

**GW - 351  
Landfarm  
MONITORING  
REPORTS  
(Analytical  
Results)  
2010**

# **Analytical Report 375947**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**10-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



10-JUN-10

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

Reference: XENCO Report No: **375947**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 375947. 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. 375947 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,

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**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 375947



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell A G-1	S	Jun-07-10 08:00		375947-001
TZ Cell A G-2	S	Jun-07-10 08:05		375947-002
TZ Cell A G-3	S	Jun-07-10 08:10		375947-003
TZ Cell A G-4	S	Jun-07-10 08:15		375947-004
TZ Cell A G-5	S	Jun-07-10 08:20		375947-005





## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 375947*

*Report Date: 10-JUN-10*

*Date Received: 06/07/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-809677 Percent Moisture

None

Batch: LBA-809858 TPH by SW8015 Mod  
SW8015MOD\_NM

Batch 809858, C12-C28 Diesel Range Hydrocarbons RPD was outside QC limits.  
Samples affected are: 375947-002, -005, -003, -001, -004

SW8015MOD\_NM

Batch 809858, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected;  
data not confirmed by re-analysis  
Samples affected are: 376021-001 S.

SW8015MOD\_NM

Batch 809858, C12-C28 Diesel Range Hydrocarbons recovered above QC limits in the Matrix Spike. C6-C12 Gasoline Range Hydrocarbons recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.  
Samples affected are: 375947-002, -005, -003, -001, -004.  
The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons, C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits

Batch: LBA-809945 Inorganic Anions by EPA 300

None

# Certificate of Analysis Summary 375947

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-07-10 04:15 pm


Report Date: 10-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	375947-001	375947-002	375947-003	375947-004	375947-005
	Field Id:	TZ Cell A G-1	TZ Cell A G-2	TZ Cell A G-3	TZ Cell A G-4	TZ Cell A G-5
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jun-07-10 08:00	Jun-07-10 08:05	Jun-07-10 08:10	Jun-07-10 08:15	Jun-07-10 08:20
Inorganic Anions In Soil by E300	Extracted:					
	Analyzed:	Jun-08-10 18:05	Jun-08-10 18:05	Jun-08-10 18:05	Jun-08-10 18:05	Jun-08-10 18:05
	Units/RL:	mg/kg RL 32.3 5.15	mg/kg RL 47.1 5.17	mg/kg RL 36.5 5.14	mg/kg RL 11.4 5.17	mg/kg RL 21.4 5.15
Chloride						
Percent Moisture	Extracted:					
	Analyzed:	Jun-08-10 13:10	Jun-08-10 13:10	Jun-08-10 13:10	Jun-08-10 13:10	Jun-08-10 13:10
	Units/RL:	% RL 2.85 1.00	% RL 3.21 1.00	% RL 2.70 1.00	% RL 3.35 1.00	% RL 2.86 1.00
Percent Moisture						
TPH by SW8015 Mod	Extracted:	Jun-08-10 12:45	Jun-08-10 12:45	Jun-08-10 12:45	Jun-08-10 12:45	Jun-08-10 12:45
	Analyzed:	Jun-08-10 23:20	Jun-08-10 23:46	Jun-09-10 00:13	Jun-09-10 00:40	Jun-09-10 01:06
	Units/RL:	mg/kg RL ND 15.4	mg/kg RL ND 15.6	mg/kg RL ND 15.4	mg/kg RL ND 15.4	mg/kg RL ND 15.5
C6-C12 Gasoline Range Hydrocarbons						
C12-C28 Diesel Range Hydrocarbons		786 15.4	1200 15.6	901 15.4	124 15.4	428 15.5
C28-C35 Oil Range Hydrocarbons		146 15.4	174 15.6	147 15.4	35.5 15.4	92.7 15.5
Total TPH		932 15.4	1374 15.6	1048 15.4	160 15.4	521 15.5

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

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Brent Barron, II  
Odessa Laboratory Manager

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375947,

Project ID: 2004-00061

Lab Batch #: 809858

Sample: 565239-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 21:59

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	51.5	50.2	103	70-135	

Lab Batch #: 809858

Sample: 565239-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 22:26

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.2	49.8	103	70-135	

Lab Batch #: 809858

Sample: 565239-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 22:53

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	55.3	50.0	111	70-135	

Lab Batch #: 809858

Sample: 375947-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/08/10 23:20

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	56.0	50.0	112	70-135	

Lab Batch #: 809858

Sample: 375947-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/08/10 23:46

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	124	101	123	70-135	
o-Terphenyl	59.0	50.3	117	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375947,

Project ID: 2004-00061

Lab Batch #: 809858

Sample: 375947-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 00:13

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	121	99.7	121	70-135	
o-Terphenyl	57.8	49.9	116	70-135	

Lab Batch #: 809858

Sample: 375947-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 00:40

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	113	99.5	114	70-135	
o-Terphenyl	54.2	49.8	109	70-135	

Lab Batch #: 809858

Sample: 375947-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 01:06

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	115	101	114	70-135	
o-Terphenyl	54.8	50.3	109	70-135	

Lab Batch #: 809858

Sample: 376021-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 08:40

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	139	99.7	139	70-135	*
o-Terphenyl	64.1	49.9	128	70-135	

Lab Batch #: 809858

Sample: 376021-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 09:08

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Project Name: Lea Station Landfarm

Work Order #: 375947

Analyst: LATCOR

Lab Batch ID: 809945

Sample: 809945-1-BKS

Date Prepared: 06/08/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/08/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.18	92	10	9.81	98	7	75-125	20	

Analyst: BEV

Lab Batch ID: 809858

Sample: 565239-1-BKS

Date Prepared: 06/08/2010

Batch #: 1

Date Analyzed: 06/08/2010

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg	TPH by SW8015 Mod	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
		[A]	[B]	[C]	[D]	[E]	[F]	[G]				
		Analytes										
	C6-C12 Gasoline Range Hydrocarbons	ND	1000	1170	117	995	1170	118	0	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	ND	1000	998	100	995	1090	110	9	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 375947

Lab Batch #: 809945

Project ID: 2004-00061

Date Analyzed: 06/08/2010

Date Prepared: 06/08/2010

Analyst: LATCOR

QC- Sample ID: 375947-001 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	32.3	103	145	109	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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order # : 375947

Lab Batch ID: 809858

Date Analyzed: 06/09/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376021-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/08/2010

Analyst: BEV

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	ND	1170	1780	152	1170	1630	139	9	70-135	35	X
	C12-C28 Diesel Range Hydrocarbons	406	1170	3230	241	1170	1570	99	69	70-135	35	XF

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

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

ND Not Detected, J Present Below Reporting Limit, B Present in Blank, NR Not Requested, I Interference, NA Not

ApplicableN See Narrative, EQL Estimated Quantitation Limit



**Project Name: Lea Station Landfarm**

**Work Order #: 375947**

**Lab Batch #: 809945**

**Project ID: 2004-00061**

**Date Analyzed: 06/08/2010**

**Date Prepared: 06/08/2010**

**Analyst: LATCOR**

**QC- Sample ID: 375947-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	32.3	31.2	3	20	

**Lab Batch #: 809677**

**Date Analyzed: 06/08/2010**

**Date Prepared: 06/08/2010**

**Analyst: JLG**

**QC- Sample ID: 375808-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.99	3.07	3	20	

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



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-7-10 16:15  
Lab ID #: 375947  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>4.1</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 375948**

**for**

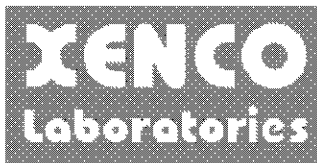
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**10-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

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Louisiana (04176), USDA (P330-07-00105)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



10-JUN-10

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

Reference: XENCO Report No: **375948**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 375948. 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. 375948 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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*Certified and approved by numerous States and Agencies.*

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## Sample Cross Reference 375948



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell B G-1	S	Jun-07-10 08:45		375948-001
TZ Cell B G-2	S	Jun-07-10 08:50		375948-002
TZ Cell B G-3	S	Jun-07-10 08:55		375948-003
TZ Cell B G-4	S	Jun-07-10 09:00		375948-004



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 375948*

*Report Date: 10-JUN-10*

*Date Received: 06/07/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-809677 Percent Moisture

None

Batch: LBA-809858 TPH by SW8015 Mod  
SW8015MOD\_NM

Batch 809858, C12-C28 Diesel Range Hydrocarbons RPD was outside QC limits.  
Samples affected are: 375948-002, -001, -004, -003

SW8015MOD\_NM

Batch 809858, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected;  
data not confirmed by re-analysis  
Samples affected are: 376021-001 S.

SW8015MOD\_NM

Batch 809858, C12-C28 Diesel Range Hydrocarbons recovered above QC limits in the Matrix Spike. C6-C12 Gasoline Range Hydrocarbons recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.  
Samples affected are: 375948-002, -001, -004, -003.  
The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons, C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits

Batch: LBA-809945 Inorganic Anions by EPA 300  
None

# Certificate of Analysis Summary 375948

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-07-10 04:15 pm

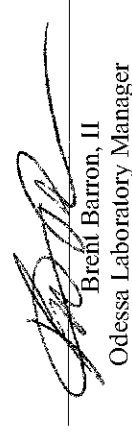
Report Date: 10-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		375948-001		375948-002		375948-003		375948-004	
	Field Id:	Depth:	TZ Cell B G-1	SOIL	TZ Cell B G-2	SOIL	TZ Cell B G-3	SOIL	TZ Cell B G-4	SOIL
Inorganic Anions In Soil by E300	Matrix:		Jun-07-10 08:45		Jun-07-10 08:50		Jun-07-10 08:55		Jun-07-10 09:00	
	Sampled:									
Chloride	Extracted:		Jun-08-10 18:05		Jun-08-10 18:05		Jun-08-10 18:05		Jun-08-10 18:05	
	Analyzed:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Percent Moisture	Units/RL:		8.95	5.17	12.1	5.23	15.5	5.31	17.3	5.12
	Extracted:									
Percent Moisture	Analyzed:		Jun-08-10 13:10		Jun-08-10 13:10		Jun-08-10 13:10		Jun-08-10 13:10	
	Units/RL:		%	RL	%	RL	%	RL	%	RL
TPH by SW8015 Mod	Extracted:		Jun-08-10 12:45		Jun-08-10 12:45		Jun-08-10 12:45		Jun-08-10 12:45	
	Analyzed:		Jun-09-10 01:32		Jun-09-10 01:59		Jun-09-10 02:26		Jun-09-10 02:53	
C6-C12 Gasoline Range Hydrocarbons	Units/RL:		ND	15.4	ND	15.6	ND	16.0	ND	15.3
	Extracted:									
C12-C28 Diesel Range Hydrocarbons	Analyzed:		1430	15.4	837	15.6	230	16.0	202	15.3
	Units/RL:									
C28-C35 Oil Range Hydrocarbons	Extracted:		199	15.4	123	15.6	41.7	16.0	47.8	15.3
	Analyzed:									
Total TPH	Units/RL:		1629	15.4	960	15.6	272	16.0	250	15.3

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

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Brent Barron, II  
Odessa Laboratory Manager



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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375948,

Project ID: 2004-00061

Lab Batch #: 809858

Sample: 565239-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 21:59

### 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	51.5	50.2	103	70-135	

Lab Batch #: 809858

Sample: 565239-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 22:26

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.2	49.8	103	70-135	

Lab Batch #: 809858

Sample: 565239-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 22:53

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

Lab Batch #: 809858

Sample: 375948-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 01:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.6	116	70-135	
o-Terphenyl	56.7	49.8	114	70-135	

Lab Batch #: 809858

Sample: 375948-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 01:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	56.0	49.8	112	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375948,

Project ID: 2004-00061

Lab Batch #: 809858

Sample: 375948-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 02:26

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	53.6	50.2	107	70-135	

Lab Batch #: 809858

Sample: 375948-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 02:53

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	99.8	113	70-135	
o-Terphenyl	54.5	49.9	109	70-135	

Lab Batch #: 809858

Sample: 376021-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 08:40

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	139	99.7	139	70-135	*
o-Terphenyl	64.1	49.9	128	70-135	

Lab Batch #: 809858

Sample: 376021-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 09:08

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Project Name: Lea Station Landfarm

**Work Order #:** 375948

**Analyst:** LATCOR

**Lab Batch ID:** 809945

**Sample:** 809945-1-BKS

**Date Prepared:** 06/08/2010

**Batch #:** 1

**Project ID:** 2004-00061

**Date Analyzed:** 06/08/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.18	92	10	9.81	98	7	75-125	20	

**Analyst:** BEV

**Lab Batch ID:** 809858

**Sample:** 565239-1-BKS

**Date Prepared:** 06/08/2010

**Batch #:** 1

**Date Analyzed:** 06/08/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg	TPH by SW8015 Mod	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
		[A]	[B]	[C]	[D]	[E]	[F]	[G]				
		Analytes										
	C6-C12 Gasoline Range Hydrocarbons	ND	1000	1170	117	995	1170	118	0	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	ND	1000	998	100	995	1090	110	9	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 375948

Lab Batch #: 809945

Project ID: 2004-00061

Date Analyzed: 06/08/2010

Date Prepared: 06/08/2010

Analyst: LATCOR

QC- Sample ID: 375947-001 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	32.3	103	145	109	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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order # : 375948

Lab Batch ID: 809858

Date Analyzed: 06/09/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376021-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/08/2010

Analyst: BEV

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	ND	1170	1780	152	1170	1630	139	9	70-135	35	X
	C12-C28 Diesel Range Hydrocarbons	406	1170	3230	241	1170	1570	99	69	70-135	35	XF

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  
ApplicableN See Narrative, EQL Estimated Quantitation Limit

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

**Project Name: Lea Station Landfarm**

**Work Order #: 375948**

**Lab Batch #: 809945**

**Project ID: 2004-00061**

**Date Analyzed: 06/08/2010**

**Date Prepared: 06/08/2010**

**Analyst: LATCOR**

**QC- Sample ID: 375947-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	32.3	31.2	3	20	

**Lab Batch #: 809677**

**Date Analyzed: 06/08/2010**

**Date Prepared: 06/08/2010**

**Analyst: JLG**

**QC- Sample ID: 375808-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.99	3.07	3	20	

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





**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-7-10 16:15  
Lab ID #: 375948  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>4.1</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 375949**

**for**

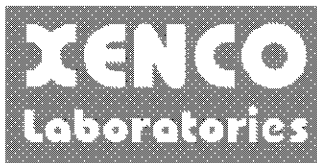
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**10-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



10-JUN-10

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

Reference: XENCO Report No: **375949**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 375949. 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. 375949 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

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## Sample Cross Reference 375949



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell D G-1	S	Jun-07-10 09:25		375949-001
TZ Cell D G-2	S	Jun-07-10 09:30		375949-002
TZ Cell D G-3	S	Jun-07-10 09:35		375949-003
TZ Cell D G-4	S	Jun-07-10 09:40		375949-004
TZ Cell D G-5	S	Jun-07-10 09:45		375949-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 375949*

*Report Date: 10-JUN-10*

*Date Received: 06/07/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-809677 Percent Moisture

None

Batch: LBA-809858 TPH by SW8015 Mod

SW8015MOD\_NM

Batch 809858, C12-C28 Diesel Range Hydrocarbons RPD was outside QC limits.

Samples affected are: 375949-002, -005, -004, -001, -003

SW8015MOD\_NM

Batch 809858, C12-C28 Diesel Range Hydrocarbons recovered above QC limits in the Matrix Spike. C6-C12 Gasoline Range Hydrocarbons recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 375949-002, -005, -004, -001, -003.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons, C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits

SW8015MOD\_NM

Batch 809858, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376021-001 S.

Batch: LBA-809945 Inorganic Anions by EPA 300

None

# Certificate of Analysis Summary 375949

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-07-10 04:15 pm


Report Date: 10-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	375949-001	375949-002	375949-003	375949-004	375949-005
	Field Id:	TZ Cell D G-1	TZ Cell D G-2	TZ Cell D G-3	TZ Cell D G-4	TZ Cell D G-5
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jun-07-10 09:25	Jun-07-10 09:30	Jun-07-10 09:35	Jun-07-10 09:40	Jun-07-10 09:45
Inorganic Anions In Soil by E300	Extracted:					
	Analyzed:	Jun-08-10 18:05	Jun-08-10 18:05	Jun-08-10 18:05	Jun-08-10 18:05	Jun-08-10 18:05
	Units/RL:	mg/kg RL 35.1 5.11	mg/kg RL 31.3 5.11	mg/kg RL 50.2 5.12	mg/kg RL 20.6 5.10	mg/kg RL 10.6 5.08
Percent Moisture	Extracted:					
	Analyzed:	Jun-08-10 13:10	Jun-08-10 13:10	Jun-08-10 13:10	Jun-08-10 13:10	Jun-08-10 13:10
	Units/RL:	% RL 2.19 1.00	% RL 2.23 1.00	% RL 2.38 1.00	% RL 2.00 1.00	% RL 1.54 1.00
TPH by SW8015 Mod	Extracted:	Jun-08-10 12:45	Jun-08-10 12:45	Jun-08-10 12:45	Jun-08-10 12:45	Jun-08-10 12:45
	Analyzed:	Jun-09-10 03:20	Jun-09-10 04:13	Jun-09-10 04:40	Jun-09-10 05:06	Jun-09-10 05:33
	Units/RL:	mg/kg RL ND 15.4	mg/kg RL ND 15.4	mg/kg RL ND 15.4	mg/kg RL ND 15.3	mg/kg RL ND 15.2
C6-C12 Gasoline Range Hydrocarbons		707	685	1230	1230	1260
		112	99.5	156	150	140
		819	785	1386	1380	1400
C12-C28 Diesel Range Hydrocarbons						
C28-C35 Oil Range Hydrocarbons						
Total TPH						

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

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Brent Barron, II  
Odessa Laboratory Manager

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375949,

Project ID: 2004-00061

Lab Batch #: 809858

Sample: 565239-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 21:59

### 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	51.5	50.2	103	70-135	

Lab Batch #: 809858

Sample: 565239-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 22:26

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.2	49.8	103	70-135	

Lab Batch #: 809858

Sample: 565239-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 22:53

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

Lab Batch #: 809858

Sample: 375949-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 03:20

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	101	114	70-135	
o-Terphenyl	55.2	50.3	110	70-135	

Lab Batch #: 809858

Sample: 375949-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 04:13

### 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	54.7	50.2	109	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375949,

Project ID: 2004-00061

Lab Batch #: 809858

Sample: 375949-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 04:40

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	55.0	50.2	110	70-135	

Lab Batch #: 809858

Sample: 375949-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 05:06

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	116	99.7	116	70-135	
o-Terphenyl	56.9	49.9	114	70-135	

Lab Batch #: 809858

Sample: 375949-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 05:33

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	99.5	111	70-135	
o-Terphenyl	52.8	49.8	106	70-135	

Lab Batch #: 809858

Sample: 376021-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 08:40

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	139	99.7	139	70-135	*
o-Terphenyl	64.1	49.9	128	70-135	

Lab Batch #: 809858

Sample: 376021-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 09:08

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Project Name: Lea Station Landfarm

**Work Order #:** 375949

**Analyst:** LATCOR

**Lab Batch ID:** 809945

**Sample:** 809945-1-BKS

**Date Prepared:** 06/08/2010

**Batch #:** 1

**Project ID:** 2004-00061

**Date Analyzed:** 06/08/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions In Soil by E300  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
	Chloride	ND	10.0	9.18	92	10	9.81	98	7	75-125	20

**Analyst:** BEV

**Lab Batch ID:** 809858

**Sample:** 565239-1-BKS

**Date Prepared:** 06/08/2010

**Batch #:** 1

**Date Analyzed:** 06/08/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	TPH by SW8015 Mod	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]				
	C6-C12 Gasoline Range Hydrocarbons		ND	1000	1170	117	995	1170	118	0	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		ND	1000	998	100	995	1090	110	9	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 375949

Lab Batch #: 809945

Project ID: 2004-00061

Date Analyzed: 06/08/2010

Date Prepared: 06/08/2010

Analyst: LATCOR

QC- Sample ID: 375947-001 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	32.3	103	145	109	75-125	

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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order # : 375949

Lab Batch ID: 809858

Date Analyzed: 06/09/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376021-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/08/2010

Analyst: BEV

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	ND	1170	1780	152	1170	1630	139	9	70-135	35	X
	C12-C28 Diesel Range Hydrocarbons	406	1170	3230	241	1170	1570	99	69	70-135	35	XF

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

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

ND Not Detected, J Present Below Reporting Limit, B Present in Blank, NR Not Requested, I Interference, NA Not

ApplicableN See Narrative, EQL Estimated Quantitation Limit

**Project Name: Lea Station Landfarm**

**Work Order #: 375949**

**Lab Batch #: 809945**

**Project ID: 2004-00061**

**Date Analyzed: 06/08/2010**

**Date Prepared: 06/08/2010**

**Analyst: LATCOR**

**QC- Sample ID: 375947-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	32.3	31.2	3	20	

**Lab Batch #: 809677**

**Date Analyzed: 06/08/2010**

**Date Prepared: 06/08/2010**

**Analyst: JLG**

**QC- Sample ID: 375808-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.99	3.07	3	20	

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



**XENCO Laboratories**

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Houston, Miami, Odessa, Philadelphia  
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-7-10 16:15  
Lab ID #: 375949  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>4.1</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 375950**

**for**

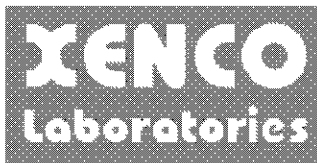
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**10-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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





10-JUN-10

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

Reference: XENCO Report No: **375950**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 375950. 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. 375950 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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## Sample Cross Reference 375950



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell E G-1	S	Jun-07-10 10:10		375950-001
TZ Cell E G-2	S	Jun-07-10 10:15		375950-002
TZ Cell E G-3	S	Jun-07-10 10:20		375950-003



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 375950*

*Report Date: 10-JUN-10*

*Date Received: 06/07/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-809824 Percent Moisture

None

Batch: LBA-809858 TPH by SW8015 Mod

SW8015MOD\_NM

Batch 809858, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected;  
data not confirmed by re-analysis

Samples affected are: 376021-001 S.

SW8015MOD\_NM

Batch 809858, C12-C28 Diesel Range Hydrocarbons recovered above QC limits in the Matrix  
Spike. C6-C12 Gasoline Range Hydrocarbons recovered above QC limits in the Matrix Spike  
and Matrix Spike Duplicate.

Samples affected are: 375950-003, -001, -002.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons, C6-C12 Gasoline  
Range Hydrocarbons is within laboratory Control Limits

SW8015MOD\_NM

Batch 809858, C12-C28 Diesel Range Hydrocarbons RPD was outside QC limits.

Samples affected are: 375950-003, -001, -002

Batch: LBA-809945 Inorganic Anions by EPA 300

None

# Certificate of Analysis Summary 375950

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-07-10 04:15 pm

Report Date: 10-JUN-10

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	375950-001 TZ Cell E G-1 SOIL Jun-07-10 10:10	375950-002 TZ Cell E G-2 SOIL Jun-07-10 10:15	375950-003 TZ Cell E G-3 SOIL Jun-07-10 10:20		
<b>Inorganic Anions In Soil by E300</b>	<i>Extracted:</i>	Jun-08-10 18:05	Jun-08-10 18:05	Jun-08-10 18:05		
	<i>Analyzed:</i>					
	<i>Units/RL:</i>	mg/kg RL 14.3 5.15	mg/kg RL 13.3 5.09	mg/kg RL 8.12 5.09		
<b>Percent Moisture</b>	<i>Extracted:</i>					
	<i>Analyzed:</i>	Jun-09-10 08:30	Jun-09-10 08:30	Jun-09-10 08:30		
	<i>Units/RL:</i>	% RL 2.95 1.00	% RL 1.69 1.00	% RL 1.69 1.00		
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Jun-08-10 12:45	Jun-08-10 12:45	Jun-08-10 12:45		
	<i>Analyzed:</i>	Jun-09-10 06:53	Jun-09-10 07:20	Jun-09-10 07:47		
	<i>Units/RL:</i>	mg/kg RL ND 15.4	mg/kg RL ND 75.9	mg/kg RL ND 15.2		
C6-C12 Gasoline Range Hydrocarbons		281 15.4	326 75.9	139 15.2		
C12-C28 Diesel Range Hydrocarbons		61.0 15.4	ND 75.9	35.4 15.2		
C28-C35 Oil Range Hydrocarbons		342 15.4	326 75.9	174 15.2		
Total TPH						

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

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Brent Barron, II  
Odessa Laboratory Manager

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375950,

Project ID: 2004-00061

Lab Batch #: 809858

Sample: 565239-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 21:59

### 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	51.5	50.2	103	70-135	

Lab Batch #: 809858

Sample: 565239-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 22:26

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.2	49.8	103	70-135	

Lab Batch #: 809858

Sample: 565239-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/08/10 22:53

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

Lab Batch #: 809858

Sample: 375950-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 06:53

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	56.3	49.8	113	70-135	

Lab Batch #: 809858

Sample: 375950-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 07:20

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.5	105	70-135	
o-Terphenyl	54.0	49.8	108	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

**Project Name: Lea Station Landfarm**

**Work Orders :** 375950,

**Project ID:** 2004-00061

**Lab Batch #:** 809858

**Sample:** 375950-003 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 06/09/10 07:47

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.9	114	70-135	
o-Terphenyl	54.1	50.0	108	70-135	

**Lab Batch #:** 809858

**Sample:** 376021-001 S / MS

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 06/09/10 08:40

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	139	99.7	139	70-135	*
o-Terphenyl	64.1	49.9	128	70-135	

**Lab Batch #:** 809858

**Sample:** 376021-001 SD / MSD

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 06/09/10 09:08

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Project Name: Lea Station Landfarm

**Work Order #:** 375950

**Analyst:** LATCOR

**Lab Batch ID:** 809945

**Sample:** 809945-1-BKS

**Units:** mg/kg

**Project ID:** 2004-00061

**Date Analyzed:** 06/08/2010

**Batch #:** 1

**Matrix:** Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.18	92	10	9.81	98	7	75-125	20	

**Analyst:** BEV

**Lab Batch ID:** 809858

**Sample:** 565239-1-BKS

**Date Prepared:** 06/08/2010

**Batch #:** 1

**Date Analyzed:** 06/08/2010

**Matrix:** Solid

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	1170	117	995	1170	118	0	70-135	35
C12-C28 Diesel Range Hydrocarbons	ND	1000	998	100	995	1090	110	9	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes





## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 375950

Lab Batch #: 809945

Project ID: 2004-00061

Date Analyzed: 06/08/2010

Date Prepared: 06/08/2010

Analyst: LATCOR

QC- Sample ID: 375947-001 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	32.3	103	145	109	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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order # : 375950

Lab Batch ID: 809858

Date Analyzed: 06/09/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376021-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/08/2010

Analyst: BEV

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	ND	1170	1780	152	1170	1630	139	9	70-135	35	X
	C12-C28 Diesel Range Hydrocarbons	406	1170	3230	241	1170	1570	99	69	70-135	35	XF

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  
ApplicableN See Narrative, EQL Estimated Quantitation Limit

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

**Project Name: Lea Station Landfarm**

**Work Order #: 375950**

**Lab Batch #: 809945**

**Project ID: 2004-00061**

**Date Analyzed: 06/08/2010**

**Date Prepared: 06/08/2010**

**Analyst: LATCOR**

**QC- Sample ID: 375947-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	32.3	31.2	3	20	

**Lab Batch #: 809824**

**Date Analyzed: 06/09/2010**

**Date Prepared: 06/09/2010**

**Analyst: JLG**

**QC- Sample ID: 375950-001 D**

**Batch #: 1**

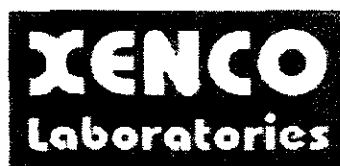
**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.95	3.02	2	20	

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



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Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-7-10 16:15  
Lab ID #: 375950  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>4.1</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 375952**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**14-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



14-JUN-10

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

Reference: XENCO Report No: **375952**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 375952. 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. 375952 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 375952



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell F G-1	S	Jun-07-10 10:45		375952-001
TZ Cell F G-2	S	Jun-07-10 10:50		375952-002
TZ Cell F G-3	S	Jun-07-10 10:55		375952-003
TZ Cell F G-4	S	Jun-07-10 11:00		375952-004
TZ Cell F G-5	S	Jun-07-10 11:05		375952-005





## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 375952*

*Report Date: 14-JUN-10*

*Date Received: 06/07/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-809824 Percent Moisture

None

Batch: LBA-809945 Inorganic Anions by EPA 300

None

Batch: LBA-809949 Inorganic Anions by EPA 300

None

Batch: LBA-810371 TPH by SW8015 Mod

SW8015MOD\_NM

Batch 810371, 1-Chlorooctane recovered below QC limits . Matrix interferences is suspected;  
data confirmed by re-analysis

Samples affected are: 375952-001.



