0.1041	95	0.1092	0.1081	99	4	70-130	0	
	Toluene	ND	0.1092	0.0989	91	0.1092	0.1032	95	4	70-130	0	
	Ethylbenzene	ND	0.1092	0.1060	97	0.1092	0.1112	102	5	71-129	0	
m,p-Xylenes	ND	0.2184	0.2156	99	0.2184	0.2264	104	5	70-135	0		
o-Xylene	ND	0.1092	0.1050	96	0.1092	0.1115	102	6	71-133	0		

Lab Batch ID: 726461

Date Analyzed: 06/26/2008

Reporting Units: mg/kg

QC- Sample ID: 306432-001 S

Date Prepared: 06/25/2008

Batch #: 1 Matrix: Soil

Analyst: ASA

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	1060	1000	94	1060	992	94	0	70-135	0	
C12-C28 Diesel Range Hydrocarbons	ND	1060	1010	95	1060	1000	94	1	70-135	1	

Lab Batch ID: 726548

Date Analyzed: 06/27/2008

Reporting Units: mg/kg

QC- Sample ID: 306435-001 S

Date Prepared: 06/25/2008

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	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	1150	1070	93	1150	1100	96	3	70-135	3	
	C12-C28 Diesel Range Hydrocarbons	ND	1150	1090	95	1150	1110	97	2	70-135	2	

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306434

Lab Batch #: 726538

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306430-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

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

Lab Batch #: 726542

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306434-005 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

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

Lab Batch #: 726290

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: IRO

QC- Sample ID: 306432-001 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	5.72	5.68	1	20	

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
12800 West 120 East  
Odessa, Texas 79765  
Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager: Curt Stanley

PAGE 01 OF 01

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (505) 441-2124

Sample Signature: *[Signature]*

Fax No: (905) 396-1429

e-mail: cstanley@basinenv.com

Project Name: LEA STATION LAND FARM

Project #: SRS: 2004-00061

Project Loc: Lea County, NM

PO #: PAA - C. J. Reynolds

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(Lab use only)

ORDER #: 306434

Lab # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Total # of Containers	Field # of Containers	Preservation & # of Containers	Matrix	Analysis For:
	CELL C VZ G 1 (3' - 4')			6/20/2008	1400	1	1	1	SOIL	<input checked="" type="checkbox"/> RUSH TAT (Pre-Excluded) 24, 42, 77 mg <input checked="" type="checkbox"/> CHLORIDES EPA 300.1 <input checked="" type="checkbox"/> NORM <input checked="" type="checkbox"/> RCI <input checked="" type="checkbox"/> BTEX 002105030 & BTEX 0260 <input checked="" type="checkbox"/> Semivolatile <input checked="" type="checkbox"/> Volatile <input checked="" type="checkbox"/> Metals As Ag Br Cd Cr Pb Hg Sb <input checked="" type="checkbox"/> SARF ESP / CEC <input checked="" type="checkbox"/> Arsenic (As) 504, Asbestos <input checked="" type="checkbox"/> Cobalt (Co) 404, Ni (Ni) 404 <input checked="" type="checkbox"/> TPH TX 1005 <input checked="" type="checkbox"/> TPH TX 1005 <input checked="" type="checkbox"/> TPH TX 1005
	CELL C VZ G 2 (3' - 4')			6/20/2008	1410	1	1	1	SOIL	
	CELL C VZ G 3 (3' - 4')			6/20/2008	1420	1	1	1	SOIL	
	CELL C VZ G 4 (3' - 4')			6/20/2008	1430	1	1	1	SOIL	
	CELL C VZ G 5 (3' - 4')			6/20/2008	1440	1	1	1	SOIL	

Special Instructions:

Received by:	Date	Time	Received by:	Date	Time
<i>[Signature]</i>	6/23/08	1700	<i>[Signature]</i>	6/23/08	1700
Relinquished by:			Relinquished by:		
Relinquished by:			Relinquished by:		

Laboratory Comments:

☒ VOCs Free of Headspace?  
☒ Labels on containers(s)  
☒ Custody seals on container(s)  
☒ Custody seals on cooler(s)  
☒ Sample Hand Delivered  
☒ by Courier?  
☒ by UPS  
☒ by FedEx  
☒ Temperature  
☒ Non Receipt: 4.0

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

Client: Plains  
Date/ Time: 06-23-08 @ 1700  
Lab ID #: 306434  
Initials: AL

Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	<u>Yes</u>	No	4.0 °C
#2	Shipping container in good condition?	<u>Yes</u>	No	
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	<u>Not Present</u>
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	<u>Not Present</u>
#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 306435**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**27-JUN-08**



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

Texas certification numbers:  
Houston, TX T104704215

Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:  
Norcross(Atlanta), GA 98015

North Carolina certification numbers:  
Norcross(Atlanta), GA 483

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



27-JUN-08

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

Reference: XENCO Report No: **306435**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306435. 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. 306435 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 306435



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell D VZ G 1 (3'-4')	S	Jun-20-08 14:50	3 - 4 ft	306435-001
Cell D VZ G 2 (3'-4')	S	Jun-20-08 15:00	3 - 4 ft	306435-002
Cell D VZ G 3 (3'-4')	S	Jun-20-08 15:10	3 - 4 ft	306435-003
Cell D VZ G 4 (3'-4')	S	Jun-20-08 15:20	3 - 4 ft	306435-004
Cell D VZ G 5 (3'-4')	S	Jun-20-08 15:30	3 - 4 ft	306435-005



# Certificate of Analysis Summary 306435

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Id: 2004-00061  
Contact: Camille Reynolds  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm


Date Received in Lab: Mon Jun-23-08 05:57 pm  
Report Date: 27-JUN-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	306435-001	306435-002	306435-003	306435-004	306435-005
	Field Id:	Depth:	Matrix:	Sampled:	Sampled:	Cell D VZ G 1 (3'-4')	Cell D VZ G 2 (3'-4')	Cell D VZ G 3 (3'-4')	Cell D VZ G 4 (3'-4')	Cell D VZ G 5 (3'-4')
BTEX by EPA 8021B						3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL
						Jun-20-08 14:50	Jun-20-08 15:00	Jun-20-08 15:10	Jun-20-08 15:20	Jun-20-08 15:30
	Extracted:	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Analyzed:	Jun-26-08 02:49	Jun-26-08 03:13	Jun-26-08 03:37	Jun-26-08 04:01	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
	Units/RL:	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
	Benzene	ND 0.0023	ND 0.0023	ND 0.0023	ND 0.0023	ND 0.0023	ND 0.0023	ND 0.0021	ND 0.0023	ND 0.0022
Inorganic Anions by EPA 300						3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL
						Jun-20-08 14:50	Jun-20-08 15:00	Jun-20-08 15:10	Jun-20-08 15:20	Jun-20-08 15:30
	Extracted:	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Analyzed:	Jun-26-08 02:49	Jun-26-08 03:13	Jun-26-08 03:37	Jun-26-08 04:01	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
Percent Moisture						3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL
						Jun-20-08 14:50	Jun-20-08 15:00	Jun-20-08 15:10	Jun-20-08 15:20	Jun-20-08 15:30
	Extracted:	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Analyzed:	Jun-26-08 02:49	Jun-26-08 03:13	Jun-26-08 03:37	Jun-26-08 04:01	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
TPH by SW8015 Mod						3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL
						Jun-20-08 14:50	Jun-20-08 15:00	Jun-20-08 15:10	Jun-20-08 15:20	Jun-20-08 15:30
	Extracted:	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Analyzed:	Jun-26-08 02:49	Jun-26-08 03:13	Jun-26-08 03:37	Jun-26-08 04:01	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
Total TPH						3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL	3-4 ft SOIL
						Jun-20-08 14:50	Jun-20-08 15:00	Jun-20-08 15:10	Jun-20-08 15:20	Jun-20-08 15:30
	Extracted:	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	Jun-25-08 16:00	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Analyzed:	Jun-26-08 02:49	Jun-26-08 03:13	Jun-26-08 03:37	Jun-26-08 04:01	ND 0.0011	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011

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(PQL) and above the SQL(MDL).
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.

\* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd , Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306435

Project ID: 2004-00061

Lab Batch #: 726470

Sample: 306434-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	0.0393	0.0300	131	80-120	**

Lab Batch #: 726470

Sample: 306434-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	0.0396	0.0300	132	80-120	**

Lab Batch #: 726470

Sample: 306435-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 726470

Sample: 306435-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0343	0.0300	114	80-120	

Lab Batch #: 726470

Sample: 306435-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0356	0.0300	119	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306435

Project ID: 2004-00061

Lab Batch #: 726470

Sample: 306435-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	80-120	
4-Bromofluorobenzene	0.0362	0.0300	121	80-120	**

Lab Batch #: 726470

Sample: 306435-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0354	0.0300	118	80-120	

Lab Batch #: 726470

Sample: 511203-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 726470

Sample: 511203-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0342	0.0300	114	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 726470

Sample: 511203-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306435

Project ID: 2004-00061

Lab Batch #: 726548

Sample: 306435-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	72.7	100	73	70-135	
o-Terphenyl	38.6	50.0	77	70-135	

Lab Batch #: 726548

Sample: 306435-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	40.5	50.0	81	70-135	

Lab Batch #: 726548

Sample: 306435-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.1	100	86	70-135	
o-Terphenyl	40.3	50.0	81	70-135	

Lab Batch #: 726548

Sample: 306435-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	72.5	100	73	70-135	
o-Terphenyl	38.9	50.0	78	70-135	

Lab Batch #: 726548

Sample: 306435-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	72.4	100	72	70-135	
o-Terphenyl	37.6	50.0	75	70-135	

\*\* 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 Order #: 306435

Project ID: 2004-00061

Lab Batch #: 726548

Sample: 306435-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.9	100	74	70-135	
o-Terphenyl	39.4	50.0	79	70-135	

Lab Batch #: 726548

Sample: 306435-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	39.8	50.0	80	70-135	

Lab Batch #: 726548

Sample: 511227-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.4	100	93	70-135	
o-Terphenyl	44.3	50.0	89	70-135	

Lab Batch #: 726548

Sample: 511227-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.6	100	74	70-135	
o-Terphenyl	39.3	50.0	79	70-135	

Lab Batch #: 726548

Sample: 511227-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	48.4	50.0	97	70-135	

\*\* 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 #: 306435

Project ID:

2004-00061

Lab Batch #: 726542

Sample: 726542-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.6	116	75-125	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306435

Analyst: BRB

Lab Batch ID: 726470

Sample: 511203-1-BKS

Date Prepared: 06/25/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/25/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
BTEX by EPA 8021B											
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
Benzene	ND	0.1000	0.0941	94	0.1	0.1093	109	15	70-130	35	
Toluene	ND	0.1000	0.0906	91	0.1	0.1058	106	15	70-130	35	
Ethylbenzene	ND	0.1000	0.1002	100	0.1	0.1173	117	16	71-129	35	
m,p-Xylenes	ND	0.2000	0.2034	102	0.2	0.2381	119	16	70-135	35	
o-Xylene	ND	0.1000	0.0985	99	0.1	0.1154	115	16	71-133	35	

Analyst: ASA

Lab Batch ID: 726548

Sample: 511227-1-BKS

Date Prepared: 06/25/2008

Batch #: 1

Date Analyzed: 06/26/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
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	1030	103	1000	1110	111	7	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		ND	1000	1030	103	1000	1120	112	8	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306435

Lab Batch #: 726542

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306434-005 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	109	123	113	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

Project Name: Lea Station Land Farm

Work Order #: 306435

Lab Batch ID: 726470

Date Analyzed: 06/26/2008

Reporting Units: mg/kg

Project ID: 2004-00061

QC- Sample ID: 306434-005 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/25/2008 Analyst: BRB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg											
BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1092	0.1041	95	0.1092	0.1081	99	4	70-130	0
	Toluene	ND	0.1092	0.0989	91	0.1092	0.1032	95	4	70-130	0
	Ethylbenzene	ND	0.1092	0.1060	97	0.1092	0.1112	102	5	71-129	0
	m,p-Xylenes	ND	0.2184	0.2156	99	0.2184	0.2264	104	5	70-135	0
	o-Xylene	ND	0.1092	0.1050	96	0.1092	0.1115	102	6	71-133	0

Lab Batch ID: 726548

Date Analyzed: 06/27/2008

Reporting Units: mg/kg

QC- Sample ID: 306435-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/25/2008 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	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	1150	1070	93	1150	1100	96	3	70-135	3		
	C12-C28 Diesel Range Hydrocarbons	ND	1150	1090	95	1150	1110	97	2	70-135	2		

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306435

Lab Batch #: 726542

Date Analyzed: 06/26/2008

QC- Sample ID: 306434-005 D

Reporting Units: mg/kg

Project ID: 2004-00061

Analyst: LATCOR

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	20	20	

Lab Batch #: 726290

Date Analyzed: 06/25/2008

QC- Sample ID: 306432-001 D

Reporting Units: %

Date Prepared: 06/25/2008

Analyst: IRO

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.72	5.68	1	20	

Lab Batch #: 726310

Date Analyzed: 06/25/2008

QC- Sample ID: 306435-004 D

Reporting Units: %

Date Prepared: 06/25/2008

Analyst: IRO

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	11.1	10.9	2	20	

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
12600 West 1-20 East  
Odessa, Texas 79765  
Phone: 432-563-1800  
Fax: 432-563-1713

PAGE 01 OF 01

Project Manager: Curt Stanley Project Name: LEA STATION LAND FARM  
Company Name: Basin Environmental Service Technologies, LLC Project #: SRS: 2004-00061  
Company Address: P. O. Box 301 Project Loc: Lea County, NM  
City/State/Zip: Lorington, NM 88250 PO #: PAA - C. J. Reynolds  
Telephone No: (505) 441-2124 Report Format: ☒ Standard ☐ TRRP ☐ NPDES  
Sample Signature: [Signature] Fax No: (505) 396-1429 e-mail: cstanley@basinenv.com

ORDER #	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field # of Containers	Matrix	Preservation & # of Containers	Notes	Analysis For:	Standard
306435	CELL D VZ G 1 (3' - 4')			6/20/2008	1450	1	SOIL	1		As follows:	
	CELL D VZ G 2 (3' - 4')			6/20/2008	1500	1	SOIL	1		As follows:	
	CELL D VZ G 3 (3' - 4')			6/20/2008	1510	1	SOIL	1		As follows:	
	CELL D VZ G 4 (3' - 4')			6/20/2008	1520	1	SOIL	1		As follows:	
	CELL D VZ G 5 (3' - 4')			6/20/2008	1530	1	SOIL	1		As follows:	

Special Instructions:	Requisitioned By:	Date:	Time:	Received By:	Date:	Time:
	[Signature]	6/23/08	17:00	[Signature]	6/23/08	17:00

Requisitioned By:	Date:	Time:	Received By:	Date:	Time:
[Signature]	6/23/08	17:00	[Signature]	6/23/08	17:00

Requisitioned By:	Date:	Time:	Received By:	Date:	Time:
[Signature]	6/23/08	17:00	[Signature]	6/23/08	17:00

Sample Containers Insured?	VOCs Free of Headspace?	Labels are legible?	Custody seals on container(s)?	Custody seals on cooler(s)?	Sample Hand Delivered?	By Carrier?	Temp. Monitored?	Temp. Receipt?
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Standard	CHLORIDES EPA 300.1	As follows:
Standard 1717	<input checked="" type="checkbox"/>	As follows:

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

Client: Plains  
Date/ Time: 06-23-08 @ 1700  
Lab ID #: 306435  
Initials: AL

Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	<input checked="" type="radio"/> Yes	No	4.0 °C
#2	Shipping container in good condition?	<input checked="" type="radio"/> Yes	No	
#3	Custody Seals intact on shipping container/ cooler?	<input checked="" type="radio"/> Yes	No	Not Present
#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)?	<input checked="" type="radio"/> Yes	No	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 306436**

**for**

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

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**30-JUN-08**



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

Texas certification numbers:  
Houston, TX T104704215

Florida certification numbers:  
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
Norcross(Atlanta), GA E87429

South Carolina certification numbers:  
Norcross(Atlanta), GA 98015

North Carolina certification numbers:  
Norcross(Atlanta), GA 483

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



30-JUN-08

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

Reference: XENCO Report No: **306436**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306436. 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. 306436 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 306436

PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell E VZ G 1 (3'-4')	S	Jun-20-08 15:40	3 - 4 ft	306436-001
Cell E VZ G 2 (3'-4')	S	Jun-20-08 15:50	3 - 4 ft	306436-002
Cell E VZ G 3 (3'-4')	S	Jun-20-08 16:00	3 - 4 ft	306436-003
Cell E VZ G 4 (3'-4')	S	Jun-20-08 16:10	3 - 4 ft	306436-004



**Certificate of Analysis Summary 306436**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

Project Id: 2004-00061  
Contact: Camille Reynolds  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Mon Jun-23-08 05:57 pm


Report Date: 30-JUN-08

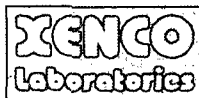
Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	306436-001	306436-002	306436-003	306436-004
						Cell E VZ G 1 (3'-4') 3-4 ft SOIL	Cell E VZ G 2 (3'-4') 3-4 ft SOIL	Cell E VZ G 3 (3'-4') 3-4 ft SOIL	Cell E VZ G 4 (3'-4') 3-4 ft SOIL
BTEX by EPA 8021B	Extracted:					Jun-20-08 15:40	Jun-20-08 15:50	Jun-20-08 16:00	Jun-20-08 16:10
	Analyzed:					Jun-30-08 09:00	Jun-27-08 10:43	Jun-27-08 10:43	Jun-27-08 10:43
	Units/RL:					mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
						ND 0.0011	ND 0.0010	ND 0.0012	ND 0.0010
						ND 0.0022	ND 0.0021	ND 0.0024	ND 0.0021
Inorganic Anions by EPA 300	Extracted:					Jun-26-08 20:28	Jun-26-08 20:28	Jun-26-08 20:28	Jun-26-08 20:28
	Analyzed:					mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:					ND 5.45	ND 5.24	ND 5.87	ND 5.24
						ND 5.45	ND 5.24	ND 5.87	ND 5.24
						ND 5.45	ND 5.24	ND 5.87	ND 5.24
Percent Moisture	Extracted:					Jun-25-08 08:20	Jun-25-08 08:20	Jun-25-08 08:20	Jun-25-08 08:20
	Analyzed:					% RL	% RL	% RL	% RL
	Units/RL:					8.30 1.00	4.62 1.00	14.9 1.00	4.56 1.00
						8.30 1.00	4.62 1.00	14.9 1.00	4.56 1.00
						8.30 1.00	4.62 1.00	14.9 1.00	4.56 1.00
TPH by SW8015 Mod	Extracted:					Jun-25-08 10:20	Jun-25-08 10:20	Jun-25-08 10:20	Jun-25-08 10:20
	Analyzed:					mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:					ND 16.4	ND 15.7	ND 17.6	ND 15.7
						ND 16.4	ND 15.7	ND 17.6	ND 15.7
						ND 16.4	ND 15.7	ND 17.6	ND 15.7
Total TPH	Extracted:					Jun-25-08 10:20	Jun-25-08 10:20	Jun-25-08 10:20	Jun-25-08 10:20
	Analyzed:					mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:					ND 16.4	ND 15.7	ND 17.6	ND 15.7
						ND 16.4	ND 15.7	ND 17.6	ND 15.7
						ND 16.4	ND 15.7	ND 17.6	ND 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  
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(PQL) and above the SQL(MDL).
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.

\* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd, Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Order #: 306436

Project ID: 2004-00061

Lab Batch #: 726683

Sample: 306436-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
1,4-Difluorobenzene	0.0342	0.0300	114	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 726683

Sample: 306436-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
1,4-Difluorobenzene	0.0337	0.0300	112	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 726683

Sample: 306436-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
1,4-Difluorobenzene	0.0326	0.0300	109	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 726683

Sample: 511302-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 726683

Sample: 511302-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
1,4-Difluorobenzene	0.0341	0.0300	114	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Order #: 306436

Project ID: 2004-00061

Lab Batch #: 726683

Sample: 511302-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 726752

Sample: 306436-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0335	0.0300	112	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 726752

Sample: 511362-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 726752

Sample: 511362-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0346	0.0300	115	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 726752

Sample: 511362-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Order #: 306436

Project ID: 2004-00061

Lab Batch #: 726548

Sample: 306435-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
I-Chlorooctane	84.6	100	85	70-135	
o-Terphenyl	40.5	50.0	81	70-135	

Lab Batch #: 726548

Sample: 306435-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
I-Chlorooctane	86.1	100	86	70-135	
o-Terphenyl	40.3	50.0	81	70-135	

Lab Batch #: 726548

Sample: 306436-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
I-Chlorooctane	76.6	100	77	70-135	
o-Terphenyl	40.4	50.0	81	70-135	

Lab Batch #: 726548

Sample: 306436-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
I-Chlorooctane	73.4	100	73	70-135	
o-Terphenyl	38.4	50.0	77	70-135	

Lab Batch #: 726548

Sample: 306436-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
I-Chlorooctane	77.0	100	77	70-135	
o-Terphenyl	41.1	50.0	82	70-135	

\*\* 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 Order #: 306436

Project ID: 2004-00061

Lab Batch #: 726548

Sample: 306436-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
1-Chlorooctane	75.7	100	76	70-135	
o-Terphenyl	39.9	50.0	80	70-135	

Lab Batch #: 726548

Sample: 511227-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
1-Chlorooctane	93.4	100	93	70-135	
o-Terphenyl	44.3	50.0	89	70-135	

Lab Batch #: 726548

Sample: 511227-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
Analytes					
1-Chlorooctane	73.6	100	74	70-135	
o-Terphenyl	39.3	50.0	79	70-135	

Lab Batch #: 726548

Sample: 511227-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	48.4	50.0	97	70-135	

\*\* 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 #: 306436

Project ID:

2004-00061

Lab Batch #: 726542

Sample: 726542-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.6	116	75-125	

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

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



## BS / BSD Recoveries

Project Name: Lea Station Land Farm

Work Order #: 306436

Analyst: BRB

Lab Batch ID: 726683

Date Prepared: 06/27/2008

Batch #: 1

Sample: 511302-1-BKS

Project ID: 2004-00061

Date Analyzed: 06/27/2008

Matrix: Solid

Units: mg/kg

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	ND	0.1000	0.1027	103	0.1	0.0858	86	18	70-130	35	
Toluene	ND	0.1000	0.0996	100	0.1	0.0812	81	20	70-130	35	
Ethylbenzene	ND	0.1000	0.1094	109	0.1	0.0875	88	22	71-129	35	
m,p-Xylenes	ND	0.2000	0.2208	110	0.2	0.1785	89	21	70-135	35	
o-Xylene	ND	0.1000	0.1073	107	0.1	0.0889	89	19	71-133	35	

Analyst: BRB

Lab Batch ID: 726752

Date Prepared: 06/30/2008

Batch #: 1

Sample: 511362-1-BKS

Date Analyzed: 06/30/2008

Matrix: Solid

Units: mg/kg

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Analytes	BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1000	0.1031	103	0.1	0.0996	100	3	70-130	35	
	Toluene	ND	0.1000	0.1005	101	0.1	0.0972	97	3	70-130	35	
	Ethylbenzene	ND	0.1000	0.1125	113	0.1	0.1078	108	4	71-129	35	
	m,p-Xylenes	ND	0.2000	0.2273	114	0.2	0.2174	109	4	70-135	35	
	o-Xylene	ND	0.1000	0.1107	111	0.1	0.1051	105	5	71-133	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## BS / BSD Recoveries

Project Name: Lea Station Land Farm

Work Order #: 306436

Analyst: ASA

Lab Batch ID: 726548

Sample: 511227-1-BKS

Date Prepared: 06/25/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
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
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	1030	103	1000	1110	111	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	1030	103	1000	1120	112	8	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



### Form 3 - MS Recoveries

Project Name: Lea Station Land Farm

Work Order #: 306436

Lab Batch #: 726542

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306434-005 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	109	123	113	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



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Land Farm

Work Order # 306436

Lab Batch ID: 726548

Date Analyzed: 06/27/2008

Reporting Units: mg/kg

Project ID: 2004-00061

QC- Sample ID: 306435-001 S

Date Prepared: 06/25/2008

Batch #: 1 Matrix: Soil

Analyst: ASA

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	ND	1150	1070	93	1150	1100	96	3	70-135	3	
C12-C28 Diesel Range Hydrocarbons	ND	1150	1090	95	1150	1110	97	2	70-135	2	

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

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

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



## Sample Duplicate Recovery

Project Name: Lea Station Land Farm

Work Order #: 306436

Lab Batch #: 726542

Date Analyzed: 06/26/2008

QC- Sample ID: 306434-005 D

Reporting Units: mg/kg

Project ID: 2004-00061

Analyst: LATCOR

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic 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 #: 726310

Date Analyzed: 06/25/2008

QC- Sample ID: 306435-004 D

Reporting Units: %

Date Prepared: 06/25/2008

Analyst: IRO

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	11.1	10.9	2	20	

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

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**  
12600 West I-20 East  
Odessa, Texas 79765  
Phone: 432-563-1800  
Fax: 432-583-1713

Project Name: LEA STATION LAND FARM

Product #: SPS-2004-00061

Project Loc: Lea County, NM

PO # : PAA - C. J. Reynolds

Fax No: (505) 398-1429

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

306436

laboratory Comments:  
 Sample Containers Insect?  
 OC's Free of Headpunch?  
 Labels on bottles (s)  
 Custody seals on containers (s)  
 Custody seals on bottles (s)  
 Sample Hand Delivered  
 by Sample/Cient Rep. D-I-  
 by Courier?  
 4096455  
 temperature Under Reading:  
 FedEx Long Stat  
 47 °C  
 N N N N N N N N



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

Client: Plains  
Date/ Time: 06-23-08 @ 1700  
Lab ID #: 306436  
Initials: AL

Sample Receipt Checklist

Client Initials

#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	No	4.0 °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?	<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 306437**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Camille Reynolds**

**Lea Station Land Farm**

**2004-00061**

**30-JUN-08**



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

**Texas certification numbers:**  
**Houston, TX T104704215**

**Florida certification numbers:**  
**Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675**  
**Norcross(Atlanta), GA E87429**

**South Carolina certification numbers:**  
**Norcross(Atlanta), GA 98015**

**North Carolina certification numbers:**  
**Norcross(Atlanta), GA 483**

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



30-JUN-08

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

Reference: XENCO Report No: **306437**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Camille Reynolds:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306437. 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. 306437 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 306437



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell F VZ G 1 (3'-4')	S	Jun-20-08 16:20	3 - 4 ft	306437-001
Cell F VZ G 2 (3'-4')	S	Jun-20-08 16:30	3 - 4 ft	306437-002



**Certificate of Analysis Summary 306437**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**

Project Id: 2004-00061  
Contact: Camille Reynolds  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Mon Jun-23-08 05:57 pm  
Report Date: 30-JUN-08  
Project Manager: Brent Barron, II

Analysis Requested		Lab Id:	306437-001	306437-002		
		Field Id:	Cell F VZ G 1 (3'-4')	Cell F VZ G 2 (3'-4')		
		Depth:	3-4 ft	3-4 ft		
		Matrix:	SOIL	SOIL		
		Sampled:	Jun-20-08 16:20	Jun-20-08 16:30		
BTEX by EPA 8021B		Extracted:	Jun-27-08 10:43	Jun-27-08 10:43		
		Analyzed:	Jun-27-08 20:48	Jun-27-08 21:12		
		Units/RL:	mg/kg RL	mg/kg RL		
Benzene			ND 0.0010	ND 0.0010		
Toluene			ND 0.0020	ND 0.0020		
Ethylbenzene			ND 0.0010	ND 0.0010		
m,p-Xylenes			ND 0.0020	ND 0.0020		
o-Xylene			ND 0.0010	ND 0.0010		
Total Xylenes			ND	ND		
Total BTEX			ND	ND		
Inorganic Anions by EPA 300		Extracted:				
		Analyzed:	Jun-26-08 20:28	Jun-26-08 20:28		
		Units/RL:	mg/kg RL	mg/kg RL		
Chloride			ND 5.08	ND 5.06		
Percent Moisture		Extracted:				
		Analyzed:	Jun-25-08 08:10	Jun-25-08 08:10		
		Units/RL:	% RL	% RL		
Percent Moisture			1.66 1.00	1.23 1.00		
TPH by SW8015 Mod		Extracted:				
		Analyzed:	Jun-25-08 10:20	Jun-25-08 10:20		
		Units/RL:	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons			ND 15.3	ND 15.2		
C12-C28 Diesel Range Hydrocarbons			ND 15.3	ND 15.2		
C28-C35 Oil Range Hydrocarbons			ND 15.3	ND 15.2		
Total TPH			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 - 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(PQL) and above the SQL(MDL).
  - U** Analyte was not detected.
  - L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
  - H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
  - K** Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

***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**

11381 Meadowglen Lane Suite L Houston, Tx 77082-2647  
9701 Harry Hines Blvd, Dallas, TX 75220  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Form 2 - Surrogate Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306437

Project ID: 2004-00061

Lab Batch #: 726683

Sample: 306437-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 726683

Sample: 306437-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0338	0.0300	113	80-120	
4-Bromofluorobenzene	0.0326	0.0300	109	80-120	

Lab Batch #: 726683

Sample: 511302-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 726683

Sample: 511302-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0341	0.0300	114	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 726683

Sample: 511302-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm



Work Order #: 306437

Project ID: 2004-00061

Lab Batch #: 726548

Sample: 306435-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	40.5	50.0	81	70-135	

Lab Batch #: 726548

Sample: 306435-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.1	100	86	70-135	
o-Terphenyl	40.3	50.0	81	70-135	

Lab Batch #: 726548

Sample: 306437-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.5	100	78	70-135	
o-Terphenyl	39.9	50.0	80	70-135	

Lab Batch #: 726548

Sample: 306437-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.1	100	71	70-135	
o-Terphenyl	37.8	50.0	76	70-135	

Lab Batch #: 726548

Sample: 511227-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.4	100	93	70-135	
o-Terphenyl	44.3	50.0	89	70-135	

\*\* 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 Order #: 306437

Project ID: 2004-00061

Lab Batch #: 726548

Sample: 511227-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	73.6	100	74	70-135	
o-Terphenyl	39.3	50.0	79	70-135	

Lab Batch #: 726548

Sample: 511227-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	48.4	50.0	97	70-135	

\*\* 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 #: 306437

Project ID:

2004-00061

Lab Batch #: 726542

Sample: 726542-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic 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	11.6	116	75-125	

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

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



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306437

Analyst: BRB

Lab Batch ID: 726683

Sample: 511302-1-BKS

Units: mg/kg

Date Prepared: 06/27/2008

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/27/2008

Matrix: Solid

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B  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
	Benzene	ND	0.1000	0.1027	103	0.1	0.0858	86	18	70-130	35
	Toluene	ND	0.1000	0.0996	100	0.1	0.0812	81	20	70-130	35
	Ethylbenzene	ND	0.1000	0.1094	109	0.1	0.0875	88	22	71-129	35
	m,p-Xylenes	ND	0.2000	0.2208	110	0.2	0.1785	89	21	70-135	35
	o-Xylene	ND	0.1000	0.1073	107	0.1	0.0889	89	19	71-133	35

Analyst: ASA

Lab Batch ID: 726548

Sample: 511227-1-BKS

Units: mg/kg

Date Prepared: 06/25/2008

Batch #: 1

Date Analyzed: 06/26/2008

Matrix: Solid

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
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	1030	103	1000	1110	111	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	1030	103	1000	1120	112	8	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



### Form 3 - MS Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306437

Lab Batch #: 726542

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306434-005 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	109	123	113	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



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 306437

Lab Batch ID: 726548

Date Analyzed: 06/27/2008

Reporting Units: mg/kg

Project ID: 2004-00061

QC- Sample ID: 306435-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/25/2008

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	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
Analytes	C6-C12 Gasoline Range Hydrocarbons	ND	1150	1070	93	1150	1100	96	3	70-135	3	
	C12-C28 Diesel Range Hydrocarbons	ND	1150	1090	95	1150	1110	97	2	70-135	2	

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 306437

Lab Batch #: 726542

Project ID: 2004-00061

Date Analyzed: 06/26/2008

Date Prepared: 06/26/2008

Analyst: LATCOR

QC- Sample ID: 306434-005 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	20	20	

Lab Batch #: 726290

Date Analyzed: 06/25/2008

Date Prepared: 06/25/2008

Analyst: IRO

QC- Sample ID: 306432-001 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	5.72	5.68	1	20	

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

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**

12600 West I-20 East  
Odessa, Texas 79786

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

Project Name: LEA STATION LAND FARM

Project #: SRS: 2004-00061

Project Loc: Lea County, NM

PO #: PAA - C. J. Reynolds

**Fax No:** (505) 396-1429

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

306437

Page 14 of 15

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

Client: Plains  
Date/ Time: 06-23-08 @ 1700  
Lab ID #: 306437  
Initials: AL

**Sample Receipt Checklist**

			Client Initials
#1	Temperature of container/ cooler?	<input checked="" type="radio"/> Yes <input type="radio"/> No	4.0 °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	Not Present
#4	Custody Seals intact on sample bottles/ container?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Not Present
#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	Not Applicable
#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	Not Applicable
#20	VOC samples have zero headspace?	<input checked="" type="radio"/> Yes <input type="radio"/> 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 318065**

**for**

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

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**24-NOV-08**



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

**Texas certification numbers:**

**Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08**

**Florida certification numbers:**

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

**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-NOV-08

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

Reference: XENCO Report No: **318065**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318065. 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. 318065 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 318065



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell A TZ G 1	S	Nov-13-08 08:05		318065-001
Cell A TZ G 2	S	Nov-13-08 08:10		318065-002
Cell A TZ G 3	S	Nov-13-08 08:15		318065-003
Cell A TZ G 4	S	Nov-13-08 08:20		318065-004
Cell A TZ G 5	S	Nov-13-08 08:25		318065-005



**Certificate of Analysis Summary 318065**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS 2004-00061

Contact: Daniel Bryant

Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Nov-18-08 05:12 pm


Report Date: 24-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318065-001	318065-002	318065-003	318065-004	318065-005
	Extracted:	Analyzed:	Units/RL:	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38
Inorganic Anions by EPA 300\300.1				mg/kg	RL	36.3	31.6	10.9	ND	ND
Chloride						5.21	5.45	5.40	5.24	5.40
Percent Moisture				%	RL	3.98	8.29	7.47	4.66	7.49
TPH by SW8015 Mod				mg/kg	RL	Nov-21-08 11:00	Nov-21-08 11:00	Nov-21-08 11:00	Nov-21-08 11:00	Nov-21-08 11:00
C6-C12 Gasoline Range Hydrocarbons				ND	15.6	15.6	ND	16.2	15.7	16.2
C12-C28 Diesel Range Hydrocarbons				396	15.6	144	144	16.4	193	63.4
C28-C35 Oil Range Hydrocarbons				247	15.6	69.5	66.1	16.2	133	36.9
Total TPH				643	15.6	213.5	181.1	16.2	326	100.3

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  
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.

***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 : 318065,

Project ID: SRS 2004-00061

Lab Batch #: 741108

Sample: 317893-043 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	63.4	50.0	127	70-135	

Lab Batch #: 741108

Sample: 317893-043 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 741108

Sample: 318065-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	58.4	50.0	117	70-135	

Lab Batch #: 741108

Sample: 318065-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	57.0	50.0	114	70-135	

Lab Batch #: 741108

Sample: 318065-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	58.0	50.0	116	70-135	

\*\* 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 : 318065,

Project ID: SRS 2004-00061

Lab Batch #: 741108

Sample: 318065-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	58.4	50.0	117	70-135	

Lab Batch #: 741108

Sample: 318065-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 741108

Sample: 519789-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	64.3	50.0	129	70-135	

Lab Batch #: 741108

Sample: 519789-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	56.8	50.0	114	70-135	

Lab Batch #: 741108

Sample: 519789-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

\*\* 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 #: 318065**

**Project ID:**

**SRS 2004-00061**

**Lab Batch #: 740951**

**Sample: 740951-1-BKS**

**Matrix: Solid**

**Date Analyzed: 11/19/2008**

**Date Prepared: 11/19/2008**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	9.99	100	80-120	

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

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





## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318065

Analyst: BHW

Lab Batch ID: 741108

Sample: 519789-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/21/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
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
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	867	87	1000	874	87	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	903	90	1000	915	92	1	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 #: 318065

Lab Batch #: 740951

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318065-001 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	36.3	104	163	122	80-120	X

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318065

Lab Batch ID: 741108

Date Analyzed: 11/22/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 317893-043 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/21/2008 Analyst: BHW

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	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	872	85	1030	860	83	2	70-135	35		
	C12-C28 Diesel Range Hydrocarbons	ND	1030	921	89	1030	906	88	1	70-135	35		

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

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

ND = Not Detected, I = 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 #: 318065

Lab Batch #: 740951

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318065-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300/300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	36.3	36.5	1	20	

Lab Batch #: 740820

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318073-002 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	3.64	3.90	7	20	

Lab Batch #: 740824

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318065-003 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	7.47	7.32	2	20	

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

# 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: Curt Stanley PAGE 01 OF 01

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575) 441-2244

Sampler Signature: *[Signature]*

Fax No: (575) 385-1429

e-mail: cstanley@basinenvironment.com

Project Name: LEA STATION LAND FARM

Project #: SRS: 2004-00061

Project Loc: Lea County, NM

PO R: PAA - D. M. Bryant

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 31806.5

Preservation & # of Containers

Major

Field #

Field #

Time Sampled

Time Sampled

Date Sampled

Date Sampled

Beginning Depth

Beginning Depth

Field CODE

Field CODE

LAB # (lab use only)

LAB # (lab use only)