# Certificate of Analysis Summary 375952

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-07-10 04:15 pm


Report Date: 14-JUN-10

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	375952-001	<i>Field Id:</i>	375952-002	<i>Depth:</i>	375952-003	<i>Matrix:</i>	375952-004	<i>Sampled:</i>	375952-005
	<i>Matrix:</i>	TZ Cell F G-1	<i>Matrix:</i>	TZ Cell F G-2	<i>Matrix:</i>	TZ Cell F G-3	<i>Matrix:</i>	TZ Cell F G-4	<i>Matrix:</i>	TZ Cell F G-5
	<i>Sampled:</i>	Jun-07-10 10:45	<i>Sampled:</i>	Jun-07-10 10:50	<i>Sampled:</i>	Jun-07-10 10:55	<i>Sampled:</i>	Jun-07-10 11:00	<i>Sampled:</i>	Jun-07-10 11:05
	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>	Jun-08-10 18:05	<i>Analyzed:</i>	Jun-08-10 18:05	<i>Analyzed:</i>	Jun-09-10 03:32	<i>Analyzed:</i>	Jun-09-10 03:32	<i>Analyzed:</i>	Jun-09-10 03:32
<b>Inorganic Anions In Soil by E300</b>	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
		79.8 5.15		71.4 5.13		54.7 5.12		22.9 5.12		20.3 5.11
<b>Percent Moisture</b>	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>	Jun-09-10 08:30	<i>Analyzed:</i>	Jun-09-10 08:30	<i>Analyzed:</i>	Jun-09-10 08:30	<i>Analyzed:</i>	Jun-09-10 08:30	<i>Analyzed:</i>	Jun-09-10 08:30
	<i>Units/RL:</i>	% RL	<i>Units/RL:</i>	% RL	<i>Units/RL:</i>	% RL	<i>Units/RL:</i>	% RL	<i>Units/RL:</i>	% RL
		2.84 1.00		2.45 1.00		2.41 1.00		2.35 1.00		2.22 1.00
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Jun-10-10 10:15	<i>Extracted:</i>	Jun-10-10 10:15	<i>Extracted:</i>	Jun-10-10 10:15	<i>Extracted:</i>	Jun-10-10 10:15	<i>Extracted:</i>	Jun-10-10 10:15
	<i>Analyzed:</i>	Jun-10-10 19:55	<i>Analyzed:</i>	Jun-10-10 20:26	<i>Analyzed:</i>	Jun-10-10 20:57	<i>Analyzed:</i>	Jun-11-10 08:09	<i>Analyzed:</i>	Jun-11-10 08:39
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.4		ND 15.3		ND 15.4		123 15.3		ND 15.3
C12-C28 Diesel Range Hydrocarbons		379 15.4		864 15.3		1020 15.4		933 15.3		605 15.3
C28-C35 Oil Range Hydrocarbons		40.2 15.4		73.2 15.3		67.4 15.4		204 15.3		64.1 15.3
Total TPH		419 15.4		937 15.3		1087 15.4		1260 15.3		669 15.3

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375952,

Project ID: 2004-00061

Lab Batch #: 810371

Sample: 565564-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/10/10 18:17

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	101	117	70-135	
o-Terphenyl	56.7	50.3	113	70-135	

Lab Batch #: 810371

Sample: 565564-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/10/10 18:50

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.5	119	70-135	
o-Terphenyl	57.0	49.8	114	70-135	

Lab Batch #: 810371

Sample: 565564-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/10/10 19:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	58.6	50.0	117	70-135	

Lab Batch #: 810371

Sample: 375952-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/10/10 19:55

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	59.3	100	59	70-135	**
o-Terphenyl	35.1	50.0	70	70-135	

Lab Batch #: 810371

Sample: 375952-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/10/10 20:26

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.8	99.5	93	70-135	
o-Terphenyl	52.0	49.8	104	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375952,

Project ID: 2004-00061

Lab Batch #: 810371

Sample: 375952-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/10/10 20:57

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	57.1	50.0	114	70-135	

Lab Batch #: 810371

Sample: 375952-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 08:09

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.8	106	70-135	
o-Terphenyl	59.9	49.9	120	70-135	

Lab Batch #: 810371

Sample: 375952-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 08:39

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.7	99.5	89	70-135	
o-Terphenyl	49.5	49.8	99	70-135	

Lab Batch #: 810371

Sample: 376353-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 18:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.2	99.6	71	70-135	
o-Terphenyl	34.8	49.8	70	70-135	

Lab Batch #: 810371

Sample: 376353-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 19:05

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.6	99.9	91	70-135	
o-Terphenyl	44.5	50.0	89	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Project Name: Lea Station Landfarm

**Work Order #:** 375952

**Analyst:** LATCOR

**Lab Batch ID:** 809945

**Sample:** 809945-1-BKS

**Date Prepared:** 06/08/2010

**Batch #:** 1

**Project ID:** 2004-00061

**Date Analyzed:** 06/08/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.18	92	10	9.81	98	7	75-125	20	

**Analyst:** LATCOR

**Lab Batch ID:** 809949

**Sample:** 809949-1-BKS

**Date Prepared:** 06/09/2010

**Batch #:** 1

**Date Analyzed:** 06/09/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions In Soil by E300  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
	Chloride	ND	9.00	8.80	98	9	8.03	89	9	75-125	20

**Analyst:** BEV

**Lab Batch ID:** 810371

**Sample:** 565564-1-BKS

**Date Prepared:** 06/10/2010

**Batch #:** 1

**Date Analyzed:** 06/10/2010

**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	1010	987	98	995	983	99	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1010	807	80	995	824	83	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 Landfarm

Work Order #: 375952

Lab Batch #: 809945

Date Analyzed: 06/08/2010

Date Prepared: 06/08/2010

Project ID: 2004-00061

Analyst: LATCOR

QC- Sample ID: 375947-001 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	32.3	103	145	109	75-125	

Lab Batch #: 809949

Date Analyzed: 06/09/2010

Date Prepared: 06/09/2010

Analyst: LATCOR

QC- Sample ID: 375952-003 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	54.7	51.2	116	120	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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order # : 375952

Lab Batch ID: 810371

Date Analyzed: 06/11/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376353-005 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/10/2010 Analyst: BEV

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH by SW8015 Mod  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1420	1070	75	1420	1080	76	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1420	1020	72	1420	1030	73	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  
ApplicableN See Narrative, EQL Estimated Quantitation Limit

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



**Project Name: Lea Station Landfarm**

**Work Order #: 375952**

**Lab Batch #: 809945**

**Project ID: 2004-00061**

**Date Analyzed: 06/08/2010**

**Date Prepared: 06/08/2010**

**Analyst: LATCOR**

**QC- Sample ID: 375947-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	32.3	31.2	3	20	

**Lab Batch #: 809949**

**Date Analyzed: 06/09/2010**

**Date Prepared: 06/09/2010**

**Analyst: LATCOR**

**QC- Sample ID: 375952-003 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	54.7	52.9	3	20	

**Lab Batch #: 809824**

**Date Analyzed: 06/09/2010**

**Date Prepared: 06/09/2010**

**Analyst: JLG**

**QC- Sample ID: 375950-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

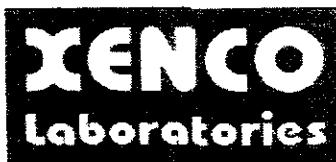
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.95	3.02	2	20	

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

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

BRL - Below Reporting Limit



**XENCO Laboratories**

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Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6.7.10 16:15  
Lab ID #: 375952  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>4.1</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 375953**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**14-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



14-JUN-10

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

Reference: XENCO Report No: **375953**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 375953. 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. 375953 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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## Sample Cross Reference 375953



PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell G G-1	S	Jun-07-10 11:30		375953-001
TZ Cell G G-2	S	Jun-07-10 11:35		375953-002
TZ Cell G G-3	S	Jun-07-10 11:40		375953-003
TZ Cell G G-4	S	Jun-07-10 11:45		375953-004
TZ Cell G G-5	S	Jun-07-10 11:50		375953-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 375953*

*Report Date: 14-JUN-10*

*Date Received: 06/07/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-809824 Percent Moisture

None

Batch: LBA-809949 Inorganic Anions by EPA 300

None

Batch: LBA-810047 TPH by SW8015 Mod

None

Batch: LBA-810371 TPH by SW8015 Mod

None



# Certificate of Analysis Summary 375953

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-07-10 04:15 pm

Report Date: 14-JUN-10

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	375953-001	<i>Field Id:</i>	375953-002	<i>Depth:</i>	375953-003	<i>Matrix:</i>	375953-004	<i>Sampled:</i>	375953-005
	<i>Matrix:</i>	SOIL	<i>Field Id:</i>	TZ Cell G G-2	<i>Depth:</i>	TZ Cell G G-3	<i>Matrix:</i>	SOIL	<i>Sampled:</i>	TZ Cell G G-5
	<i>Sampled:</i>	Jun-07-10 11:30	<i>Field Id:</i>	Jun-07-10 11:35	<i>Depth:</i>	Jun-07-10 11:40	<i>Matrix:</i>	SOIL	<i>Sampled:</i>	Jun-07-10 11:50
	<i>Extracted:</i>		<i>Field Id:</i>	Jun-09-10 03:32	<i>Depth:</i>	Jun-09-10 03:32	<i>Matrix:</i>	SOIL	<i>Sampled:</i>	Jun-09-10 03:32
	<i>Analyzed:</i>		<i>Field Id:</i>	mg/kg	<i>Depth:</i>	mg/kg	<i>Matrix:</i>	mg/kg	<i>Sampled:</i>	mg/kg
<b>Inorganic Anions In Soil by E300</b>	<i>Units/RL:</i>	8.84	<i>Field Id:</i>	5.11	<i>Depth:</i>	5.10	<i>Matrix:</i>	5.13	<i>Sampled:</i>	5.10
	<i>Extracted:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Analyzed:</i>		<i>Field Id:</i>	Jun-09-10 08:30	<i>Depth:</i>	Jun-09-10 08:30	<i>Matrix:</i>	Jun-09-10 08:30	<i>Sampled:</i>	Jun-09-10 08:30
	<i>Units/RL:</i>	%	<i>Field Id:</i>	RL	<i>Depth:</i>	RL	<i>Matrix:</i>	RL	<i>Sampled:</i>	RL
	<i>Extracted:</i>	2.24	<i>Field Id:</i>	1.00	<i>Depth:</i>	1.87	<i>Matrix:</i>	2.51	<i>Sampled:</i>	2.00
<b>Percent Moisture</b>	<i>Analyzed:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Units/RL:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Extracted:</i>		<i>Field Id:</i>	Jun-10-10 10:15	<i>Depth:</i>	Jun-10-10 10:15	<i>Matrix:</i>	Jun-10-10 10:15	<i>Sampled:</i>	Jun-08-10 12:45
	<i>Analyzed:</i>		<i>Field Id:</i>	Jun-11-10 09:10	<i>Depth:</i>	Jun-11-10 10:12	<i>Matrix:</i>	Jun-11-10 10:44	<i>Sampled:</i>	Jun-09-10 21:14
	<i>Units/RL:</i>	mg/kg	<i>Field Id:</i>	RL	<i>Depth:</i>	mg/kg	<i>Matrix:</i>	mg/kg	<i>Sampled:</i>	mg/kg
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	25.8	<i>Field Id:</i>	15.3	<i>Depth:</i>	23.5	<i>Matrix:</i>	15.4	<i>Sampled:</i>	30.8
	<i>Analyzed:</i>	923	<i>Field Id:</i>	15.3	<i>Depth:</i>	1620	<i>Matrix:</i>	15.3	<i>Sampled:</i>	715
	<i>Units/RL:</i>	82.0	<i>Field Id:</i>	15.3	<i>Depth:</i>	112	<i>Matrix:</i>	15.3	<i>Sampled:</i>	58.7
	<i>Extracted:</i>	1031	<i>Field Id:</i>	15.3	<i>Depth:</i>	1756	<i>Matrix:</i>	15.4	<i>Sampled:</i>	805
	<i>Analyzed:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
<b>C6-C12 Gasoline Range Hydrocarbons</b>	<i>Units/RL:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Extracted:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Analyzed:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Units/RL:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Extracted:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
<b>C12-C28 Diesel Range Hydrocarbons</b>	<i>Analyzed:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Units/RL:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Extracted:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Analyzed:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Units/RL:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
<b>C28-C35 Oil Range Hydrocarbons</b>	<i>Extracted:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Analyzed:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Units/RL:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Extracted:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Analyzed:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
<b>Total TPH</b>	<i>Units/RL:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Extracted:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Analyzed:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Units/RL:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	
	<i>Extracted:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>	

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

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

  
Brent Barron, II  
Odessa Laboratory Manager



## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375953,

Project ID: 2004-00061

Lab Batch #: 810047

Sample: 565346-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/09/10 11:51

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	59.4	50.2	118	70-135	

Lab Batch #: 810047

Sample: 565346-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/09/10 12:24

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.5	99.5	91	70-135	
o-Terphenyl	42.5	49.8	85	70-135	

Lab Batch #: 810047

Sample: 565346-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/09/10 12:56

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	48.0	50.2	96	70-135	

Lab Batch #: 810047

Sample: 375953-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 21:14

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	70.7	99.5	71	70-135	
o-Terphenyl	35.1	49.8	70	70-135	

Lab Batch #: 810371

Sample: 565564-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/10/10 18:17

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	118	101	117	70-135	
o-Terphenyl	56.7	50.3	113	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375953,

Project ID: 2004-00061

Lab Batch #: 810371

Sample: 565564-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/10/10 18:50

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.5	119	70-135	
o-Terphenyl	57.0	49.8	114	70-135	

Lab Batch #: 810371

Sample: 565564-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/10/10 19:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	58.6	50.0	117	70-135	

Lab Batch #: 810371

Sample: 375953-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 09:10

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	99.7	96	70-135	
o-Terphenyl	54.1	49.9	108	70-135	

Lab Batch #: 810371

Sample: 375953-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 09:41

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.9	99.5	83	70-135	
o-Terphenyl	48.3	49.8	97	70-135	

Lab Batch #: 810371

Sample: 375953-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 10:12

### 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	39.9	50.1	80	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375953,

Project ID: 2004-00061

Lab Batch #: 810371

Sample: 375953-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 10:44

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	70.3	99.9	70	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 810371

Sample: 376353-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 18:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.2	99.6	71	70-135	
o-Terphenyl	34.8	49.8	70	70-135	

Lab Batch #: 810371

Sample: 376353-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 19:05

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.6	99.9	91	70-135	
o-Terphenyl	44.5	50.0	89	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Project Name: Lea Station Landfarm

**Work Order #:** 375953

**Analyst:** LATCOR

**Lab Batch ID:** 809949

**Sample:** 809949-1-BKS

**Date Prepared:** 06/09/2010

**Batch #:** 1

**Project ID:** 2004-00061

**Date Analyzed:** 06/09/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	9.00	8.80	98	9	8.03	89	9	75-125	20	

**Analyst:** BEV

**Date Prepared:** 06/08/2010

**Date Analyzed:** 06/09/2010

**Lab Batch ID:** 810047

**Sample:** 565346-1-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	1210	121	995	881	89	31	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	873	87	995	784	79	11	70-135	35	

**Analyst:** BEV

**Date Prepared:** 06/10/2010

**Date Analyzed:** 06/10/2010

**Lab Batch ID:** 810371

**Sample:** 565564-1-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	1010	987	98	995	983	99	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1010	807	80	995	824	83	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 Landfarm

Work Order #: 375953

Lab Batch #: 809949

Project ID: 2004-00061

Date Analyzed: 06/09/2010

Date Prepared: 06/09/2010

Analyst: LATCOR

QC- Sample ID: 375952-003 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	54.7	51.2	116	120	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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order # : 375953

Lab Batch ID: 810371

Date Analyzed: 06/11/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376353-005 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/10/2010 Analyst: BEV

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH by SW8015 Mod  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1420	1070	75	1420	1080	76	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1420	1020	72	1420	1030	73	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  
ApplicableN See Narrative, EQL Estimated Quantitation Limit

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

**Project Name: Lea Station Landfarm**

**Work Order #: 375953**

**Lab Batch #: 809949**

**Project ID: 2004-00061**

**Date Analyzed: 06/09/2010**

**Date Prepared: 06/09/2010**

**Analyst: LATCOR**

**QC- Sample ID: 375952-003 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	54.7	52.9	3	20	

**Lab Batch #: 809824**

**Date Analyzed: 06/09/2010**

**Date Prepared: 06/09/2010**

**Analyst: JLG**

**QC- Sample ID: 375950-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

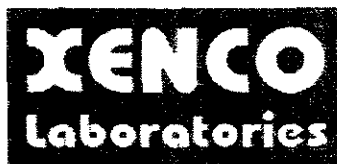
## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.95	3.02	2	20	

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





**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-7-10 16:15  
Lab ID #: 375953  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>4.1</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 375956**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**10-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



10-JUN-10

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

Reference: XENCO Report No: **375956**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 375956. 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. 375956 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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*Certified and approved by numerous States and Agencies.*

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## Sample Cross Reference 375956



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell H G-1	S	Jun-07-10 12:10		375956-001
TZ Cell H G-2	S	Jun-07-10 12:15		375956-002
TZ Cell H G-3	S	Jun-07-10 12:20		375956-003



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 375956*

*Report Date: 10-JUN-10*

*Date Received: 06/07/2010*

---

***Sample receipt non conformances and Comments:***

*None*

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

*None*

***Analytical Non Conformances and Comments:***

*Batch: LBA-809824 Percent Moisture*

*None*

*Batch: LBA-809949 Inorganic Anions by EPA 300*

*None*

*Batch: LBA-810047 TPH by SW8015 Mod*

*None*

# Certificate of Analysis Summary 375956

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-07-10 04:15 pm

Report Date: 10-JUN-10

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	375956-001	<i>Field Id:</i>	375956-002	<i>Depth:</i>	375956-003
	<i>Matrix:</i>	TZ Cell H G-1	<i>Matrix:</i>	TZ Cell H G-2	<i>Matrix:</i>	TZ Cell H G-3
	<i>Sampled:</i>	SOIL	<i>Sampled:</i>	SOIL	<i>Sampled:</i>	SOIL
	<i>Sampled:</i>	Jun-07-10 12:10	<i>Sampled:</i>	Jun-07-10 12:15	<i>Sampled:</i>	Jun-07-10 12:20
<b>Inorganic Anions In Soil by E300</b>	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>	Jun-09-10 03:32	<i>Analyzed:</i>	Jun-09-10 03:32	<i>Analyzed:</i>	Jun-09-10 03:32
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
	<i>Units/RL:</i>	42.5 5.27	<i>Units/RL:</i>	14.2 5.44	<i>Units/RL:</i>	8.07 5.25
<b>Percent Moisture</b>	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>	Jun-09-10 08:30	<i>Analyzed:</i>	Jun-09-10 08:30	<i>Analyzed:</i>	Jun-09-10 08:30
	<i>Units/RL:</i>	% RL	<i>Units/RL:</i>	% RL	<i>Units/RL:</i>	% RL
	<i>Units/RL:</i>	5.15 1.00	<i>Units/RL:</i>	8.02 1.00	<i>Units/RL:</i>	4.70 1.00
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Jun-08-10 12:45	<i>Extracted:</i>	Jun-08-10 12:45	<i>Extracted:</i>	Jun-08-10 12:45
	<i>Analyzed:</i>	Jun-09-10 22:16	<i>Analyzed:</i>	Jun-09-10 22:46	<i>Analyzed:</i>	Jun-09-10 23:16
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
	<i>Units/RL:</i>	112 78.8	<i>Units/RL:</i>	175 16.2	<i>Units/RL:</i>	ND 15.7
C6-C12 Gasoline Range Hydrocarbons	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>	Jun-08-10 12:45	<i>Analyzed:</i>	Jun-08-10 12:45	<i>Analyzed:</i>	Jun-08-10 12:45
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
	<i>Units/RL:</i>	2380 78.8	<i>Units/RL:</i>	2870 16.2	<i>Units/RL:</i>	299 15.7
C12-C28 Diesel Range Hydrocarbons	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>	Jun-08-10 12:45	<i>Analyzed:</i>	Jun-08-10 12:45	<i>Analyzed:</i>	Jun-08-10 12:45
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
	<i>Units/RL:</i>	282 78.8	<i>Units/RL:</i>	180 16.2	<i>Units/RL:</i>	53.5 15.7
C28-C35 Oil Range Hydrocarbons	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>	Jun-08-10 12:45	<i>Analyzed:</i>	Jun-08-10 12:45	<i>Analyzed:</i>	Jun-08-10 12:45
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
	<i>Units/RL:</i>	2774 78.8	<i>Units/RL:</i>	3225 16.2	<i>Units/RL:</i>	353 15.7
Total TPH	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>	Jun-08-10 12:45	<i>Analyzed:</i>	Jun-08-10 12:45	<i>Analyzed:</i>	Jun-08-10 12:45
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
	<i>Units/RL:</i>	2774 78.8	<i>Units/RL:</i>	3225 16.2	<i>Units/RL:</i>	353 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.

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Brent Barron, II  
Odessa Laboratory Manager

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

\* Outside XENCO's scope of NELAC Accreditation.

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(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375956,

Project ID: 2004-00061

Lab Batch #: 810047

Sample: 565346-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/09/10 11:51

### 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	59.4	50.2	118	70-135	

Lab Batch #: 810047

Sample: 565346-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/09/10 12:24

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	99.5	91	70-135	
o-Terphenyl	42.5	49.8	85	70-135	

Lab Batch #: 810047

Sample: 565346-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/09/10 12:56

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	48.0	50.2	96	70-135	

Lab Batch #: 810047

Sample: 375956-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 22:16

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.2	99.7	85	70-135	
o-Terphenyl	50.0	49.9	100	70-135	

Lab Batch #: 810047

Sample: 375956-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 22:46

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.6	99.5	94	70-135	
o-Terphenyl	52.8	49.8	106	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 375956,

Project ID: 2004-00061

Lab Batch #: 810047

Sample: 375956-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/09/10 23:16

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.2	99.7	83	70-135	
o-Terphenyl	47.0	49.9	94	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Project Name: Lea Station Landfarm

Work Order #: 375956

Analyst: LATCOR

Lab Batch ID: 809949

Sample: 809949-1-BKS

Date Prepared: 06/09/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/09/2010

Matrix: Solid

Units: mg/kg

### Inorganic Anions In Soil by E300

#### 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	9.00	8.80	98	9	8.03	89	9	75-125	20	

Analyst: BEV

Lab Batch ID: 810047

Sample: 565346-1-BKS

Date Prepared: 06/08/2010

Batch #: 1

Date Analyzed: 06/09/2010

Matrix: Solid

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	1210	121	995	881	89	31	70-135	35	
ND	1000	873	87	995	784	79	11	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 375956

Lab Batch #: 809949

Project ID: 2004-00061

Date Analyzed: 06/09/2010

Date Prepared: 06/09/2010

Analyst: LATCOR

QC- Sample ID: 375952-003 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	54.7	51.2	116	120	75-125	

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

BRL - Below Reporting Limit

**Project Name: Lea Station Landfarm**

**Work Order #: 375956**

**Lab Batch #: 809949**

**Project ID: 2004-00061**

**Date Analyzed: 06/09/2010**

**Date Prepared: 06/09/2010**

**Analyst: LATCOR**

**QC- Sample ID: 375952-003 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	54.7	52.9	3	20	

**Lab Batch #: 809824**

**Date Analyzed: 06/09/2010**

**Date Prepared: 06/09/2010**

**Analyst: JLG**

**QC- Sample ID: 375950-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.95	3.02	2	20	

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



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6.7.10 16:15  
Lab ID #: 375956  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>4.1</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

**Analytical Report 396364**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**11-NOV-10**



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Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)  
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





11-NOV-10

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

Reference: XENCO Report No: **396364**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 396364. 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. 396364 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 396364



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell A G-1	S	Nov-01-10 08:15		396364-001
TZ Cell A G-2	S	Nov-01-10 08:20		396364-002
TZ Cell A G-3	S	Nov-01-10 08:25		396364-003
TZ Cell A G-4	S	Nov-01-10 08:30		396364-004
TZ Cell A G-5	S	Nov-01-10 08:35		396364-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 396364*

*Report Date: 11-NOV-10*

*Date Received: 11/05/2010*

---

***Sample receipt non conformances and Comments:***

*None*

---

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

*None*

# Certificate of Analysis Summary 396364

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Nov-05-10 03:15 pm

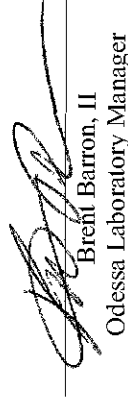
Report Date: 11-NOV-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		396364-001		396364-002		396364-003		396364-004		396364-005	
	Field Id:	Depth:	TZ Cell A G-1	SOIL	TZ Cell A G-2	SOIL	TZ Cell A G-3	SOIL	TZ Cell A G-4	SOIL	TZ Cell A G-5	SOIL
			Nov-01-10 08:15		Nov-01-10 08:20		Nov-01-10 08:25		Nov-01-10 08:30		Nov-01-10 08:35	
Anions by E300	Extracted:											
	Analyzed:		Nov-09-10 07:52		Nov-09-10 07:52		Nov-09-10 07:52		Nov-09-10 07:52		Nov-09-10 07:52	
	Units/RL:		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL	
			27.4 4.33		16.6 4.31		14.4 4.35		9.06 4.30		ND 4.28	
Percent Moisture	Extracted:											
	Analyzed:		Nov-08-10 14:45		Nov-08-10 14:45		Nov-08-10 14:45		Nov-08-10 14:45		Nov-08-10 14:45	
	Units/RL:		% RL		% RL		% RL		% RL		% RL	
			2.93 1.00		2.66 1.00		3.47 1.00		2.31 1.00		1.81 1.00	
TPH By SW8015 Mod	Extracted:		Nov-08-10 10:45		Nov-08-10 10:45		Nov-08-10 10:45		Nov-08-10 10:45		Nov-08-10 10:45	
	Analyzed:		Nov-10-10 08:53		Nov-10-10 08:53		Nov-10-10 08:53		Nov-10-10 08:53		Nov-10-10 08:53	
	Units/RL:		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL	
			ND 15.4		ND 15.5		ND 15.6		ND 15.3		ND 15.3	
C6-C12 Gasoline Range Hydrocarbons			615 15.4		701 15.5		452 15.6		124 15.3		189 15.3	
C12-C28 Diesel Range Hydrocarbons			87.3 15.4		98.6 15.5		70.2 15.6		27.4 15.3		36.6 15.3	
C28-C35 Oil Range Hydrocarbons			702 15.4		800 15.5		522 15.6		151 15.3		226 15.3	
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.

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396364,

Project ID: 2004-00061

Lab Batch #: 831285

Sample: 396364-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	105	99.9	105	70-135	
o-Terphenyl	50.5	50.0	101	70-135	

Lab Batch #: 831285

Sample: 396364-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	102	101	101	70-135	
o-Terphenyl	49.4	50.3	98	70-135	

Lab Batch #: 831285

Sample: 396364-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.0	100	95	70-135	
o-Terphenyl	45.2	50.1	90	70-135	

Lab Batch #: 831285

Sample: 396364-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	71.5	99.5	72	70-135	
o-Terphenyl	35.8	49.8	72	70-135	

Lab Batch #: 831285

Sample: 396364-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

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	61.1	50.1	122	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

**Project Name: Lea Station Landfarm**

**Work Orders :** 396364,

**Project ID:** 2004-00061

**Lab Batch #:** 831285

**Sample:** 578294-1-BKS / BKS

**Batch:** 1 **Matrix:** Solid

**Units:** mg/kg

**Date Analyzed:** 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	64.8	50.1	129	70-135	

**Lab Batch #:** 831285

**Sample:** 578294-1-BLK / BLK

**Batch:** 1 **Matrix:** Solid

**Units:** mg/kg

**Date Analyzed:** 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.7	129	70-135	
o-Terphenyl	63.7	49.9	128	70-135	

**Lab Batch #:** 831285

**Sample:** 578294-1-BSD / BSD

**Batch:** 1 **Matrix:** Solid

**Units:** mg/kg

**Date Analyzed:** 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.5	50.1	121	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Project Name: Lea Station Landfarm

Work Order #: 396364

Analyst: LATCOR

Lab Batch ID: 831275

Sample: 831275-1-BKS

Date Prepared: 11/09/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Anions by E300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
	Chloride	ND	10.0	9.34	93	10	9.27	93	1	75-125	20

Analyst: BEV

Lab Batch ID: 831285

Sample: 578294-1-BKS

Date Prepared: 11/08/2010

Batch #: 1

Date Analyzed: 11/10/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	TPH By SW8015 Mod	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]				
	C6-C12 Gasoline Range Hydrocarbons		ND	1000	841	84	1000	796	80	5	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		ND	1000	874	87	1000	814	81	7	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes





## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 396364

Lab Batch #: 831275

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Date Prepared: 11/09/2010

Analyst: LATCOR

QC- Sample ID: 396364-001 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	27.4	103	129	99	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

BRL - Below Reporting Limit

**Project Name:** Lea Station Landfarm

**Work Order #:** 396364

**Lab Batch #:** 831275

**Project ID:** 2004-00061

**Date Analyzed:** 11/09/2010

**Date Prepared:** 11/09/2010

**Analyst:** LATCOR

**QC- Sample ID:** 396364-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	27.4	25.5	7	20	

**Lab Batch #:** 830971

**Date Analyzed:** 11/08/2010

**Date Prepared:** 11/08/2010

**Analyst:** JLG

**QC- Sample ID:** 396364-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.93	2.73	7	20	

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





XENCO Laboratories  
Atlanta, Boca Raton, CA, Dallas, Denver, Houston, Miami, Naples, Phoenix, San Antonio, San Jose

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

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

Client: Basin Environmental  
Date/Time: 11-5-10 15:15  
Lab ID: 396364  
Initials: LM

#### Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No		
2. Shipping container in good condition?	<u>Yes</u>	No	None		
3. Custody seals intact on shipping container (coolers) and?	<u>Yes</u>	No	N/A		
4. Chain of Custody properly filled?	<u>Yes</u>	No			
5. Sample instructions, manifest on chain of custody?	<u>Yes</u>	No			
6. Any missing, missing?	Yes	<u>No</u>			
7. Chain of custody signed and relinquished?	<u>Yes</u>	No			
8. Chain of custody agrees with sample labels?	<u>Yes</u>	No			
9. Container labels legible and intact?	<u>Yes</u>	No			
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No			
11. Samples in proper containers / boxes?	<u>Yes</u>	No			
12. Samples properly preserved?	<u>Yes</u>	No	N/A		
13. Sample container intact?	<u>Yes</u>	No			
14. Sufficient sample for all indicated tests?	<u>Yes</u>	No			
15. All samples received within specified hold time?	<u>Yes</u>	No			
16. Subcontract or sample(s)?	Yes	<u>No</u>	N/A		
17. VOC sample have zero headspace?	Yes	No	<u>N/A</u>		
18. Cooler 1 No. <u>26</u> °C	Cooler 4 No.	Cooler 5 No.			
lbs	°C	lbs	°C	lbs	°C

#### Nonconformance Documentation

Contract: \_\_\_\_\_ Contractor: \_\_\_\_\_ Date/Time: \_\_\_\_\_

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

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

Check all that apply: ☐ All process has begun, including event and out of temperature  
☐ All process has begun, including event and out of temperature  
☐ All process has begun, including event and out of temperature  
☐ All process has begun, including event and out of temperature

**Analytical Report 396366**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**11-NOV-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)  
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



11-NOV-10

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

Reference: XENCO Report No: **396366**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 396366. 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. 396366 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 396366



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell B G-1	S	Nov-01-10 08:40		396366-001
TZ Cell B G-2	S	Nov-01-10 08:45		396366-002
TZ Cell B G-3	S	Nov-01-10 08:50		396366-003
TZ Cell B G-4	S	Nov-01-10 08:55		396366-004



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 396366*

*Report Date: 11-NOV-10*

*Date Received: 11/05/2010*

---

***Sample receipt non conformances and Comments:***

*None*

---

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

*None*



# Certificate of Analysis Summary 396366

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Nov-05-10 03:15 pm

Report Date: 11-NOV-10

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	396366-001	<i>Field Id:</i>	396366-002	<i>Depth:</i>	396366-003	<i>Matrix:</i>	396366-004	<i>Sampled:</i>	
	<i>Matrix:</i>	SOIL	<i>Sampled:</i>	Nov-01-10 08:40	<i>Matrix:</i>	SOIL	<i>Sampled:</i>	Nov-01-10 08:45	<i>Matrix:</i>	SOIL
	<i>Sampled:</i>	Nov-01-10 08:40	<i>Sampled:</i>	Nov-01-10 08:45	<i>Sampled:</i>	Nov-01-10 08:50	<i>Sampled:</i>	Nov-01-10 08:55	<i>Sampled:</i>	Nov-01-10 08:55
	<i>Extracted:</i>	Nov-09-10 07:52	<i>Extracted:</i>	Nov-09-10 07:52	<i>Extracted:</i>	Nov-09-10 07:52	<i>Extracted:</i>	Nov-09-10 07:52	<i>Extracted:</i>	Nov-09-10 07:52
	<i>Analyzed:</i>	Nov-09-10 07:52	<i>Analyzed:</i>	Nov-09-10 07:52	<i>Analyzed:</i>	Nov-09-10 07:52	<i>Analyzed:</i>	Nov-09-10 07:52	<i>Analyzed:</i>	Nov-09-10 07:52
<i>Anions by E300</i>	<i>Units/RL:</i>	ND 4.41	<i>Units/RL:</i>	ND 4.38	<i>Units/RL:</i>	5.27 4.36	<i>Units/RL:</i>	ND 4.52	<i>Units/RL:</i>	
	<i>Extracted:</i>	Nov-08-10 14:45	<i>Extracted:</i>	Nov-08-10 14:45	<i>Extracted:</i>	Nov-08-10 14:45	<i>Extracted:</i>	Nov-08-10 14:45	<i>Extracted:</i>	Nov-08-10 14:45
	<i>Analyzed:</i>	Nov-08-10 14:45	<i>Analyzed:</i>	Nov-08-10 14:45	<i>Analyzed:</i>	Nov-08-10 14:45	<i>Analyzed:</i>	Nov-08-10 14:45	<i>Analyzed:</i>	Nov-08-10 14:45
	<i>Units/RL:</i>	4.80 1.00	<i>Units/RL:</i>	4.06 1.00	<i>Units/RL:</i>	3.71 1.00	<i>Units/RL:</i>	7.02 1.00	<i>Units/RL:</i>	
	<i>Percent Moisture</i>		<i>Percent Moisture</i>		<i>Percent Moisture</i>		<i>Percent Moisture</i>		<i>Percent Moisture</i>	
<i>TPH By SW8015 Mod</i>	<i>Extracted:</i>	Nov-08-10 10:45	<i>Extracted:</i>	Nov-08-10 10:45	<i>Extracted:</i>	Nov-08-10 10:45	<i>Extracted:</i>	Nov-08-10 10:45	<i>Extracted:</i>	Nov-08-10 10:45
	<i>Analyzed:</i>	Nov-10-10 08:53	<i>Analyzed:</i>	Nov-10-10 08:53	<i>Analyzed:</i>	Nov-10-10 08:53	<i>Analyzed:</i>	Nov-10-10 08:53	<i>Analyzed:</i>	Nov-10-10 08:53
	<i>Units/RL:</i>	ND 15.8	<i>Units/RL:</i>	ND 15.7	<i>Units/RL:</i>	ND 15.6	<i>Units/RL:</i>	ND 16.1	<i>Units/RL:</i>	ND 16.1
	<i>C6-C12 Gasoline Range Hydrocarbons</i>	550 15.8	<i>C6-C12 Gasoline Range Hydrocarbons</i>	485 15.7	<i>C6-C12 Gasoline Range Hydrocarbons</i>	146 15.6	<i>C6-C12 Gasoline Range Hydrocarbons</i>	150 16.1	<i>C6-C12 Gasoline Range Hydrocarbons</i>	150 16.1
	<i>C12-C28 Diesel Range Hydrocarbons</i>	104 15.8	<i>C12-C28 Diesel Range Hydrocarbons</i>	81.6 15.7	<i>C12-C28 Diesel Range Hydrocarbons</i>	25.4 15.6	<i>C12-C28 Diesel Range Hydrocarbons</i>	35.5 16.1	<i>C12-C28 Diesel Range Hydrocarbons</i>	35.5 16.1
<i>C28-C35 Oil Range Hydrocarbons</i>	<i>Units/RL:</i>	654 15.8	<i>Units/RL:</i>	567 15.7	<i>Units/RL:</i>	171 15.6	<i>Units/RL:</i>	186 16.1	<i>Units/RL:</i>	186 16.1
	<i>Total TPH</i>		<i>Total TPH</i>		<i>Total TPH</i>		<i>Total TPH</i>		<i>Total TPH</i>	
	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>		<i>Analyzed:</i>		<i>Analyzed:</i>		<i>Analyzed:</i>		<i>Analyzed:</i>	
	<i>Units/RL:</i>		<i>Units/RL:</i>		<i>Units/RL:</i>		<i>Units/RL:</i>		<i>Units/RL:</i>	

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396366,

Project ID: 2004-00061

Lab Batch #: 831285

Sample: 396366-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.8	100	88	70-135	
o-Terphenyl	40.9	50.0	82	70-135	

Lab Batch #: 831285

Sample: 396366-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.6	100	100	70-135	
o-Terphenyl	47.2	50.2	94	70-135	

Lab Batch #: 831285

Sample: 396366-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	50.3	50.2	100	70-135	

Lab Batch #: 831285

Sample: 396366-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.6	116	70-135	
o-Terphenyl	55.0	49.8	110	70-135	

Lab Batch #: 831285

Sample: 578294-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	64.8	50.1	129	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396366,

Project ID: 2004-00061

Lab Batch #: 831285

Sample: 578294-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.7	129	70-135	
o-Terphenyl	63.7	49.9	128	70-135	

Lab Batch #: 831285

Sample: 578294-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.5	50.1	121	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 396366

Analyst: LATCOR

Lab Batch ID: 831275

Sample: 831275-1-BKS

Date Prepared: 11/09/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Anions by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.34	93	10	9.27	93	1	75-125	20	

Analyst: BEV

Lab Batch ID: 831285

Sample: 578294-1-BKS

Date Prepared: 11/08/2010

Batch #: 1

Date Analyzed: 11/10/2010

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	841	84	1000	796	80	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	874	87	1000	814	81	7	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 396366

Lab Batch #: 831275

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Date Prepared: 11/09/2010

Analyst: LATCOR

QC- Sample ID: 396364-001 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	27.4	103	129	99	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

BRL - Below Reporting Limit

**Project Name:** Lea Station Landfarm

**Work Order #:** 396366

**Lab Batch #:** 831275

**Project ID:** 2004-00061

**Date Analyzed:** 11/09/2010

**Date Prepared:** 11/09/2010

**Analyst:** LATCOR

**QC- Sample ID:** 396364-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** mg/kg

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	27.4	25.5	7	20	

**Lab Batch #:** 830971

**Date Analyzed:** 11/08/2010

**Date Prepared:** 11/08/2010

**Analyst:** JLG

**QC- Sample ID:** 396364-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** %

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.93	2.73	7	20	

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

# Xenco Laboratories

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East  
Odessa, Texas 79765

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

Project Manager: Ben J. Arguijo

Company Name: Basin Environmental Service Technologies, LLC

Company Address: P.O. Box 301

City/State/Zip: Lovington, NM 88260

Telephone No: (575) 396-2378

Sampler Signature: [Signature]

Fax No: (575) 396-1429

e-mail: pm@basinenr.com

Project Name: Lea Station Landfarm

Project #: 2004-00061

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 396366

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers										Matrix	Analyze For:														
								HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DV=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Portable Specify Other		TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs		
	TZ Cell B G-1			11/1/10	0840		1	X								SOIL			X													X	
	TZ Cell B G-2			11/1/10	0845		1	X								SOIL			X													X	
	TZ Cell B G-3			11/1/10	0850		1	X								SOIL			X													X	
	TZ Cell B G-4			11/1/10	0855		1	X								SOIL			X													X	

Special Instructions:

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)

Custody seals on container(s)

Sample Hand Delivered

by Sampler/Client Rep. ?

by Courier? UPS DHL

Temperature Upon Receipt:

Received by:

Date

Time

Received by:

Date

Time

Received by ELOT:

Date

Time

26 °C





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

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

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

Client: Basin Environmental  
Date/Time: 11-5-10 15:15  
Lab ID #: 396366  
Initials: dm

#### Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete, on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	<u>No</u>	N/A	
17. VOC sample have zero head space?	Yes	No	<u>N/A</u>	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>2.6</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

#### Nonconformance Documentation

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

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

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

- Check all that apply.
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAP 5.6.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirms out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

**Analytical Report 396367**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**11-NOV-10**



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Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)  
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



11-NOV-10

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

Reference: XENCO Report No: **396367**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 396367. 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. 396367 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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## Sample Cross Reference 396367



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell D G-1	S	Nov-01-10 09:00		396367-001
TZ Cell D G-2	S	Nov-01-10 09:05		396367-002
TZ Cell D G-3	S	Nov-01-10 09:10		396367-003
TZ Cell D G-4	S	Nov-01-10 09:15		396367-004
TZ Cell D G-5	S	Nov-01-10 09:20		396367-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 396367*

*Report Date: 11-NOV-10*

*Date Received: 11/05/2010*

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***Sample receipt non conformances and Comments:***

*None*

---

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

*None*

# Certificate of Analysis Summary 396367

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Nov-05-10 03:15 pm


Report Date: 11-NOV-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	396367-001	396367-002	396367-003	396367-004	396367-005
	Field Id:	TZ Cell D G-1	TZ Cell D G-2	TZ Cell D G-3	TZ Cell D G-4	TZ Cell D G-5
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Nov-01-10 09:00	Nov-01-10 09:05	Nov-01-10 09:10	Nov-01-10 09:15	Nov-01-10 09:20
Anions by E300	Extracted:					
	Analyzed:	Nov-09-10 07:52	Nov-09-10 07:52	Nov-09-10 07:52	Nov-09-10 07:52	Nov-09-10 07:52
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		20.4 4.28	51.3 4.28	14.7 4.41	ND 4.26	ND 4.26
Percent Moisture	Extracted:					
	Analyzed:	Nov-08-10 14:45	Nov-08-10 14:45	Nov-08-10 14:45	Nov-08-10 14:45	Nov-08-10 14:45
	Units/RL:	% RL	% RL	% RL	% RL	% RL
Percent Moisture		1.78 1.00	1.87 1.00	4.71 1.00	1.49 1.00	1.40 1.00
TPH By SW8015 Mod	Extracted:	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45
	Analyzed:	Nov-10-10 08:53	Nov-10-10 08:53	Nov-10-10 08:53	Nov-10-10 08:53	Nov-10-10 08:53
	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 15.4	ND 15.7	18.1 15.2	ND 15.2
C12-C28 Diesel Range Hydrocarbons		411 15.3	459 15.4	601 15.7	812 15.2	418 15.2
C28-C35 Oil Range Hydrocarbons		63.2 15.3	72.9 15.4	86.5 15.7	124 15.2	63.6 15.2
Total TPH		474 15.3	532 15.4	688 15.7	954 15.2	482 15.2

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396367,

Project ID: 2004-00061

Lab Batch #: 831285

Sample: 396367-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 831285

Sample: 396367-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	101	105	70-135	
o-Terphenyl	49.5	50.3	98	70-135	

Lab Batch #: 831285

Sample: 396367-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.7	119	70-135	
o-Terphenyl	58.5	49.9	117	70-135	

Lab Batch #: 831285

Sample: 396367-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	132	100	132	70-135	
o-Terphenyl	63.2	50.0	126	70-135	

Lab Batch #: 831285

Sample: 396367-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.5	99.7	86	70-135	
o-Terphenyl	39.5	49.9	79	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396367,

Project ID: 2004-00061

Lab Batch #: 831285

Sample: 578294-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	64.8	50.1	129	70-135	

Lab Batch #: 831285

Sample: 578294-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.7	129	70-135	
o-Terphenyl	63.7	49.9	128	70-135	

Lab Batch #: 831285

Sample: 578294-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.5	50.1	121	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 396367

Analyst: LATCOR

Lab Batch ID: 831275

Sample: 831275-1-BKS

Date Prepared: 11/09/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Anions by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.34	93	10	9.27	93	1	75-125	20	

Analyst: BEV

Lab Batch ID: 831285

Sample: 578294-1-BKS

Date Prepared: 11/08/2010

Batch #: 1

Date Analyzed: 11/10/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	TPH By SW8015 Mod	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]				
	C6-C12 Gasoline Range Hydrocarbons		ND	1000	841	84	1000	796	80	5	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		ND	1000	874	87	1000	814	81	7	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 396367

Lab Batch #: 831275

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Date Prepared: 11/09/2010

Analyst: LATCOR

QC- Sample ID: 396364-001 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	27.4	103	129	99	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

BRL - Below Reporting Limit

**Project Name:** Lea Station Landfarm

**Work Order #:** 396367

**Lab Batch #:** 831275

**Project ID:** 2004-00061

**Date Analyzed:** 11/09/2010

**Date Prepared:** 11/09/2010

**Analyst:** LATCOR

**QC- Sample ID:** 396364-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** mg/kg

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	27.4	25.5	7	20	

**Lab Batch #:** 830971

**Date Analyzed:** 11/08/2010

**Date Prepared:** 11/08/2010

**Analyst:** JLG

**QC- Sample ID:** 396364-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** %

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.93	2.73	7	20	

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

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East  
Odessa, Texas 79765

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

**Project Manager:** Ben J. Arguijo

**Project Name: Lea Station Landfarm**

**Company Name** Basin Environmental Service Technologies, LLC

Project #: 2004-00061

Company Address: P.O. Box 301

**Project Loc:** Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA-J. Henry

Telephone No: (575)396-2378

**Fax No: (575) 396-1429**

**Report Format:**

Sampler Signature:

pm@basinenv.com

```
{lab use only}
```

ORDER #: 396367

[illegible]

**Special Instructions:**

Laboratory Comments:

Relinquished by:

Received by:

Time

Relinquished by:

Received by:

Time

Relinquished by:

Received by ELOT:

Time

Lisa Muddock

01-5-10

515

FedEx Lone Star

30

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Environmental  
Date/Time: 11-5-10 15:15  
Lab ID #: 396367  
Initials: AM

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	<u>No</u>	N/A	
17. VOC sample have zero head space?	Yes	No	<u>N/A</u>	
18. Cooler 1 No. _____ Cooler 2 No. _____ Cooler 3 No. _____ Cooler 4 No. _____ Cooler 5 No. _____	lbs <u>2.6</u> °C _____	lbs _____ °C _____	lbs _____ °C _____	lbs _____ °C _____

**Nonconformance Documentation**

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

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

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

- Check all that apply. ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAP 5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 396369**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**11-NOV-10**



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Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)  
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



11-NOV-10

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

Reference: XENCO Report No: **396369**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 396369. 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. 396369 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

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## Sample Cross Reference 396369



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell E G-1	S	Nov-01-10 09:25		396369-001
TZ Cell E G-2	S	Nov-01-10 09:30		396369-002
TZ Cell E G-3	S	Nov-01-10 09:35		396369-003



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 396369*

*Report Date: 11-NOV-10*

*Date Received: 11/05/2010*

---

***Sample receipt non conformances and Comments:***

*None*

---

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

*None*

# Certificate of Analysis Summary 396369

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

Project Name: Lea Station Landfarm

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

Date Received in Lab: Fri Nov-05-10 03:15 pm  
 Report Date: 11-NOV-10  
 Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	396369-001	<i>Field Id:</i>	396369-002	<i>Depth:</i>	396369-003
	<i>Matrix:</i>	TZ Cell E G-1	<i>Matrix:</i>	TZ Cell E G-2	<i>Matrix:</i>	TZ Cell E G-3
	<i>Sampled:</i>	SOIL	<i>Sampled:</i>	SOIL	<i>Sampled:</i>	SOIL
	<i>Extracted:</i>	Nov-01-10 09:25	<i>Extracted:</i>	Nov-01-10 09:30	<i>Extracted:</i>	Nov-01-10 09:35
	<i>Analyzed:</i>	Nov-09-10 07:52	<i>Analyzed:</i>	Nov-09-10 07:52	<i>Analyzed:</i>	Nov-09-10 07:52
Anions by E300	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
		ND 4.30		ND 4.26		ND 4.28
Percent Moisture	<i>Extracted:</i>		<i>Extracted:</i>		<i>Extracted:</i>	
	<i>Analyzed:</i>	Nov-08-10 14:45	<i>Analyzed:</i>	Nov-08-10 14:45	<i>Analyzed:</i>	Nov-08-10 14:45
	<i>Units/RL:</i>	% RL	<i>Units/RL:</i>	% RL	<i>Units/RL:</i>	% RL
TPH By SW8015 Mod		2.38 1.00		1.33 1.00		1.93 1.00
	<i>Extracted:</i>	Nov-08-10 10:45	<i>Extracted:</i>	Nov-08-10 10:45	<i>Extracted:</i>	Nov-08-10 10:45
	<i>Analyzed:</i>	Nov-10-10 08:53	<i>Analyzed:</i>	Nov-10-10 08:53	<i>Analyzed:</i>	Nov-10-10 08:53
C6-C12 Gasoline Range Hydrocarbons	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
		ND 15.4		ND 15.1		ND 15.4
C12-C28 Diesel Range Hydrocarbons		159 15.4		200 15.1		129 15.4
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
		27.2 15.4		32.3 15.1		25.7 15.4
C28-C35 Oil Range Hydrocarbons		186 15.4		232 15.1		155 15.4
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
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.

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Brent Barron, II  
 Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396369,

Project ID: 2004-00061

Lab Batch #: 831285

Sample: 396369-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.2	100	97	70-135	
o-Terphenyl	46.4	50.2	92	70-135	

Lab Batch #: 831285

Sample: 396369-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.5	121	70-135	
o-Terphenyl	56.9	49.8	114	70-135	

Lab Batch #: 831285

Sample: 396369-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	48.8	50.2	97	70-135	

Lab Batch #: 831285

Sample: 578294-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	64.8	50.1	129	70-135	

Lab Batch #: 831285

Sample: 578294-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.7	129	70-135	
o-Terphenyl	63.7	49.9	128	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396369,

Project ID: 2004-00061

Lab Batch #: 831285

Sample: 578294-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.5	50.1	121	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 396369

Analyst: LATCOR

Lab Batch ID: 831275

Sample: 831275-1-BKS

Date Prepared: 11/09/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Anions by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.34	93	10	9.27	93	1	75-125	20	

Analyst: BEV

Lab Batch ID: 831285

Sample: 578294-1-BKS

Date Prepared: 11/08/2010

Batch #: 1

Date Analyzed: 11/10/2010

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	841	84	1000	796	80	5	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	ND	1000	874	87	1000	814	81	7	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 396369

Lab Batch #: 831275

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Date Prepared: 11/09/2010

Analyst: LATCOR

QC- Sample ID: 396364-001 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	27.4	103	129	99	75-125	

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

BRL - Below Reporting Limit



**Project Name:** Lea Station Landfarm

**Work Order #:** 396369

**Lab Batch #:** 831275

**Project ID:** 2004-00061

**Date Analyzed:** 11/09/2010

**Date Prepared:** 11/09/2010

**Analyst:** LATCOR

**QC- Sample ID:** 396364-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	27.4	25.5	7	20	

**Lab Batch #:** 830971

**Date Analyzed:** 11/08/2010

**Date Prepared:** 11/08/2010

**Analyst:** JLG

**QC- Sample ID:** 396364-001 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.93	2.73	7	20	

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





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

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

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

Client: Basin Environmental  
Date/Time: 11-5-10 15:15  
Lab ID #: 396369  
Initials: LM

#### Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	<u>No</u>	N/A	
17. VOC sample have zero head space?	Yes	No	<u>N/A</u>	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>2.6</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

#### Nonconformance Documentation

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAP 5.6.8.3.1 a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 396371**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**11-NOV-10**



**Celebrating 20 Years of commitment to excellence in Environmental Testing Services**



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Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

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Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)  
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



11-NOV-10

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

Reference: XENCO Report No: **396371**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 396371. 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. 396371 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 396371



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell F G-1	S	Nov-01-10 09:40		396371-001
TZ Cell F G-2	S	Nov-01-10 09:45		396371-002
TZ Cell F G-3	S	Nov-01-10 09:50		396371-003
TZ Cell F G-4	S	Nov-01-10 09:55		396371-004
TZ Cell F G-5	S	Nov-01-10 10:00		396371-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 396371*

*Report Date: 11-NOV-10*

*Date Received: 11/05/2010*

---

***Sample receipt non conformances and Comments:***

*None*

---

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

*None*

# Certificate of Analysis Summary 396371

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Nov-05-10 03:15 pm

Report Date: 11-NOV-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	396371-001	396371-002	396371-003	396371-004	396371-005
	Field Id:	TZ Cell F G-1	TZ Cell F G-2	TZ Cell F G-3	TZ Cell F G-4	TZ Cell F G-5
Anions by E300	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
Percent Moisture	Sampled:	Nov-01-10 09:40	Nov-01-10 09:45	Nov-01-10 09:50	Nov-01-10 09:55	Nov-01-10 10:00
	Extracted:					
Chloride	Analyzed:	Nov-09-10 07:52	Nov-09-10 07:52	Nov-09-10 07:52	Nov-09-10 13:23	Nov-09-10 13:23
	Units/RL:	mg/kg RL 48.7 4.28	mg/kg RL 132 4.31	mg/kg RL 30.4 4.33	mg/kg RL 43.1 4.41	mg/kg RL ND 4.37
TPH By SW8015 Mod	Extracted:					
	Analyzed:	Nov-08-10 14:45	Nov-08-10 14:45	Nov-08-10 14:45	Nov-08-10 14:45	Nov-08-10 14:45
C6-C12 Gasoline Range Hydrocarbons	Units/RL:	% RL 1.95 1.00	% RL 2.53 1.00	% RL 2.91 1.00	% RL 4.67 1.00	% RL 3.89 1.00
	Extracted:	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45
C12-C28 Diesel Range Hydrocarbons	Analyzed:	Nov-10-10 08:53	Nov-10-10 08:53	Nov-09-10 14:24	Nov-09-10 14:45	Nov-09-10 15:05
	Units/RL:	mg/kg RL ND 15.3	mg/kg RL ND 15.4	mg/kg RL ND 15.4	mg/kg RL ND 15.8	mg/kg RL 24.0 15.7
C28-C35 Oil Range Hydrocarbons	Extracted:					
	Analyzed:	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45
Total TPH	Units/RL:	349 15.3	563 15.4	507 15.4	373 15.8	194 15.7
	Extracted:	52.4 15.3	66.3 15.4	40.9 15.4	23.0 15.8	ND 15.7
	Analyzed:					
	Units/RL:	401 15.3	629 15.4	548 15.4	396 15.8	218 15.7

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

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Brent Barron, II  
Odessa Laboratory Manager



## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396371,

Project ID: 2004-00061

Lab Batch #: 831198

Sample: 578252-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/10 12:07

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	100	96	70-135	
o-Terphenyl	56.9	50.1	114	70-135	

Lab Batch #: 831198

Sample: 578252-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/10 12:26

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	100	98	70-135	
o-Terphenyl	63.5	50.1	127	70-135	

Lab Batch #: 831198

Sample: 578252-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/10 12:46

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.1	99.7	99	70-135	
o-Terphenyl	53.4	49.9	107	70-135	

Lab Batch #: 831198

Sample: 396371-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/10 14:24

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.3	99.5	98	70-135	
o-Terphenyl	58.9	49.8	118	70-135	

Lab Batch #: 831198

Sample: 396371-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/10 14:45

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.9	100	96	70-135	
o-Terphenyl	58.3	50.2	116	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396371,

Project ID: 2004-00061

Lab Batch #: 831198

Sample: 396371-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/10 15:05

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	57.4	50.2	114	70-135	

Lab Batch #: 831285

Sample: 396371-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.7	100	87	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 831285

Sample: 396371-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	54.3	50.0	109	70-135	