CELL ATZ G 1

CELL ATZ G 1

CELL ATZ G 2

CELL ATZ G 2

CELL ATZ G 3

CELL ATZ G 3

CELL ATZ G 4

CELL ATZ G 4

CELL ATZ G 5

CELL ATZ G 5

CELL ATZ G 6

CELL ATZ G 6

CELL ATZ G 7

CELL ATZ G 7

CELL ATZ G 8

CELL ATZ G 8

CELL ATZ G 9

CELL ATZ G 9

CELL ATZ G 10

CELL ATZ G 10

CELL ATZ G 11

CELL ATZ G 11

CELL ATZ G 12

CELL ATZ G 12

CELL ATZ G 13

CELL ATZ G 13

CELL ATZ G 14

CELL ATZ G 14

CELL ATZ G 15

CELL ATZ G 15

CELL ATZ G 16

CELL ATZ G 16

CELL ATZ G 17

CELL ATZ G 17

CELL ATZ G 18

CELL ATZ G 18

CELL ATZ G 19

CELL ATZ G 19

CELL ATZ G 20

CELL ATZ G 20

CELL ATZ G 21

CELL ATZ G 21

CELL ATZ G 22

CELL ATZ G 22

CELL ATZ G 23

CELL ATZ G 23

CELL ATZ G 24

CELL ATZ G 24

CELL ATZ G 25

CELL ATZ G 25

CELL ATZ G 26

CELL ATZ G 26

CELL ATZ G 27

CELL ATZ G 27

CELL ATZ G 28

CELL ATZ G 28

CELL ATZ G 29

CELL ATZ G 29

CELL ATZ G 30

CELL ATZ G 30

CELL ATZ G 31

CELL ATZ G 31

CELL ATZ G 32

CELL ATZ G 32

CELL ATZ G 33

CELL ATZ G 33

CELL ATZ G 34

CELL ATZ G 34

CELL ATZ G 35

CELL ATZ G 35

CELL ATZ G 36

CELL ATZ G 36

CELL ATZ G 37

CELL ATZ G 37

CELL ATZ G 38

CELL ATZ G 38

CELL ATZ G 39

CELL ATZ G 39

CELL ATZ G 40

CELL ATZ G 40

CELL ATZ G 41

CELL ATZ G 41

CELL ATZ G 42

CELL ATZ G 42

CELL ATZ G 43

CELL ATZ G 43

CELL ATZ G 44

CELL ATZ G 44

CELL ATZ G 45

CELL ATZ G 45

CELL ATZ G 46

CELL ATZ G 46

CELL ATZ G 47

CELL ATZ G 47

CELL ATZ G 48

CELL ATZ G 48

CELL ATZ G 49

CELL ATZ G 49

CELL ATZ G 50

CELL ATZ G 50

CELL ATZ G 51

CELL ATZ G 51

CELL ATZ G 52

CELL ATZ G 52

CELL ATZ G 53

CELL ATZ G 53

CELL ATZ G 54

CELL ATZ G 54

CELL ATZ G 55

CELL ATZ G 55

CELL ATZ G 56

CELL ATZ G 56

CELL ATZ G 57

CELL ATZ G 57

CELL ATZ G 58

CELL ATZ G 58

CELL ATZ G 59

CELL ATZ G 59

CELL ATZ G 60

CELL ATZ G 60

CELL ATZ G 61

CELL ATZ G 61

CELL ATZ G 62

CELL ATZ G 62

CELL ATZ G 63

CELL ATZ G 63

CELL ATZ G 64

CELL ATZ G 64

CELL ATZ G 65

CELL ATZ G 65

CELL ATZ G 66

CELL ATZ G 66

CELL ATZ G 67

CELL ATZ G 67

CELL ATZ G 68

CELL ATZ G 68

CELL ATZ G 69

CELL ATZ G 69

CELL ATZ G 70

CELL ATZ G 70

CELL ATZ G 71

CELL ATZ G 71

CELL ATZ G 72

CELL ATZ G 72

CELL ATZ G 73

CELL ATZ G 73

CELL ATZ G 74

CELL ATZ G 74

CELL ATZ G 75

CELL ATZ G 75

CELL ATZ G 76

CELL ATZ G 76

CELL ATZ G 77

CELL ATZ G 77

CELL ATZ G 78

CELL ATZ G 78

CELL ATZ G 79

CELL ATZ G 79

CELL ATZ G 80

CELL ATZ G 80

CELL ATZ G 81

CELL ATZ G 81

CELL ATZ G 82

CELL ATZ G 82

CELL ATZ G 83

CELL ATZ G 83

CELL ATZ G 84

CELL ATZ G 84

CELL ATZ G 85

CELL ATZ G 85

CELL ATZ G 86

CELL ATZ G 86

CELL ATZ G 87

CELL ATZ G 87

CELL ATZ G 88

CELL ATZ G 88

CELL ATZ G 89

CELL ATZ G 89

CELL ATZ G 90

CELL ATZ G 90

CELL ATZ G 91

CELL ATZ G 91

CELL ATZ G 92

CELL ATZ G 92

CELL ATZ G 93

CELL ATZ G 93

CELL ATZ G 94

CELL ATZ G 94

CELL ATZ G 95

CELL ATZ G 95

CELL ATZ G 96

CELL ATZ G 96

CELL ATZ G 97

CELL ATZ G 97

CELL ATZ G 98

CELL ATZ G 98

CELL ATZ G 99

CELL ATZ G 99

CELL ATZ G 100

CELL ATZ G 100

CELL ATZ G 101

CELL ATZ G 101

CELL ATZ G 102

CELL ATZ G 102

CELL ATZ G 103

CELL ATZ G 103

CELL ATZ G 104

CELL ATZ G 104

CELL ATZ G 105

CELL ATZ G 105

CELL ATZ G 106

CELL ATZ G 106

CELL ATZ G 107

CELL ATZ G 107

CELL ATZ G 108

CELL ATZ G 108

CELL ATZ G 109

CELL ATZ G 109

CELL ATZ G 110

CELL ATZ G 110

CELL ATZ G 111

CELL ATZ G 111

CELL ATZ G 112

CELL ATZ G 112

CELL ATZ G 113

CELL ATZ G 113

CELL ATZ G 114

CELL ATZ G 114

CELL ATZ G 115

CELL ATZ G 115

CELL ATZ G 116

CELL ATZ G 116

CELL ATZ G 117

CELL ATZ G 117

CELL ATZ G 118

CELL ATZ G 118

CELL ATZ G 119

CELL ATZ G 119

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

Client: Plains / Basin Environmental  
Date/ Time: 11-13-08 @ 1712  
Lab ID #: SI6005  
Initials: JMF

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	<u>Yes</u>	No	3.5	°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? / label	<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 318066**

**for**

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

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**24-NOV-08**



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

Texas certification numbers:

Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
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-NOV-08

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

Reference: XENCO Report No: **318066**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318066. 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. 318066 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 318066



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell B TZ G 1	S	Nov-13-08 08:30		318066-001
Cell B TZ G 2	S	Nov-13-08 08:35		318066-002
Cell B TZ G 3	S	Nov-13-08 08:40		318066-003
Cell B TZ G 4	S	Nov-13-08 08:45		318066-004
Cell B TZ G 5	S	Nov-13-08 08:50		318066-005



**Certificate of Analysis Summary 318066**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS 2004-00061  
Contact: Daniel Bryant  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm


Date Received in Lab: Tue Nov-18-08 05:12 pm  
Report Date: 24-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	318066-001	318066-002	318066-003	318066-004	318066-005
	Field Id:	Cell B TZ G 1	Cell B TZ G 2	Cell B TZ G 3	Cell B TZ G 4	Cell B TZ G 5
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Nov-13-08 08:30	Nov-13-08 08:35	Nov-13-08 08:40	Nov-13-08 08:45	Nov-13-08 08:50
Inorganic Anions by EPA 300/300.1	Extracted:					
	Analyzed:	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Percent Moisture	Extracted:	ND	12.0	ND	ND	ND
	Analyzed:	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL
TPH by SW8015 Mod	Extracted:	5.62	7.24	7.08	6.97	5.37
	Analyzed:	Nov-21-08 11:00	Nov-21-08 11:00	Nov-21-08 11:00	Nov-21-08 12:00	Nov-21-08 12:00
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons	Extracted:	ND	ND	ND	ND	ND
	Analyzed:	Nov-21-08 11:00	Nov-21-08 11:00	Nov-21-08 11:00	Nov-21-08 12:00	Nov-21-08 12:00
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C12-C28 Diesel Range Hydrocarbons	Extracted:	857	279	75.6	110	63.0
	Analyzed:	Nov-22-08 07:40	Nov-22-08 08:04	Nov-22-08 08:27	Nov-22-08 18:04	Nov-22-08 18:27
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C28-C35 Oil Range Hydrocarbons	Extracted:	292	156	50.0	45.6	35.1
	Analyzed:	Nov-22-08 07:40	Nov-22-08 08:04	Nov-22-08 08:27	Nov-22-08 18:04	Nov-22-08 18:27
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Total TPH	Extracted:	1149	435	125.6	155.6	98.1
Total TPH	Analyzed:	Nov-22-08 07:40	Nov-22-08 08:04	Nov-22-08 08:27	Nov-22-08 18:04	Nov-22-08 18:27
Total TPH	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg 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 - 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.

***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 : 318066,

Project ID: SRS 2004-00061

Lab Batch #: 741108

Sample: 317893-043 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	63.4	50.0	127	70-135	

Lab Batch #: 741108

Sample: 317893-043 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 741108

Sample: 318066-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	58.4	50.0	117	70-135	

Lab Batch #: 741108

Sample: 318066-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	58.6	50.0	117	70-135	

Lab Batch #: 741108

Sample: 318066-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	57.6	50.0	115	70-135	

\*\* 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 : 318066,

Project ID: SRS 2004-00061

Lab Batch #: 741108

Sample: 519789-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	64.3	50.0	129	70-135	

Lab Batch #: 741108

Sample: 519789-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	56.8	50.0	114	70-135	

Lab Batch #: 741108

Sample: 519789-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

Lab Batch #: 741114

Sample: 318066-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	57.5	50.0	115	70-135	

Lab Batch #: 741114

Sample: 318066-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	57.2	50.0	114	70-135	

\*\* 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 : 318066,

Project ID: SRS 2004-00061

Lab Batch #: 741114

Sample: 318066-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	61.1	50.0	122	70-135	

Lab Batch #: 741114

Sample: 318066-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

Lab Batch #: 741114

Sample: 519794-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	62.4	50.0	125	70-135	

Lab Batch #: 741114

Sample: 519794-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	57.6	50.0	115	70-135	

Lab Batch #: 741114

Sample: 519794-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	62.8	50.0	126	70-135	

\*\* 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 #: 318066

Project ID:

SRS 2004-00061

Lab Batch #: 740951

Sample: 740951-1-BKS

Matrix: Solid

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	9.99	100	80-120	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318066

Analyst: BHW

Project ID: SRS 2004-00061

Date Prepared: 11/21/2008

Date Analyzed: 11/21/2008

Lab Batch ID: 741108

Sample: 519789-1-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
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	867	87	1000	874	87	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	903	90	1000	915	92	1	70-135	35	

Analyst: BHW

Lab Batch ID: 741114

Sample: 519794-1-BKS

Date Prepared: 11/21/2008

Date Analyzed: 11/22/2008

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
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
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	877	88	1000	860	86	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	922	92	1000	901	90	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 #: 318066

Lab Batch #: 740951

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Project ID: SRS 2004-00061

Analyst: LATCOR

QC- Sample ID: 318065-001 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	36.3	104	163	122	80-120	X

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318066

Lab Batch ID: 741108

Date Analyzed: 11/22/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 317893-043 S

Date Prepared: 11/21/2008

Batch #: 1 Matrix: Soil

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
	ND	1030	872	85	1030	860	83	2	70-135	35	
	C6-C12 Gasoline Range Hydrocarbons										
	C12-C28 Diesel Range Hydrocarbons	ND	1030	921	89	1030	906	88	1	70-135	35

Lab Batch ID: 741114

Date Analyzed: 11/22/2008

Reporting Units: mg/kg

QC- Sample ID: 318066-005 S

Date Prepared: 11/21/2008

Batch #: 1 Matrix: Soil

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	1060	902	85	1060	893	84	1	70-135	35
	C12-C28 Diesel Range Hydrocarbons	63.0	1060	988	87	1060	958	84	4	70-135	35

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318066

Lab Batch #: 740951

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318065-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions by EPA 300\300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	36.3	36.5	1	20	

Lab Batch #: 740820

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318073-002 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	3.64	3.90	7	20	

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

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**

12600 West I-20 East  
Odessa, Texas 79765

Phone: 432-563-1800  
Fax: 432-583-1713

**Project Name: LEA STATION LAND FARM**

Project #: SRS: 2004-00061

Project Loc: Lea County, NM

PO#: PAA - D.M. Bryant

Fax No: (575) 396-1429

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

1955

Observation & # of Containers		Matrix	Date		Time
			Date	Date	Time
HNO <sub>3</sub>					
H <sub>2</sub> SO <sub>4</sub>					
NaOH					
MgSO <sub>4</sub>					
Name					
Other (Specify)					
DW - Drinking Water - 4 - 5000					
CM - Groundwater - 4 - 5000					
MP - Non-Aqueous					
Specific Density					
8015M					
TPH: 1X 1005					
Cations (Ca, Mg, Na, K)					
Anions (Cl, SO <sub>4</sub> , Alkalinity)					
SAR: ESP / CEC					
Metals: As, Ag, Na, Cd, Cr, Pb, Hg, Se					
Volatiles					
Semi-volatiles					
BTEX: 4021B, 3030 or BTEX, 8260					
RCI					
NORM					
CHLORIDES EPA 800.1					
RUSH TAT Pre-Delivery 24, 48, 72 hrs					
Standard TAT					

ANALYZE FOR:

DATE: 11/10/05

TIME: 11:10 AM

TEMP: 3.5 °C

LAB: 1172

DATE: 11/10/05

TIME: 11:10 AM

TEMP: 3.5 °C

LAB: 1172

LABORATORY COMMENTS:

Sample Containers Inadeq?

VOCs Free of Headspace?

Labels on container(s)

Custom seals on container(s)

Sample sealed on coolers(s)

Sample Hand-Delivered

by Sample/Client Rep? ☐

by Client? ☐ UPS ☐ DHL ☐

Temperature Upon Receipt:

WATER USE ONLY

DATE: 11/10/05

TIME: 11:10 AM

TEMP: 3.5 °C

LAB: 1172

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

Client: Plains / Basin Environmental  
Date/ Time: 11-18-08 @ 1712  
Lab ID #: 318046  
Initials: JMF

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	3.5	*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	Not Present	
#4	Custody Seals intact on sample bottles/ container? / label	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Not Present	
#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	Not Applicable	
#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	Not Applicable	
#20	VOC samples have zero headspace?	<input checked="" type="radio"/> Yes	<input type="radio"/> 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 318067**

**for**

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

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**24-NOV-08**



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

**Texas certification numbers:**

**Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08**

**Florida certification numbers:**

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

**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-NOV-08

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

Reference: XENCO Report No: **318067**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318067. 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. 318067 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 318067



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell C TZ G 1	S	Nov-13-08 09:00		318067-001
Cell C TZ G 2	S	Nov-13-08 09:05		318067-002
Cell C TZ G 3	S	Nov-13-08 09:10		318067-003
Cell C TZ G 4	S	Nov-13-08 09:15		318067-004
Cell C TZ G 5	S	Nov-13-08 09:20		318067-005





**Certificate of Analysis Summary 318067**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS 2004-00061  
Contact: Daniel Bryant  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Nov-18-08 05:12 pm  
Report Date: 24-NOV-08  
Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318067-001	318067-002	318067-003	318067-004	318067-005
	Extracted:	Analyzed:	Units/RL:	mg/kg	RL	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38	Nov-19-08 14:38
Inorganic Anions by EPA 300\300.1				24.3	5.39	ND	ND	ND	ND	ND
Chloride										
Percent Moisture	Extracted:									
	Analyzed:									
TPH by SW8015 Mod	Extracted:									
	Analyzed:									
C6-C12 Gasoline Range Hydrocarbons				36.1	16.2	ND	ND	ND	ND	ND
C12-C28 Diesel Range Hydrocarbons				ND	16.2	36.1	52.6	46.8	50.7	53.8
C28-C35 Oil Range Hydrocarbons				36.1	16.2	ND	19.0	22.4	16.9	27.7
Total TPH							71.6	69.2	67.6	81.5

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.

***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 : 318067,

Project ID: SRS 2004-00061

Lab Batch #: 741114

Sample: 318066-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	61.1	50.0	122	70-135	

Lab Batch #: 741114

Sample: 318066-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

Lab Batch #: 741114

Sample: 318067-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	59.3	50.0	119	70-135	

Lab Batch #: 741114

Sample: 318067-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	58.1	50.0	116	70-135	

Lab Batch #: 741114

Sample: 318067-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	58.9	50.0	118	70-135	

\*\* 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 : 318067,

Project ID: SRS 2004-00061

Lab Batch #: 741114

Sample: 318067-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	58.8	50.0	118	70-135	

Lab Batch #: 741114

Sample: 318067-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	59.0	50.0	118	70-135	

Lab Batch #: 741114

Sample: 519794-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	62.4	50.0	125	70-135	

Lab Batch #: 741114

Sample: 519794-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	57.6	50.0	115	70-135	

Lab Batch #: 741114

Sample: 519794-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	62.8	50.0	126	70-135	

\*\* 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 #: 318067

Project ID:

SRS 2004-00061

Lab Batch #: 740951

Sample: 740951-1-BKS

Matrix: Solid

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.99	100	80-120	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318067

Analyst: BHW

Lab Batch ID: 741114

Sample: 519794-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/22/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
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
	ND	1000	877	88	1000	860	86	2	70-135	35	
	ND	1000	922	92	1000	901	90	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 #: 318067

Lab Batch #: 740951

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318065-001 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	36.3	104	163	122	80-120	X

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318067

Lab Batch ID: 741114

Date Analyzed: 11/22/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 318066-005 S

Date Prepared: 11/21/2008

Batch #: 1 Matrix: Soil

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
	ND	1060	902	85	1060	893	84	1	70-135	35	
	C6-C12 Gasoline Range Hydrocarbons										
	C12-C28 Diesel Range Hydrocarbons	63.0	1060	988	87	1060	958	84	4	70-135	35

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

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

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





## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318067

Lab Batch #: 740951

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318065-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300\300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	36.3	36.5	1	20	

Lab Batch #: 740809

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318049-001 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	1.79	1.64	9	20	

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



# Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains / Basin Environmental  
 Date/ Time: 11-18-08 @ 1712  
 Lab ID #: 38069  
 Initials: JMF

## Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	3.5 °C
#2	Shipping container in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
#3	Custody Seals intact on shipping container/ cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present
#4	Custody Seals intact on sample bottles/ container? / (label)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present
#5	Chain of Custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
#6	Sample instructions complete of Chain of Custody?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
#7	Chain of Custody signed when relinquished/ received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
#8	Chain of Custody agrees with sample label(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	ID written on Cont./ Lid
#9	Container label(s) legible and intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
#11	Containers supplied by ELDT?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
#12	Samples in proper container/ bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	See Below
#13	Samples properly preserved?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	See Below
#14	Sample bottles intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
#15	Preservations documented on Chain of Custody?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
#16	Containers documented on Chain of Custody?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
#17	Sufficient sample amount for indicated test(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	See Below
#18	All samples received within sufficient hold time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	See Below
#19	Subcontract of sample(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable
#20	VOC samples have zero headspace?	Yes <input checked="" type="checkbox"/>	No <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 318068**

**for**

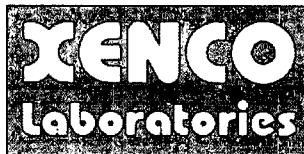
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**24-NOV-08**



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

**Texas certification numbers:**

**Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08**

**Florida certification numbers:**

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

**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-NOV-08

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

Reference: XENCO Report No: **318068**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318068. 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. 318068 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 318068



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell D TZ G 1	S	Nov-13-08 09:25		318068-001
Cell D TZ G 2	S	Nov-13-08 09:30		318068-002
Cell D TZ G 3	S	Nov-13-08 09:35		318068-003
Cell D TZ G 4	S	Nov-13-08 09:40		318068-004
Cell D TZ G 5	S	Nov-13-08 09:45		318068-005



**Certificate of Analysis Summary 318068**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS 2004-00061  
Contact: Daniel Bryant  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm


Date Received in Lab: Tue Nov-18-08 05:12 pm  
Report Date: 24-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318068-001	318068-002	318068-003	318068-004	318068-005
						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		Nov-13-08 09:25	Nov-13-08 09:30	Nov-13-08 09:35	Nov-13-08 09:40	Nov-13-08 09:45
Inorganic Anions by EPA 300\300.1	Extracted:	Nov-19-08 14:38								
	Analyzed:									
	Units/RL:	mg/kg	RL							
Chloride		16.8	5.29							
Percent Moisture	Extracted:	Nov-19-08 17:00								
	Analyzed:									
	Units/RL:	%	RL							
		5.56	1.00							
TPH by SW8015 Mod	Extracted:	Nov-21-08 13:00								
	Analyzed:	Nov-23-08 00:42								
	Units/RL:	mg/kg	RL							
C6-C12 Gasoline Range Hydrocarbons		ND	15.9							
C12-C28 Diesel Range Hydrocarbons		467	15.9							
C28-C35 Oil Range Hydrocarbons		158	15.9							
Total TPH		625	15.9							

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.