Lab Batch #: 831285

Sample: 578294-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	64.8	50.1	129	70-135	

Lab Batch #: 831285

Sample: 578294-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.7	129	70-135	
o-Terphenyl	63.7	49.9	128	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396371,

Project ID: 2004-00061

Lab Batch #: 831285

Sample: 578294-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/10 08:53

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	60.5	50.1	121	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

**Project Name: Lea Station Landfarm**

**Work Order #: 396371**

**Analyst: LATCOR**

**Lab Batch ID: 831275**

**Sample: 831275-1-BKS**

**Date Prepared: 11/09/2010**

**Batch #: 1**

**Project ID: 2004-00061**

**Date Analyzed: 11/09/2010**

**Matrix: Solid**

**Units: mg/kg**

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Anions by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.34	93	10	9.27	93	1	75-125	20	

**Analyst: LATCOR**

**Lab Batch ID: 831277**

**Sample: 831277-1-BKS**

**Date Prepared: 11/09/2010**

**Batch #: 1**

**Date Analyzed: 11/09/2010**

**Matrix: Solid**

**Units: mg/kg**

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Anions by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	10.4	104	10	10.7	107	3	75-125	20	

**Analyst: BEV**

**Lab Batch ID: 831198**

**Sample: 578252-1-BKS**

**Date Prepared: 11/08/2010**

**Batch #: 1**

**Date Analyzed: 11/09/2010**

**Matrix: Solid**

**Units: mg/kg**

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	TPH By SW8015 Mod	Analytes	Blank	Spike	Blank	Blank	Spike	Blank	Blk. Spk	RPD	Control	Control	Flag
			Sample	Added	Spike	Spike	Added	Duplicate	Dup.	%	Limits	Limits	
			Result	[B]	Result	%R	[E]	Result [F]	[G]	%	%R	%RPD	
			[A]		[C]	[D]							
	C6-C12 Gasoline Range Hydrocarbons		ND	1000	923	92	1000	941	94	2	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		ND	1000	919	92	1000	915	92	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

# Project Name: Lea Station Landfarm

Work Order #: 396371

Analyst: BEV

Lab Batch ID: 831285

Sample: 578294-1-BKS

Date Prepared: 11/08/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 11/10/2010

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	841	84	1000	796	80	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	874	87	1000	814	81	7	70-135	35	

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



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 396371

Lab Batch #: 831275

Date Analyzed: 11/09/2010

QC- Sample ID: 396364-001 S

Reporting Units: mg/kg

Project ID: 2004-00061

Analyst: LATCOR

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	27.4	103	129	99	75-125	

Lab Batch #: 831277

Date Analyzed: 11/09/2010

QC- Sample ID: 396371-004 S

Reporting Units: mg/kg

Date Prepared: 11/09/2010

Analyst: LATCOR

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	43.1	105	156	108	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

BRL - Below Reporting Limit

**Project Name: Lea Station Landfarm**

**Work Order #: 396371**

**Lab Batch #: 831275**

**Project ID: 2004-00061**

**Date Analyzed: 11/09/2010**

**Date Prepared: 11/09/2010**

**Analyst: LATCOR**

**QC- Sample ID: 396364-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	27.4	25.5	7	20	

**Lab Batch #: 831277**

**Date Analyzed: 11/09/2010**

**Date Prepared: 11/09/2010**

**Analyst: LATCOR**

**QC- Sample ID: 396371-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	43.1	41.7	3	20	

**Lab Batch #: 830971**

**Date Analyzed: 11/08/2010**

**Date Prepared: 11/08/2010**

**Analyst: JLG**

**QC- Sample ID: 396364-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.93	2.73	7	20	

**Lab Batch #: 830973**

**Date Analyzed: 11/08/2010**

**Date Prepared: 11/08/2010**

**Analyst: JLG**

**QC- Sample ID: 396371-004 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	4.67	4.28	9	20	

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







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

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

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

Client: Basin Environmental  
Date/Time: 11-5-10 15:15  
Lab ID #: 396371  
Initials: AM

#### Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	<u>No</u>	N/A	
17. VOC sample have zero head space?	Yes	No	<u>N/A</u>	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>2.6</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

#### Nonconformance Documentation

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAP 5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 396373**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**11-NOV-10**



**Celebrating 20 Years of commitment to excellence in Environmental Testing Services**



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Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

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Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

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Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



11-NOV-10

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

Reference: XENCO Report No: **396373**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 396373. 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. 396373 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 396373



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell G G-1	S	Nov-01-10 10:05		396373-001
TZ Cell G G-2	S	Nov-01-10 10:10		396373-002
TZ Cell G G-3	S	Nov-01-10 10:15		396373-003
TZ Cell G G-4	S	Nov-01-10 10:20		396373-004
TZ Cell G G-5	S	Nov-01-10 10:25		396373-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 396373*

*Report Date: 11-NOV-10*

*Date Received: 11/05/2010*

---

***Sample receipt non conformances and Comments:***

*None*

---

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

*None*

# Certificate of Analysis Summary 396373

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Fri Nov-05-10 03:15 pm

Report Date: 11-NOV-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	396373-001	396373-002	396373-003	396373-004	396373-005
	Field Id:	TZ Cell G G-1	TZ Cell G G-2	TZ Cell G G-3	TZ Cell G G-4	TZ Cell G G-5
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Nov-01-10 10:05	Nov-01-10 10:10	Nov-01-10 10:15	Nov-01-10 10:20	Nov-01-10 10:25
Anions by E300	Extracted:					
	Analyzed:	Nov-09-10 13:23	Nov-09-10 13:23	Nov-09-10 13:23	Nov-09-10 13:23	Nov-09-10 13:23
	Units/RL:	mg/kg RL ND 4.25	mg/kg RL 6.53 4.28	mg/kg RL 11.3 4.28	mg/kg RL 17.8 4.27	mg/kg RL ND 4.24
Percent Moisture	Extracted:					
	Analyzed:	Nov-08-10 14:45	Nov-08-10 14:45	Nov-09-10 08:15	Nov-09-10 08:15	Nov-09-10 08:15
	Units/RL:	% RL 1.19 1.00	% RL 1.87 1.00	% RL 1.82 1.00	% RL 1.67 1.00	% RL ND 1.00
TPH By SW8015 Mod	Extracted:	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45
	Analyzed:	Nov-09-10 15:24	Nov-09-10 15:44	Nov-09-10 16:04	Nov-10-10 09:19	Nov-10-10 09:19
	Units/RL:	mg/kg RL 24.0 15.2	mg/kg RL ND 15.2	mg/kg RL 19.2 15.3	mg/kg RL ND 15.2	mg/kg RL 24.5 15.1
C6-C12 Gasoline Range Hydrocarbons	Extracted:					
	Analyzed:	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45
	Units/RL:	mg/kg RL 981 15.2	mg/kg RL 3370 15.2	mg/kg RL 2660 15.3	mg/kg RL 2270 15.2	mg/kg RL 886 15.1
C12-C28 Diesel Range Hydrocarbons	Extracted:					
	Analyzed:	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45
	Units/RL:	mg/kg RL 33.6 15.2	mg/kg RL 98.1 15.2	mg/kg RL 71.6 15.3	mg/kg RL 63.4 15.2	mg/kg RL 23.2 15.1
C28-C35 Oil Range Hydrocarbons	Extracted:					
	Analyzed:	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45
	Units/RL:	mg/kg RL 1039 15.2	mg/kg RL 3468 15.2	mg/kg RL 2751 15.3	mg/kg RL 2333 15.2	mg/kg RL 934 15.1
Total TPH	Extracted:					
	Analyzed:	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45	Nov-08-10 10:45
	Units/RL:	mg/kg RL 1039 15.2	mg/kg RL 3468 15.2	mg/kg RL 2751 15.3	mg/kg RL 2333 15.2	mg/kg RL 934 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.

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396373,

Project ID: 2004-00061

Lab Batch #: 831198

Sample: 578252-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/10 12:07

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.1	100	96	70-135	
o-Terphenyl	56.9	50.1	114	70-135	

Lab Batch #: 831198

Sample: 578252-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/10 12:26

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.4	100	98	70-135	
o-Terphenyl	63.5	50.1	127	70-135	

Lab Batch #: 831198

Sample: 578252-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/10 12:46

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.1	99.7	99	70-135	
o-Terphenyl	53.4	49.9	107	70-135	

Lab Batch #: 831198

Sample: 396373-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/10 15:24

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	61.6	50.2	123	70-135	

Lab Batch #: 831198

Sample: 396373-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/10 15:44

SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	99.7	101	70-135	
o-Terphenyl	52.4	49.9	105	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396373,

Project ID: 2004-00061

Lab Batch #: 831198

Sample: 396373-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/10 16:04

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.3	100	98	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 831198

Sample: 396373-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 09:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.6	99.8	88	70-135	
o-Terphenyl	47.6	49.9	95	70-135	

Lab Batch #: 831198

Sample: 396373-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 09:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.7	99.7	100	70-135	
o-Terphenyl	52.6	49.9	105	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 396373

Analyst: LATCOR

Lab Batch ID: 831277

Sample: 831277-1-BKS

Date Prepared: 11/09/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Anions by E300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
	Chloride	ND	10.0	10.4	104	10	10.7	3	75-125	20	

Analyst: BEV

Lab Batch ID: 831198

Sample: 578252-1-BKS

Date Prepared: 11/08/2010

Batch #: 1

Date Analyzed: 11/09/2010

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg	TPH By SW8015 Mod	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
		[A]	[B]	[C]	[D]	[E]	[F]	[G]				

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 396373

Lab Batch #: 831277

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Date Prepared: 11/09/2010

Analyst: LATCOR

QC- Sample ID: 396371-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	43.1	105	156	108	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

BRL - Below Reporting Limit

**Project Name: Lea Station Landfarm**

**Work Order #: 396373**

**Lab Batch #: 831277**

**Project ID: 2004-00061**

**Date Analyzed: 11/09/2010**

**Date Prepared: 11/09/2010**

**Analyst: LATCOR**

**QC- Sample ID: 396371-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	43.1	41.7	3	20	

**Lab Batch #: 830973**

**Date Analyzed: 11/08/2010**

**Date Prepared: 11/08/2010**

**Analyst: JLG**

**QC- Sample ID: 396371-004 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	4.67	4.28	9	20	

**Lab Batch #: 831044**

**Date Analyzed: 11/09/2010**

**Date Prepared: 11/09/2010**

**Analyst: JLG**

**QC- Sample ID: 396373-003 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	1.82	1.99	9	20	

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





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

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

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

Client: Basin Environmental  
Date/Time: 11-6-10 15:15  
Lab ID #: 396313  
Initials: LM

#### Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and samples?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	<u>No</u>	N/A	
17. VOC sample have zero head space?	Yes	No	<u>N/A</u>	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>2.6</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

#### Nonconformance Documentation

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

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

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

Check all that apply. ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAP 4.6.8.3.1 a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

**Analytical Report 396375**  
**for**  
**PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**11-NOV-10**



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Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

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Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





11-NOV-10

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

Reference: XENCO Report No: **396375**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 396375. 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. 396375 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 396375



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell H G-1	S	Nov-01-10 10:30		396375-001
TZ Cell H G-2	S	Nov-01-10 10:35		396375-002
TZ Cell H G-3	S	Nov-01-10 10:40		396375-003



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 396375*

*Report Date: 11-NOV-10*

*Date Received: 11/05/2010*

---

***Sample receipt non conformances and Comments:***

*None*

---

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

*None*

# Certificate of Analysis Summary 396375

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

### Project Name: Lea Station Landfarm

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

**Date Received in Lab:** Fri Nov-05-10 03:15 pm  
**Report Date:** 11-NOV-10  
**Project Manager:** Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>		<i>Field Id:</i>		<i>Depth:</i>		<i>Matrix:</i>		<i>Sampled:</i>		<i>Extracted:</i>		<i>Analyzed:</i>		<i>Units/RL:</i>	
	396375-001		TZ Cell H G-1		SOIL		Nov-01-10 10:30		Nov-09-10 13:23		Nov-09-10 13:23		Nov-09-10 08:15		Nov-09-10 08:15	
	mg/kg		RL		RL		mg/kg		RL		mg/kg		RL		mg/kg	
Chloride	116		4.32				160		4.29		166		4.31			
<i>Percent Moisture</i>	<i>Extracted:</i>		<i>Analyzed:</i>		<i>Units/RL:</i>		<i>Extracted:</i>		<i>Analyzed:</i>		<i>Units/RL:</i>		<i>Extracted:</i>		<i>Analyzed:</i>	
	2.84		1.00				2.10		1.00				2.49		1.00	
TPH By SW8015 Mod	Nov-08-10 10:45		Nov-08-10 10:45		Nov-08-10 10:45		Nov-08-10 10:45		Nov-08-10 10:45		Nov-08-10 10:45		Nov-08-10 10:45		Nov-08-10 10:45	
	mg/kg		RL		RL		mg/kg		RL		mg/kg		RL		mg/kg	
C6-C12 Gasoline Range Hydrocarbons	ND		76.8		ND		20.3		15.3		ND		15.5		ND	
C12-C28 Diesel Range Hydrocarbons	3560		76.8		2740		15.3		15.3		695		15.5		695	
C28-C35 Oil Range Hydrocarbons	92.6		76.8		71.1		15.3		15.3		28.7		15.5		28.7	
Total TPH	3653		76.8		2831		15.3		15.3		724		15.5		724	

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396375,

Project ID: 2004-00061

Lab Batch #: 831198

Sample: 578252-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/10 12:07

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	100	96	70-135	
o-Terphenyl	56.9	50.1	114	70-135	

Lab Batch #: 831198

Sample: 578252-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/10 12:26

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	100	98	70-135	
o-Terphenyl	63.5	50.1	127	70-135	

Lab Batch #: 831198

Sample: 578252-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/10 12:46

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.1	99.7	99	70-135	
o-Terphenyl	53.4	49.9	107	70-135	

Lab Batch #: 831198

Sample: 396375-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 09:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.5	105	70-135	
o-Terphenyl	57.0	49.8	114	70-135	

Lab Batch #: 831198

Sample: 396375-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 09:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.7	100	70-135	
o-Terphenyl	54.3	49.9	109	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 396375,

Project ID: 2004-00061

Lab Batch #: 831198

Sample: 396375-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/10 09:19

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	101	102	70-135	
o-Terphenyl	53.0	50.3	105	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 396375

Analyst: LATCOR

Lab Batch ID: 831277

Sample: 831277-1-BKS

Date Prepared: 11/09/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
Analytes	Anions by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride			ND	10.0	10.4	104	10	10.7	107	3	75-125	20	

Analyst: BEV

Lab Batch ID: 831198

Sample: 578252-1-BKS

Date Prepared: 11/08/2010

Batch #: 1

Date Analyzed: 11/09/2010

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	923	92	1000	941	94	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	1000	919	92	1000	915	92	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 Landfarm

Work Order #: 396375

Lab Batch #: 831277

Project ID: 2004-00061

Date Analyzed: 11/09/2010

Date Prepared: 11/09/2010

Analyst: LATCOR

QC- Sample ID: 396371-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	43.1	105	156	108	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

BRL - Below Reporting Limit

**Project Name:** Lea Station Landfarm

**Work Order #:** 396375

**Lab Batch #:** 831277

**Project ID:** 2004-00061

**Date Analyzed:** 11/09/2010

**Date Prepared:** 11/09/2010

**Analyst:** LATCOR

**QC- Sample ID:** 396371-004 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	43.1	41.7	3	20	

**Lab Batch #:** 831044

**Date Analyzed:** 11/09/2010

**Date Prepared:** 11/09/2010

**Analyst:** JLG

**QC- Sample ID:** 396373-003 D

**Batch #:** 1

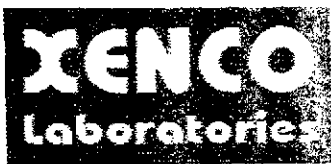
**Matrix:** Soil

**Reporting Units:** %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.82	1.99	9	20	

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





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

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

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

Client: Basin Environmental  
Date/Time: 11-5-10 15:15  
Lab ID #: 396375  
Initials: AM

#### Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and/or bag?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	<u>No</u>	N/A	
17. VOC sample have zero head space?	Yes	No	<u>N/A</u>	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>2.6</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

#### Nonconformance Documentation

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

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

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

Check all that apply. ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAP 5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 376694**

**for**

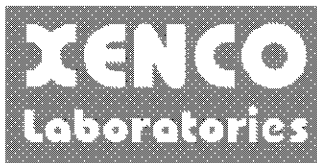
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



16-JUN-10

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

Reference: XENCO Report No: **376694**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376694. 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. 376694 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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*Certified and approved by numerous States and Agencies.*

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## Sample Cross Reference 376694



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell A G-1	S	Jun-09-10 08:00		376694-001
VZ Cell A G-2	S	Jun-09-10 08:20		376694-002
VZ Cell A G-3	S	Jun-09-10 08:40		376694-003
VZ Cell A G-4	S	Jun-09-10 09:00		376694-004
VZ Cell A G-5	S	Jun-09-10 09:20		376694-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376694*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810301 Percent Moisture

None

Batch: LBA-810414 BTEX by EPA 8021

SW8021BM

Batch 810414, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376694-001,376694-005,376694-004,376694-003.

SW8021BM

Batch 810414, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376694-001, -005, -003, -004.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-810595 TPH by SW8015 Mod

None





## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376694*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

---

*Batch: LBA-810601 BTEX by EPA 8021  
SW8021BM*

*Batch 810601, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 376694-002.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*SW8021BM*

*Batch 810601, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 376694-002.*

*Batch: LBA-810781 Inorganic Anions by EPA 300*

*None*

# Certificate of Analysis Summary 376694

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		376694-001		376694-002		376694-003		376694-004		376694-005	
	Field Id:	Depth:	VZ Cell A G-1	SOIL	VZ Cell A G-2	SOIL	VZ Cell A G-3	SOIL	VZ Cell A G-4	SOIL	VZ Cell A G-5	SOIL
BTEX by EPA 8021	Matrix:		Jun-09-10 08:00		Jun-09-10 08:20		Jun-09-10 08:40		Jun-09-10 09:00		Jun-09-10 09:20	
	Sampled:											
	Extracted:		Jun-11-10 10:30		Jun-14-10 08:00		Jun-11-10 10:30		Jun-11-10 10:30		Jun-11-10 10:30	
	Analyzed:		Jun-11-10 16:41		Jun-14-10 15:17		Jun-11-10 17:26		Jun-11-10 17:48		Jun-11-10 18:11	
	Units/RL:		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL	
Inorganic Anions In Soil by E300			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0024		ND 0.0021		ND 0.0020		ND 0.0021		ND 0.0023	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0024		ND 0.0021		ND 0.0020		ND 0.0021		ND 0.0023	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
Percent Moisture			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
TPH by SW8015 Mod	Extracted:		Jun-14-10 09:21		Jun-14-10 09:21		Jun-14-10 09:21		Jun-14-10 09:21		Jun-14-10 09:21	
	Analyzed:		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL	
	Units/RL:		8.53 5.97		9.82 5.25		7.81 5.12		ND 5.21		7.60 5.76	
Total TPH			16.3 1.00		4.76 1.00		2.30 1.00		4.12 1.00		13.2 1.00	
Total TPH	Extracted:		Jun-11-10 14:30		Jun-11-10 14:30		Jun-11-10 14:30		Jun-11-10 14:30		Jun-11-10 14:30	
	Analyzed:		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL	
	Units/RL:		ND 17.8		ND 15.7		ND 15.4		ND 15.6		ND 17.3	
			ND 17.8		ND 15.7		ND 15.4		ND 15.6		ND 17.3	
			ND 17.8		ND 15.7		ND 15.4		ND 15.6		ND 17.3	

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 565602-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 14:48

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 15:10

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 16:18

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376694-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 16:41

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0233	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 810414

Sample: 376694-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 17:26

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0236	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 376694-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 17:48

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376694-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 18:11

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0236	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810414

Sample: 376694-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:38

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376694-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 21:00

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 810601

Sample: 565716-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 08:50

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810601

Sample: 565716-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 09:13

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 810601

Sample: 565716-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 10:21

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810601

Sample: 376694-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:17

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810601

Sample: 376694-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:40

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376694-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:02

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 565721-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 17:46

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810595

Sample: 565721-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:13

### 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	48.2	50.0	96	70-135	

Lab Batch #: 810595

Sample: 565721-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:41

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.1	49.8	103	70-135	

Lab Batch #: 810595

Sample: 376694-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 10:06

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.5	103	70-135	
o-Terphenyl	49.9	49.8	100	70-135	

Lab Batch #: 810595

Sample: 376694-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 10:34

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	49.4	50.0	99	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 376694-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 11:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.6	100	95	70-135	
o-Terphenyl	45.9	50.0	92	70-135	

Lab Batch #: 810595

Sample: 376694-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 11:57

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.8	99.9	96	70-135	
o-Terphenyl	47.6	50.0	95	70-135	

Lab Batch #: 810595

Sample: 376701-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	44.0	49.8	88	70-135	

Lab Batch #: 810595

Sample: 376701-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 810595

Sample: 376694-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 18:48

### 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	57.2	50.1	114	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Project Name: Lea Station Landfarm

Work Order #: 376694

Analyst: ASA

Lab Batch ID: 810414

Sample: 565602-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/11/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0986	99	0.1	0.1002	100	2	70-130	35
	Toluene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	70-130	35
	Ethylbenzene	ND	0.1000	0.0988	99	0.1	0.1000	100	1	71-129	35
	m,p-Xylenes	ND	0.2000	0.1984	99	0.2	0.2003	100	1	70-135	35
o-Xylene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	71-133	35	

Analyst: ASA

Lab Batch ID: 810601

Sample: 565716-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.1076	108	0.1	0.1053	105	2	70-130	35
	Toluene	ND	0.1000	0.1063	106	0.1	0.1033	103	3	70-130	35
	Ethylbenzene	ND	0.1000	0.1085	109	0.1	0.1046	105	4	71-129	35
	m,p-Xylenes	ND	0.2000	0.2185	109	0.2	0.2102	105	4	70-135	35
o-Xylene	ND	0.1000	0.1075	108	0.1	0.1032	103	4	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

# Project Name: Lea Station Landfarm

Work Order #: 376694

Analyst: LATCOR

Lab Batch ID: 810781

Sample: 810781-1-BKS

Units: mg/kg

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Matrix: Solid

Date Prepared: 06/14/2010

Batch #: 1

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.99	100	10	8.68	87	14	75-125	20	

Analyst: BEV

Lab Batch ID: 810595

Sample: 565721-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Date Analyzed: 06/11/2010

Matrix: Solid

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	998	1170	117	1000	1130	113	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	861	86	1000	1010	101	16	70-135	35	

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



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 376694

Lab Batch #: 810781

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Analyst: LATCOR

QC- Sample ID: 376313-001 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	272	209	474	97	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

BRL - Below Reporting Limit

Work Order #: 376694

Lab Batch ID: 810414

Date Analyzed: 06/12/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376694-001 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1197	0.0744	62	0.1200	0.0595	50	22	70-130	35	X
	Toluene	ND	0.1197	0.0741	62	0.1200	0.0594	50	22	70-130	35	X
	Ethylbenzene	ND	0.1197	0.0758	63	0.1200	0.0611	51	21	71-129	35	X
	m,p-Xylenes	ND	0.2394	0.1515	63	0.2399	0.1239	52	20	70-135	35	X
	o-Xylene	ND	0.1197	0.0750	63	0.1200	0.0610	51	21	71-133	35	X

Lab Batch ID: 810601

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

QC-Sample ID: 376694-002 S

Date Prepared: 06/14/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	ND	0.1048	0.0678	65	0.1050	0.0720	69	6	70-130	35	X
		Toluene	ND	0.1048	0.0670	64	0.1050	0.0713	68	6	70-130	35	X
		Ethylbenzene	ND	0.1048	0.0683	65	0.1050	0.0725	69	6	71-129	35	X
		m,p-Xylenes	ND	0.2096	0.1378	66	0.2100	0.1458	69	6	70-135	35	X
		o-Xylene	ND	0.1048	0.0662	63	0.1050	0.0708	67	7	71-133	35	X

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

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



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order # : 376694

Lab Batch ID: 810595

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376701-003 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/11/2010 Analyst: BEV

TPH by SW8015 Mod

Analytes

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	Control Flag	
	C6-C12 Gasoline Range Hydrocarbons	ND	998	1040	104	998	953	95	9	70-135	35		
	C12-C28 Diesel Range Hydrocarbons	ND	998	1020	102	998	835	84	20	70-135	35		

C6-C12 Gasoline Range Hydrocarbons

C12-C28 Diesel Range Hydrocarbons

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

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

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

**Project Name: Lea Station Landfarm**

**Work Order #: 376694**

**Lab Batch #: 810781**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376313-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	272	255	6	20	

**Lab Batch #: 810301**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376694-001 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	16.3	16.7	2	20	

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



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376694  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis





**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376694  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 376699**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



16-JUN-10

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

Reference: XENCO Report No: **376699**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376699. 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. 376699 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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## Sample Cross Reference 376699



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell B G-1	S	Jun-09-10 09:40		376699-001
VZ Cell B G-2	S	Jun-09-10 10:00		376699-002
VZ Cell B G-3	S	Jun-09-10 10:15		376699-003
VZ Cell B G-4	S	Jun-09-10 10:30		376699-004
VZ Cell B G-5	S	Jun-09-10 10:45		376699-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376699*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810301 Percent Moisture

None

Batch: LBA-810414 BTEX by EPA 8021  
SW8021BM

Batch 810414, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis  
Samples affected are: 376699-001,376699-005,376699-002.

SW8021BM

Batch 810414, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376699-005, -001, -002.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-810595 TPH by SW8015 Mod  
SW8015MOD\_NM

Batch 810595, 1-Chlorooctane, o-Terphenyl recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis  
Samples affected are: 376699-005.