***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 : 318068,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 318068-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	60.4	50.0	121	70-135	

Lab Batch #: 741117

Sample: 318068-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	59.2	50.0	118	70-135	

Lab Batch #: 741117

Sample: 318068-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	61.6	50.0	123	70-135	

Lab Batch #: 741117

Sample: 318068-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	63.0	50.0	126	70-135	

Lab Batch #: 741117

Sample: 318068-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	64.8	50.0	130	70-135	

\*\* 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 : 318068,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 318071-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	61.5	50.0	123	70-135	

Lab Batch #: 741117

Sample: 318071-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 741117

Sample: 519795-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	63.1	50.0	126	70-135	

Lab Batch #: 741117

Sample: 519795-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	59.0	50.0	118	70-135	

Lab Batch #: 741117

Sample: 519795-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	59.8	50.0	120	70-135	

\*\* 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 #: 318068

Project ID:

SRS 2004-00061

Lab Batch #: 740951

Sample: 740951-1-BKS

Matrix: Solid

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.99	100	80-120	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318068

Analyst: BHW

Lab Batch ID: 741117

Sample: 519795-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/22/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
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	901	90	1000	868	87	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	942	94	1000	917	92	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 #: 318068

Lab Batch #: 740951

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318065-001 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	36.3	104	163	122	80-120	X

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318068

Lab Batch ID: 741117

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 318071-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/21/2008 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
	ND	1030	896	87	1030	884	86	1	70-135	35	
	C6-C12 Gasoline Range Hydrocarbons										
	C12-C28 Diesel Range Hydrocarbons	ND	1030	961	93	1030	946	92	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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318068

Lab Batch #: 740951

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318065-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions by EPA 300\300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	36.3	36.5	1	20	

Lab Batch #: 740815

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318075-002 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	2.01	2.49	21	20	F

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

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**

12600 West I-20 East  
Odessa, Texas 79765

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

**Project Manager:** Curt Stanley

Project #: SRS: 2004-00061

Project Loc: Lea County, NM

PO #: PAA - D.M. Bryant

Test: ☒ Standard ☐ TRRP ☐ NPDES

e-mail: [cstanley@basineny.com](mailto:cstanley@basineny.com)

318068

Page 13 of 14



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

Client: Plains / Basin Environmental  
Date/ Time: 11-12-08 @ 1712  
Lab ID #: 318046  
Initials: JMF

**Sample Receipt Checklist**

				Client Initials
#1 Temperature of container/ cooler?	<u>Yes</u>	No	3.5 °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? / (label)	<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 318070**

**for**

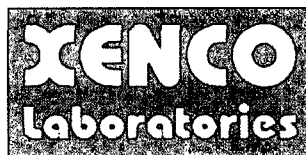
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**24-NOV-08**



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

Texas certification numbers:

Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers:

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

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-NOV-08

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

Reference: XENCO Report No: **318070**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318070. 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. 318070 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 318070



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell E TZ G 1	S	Nov-13-08 09:50		318070-001
Cell E TZ G 2	S	Nov-13-08 09:55		318070-002
Cell E TZ G 3	S	Nov-13-08 10:00		318070-003
Cell E TZ G 4	S	Nov-13-08 10:05		318070-004



**Certificate of Analysis Summary 318070**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS 2004-00061  
Contact: Daniel Bryant  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Nov-18-08 05:12 pm  
Report Date: 24-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318070-001	318070-002	318070-003	318070-004	
	Extracted:	Field Id:	Depth:	Matrix:	Sampled:	Cell E TZ G 1	Cell E TZ G 2	Cell E TZ G 3	Cell E TZ G 4	
Inorganic Anions by EPA 300/300.1	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-13-08 09:50	Nov-13-08 09:55	Nov-13-08 10:00	Nov-13-08 10:05	
Chloride	ND	5.27	ND	5.25	ND	5.38	ND	5.28	ND	5.38
Percent Moisture	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00
TPH by SW8015 Mod	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00
C6-C12 Gasoline Range Hydrocarbons	Nov-23-08 05:01	Nov-23-08 05:01	Nov-23-08 05:24	Nov-23-08 05:24	Nov-23-08 05:47	Nov-23-08 05:47	Nov-23-08 05:47	Nov-23-08 05:47	Nov-23-08 06:11	Nov-23-08 06:11
C12-C28 Diesel Range Hydrocarbons	mg/kg	ND	15.8	ND	15.8	ND	15.8	ND	15.8	ND
C28-C35 Oil Range Hydrocarbons	109	15.8	167	15.8	79.0	15.8	79.0	15.8	20.4	16.1
Total TPH	76.2	15.8	101	15.8	44.8	15.8	44.8	15.8	17.4	16.1
	185.2	15.8	268	15.8	123.8	15.8	123.8	15.8	37.8	16.1

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  
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.

***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 : 318070,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 318070-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	58.6	50.0	117	70-135	

Lab Batch #: 741117

Sample: 318070-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	56.8	50.0	114	70-135	

Lab Batch #: 741117

Sample: 318070-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	55.2	50.0	110	70-135	

Lab Batch #: 741117

Sample: 318070-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	58.1	50.0	116	70-135	

Lab Batch #: 741117

Sample: 318071-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	61.5	50.0	123	70-135	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318070,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 318071-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 741117

Sample: 519795-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	63.1	50.0	126	70-135	

Lab Batch #: 741117

Sample: 519795-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	59.0	50.0	118	70-135	

Lab Batch #: 741117

Sample: 519795-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	59.8	50.0	120	70-135	

\*\* 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 #: 318070

Project ID:

SRS 2004-00061

Lab Batch #: 740954

Sample: 740954-1-BKS

Matrix: Solid

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.09	91	80-120	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318070

Analyst: BHW

Lab Batch ID: 741117

Sample: 519795-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/22/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
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	901	90	1000	868	87	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	942	94	1000	917	92	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 #: 318070

Lab Batch #: 740954

Date Analyzed: 11/19/2008

QC- Sample ID: 318069-001 S

Reporting Units: mg/kg

Date Prepared: 11/19/2008

Batch #: 1

Project ID: SRS 2004-00061

Analyst: LATCOR

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
Chloride		166	223	410	109	80-120

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318070

Lab Batch ID: 741117

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 318071-001 S

Date Prepared: 11/21/2008

Batch #: 1 Matrix: Soil

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	896	87	1030	884	86	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	ND	1030	961	93	1030	946	92	1	70-135	35	

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

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318070

Lab Batch #: 740954

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318069-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions by EPA 300\300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	166	168	1	20	

Lab Batch #: 740820

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318073-002 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	3.64	3.90	7	20	

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



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

Client: Plains / Basin Environmental  
Date/ Time: 11-18-08 @ 1712  
Lab ID #: 31EX10  
Initials: JMF

**Sample Receipt Checklist**

				Client Initials
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	3,5 °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? / 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	<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

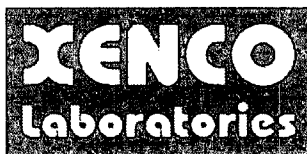
**Analytical Report 318069**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**24-NOV-08**



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

**Texas certification numbers:**

**Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08**

**Florida certification numbers:**

**Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675  
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-NOV-08

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

Reference: XENCO Report No: **318069**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318069. 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. 318069 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 318069



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell F TZ G 1	S	Nov-13-08 10:10		318069-001
Cell F TZ G 2	S	Nov-13-08 10:15		318069-002
Cell F TZ G 3	S	Nov-13-08 10:20		318069-003
Cell F TZ G 4	S	Nov-13-08 10:25		318069-004
Cell F TZ G 5	S	Nov-13-08 10:30		318069-005



**Certificate of Analysis Summary 318069**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS 2004-00061

Contact: Daniel Bryant

Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Nov-18-08 05:12 pm

Report Date: 24-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318069-001	318069-002	318069-003	318069-004	318069-005
	Extracted:	Analyzed:	Units/RL:	Nov-13-08 10:10	Nov-13-08 10:15	Nov-13-08 10:20	Nov-13-08 10:25	Nov-13-08 10:30	Nov-13-08 10:30	Nov-13-08 10:30
Inorganic Anions by EPA 300.1	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	Cell F TZ G 6	Cell F TZ G 7	Cell F TZ G 8	Cell F TZ G 9	Cell F TZ G 10
	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50
Chloride	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Percent Moisture	166	112	193	5.47	131	11.1	140	5.38	30.7	5.29
TPH by SW8015 Mod	%	%	%	%	%	%	%	%	%	%
C6-C12 Gasoline Range Hydrocarbons	10.39	1.00	8.52	1.00	10.24	1.00	7.10	1.00	5.53	1.00
C12-C28 Diesel Range Hydrocarbons	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00
C28-C35 Oil Range Hydrocarbons	Nov-23-08 02:40	Nov-23-08 03:03	Nov-23-08 03:27	Nov-23-08 03:50	Nov-23-08 04:14	Nov-23-08 04:37	Nov-23-08 04:50	Nov-23-08 05:14	Nov-23-08 05:27	Nov-23-08 05:40
Total TPH	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	ND	16.7	ND	16.4	ND	16.7	ND	16.1	ND	15.9
	214	16.7	189	16.4	415	16.7	431	16.1	139	15.9
	109	16.7	74.7	16.4	96.6	16.7	98.7	16.1	60.0	15.9
	323	16.7	263.7	16.4	511.6	16.7	529.7	16.1	199	15.9

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.

***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 : 318069,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 318069-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	117	100	117	70-135	
o-Terphenyl	60.2	50.0	120	70-135	

Lab Batch #: 741117

Sample: 318069-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	115	100	115	70-135	
o-Terphenyl	59.5	50.0	119	70-135	

Lab Batch #: 741117

Sample: 318069-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	118	100	118	70-135	
o-Terphenyl	61.9	50.0	124	70-135	

Lab Batch #: 741117

Sample: 318069-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	117	100	117	70-135	
o-Terphenyl	62.3	50.0	125	70-135	

Lab Batch #: 741117

Sample: 318069-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	116	100	116	70-135	
o-Terphenyl	59.2	50.0	118	70-135	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318069,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 318071-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	61.5	50.0	123	70-135	

Lab Batch #: 741117

Sample: 318071-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 741117

Sample: 519795-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	63.1	50.0	126	70-135	

Lab Batch #: 741117

Sample: 519795-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	59.0	50.0	118	70-135	

Lab Batch #: 741117

Sample: 519795-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	59.8	50.0	120	70-135	

\*\* 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 #: 318069

Project ID:

SRS 2004-00061

Lab Batch #: 740954

Sample: 740954-1-BKS

Matrix: Solid

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	9.09	91	80-120	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318069

Analyst: BHW

Lab Batch ID: 741117

Sample: 519795-1-BKS

Units: mg/kg

Project ID: SRS 2004-00061

Date Analyzed: 11/22/2008

Matrix: Solid

Date Prepared: 11/21/2008

Batch #: 1

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
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	901	90	1000	868	87	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	942	94	1000	917	92	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 #: 318069

Lab Batch #: 740954

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318069-001 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	166	223	410	109	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



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318069

Lab Batch ID: 741117

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 318071-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/21/2008

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	896	87	1030	884	86	1	70-135	35
	C12-C28 Diesel Range Hydrocarbons	ND	1030	961	93	1030	946	92	1	70-135	35

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

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318069

Lab Batch #: 740954

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318069-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300\300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	166	168	1	20	

Lab Batch #: 740820

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318073-002 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	3.64	3.90	7	20	

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

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



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

Client: Plains / Basin Environmental  
Date/ Time: 11-18-08 @ 1712  
Lab ID #: 318069  
Initials: JMF

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	<u>Yes</u>	No	3.5	*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>label</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 ELQT?	<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 318071**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**25-NOV-08**



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

Texas certification numbers:

Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers:

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

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-NOV-08

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

Reference: XENCO Report No: **318071**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318071. 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. 318071 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 318071



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell A VZ G 1 (3'-4')	S	Nov-14-08 08:00		318071-001
Cell A VZ G 2 (3'-4')	S	Nov-14-08 08:15		318071-002
Cell A VZ G 3 (3'-4')	S	Nov-14-08 08:30		318071-003
Cell A VZ G 4 (3'-4')	S	Nov-14-08 08:45		318071-004
Cell A VZ G 5 (3'-4')	S	Nov-14-08 09:00		318071-005





**Certificate of Analysis Summary 318071**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS 2004-00061  
Contact: Daniel Bryant  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Nov-18-08 05:12 pm


Report Date: 25-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318071-001	318071-002	318071-003	318071-004	318071-005
	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Cell A VZ G 1 (3'-4')	Cell A VZ G 2 (3'-4')	Cell A VZ G 3 (3'-4')	Cell A VZ G 4 (3'-4')	Cell A VZ G 5 (3'-4')
BTEX by EPA 8021B						Nov-20-08 08:00	Nov-14-08 08:15	Nov-14-08 08:30	Nov-14-08 08:45	Nov-14-08 09:00
						Nov-20-08 13:14	Nov-20-08 13:35	Nov-20-08 13:57	Nov-20-08 14:20	Nov-20-08 14:42
	Units/RL:					mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene					ND 0.0010	ND 0.0011	ND 0.0012	ND 0.0011	ND 0.0012
	Toluene					ND 0.0021	ND 0.0021	ND 0.0023	ND 0.0023	ND 0.0024
	Ethylbenzene					ND 0.0010	ND 0.0011	ND 0.0012	ND 0.0011	ND 0.0012
Inorganic Anions by EPA 300/300.1	m,p-Xylenes					ND 0.0021	ND 0.0021	ND 0.0023	ND 0.0023	ND 0.0024
	o-Xylene					ND 0.0010	ND 0.0011	ND 0.0012	ND 0.0011	ND 0.0012
	Total Xylenes					ND 0.0031	ND 0.0032	ND 0.0035	ND 0.0034	ND 0.0036
	Total BTEX					ND 0.0072	ND 0.0075	ND 0.0082	ND 0.0079	ND 0.0084
Percent Moisture	Extracted:					Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50
	Analyzed:					mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:					ND 5.17	ND 5.34	ND 5.76	ND 5.71	ND 6.10
	Chloride									
TPH by SW8015 Mod	Extracted:					Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00
	Analyzed:					% RL	% RL	% RL	% RL	% RL
	Units/RL:					3.38 1.00	6.32 1.00	13.16 1.00	12.46 1.00	17.97 1.00
	Percent Moisture									
C6-C12 Gasoline Range Hydrocarbons	Extracted:					Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00	Nov-21-08 13:00
	Analyzed:					Nov-23-08 06:34	Nov-23-08 06:58	Nov-23-08 07:21	Nov-23-08 07:45	Nov-23-08 08:08
	Units/RL:					mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	C12-C28 Diesel Range Hydrocarbons					ND 15.5	ND 16.0	ND 17.3	ND 17.1	ND 18.3
C28-C35 Oil Range Hydrocarbons						ND 15.5	ND 16.0	ND 17.3	ND 17.1	ND 18.3
	Total TPH					ND 15.5	ND 16.0	ND 17.3	ND 17.1	ND 18.3

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 - 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.

***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 : 318071,

Project ID: SRS 2004-00061

Lab Batch #: 740971

Sample: 318071-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0273	0.0300	91	80-120	

Lab Batch #: 740971

Sample: 318071-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 740971

Sample: 318071-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 740971

Sample: 318071-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0326	0.0300	109	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 740971

Sample: 318071-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318071,

Project ID: SRS 2004-00061

Lab Batch #: 740971

Sample: 318071-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 740971

Sample: 318071-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 740971

Sample: 519683-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 740971

Sample: 519683-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 740971

Sample: 519683-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318071,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 318071-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	56.7	50.0	113	70-135	

Lab Batch #: 741117

Sample: 318071-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	61.5	50.0	123	70-135	

Lab Batch #: 741117

Sample: 318071-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 741117

Sample: 318071-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	57.0	50.0	114	70-135	

Lab Batch #: 741117

Sample: 318071-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	58.6	50.0	117	70-135	

\*\* 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 : 318071,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 318071-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	59.2	50.0	118	70-135	

Lab Batch #: 741117

Sample: 318071-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	59.0	50.0	118	70-135	

Lab Batch #: 741117

Sample: 519795-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	63.1	50.0	126	70-135	

Lab Batch #: 741117

Sample: 519795-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### 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	59.0	50.0	118	70-135	

Lab Batch #: 741117

Sample: 519795-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	59.8	50.0	120	70-135	

\*\* 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 #: 318071

Project ID:

SRS 2004-00061

Lab Batch #: 740954

Sample: 740954-1-BKS

Matrix: Solid

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	9.09	91	80-120	

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

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



## BS / BSD Recoveries

Project Name: Lea Station Land Farm

Work Order #: 318071

Analyst: ASA

Lab Batch ID: 740971

Date Prepared: 11/20/2008

Sample: 519683-1-BKS

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/20/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
BTEX by EPA 8021B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		ND	0.1000	0.0913	91	0.1	0.0932	93	2	70-130	35	
Toluene		ND	0.1000	0.0890	89	0.1	0.0909	91	2	70-130	35	
Ethylbenzene		ND	0.1000	0.0950	95	0.1	0.0966	97	2	71-129	35	
m,p-Xylenes		ND	0.2000	0.1932	97	0.2	0.1960	98	1	70-135	35	
o-Xylene		ND	0.1000	0.0921	92	0.1	0.0935	94	2	71-133	35	

Analyst: BHW

Lab Batch ID: 741117

Date Prepared: 11/21/2008

Sample: 519795-1-BKS

Batch #: 1

Date Analyzed: 11/22/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
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

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 #: 318071

Lab Batch #: 740954

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318069-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## MATRIX / MATRIX SPIKE RECOVERY STUDY

### Inorganic Anions by EPA 300

#### Analytes

Chloride

Parent  
Sample  
Result  
[A]

Spike  
Added  
[B]

Spiked Sample  
Result  
[C]

%R  
[D]

Control  
Limits  
%R

Flag

166

223

410

109

80-120

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318071

Lab Batch ID: 740971

Date Analyzed: 11/20/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 318071-001 S

Date Prepared: 11/20/2008

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1035	0.0698	67	0.1035	0.0710	69	3	70-130	35	X
	Toluene	ND	0.1035	0.0674	65	0.1035	0.0684	66	2	70-130	35	X
	Ethylbenzene	ND	0.1035	0.0701	68	0.1035	0.0710	69	1	71-129	35	X
	m,p-Xylenes	ND	0.2070	0.1425	69	0.2070	0.1439	70	1	70-135	35	X
	o-Xylene	ND	0.1035	0.0672	65	0.1035	0.0678	66	2	71-133	35	X

Lab Batch ID: 741117

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

QC- Sample ID: 318071-001 S

Date Prepared: 11/21/2008

Batch #: 1

Analyst: BHW

Matrix: Soil

Reporting Units: mg/kg											
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
	TPH by SW8015 Mod										
	C6-C12 Gasoline Range Hydrocarbons	ND	1030	896	87	1030	884	86	1	70-135	35
	C12-C28 Diesel Range Hydrocarbons	ND	1030	961	93	1030	946	92	1	70-135	35

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318071

Lab Batch #: 740954

Date Analyzed: 11/19/2008

QC- Sample ID: 318069-001 D

Reporting Units: mg/kg

Project ID: SRS 2004-00061

Analyst: LATCOR

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300\300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	166	168	1	20	

Lab Batch #: 740815

Date Analyzed: 11/19/2008

QC- Sample ID: 318075-002 D

Reporting Units: %

Date Prepared: 11/19/2008

Analyst: BEV

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.01	2.49	21	20	F

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

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
12600 West I-20 East  
Odessa, Texas 79765  
Phone: 432-563-1800  
Fax: 432-563-1713

Project Manager: Curt Stanley  
Company Name: Basin Environmental Service Technologies, LLC  
Company Address: P.O. Box 301  
City/State/Zip: Lovington, NM 88260  
Telephone No: (575) 441-2244  
Fax No: (575) 396-1429  
e-mail: cstanley@basinenv.com  
Project Name: LEA STATION LAND FARM  
Project #: SRS: 2004-00061  
Project Loc: Las County, NM  
PO #: PAA - D.M. Bryant  
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

ORDER #: 318071

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Preservation & # of Containers	Notes
	CELL A VZ G 1 (3'-4')	11/14/2008	800				1	SOIL
	CELL A VZ G 2 (3'-4')	11/14/2008	815				1	SOIL
	CELL A VZ G 3 (3'-4')	11/14/2008	830				1	SOIL
	CELL A VZ G 4 (3'-4')	11/14/2008	845				1	SOIL
	CELL A VZ G 5 (3'-4')	11/14/2008	900				1	SOIL

Special Instructions:

Requesting by: *[Signature]* Date: 11/18/08 Time: 17:12  
Relinquished by: *[Signature]* Date: 11/18/08 Time: 17:12  
Relinquished by: *[Signature]* Date: 11/18/08 Time: 17:12