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376699*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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*Batch: LBA-810601 BTEX by EPA 8021  
SW8021BM*

*Batch 810601, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis  
Samples affected are: 376699-003.*

*SW8021BM*

*Batch 810601, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 376699-004, -003.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*Batch: LBA-810693 TPH by SW8015 Mod*

*None*

*Batch: LBA-810781 Inorganic Anions by EPA 300*

*None*

# Certificate of Analysis Summary 376699

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II



Analysis Requested	Lab Id:		376699-001	376699-002	376699-003	376699-004	376699-005
	Field Id:	Depth:	VZ Cell B G-1	VZ Cell B G-2	VZ Cell B G-3	VZ Cell B G-4	VZ Cell B G-5
	Matrix:		SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:		Jun-09-10 09:40	Jun-09-10 10:00	Jun-09-10 10:15	Jun-09-10 10:30	Jun-09-10 10:45
BTEX by EPA 8021	Extracted:		Jun-11-10 10:30	Jun-11-10 10:30	Jun-14-10 08:00	Jun-14-10 08:00	Jun-11-10 10:30
	Analyzed:		Jun-11-10 18:33	Jun-11-10 18:55	Jun-14-10 17:32	Jun-14-10 17:09	Jun-12-10 15:45
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
Toluene			ND 0.0021	ND 0.0021	ND 0.0022	ND 0.0020	ND 0.0020
Ethylbenzene			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
m,p-Xylenes			ND 0.0021	ND 0.0021	ND 0.0022	ND 0.0020	ND 0.0020
o-Xylene			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
Xylenes, Total			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
Total BTEX			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
Inorganic Anions In Soil by E300							
Chloride	Extracted:						
	Analyzed:		Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
			14.9 5.18	6.29 5.19	6.39 5.30	6.42 5.15	5.64 5.12
Percent Moisture							
Percent Moisture	Extracted:						
	Analyzed:		Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Units/RL:		% RL	% RL	% RL	% RL	% RL
			3.39 1.00	3.69 1.00	5.65 1.00	2.92 1.00	2.32 1.00
TPH by SW8015 Mod							
C6-C12 Gasoline Range Hydrocarbons	Extracted:		Jun-11-10 14:30	Jun-11-10 14:30	Jun-15-10 08:30	Jun-11-10 14:30	Jun-15-10 08:30
	Analyzed:		Jun-12-10 12:25	Jun-12-10 12:53	Jun-15-10 15:57	Jun-14-10 11:02	Jun-15-10 13:13
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
			ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
C12-C28 Diesel Range Hydrocarbons	Extracted:		ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
	Analyzed:		ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
	Units/RL:		ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
			ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
C28-C35 Oil Range Hydrocarbons	Extracted:		ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
	Analyzed:		ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
	Units/RL:		ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
			ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
Total TPH							
			ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3

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

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Brent Barron, II  
Odessa Laboratory Manager



## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 565602-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 14:48

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 15:10

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 16:18

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376699-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 18:33

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 376699-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 18:55

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 376699-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 15:45

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 810414

Sample: 376694-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376694-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 21:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 810601

Sample: 565716-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 08:50

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 810601

Sample: 565716-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 09:13

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810601

Sample: 565716-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 10:21

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810601

Sample: 376694-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:40

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376694-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:02

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376699-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 17:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 810601

Sample: 376699-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 17:32

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 565721-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 17:46

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810595

Sample: 565721-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:13

### 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	48.2	50.0	96	70-135	

Lab Batch #: 810595

Sample: 565721-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:41

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.1	49.8	103	70-135	

Lab Batch #: 810595

Sample: 376699-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 12:25

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.0	99.5	76	70-135	
o-Terphenyl	37.8	49.8	76	70-135	

Lab Batch #: 810595

Sample: 376699-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 12:53

### 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	99.8	71	70-135	
o-Terphenyl	35.0	49.9	70	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 376699-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 11:02

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.4	99.8	88	70-135	
o-Terphenyl	42.3	49.9	85	70-135	

Lab Batch #: 810595

Sample: 376701-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	44.0	49.8	88	70-135	

Lab Batch #: 810595

Sample: 376701-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 810693

Sample: 565772-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/15/10 10:03

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 810693

Sample: 565772-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/15/10 10:30

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	54.2	50.0	108	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

**Project Name: Lea Station Landfarm**

**Work Orders :** 376699,

**Project ID:** 2004-00061

**Lab Batch #:** 810693

**Sample:** 377064-002 S / MS

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 06/15/10 11:51

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.5	129	70-135	
o-Terphenyl	50.6	49.8	102	70-135	

**Lab Batch #:** 810693

**Sample:** 377064-002 SD / MSD

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 06/15/10 12:18

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	99.9	130	70-135	
o-Terphenyl	51.9	50.0	104	70-135	

**Lab Batch #:** 810693

**Sample:** 376699-005 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 06/15/10 13:13

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.6	120	70-135	
o-Terphenyl	55.1	49.8	111	70-135	

**Lab Batch #:** 810693

**Sample:** 376699-003 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 06/15/10 15:57

### 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	57.7	50.0	115	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

**Project Name: Lea Station Landfarm**

**Work Order #: 376699**

**Project ID:**

2004-00061

**Lab Batch #: 810693**

**Sample: 565772-1-BKS**

**Matrix: Solid**

**Date Analyzed: 06/15/2010**

**Date Prepared: 06/15/2010**

**Analyst: ASA**

**Reporting Units: mg/kg**

**Batch #: 1**

## BLANK /BLANK SPIKE RECOVERY STUDY

TPH by SW8015 Mod  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
C6-C12 Gasoline Range Hydrocarbons	ND	1000	1170	117	70-135	
C12-C28 Diesel Range Hydrocarbons	ND	1000	818	82	70-135	

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

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

BRL - Below Reporting Limit



# Project Name: Lea Station Landfarm

Work Order #: 376699

Analyst: ASA

Lab Batch ID: 810414

Sample: 565602-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/11/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021  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	0.0986	99	0.1	0.1002	100	2	70-130	35
	Toluene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	70-130	35
	Ethylbenzene	ND	0.1000	0.0988	99	0.1	0.1000	100	1	71-129	35
	m,p-Xylenes	ND	0.2000	0.1984	99	0.2	0.2003	100	1	70-135	35
	o-Xylene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	71-133	35

Analyst: ASA

Lab Batch ID: 810601

Sample: 565716-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.1076	108	0.1	0.1053	105	2	70-130	35
	Toluene	ND	0.1000	0.1063	106	0.1	0.1033	103	3	70-130	35
	Ethylbenzene	ND	0.1000	0.1085	109	0.1	0.1046	105	4	71-129	35
	m,p-Xylenes	ND	0.2000	0.2185	109	0.2	0.2102	105	4	70-135	35
o-Xylene	ND	0.1000	0.1075	108	0.1	0.1032	103	4	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

## Project Name: Lea Station Landfarm

**Work Order #:** 376699

**Analyst:** LATCOR

**Lab Batch ID:** 810781

**Sample:** 810781-1-BKS

**Units:** mg/kg

**Project ID:** 2004-00061

**Date Analyzed:** 06/14/2010

**Batch #:** 1

**Matrix:** Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions In Soil by E300 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
	Chloride	ND	10.0	9.99	100	10	8.68	87	14	75-125	20

**Analyst:** BEV

**Lab Batch ID:** 810595

**Sample:** 565721-1-BKS

**Date Prepared:** 06/11/2010

**Batch #:** 1

**Date Analyzed:** 06/11/2010

**Matrix:** Solid

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	998	1170	117	1000	1130	113	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	861	86	1000	1010	101	16	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 376699

Lab Batch #: 810781

Date Analyzed: 06/14/2010

QC- Sample ID: 376313-001 S

Reporting Units: mg/kg

Date Prepared: 06/14/2010

Batch #: 1

Project ID: 2004-00061

Analyst: LATCOR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	272	209	474	97	75-125	

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

BRL - Below Reporting Limit

Work Order #: 376699

Lab Batch ID: 810414

Date Analyzed: 06/12/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376694-001 S

Date Prepared: 06/11/2010

Batch #: 1

Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	ND	0.1197	0.0744	62	0.1200	0.0595	50	22	70-130	35	X
		Toluene	ND	0.1197	0.0741	62	0.1200	0.0594	50	22	70-130	35	X
		Ethylbenzene	ND	0.1197	0.0758	63	0.1200	0.0611	51	21	71-129	35	X
		m,p-Xylenes	ND	0.2394	0.1515	63	0.2399	0.1239	52	20	70-135	35	X
		o-Xylene	ND	0.1197	0.0750	63	0.1200	0.0610	51	21	71-133	35	X

Lab Batch ID: 810601

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

QC-Sample ID: 376694-002 S

Date Prepared: 06/14/2010

Batch #: 1

Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	ND	0.1048	0.0678	65	0.1050	0.0720	69	6	70-130	35	X
		Toluene	ND	0.1048	0.0670	64	0.1050	0.0713	68	6	70-130	35	X
		Ethylbenzene	ND	0.1048	0.0683	65	0.1050	0.0725	69	6	71-129	35	X
		m,p-Xylenes	ND	0.2096	0.1378	66	0.2100	0.1458	69	6	70-135	35	X
		o-Xylene	ND	0.1048	0.0662	63	0.1050	0.0708	67	7	71-133	35	X

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

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

# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm

Work Order #: 376699

Lab Batch ID: 810595

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376701-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

## TPH by SW8015 Mod

### Analytes

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	998	1040	104	998	953	95	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	1020	102	998	835	84	20	70-135	35	

Lab Batch ID: 810693

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 377064-002 S

Date Prepared: 06/15/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

## TPH by SW8015 Mod

### Analytes

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	1070	1230	115	1070	1290	121	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1070	849	79	1070	881	82	4	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

**Project Name: Lea Station Landfarm**

**Work Order #: 376699**

**Lab Batch #: 810781**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376313-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	272	255	6	20	

**Lab Batch #: 810301**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376694-001 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	16.3	16.7	2	20	

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



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376699  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis



**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**

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

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

NPDES

344

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 376699  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 376700**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



16-JUN-10

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

Reference: XENCO Report No: **376700**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376700. 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. 376700 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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## Sample Cross Reference 376700



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell C G-1	S	Jun-09-10 11:00		376700-001
VZ Cell C G-2	S	Jun-09-10 11:15		376700-002
VZ Cell C G-3	S	Jun-09-10 11:30		376700-003
VZ Cell C G-4	S	Jun-09-10 11:45		376700-004
VZ Cell C G-5	S	Jun-09-10 12:00		376700-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376700*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810301 Percent Moisture

None

Batch: LBA-810414 BTEX by EPA 8021

SW8021BM

Batch 810414, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376700-004, -002, -003, -005, -001.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 810414, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376700-001, 376700-005, 376700-003, 376700-002.

Batch: LBA-810595 TPH by SW8015 Mod

None

Batch: LBA-810781 Inorganic Anions by EPA 300

None

# Certificate of Analysis Summary 376700

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		376700-001	376700-002	376700-003	376700-004	376700-005
	Field Id:	Depth:	VZ Cell C G-1	VZ Cell C G-2	VZ Cell C G-3	VZ Cell C G-4	VZ Cell C G-5
	Matrix:		SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:		Jun-09-10 11:00	Jun-09-10 11:15	Jun-09-10 11:30	Jun-09-10 11:45	Jun-09-10 12:00
BTEX by EPA 8021	Extracted:		Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30
	Analyzed:		Jun-12-10 16:52	Jun-12-10 17:15	Jun-12-10 17:37	Jun-12-10 18:00	Jun-12-10 18:22
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
Toluene			ND 0.0021	ND 0.0021	ND 0.0024	ND 0.0020	ND 0.0020
Ethylbenzene			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
m,p-Xylenes			ND 0.0021	ND 0.0021	ND 0.0024	ND 0.0020	ND 0.0020
o-Xylene			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
Xylenes, Total			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
Total BTEX			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
Inorganic Anions In Soil by E300	Extracted:						
	Analyzed:		Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride			ND 5.30	ND 5.27	15.8 5.88	ND 5.14	8.71 5.11
Percent Moisture	Extracted:						
	Analyzed:		Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Units/RL:		% RL	% RL	% RL	% RL	% RL
Percent Moisture			5.67 1.00	5.14 1.00	15.0 1.00	2.79 1.00	2.06 1.00
TPH by SW8015 Mod	Extracted:		Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30
	Analyzed:		Jun-14-10 18:21	Jun-14-10 13:22	Jun-14-10 13:49	Jun-14-10 14:16	Jun-14-10 14:43
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons			ND 15.9	ND 15.8	ND 17.7	ND 15.5	ND 15.4
C12-C28 Diesel Range Hydrocarbons			ND 15.9	ND 15.8	ND 17.7	ND 15.5	ND 15.4
C28-C35 Oil Range Hydrocarbons			ND 15.9	ND 15.8	ND 17.7	ND 15.5	ND 15.4
Total TPH			ND 15.9	ND 15.8	ND 17.7	ND 15.5	ND 15.4

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376700,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 565602-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 14:48

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 15:10

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 16:18

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376700-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 16:52

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 810414

Sample: 376700-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 17:15

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376700,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 376700-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 17:37

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376700-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 18:00

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 810414

Sample: 376700-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 18:22

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 810414

Sample: 376694-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:38

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376694-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 21:00

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376700,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 565721-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 17:46

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810595

Sample: 565721-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:13

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	48.2	50.0	96	70-135	

Lab Batch #: 810595

Sample: 565721-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:41

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.1	49.8	103	70-135	

Lab Batch #: 810595

Sample: 376700-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 13:22

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.0	99.7	96	70-135	
o-Terphenyl	47.1	49.9	94	70-135	

Lab Batch #: 810595

Sample: 376700-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 13:49

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	50.3	50.1	100	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376700,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 376700-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 14:16

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	101	111	70-135	
o-Terphenyl	53.6	50.3	107	70-135	

Lab Batch #: 810595

Sample: 376700-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 14:43

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	101	98	70-135	
o-Terphenyl	47.9	50.3	95	70-135	

Lab Batch #: 810595

Sample: 376701-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	44.0	49.8	88	70-135	

Lab Batch #: 810595

Sample: 376701-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 810595

Sample: 376700-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 18:21

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 376700

Analyst: ASA

Lab Batch ID: 810414

Sample: 565602-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/11/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0986	99	0.1	0.1002	100	2	70-130	35
	Toluene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	70-130	35
	Ethylbenzene	ND	0.1000	0.0988	99	0.1	0.1000	100	1	71-129	35
	m,p-Xylenes	ND	0.2000	0.1984	99	0.2	0.2003	100	1	70-135	35
o-Xylene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	71-133	35	

Analyst: LATCOR

Lab Batch ID: 810781

Sample: 810781-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.99	100	10	8.68	87	14	75-125	20	

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

# Project Name: Lea Station Landfarm

Work Order #: 376700

Analyst: BEV

Lab Batch ID: 810595

Sample: 565721-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/11/2010

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	998	1170	117	1000	1130	113	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	861	86	1000	1010	101	16	70-135	35	

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



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 376700

Lab Batch #: 810781

Date Analyzed: 06/14/2010

QC- Sample ID: 376313-001 S

Reporting Units: mg/kg

Date Prepared: 06/14/2010

Batch #: 1

Project ID: 2004-00061

Analyst: LATCOR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	272	209	474	97	75-125	

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

BRL - Below Reporting Limit

Work Order #: 376700

Lab Batch ID: 810414

Date Analyzed: 06/12/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376694-001 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1197	0.0744	62	0.1200	0.0595	50	22	70-130	35	X
	Toluene	ND	0.1197	0.0741	62	0.1200	0.0594	50	22	70-130	35	X
	Ethylbenzene	ND	0.1197	0.0758	63	0.1200	0.0611	51	21	71-129	35	X
	m,p-Xylenes	ND	0.2394	0.1515	63	0.2399	0.1239	52	20	70-135	35	X
	o-Xylene	ND	0.1197	0.0750	63	0.1200	0.0610	51	21	71-133	35	X

Lab Batch ID: 810595

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

QC-Sample ID: 376701-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

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	998	1040	104	998	953	95	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	1020	102	998	835	84	20	70-135	35	

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

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

ND Not Detected, J Present Below Reporting Limit, B Present in Blank, NR Not Requested, I Interference, NA Not

ApplicableN See Narrative, EQL Estimated Quantification Limit



**Project Name: Lea Station Landfarm**

**Work Order #: 376700**

**Lab Batch #: 810781**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376313-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	272	255	6	20	

**Lab Batch #: 810301**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376694-001 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	16.3	16.7	2	20	

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



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 10:10Lab ID #: 376700Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis



**XENCO Laboratories**

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Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 376700  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 376701**

**for**

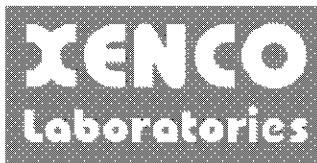
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



16-JUN-10

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

Reference: XENCO Report No: **376701**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376701. 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. 376701 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 376701



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell D G-1	S	Jun-09-10 12:20		376701-001
VZ Cell D G-2	S	Jun-09-10 12:40		376701-002
VZ Cell D G-3	S	Jun-09-10 13:00		376701-003
VZ Cell D G-4	S	Jun-09-10 13:20		376701-004
VZ Cell D G-5	S	Jun-09-10 13:40		376701-005





## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376701*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-810301 Percent Moisture*

None

*Batch: LBA-810414 BTEX by EPA 8021*

*SW8021BM*

*Batch 810414, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 376701-001,376701-005,376701-003,376701-002.*

*SW8021BM*

*Batch 810414, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 376701-001, -005, -003, -002, -004.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*Batch: LBA-810595 TPH by SW8015 Mod*

None

*Batch: LBA-810644 TPH by SW8015 Mod*

None

*Batch: LBA-810781 Inorganic Anions by EPA 300*

None

*Batch: LBA-810796 Inorganic Anions by EPA 300*

None

# Certificate of Analysis Summary 376701

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	376701-001	376701-002	376701-003	376701-004	376701-005
	Field Id:	VZ Cell D G-1	VZ Cell D G-2	VZ Cell D G-3	VZ Cell D G-4	VZ Cell D G-5
	Depth:	SOIL	SOIL	SOIL	SOIL	SOIL
	Matrix:	Jun-09-10 12:20	Jun-09-10 12:40	Jun-09-10 13:00	Jun-09-10 13:20	Jun-09-10 13:40
BTEx by EPA 8021	Sampled:					
	Extracted:	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30
	Analyzed:	Jun-12-10 18:45	Jun-12-10 19:08	Jun-12-10 19:30	Jun-12-10 19:53	Jun-12-10 20:15
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
Toluene		ND 0.0021	ND 0.0020	ND 0.0020	ND 0.0021	ND 0.0021
Ethylbenzene		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
m,p-Xylenes		ND 0.0021	ND 0.0020	ND 0.0020	ND 0.0021	ND 0.0021
o-Xylene		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
Xylenes, Total		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
Total BTEx		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
Inorganic Anions In Soil by E300	Extracted:					
	Analyzed:	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 19:11	Jun-14-10 19:11
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		ND 5.21	13.1 5.09	ND 5.01	5.94 5.21	22.7 5.10
Percent Moisture	Extracted:					
	Analyzed:	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Units/RL:	% RL	% RL	% RL	% RL	% RL
Percent Moisture		4.10 1.00	1.80 1.00	ND 1.00	4.08 1.00	1.92 1.00
TPH by SW8015 Mod	Extracted:	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30
	Analyzed:	Jun-14-10 15:10	Jun-14-10 15:38	Jun-14-10 16:05	Jun-14-10 22:49	Jun-14-10 23:16
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.7	ND 15.3	ND 15.0	ND 15.6	ND 15.2
C12-C28 Diesel Range Hydrocarbons		ND 15.7	ND 15.3	ND 15.0	ND 15.6	ND 15.2
C28-C35 Oil Range Hydrocarbons		ND 15.7	ND 15.3	ND 15.0	ND 15.6	ND 15.2
Total TPH		ND 15.7	ND 15.3	ND 15.0	ND 15.6	ND 15.2

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 565602-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 14:48

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 15:10

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 16:18

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376701-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 18:45

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 810414

Sample: 376701-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 19:08

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 376701-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 19:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 376701-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 19:53

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0239	0.0300	80	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 810414

Sample: 376701-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:15

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 810414

Sample: 376694-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376694-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 21:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 565721-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 17:46

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810595

Sample: 565721-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:13

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	48.2	50.0	96	70-135	

Lab Batch #: 810595

Sample: 565721-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:41

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.1	49.8	103	70-135	

Lab Batch #: 810595

Sample: 376701-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:10

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	50.3	50.2	100	70-135	

Lab Batch #: 810595

Sample: 376701-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:38

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	48.2	50.1	96	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 376701-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:05

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.0	99.5	96	70-135	
o-Terphenyl	45.3	49.8	91	70-135	

Lab Batch #: 810595

Sample: 376701-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	44.0	49.8	88	70-135	

Lab Batch #: 810595

Sample: 376701-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376701-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 22:49

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.7	99.8	100	70-135	
o-Terphenyl	47.4	49.9	95	70-135	

Lab Batch #: 810644

Sample: 376701-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 23:16

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.1	99.6	98	70-135	
o-Terphenyl	46.1	49.8	93	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

### 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	49.3	50.2	98	70-135	

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

### 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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Project Name: Lea Station Landfarm

Work Order #: 376701

Analyst: ASA

Lab Batch ID: 810414

Sample: 565602-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/11/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0986	99	0.1	0.1002	100	2	70-130	35
	Toluene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	70-130	35
	Ethylbenzene	ND	0.1000	0.0988	99	0.1	0.1000	100	1	71-129	35
	m,p-Xylenes	ND	0.2000	0.1984	99	0.2	0.2003	100	1	70-135	35
o-Xylene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	71-133	35	

Analyst: LATCOR

Lab Batch ID: 810781

Sample: 810781-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.99	100	10	8.68	87	14	75-125	20	

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

# Project Name: Lea Station Landfarm

Work Order #: 376701

Analyst: LATCOR

Lab Batch ID: 810796

Sample: 810796-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	8.62	86	10	9.52	95	10	75-125	20	

Analyst: BEV

Lab Batch ID: 810644

Sample: 565718-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Date Analyzed: 06/14/2010

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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	893	89	997	878	88	2	70-135	35	

Analyst: BEV

Lab Batch ID: 810595

Sample: 565721-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Date Analyzed: 06/11/2010

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	998	1170	117	1000	1130	113	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	861	86	1000	1010	101	16	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 376701

Lab Batch #: 810781

Date Analyzed: 06/14/2010

QC- Sample ID: 376313-001 S

Reporting Units: mg/kg

Date Prepared: 06/14/2010

Batch #: 1

Project ID: 2004-00061

Analyst: LATCOR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	272	209	474	97	75-125	

Lab Batch #: 810796

Date Analyzed: 06/14/2010

QC- Sample ID: 376701-004 S

Reporting Units: mg/kg

Date Prepared: 06/14/2010

Batch #: 1

Analyst: LATCOR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	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

BRL - Below Reporting Limit

Work Order #: 376701

Lab Batch ID: 810414

Date Analyzed: 06/12/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376694-001 S

Date Prepared: 06/11/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1197	0.0744	62	0.1200	0.0595	50	22	70-130	35	X
	Toluene	ND	0.1197	0.0741	62	0.1200	0.0594	50	22	70-130	35	X
	Ethylbenzene	ND	0.1197	0.0758	63	0.1200	0.0611	51	21	71-129	35	X
	m,p-Xylenes	ND	0.2394	0.1515	63	0.2399	0.1239	52	20	70-135	35	X
	o-Xylene	ND	0.1197	0.0750	63	0.1200	0.0610	51	21	71-133	35	X

Lab Batch ID: 810595

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

QC-Sample ID: 376701-003 S

Date Prepared: 06/11/2010

Batch #: 1 Matrix: Soil

Analyst: BEV

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 Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
C6-C12 Gasoline Range Hydrocarbons	ND	998	1040	104	998	953	95	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	1020	102	998	835	84	20	70-135	35	

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 376705-003 S

Date Prepared: 06/11/2010

Batch #: 1 Matrix: Soil

Analyst: BEV

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg											
Analytes	TPH by SW8015 Mod										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1060	1140	108	1060	1140	108	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1060	889	84	1060	894	84	1	70-135	35	

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

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

ND Not Detected, J Present Below Reporting Limit, B Present in Blank, NR Not Requested, I Interference, NA Not ApplicableN See Narrative, EQ Estimated Quantification Limit

**Project Name: Lea Station Landfarm**

**Work Order #: 376701**

**Lab Batch #: 810781**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376313-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	272	255	6	20	

**Lab Batch #: 810796**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376701-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #: 810301**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376694-001 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	16.3	16.7	2	20	

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

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

BRL - Below Reporting Limit

# Environmental Lab of Texas

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East  
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Company Name: Basin Environmental Consulting, LLC

Company Address: P.O. Box 381

City/State/Zip: Lovington, NM 88260

Telephone No: (575) 605-7210

Sampler Signature: Camille Bryant

Fax No: (505) 396-1429

e-mail: cibryant@basin-consulting.com

Project Name: Lea Station Landfarm

Project #: 2004-00061

Project Loc: Lea County, NM

PO #: PAA - J. Henry

Report Format: ☒ Standard

☐ TRRP

☐ NPDES

ORDER #:		376701		LAB # (lab use only)		FIELD CODE		Beginning Depth		Ending Depth		Date Sampled		Time Sampled		Field Filtered		Total # of Containers		Preservation & / of Containers		Matrix		Analyze For:		Standard TAT 4 DAY	
					</																						

**XENCO Laboratories**

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

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 376701  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis





**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas  
Houston, Miami, Odessa, Philadelphia  
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Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 10:10Lab ID #: 376701Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 376702**

**for**

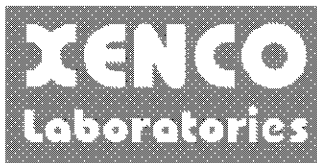
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



16-JUN-10

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

Reference: XENCO Report No: **376702**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376702. 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. 376702 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 376702



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell E G-1	S	Jun-09-10 14:00		376702-001
VZ Cell E G-2	S	Jun-09-10 14:20		376702-002
VZ Cell E G-3	S	Jun-09-10 14:40		376702-003
VZ Cell E G-4	S	Jun-09-10 15:00		376702-004



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376702*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-810308 Percent Moisture*

None

*Batch: LBA-810421 BTEX by EPA 8021*

SW8021BM

*Batch 810421, m,p-Xylenes RPD was outside QC limits.*

*Samples affected are: 376702-003, -001, -002, -004*

SW8021BM

*Batch 810421, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 376702-003.*

SW8021BM

*Batch 810421, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 376702-003, -001, -002, -004.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*Batch: LBA-810644 TPH by SW8015 Mod*

None

*Batch: LBA-810796 Inorganic Anions by EPA 300*

None

# Certificate of Analysis Summary 376702

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		376702-001		376702-002		376702-003		376702-004	
	Field Id:	Depth:	VZ Cell E G-1	SOIL	VZ Cell E G-2	SOIL	VZ Cell E G-3	SOIL	VZ Cell E G-4	SOIL
	Matrix:		Jun-09-10 14:00		Jun-09-10 14:20		Jun-09-10 14:40		Jun-09-10 15:00	
	Sampled:		Jun-11-10 10:45		Jun-11-10 10:45		Jun-11-10 10:45		Jun-11-10 10:45	
	Extracted:		Jun-12-10 23:37		Jun-13-10 01:06		Jun-13-10 01:28		Jun-13-10 01:51	
	Analyzed:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
	Units/RL:		ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0010	
Benzene			ND 0.0022		ND 0.0021		ND 0.0022		ND 0.0020	
Toluene			ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0010	
Ethylbenzene			ND 0.0022		ND 0.0021		ND 0.0022		ND 0.0020	
m,p-Xylenes			ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0010	
o-Xylene			ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0010	
Xylenes, Total			ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0010	
Total BTEX			ND 0.0011		ND 0.0011		ND 0.0011		ND 0.0010	
Inorganic Anions In Soil by E300	Extracted:									
	Analyzed:		Jun-14-10 19:11		Jun-14-10 19:11		Jun-14-10 19:11		Jun-14-10 19:11	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride			ND 5.50		ND 5.26		6.87 5.50		5.38 5.08	
Percent Moisture	Extracted:									
	Analyzed:		Jun-11-10 14:28		Jun-11-10 14:28		Jun-11-10 14:28		Jun-11-10 14:28	
	Units/RL:		%	RL	%	RL	%	RL	%	RL
			9.12 1.00		4.92 1.00		9.06 1.00		1.64 1.00	
TPH by SW8015 Mod	Extracted:		Jun-11-10 14:30		Jun-11-10 14:30		Jun-11-10 14:30		Jun-11-10 14:30	
	Analyzed:		Jun-14-10 23:43		Jun-15-10 00:09		Jun-15-10 00:36		Jun-15-10 01:02	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons			ND 16.6		ND 15.7		ND 16.5		ND 15.3	
C12-C28 Diesel Range Hydrocarbons			ND 16.6		ND 15.7		ND 16.5		ND 15.3	
C28-C35 Oil Range Hydrocarbons			ND 16.6		ND 15.7		ND 16.5		ND 15.3	
Total TPH			ND 16.6		ND 15.7		ND 16.5		ND 15.3	

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376702,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 565604-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 21:45

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 565604-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 22:07

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 565604-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 23:15

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376702-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 23:37

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 810421

Sample: 376702-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376702,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 376702-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:22

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 810421

Sample: 376702-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 01:06

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0239	0.0300	80	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 810421

Sample: 376702-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 01:28

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0236	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 376702-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 01:51

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0243	0.0300	81	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376702,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376702-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 23:43

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.9	100	100	70-135	
o-Terphenyl	48.0	50.2	96	70-135	

Lab Batch #: 810644

Sample: 376702-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 00:09

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.0	99.5	99	70-135	
o-Terphenyl	47.5	49.8	95	70-135	

Lab Batch #: 810644

Sample: 376702-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 00:36

## 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	54.3	50.0	109	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376702,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 376702-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 01:02

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	47.4	50.1	95	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

### 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	49.3	50.2	98	70-135	

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

### 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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 376702

Analyst: ASA

Lab Batch ID: 810421

Sample: 565604-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/12/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	BTEX by EPA 8021										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1000	0.0946	95	0.1	0.0998	100	5	70-130	35
	Toluene	ND	0.1000	0.0915	92	0.1	0.0960	96	5	70-130	35
	Ethylbenzene	ND	0.1000	0.0908	91	0.1	0.0957	96	5	71-129	35
	m,p-Xylenes	ND	0.2000	0.1791	90	0.2	0.1895	95	6	70-135	35
	o-Xylene	ND	0.1000	0.0905	91	0.1	0.0958	96	6	71-133	35

Analyst: LATCOR

Lab Batch ID: 810796

Sample: 810796-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions In Soil by E300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	ND	10.0	8.62	86	10	9.52	95	10	75-125	20

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

**Project Name: Lea Station Landfarm**

**Work Order #: 376702**

**Analyst: BEV**

**Lab Batch ID: 810644**

**Sample: 565718-1-BKS**

**Date Prepared: 06/11/2010**

**Batch #: 1**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	893	89	997	878	88	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 Landfarm

Work Order #: 376702

Lab Batch #: 810796

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Project ID: 2004-00061

Analyst: LATCOR

QC- Sample ID: 376701-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	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

BRL - Below Reporting Limit

Work Order #: 376702

Lab Batch ID: 810421

Date Analyzed: 06/13/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376702-001 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1089	0.0679	62	0.1096	0.0662	60	3	70-130	35	X
	Toluene	ND	0.1089	0.0596	55	0.1096	0.0549	50	8	70-130	35	X
	Ethylbenzene	ND	0.1089	0.0666	61	0.1096	0.0618	56	7	71-129	35	X
	m,p-Xylenes	ND	0.2179	0.0639	29	0.2192	0.0394	18	47	70-135	35	XF
	o-Xylene	ND	0.1089	0.0642	59	0.1096	0.0598	55	7	71-133	35	X

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 376705-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	TPH by SW8015 Mod  Analytes	Parent Sample Result	Spike Added	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		[A]	[B]	[C]	[D]	[E]	[F]	[G]					
	C6-C12 Gasoline Range Hydrocarbons	ND	1060	1140	108	1060	1140	108	0	70-135	35		
	C12-C28 Diesel Range Hydrocarbons	ND	1060	889	84	1060	894	84	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  
ApplicableN See Narrative, EQL Estimated Quantification Limit

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

**Project Name: Lea Station Landfarm**

**Work Order #: 376702**

**Lab Batch #: 810796**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376701-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #: 810308**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376702-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.12	8.67	5	20	

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



## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

**Project Name: Lea Station Landfarm**

**Project #: 2004-00061**

**Project Loc: Lea County, NM**

**PO #: PAA - J. Henry**

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

[cibryant@basin-consulting.com](mailto:cibryant@basin-consulting.com)

Final Ver. 1.000

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 16:10Lab ID #: 374702Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

**Project Name: Lea Station Landfarm**

Project #: 2004-00061

**Project Loc: Lea County, NM**

**PO #: PAA - J. Henry**

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

[cibryant@basin-consulting.com](mailto:cibryant@basin-consulting.com)

Final Ver. 1.000

**XENCO Laboratories**

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Document Title: Sample Receipt Checklist

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Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 374702  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 376703**

**for**

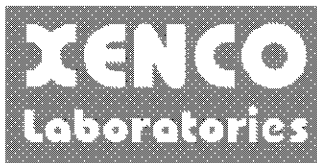
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



16-JUN-10

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

Reference: XENCO Report No: **376703**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376703. 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. 376703 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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

*Certified and approved by numerous States and Agencies.*

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

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## Sample Cross Reference 376703



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell F G-1	S	Jun-10-10 08:00		376703-001
VZ Cell F G-2	S	Jun-10-10 08:20		376703-002
VZ Cell F G-3	S	Jun-10-10 08:40		376703-003
VZ Cell F G-4	S	Jun-10-10 09:00		376703-004
VZ Cell F G-5	S	Jun-10-10 09:20		376703-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376703*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810308 Percent Moisture

None

Batch: LBA-810421 BTEX by EPA 8021  
SW8021BM

Batch 810421, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376703-005, -001, -003, -004.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 810421, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376703-001, 376703-005, 376703-003.