Received by: *[Signature]* Date: 11/18/08 Time: 17:12  
Received by: *[Signature]* Date: 11/18/08 Time: 17:12  
Received by: *[Signature]* Date: 11/18/08 Time: 17:12

Temperature Upon Receipt: 3.5 °C

LAB #	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Preservation & # of Containers	Notes	Analysis For:	Yield:	Standard TAT
1	CELL A VZ G 1 (3'-4')	11/14/2008	800				1	SOIL	CHLORIDES EP-300.1	1.00	1.00
2	CELL A VZ G 2 (3'-4')	11/14/2008	815				1	SOIL	CHLORIDES EP-300.1	1.00	1.00
3	CELL A VZ G 3 (3'-4')	11/14/2008	830				1	SOIL	CHLORIDES EP-300.1	1.00	1.00
4	CELL A VZ G 4 (3'-4')	11/14/2008	845				1	SOIL	CHLORIDES EP-300.1	1.00	1.00
5	CELL A VZ G 5 (3'-4')	11/14/2008	900				1	SOIL	CHLORIDES EP-300.1	1.00	1.00

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

Client: Plains / Basin Environmental  
Date/ Time: 11-18-08 @ 1712  
Lab ID #: 318011  
Initials: JMF

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	<u>Yes</u>	No	<u>3.5</u>	* C
#2	Shipping container in good condition?	<u>Yes</u>	No		
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	<u>(Not Present)</u>	
#4	Custody Seals intact on sample bottles/ container? / (e. label)	<u>Yes</u>	No	<u>Not Present</u>	
#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	<u>ID written on Cont./ Lid</u>	
#9	Container label(s) legible and intact?	<u>Yes</u>	No	<u>Not Applicable</u>	
#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	<u>See Below</u>	
#13	Samples properly preserved?	<u>Yes</u>	No	<u>See Below</u>	
#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	<u>See Below</u>	
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	<u>See Below</u>	
#19	Subcontract of sample(s)?	<u>Yes</u>	No	<u>Not Applicable</u>	
#20	VOC samples have zero headspace?	<u>Yes</u>	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

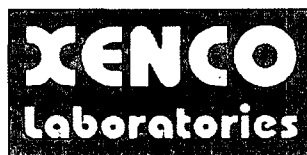
**Analytical Report 318072**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**25-NOV-08**



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

**Texas certification numbers:**

**Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08**

**Florida certification numbers:**

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

**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-NOV-08

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

Reference: XENCO Report No: **318072**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318072. 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. 318072 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 318072



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell B VZ G 1 (3'-4')	S	Nov-14-08 09:15		318072-001
Cell B VZ G 2 (3'-4')	S	Nov-14-08 09:30		318072-002
Cell B VZ G 3 (3'-4')	S	Nov-14-08 09:45		318072-003
Cell B VZ G 4 (3'-4')	S	Nov-14-08 10:00		318072-004
Cell B VZ G 5 (3'-4')	S	Nov-14-08 10:15		318072-005





**Certificate of Analysis Summary 318072**  
**PLAINS ALL AMERICAN EH&S, Midland, TX**



Project Id: SRS 2004-00061  
Contact: Daniel Bryant  
Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Nov-18-08 05:12 pm

Report Date: 25-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318072-001	318072-002	318072-003	318072-004	318072-005
	Extraction:	Analyzed:	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg
BTEX by EPA 8021B	Benzene	Nov-14-08 09:15	ND 0.0011	ND 0.0011	ND 0.0011	Nov-14-08 09:30	Nov-14-08 09:45	Nov-14-08 10:00	Nov-14-08 10:15	Nov-14-08 10:15
	Toluene	Nov-20-08 08:00	ND 0.0022	ND 0.0022	ND 0.0022	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00
	Ethylbenzene	Nov-20-08 15:05	ND 0.0011	ND 0.0011	ND 0.0011	Nov-20-08 15:27	Nov-20-08 15:51	Nov-20-08 16:13	Nov-20-08 16:05	Nov-20-08 16:05
	m,p-Xylenes	Nov-20-08 08:00	ND 0.0022	ND 0.0022	ND 0.0022	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00
	o-Xylene	Nov-20-08 15:05	ND 0.0011	ND 0.0011	ND 0.0011	Nov-20-08 15:27	Nov-20-08 15:51	Nov-20-08 16:13	Nov-20-08 16:05	Nov-20-08 16:05
	Total Xylenes	Nov-20-08 08:00	ND 0.0033	ND 0.0033	ND 0.0033	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00
Inorganic Anions by EPA 300.300.1	Total BTEX	Nov-20-08 15:05	ND 0.0077	ND 0.0077	ND 0.0077	Nov-20-08 15:27	Nov-20-08 15:51	Nov-20-08 16:13	Nov-20-08 16:05	Nov-20-08 16:05
	Chloride	Nov-19-08 22:50	ND 5.61	ND 5.55	ND 5.55	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50	Nov-19-08 22:50
Percent Moisture	Extraction:	Nov-19-08 17:00	%	RL	10.90	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00
	Analyzed:	Nov-21-08 13:00	10.90	1.00	9.95	Nov-21-08 14:00	Nov-21-08 14:00	Nov-21-08 14:00	Nov-21-08 14:00	Nov-21-08 14:00
TPH by SW8015 Mod	Extraction:	Nov-23-08 08:32	mg/kg	RL	ND 16.8	Nov-23-08 12:49	Nov-23-08 13:12	Nov-23-08 13:35	Nov-23-08 13:58	Nov-23-08 13:58
	Analyzed:	Nov-23-08 08:32	mg/kg	RL	ND 16.8	Nov-23-08 12:49	Nov-23-08 13:12	Nov-23-08 13:35	Nov-23-08 13:58	Nov-23-08 13:58
C6-C12 Gasoline Range Hydrocarbons	Extraction:	Nov-23-08 08:32	mg/kg	RL	ND 16.8	Nov-23-08 12:49	Nov-23-08 13:12	Nov-23-08 13:35	Nov-23-08 13:58	Nov-23-08 13:58
	Analyzed:	Nov-23-08 08:32	mg/kg	RL	ND 16.8	Nov-23-08 12:49	Nov-23-08 13:12	Nov-23-08 13:35	Nov-23-08 13:58	Nov-23-08 13:58
C12-C28 Diesel Range Hydrocarbons	Extraction:	Nov-23-08 08:32	mg/kg	RL	ND 16.8	Nov-23-08 12:49	Nov-23-08 13:12	Nov-23-08 13:35	Nov-23-08 13:58	Nov-23-08 13:58
	Analyzed:	Nov-23-08 08:32	mg/kg	RL	ND 16.8	Nov-23-08 12:49	Nov-23-08 13:12	Nov-23-08 13:35	Nov-23-08 13:58	Nov-23-08 13:58
C28-C35 Oil Range Hydrocarbons	Extraction:	Nov-23-08 08:32	mg/kg	RL	ND 16.8	Nov-23-08 12:49	Nov-23-08 13:12	Nov-23-08 13:35	Nov-23-08 13:58	Nov-23-08 13:58
	Analyzed:	Nov-23-08 08:32	mg/kg	RL	ND 16.8	Nov-23-08 12:49	Nov-23-08 13:12	Nov-23-08 13:35	Nov-23-08 13:58	Nov-23-08 13:58
Total TPH	Extraction:	Nov-23-08 08:32	mg/kg	RL	ND 16.8	Nov-23-08 12:49	Nov-23-08 13:12	Nov-23-08 13:35	Nov-23-08 13:58	Nov-23-08 13:58

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.

***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 Lakcs, 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 : 318072,

Project ID: SRS 2004-00061

Lab Batch #: 740971

Sample: 318071-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 740971

Sample: 318071-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 740971

Sample: 318072-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0273	0.0300	91	80-120	

Lab Batch #: 740971

Sample: 318072-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0237	0.0300	79	80-120	**

Lab Batch #: 740971

Sample: 318072-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0261	0.0300	87	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318072,

Project ID: SRS 2004-00061

Lab Batch #: 740971

Sample: 318072-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 740971

Sample: 318072-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 740971

Sample: 519683-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 740971

Sample: 519683-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 740971

Sample: 519683-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318072,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 318071-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	61.5	50.0	123	70-135	

Lab Batch #: 741117

Sample: 318071-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 741117

Sample: 318072-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	58.4	50.0	117	70-135	

Lab Batch #: 741117

Sample: 519795-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	63.1	50.0	126	70-135	

Lab Batch #: 741117

Sample: 519795-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	59.0	50.0	118	70-135	

\*\* 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 : 318072,

Project ID: SRS 2004-00061

Lab Batch #: 741117

Sample: 519795-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	59.8	50.0	120	70-135	

Lab Batch #: 741130

Sample: 318072-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	57.7	50.0	115	70-135	

Lab Batch #: 741130

Sample: 318072-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

Lab Batch #: 741130

Sample: 318072-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	56.5	50.0	113	70-135	

Lab Batch #: 741130

Sample: 318072-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

\*\* 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 : 318072,

Project ID: SRS 2004-00061

Lab Batch #: 741130

Sample: 318074-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	125	100	125	70-135	
o-Terphenyl	61.3	50.0	123	70-135	

Lab Batch #: 741130

Sample: 318074-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	128	100	128	70-135	
o-Terphenyl	61.2	50.0	122	70-135	

Lab Batch #: 741130

Sample: 519805-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	126	100	126	70-135	
o-Terphenyl	62.7	50.0	125	70-135	

Lab Batch #: 741130

Sample: 519805-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	118	100	118	70-135	
o-Terphenyl	59.3	50.0	119	70-135	

Lab Batch #: 741130

Sample: 519805-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
I-Chlorooctane	130	100	130	70-135	
o-Terphenyl	61.6	50.0	123	70-135	

\*\* 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 #: 318072**

**Project ID:**

**SRS 2004-00061**

**Lab Batch #: 740954**

**Sample: 740954-1-BKS**

**Matrix: Solid**

**Date Analyzed: 11/19/2008**

**Date Prepared: 11/19/2008**

**Analyst: LATCOR**

**Reporting Units: mg/kg**

**Batch #: 1**

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	9.09	91	80-120	

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

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





## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318072

Analyst: ASA

Lab Batch ID: 740971

Date Prepared: 11/20/2008

Sample: 519683-1-BKS

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/20/2008

Matrix: Solid

Units: mg/kg

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Analytes	BTEX by EPA 8021B										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	ND	0.1000	0.0913	91	0.1	0.0932	93	2	70-130	35	
	ND	0.1000	0.0890	89	0.1	0.0909	91	2	70-130	35	
	ND	0.1000	0.0950	95	0.1	0.0966	97	2	71-129	35	
	ND	0.2000	0.1932	97	0.2	0.1960	98	1	70-135	35	
	ND	0.1000	0.0921	92	0.1	0.0935	94	2	71-133	35	

Analyst: BHW

Lab Batch ID: 741117

Sample: 519795-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Date Analyzed: 11/22/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	TPH by SW8015 Mod	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	
			ND	1000	901	90	1000	868	87	4	70-135	35		
			ND	1000	942	94	1000	917	92	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 Land Farm

Work Order #: 318072

Analyst: BHW

Lab Batch ID: 741130

Sample: 519805-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/23/2008

Matrix: Solid

Units: mg/kg

TPH by SW8015 Mod

### Analytes

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
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	910	91	1000	893	89	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	938	94	1000	935	94	0	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 #: 318072

Lab Batch #: 740954

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318069-001 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	166	223	410	109	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS/MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318072

Lab Batch ID: 740971

Date Analyzed: 11/20/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 318071-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/20/2008 Analyst: ASA

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1035	0.0698	67	0.1035	0.0710	69	3	70-130	35	X
	Toluene	ND	0.1035	0.0674	65	0.1035	0.0684	66	2	70-130	35	X
	Ethylbenzene	ND	0.1035	0.0701	68	0.1035	0.0710	69	1	71-129	35	X
	m,p-Xylenes	ND	0.2070	0.1425	69	0.2070	0.1439	70	1	70-135	35	X
	o-Xylene	ND	0.1035	0.0672	65	0.1035	0.0678	66	2	71-133	35	X

Lab Batch ID: 741117

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

QC- Sample ID: 318071-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/21/2008 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	896	87	1030	884	86	1	70-135	35
	C12-C28 Diesel Range Hydrocarbons	ND	1030	961	93	1030	946	92	1	70-135	35

Lab Batch ID: 741130

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

QC- Sample ID: 318074-005 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/21/2008 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
	ND	1120	963	86	1120	964	86	0	70-135	35	
	ND	1120	1010	90	1120	1030	92	2	70-135	35	

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

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318072

Lab Batch #: 740954

Date Analyzed: 11/19/2008

QC- Sample ID: 318069-001 D

Reporting Units: mg/kg

Project ID: SRS 2004-00061

Analyst: LATCOR

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300\300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	166	168	1	20	

Lab Batch #: 740815

Date Analyzed: 11/19/2008

QC- Sample ID: 318075-002 D

Reporting Units: %

Date Prepared: 11/19/2008

Analyst: BEV

Batch #: 1

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.01	2.49	21	20	F

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

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**  
12600 West I-20 East Phone: 432-583-1800  
Odessa, Texas 79765 Fax: 432-583-1713

Project Name: LEA STATION LAND FARM

Project #: SRS: 2004-00081

Project Loc: Lea County, NM

PO#: PAA - D.M. Bryant

☒ Standard

ccstanley@basinenv.com

[illegible]

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

Client: Plains Basin Environmental  
Date/ Time: 11-18-08 @ 1712  
Lab ID #: 312072  
Initials: JMF

**Sample Receipt Checklist**

				Client Initials
#1 Temperature of container/ cooler?	Yes	No	3.5 °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 ELDT?	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 318073**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**24-NOV-08**



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

**Texas certification numbers:**

**Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08**

**Florida certification numbers:**

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

**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-NOV-08

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

Reference: XENCO Report No: **318073**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318073. 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. 318073 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 318073



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell C VZ G 1 (3'-4')	S	Nov-14-08 10:30		318073-001
Cell C VZ G 2 (3'-4')	S	Nov-14-08 10:45		318073-002
Cell C VZ G 3 (3'-4')	S	Nov-14-08 11:00		318073-003
Cell C VZ G 4 (3'-4')	S	Nov-14-08 11:15		318073-004
Cell C VZ G 5 (3'-4')	S	Nov-14-08 11:30		318073-005



# Certificate of Analysis Summary 318073

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station Land Farm

Project Id: SRS 2004-00061

Contact: Daniel Bryant

Project Location: Lea County, NM

Date Received in Lab: Tue Nov-18-08 05:12 pm


Report Date: 24-NOV-08

Project Manager: Brent Barron, IL

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318073-001	318073-002	318073-003	318073-004	318073-005
	Extracted:	Analyzed:	Units/RL:	mg/kg	RL	Nov-14-08 10:30	Nov-14-08 10:45	Nov-14-08 11:00	Nov-14-08 11:15	Nov-14-08 11:30
BTEX by EPA 8021B										
Benzene						ND 0.0012	ND 0.0010	ND 0.0012	ND 0.0011	ND 0.0011
Toluene						ND 0.0024	ND 0.0021	ND 0.0024	ND 0.0023	ND 0.0022
Ethylbenzene						ND 0.0012	ND 0.0010	ND 0.0012	ND 0.0011	ND 0.0011
m,p-Xylenes						ND 0.0024	ND 0.0021	ND 0.0024	ND 0.0023	ND 0.0022
o-Xylene						ND 0.0012	ND 0.0010	ND 0.0012	ND 0.0011	ND 0.0011
Total Xylenes						ND 0.0036	ND 0.0031	ND 0.0036	ND 0.0034	ND 0.0033
Total BTEX						ND 0.0084	ND 0.0072	ND 0.0084	ND 0.0079	ND 0.0077
Inorganic Anions by EPA 300.300.1	Extracted:	Analyzed:	Units/RL:							
Chloride						Nov-19-08 22:50	Nov-20-08 07:02	Nov-20-08 07:02	Nov-20-08 07:02	Nov-20-08 07:02
						mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
						ND 6.09	ND 5.19	ND 6.12	ND 5.74	ND 5.60
Percent Moisture	Extracted:	Analyzed:	Units/RL:							
						Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00
						% RL	% RL	% RL	% RL	% RL
						17.96 1.00	3.64 1.00	18.33 1.00	12.89 1.00	10.75 1.00
TPH by SW8015 Mod	Extracted:	Analyzed:	Units/RL:							
						Nov-21-08 14:00	Nov-21-08 14:00	Nov-21-08 14:00	Nov-21-08 14:00	Nov-21-08 14:00
						Nov-23-08 14:22	Nov-23-08 14:47	Nov-23-08 15:11	Nov-23-08 15:35	Nov-23-08 15:59
						mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
						ND 18.3	ND 15.6	ND 18.4	ND 17.2	ND 16.8
C6-C12 Gasoline Range Hydrocarbons						ND 18.3	ND 15.6	ND 18.4	ND 17.2	ND 16.8
C12-C28 Diesel Range Hydrocarbons						ND 18.3	ND 15.6	ND 18.4	ND 17.2	ND 16.8
C28-C35 Oil Range Hydrocarbons						ND 18.3	ND 15.6	ND 18.4	ND 17.2	ND 16.8
Total TPH						ND 18.3	ND 15.6	ND 18.4	ND 17.2	ND 16.8

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.

***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 : 318073,

Project ID: SRS 2004-00061

Lab Batch #: 740971

Sample: 318071-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 740971

Sample: 318071-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 740971

Sample: 318073-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0337	0.0300	112	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 740971

Sample: 318073-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0269	0.0300	90	80-120	

Lab Batch #: 740971

Sample: 318073-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0223	0.0300	74	80-120	**

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318073,

Project ID: SRS 2004-00061

Lab Batch #: 740971

Sample: 318073-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 740971

Sample: 318073-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0277	0.0300	92	80-120	

Lab Batch #: 740971

Sample: 519683-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 740971

Sample: 519683-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 740971

Sample: 519683-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318073,

Project ID: SRS 2004-00061

Lab Batch #: 741130

Sample: 318073-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	58.0	50.0	116	70-135	

Lab Batch #: 741130

Sample: 318073-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	57.4	50.0	115	70-135	

Lab Batch #: 741130

Sample: 318073-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	59.3	50.0	119	70-135	

Lab Batch #: 741130

Sample: 318073-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	57.5	50.0	115	70-135	

Lab Batch #: 741130

Sample: 318073-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	59.1	50.0	118	70-135	

\*\* 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 : 318073,

Project ID: SRS 2004-00061

Lab Batch #: 741130

Sample: 318074-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	61.3	50.0	123	70-135	

Lab Batch #: 741130

Sample: 318074-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	100	128	70-135	
o-Terphenyl	61.2	50.0	122	70-135	

Lab Batch #: 741130

Sample: 519805-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	62.7	50.0	125	70-135	

Lab Batch #: 741130

Sample: 519805-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	59.3	50.0	119	70-135	

Lab Batch #: 741130

Sample: 519805-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	61.6	50.0	123	70-135	

\*\* 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 #: 318073

Project ID:

SRS 2004-00061

Lab Batch #: 740954

Sample: 740954-1-BKS

Matrix: Solid

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	9.09	91	80-120	

Lab Batch #: 740955

Sample: 740955-1-BKS

Matrix: Solid

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	10.1	101	80-120	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318073

Analyst: ASA

Project ID: SRS 2004-00061

Date Prepared: 11/20/2008

Date Analyzed: 11/20/2008

Lab Batch ID: 740971

Sample: 519683-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	BTEX by EPA 8021B											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1000	0.0913	91	0.1	0.0932	93	2	70-130	35	
	Toluene	ND	0.1000	0.0890	89	0.1	0.0909	91	2	70-130	35	
	Ethylbenzene	ND	0.1000	0.0950	95	0.1	0.0966	97	2	71-129	35	
	m,p-Xylenes	ND	0.2000	0.1932	97	0.2	0.1960	98	1	70-135	35	
	o-Xylene	ND	0.1000	0.0921	92	0.1	0.0935	94	2	71-133	35	

Analyst: BHW

Date Prepared: 11/21/2008

Date Analyzed: 11/23/2008

Lab Batch ID: 741130

Sample: 519805-1-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
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	910	91	1000	893	89	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	938	94	1000	935	94	0	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 #: 318073

Lab Batch #: 740954

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318069-001 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	166	223	410	109	80-120	

Lab Batch #: 740955

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

QC- Sample ID: 318073-002 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	104	95.4	92	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Land Farm

Work Order #: 318073

Lab Batch ID: 740971

Date Analyzed: 11/20/2008

Reporting Units: mg/kg

QC- Sample ID: 318071-001 S

Date Prepared: 11/20/2008

Batch #: 1

Analyst: ASA

Project ID: SRS 2004-00061

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
BTEX by EPA 8021B											
Benzene	ND	0.1035	0.0698	67	0.1035	0.0710	69	3	70-130	35	X
Toluene	ND	0.1035	0.0674	65	0.1035	0.0684	66	2	70-130	35	X
Ethylbenzene	ND	0.1035	0.0701	68	0.1035	0.0710	69	1	71-129	35	X
m,p-Xylenes	ND	0.2070	0.1425	69	0.2070	0.1439	70	1	70-135	35	X
o-Xylene	ND	0.1035	0.0672	65	0.1035	0.0678	66	2	71-133	35	X

Lab Batch ID: 741130

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

QC- Sample ID: 318074-005 S

Date Prepared: 11/21/2008

Batch #: 1

Analyst: BHW

## 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	ND	1120	963	86	1120	964	86	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1120	1010	90	1120	1030	92	2	70-135	35	

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

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



# Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318073

Lab Batch #: 740954

Project ID: SRS 2004-00061

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: LATCOR

QC- Sample ID: 318069-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions by EPA 300/300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	166	168	1	20	

Lab Batch #: 740955

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

QC- Sample ID: 318073-002 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions by EPA 300/300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Batch #: 740815

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318075-002 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	2.01	2.49	21	20	F

Lab Batch #: 740820

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318073-002 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	3.64	3.90	7	20	

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

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

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST  
12800 West 120 East  
Odessa, Texas 79765  
Phone: 432-533-1800  
Fax: 432-533-1713

Project Manager: Curt Stanley PAGE 01 OF 01

Company Name Basin Environmental Service Technologies, LLC

Company Address: P. O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No. (375) 441-2244

Sample Signature *C. Stanley*

ORDER #: 318073

Fax No: (505) 306-1420  
e-mail: cstanley@basinenv.com

Project Name: LEA STATION LAND FARM

Project #: SRS: 2004-00061

Project Loc: Lea County, NM

PO #: PAA - D.M. Bryant

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Standard TAT (per Schedule) 24, 48, 72 hrs

Analysis for: ☒ TOTAL ☐ TOC ☐ BTEX (B, T, X) or BTEX 8250 ☐ Volatiles ☐ Metals: As, Ag, Ba, Bi, Br, Cd, Cr, Hg, Ni, Pb, Se, Sn, V, Zn, Cu, Fe, Mn, Mo, Ni, Sb, Si, Ti, U, W, Y, Zn

Antimony (Sb), Arsenic (As), Barium (Ba), Bismuth (Bi), Boron (B), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Fluorine (F), Gallium (Ga), Germanium (Ge), Gold (Au), Iodine (I), Iron (Fe), Lead (Pb), Lithium (Li), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Nitrogen (N), Niobium (Nb), Potassium (K), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Tellurium (Te), Thallium (Tl), Tin (Sn), Vanadium (V), Zinc (Zn)

TPH: 1X 1005 1X 1006 1X 1007 1X 1008 1X 1009 1X 1010 1X 1011 1X 1012 1X 1013 1X 1014 1X 1015 1X 1016 1X 1017 1X 1018 1X 1019 1X 1020 1X 1021 1X 1022 1X 1023 1X 1024 1X 1025 1X 1026 1X 1027 1X 1028 1X 1029 1X 1030 1X 1031 1X 1032 1X 1033 1X 1034 1X 1035 1X 1036 1X 1037 1X 1038 1X 1039 1X 1040 1X 1041 1X 1042 1X 1043 1X 1044 1X 1045 1X 1046 1X 1047 1X 1048 1X 1049 1X 1050 1X 1051 1X 1052 1X 1053 1X 1054 1X 1055 1X 1056 1X 1057 1X 1058 1X 1059 1X 1060 1X 1061 1X 1062 1X 1063 1X 1064 1X 1065 1X 1066 1X 1067 1X 1068 1X 1069 1X 1070 1X 1071 1X 1072 1X 1073 1X 1074 1X 1075 1X 1076 1X 1077 1X 1078 1X 1079 1X 1080 1X 1081 1X 1082 1X 1083 1X 1084 1X 1085 1X 1086 1X 1087 1X 1088 1X 1089 1X 1090 1X 1091 1X 1092 1X 1093 1X 1094 1X 1095 1X 1096 1X 1097 1X 1098 1X 1099 1X 1100 1X 1101 1X 1102 1X 1103 1X 1104 1X 1105 1X 1106 1X 1107 1X 1108 1X 1109 1X 1110 1X 1111 1X 1112 1X 1113 1X 1114 1X 1115 1X 1116 1X 1117 1X 1118 1X 1119 1X 1120 1X 1121 1X 1122 1X 1123 1X 1124 1X 1125 1X 1126 1X 1127 1X 1128 1X 1129 1X 1130 1X 1131 1X 1132 1X 1133 1X 1134 1X 1135 1X 1136 1X 1137 1X 1138 1X 1139 1X 1140 1X 1141 1X 1142 1X 1143 1X 1144 1X 1145 1X 1146 1X 1147 1X 1148 1X 1149 1X 1150 1X 1151 1X 1152 1X 1153 1X 1154 1X 1155 1X 1156 1X 1157 1X 1158 1X 1159 1X 1160 1X 1161 1X 1162 1X 1163 1X 1164 1X 1165 1X 1166 1X 1167 1X 1168 1X 1169 1X 1170 1X 1171 1X 1172 1X 1173 1X 1174 1X 1175 1X 1176 1X 1177 1X 1178 1X 1179 1X 1180 1X 1181 1X 1182 1X 1183 1X 1184 1X 1185 1X 1186 1X 1187 1X 1188 1X 1189 1X 1190 1X 1191 1X 1192 1X 1193 1X 1194 1X 1195 1X 1196 1X 1197 1X 1198 1X 1199 1X 1200 1X 1201 1X 1202 1X 1203 1X 1204 1X 1205 1X 1206 1X 1207 1X 1208 1X 1209 1X 1210 1X 1211 1X 1212 1X 1213 1X 1214 1X 1215 1X 1216 1X 1217 1X 1218 1X 1219 1X 1220 1X 1221 1X 1222 1X 1223 1X 1224 1X 1225 1X 1226 1X 1227 1X 1228 1X 1229 1X 1230 1X 1231 1X 1232 1X 1233 1X 1234 1X 1235 1X 1236 1X 1237 1X 1238 1X 1239 1X 1240 1X 1241 1X 1242 1X 1243 1X 1244 1X 1245 1X 1246 1X 1247 1X 1248 1X 1249 1X 1250 1X 1251 1X 1252 1X 1253 1X 1254 1X 1255 1X 1256 1X 1257 1X 1258 1X 1259 1X 1260 1X 1261 1X 1262 1X 1263 1X 1264 1X 1265 1X 1266 1X 1267 1X 1268 1X 1269 1X 1270 1X 1271 1X 1272 1X 1273 1X 1274 1X 1275 1X 1276 1X 1277 1X 1278 1X 1279 1X 1280 1X 1281 1X 1282 1X 1283 1X 1284 1X 1285 1X 1286 1X 1287 1X 1288 1X 1289 1X 1290 1X 1291 1X 1292 1X 1293 1X 1294 1X 1295 1X 1296 1X 1297 1X 1298 1X 1299 1X 1300 1X 1301 1X 1302 1X 1303 1X 1304 1X 1305 1X 1306 1X 1307 1X 1308 1X 1309 1X 1310 1X 1311 1X 1312 1X 1313 1X 1314 1X 1315 1X 1316 1X 1317 1X 1318 1X 1319 1X 1320 1X 1321 1X 1322 1X 1323 1X 1324 1X 1325 1X 1326 1X 1327 1X 1328 1X 1329 1X 1330 1X 1331 1X 1332 1X 1333 1X 1334 1X 1335 1X 1336 1X 1337 1X 1338 1X 1339 1X 1340 1X 1341 1X 1342 1X 1343 1X 1344 1X 1345 1X 1346 1X 1347 1X 1348 1X 1349 1X 1350 1X 1351 1X 1352 1X 1353 1X 1354 1X 1355 1X 1356 1X 1357 1X 1358 1X 1359 1X 1360 1X 1361 1X 1362 1X 1363 1X 1364 1X 1365 1X 1366 1X 1367 1X 1368 1X 1369 1X 1370 1X 1371 1X 1372 1X 1373 1X 1374 1X 1375 1X 1376 1X 1377 1X 1378 1X 1379 1X 1380 1X 1381 1X 1382 1X 1383 1X 1384 1X 1385 1X 1386 1X 1387 1X 1388 1X 1389 1X 1390 1X 1391 1X 1392 1X 1393 1X 1394 1X 1395 1X 1396 1X 1397 1X 1398 1X 1399 1X 1400 1X 1401 1X 1402 1X 1403 1X 1404 1X 1405 1X 1406 1X 1407 1X 1408 1X 1409 1X 1410 1X 1411 1X 1412 1X 1413 1X 1414 1X 1415 1X 1416 1X 1417 1X 1418 1X 1419 1X 1420 1X 1421 1X 1422 1X 1423 1X 1424 1X 1425 1X 1426 1X 1427 1X 1428 1X 1429 1X 1430 1X 1431 1X 1432 1X 1433 1X 1434 1X 1435 1X 1436 1X 1437 1X 1438 1X 1439 1X 1440 1X 1441 1X 1442 1X 1443 1X 1444 1X 1445 1X 1446 1X 1447 1X 1448 1X 1449 1X 1450 1X 1451 1X 1452 1X 1453 1X 1454 1X 1455 1X 1456 1X 1457 1X 1458 1X 1459 1X 1460 1X 1461 1X 1462 1X 1463 1X 1464 1X 1465 1X 1466 1X 1467 1X 1468 1X 1469 1X 1470 1X 1471 1X 1472 1X 1473 1X 1474 1X 1475 1X 1476 1X 1477 1X 1478 1X 1479 1X 1480 1X 1481 1X 1482 1X 1483 1X 1484 1X 1485 1X 1486 1X 1487 1X 1488 1X 1489 1X 1490 1X 1491 1X 1492 1X 1493 1X 1494 1X 1495 1X 1496 1X 1497 1X 1498 1X 1499 1X 1500 1X 1501 1X 1502 1X 1503 1X 1504 1X 1505 1X 1506 1X 1507 1X 1508 1X 1509 1X 1510 1X 1511 1X 1512 1X 1513 1X 1514 1X 1515 1X 1516 1X 1517 1X 1518 1X 1519 1X 1520 1X 1521 1X 1522 1X 1523 1X 1524 1X 1525 1X 1526 1X 1527 1X 1528 1X 1529 1X 1530 1X 1531 1X 1532 1X 1533 1X 1534 1X 1535 1X 1536 1X 1537 1X 1538 1X 1539 1X 1540 1X 1541 1X 1542 1X 1543 1X 1544 1X 1545 1X 1546 1X 1547 1X 1548 1X 1549 1X 1550 1X 1551 1X 1552 1X 1553 1X 1554 1X 1555 1X 1556 1X 1557 1X 1558 1X 1559 1X 1560 1X 1561 1X 1562 1X 1563 1X 1564 1X 1565 1X 1566 1X 1567 1X 1568 1X 1569 1X 1570 1X 1571 1X 1572 1X 1573 1X 1574 1X 1575 1X 1576 1X 1577 1X 1578 1X 1579 1X 1580 1X 1581 1X 1582 1X 1583 1X 1584 1X 1585 1X 1586 1X 1587 1X 1588 1X 1589 1X 1590 1X 1591 1X 1592 1X 1593 1X 1594 1X 1595 1X 1596 1X 1597 1X 1598 1X 1599 1X 1600 1X 1601 1X 1602 1X 1603 1X 1604 1X 1605 1X 1606 1X 1607 1X 1608 1X 1609 1X 1610 1X 1611 1X 1612 1X 1613 1X 1614 1X 1615 1X 1616 1X 1617 1X 1618 1X 1619 1X 1620 1X 1621 1X 1622 1X 1623 1X 1624 1X 1625 1X 1626 1X 1627 1X 1628 1X 1629 1X 1630 1X 1631 1X 1632 1X 1633 1X 1634 1X 1635 1X 1636 1X 1637 1X 1638 1X 1639 1X 1640 1X 1641 1X 1642 1X 1643 1X 1644 1X 1645 1X 1646 1X 1647 1X 1648 1X 1649 1X 1650 1X 1651 1X 1652 1X 1653 1X 1654 1X 1655 1X 1656 1X 1657 1X 1658 1X 1659 1X 1660 1X 1661 1X 1662 1X 1663 1X 1664 1X 1665 1X 1666 1X 1667 1X 1668 1X 1669 1X 1670 1X 1671 1X 1672 1X 1673 1X 1674 1X 1675 1X 1676 1X 1677 1X 1678 1X 1679 1X 1680 1X 1681 1X 1682 1X 1683 1X 1684 1X 1685 1X 1686 1X 1687 1X 1688 1X 1689 1X 1690 1X 1691 1X 1692 1X 1693 1X 1694 1X 1695 1X 1696 1X 1697 1X 1698 1X 1699 1X 1700 1X 1701 1X 1702 1X 1703 1X 1704 1X 1705 1X 1706 1X 1707 1X 1708 1X 1709 1X 1710 1X 1711 1X 1712 1X 1713 1X 1714 1X 1715 1X 1716 1X 1717 1X 1718 1X 1719 1X 1720 1X 1721 1X 1722 1X 1723 1X 1724 1X 1725 1X 1726 1X 1727 1X 1728 1X 1729 1X 1730 1X 1731 1X 1732 1X 1733 1X 1734 1X 1735 1X 1736 1X 1737 1X 1738 1X 1739 1X 1740 1X 1741 1X 1742 1X 1743 1X 1744 1X 1745 1X 1746 1X 1747 1X 1748 1X 1749 1X 1750 1X 1751 1X 1752 1X 1753 1X 1754 1X 1755 1X 1756 1X 1757 1X 1758 1X 1759 1X 1760 1X 1761 1X 1762 1X 1763 1X 1764 1X 1765 1X 1766 1X 1767 1X 1768 1X 1769 1X 1770 1X 1771 1X 1772 1X 1773 1X 1774 1X 1775 1X 1776 1X 1777 1X 1778 1X 1779 1X 1780 1X 1781 1X 1782 1X 1783 1X 1784 1X 1785 1X 1786 1X 1787 1X 1788 1X 1789 1X 1790 1X 1791 1X 1792 1X 1793 1X 1794 1X 1795 1X 1796 1X 1797 1X 1798 1X 1799 1X 1800 1X 1801 1X 1802 1X 1803 1X 1804 1X 1805 1X 1806 1X 1807 1X 1808 1X 1809 1X 1810 1X 1811 1X 1812 1X 1813 1X 1814 1X 1815 1X 1816 1X 1817 1X 1818 1X 1819 1X 1820 1X 1821 1X 1822 1X 1823 1X 1824 1X 1825 1X 1826 1X 1827 1X 1828 1X 1829 1X 1830 1X 1831 1X 1832 1X 1833 1X 1834 1X 1835 1X 1836 1X 1837 1X 1838 1X 1839 1X 1840 1X 1841 1X 1842 1X 1843 1X 1844 1X 1845 1X 1846 1X 1847 1X 1848 1X 1849 1X 1850 1X 1851 1X 1852 1X 1853 1X 1854 1X 1855 1X 1856 1X 1857 1X 1858 1X 1859 1X 1860 1X 1861 1X 1862 1X 1863 1X 1864 1X 1865 1X 1866 1X 1867 1X 1868 1X 1869 1X 1870 1X 1871 1X 1872 1X 1873 1X 1874 1X 1875 1X 1876 1X 1877 1X 1878 1X 1879 1X 1880 1X 1881 1X 1882 1X 1883 1X 1884 1X 1885 1X 1886 1X 1887 1X 1888 1X 1889 1X 1890 1X 1891 1X 1892 1X 1893 1X 1894 1X 1895 1X 1896 1X 1897 1X 1898 1X 1899 1X 1900 1X 1901 1X 1902 1X 1903 1X 1904 1X 1905 1X 1906 1X 1907 1X 1908 1X 1909 1X 1910 1X 1911 1X 1912 1X 1913 1X 1914 1X 1915 1X 1916 1X 1917 1X 1918 1X 1919 1X 1920 1X 1921 1X 1922 1X 1923 1X 1924 1X 1925 1X 1926 1X 1927 1X 1928 1X 1929 1X 1930 1X 1931 1X 1932 1X 1933 1X 1934 1X 1935 1X 1936 1X 1937 1X 1938 1X 1939 1X 1940 1X 1941 1X 1942 1X 1943 1X 1944 1X 1945 1X 1946 1X 1947 1X 1948 1X 1949 1X 1950 1X 1951 1X 1952 1X 1953 1X 1954 1X 1955 1X 1956 1X 1957 1X 1958 1X 1959 1X 1960 1X 1961 1X 1962 1X 1963 1X 1964 1X 1965 1X 1966 1X 1967 1X 1968 1X 1969 1X 1970 1X 1971 1X 1972 1X 1973 1X 1974 1X 1975 1X 1976 1X 1977 1X 1978 1X 1979 1X 1980 1X 1981 1X 1982 1X 1983 1X 1984 1X 1985 1X 1986 1X 1987 1X 1988 1X 1989 1X 1990 1X 1991 1X 1992 1X 1993 1X 1994 1X 1995 1X 1996 1X 1997 1X 1998 1X 1999 1X 2000 1X 2001 1X 2002 1X 2003 1X 2004 1X 2005 1X 2006 1X 2007 1X 2008 1X 2009 1X 2010 1X 2011 1X 2012 1X 2013 1X 2014 1X 2015 1X 2016 1X 2017 1X 2018 1X 2019 1X 2020 1X 2021 1X 2022 1X 2023 1X 2024 1X 2025 1X 2026 1X 2027 1X 2028 1X 2029 1X 2030 1X 2031 1X 2032 1X 2033 1X 2034 1X 2035 1X 2036 1X 2037 1X 2038 1X 2039 1X 2040 1X 2041 1X 2042 1X 2043 1X 2044 1X 2045 1X 2046 1X 2047 1X 2048 1X 2049 1X 2050 1X 2051 1X 2052 1X 2053 1X 2054 1X 2055 1X 2056 1X 2057 1X 2058 1X 2059 1X 2060 1X 2061 1X 2062 1X 2063 1X 2064 1X 2065 1X 2066 1X 2067 1X 2068 1X 2069 1X 2070 1X 2071 1X 2072 1X 2073 1X 2074 1X 2075 1X 2076 1X 2077 1X 2078 1X 2079 1X 2080 1X 2081 1X 2082 1X 2083 1X 2084 1X 2085 1X 2086 1X 2087 1X 2088 1X 2089 1X 2090 1X 2091 1X 2092 1X 2093 1X 2094 1X 2095 1X 2096 1X 2097 1X 2098 1X 2099 1X 2100 1X 2101 1X 2102 1X 2103 1X 2104 1X 2105 1X 2106 1X 2107 1X 2108 1X 2109 1X 2110 1X 2111 1X 2112 1X 2113 1X 2114 1X 2115 1X 2116 1X 2117 1X 2118 1X 2119 1X 2120 1X 2121 1X 2122 1X 2123 1X 2124 1X 2125 1X 2126 1X 2127 1X 2128 1X 2129 1X 2130 1X 2131 1X 2132 1X 2133 1X 2134 1X 2135 1X 2136 1X 2137 1X 2138 1X 2139 1X 2140 1X 2141 1X 2142 1X 2143 1X 2144 1X 2145 1X 2146 1X 2147 1X 2148 1X 2149 1X 2150 1X 2151 1X 2152 1X 2153 1X 2154 1X 2155 1X 2156 1X 2157 1X 2158 1X 2159 1X 2160 1X 2161 1X 2162 1X 2163 1X 2164 1X 2165 1X 2166 1X 2167 1X 2168 1X 2169 1X 2170 1X 2171 1X 2172 1X 2173 1X 2174 1X 2175 1X 2176 1X 2177 1X 2178 1X 2179 1X 2180 1X 2181 1X 2182 1X 2183 1X 2184 1X 2185 1X 2186 1X 2187 1X 2188 1X 2189 1X 2190 1X 2191 1X 2192 1X 2193 1X 2194 1X 2195 1X 2196 1X 2197 1X 2198 1X 2199 1X 2200 1X 2201 1X 2202 1X 2203 1X 2204 1X 2205 1X 2206 1X 2207 1X 2208 1X 2209 1X 2210 1X 2211 1X 2212 1X 2213 1X 2214 1X 2215 1X 2216 1X 2217 1X 2218 1X 2219 1X 2220 1X 2221 1X 2222 1X 2223 1X 2224 1X 2225 1X 2226 1X 2227 1X 2228 1X 2229 1X 2230 1X 2231 1X 2232 1X 2233 1X 2234 1X 2235 1X 2236 1X 2237 1X 2238 1X 2239 1X 2240 1X 2241 1X 2242 1X 2243 1X 2244 1X 2245 1X 2246 1X 2247 1X 2248 1X 2249 1X 2250 1X 2251 1X 2252 1X 2253 1X 2254 1X 2255 1X 2256 1X 2257 1X 2258 1X 2259 1X 2260 1X 2261 1X 2262 1X 2263 1X 2264 1X 2265 1X 2266 1X 2267 1X 2268 1X 2269 1X 2270 1X 2271 1X 2272 1X 2273 1X 2274 1X 2275 1X 2276 1X 2277 1X 2278 1X 2279 1X 2280 1X 2281 1X 2282 1X 2283 1X 2284 1X 2285 1X 2286 1X 2287 1X 2288 1X 2289 1X 2290 1X 2291 1X 2292 1X 2293 1X 2294 1X 2295 1X 2296 1X 2297 1X 2298 1X 2299 1X 2300 1X 2301 1X 2302 1X 2303 1X 2304 1X 2305 1X 2306 1X 2307 1X 2308 1X 2309 1X 2310 1X 2311 1X 2312 1X 2313 1X 2314 1X 2315 1X 2316 1X 2317 1X 2318 1X 2319 1X 2320 1X 2321 1X 2322 1X 2323 1X 2324 1X 2325 1X 2326 1X 2327 1X 2328 1X 2329 1X 2330 1X 2331 1X 2332 1X 2333 1X 2334 1X 2335 1X 2336 1X 2337 1X 2338 1X 2339 1X 2340 1X 2341 1X 2342 1X 2343 1X 2344 1X 2345 1X 2346 1X 2347 1X 2348 1X 2349 1X 2350 1X 2351 1X 2352 1X 2353 1X 2354 1X 2355 1X 2356 1X 2357 1X 2358 1X 2359 1X 2360 1X 2361 1X 2362 1X 2363 1X 2364 1X 2365 1X 2366 1X 2367 1X 2368 1X 2369 1X 2370 1X 2371 1X 2372 1X 2373 1X 2374 1X 2375 1X 2376 1X 2377 1X 2378 1X 2379 1X 2380 1X 2381 1X 2382 1X 2383 1X 2384 1X 2385 1X 2386 1X 2387 1X 2388 1X 2389 1X 2390 1X 2391 1X 2392 1X 2393 1X 2394 1X 2