SW8021BM

Batch 810421, m,p-Xylenes RPD was outside QC limits.

Samples affected are: 376703-005, -001, -003, -004

Batch: LBA-810601 BTEX by EPA 8021  
SW8021BM

Batch 810601, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376703-002.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits





## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376703*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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*Batch: LBA-810644 TPH by SW8015 Mod*  
*None*

*Batch: LBA-810796 Inorganic Anions by EPA 300*  
*None*

# Certificate of Analysis Summary 376703

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

### Project Name: Lea Station Landfarm

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

**Date Received in Lab:** Thu Jun-10-10 04:10 pm

**Report Date:** 16-JUN-10

**Project Manager:** Brent Barron, II

Analysis Requested	Lab Id:	376703-001	376703-002	376703-003	376703-004	376703-005
	Field Id:	VZ Cell F G-1	VZ Cell F G-2	VZ Cell F G-3	VZ Cell F G-4	VZ Cell F G-5
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jun-10-10 08:00	Jun-10-10 08:20	Jun-10-10 08:40	Jun-10-10 09:00	Jun-10-10 09:20
BTEX by EPA 8021	Extracted:	Jun-11-10 10:45	Jun-14-10 08:00	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45
	Analyzed:	Jun-13-10 02:14	Jun-14-10 16:47	Jun-13-10 02:58	Jun-13-10 03:21	Jun-13-10 03:43
	Units/RL:	mg/kg RL ND 0.0010	mg/kg RL ND 0.0011	mg/kg RL ND 0.0010	mg/kg RL ND 0.0010	mg/kg RL ND 0.0011
Inorganic Anions In Soil by E300						
	Extracted:					
	Analyzed:	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11
	Units/RL:	mg/kg RL ND 5.01	mg/kg RL ND 5.69	mg/kg RL ND 5.22	mg/kg RL 7.90 5.08	mg/kg RL 18.2 5.33
Percent Moisture	Extracted:					
	Analyzed:	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Units/RL:	% RL ND 1.00	% RL 12.1 1.00	% RL 4.27 1.00	% RL 1.67 1.00	% RL 6.14 1.00
TPH by SW8015 Mod	Extracted:	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30
	Analyzed:	Jun-15-10 01:29	Jun-15-10 01:56	Jun-15-10 02:23	Jun-15-10 02:50	Jun-15-10 03:43
	Units/RL:	mg/kg RL ND 14.9	mg/kg RL ND 17.0	mg/kg RL ND 15.7	mg/kg RL ND 15.3	mg/kg RL ND 15.9
C6-C12 Gasoline Range Hydrocarbons						
C12-C28 Diesel Range Hydrocarbons						
C28-C35 Oil Range Hydrocarbons						
Total TPH		ND 14.9	ND 17.0	ND 15.7	ND 15.3	ND 15.9

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

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 Brent Barron, II  
 Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 565604-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 21:45

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 565604-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 22:07

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 565604-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 23:15

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376702-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 376702-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:22

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 376703-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 02:14

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 376703-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 02:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0235	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 810421

Sample: 376703-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 03:21

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0239	0.0300	80	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 810421

Sample: 376703-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 03:43

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0235	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810601

Sample: 565716-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 08:50

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810601

Sample: 565716-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 09:13

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 810601

Sample: 565716-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 10:21

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810601

Sample: 376694-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:40

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376694-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:02

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376703-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:47

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376703-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 01:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.5	104	70-135	
o-Terphenyl	47.5	49.8	95	70-135	

Lab Batch #: 810644

Sample: 376703-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 01:56

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.8	99.5	98	70-135	
o-Terphenyl	48.0	49.8	96	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 376703-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 02:23

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.0	99.9	95	70-135	
o-Terphenyl	46.8	50.0	94	70-135	

Lab Batch #: 810644

Sample: 376703-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 02:50

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.5	101	96	70-135	
o-Terphenyl	46.7	50.3	93	70-135	

Lab Batch #: 810644

Sample: 376703-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 03:43

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.6	99.5	97	70-135	
o-Terphenyl	47.5	49.8	95	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

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	49.3	50.2	98	70-135	

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Project Name: Lea Station Landfarm

Work Order #: 376703

Analyst: ASA

Lab Batch ID: 810421

Sample: 565604-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/12/2010

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. [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0946	95	0.1	0.0998	100	5	70-130	35
	Toluene	ND	0.1000	0.0915	92	0.1	0.0960	96	5	70-130	35
	Ethylbenzene	ND	0.1000	0.0908	91	0.1	0.0957	96	5	71-129	35
	m,p-Xylenes	ND	0.2000	0.1791	90	0.2	0.1895	95	6	70-135	35
	o-Xylene	ND	0.1000	0.0905	91	0.1	0.0958	96	6	71-133	35

Analyst: ASA

Lab Batch ID: 810601

Sample: 565716-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.1076	108	0.1	0.1053	105	2	70-130	35
	Toluene	ND	0.1000	0.1063	106	0.1	0.1033	103	3	70-130	35
	Ethylbenzene	ND	0.1000	0.1085	109	0.1	0.1046	105	4	71-129	35
	m,p-Xylenes	ND	0.2000	0.2185	109	0.2	0.2102	105	4	70-135	35
o-Xylene	ND	0.1000	0.1075	108	0.1	0.1032	103	4	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

## Project Name: Lea Station Landfarm

**Work Order #:** 376703

**Analyst:** LATCOR

**Lab Batch ID:** 810796

**Sample:** 810796-1-BKS

**Units:** mg/kg

**Project ID:** 2004-00061

**Date Analyzed:** 06/14/2010

**Date Prepared:** 06/14/2010

**Batch #:** 1

**Matrix:** Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	8.62	86	10	9.52	95	10	75-125	20	

**Analyst:** BEV

**Lab Batch ID:** 810644

**Sample:** 565718-1-BKS

**Date Prepared:** 06/11/2010

**Batch #:** 1

**Date Analyzed:** 06/14/2010

**Matrix:** Solid

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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	893	89	997	878	88	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 Landfarm

Work Order #: 376703

Lab Batch #: 810796

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Project ID: 2004-00061

Analyst: LATCOR

QC- Sample ID: 376701-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	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

BRL - Below Reporting Limit

# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm

Work Order #: 376703

Lab Batch ID: 810421

Date Analyzed: 06/13/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376702-001 S

Date Prepared: 06/11/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY									
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Sample Result [F]	Spiked Dup. %R [G]	RPD %	Flag
BTEX by EPA 8021									
Benzene	ND	0.1089	0.0679	62	0.1096	0.0662	60	3	X
Toluene	ND	0.1089	0.0596	55	0.1096	0.0549	50	8	X
Ethylbenzene	ND	0.1089	0.0666	61	0.1096	0.0618	56	7	X
m,p-Xylenes	ND	0.2179	0.0639	29	0.2192	0.0394	18	47	XF
o-Xylene	ND	0.1089	0.0642	59	0.1096	0.0598	55	7	X

Lab Batch ID: 810601

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

QC-Sample ID: 376694-002 S

Date Prepared: 06/14/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY									
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Sample Result [F]	Spiked Dup. %R [G]	RPD %	Flag
BTEX by EPA 8021									
Benzene	ND	0.1048	0.0678	65	0.1050	0.0720	69	6	X
Toluene	ND	0.1048	0.0670	64	0.1050	0.0713	68	6	X
Ethylbenzene	ND	0.1048	0.0683	65	0.1050	0.0725	69	6	X
m,p-Xylenes	ND	0.2096	0.1378	66	0.2100	0.1458	69	6	X
o-Xylene	ND	0.1048	0.0662	63	0.1050	0.0708	67	7	X

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

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



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order #: 376703

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376705-003 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/11/2010 Analyst: BEV

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	1060	1140	108	1060	1140	108	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1060	889	84	1060	894	84	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  
ApplicableN See Narrative, EQL Estimated Quantitation Limit

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

**Project Name: Lea Station Landfarm**

**Work Order #: 376703**

**Lab Batch #: 810796**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376701-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #: 810308**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376702-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.12	8.67	5	20	

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

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**

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

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

[cjbryant@basin-consulting.com](mailto:cjbryant@basin-consulting.com)

**Special Instructions:**

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 16:10Lab ID #: 376703Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis



**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 Landfarm**

Project #: 2004-00061

**Project Loc: Lea County, NM**

**PO #: PAA - J. Henry**

Fax No: (505) 396-1429

**cibryant@basin-consulting.com**

[illegible]

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 16:10Lab ID #: 376703Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 376704**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

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

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

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



16-JUN-10

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

Reference: XENCO Report No: **376704**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376704. 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. 376704 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,

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**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 376704



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell G G-1	S	Jun-10-10 09:40		376704-001
VZ Cell G G-2	S	Jun-10-10 10:00		376704-002
VZ Cell G G-3	S	Jun-10-10 10:20		376704-003
VZ Cell G G-4	S	Jun-10-10 10:40		376704-004
VZ Cell G G-5	S	Jun-10-10 11:00		376704-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376704*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810308 Percent Moisture

None

Batch: LBA-810421 BTEX by EPA 8021

SW8021BM

Batch 810421, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376704-001,376704-005,376704-004,376704-003.

SW8021BM

Batch 810421, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376704-002, -001, -005, -003, -004.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 810421, m,p-Xylenes RPD was outside QC limits.

Samples affected are: 376704-002, -001, -005, -003, -004

Batch: LBA-810644 TPH by SW8015 Mod

None

Batch: LBA-810796 Inorganic Anions by EPA 300

None

# Certificate of Analysis Summary 376704

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	376704-001	376704-002	376704-003	376704-004	376704-005
	Field Id:	VZ Cell G G-1	VZ Cell G G-2	VZ Cell G G-3	VZ Cell G G-4	VZ Cell G G-5
	Depth:	SOIL	SOIL	SOIL	SOIL	SOIL
	Matrix:	Jun-10-10 09:40	Jun-10-10 10:00	Jun-10-10 10:20	Jun-10-10 10:40	Jun-10-10 11:00
	Sampled:					
BTEx by EPA 8021	Extracted:	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45
	Analyzed:	Jun-13-10 04:06	Jun-13-10 05:13	Jun-13-10 05:36	Jun-13-10 05:59	Jun-13-10 06:21
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
Toluene		ND 0.0020	ND 0.0021	ND 0.0021	ND 0.0020	ND 0.0021
Ethylbenzene		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
m,p-Xylenes		ND 0.0020	ND 0.0021	ND 0.0021	ND 0.0020	ND 0.0021
o-Xylene		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
Xylenes, Total		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
Total BTEx		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
Inorganic Anions In Soil by E300	Extracted:					
	Analyzed:	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8.87 5.06	10.9 5.21	8.70 5.31	6.58 5.02	6.79 5.33
Percent Moisture	Extracted:					
	Analyzed:	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Units/RL:	% RL	% RL	% RL	% RL	% RL
Percent Moisture		1.17 1.00	3.98 1.00	5.90 1.00	ND 1.00	6.25 1.00
TPH by SW8015 Mod	Extracted:	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30
	Analyzed:	Jun-15-10 04:10	Jun-15-10 04:37	Jun-15-10 05:03	Jun-15-10 05:31	Jun-15-10 05:57
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.2	ND 15.6	ND 15.9	ND 15.0	ND 16.0
C12-C28 Diesel Range Hydrocarbons		ND 15.2	ND 15.6	ND 15.9	ND 15.0	ND 16.0
C28-C35 Oil Range Hydrocarbons		ND 15.2	ND 15.6	ND 15.9	ND 15.0	ND 16.0
Total TPH		ND 15.2	ND 15.6	ND 15.9	ND 15.0	ND 16.0

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376704,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 565604-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 21:45

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 565604-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 22:07

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 565604-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 23:15

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376702-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 376702-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:22

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376704,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 376704-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 04:06

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 810421

Sample: 376704-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 05:13

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0239	0.0300	80	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376704-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 05:36

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 810421

Sample: 376704-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 05:59

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 376704-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 06:21

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0236	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] – 100 \* A / B

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376704,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376704-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 04:10

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.8	100	96	70-135	
o-Terphenyl	45.7	50.1	91	70-135	

Lab Batch #: 810644

Sample: 376704-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 04:37

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	99.9	99	70-135	
o-Terphenyl	47.8	50.0	96	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376704,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 376704-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 05:03

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.5	99.8	99	70-135	
o-Terphenyl	48.5	49.9	97	70-135	

Lab Batch #: 810644

Sample: 376704-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 05:31

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.5	99.8	91	70-135	
o-Terphenyl	42.6	49.9	85	70-135	

Lab Batch #: 810644

Sample: 376704-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 05:57

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	50.7	50.0	101	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

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	49.3	50.2	98	70-135	

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 376704

Analyst: ASA

Lab Batch ID: 810421

Sample: 565604-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/12/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0946	95	0.1	0.0998	100	5	70-130	35
	Toluene	ND	0.1000	0.0915	92	0.1	0.0960	96	5	70-130	35
	Ethylbenzene	ND	0.1000	0.0908	91	0.1	0.0957	96	5	71-129	35
	m,p-Xylenes	ND	0.2000	0.1791	90	0.2	0.1895	95	6	70-135	35
	o-Xylene	ND	0.1000	0.0905	91	0.1	0.0958	96	6	71-133	35

Analyst: LATCOR

Lab Batch ID: 810796

Sample: 810796-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	8.62	86	10	9.52	95	10	75-125	20	

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

# Project Name: Lea Station Landfarm

Work Order #: 376704

Analyst: BEV

Lab Batch ID: 810644

Sample: 565718-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/14/2010

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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	893	89	997	878	88	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 Landfarm

Work Order #: 376704

Lab Batch #: 810796

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Analyst: LATCOR

QC- Sample ID: 376701-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	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

BRL - Below Reporting Limit

Work Order #: 376704

Lab Batch ID: 810421

Date Analyzed: 06/13/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376702-001 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1089	0.0679	62	0.1096	0.0662	60	3	70-130	35	X
	Toluene	ND	0.1089	0.0596	55	0.1096	0.0549	50	8	70-130	35	X
	Ethylbenzene	ND	0.1089	0.0666	61	0.1096	0.0618	56	7	71-129	35	X
	m,p-Xylenes	ND	0.2179	0.0639	29	0.2192	0.0394	18	47	70-135	35	XF
	o-Xylene	ND	0.1089	0.0642	59	0.1096	0.0598	55	7	71-133	35	X

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 376705-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg											
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	1140	108	1060	1140	108	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1060	889	84	1060	894	84	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 Quantification Limit

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



**Project Name: Lea Station Landfarm**

**Work Order #: 376704**

**Lab Batch #: 810796**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376701-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #: 810308**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376702-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.12	8.67	5	20	

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



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376704  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

**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 Landfarm**

**Project #: 2004-00061**

**Project Loc: Lea County, NM**

**PO #: PAA - J. Henry**

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

[cibryant@basin-consulting.com](mailto:cibryant@basin-consulting.com)

Final Ver. 1.000

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 376704  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 376705**

**for**

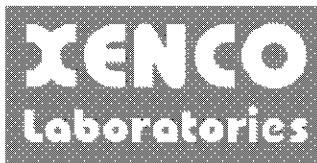
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



16-JUN-10

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

Reference: XENCO Report No: **376705**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376705. 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. 376705 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 376705



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell H G-1	S	Jun-10-10 11:20		376705-001
VZ Cell H G-2	S	Jun-10-10 11:40		376705-002
VZ Cell H G-3	S	Jun-10-10 12:00		376705-003





## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376705*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-810308 Percent Moisture*

None

*Batch: LBA-810421 BTEX by EPA 8021*

*SW8021BM*

*Batch 810421, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 376705-002, -003, -001.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*SW8021BM*

*Batch 810421, m,p-Xylenes RPD was outside QC limits.*

*Samples affected are: 376705-002, -003, -001*

*SW8021BM*

*Batch 810421, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 376705-002.*

*Batch: LBA-810644 TPH by SW8015 Mod*

None

*Batch: LBA-810796 Inorganic Anions by EPA 300*

None

# Certificate of Analysis Summary 376705

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		376705-001		376705-002		376705-003	
	Field Id:	Depth:	VZ Cell H G-1	SOIL	VZ Cell H G-2	SOIL	VZ Cell H G-3	SOIL
	Matrix:		Jun-10-10 11:20		Jun-10-10 11:40		Jun-10-10 12:00	
	Sampled:							
BTEX by EPA 8021	Extracted:		Jun-11-10 10:45		Jun-11-10 10:45		Jun-11-10 10:45	
	Analyzed:		Jun-13-10 06:43		Jun-13-10 07:06		Jun-13-10 07:28	
	Units/RL:		mg/kg RL		mg/kg RL		mg/kg RL	
			ND 0.0011		ND 0.0010		ND 0.0011	
Benzene			ND 0.0022		ND 0.0021		ND 0.0021	
Toluene			ND 0.0011		ND 0.0010		ND 0.0011	
Ethylbenzene			ND 0.0022		ND 0.0021		ND 0.0021	
m,p-Xylenes			ND 0.0011		ND 0.0010		ND 0.0011	
o-Xylene			ND 0.0011		ND 0.0010		ND 0.0011	
Xylenes, Total			ND 0.0011		ND 0.0010		ND 0.0011	
Total BTEX			ND 0.0011		ND 0.0010		ND 0.0011	
Inorganic Anions In Soil by E300	Extracted:							
	Analyzed:		Jun-14-10 19:11		Jun-14-10 19:11		Jun-14-10 19:11	
	Units/RL:		mg/kg RL		mg/kg RL		mg/kg RL	
Chloride			11.4 5.42		ND 5.24		ND 5.26	
Percent Moisture	Extracted:							
	Analyzed:		Jun-11-10 14:28		Jun-11-10 14:28		Jun-11-10 14:28	
	Units/RL:		% RL		% RL		% RL	
Percent Moisture			7.74 1.00		4.49 1.00		5.03 1.00	
TPH by SW8015 Mod	Extracted:		Jun-11-10 14:30		Jun-11-10 14:30		Jun-11-10 14:30	
	Analyzed:		Jun-15-10 06:25		Jun-15-10 06:51		Jun-15-10 07:18	
	Units/RL:		mg/kg RL		mg/kg RL		mg/kg RL	
			ND 16.3		ND 15.6		ND 15.8	
C6-C12 Gasoline Range Hydrocarbons			ND 16.3		ND 15.6		ND 15.8	
C12-C28 Diesel Range Hydrocarbons			ND 16.3		ND 15.6		ND 15.8	
C28-C35 Oil Range Hydrocarbons			ND 16.3		ND 15.6		ND 15.8	
Total TPH			ND 16.3		ND 15.6		ND 15.8	

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376705,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 565604-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 21:45

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 565604-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 22:07

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 565604-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 23:15

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376702-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 376702-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:22

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376705,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 376705-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 06:43

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 810421

Sample: 376705-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 07:06

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 810421

Sample: 376705-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 07:28

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376705,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376705-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 06:25

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	100	97	70-135	
o-Terphenyl	47.5	50.1	95	70-135	

Lab Batch #: 810644

Sample: 376705-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 06:51

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.5	104	70-135	
o-Terphenyl	50.0	49.8	100	70-135	

Lab Batch #: 810644

Sample: 376705-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 07:18

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.6	99.8	98	70-135	
o-Terphenyl	47.3	49.9	95	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

### 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	49.3	50.2	98	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376705,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

### 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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 376705

Analyst: ASA

Lab Batch ID: 810421

Sample: 565604-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/12/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
	Units: mg/kg										
Analytes	BTEX by EPA 8021										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1000	0.0946	95	0.1	0.0998	100	5	70-130	35
	Toluene	ND	0.1000	0.0915	92	0.1	0.0960	96	5	70-130	35
	Ethylbenzene	ND	0.1000	0.0908	91	0.1	0.0957	96	5	71-129	35
	m,p-Xylenes	ND	0.2000	0.1791	90	0.2	0.1895	95	6	70-135	35
	o-Xylene	ND	0.1000	0.0905	91	0.1	0.0958	96	6	71-133	35

Analyst: LATCOR

Lab Batch ID: 810796

Sample: 810796-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	8.62	86	10	9.52	95	10	75-125	20	

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



# Project Name: Lea Station Landfarm

Work Order #: 376705

Analyst: BEV

Lab Batch ID: 810644

Sample: 565718-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/14/2010

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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	893	89	997	878	88	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 Landfarm

Work Order #: 376705

Lab Batch #: 810796

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Analyst: LATCOR

QC- Sample ID: 376701-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	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

BRL - Below Reporting Limit

Work Order #: 376705

Lab Batch ID: 810421

Date Analyzed: 06/13/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376702-001 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1089	0.0679	62	0.1096	0.0662	60	3	70-130	35	X
	Toluene	ND	0.1089	0.0596	55	0.1096	0.0549	50	8	70-130	35	X
	Ethylbenzene	ND	0.1089	0.0666	61	0.1096	0.0618	56	7	71-129	35	X
	m,p-Xylenes	ND	0.2179	0.0639	29	0.2192	0.0394	18	47	70-135	35	XF
	o-Xylene	ND	0.1089	0.0642	59	0.1096	0.0598	55	7	71-133	35	X

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 376705-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

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	1060	1140	108	1060	1140	108	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1060	889	84	1060	894	84	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 Quantification Limit

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

**Project Name:** Lea Station Landfarm

**Work Order #:** 376705

**Lab Batch #:** 810796

**Project ID:** 2004-00061

**Date Analyzed:** 06/14/2010

**Date Prepared:** 06/14/2010

**Analyst:** LATCOR

**QC- Sample ID:** 376701-004 D

**Batch #:** 1

**Matrix:** Soil

**Reporting Units:** mg/kg

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #:** 810308

**Date Analyzed:** 06/11/2010

**Date Prepared:** 06/11/2010

**Analyst:** JLG

**QC- Sample ID:** 376702-001 D

**Batch #:** 1

**Matrix:** Soil

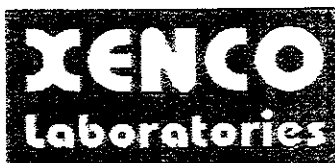
**Reporting Units:** %

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.12	8.67	5	20	

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



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 376705  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

**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 Landfarm**

**Project #: 2004-00061**

Project Loc: Lea County, NM

PO #: PAA - J. Henry

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

[cibryant@basin-consulting.com](mailto:cibryant@basin-consulting.com)

LAB # (lab use only)		FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers										Matrix	TCLP: TOTAL: X										Analyze For:									
									Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW - Drinking Water SL - Sludge	CW - Groundwater S - Soil/SOI	NP - Non-Portable Specify OTH	TPH: 418.1 8015B	TPH: TX 1006 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TEX 8021B/8020 or BTEX 8260	RCI	N.O.R.M.	Chlorides 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY						
		VZ Cell H G-1			6/10/10	1120		1	X									SOIL		X								X											
		VZ Cell H G-2			6/10/10	1140		1	X									SOIL		X								X											
		VZ Cell H G-3			6/10/10	1200		1	X									SOIL		X								X											

Special Instructions:		Received by:		Date	Time
Relinquished by: Andrew B...		[Signature]		6/10/10	1300
Relinquished by: [Signature]		[Signature]		6-70	1610
Relinquished by: [Signature]		[Signature]		6-10-10	16:10

Laboratory Comments:		Received by:		Date	Time
VOCs Free of Headspace?		[Signature]		6-70	1300
Custody seals on container(s)		[Signature]		6-70	1300
Sample Hand Delivered by Sampler/Client Rep.?		[Signature]		6-70	1300
JPS DHL by Courier?		[Signature]		6-70	1300
Temperature Upon Receipt:		[Signature]		6-70	1300

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376705  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis



# **Analytical Report 376694**

**for**

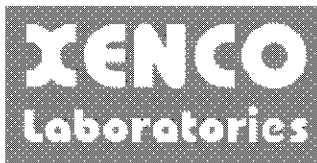
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



16-JUN-10

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

Reference: XENCO Report No: **376694**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376694. 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. 376694 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 376694



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell A G-1	S	Jun-09-10 08:00		376694-001
VZ Cell A G-2	S	Jun-09-10 08:20		376694-002
VZ Cell A G-3	S	Jun-09-10 08:40		376694-003
VZ Cell A G-4	S	Jun-09-10 09:00		376694-004
VZ Cell A G-5	S	Jun-09-10 09:20		376694-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376694*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810301 Percent Moisture

None

Batch: LBA-810414 BTEX by EPA 8021  
SW8021BM

Batch 810414, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376694-001,376694-005,376694-004,376694-003.

SW8021BM

Batch 810414, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376694-001, -005, -003, -004.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-810595 TPH by SW8015 Mod

None



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376694*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

---

*Batch: LBA-810601 BTEX by EPA 8021  
SW8021BM*

*Batch 810601, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 376694-002.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*SW8021BM*

*Batch 810601, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 376694-002.*

*Batch: LBA-810781 Inorganic Anions by EPA 300*

*None*

# Certificate of Analysis Summary 376694

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

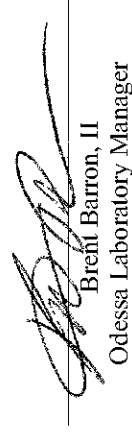
Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		376694-001		376694-002		376694-003		376694-004		376694-005	
	Field Id:	Depth:	VZ Cell A G-1	SOIL	VZ Cell A G-2	SOIL	VZ Cell A G-3	SOIL	VZ Cell A G-4	SOIL	VZ Cell A G-5	SOIL
BTEX by EPA 8021	Matrix:		Jun-09-10 08:00		Jun-09-10 08:20		Jun-09-10 08:40		Jun-09-10 09:00		Jun-09-10 09:20	
	Sampled:											
	Extracted:		Jun-11-10 10:30		Jun-14-10 08:00		Jun-11-10 10:30		Jun-11-10 10:30		Jun-11-10 10:30	
	Analyzed:		Jun-11-10 16:41		Jun-14-10 15:17		Jun-11-10 17:26		Jun-11-10 17:48		Jun-11-10 18:11	
	Units/RL:		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL		mg/kg RL	
Inorganic Anions In Soil by E300			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0024		ND 0.0021		ND 0.0020		ND 0.0021		ND 0.0023	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0024		ND 0.0021		ND 0.0020		ND 0.0021		ND 0.0023	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
Percent Moisture			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
TPH by SW8015 Mod			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
Total TPH			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	
			ND 0.0012		ND 0.0010		ND 0.0010		ND 0.0010		ND 0.0012	

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 565602-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 14:48

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 15:10

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 16:18

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376694-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 16:41

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0233	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 810414

Sample: 376694-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 17:26

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0236	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 376694-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 17:48

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376694-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 18:11

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0236	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810414

Sample: 376694-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376694-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 21:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 810601

Sample: 565716-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 08:50

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810601

Sample: 565716-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 09:13

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 810601

Sample: 565716-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 10:21

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810601

Sample: 376694-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:17

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810601

Sample: 376694-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:40

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376694-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:02

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 565721-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 17:46

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810595

Sample: 565721-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:13

### 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	48.2	50.0	96	70-135	

Lab Batch #: 810595

Sample: 565721-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:41

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.1	49.8	103	70-135	

Lab Batch #: 810595

Sample: 376694-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 10:06

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.5	103	70-135	
o-Terphenyl	49.9	49.8	100	70-135	

Lab Batch #: 810595

Sample: 376694-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 10:34

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	49.4	50.0	99	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376694,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 376694-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 11:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.6	100	95	70-135	
o-Terphenyl	45.9	50.0	92	70-135	

Lab Batch #: 810595

Sample: 376694-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 11:57

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.8	99.9	96	70-135	
o-Terphenyl	47.6	50.0	95	70-135	

Lab Batch #: 810595

Sample: 376701-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	44.0	49.8	88	70-135	

Lab Batch #: 810595

Sample: 376701-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 810595

Sample: 376694-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 18:48

### 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	57.2	50.1	114	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

# Project Name: Lea Station Landfarm

Work Order #: 376694

Analyst: ASA

Lab Batch ID: 810414

Sample: 565602-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/11/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0986	99	0.1	0.1002	100	2	70-130	35
	Toluene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	70-130	35
	Ethylbenzene	ND	0.1000	0.0988	99	0.1	0.1000	100	1	71-129	35
	m,p-Xylenes	ND	0.2000	0.1984	99	0.2	0.2003	100	1	70-135	35
o-Xylene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	71-133	35	

Analyst: ASA

Lab Batch ID: 810601

Sample: 565716-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

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	0.1076	108	0.1	0.1053	105	2	70-130	35
	Toluene	ND	0.1000	0.1063	106	0.1	0.1033	103	3	70-130	35
	Ethylbenzene	ND	0.1000	0.1085	109	0.1	0.1046	105	4	71-129	35
	m,p-Xylenes	ND	0.2000	0.2185	109	0.2	0.2102	105	4	70-135	35
	o-Xylene	ND	0.1000	0.1075	108	0.1	0.1032	103	4	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

## Project Name: Lea Station Landfarm

Work Order #: 376694

Analyst: LATCOR

Lab Batch ID: 810781

Sample: 810781-1-BKS

Units: mg/kg

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Matrix: Solid

Date Prepared: 06/14/2010

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions In Soil by E300 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
	Chloride	ND	10.0	9.99	100	10	8.68	87	14	75-125	20

Analyst: BEV

Lab Batch ID: 810595

Sample: 565721-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Date Analyzed: 06/11/2010

Matrix: Solid

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	998	1170	117	1000	1130	113	3	70-135	35
C12-C28 Diesel Range Hydrocarbons	ND	998	861	86	1000	1010	101	16	70-135	35	

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



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 376694

Lab Batch #: 810781

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Analyst: LATCOR

QC- Sample ID: 376313-001 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	272	209	474	97	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

BRL - Below Reporting Limit

# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm

Work Order #: 376694

Lab Batch ID: 810414

Date Analyzed: 06/12/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376694-001 S

Date Prepared: 06/11/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	ND	0.1197	0.0744	62	0.1200	0.0595	50	22	70-130	35	X
		Toluene	ND	0.1197	0.0741	62	0.1200	0.0594	50	22	70-130	35	X
		Ethylbenzene	ND	0.1197	0.0758	63	0.1200	0.0611	51	21	71-129	35	X
		m,p-Xylenes	ND	0.2394	0.1515	63	0.2399	0.1239	52	20	70-135	35	X
		o-Xylene	ND	0.1197	0.0750	63	0.1200	0.0610	51	21	71-133	35	X

Lab Batch ID: 810601

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

QC-Sample ID: 376694-002 S

Date Prepared: 06/14/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	ND	0.1048	0.0678	65	0.1050	0.0720	69	6	70-130	35	X
		Toluene	ND	0.1048	0.0670	64	0.1050	0.0713	68	6	70-130	35	X
		Ethylbenzene	ND	0.1048	0.0683	65	0.1050	0.0725	69	6	71-129	35	X
		m,p-Xylenes	ND	0.2096	0.1378	66	0.2100	0.1458	69	6	70-135	35	X
		o-Xylene	ND	0.1048	0.0662	63	0.1050	0.0708	67	7	71-133	35	X

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

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





# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order #: 376694

Lab Batch ID: 810595

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376701-003 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/11/2010 Analyst: BEV

TPH by SW8015 Mod

Analytes

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	998	1040	104	998	953	95	9	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	ND	998	1020	102	998	835	84	20	70-135	35	

C6-C12 Gasoline Range Hydrocarbons

C12-C28 Diesel Range Hydrocarbons

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

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

ND Not Detected, J Present Below Reporting Limit, B Present in Blank, NR Not Requested, I Interference, NA Not

ApplicableN See Narrative, EQL Estimated Quantitation Limit

**Project Name: Lea Station Landfarm**

**Work Order #: 376694**

**Lab Batch #: 810781**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376313-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	272	255	6	20	

**Lab Batch #: 810301**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376694-001 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	16.3	16.7	2	20	

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

# Environmental Lab of Texas

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

Project Manager: Camille Bryant  
 Company Name: Basin Environmental Consulting, LLC  
 Company Address: P.O. Box 381  
 City/State/Zip: Lovington, NM 88260  
 Telephone No: (575) 605-7210  
 Sampler Signature: Camille Bryant  
 Project Name: Lea Station Landfarm  
 Project #: 2004-00061  
 Project Loc: Lea County, NM  
 PO #: PAA - J. Henry  
 Report Format: ☒ Standard ☐ TRRP ☐ NPDES

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers	Matrix	Analyze For:
										TCLP: <input checked="" type="checkbox"/> TOTAL: <input checked="" type="checkbox"/>
										TPH: TX 1005 TX 1006
										Cations (Ca, Mg, Na, K)
										Anions (Cl, SO <sub>4</sub> , Alkalinity)
										SAR / ESP / CEC
										Metals: As Ag Ba Cd Cr Pb Hg Se
										Volatiles
										Semivolatiles
										STEX 8021B/5030 or BTEX 8260
										RCI
										NORM
										Chlorides 300
										RUSH TAT (Pre-Schedule) 24, 48, 72 hrs
										Standard TAT 4 DAY

Special Instructions:

Relinquished by: Camille Bryant Date: 6/10/10 Time: 1300  
 Relinquished by: [Signature] Date: 6-10 Time: 1610  
 Relinquished by: [Signature] Date: 6-10-10 Time: 16:10

Received by: [Signature] Date: 6-10 Time: 1300  
 Received by: [Signature] Date: 6-10-10 Time: 16:10

Received by ELOT: Andrea Sam

Temperature Upon Receipt: 1.4 °C

Laboratory Comments:  
 Sample Containers intact?  
 VOCs Free of Headspace?  
 Labels on containers?  
 Custody seals on container(s)?  
 Custody seals on cooler(s)?  
 Sample Hand Delivered by Sampler/Client Rep.?  
 by Courier? UPS DHL FedEx Lone Star  
 4029655

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376694  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376694  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 376699**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

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

Xenco-Boca Raton (EPA Lab Code: FL00449):

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

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



16-JUN-10

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

Reference: XENCO Report No: **376699**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376699. 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. 376699 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 376699



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

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell B G-1	S	Jun-09-10 09:40		376699-001
VZ Cell B G-2	S	Jun-09-10 10:00		376699-002
VZ Cell B G-3	S	Jun-09-10 10:15		376699-003
VZ Cell B G-4	S	Jun-09-10 10:30		376699-004
VZ Cell B G-5	S	Jun-09-10 10:45		376699-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376699*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810301 Percent Moisture

None

Batch: LBA-810414 BTEX by EPA 8021  
SW8021BM

Batch 810414, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis  
Samples affected are: 376699-001,376699-005,376699-002.

SW8021BM

Batch 810414, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376699-005, -001, -002.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-810595 TPH by SW8015 Mod  
SW8015MOD\_NM

Batch 810595, 1-Chlorooctane, o-Terphenyl recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis  
Samples affected are: 376699-005.



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376699*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

---

*Batch: LBA-810601 BTEX by EPA 8021  
SW8021BM*

*Batch 810601, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis  
Samples affected are: 376699-003.*

*SW8021BM*

*Batch 810601, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 376699-004, -003.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*Batch: LBA-810693 TPH by SW8015 Mod*

*None*

*Batch: LBA-810781 Inorganic Anions by EPA 300*

*None*

# Certificate of Analysis Summary 376699

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

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		376699-001	376699-002	376699-003	376699-004	376699-005
	Field Id:	Depth:	VZ Cell B G-1	VZ Cell B G-2	VZ Cell B G-3	VZ Cell B G-4	VZ Cell B G-5
	Matrix:		SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:		Jun-09-10 09:40	Jun-09-10 10:00	Jun-09-10 10:15	Jun-09-10 10:30	Jun-09-10 10:45
BTEX by EPA 8021	Extracted:		Jun-11-10 10:30	Jun-11-10 10:30	Jun-14-10 08:00	Jun-14-10 08:00	Jun-11-10 10:30
	Analyzed:		Jun-11-10 18:33	Jun-11-10 18:55	Jun-14-10 17:32	Jun-14-10 17:09	Jun-12-10 15:45
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
Toluene			ND 0.0021	ND 0.0021	ND 0.0022	ND 0.0020	ND 0.0020
Ethylbenzene			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
m,p-Xylenes			ND 0.0021	ND 0.0021	ND 0.0022	ND 0.0020	ND 0.0020
o-Xylene			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
Xylenes, Total			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
Total BTEX			ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010
Inorganic Anions In Soil by E300	Extracted:						
	Analyzed:		Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride			14.9 5.18	6.29 5.19	6.39 5.30	6.42 5.15	5.64 5.12
Percent Moisture	Extracted:						
	Analyzed:		Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Units/RL:		% RL	% RL	% RL	% RL	% RL
Percent Moisture			3.39 1.00	3.69 1.00	5.65 1.00	2.92 1.00	2.32 1.00
TPH by SW8015 Mod	Extracted:		Jun-11-10 14:30	Jun-11-10 14:30	Jun-15-10 08:30	Jun-11-10 14:30	Jun-15-10 08:30
	Analyzed:		Jun-12-10 12:25	Jun-12-10 12:53	Jun-15-10 15:57	Jun-14-10 11:02	Jun-15-10 13:13
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons			ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
C12-C28 Diesel Range Hydrocarbons			ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
C28-C35 Oil Range Hydrocarbons			ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3
Total TPH			ND 15.4	ND 15.5	ND 15.9	ND 15.4	ND 15.3

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

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

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

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 565602-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 14:48

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 15:10

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 16:18

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376699-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 18:33

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 376699-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/11/10 18:55

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 376699-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 15:45

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 810414

Sample: 376694-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376694-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 21:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 810601

Sample: 565716-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 08:50

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 810601

Sample: 565716-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 09:13

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810601

Sample: 565716-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 10:21

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810601

Sample: 376694-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:40

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376694-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:02

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376699-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 17:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 810601

Sample: 376699-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 17:32

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 565721-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 17:46

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810595

Sample: 565721-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:13

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	48.2	50.0	96	70-135	

Lab Batch #: 810595

Sample: 565721-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:41

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.1	49.8	103	70-135	

Lab Batch #: 810595

Sample: 376699-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 12:25

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	76.0	99.5	76	70-135	
o-Terphenyl	37.8	49.8	76	70-135	

Lab Batch #: 810595

Sample: 376699-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 12:53

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	70.4	99.8	71	70-135	
o-Terphenyl	35.0	49.9	70	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 376699-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 11:02

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.4	99.8	88	70-135	
o-Terphenyl	42.3	49.9	85	70-135	

Lab Batch #: 810595

Sample: 376701-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	44.0	49.8	88	70-135	

Lab Batch #: 810595

Sample: 376701-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 810693

Sample: 565772-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/15/10 10:03

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 810693

Sample: 565772-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/15/10 10:30

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	54.2	50.0	108	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376699,

Project ID: 2004-00061

Lab Batch #: 810693

Sample: 377064-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 11:51

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.5	129	70-135	
o-Terphenyl	50.6	49.8	102	70-135	

Lab Batch #: 810693

Sample: 377064-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 12:18

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	99.9	130	70-135	
o-Terphenyl	51.9	50.0	104	70-135	

Lab Batch #: 810693

Sample: 376699-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 13:13

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.6	120	70-135	
o-Terphenyl	55.1	49.8	111	70-135	

Lab Batch #: 810693

Sample: 376699-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 15:57

### 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	57.7	50.0	115	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

**Project Name: Lea Station Landfarm**

**Work Order #:** 376699

**Project ID:** 2004-00061

**Lab Batch #:** 810693

**Sample:** 565772-1-BKS

**Matrix:** Solid

**Date Analyzed:** 06/15/2010

**Date Prepared:** 06/15/2010

**Analyst:** ASA

**Reporting Units:** mg/kg

**Batch #:** 1

## BLANK /BLANK SPIKE RECOVERY STUDY

TPH by SW8015 Mod  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
C6-C12 Gasoline Range Hydrocarbons	ND	1000	1170	117	70-135	
C12-C28 Diesel Range Hydrocarbons	ND	1000	818	82	70-135	

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

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

BRL - Below Reporting Limit

# Project Name: Lea Station Landfarm

Work Order #: 376699

Analyst: ASA

Lab Batch ID: 810414

Sample: 565602-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/11/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021  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	0.0986	99	0.1	0.1002	100	2	70-130	35
	Toluene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	70-130	35
	Ethylbenzene	ND	0.1000	0.0988	99	0.1	0.1000	100	1	71-129	35
	m,p-Xylenes	ND	0.2000	0.1984	99	0.2	0.2003	100	1	70-135	35
	o-Xylene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	71-133	35

Analyst: ASA

Lab Batch ID: 810601

Sample: 565716-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.1076	108	0.1	0.1053	105	2	70-130	35
	Toluene	ND	0.1000	0.1063	106	0.1	0.1033	103	3	70-130	35
	Ethylbenzene	ND	0.1000	0.1085	109	0.1	0.1046	105	4	71-129	35
	m,p-Xylenes	ND	0.2000	0.2185	109	0.2	0.2102	105	4	70-135	35
o-Xylene	ND	0.1000	0.1075	108	0.1	0.1032	103	4	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

# Project Name: Lea Station Landfarm

Work Order #: 376699

Analyst: LATCOR

Lab Batch ID: 810781

Sample: 810781-1-BKS

Units: mg/kg

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Batch #: 1

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions In Soil by E300 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
	Chloride	ND	10.0	9.99	100	10	8.68	87	14	75-125	20

Analyst: BEV

Lab Batch ID: 810595

Sample: 565721-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Date Analyzed: 06/11/2010

Matrix: Solid

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	998	1170	117	1000	1130	113	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	861	86	1000	1010	101	16	70-135	35	

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



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 376699

Lab Batch #: 810781

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Project ID: 2004-00061

Analyst: LATCOR

QC- Sample ID: 376313-001 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	272	209	474	97	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

BRL - Below Reporting Limit

# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm

Work Order #: 376699

Lab Batch ID: 810414

Date Analyzed: 06/12/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376694-001 S

Date Prepared: 06/11/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	ND	0.1197	0.0744	62	0.1200	0.0595	50	22	70-130	35	X
		Toluene	ND	0.1197	0.0741	62	0.1200	0.0594	50	22	70-130	35	X
		Ethylbenzene	ND	0.1197	0.0758	63	0.1200	0.0611	51	21	71-129	35	X
		m,p-Xylenes	ND	0.2394	0.1515	63	0.2399	0.1239	52	20	70-135	35	X
		o-Xylene	ND	0.1197	0.0750	63	0.1200	0.0610	51	21	71-133	35	X

Lab Batch ID: 810601

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

QC-Sample ID: 376694-002 S

Date Prepared: 06/14/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	ND	0.1048	0.0678	65	0.1050	0.0720	69	6	70-130	35	X
		Toluene	ND	0.1048	0.0670	64	0.1050	0.0713	68	6	70-130	35	X
		Ethylbenzene	ND	0.1048	0.0683	65	0.1050	0.0725	69	6	71-129	35	X
		m,p-Xylenes	ND	0.2096	0.1378	66	0.2100	0.1458	69	6	70-135	35	X
		o-Xylene	ND	0.1048	0.0662	63	0.1050	0.0708	67	7	71-133	35	X

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

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



# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm

Work Order #: 376699

Lab Batch ID: 810595

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376701-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

## TPH by SW8015 Mod

### Analytes

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	998	1040	104	998	953	95	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	1020	102	998	835	84	20	70-135	35	

Lab Batch ID: 810693

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 377064-002 S

Date Prepared: 06/15/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

## TPH by SW8015 Mod

### Analytes

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg											
	TPH by SW8015 Mod										
	Analytes										
C6-C12 Gasoline Range Hydrocarbons	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C12-C28 Diesel Range Hydrocarbons	ND	1070	1230	115	1070	1290	121	5	70-135	35	
	ND	1070	849	79	1070	881	82	4	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 ApplicableN See Narrative, EQL Estimated Quantitation Limit

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

**Project Name: Lea Station Landfarm**

**Work Order #: 376699**

**Lab Batch #: 810781**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376313-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	272	255	6	20	

**Lab Batch #: 810301**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376694-001 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	16.3	16.7	2	20	

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



**XENCO Laboratories**

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Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376699  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

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

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376699  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

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

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

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

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 376700**

**for**

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

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
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Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295)



16-JUN-10

Project Manager: **Jason Henry**  
**PLAINS ALL AMERICAN EH&S**  
1301 S. COUNTY ROAD 1150  
Midland, TX 79706

Reference: XENCO Report No: **376700**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376700. 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. 376700 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 376700



### PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell C G-1	S	Jun-09-10 11:00		376700-001
VZ Cell C G-2	S	Jun-09-10 11:15		376700-002
VZ Cell C G-3	S	Jun-09-10 11:30		376700-003
VZ Cell C G-4	S	Jun-09-10 11:45		376700-004
VZ Cell C G-5	S	Jun-09-10 12:00		376700-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376700*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810301 Percent Moisture

None

Batch: LBA-810414 BTEX by EPA 8021  
SW8021BM

Batch 810414, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376700-004, -002, -003, -005, -001.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 810414, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376700-001, 376700-005, 376700-003, 376700-002.

Batch: LBA-810595 TPH by SW8015 Mod

None

Batch: LBA-810781 Inorganic Anions by EPA 300

None

# Certificate of Analysis Summary 376700

## PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:		376700-001	376700-002	376700-003	376700-004	376700-005
	Field Id:	Depth:	VZ Cell C G-1	VZ Cell C G-2	VZ Cell C G-3	VZ Cell C G-4	VZ Cell C G-5
	Matrix:		SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:		Jun-09-10 11:00	Jun-09-10 11:15	Jun-09-10 11:30	Jun-09-10 11:45	Jun-09-10 12:00
BTEX by EPA 8021	Extracted:		Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30
	Analyzed:		Jun-12-10 16:52	Jun-12-10 17:15	Jun-12-10 17:37	Jun-12-10 18:00	Jun-12-10 18:22
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
Toluene			ND 0.0021	ND 0.0021	ND 0.0024	ND 0.0020	ND 0.0020
Ethylbenzene			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
m,p-Xylenes			ND 0.0021	ND 0.0021	ND 0.0024	ND 0.0020	ND 0.0020
o-Xylene			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
Xylenes, Total			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
Total BTEX			ND 0.0011	ND 0.0011	ND 0.0012	ND 0.0010	ND 0.0010
Inorganic Anions In Soil by E300	Extracted:						
	Analyzed:		Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride			ND 5.30	ND 5.27	15.8 5.88	ND 5.14	8.71 5.11
Percent Moisture	Extracted:						
	Analyzed:		Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Units/RL:		% RL	% RL	% RL	% RL	% RL
Percent Moisture			5.67 1.00	5.14 1.00	15.0 1.00	2.79 1.00	2.06 1.00
TPH by SW8015 Mod	Extracted:		Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30
	Analyzed:		Jun-14-10 18:21	Jun-14-10 13:22	Jun-14-10 13:49	Jun-14-10 14:16	Jun-14-10 14:43
	Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons			ND 15.9	ND 15.8	ND 17.7	ND 15.5	ND 15.4
C12-C28 Diesel Range Hydrocarbons			ND 15.9	ND 15.8	ND 17.7	ND 15.5	ND 15.4
C28-C35 Oil Range Hydrocarbons			ND 15.9	ND 15.8	ND 17.7	ND 15.5	ND 15.4
Total TPH			ND 15.9	ND 15.8	ND 17.7	ND 15.5	ND 15.4

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretation, and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work, order unless otherwise agreed to in writing.

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376700,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 565602-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 14:48

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 15:10

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 16:18

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376700-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 16:52

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 810414

Sample: 376700-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 17:15

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376700,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 376700-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 17:37

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376700-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 18:00

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 810414

Sample: 376700-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 18:22

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 810414

Sample: 376694-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:38

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376694-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 21:00

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376700,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 565721-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 17:46

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810595

Sample: 565721-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:13

### 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	48.2	50.0	96	70-135	

Lab Batch #: 810595

Sample: 565721-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:41

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.1	49.8	103	70-135	

Lab Batch #: 810595

Sample: 376700-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 13:22

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.0	99.7	96	70-135	
o-Terphenyl	47.1	49.9	94	70-135	

Lab Batch #: 810595

Sample: 376700-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 13:49

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	50.3	50.1	100	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376700,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 376700-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 14:16

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	101	111	70-135	
o-Terphenyl	53.6	50.3	107	70-135	

Lab Batch #: 810595

Sample: 376700-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 14:43

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	101	98	70-135	
o-Terphenyl	47.9	50.3	95	70-135	

Lab Batch #: 810595

Sample: 376701-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	44.0	49.8	88	70-135	

Lab Batch #: 810595

Sample: 376701-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 810595

Sample: 376700-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 18:21

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Project Name: Lea Station Landfarm

**Work Order #:** 376700

**Analyst:** ASA

**Lab Batch ID:** 810414

**Date Prepared:** 06/11/2010

**Batch #:** 1

**Sample:** 565602-1-BKS

**Project ID:** 2004-00061

**Date Analyzed:** 06/11/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0986	99	0.1	0.1002	100	2	70-130	35
	Toluene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	70-130	35
	Ethylbenzene	ND	0.1000	0.0988	99	0.1	0.1000	100	1	71-129	35
	m,p-Xylenes	ND	0.2000	0.1984	99	0.2	0.2003	100	1	70-135	35
o-Xylene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	71-133	35	

**Analyst:** LATCOR

**Lab Batch ID:** 810781

**Date Prepared:** 06/14/2010

**Batch #:** 1

**Sample:** 810781-1-BKS

**Date Analyzed:** 06/14/2010

**Matrix:** Solid

**Units:** mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions In Soil by E300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	ND	10.0	9.99	100	10	8.68	87	14	75-125	20

Relative Percent Difference  $RPD = 200 * [(C-F)/(C+F)]$   
Blank Spike Recovery  $[D] = 100 * (C)/[B]$   
Blank Spike Duplicate Recovery  $[G] = 100 * (F)/[E]$   
All results are based on MDL and Validated for QC Purposes

# Project Name: Lea Station Landfarm

Work Order #: 376700

Analyst: BEV

Lab Batch ID: 810595

Sample: 565721-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/11/2010

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	998	1170	117	1000	1130	113	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	861	86	1000	1010	101	16	70-135	35	

Relative Percent Difference  $RPD = 200 * [(C-F)/(C+F)]$   
Blank Spike Recovery  $[D] = 100 * (C)/[B]$   
Blank Spike Duplicate Recovery  $[G] = 100 * (F)/[E]$   
All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 376700

Lab Batch #: 810781

Date Analyzed: 06/14/2010

QC- Sample ID: 376313-001 S

Reporting Units: mg/kg

Date Prepared: 06/14/2010

Batch #: 1

Project ID: 2004-00061

Analyst: LATCOR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	272	209	474	97	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

BRL - Below Reporting Limit

Work Order #: 376700

Lab Batch ID: 810414

Date Analyzed: 06/12/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376694-001 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1197	0.0744	62	0.1200	0.0595	50	22	70-130	35	X
	Toluene	ND	0.1197	0.0741	62	0.1200	0.0594	50	22	70-130	35	X
	Ethylbenzene	ND	0.1197	0.0758	63	0.1200	0.0611	51	21	71-129	35	X
	m,p-Xylenes	ND	0.2394	0.1515	63	0.2399	0.1239	52	20	70-135	35	X
	o-Xylene	ND	0.1197	0.0750	63	0.1200	0.0610	51	21	71-133	35	X

Lab Batch ID: 810595

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

QC-Sample ID: 376701-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

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	998	1040	104	998	953	95	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	1020	102	998	835	84	20	70-135	35	

Matrix Spike Percent Recovery [D] 100\*(C-A)/B  
Relative Percent Difference RPD 200\*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] 100\*(F-A)/E

ND Not Detected, J Present Below Reporting Limit, B Present in Blank, NR Not Requested, I Interference, NA Not Applicable, N See Narrative, EQL Estimated Quantitation Limit

**Project Name: Lea Station Landfarm**

**Work Order #: 376700**

**Lab Batch #: 810781**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376313-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	272	255	6	20	

**Lab Batch #: 810301**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376694-001 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	16.3	16.7	2	20	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$   
 All Results are based on MDL and validated for QC purposes.  
 BRL - Below Reporting Limit



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 10:10Lab ID #: 376700Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis





**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 376700  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 376701**

**for**

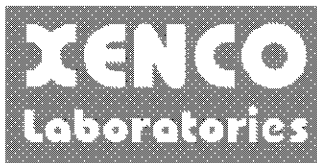
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295)



16-JUN-10

Project Manager: **Jason Henry**  
**PLAINS ALL AMERICAN EH&S**  
1301 S. COUNTY ROAD 1150  
Midland, TX 79706

Reference: XENCO Report No: **376701**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376701. 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. 376701 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 376701



### PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell D G-1	S	Jun-09-10 12:20		376701-001
VZ Cell D G-2	S	Jun-09-10 12:40		376701-002
VZ Cell D G-3	S	Jun-09-10 13:00		376701-003
VZ Cell D G-4	S	Jun-09-10 13:20		376701-004
VZ Cell D G-5	S	Jun-09-10 13:40		376701-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376701*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-810301 Percent Moisture*

None

*Batch: LBA-810414 BTEX by EPA 8021*

*SW8021BM*

*Batch 810414, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 376701-001,376701-005,376701-003,376701-002.*

*SW8021BM*

*Batch 810414, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 376701-001, -005, -003, -002, -004.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

*Batch: LBA-810595 TPH by SW8015 Mod*

None

*Batch: LBA-810644 TPH by SW8015 Mod*

None

*Batch: LBA-810781 Inorganic Anions by EPA 300*

None

*Batch: LBA-810796 Inorganic Anions by EPA 300*

None

# Certificate of Analysis Summary 376701

## PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	376701-001	376701-002	376701-003	376701-004	376701-005
	Field Id:	VZ Cell D G-1	VZ Cell D G-2	VZ Cell D G-3	VZ Cell D G-4	VZ Cell D G-5
	Depth:	SOIL	SOIL	SOIL	SOIL	SOIL
	Matrix:					
	Sampled:	Jun-09-10 12:20	Jun-09-10 12:40	Jun-09-10 13:00	Jun-09-10 13:20	Jun-09-10 13:40
BTEx by EPA 8021	Extracted:	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30	Jun-11-10 10:30
	Analyzed:	Jun-12-10 18:45	Jun-12-10 19:08	Jun-12-10 19:30	Jun-12-10 19:53	Jun-12-10 20:15
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
Toluene		ND 0.0021	ND 0.0020	ND 0.0020	ND 0.0021	ND 0.0021
Ethylbenzene		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
m,p-Xylenes		ND 0.0021	ND 0.0020	ND 0.0020	ND 0.0021	ND 0.0021
o-Xylene		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
Xylenes, Total		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
Total BTEx		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010
Inorganic Anions In Soil by E300	Extracted:					
	Analyzed:	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 09:21	Jun-14-10 19:11	Jun-14-10 19:11
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		ND 5.21	13.1 5.09	ND 5.01	5.94 5.21	22.7 5.10
Percent Moisture	Extracted:					
	Analyzed:	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Units/RL:	% RL	% RL	% RL	% RL	% RL
Percent Moisture		4.10 1.00	1.80 1.00	ND 1.00	4.08 1.00	1.92 1.00
TPH by SW8015 Mod	Extracted:	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30
	Analyzed:	Jun-14-10 15:10	Jun-14-10 15:38	Jun-14-10 16:05	Jun-14-10 22:49	Jun-14-10 23:16
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.7	ND 15.3	ND 15.0	ND 15.6	ND 15.2
C12-C28 Diesel Range Hydrocarbons		ND 15.7	ND 15.3	ND 15.0	ND 15.6	ND 15.2
C28-C35 Oil Range Hydrocarbons		ND 15.7	ND 15.3	ND 15.0	ND 15.6	ND 15.2
Total TPH		ND 15.7	ND 15.3	ND 15.0	ND 15.6	ND 15.2

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretation, and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work, order unless otherwise agreed to in writing.