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

Client: Plains / Basin Environmental  
Date/ Time: 11-13-08 @ 1712  
Lab ID #: 318613  
Initials: JMF

**Sample Receipt Checklist**

				Client Initials
#1	Temperature of container/ cooler?	<u>Yes</u>	No	3.5 °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? / label	<u>Yes</u>	No	<u>Not Present</u>
#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	<u>Not Applicable</u>
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No	
#11	Containers supplied by ELDT?	<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	<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 318074**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**25-NOV-08**



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

Texas certification numbers:

Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers:

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

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-NOV-08

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

Reference: XENCO Report No: **318074**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318074. 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. 318074 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 318074



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell D VZ G 1 (3'-4')	S	Nov-14-08 11:45		318074-001
Cell D VZ G 2 (3'-4')	S	Nov-14-08 12:00		318074-002
Cell D VZ G 3 (3'-4')	S	Nov-14-08 12:15		318074-003
Cell D VZ G 4 (3'-4')	S	Nov-14-08 12:30		318074-004
Cell D VZ G 5 (3'-4')	S	Nov-14-08 12:45		318074-005



# Certificate of Analysis Summary 318074

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



Project Id: SRS 2004-00061

Contact: Daniel Bryant

Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Nov-18-08 05:12 pm


Report Date: 25-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318074-001	318074-002	318074-003	318074-004	318074-005
	Extracted:	Analyzed:	Units/RL:			Cell D VZ G 1 (3'-4')	Cell D VZ G 2 (3'-4')	Cell D VZ G 3 (3'-4')	Cell D VZ G 4 (3'-4')	Cell D VZ G 5 (3'-4')
BTEX by EPA 8021B	Benzene					Nov-14-08 11:45	Nov-14-08 12:00	Nov-14-08 12:15	Nov-14-08 12:30	Nov-14-08 12:45
	Toluene					Nov-21-08 08:00	Nov-21-08 08:00	Nov-21-08 08:00	Nov-21-08 08:00	Nov-21-08 08:00
	Ethylbenzene					Nov-21-08 14:21	Nov-21-08 14:44	Nov-21-08 16:16	Nov-21-08 16:39	Nov-21-08 17:01
	m,p-Xylenes									
	o-Xylene									
Total Xylenes										
	Total BTEX									
Inorganic Anions by EPA 300\300.1	Extracted:									
	Analyzed:									
Chloride	Units/RL:									
Percent Moisture	Extracted:									
	Analyzed:									
TPH by SW8015 Mod	Units/RL:									
C6-C12 Gasoline Range Hydrocarbons	Extracted:									
	Analyzed:									
C12-C28 Diesel Range Hydrocarbons	Units/RL:									
C28-C35 Oil Range Hydrocarbons	Extracted:									
	Analyzed:									
Total TPH	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.

***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 : 318074,

Project ID: SRS 2004-00061

Lab Batch #: 741216

Sample: 318074-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 741216

Sample: 318074-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 741216

Sample: 318074-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 741216

Sample: 318074-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 741216

Sample: 318074-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318074,

Project ID: SRS 2004-00061

Lab Batch #: 741216

Sample: 318074-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	80-120	
4-Bromofluorobenzene	0.0282	0.0300	94	80-120	

Lab Batch #: 741216

Sample: 318074-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 741216

Sample: 519846-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 741216

Sample: 519846-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 741216

Sample: 519846-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318074,

Project ID: SRS 2004-00061

Lab Batch #: 741130

Sample: 318074-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	60.3	50.0	121	70-135	

Lab Batch #: 741130

Sample: 318074-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

Lab Batch #: 741130

Sample: 318074-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

Lab Batch #: 741130

Sample: 318074-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	61.1	50.0	122	70-135	

Lab Batch #: 741130

Sample: 318074-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	60.3	50.0	121	70-135	

\*\* 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 : 318074,

Project ID: SRS 2004-00061

Lab Batch #: 741130

Sample: 318074-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	61.3	50.0	123	70-135	

Lab Batch #: 741130

Sample: 318074-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	128	100	128	70-135	
o-Terphenyl	61.2	50.0	122	70-135	

Lab Batch #: 741130

Sample: 519805-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	62.7	50.0	125	70-135	

Lab Batch #: 741130

Sample: 519805-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	59.3	50.0	119	70-135	

Lab Batch #: 741130

Sample: 519805-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	61.6	50.0	123	70-135	

\*\* 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 #: 318074

Project ID:

SRS 2004-00061

Lab Batch #: 740955

Sample: 740955-1-BKS

Matrix: Solid

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	10.1	101	80-120	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318074

Analyst: ASA

Lab Batch ID: 741216

Sample: 519846-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/21/2008

Matrix: Solid

Units: mg/kg

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	ND	0.1000	0.1041	104	0.1	0.1041	104	0	70-130	35	
Toluene	ND	0.1000	0.0976	98	0.1	0.0976	98	0	70-130	35	
Ethylbenzene	ND	0.1000	0.0968	97	0.1	0.0968	97	0	71-129	35	
m,p-Xylenes	ND	0.2000	0.1949	97	0.2	0.1949	97	0	70-135	35	
o-Xylene	ND	0.1000	0.0918	92	0.1	0.0918	92	0	71-133	35	

Analyst: BHW

Date Prepared: 11/21/2008

Date Analyzed: 11/23/2008

Lab Batch ID: 741130

Sample: 519805-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
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	910	91	1000	893	89	2	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		ND	1000	938	94	1000	935	94	0	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 #: 313074

Lab Batch #: 740955

Project ID: SRS 2004-00061

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

QC- Sample ID: 313073-002 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	104	95.4	92	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



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318074

Lab Batch ID: 741216

Date Analyzed: 11/22/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 318074-001 S

Date Prepared: 11/21/2008

Batch #: 1 Matrix: Soil

Analyst: ASA

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1107	0.1067	96	0.1107	0.1110	100	4	70-130	35
	Toluene	ND	0.1107	0.0986	89	0.1107	0.1030	93	4	70-130	35
	Ethylbenzene	ND	0.1107	0.0942	85	0.1107	0.1016	92	8	71-129	35
	m,p-Xylenes	ND	0.2213	0.1907	86	0.2213	0.2056	93	8	70-135	35
	o-Xylene	ND	0.1107	0.0931	84	0.1107	0.0982	89	6	71-133	35

Lab Batch ID: 741130

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

QC- Sample ID: 318074-005 S

Date Prepared: 11/21/2008

Batch #: 1 Matrix: Soil

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	1120	963	86	1120	964	86	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1120	1010	90	1120	1030	92	2	70-135	35	

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318074

Lab Batch #: 740955

Project ID: SRS 2004-00061

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

QC- Sample ID: 318073-002 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions by EPA 300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Batch #: 740809

Date Prepared: 11/19/2008

Analyst: BEV

Date Analyzed: 11/19/2008

QC- Sample ID: 318049-001 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	1.79	1.64	9	20	

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



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

Client: Plains / Basin Environmental  
Date/ Time: 11-18-08 @ 1712  
Lab ID #: 318014  
Initials: JMF

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	3.5	°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	<del>Not Present</del>	
#4	Custody Seals intact on sample bottles/ container? / <u>Label</u>	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Not Present	
#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	Not Applicable	
#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	<del>Not Applicable</del>	
#20	VOC samples have zero headspace?	<input checked="" type="radio"/> Yes	<input type="radio"/> 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 318076**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**25-NOV-08**



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

Texas certification numbers:

Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers:

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

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-NOV-08

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

Reference: XENCO Report No: **318076**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318076. 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. 318076 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**

Cdessa 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 318076



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell E VZ G 1 (3'-4')	S	Nov-14-08 13:00		318076-001
Cell E VZ G 2 (3'-4')	S	Nov-14-08 13:15		318076-002
Cell E VZ G 3 (3'-4')	S	Nov-14-08 13:30		318076-003
Cell E VZ G 4 (3'-4')	S	Nov-14-08 13:45		318076-004



# Certificate of Analysis Summary 318076

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS 2004-00061

Contact: Daniel Bryant

Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Nov-18-08 05:12 pm

Report Date: 25-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318076-001	318076-002	318076-003	318076-004
						Cell E VZ G 1 (3'-4')	Cell E VZ G 2 (3'-4')	Cell E VZ G 3 (3'-4')	Cell E VZ G 4 (3'-4')
						SOIL	SOIL	SOIL	SOIL
						Nov-14-08 13:00	Nov-14-08 13:15	Nov-14-08 13:30	Nov-14-08 13:45
						mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
BTEX by EPA 8021B	Extracted:	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00	Nov-20-08 08:00	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
	Analyzed:	Nov-20-08 20:18	Nov-20-08 20:40	Nov-20-08 20:40	Nov-20-08 21:02	ND 0.0022	ND 0.0021	ND 0.0022	ND 0.0022
	Units/RL:					RL	RL	RL	RL
	Benzene					ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
	Toluene					ND 0.0022	ND 0.0021	ND 0.0022	ND 0.0022
Inorganic Anions by EPA 300.300.1	Ethylbenzene					ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
	m,p-Xylenes					ND 0.0022	ND 0.0021	ND 0.0022	ND 0.0022
	o-Xylene					ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0011
	Total Xylenes					ND 0.0033	ND 0.0031	ND 0.0033	ND 0.0022
	Total BTEX					ND 0.0077	ND 0.0072	ND 0.0077	ND 0.0011
Percent Moisture	Extracted:	Nov-20-08 07:02	Nov-20-08 07:02	Nov-20-08 07:02	Nov-20-08 07:02	ND 5.44	ND 5.21	32.1	ND 5.40
	Analyzed:	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	RL	RL	RL	RL
	Units/RL:					RL	RL	RL	RL
	Chloride					8.14	4.02	10.04	7.43
	Percent Moisture					1.00	1.00	1.00	1.00
TPH by SW8015 Mod	Extracted:	Nov-21-08 14:00	Nov-21-08 15:00	Nov-21-08 15:00	Nov-21-08 15:00	ND 16.3	ND 15.6	ND 16.7	ND 16.2
	Analyzed:	Nov-23-08 20:47	Nov-24-08 04:30	Nov-24-08 04:30	Nov-24-08 05:16	RL	RL	RL	RL
	Units/RL:					RL	RL	RL	RL
	C6-C12 Gasoline Range Hydrocarbons					ND 16.3	ND 15.6	ND 16.7	ND 16.2
	C12-C28 Diesel Range Hydrocarbons					ND 16.3	ND 15.6	ND 16.7	ND 16.2
Total TPH	C28-C35 Oil Range Hydrocarbons					ND 16.3	ND 15.6	ND 16.7	ND 16.2
	Total TPH					ND 16.3	ND 15.6	ND 16.7	ND 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  
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.

***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  
12609 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 : 318076,

Project ID: SRS 2004-00061

Lab Batch #: 740971

Sample: 318071-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 740971

Sample: 318071-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 740971

Sample: 318076-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 740971

Sample: 318076-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0182	0.0300	61	80-120	**

Lab Batch #: 740971

Sample: 318076-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318076,

Project ID: SRS 2004-00061

Lab Batch #: 740971

Sample: 519683-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 740971

Sample: 519683-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 740971

Sample: 519683-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 741149

Sample: 318076-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0258	0.0300	86	80-120	

Lab Batch #: 741149

Sample: 318423-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318076,

Project ID: SRS 2004-00061

Lab Batch #: 741149

Sample: 318423-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 741149

Sample: 519811-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0253	0.0300	84	80-120	

Lab Batch #: 741149

Sample: 519811-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0243	0.0300	81	80-120	

Lab Batch #: 741149

Sample: 519811-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 741130

Sample: 318074-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	61.3	50.0	123	70-135	

\*\* 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 : 318076,

Project ID: SRS 2004-00061

Lab Batch #: 741130

Sample: 318074-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		128	100	128	70-135	
o-Terphenyl		61.2	50.0	122	70-135	

Lab Batch #: 741130

Sample: 318076-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		116	100	116	70-135	
o-Terphenyl		58.3	50.0	117	70-135	

Lab Batch #: 741130

Sample: 519805-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		126	100	126	70-135	
o-Terphenyl		62.7	50.0	125	70-135	

Lab Batch #: 741130

Sample: 519805-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		118	100	118	70-135	
o-Terphenyl		59.3	50.0	119	70-135	

Lab Batch #: 741130

Sample: 519805-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		130	100	130	70-135	
o-Terphenyl		61.6	50.0	123	70-135	

\*\* 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 : 318076,

Project ID: SRS 2004-00061

Lab Batch #: 741354

Sample: 318076-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	57.5	50.0	115	70-135	

Lab Batch #: 741354

Sample: 318076-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### 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	58.6	50.0	117	70-135	

Lab Batch #: 741354

Sample: 318076-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	59.2	50.0	118	70-135	

Lab Batch #: 741354

Sample: 318268-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	161	100	161	70-135	**
o-Terphenyl	76.8	50.0	154	70-135	**

Lab Batch #: 741354

Sample: 318268-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	177	100	177	70-135	**
o-Terphenyl	77.5	50.0	155	70-135	**

\*\* 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 : 318076,

Project ID: SRS 2004-00061

Lab Batch #: 741354

Sample: 519924-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		178	100	178	70-135	**
o-Terphenyl		83.5	50.0	167	70-135	**

Lab Batch #: 741354

Sample: 519924-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		146	100	146	70-135	**
o-Terphenyl		72.5	50.0	145	70-135	**

Lab Batch #: 741354

Sample: 519924-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		161	100	161	70-135	**
o-Terphenyl		76.6	50.0	153	70-135	**

\*\* 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 #: 318076

Project ID:

SRS 2004-00061

Lab Batch #: 740955

Sample: 740955-1-BKS

Matrix: Solid

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

## BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300\300.1		Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes							
Chloride		ND	10.0	10.1	101	80-120	

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

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



## BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318076

Analyst: ASA

Lab Batch ID: 740971

Date Prepared: 11/20/2008

Sample: 519683-1-BKS

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/20/2008

Matrix: Solid

Units: mg/kg

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	BTEX by EPA 8021B										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1000	0.0913	91	0.1	0.0932	93	2	70-130	35
	Toluene	ND	0.1000	0.0890	89	0.1	0.0909	91	2	70-130	35
	Ethylbenzene	ND	0.1000	0.0950	95	0.1	0.0966	97	2	71-129	35
	m,p-Xylenes	ND	0.2000	0.1932	97	0.2	0.1960	98	1	70-135	35
	o-Xylene	ND	0.1000	0.0921	92	0.1	0.0935	94	2	71-133	35

Analyst: ASA

Lab Batch ID: 741149

Sample: 519811-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Date Analyzed: 11/23/2008

Matrix: Solid

Units: mg/kg

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	BTEX by EPA 8021B										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1000	0.0971	97	0.1	0.0984	98	1	70-130	35
	Toluene	ND	0.1000	0.0901	90	0.1	0.0912	91	1	70-130	35
	Ethylbenzene	ND	0.1000	0.0870	87	0.1	0.0892	89	2	71-129	35
	m,p-Xylenes	ND	0.2000	0.1746	87	0.2	0.1796	90	3	70-135	35
	o-Xylene	ND	0.1000	0.0846	85	0.1	0.0873	87	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 #: 318076

Analyst: BHW

Lab Batch ID: 741130

Sample: 519805-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/23/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
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	910	91	1000	893	89	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	938	94	1000	935	94	0	70-135	35	

Analyst: BHW

Lab Batch ID: 741354

Sample: 519924-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Date Analyzed: 11/24/2008

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
TPH by SW8015 Mod  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	1200	120	1000	1110	111	8	70-135	35
	C12-C28 Diesel Range Hydrocarbons	ND	1000	1120	112	1000	1170	117	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 #: 318076

Lab Batch #: 740955

Project ID: SRS 2004-00061

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

QC- Sample ID: 318073-002 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	104	95.4	92	80-120	

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

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

All Results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318076

Lab Batch ID: 740971

Date Analyzed: 11/20/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC-Sample ID: 318071-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/20/2008 Analyst: ASA

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Analytes	BTEX by EPA 8021B											
	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	0.1035	0.0698	67	0.1035	0.0710	69	3	70-130	35	X
	Toluene	ND	0.1035	0.0674	65	0.1035	0.0684	66	2	70-130	35	X
	Ethylbenzene	ND	0.1035	0.0701	68	0.1035	0.0710	69	1	71-129	35	X
	m,p-Xylenes	ND	0.2070	0.1425	69	0.2070	0.1439	70	1	70-135	35	X
o-Xylene	ND	0.1035	0.0672	65	0.1035	0.0678	66	2	71-133	35	X	

Lab Batch ID: 741149

Date Analyzed: 11/24/2008

Reporting Units: mg/kg

QC-Sample ID: 318423-001 S

Batch #: 1 Matrix: Soil

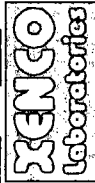
Date Prepared: 11/21/2008 Analyst: ASA

Reporting Units: mg/kg										
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
BTEX by EPA 8021B										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.0776	66	0.1178	0.0789	67	2	70-130	35	X
Toluene	ND	0.0707	60	0.1178	0.0734	62	3	70-130	35	X
Ethylbenzene	ND	0.0669	57	0.1178	0.0685	58	2	71-129	35	X
m,p-Xylenes	ND	0.1348	57	0.2355	0.1383	59	3	70-135	35	X
o-Xylene	ND	0.0620	53	0.1178	0.0643	55	4	71-133	35	X

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

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] =  $100 \cdot (F-A)/E$



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318076

Lab Batch ID: 741130

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC-Sample ID: 318074-005 S

Date Prepared: 11/21/2008

Batch #: 1 Matrix: Soil

Analyst: BHW

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg	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											
Analytes											
C6-C12 Gasoline Range Hydrocarbons	ND	1120	963	86	1120	964	86	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1120	1010	90	1120	1030	92	2	70-135	35	

Lab Batch ID: 741354

Date Analyzed: 11/24/2008

Reporting Units: mg/kg

QC-Sample ID: 318268-001 S

Date Prepared: 11/21/2008

Batch #: 1 Matrix: Soil

Analyst: BHW

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg	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
	ND	1130	1270	112	1130	1340	119	6	70-135	35	
	C6-C12 Gasoline Range Hydrocarbons										
	30.5	1130	1330	115	1130	1280	111	4	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)]

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 #: 318076

Lab Eatch #: 740955

Project ID: SRS 2004-00061

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

QC- Sample ID: 318073-002 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300\300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Eatch #: 740809

Date Prepared: 11/19/2008

Analyst: BEV

Date Analyzed: 11/19/2008

QC- Sample ID: 318049-001 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	1.79	1.64	9	20	

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



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

Client: Plains / Basin Environmental  
 Date/ Time: 11-18-08 @ 1712  
 Lab ID #: 3180116  
 Initials: JMF

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	Yes	No	3,5	°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 318075**

**for**

**PLAINS ALL AMERICAN EH&S**

**Project Manager: Daniel Bryant**

**Lea Station Land Farm**

**SRS 2004-00061**

**25-NOV-08**



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

Texas certification numbers:

Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers:

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

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-NOV-08

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

Reference: XENCO Report No: **318075**  
**Lea Station Land Farm**  
Project Address: Lea County, NM

**Daniel Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 318075. 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. 318075 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 318075



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Land Farm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Cell F VZ G 1 (3'-4')	S	Nov-14-08 14:15		318075-001
Cell F VZ G 2 (3'-4')	S	Nov-14-08 14:30		318075-002
Cell F VZ G 3 (3'-4')	S	Nov-14-08 14:45		318075-003
Cell F VZ G 4 (3'-4')	S	Nov-14-08 15:00		318075-004
Cell F VZ G 5 (3'-4')	S	Nov-14-08 15:15		318075-005



# Certificate of Analysis Summary 318075

PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS 2004-00061

Contact: Daniel Bryant

Project Location: Lea County, NM

Project Name: Lea Station Land Farm

Date Received in Lab: Tue Nov-18-08 05:12 pm

Report Date: 25-NOV-08

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	318075-001	318075-002	318075-003	318075-004	318075-005
	Field Id: Depth: Matrix: Sampled:	Cell F VZ G 1 (3'-4') SOIL Nov-14-08 14:15	Cell F VZ G 2 (3'-4') SOIL Nov-14-08 14:30	Cell F VZ G 3 (3'-4') SOIL Nov-14-08 14:45	Cell F VZ G 4 (3'-4') SOIL Nov-14-08 15:00	Cell F VZ G 5 (3'-4') SOIL Nov-14-08 15:15
BTEX by EPA 8021B	Extracted:	Nov-21-08 08:00	Nov-21-08 08:00	Nov-21-08 08:00	Nov-24-08 08:15	Nov-21-08 08:00
	Analyzed:	Nov-21-08 17:23	Nov-22-08 13:33	Nov-22-08 13:55	Nov-24-08 13:21	Nov-22-08 15:25
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
	Toluene	ND 0.0021	ND 0.0020	ND 0.0022	ND 0.0020	ND 0.0020
Inorganic Anions by EPA 300.300.1	Ethylbenzene	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
	m,p-Xylenes	ND 0.0021	ND 0.0020	ND 0.0022	ND 0.0020	ND 0.0020
	o-Xylene	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
	Total Xylenes	ND 0.0021	ND 0.0020	ND 0.0022	ND 0.0020	ND 0.0020
	Total BTEX	ND 0.0011	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
Percent Moisture	Extracted:	Nov-20-08 07:02	Nov-20-08 07:02	Nov-20-08 07:02	Nov-20-08 07:02	Nov-20-08 07:02
	Analyzed:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:	ND 5.29	ND 5.10	ND 5.52	ND 5.04	ND 5.02
	Chloride	ND	ND	ND	ND	ND
	Percent Moisture	% RL	% RL	% RL	% RL	% RL
TPH by SW8015 Mod	Extracted:	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00	Nov-19-08 17:00
	Analyzed:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:	5.51 1.00	2.01 1.00	9.43 1.00	ND 1.00	ND 1.00
	C6-C12 Gasoline Range Hydrocarbons	Nov-21-08 14:00	Nov-21-08 14:00	Nov-21-08 14:00	Nov-21-08 14:00	Nov-21-08 14:00
	C12-C28 Diesel Range Hydrocarbons	Nov-23-08 18:46	Nov-23-08 19:10	Nov-23-08 19:34	Nov-23-08 19:58	Nov-23-08 20:23
Total TPH	Extracted:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Analyzed:	ND 15.9	ND 15.3	ND 16.6	ND 15.1	ND 15.1
	Units/RL:	ND	ND	ND	ND	ND
	C28-C35 Oil Range Hydrocarbons	ND 15.9	ND 15.3	ND 16.6	ND 15.1	ND 15.1
	Total TPH	ND 15.9	ND 15.3	ND 16.6	ND 15.1	ND 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  
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.

***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 : 318075,

Project ID: SRS 2004-00061

Lab Batch #: 741216

Sample: 318074-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0277	0.0300	92	80-120	
4-Bromofluorobenzene		0.0309	0.0300	103	80-120	

Lab Batch #: 741216

Sample: 318074-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0276	0.0300	92	80-120	
4-Bromofluorobenzene		0.0286	0.0300	95	80-120	

Lab Batch #: 741216

Sample: 318075-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0325	0.0300	108	80-120	
4-Bromofluorobenzene		0.0275	0.0300	92	80-120	

Lab Batch #: 741216

Sample: 318075-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0327	0.0300	109	80-120	
4-Bromofluorobenzene		0.0272	0.0300	91	80-120	

Lab Batch #: 741216

Sample: 318075-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0323	0.0300	108	80-120	
4-Bromofluorobenzene		0.0268	0.0300	89	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318075,

Project ID: SRS 2004-00061

Lab Batch #: 741216

Sample: 318075-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0322	0.0300	107	80-120	
4-Bromofluorobenzene		0.0265	0.0300	88	80-120	

Lab Batch #: 741216

Sample: 519846-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 741216

Sample: 519846-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0330	0.0300	110	80-120	
4-Bromofluorobenzene		0.0280	0.0300	93	80-120	

Lab Batch #: 741216

Sample: 519846-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0278	0.0300	93	80-120	
4-Bromofluorobenzene		0.0265	0.0300	88	80-120	

Lab Batch #: 741347

Sample: 318075-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0327	0.0300	109	80-120	
4-Bromofluorobenzene		0.0265	0.0300	88	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318075,

Project ID: SRS 2004-00061

Lab Batch #: 741347

Sample: 318075-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0324	0.0300	108	80-120	
4-Bromofluorobenzene		0.0294	0.0300	98	80-120	

Lab Batch #: 741347

Sample: 318075-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0295	0.0300	98	80-120	
4-Bromofluorobenzene		0.0289	0.0300	96	80-120	

Lab Batch #: 741347

Sample: 519915-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### 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		0.0271	0.0300	90	80-120	

Lab Batch #: 741347

Sample: 519915-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0340	0.0300	113	80-120	
4-Bromofluorobenzene		0.0278	0.0300	93	80-120	

Lab Batch #: 741347

Sample: 519915-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0284	0.0300	95	80-120	
4-Bromofluorobenzene		0.0315	0.0300	105	80-120	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318075,

Project ID: SRS 2004-00061

Lab Batch #: 741130

Sample: 318074-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		125	100	125	70-135	
o-Terphenyl		61.3	50.0	123	70-135	

Lab Batch #: 741130

Sample: 318074-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		128	100	128	70-135	
o-Terphenyl		61.2	50.0	122	70-135	

Lab Batch #: 741130

Sample: 318075-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		119	100	119	70-135	
o-Terphenyl		59.5	50.0	119	70-135	

Lab Batch #: 741130

Sample: 318075-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		119	100	119	70-135	
o-Terphenyl		58.6	50.0	117	70-135	

Lab Batch #: 741130

Sample: 318075-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		118	100	118	70-135	
o-Terphenyl		59.2	50.0	118	70-135	

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Land Farm

Work Orders : 318075,

Project ID: SRS 2004-00061

Lab Batch #: 741130

Sample: 318075-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		116	100	116	70-135	
o-Terphenyl		56.4	50.0	113	70-135	

Lab Batch #: 741130

Sample: 318075-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		118	100	118	70-135	
o-Terphenyl		58.8	50.0	118	70-135	

Lab Batch #: 741130

Sample: 519805-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		126	100	126	70-135	
o-Terphenyl		62.7	50.0	125	70-135	

Lab Batch #: 741130

Sample: 519805-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		118	100	118	70-135	
o-Terphenyl		59.3	50.0	119	70-135	

Lab Batch #: 741130

Sample: 519805-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		130	100	130	70-135	
o-Terphenyl		61.6	50.0	123	70-135	

\*\* 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 #: 318075

Project ID:

SRS 2004-00061

Lab Batch #: 740955

Sample: 740955-1-BKS

Matrix: Solid

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	ND	10.0	10.1	101	80-120	

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

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



# BS / BSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 319075

Analyst: ASA

Lab Batch ID: 741216

Sample: 519846-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/21/2008

Matrix: Solid

Units: mg/kg

Units: mg/kg												
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		ND	0.1000	0.1041	104	0.1	0.1041	104	0	70-130	35	
Toluene		ND	0.1000	0.0976	98	0.1	0.0976	98	0	70-130	35	
Ethylbenzene		ND	0.1000	0.0968	97	0.1	0.0968	97	0	71-129	35	
m,p-Xylenes		ND	0.2000	0.1949	97	0.2	0.1949	97	0	70-135	35	
o-Xylene		ND	0.1000	0.0918	92	0.1	0.0918	92	0	71-133	35	

Analyst: ASA

Lab Batch ID: 741347

Sample: 519915-1-BKS

Date Prepared: 11/24/2008

Batch #: 1

Date Analyzed: 11/24/2008

Matrix: Solid

Units: mg/kg

Units: mg/kg												
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Analytes	BTEX by EPA 8021B											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1000	0.1064	106	0.1	0.1062	106	0	70-130	35	
	Toluene	ND	0.1000	0.1019	102	0.1	0.1040	104	2	70-130	35	
	Ethylbenzene	ND	0.1000	0.1011	101	0.1	0.1066	107	5	71-129	35	
	m,p-Xylenes	ND	0.2000	0.2056	103	0.2	0.2181	109	6	70-135	35	
	o-Xylene	ND	0.1000	0.0969	97	0.1	0.1025	103	6	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 #: 319075

Analyst: BHW

Lab Batch ID: 741130

Sample: 519805-1-BKS

Date Prepared: 11/21/2008

Batch #: 1

Project ID: SRS 2004-00061

Date Analyzed: 11/23/2008

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
Analytes												
C6-C12 Gasoline Range Hydrocarbons		ND	1000	910	91	1000	893	89	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	938	94	1000	935	94	0	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 #: 318075

Lab Batch #: 740955

Project ID: SRS 2004-00061

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

QC- Sample ID: 318073-002 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	104	95.4	92	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



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318075

Lab Batch ID: 741216

Date Analyzed: 11/22/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 318074-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/21/2008

Analyst: ASA

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1107	0.1067	96	0.1107	0.1110	100	4	70-130	35	
	Toluene	ND	0.1107	0.0986	89	0.1107	0.1030	93	4	70-130	35	
	Ethylbenzene	ND	0.1107	0.0942	85	0.1107	0.1016	92	8	71-129	35	
	m,p-Xylenes	ND	0.2213	0.1907	86	0.2213	0.2056	93	8	70-135	35	
	o-Xylene	ND	0.1107	0.0931	84	0.1107	0.0982	89	6	71-133	35	

Lab Batch ID: 741347

Date Analyzed: 11/24/2008

Reporting Units: mg/kg

QC- Sample ID: 318075-004 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/24/2008

Analyst: ASA

Reporting Units: mg/kg												
BTEX by EPA 8021B  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	0.0860	85	0.1008	0.0909	90	6	70-130	35	
	Toluene	ND	0.1008	0.0809	80	0.1008	0.0854	85	6	70-130	35	
	Ethylbenzene	ND	0.1008	0.0768	76	0.1008	0.0847	84	10	71-129	35	
	m,p-Xylenes	ND	0.2017	0.1606	80	0.2017	0.1728	86	7	70-135	35	
	o-Xylene	ND	0.1008	0.0770	76	0.1008	0.0823	82	8	71-133	35	

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

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

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



# Form 3 - MS / MSD Recoveries



Project Name: Lea Station Land Farm

Work Order #: 318075

Lab Batch ID: 741130

Date Analyzed: 11/23/2008

Reporting Units: mg/kg

Project ID: SRS 2004-00061

QC- Sample ID: 318074-005 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/21/2008

Analyst: BHW

## 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	1120	963	86	1120	964	86	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1120	1010	90	1120	1030	92	2	70-135	35	

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

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

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



## Sample Duplicate Recovery



Project Name: Lea Station Land Farm

Work Order #: 318075

Lab Batch #: 740955

Project ID: SRS 2004-00061

Date Analyzed: 11/20/2008

Date Prepared: 11/20/2008

Analyst: LATCOR

QC- Sample ID: 318073-002 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions by EPA 300/300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	ND	ND	NC	20	

Lab Batch #: 740809

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318049-001 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	1.79	1.64	9	20	

Lab Batch #: 740815

Date Analyzed: 11/19/2008

Date Prepared: 11/19/2008

Analyst: BEV

QC- Sample ID: 318075-002 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	2.01	2.49	21	20	F

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



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

Client: Plains / Basin Environmental  
Date/ Time: 11-18-08 @ 1712  
Lab ID #: 3180115  
Initials: JMF

**Sample Receipt Checklist**

			Client Initials
#1 Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	No	3.5 °C
#2 Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	No	
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/> Yes	No	<input checked="" type="checkbox"/> Not Present
#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)?	Yes	No	<input checked="" type="checkbox"/> Not Applicable
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable

**Variance Documentation**

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

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

Corrective Action Taken:

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

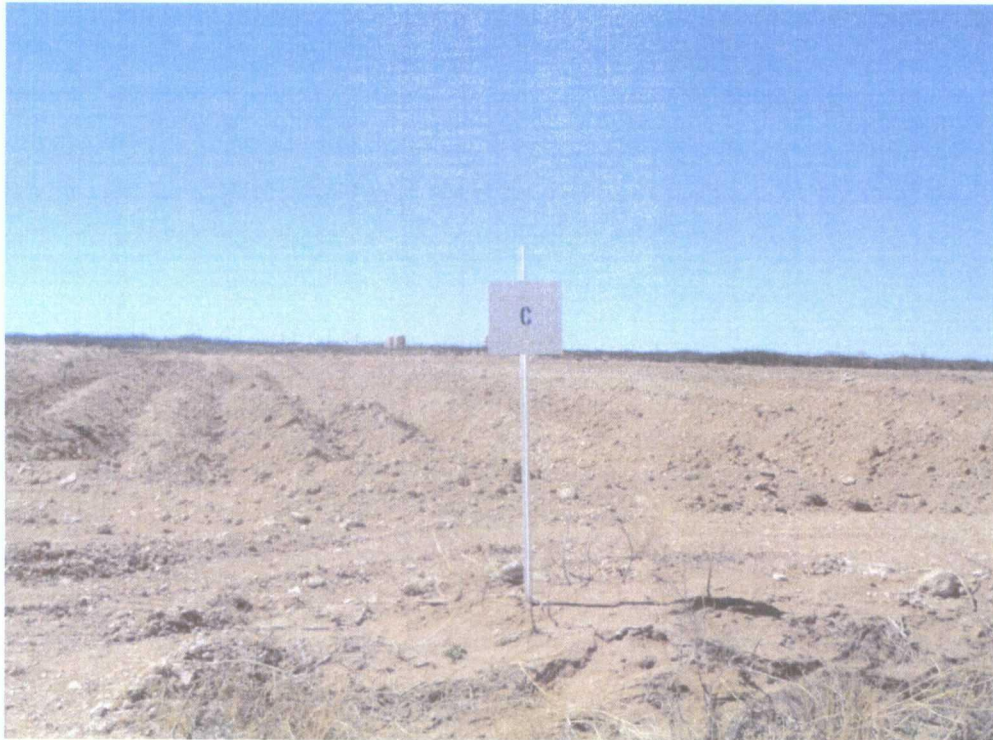


Lea Station Landfarm Cell A



Lea Station Landfarm Cell B



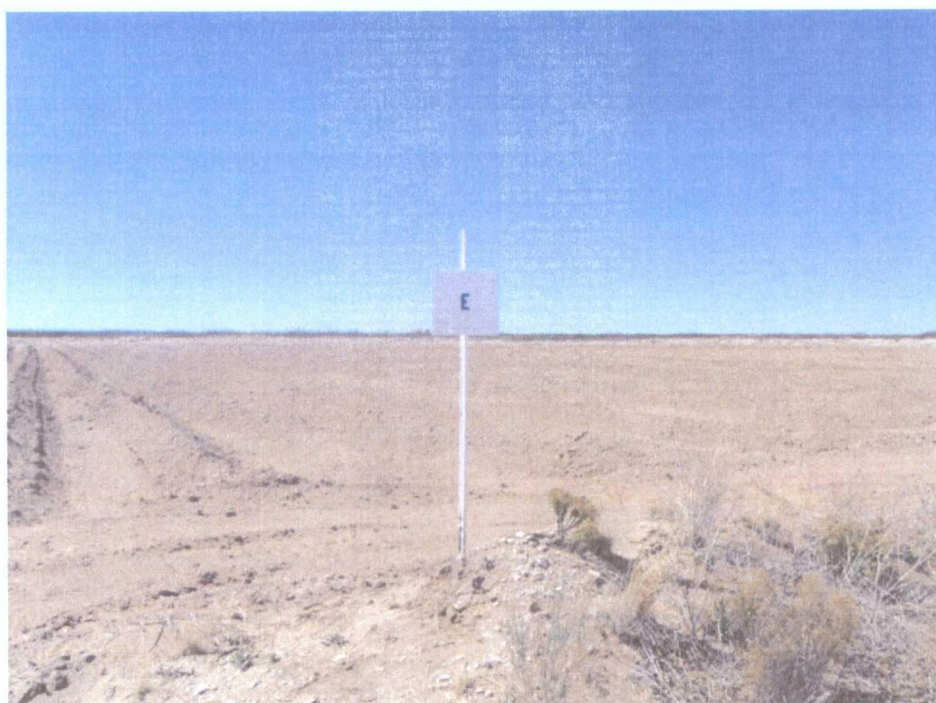


Lea Station Landfarm Cell C



Lea Station Landfarm Cell D





Lea Station Landfarm Cell E



Lea Station Landfarm Cell F