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 565602-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 14:48

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 15:10

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 565602-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 16:18

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810414

Sample: 376701-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 18:45

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 810414

Sample: 376701-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 19:08

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810414

Sample: 376701-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 19:30

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810414

Sample: 376701-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 19:53

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0239	0.0300	80	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 810414

Sample: 376701-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:15

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 810414

Sample: 376694-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 20:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 810414

Sample: 376694-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 21:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 565721-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 17:46

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810595

Sample: 565721-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:13

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	48.2	50.0	96	70-135	

Lab Batch #: 810595

Sample: 565721-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/11/10 18:41

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.5	110	70-135	
o-Terphenyl	51.1	49.8	103	70-135	

Lab Batch #: 810595

Sample: 376701-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:10

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	50.3	50.2	100	70-135	

Lab Batch #: 810595

Sample: 376701-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:38

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	48.2	50.1	96	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810595

Sample: 376701-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:05

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.0	99.5	96	70-135	
o-Terphenyl	45.3	49.8	91	70-135	

Lab Batch #: 810595

Sample: 376701-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:32

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.5	118	70-135	
o-Terphenyl	44.0	49.8	88	70-135	

Lab Batch #: 810595

Sample: 376701-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:59

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376701,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376701-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 22:49

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.7	99.8	100	70-135	
o-Terphenyl	47.4	49.9	95	70-135	

Lab Batch #: 810644

Sample: 376701-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 23:16

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.1	99.6	98	70-135	
o-Terphenyl	46.1	49.8	93	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

### 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	49.3	50.2	98	70-135	

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

### 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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

# Project Name: Lea Station Landfarm

Work Order #: 376701

Analyst: ASA

Lab Batch ID: 810414

Sample: 565602-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/11/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0986	99	0.1	0.1002	100	2	70-130	35
	Toluene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	70-130	35
	Ethylbenzene	ND	0.1000	0.0988	99	0.1	0.1000	100	1	71-129	35
	m,p-Xylenes	ND	0.2000	0.1984	99	0.2	0.2003	100	1	70-135	35
o-Xylene	ND	0.1000	0.0974	97	0.1	0.0987	99	1	71-133	35	

Analyst: LATCOR

Lab Batch ID: 810781

Sample: 810781-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	9.99	100	10	8.68	87	14	75-125	20	

Relative Percent Difference  $RPD = 200 * [(C-F)/(C+F)]$   
Blank Spike Recovery  $[D] = 100 * (C)/[B]$   
Blank Spike Duplicate Recovery  $[G] = 100 * (F)/[E]$   
All results are based on MDL and Validated for QC Purposes

# Project Name: Lea Station Landfarm

Work Order #: 376701

Analyst: LATCOR

Lab Batch ID: 810796

Sample: 810796-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	8.62	86	10	9.52	95	10	75-125	20	

Analyst: BEV

Lab Batch ID: 810644

Sample: 565718-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Date Analyzed: 06/14/2010

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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	893	89	997	878	88	2	70-135	35	

Analyst: BEV

Lab Batch ID: 810595

Sample: 565721-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Date Analyzed: 06/11/2010

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	998	1170	117	1000	1130	113	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	861	86	1000	1010	101	16	70-135	35	

Relative Percent Difference  $RPD = 200 * [(C-F)/(C+F)]$

Blank Spike Recovery  $[D] = 100 * (C)/[B]$

Blank Spike Duplicate Recovery  $[G] = 100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Project Name: Lea Station Landfarm

Work Order #: 376701

Lab Batch #: 810781

Date Analyzed: 06/14/2010

QC- Sample ID: 376313-001 S

Reporting Units: mg/kg

Date Prepared: 06/14/2010

Batch #: 1

Project ID: 2004-00061

Analyst: LATCOR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	272	209	474	97	75-125	

Lab Batch #: 810796

Date Analyzed: 06/14/2010

QC- Sample ID: 376701-004 S

Reporting Units: mg/kg

Date Prepared: 06/14/2010

Batch #: 1

Analyst: LATCOR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	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

BRL - Below Reporting Limit

Work Order #: 376701

Lab Batch ID: 810414

Date Analyzed: 06/12/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376694-001 S

Date Prepared: 06/11/2010

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1197	0.0744	62	0.1200	0.0595	50	22	70-130	35	X
	Toluene	ND	0.1197	0.0741	62	0.1200	0.0594	50	22	70-130	35	X
	Ethylbenzene	ND	0.1197	0.0758	63	0.1200	0.0611	51	21	71-129	35	X
	m,p-Xylenes	ND	0.2394	0.1515	63	0.2399	0.1239	52	20	70-135	35	X
	o-Xylene	ND	0.1197	0.0750	63	0.1200	0.0610	51	21	71-133	35	X

Lab Batch ID: 810595

Date Analyzed: 06/14/2010

Reporting Units: mg/kg

QC-Sample ID: 376701-003 S

Date Prepared: 06/11/2010

Batch #: 1 Matrix: Soil

Analyst: BEV

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	998	1040	104	998	953	95	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	1020	102	998	835	84	20	70-135	35	

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 376705-003 S

Date Prepared: 06/11/2010

Batch #: 1 Matrix: Soil

Analyst: BEV

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg											
Analytes	TPH by SW8015 Mod										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1060	1140	108	1060	1140	108	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1060	889	84	1060	894	84	1	70-135	35	

Matrix Spike Percent Recovery [D] 100%(C-A)/B  
Relative Percent Difference RPD 200%(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] 100%(F-A)/E

ND Not Detected, J Present Below Reporting Limit, B Present in Blank, NR Not Requested, I Interference, NA Not ApplicableN See Narrative, EQL Estimated Quantification Limit



**Project Name: Lea Station Landfarm**

**Work Order #: 376701**

**Lab Batch #: 810781**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376313-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	272	255	6	20	

**Lab Batch #: 810796**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376701-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #: 810301**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376694-001 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	16.3	16.7	2	20	

Spike Relative Difference  $RPD = 200 * |(B-A)/(B+A)|$

All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**Phone: 432-563-1800**  
**Fax: 432-563-1713**

**Project Name: Lea Station Landfarm**

**Project #: 2004-00061**

**Project Loc: Lea County, NM**

**PO #: PAA - J. Henry**

**Fax No: (505) 396-1429**

**Report Format:**

**Standard**

TRRP

NPDES

[cibryant@basin-consulting.com](mailto:cibryant@basin-consulting.com)

[cibryant@basin-consulting.com](mailto:cibryant@basin-consulting.com)

[illegible]

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas  
Houston, Miami, Odessa, Philadelphia  
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 376701  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs   <u>1.4</u>   °C	lbs     °C	lbs     °C	lbs     °C	lbs     °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas  
Houston, Miami, Odessa, Philadelphia  
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 10:10Lab ID #: 376701Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 376702**

**for**

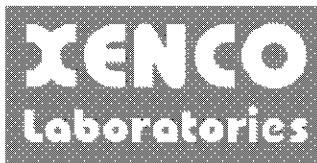
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

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Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295)



16-JUN-10

Project Manager: **Jason Henry**  
**PLAINS ALL AMERICAN EH&S**  
1301 S. COUNTY ROAD 1150  
Midland, TX 79706

Reference: XENCO Report No: **376702**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376702. 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. 376702 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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## Sample Cross Reference 376702



### PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell E G-1	S	Jun-09-10 14:00		376702-001
VZ Cell E G-2	S	Jun-09-10 14:20		376702-002
VZ Cell E G-3	S	Jun-09-10 14:40		376702-003
VZ Cell E G-4	S	Jun-09-10 15:00		376702-004





## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376702*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810308 Percent Moisture

None

Batch: LBA-810421 BTEX by EPA 8021

SW8021BM

Batch 810421, m,p-Xylenes RPD was outside QC limits.

Samples affected are: 376702-003, -001, -002, -004

SW8021BM

Batch 810421, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376702-003.

SW8021BM

Batch 810421, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376702-003, -001, -002, -004.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

Batch: LBA-810644 TPH by SW8015 Mod

None

Batch: LBA-810796 Inorganic Anions by EPA 300

None

# Certificate of Analysis Summary 376702

## PLAINS ALL AMERICAN EH&S, Midland, TX

### Project Name: Lea Station Landfarm

Project Id: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm  
 Report Date: 16-JUN-10  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	376702-001	376702-002	376702-003	376702-004
	Field Id: Depth: Matrix: Sampled:	VZ Cell E G-1 Jun-09-10 14:00 SOIL	VZ Cell E G-2 Jun-09-10 14:20 SOIL	VZ Cell E G-3 Jun-09-10 14:40 SOIL	VZ Cell E G-4 Jun-09-10 15:00 SOIL
BTEX by EPA 8021	Extracted:	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45
	Analyzed:	Jun-12-10 23:37	Jun-13-10 01:06	Jun-13-10 01:28	Jun-13-10 01:51
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010
	Toluene	ND 0.0022	ND 0.0021	ND 0.0022	ND 0.0020
Inorganic Anions In Soil by E300	Ethylbenzene	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010
	m,p-Xylenes	ND 0.0022	ND 0.0021	ND 0.0022	ND 0.0020
	o-Xylene	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010
	Xylenes, Total	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010
	Total BTEX	ND 0.0011	ND 0.0011	ND 0.0011	ND 0.0010
Percent Moisture	Extracted:	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11
	Analyzed:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Units/RL:	ND 5.50	ND 5.26	6.87 5.50	5.38 5.08
TPH by SW8015 Mod	Extracted:	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Analyzed:	% RL	% RL	% RL	% RL
	Units/RL:	9.12 1.00	4.92 1.00	9.06 1.00	1.64 1.00
C6-C12 Gasoline Range Hydrocarbons	Extracted:	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30
	Analyzed:	Jun-14-10 23:43	Jun-15-10 00:09	Jun-15-10 00:36	Jun-15-10 01:02
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	C12-C28 Diesel Range Hydrocarbons	ND 16.6	ND 15.7	ND 16.5	ND 15.3
	C28-C35 Oil Range Hydrocarbons	ND 16.6	ND 15.7	ND 16.5	ND 15.3
Total TPH		ND 16.6	ND 15.7	ND 16.5	ND 15.3

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Brent Barron, II  
 Odessa Laboratory Manager

## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376702,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 565604-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 21:45

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 565604-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 22:07

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 565604-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 23:15

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376702-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/12/10 23:37

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 810421

Sample: 376702-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376702,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 376702-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:22

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 810421

Sample: 376702-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 01:06

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0239	0.0300	80	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 810421

Sample: 376702-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 01:28

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0236	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 376702-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 01:51

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0243	0.0300	81	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376702,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376702-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 23:43

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.9	100	100	70-135	
o-Terphenyl	48.0	50.2	96	70-135	

Lab Batch #: 810644

Sample: 376702-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 00:09

## SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.0	99.5	99	70-135	
o-Terphenyl	47.5	49.8	95	70-135	

Lab Batch #: 810644

Sample: 376702-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 00:36

## 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	54.3	50.0	109	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376702,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 376702-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 01:02

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	47.4	50.1	95	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

### 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	49.3	50.2	98	70-135	

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

### 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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

# Project Name: Lea Station Landfarm

Work Order #: 376702

Analyst: ASA

Lab Batch ID: 810421

Sample: 565604-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/12/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021  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	0.0946	95	0.1	0.0998	100	5	70-130	35
	Toluene	ND	0.1000	0.0915	92	0.1	0.0960	96	5	70-130	35
	Ethylbenzene	ND	0.1000	0.0908	91	0.1	0.0957	96	5	71-129	35
	m,p-Xylenes	ND	0.2000	0.1791	90	0.2	0.1895	95	6	70-135	35
	o-Xylene	ND	0.1000	0.0905	91	0.1	0.0958	96	6	71-133	35

Analyst: LATCOR

Lab Batch ID: 810796

Sample: 810796-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions In Soil by E300  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
	Chloride	ND	10.0	8.62	86	10	9.52	95	10	75-125	20

Relative Percent Difference  $RPD = 200 * [(C-F)/(C+F)]$   
Blank Spike Recovery  $[D] = 100 * (C)/[B]$   
Blank Spike Duplicate Recovery  $[G] = 100 * (F)/[E]$   
All results are based on MDL and Validated for QC Purposes



# Project Name: Lea Station Landfarm

Work Order #: 376702

Analyst: BEV

Lab Batch ID: 810644

Sample: 565718-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/14/2010

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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	893	89	997	878	88	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 Landfarm

Work Order #: 376702

Lab Batch #: 810796

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Analyst: LATCOR

QC- Sample ID: 376701-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	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

BRL - Below Reporting Limit

Work Order #: 376702

Lab Batch ID: 810421

Date Analyzed: 06/13/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376702-001 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	ND	0.1089	0.0679	62	0.1096	0.0662	60	3	70-130	35	X
	Toluene	ND	0.1089	0.0596	55	0.1096	0.0549	50	8	70-130	35	X
	Ethylbenzene	ND	0.1089	0.0666	61	0.1096	0.0618	56	7	71-129	35	X
	m,p-Xylenes	ND	0.2179	0.0639	29	0.2192	0.0394	18	47	70-135	35	XF
	o-Xylene	ND	0.1089	0.0642	59	0.1096	0.0598	55	7	71-133	35	X

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 376705-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

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	1060	1140	108	1060	1140	108	0	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	ND	1060	889	84	1060	894	84	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  
ApplicableN See Narrative, EQL Estimated Quantification Limit

Matrix Spike Duplicate Percent Recovery [G] 100\*(F-A)/E

**Project Name: Lea Station Landfarm**

**Work Order #: 376702**

**Lab Batch #: 810796**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376701-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #: 810308**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376702-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.12	8.67	5	20	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$   
 All Results are based on MDL and validated for QC purposes.  
 BRL - Below Reporting Limit



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 16:10Lab ID #: 374702Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**Phone: 432-563-1800**  
**Fax: 432-563-1713**

**Project Name: Lea Station Landfarm**

**Project #: 2004-00061**

**Project Loc: Lea County, NM**

**PO #: PAA - J. Henry**

Fax No: (505) 396-1429

[cibryant@basin-consulting.com](mailto:cibryant@basin-consulting.com)

Final Ver. 1.000

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 374702  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis



# **Analytical Report 376703**

**for**

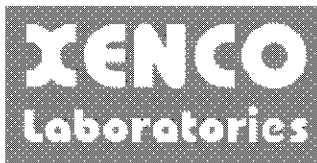
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295)



16-JUN-10

Project Manager: **Jason Henry**  
**PLAINS ALL AMERICAN EH&S**  
1301 S. COUNTY ROAD 1150  
Midland, TX 79706

Reference: XENCO Report No: **376703**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376703. 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. 376703 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 376703



### PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell F G-1	S	Jun-10-10 08:00		376703-001
VZ Cell F G-2	S	Jun-10-10 08:20		376703-002
VZ Cell F G-3	S	Jun-10-10 08:40		376703-003
VZ Cell F G-4	S	Jun-10-10 09:00		376703-004
VZ Cell F G-5	S	Jun-10-10 09:20		376703-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376703*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810308 Percent Moisture

None

Batch: LBA-810421 BTEX by EPA 8021  
SW8021BM

Batch 810421, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376703-005, -001, -003, -004.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 810421, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376703-001, 376703-005, 376703-003.

SW8021BM

Batch 810421, m,p-Xylenes RPD was outside QC limits.

Samples affected are: 376703-005, -001, -003, -004

Batch: LBA-810601 BTEX by EPA 8021  
SW8021BM

Batch 810601, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376703-002.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376703*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

---

*Batch: LBA-810644 TPH by SW8015 Mod*  
*None*

*Batch: LBA-810796 Inorganic Anions by EPA 300*  
*None*

# Certificate of Analysis Summary 376703

## PLAINS ALL AMERICAN EH&S, Midland, TX

### Project Name: Lea Station Landfarm

**Project Id:** 2004-00061  
**Contact:** Jason Henry  
**Project Location:** Lea County, NM

**Date Received in Lab:** Thu Jun-10-10 04:10 pm

**Report Date:** 16-JUN-10

**Project Manager:** Brent Barron, II

Analysis Requested	Lab Id:	376703-001	376703-002	376703-003	376703-004	376703-005
	Field Id:	VZ Cell F G-1	VZ Cell F G-2	VZ Cell F G-3	VZ Cell F G-4	VZ Cell F G-5
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jun-10-10 08:00	Jun-10-10 08:20	Jun-10-10 08:40	Jun-10-10 09:00	Jun-10-10 09:20
BTEX by EPA 8021	Extracted:	Jun-11-10 10:45	Jun-14-10 08:00	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45
	Analyzed:	Jun-13-10 02:14	Jun-14-10 16:47	Jun-13-10 02:58	Jun-13-10 03:21	Jun-13-10 03:43
	Units/RL:	mg/kg RL ND 0.0010	mg/kg RL ND 0.0011	mg/kg RL ND 0.0010	mg/kg RL ND 0.0010	mg/kg RL ND 0.0011
Inorganic Anions In Soil by E300		ND 0.0020	ND 0.0023	ND 0.0021	ND 0.0020	ND 0.0021
		ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010	ND 0.0011
		ND 0.0020	ND 0.0023	ND 0.0021	ND 0.0020	ND 0.0021
		ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010	ND 0.0011
		ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010	ND 0.0011
		ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0010	ND 0.0011
Percent Moisture	Extracted:	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11
	Analyzed:	mg/kg RL ND 5.01	mg/kg RL ND 5.69	mg/kg RL ND 5.22	mg/kg RL 7.90 5.08	mg/kg RL 18.2 5.33
	Units/RL:	% RL ND 1.00	% RL 12.1 1.00	% RL 4.27 1.00	% RL 1.67 1.00	% RL 6.14 1.00
TPH by SW8015 Mod	Extracted:	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30
	Analyzed:	Jun-15-10 01:29	Jun-15-10 01:56	Jun-15-10 02:23	Jun-15-10 02:50	Jun-15-10 03:43
	Units/RL:	mg/kg RL ND 14.9	mg/kg RL ND 17.0	mg/kg RL ND 15.7	mg/kg RL ND 15.3	mg/kg RL ND 15.9
Total TPH		ND 14.9	ND 17.0	ND 15.7	ND 15.3	ND 15.9
		ND 14.9	ND 17.0	ND 15.7	ND 15.3	ND 15.9
		ND 14.9	ND 17.0	ND 15.7	ND 15.3	ND 15.9

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretation, and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work, order unless otherwise agreed to in writing.

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 Brent Barron, II  
 Odessa Laboratory Manager

## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 565604-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 21:45

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 565604-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 22:07

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 565604-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 23:15

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376702-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 376702-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:22

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 376703-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 02:14

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 376703-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 02:58

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0235	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 810421

Sample: 376703-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 03:21

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0239	0.0300	80	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 810421

Sample: 376703-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 03:43

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0235	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 810601

Sample: 565716-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 08:50

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810601

Sample: 565716-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 09:13

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 810601

Sample: 565716-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 10:21

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810601

Sample: 376694-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 15:40

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376694-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:02

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 810601

Sample: 376703-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/14/10 16:47

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376703-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 01:29

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	99.5	104	70-135	
o-Terphenyl	47.5	49.8	95	70-135	

Lab Batch #: 810644

Sample: 376703-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 01:56

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	97.8	99.5	98	70-135	
o-Terphenyl	48.0	49.8	96	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376703,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 376703-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 02:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.0	99.9	95	70-135	
o-Terphenyl	46.8	50.0	94	70-135	

Lab Batch #: 810644

Sample: 376703-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 02:50

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	101	96	70-135	
o-Terphenyl	46.7	50.3	93	70-135	

Lab Batch #: 810644

Sample: 376703-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 03:43

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.6	99.5	97	70-135	
o-Terphenyl	47.5	49.8	95	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

### 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	49.3	50.2	98	70-135	

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

### 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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

# Project Name: Lea Station Landfarm

Work Order #: 376703

Analyst: ASA

Lab Batch ID: 810421

Sample: 565604-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/12/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0946	95	0.1	0.0998	100	5	70-130	35
	Toluene	ND	0.1000	0.0915	92	0.1	0.0960	96	5	70-130	35
	Ethylbenzene	ND	0.1000	0.0908	91	0.1	0.0957	96	5	71-129	35
	m,p-Xylenes	ND	0.2000	0.1791	90	0.2	0.1895	95	6	70-135	35
	o-Xylene	ND	0.1000	0.0905	91	0.1	0.0958	96	6	71-133	35

Analyst: ASA

Lab Batch ID: 810601

Sample: 565716-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.1076	108	0.1	0.1053	105	2	70-130	35
	Toluene	ND	0.1000	0.1063	106	0.1	0.1033	103	3	70-130	35
	Ethylbenzene	ND	0.1000	0.1085	109	0.1	0.1046	105	4	71-129	35
	m,p-Xylenes	ND	0.2000	0.2185	109	0.2	0.2102	105	4	70-135	35
o-Xylene	ND	0.1000	0.1075	108	0.1	0.1032	103	4	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

**Project Name:** Lea Station Landfarm

**Work Order #:** 376703

**Analyst:** LATCOR

**Lab Batch ID:** 810796

**Sample:** 810796-1-BKS

**Units:** mg/kg

**Project ID:** 2004-00061

**Date Analyzed:** 06/14/2010

**Matrix:** Solid

**Date Prepared:** 06/14/2010

**Batch #:** 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	8.62	86	10	9.52	95	10	75-125	20	

**Analyst:** BEV

**Lab Batch ID:** 810644

**Sample:** 565718-1-BKS

**Date Prepared:** 06/11/2010

**Batch #:** 1

**Date Analyzed:** 06/14/2010

**Matrix:** Solid

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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	893	89	997	878	88	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 Landfarm

Work Order #: 376703

Lab Batch #: 810796

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Project ID: 2004-00061

Analyst: LATCOR

QC- Sample ID: 376701-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	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

BRL - Below Reporting Limit

# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm

Work Order #: 376703

Project ID: 2004-00061

Lab Batch ID: 810421

QC-Sample ID: 376702-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/13/2010

Date Prepared: 06/11/2010

Analyst: ASA

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	
BTEX by EPA 8021											
Benzene	ND	0.1089	0.0679	62	0.1096	0.0662	60	3	70-130	35	X
Toluene	ND	0.1089	0.0596	55	0.1096	0.0549	50	8	70-130	35	X
Ethylbenzene	ND	0.1089	0.0666	61	0.1096	0.0618	56	7	71-129	35	X
m,p-Xylenes	ND	0.2179	0.0639	29	0.2192	0.0394	18	47	70-135	35	XF
o-Xylene	ND	0.1089	0.0642	59	0.1096	0.0598	55	7	71-133	35	X

Lab Batch ID: 810601

QC-Sample ID: 376694-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Analyst: ASA

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	
BTEX by EPA 8021											
Benzene	ND	0.1048	0.0678	65	0.1050	0.0720	69	6	70-130	35	X
Toluene	ND	0.1048	0.0670	64	0.1050	0.0713	68	6	70-130	35	X
Ethylbenzene	ND	0.1048	0.0683	65	0.1050	0.0725	69	6	71-129	35	X
m,p-Xylenes	ND	0.2096	0.1378	66	0.2100	0.1458	69	6	70-135	35	X
o-Xylene	ND	0.1048	0.0662	63	0.1050	0.0708	67	7	71-133	35	X

Matrix Spike Percent Recovery [D] 100\*(C-A)/B  
Relative Percent Difference RPD 200\*(C-F)/(C+F)  
ND Not Detected, J Present Below Reporting Limit, B Present in Blank, NR Not Requested, I Interference, NA Not Applicable, N See Narrative, EQ Estimated Quantification Limit

Matrix Spike Duplicate Percent Recovery [G] 100\*(F-A)/E





# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm



Work Order # : 376703

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376705-003 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/11/2010 Analyst: BEV

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	1060	1140	108	1060	1140	108	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1060	889	84	1060	894	84	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  
ApplicableN See Narrative, EQL Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] 100%(F-A)/E

**Project Name: Lea Station Landfarm**

**Work Order #: 376703**

**Lab Batch #: 810796**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376701-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #: 810308**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376702-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.12	8.67	5	20	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$   
 All Results are based on MDL and validated for QC purposes.  
 BRL - Below Reporting Limit

**CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**

**12600 West I-20 East**  
**Odessa, Texas 79765**

**Phone: 432-563-1800**  
**Fax: 432-563-1713**

[cjbryant@basin-consulting.com](mailto:cjbryant@basin-consulting.com)

Special Instructions:		Relinquished by:		Date	Time	Received by:	Date	Time	Laboratory Comments:
Gavin Baggett		Gavin Baggett		6/10/10	1300	[Signature]	6-10-10	1300	<input checked="" type="checkbox"/> VOCs Free of Headspace? <input checked="" type="checkbox"/> Custody seals on container(s) <input checked="" type="checkbox"/> Sample Hand Delivered <input checked="" type="checkbox"/> by Sampler/Client Rep. ? <input checked="" type="checkbox"/> by Courier? DHL 407 914 55 Temperature Upon Receipt: 1.4 °C
[Signature]		[Signature]		6-10	1610	[Signature]			<input checked="" type="checkbox"/> VOCs Free of Headspace? <input checked="" type="checkbox"/> Custody seals on container(s) <input checked="" type="checkbox"/> Sample Hand Delivered <input checked="" type="checkbox"/> by Sampler/Client Rep. ? <input checked="" type="checkbox"/> by Courier? DHL 407 914 55 Temperature Upon Receipt: 1.4 °C
[Signature]		[Signature]				Andrea Sam	6-10-10	16:10	<input checked="" type="checkbox"/> VOCs Free of Headspace? <input checked="" type="checkbox"/> Custody seals on container(s) <input checked="" type="checkbox"/> Sample Hand Delivered <input checked="" type="checkbox"/> by Sampler/Client Rep. ? <input checked="" type="checkbox"/> by Courier? DHL 407 914 55 Temperature Upon Receipt: 1.4 °C

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 16:10Lab ID #: 376703Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

**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 Landfarm**

Project #: 2004-00061

**Project Loc: Lea County, NM**

**PO #: PAA - J. Henry**

Fax No: (505) 396-1429

[cibryant@basin-consulting.com](mailto:cibryant@basin-consulting.com)

LAB # (lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers							Matrix	TCP:	TOTAL:	Analyze For:	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY											
										HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW - Drinking Water SL - Sludge CW - Groundwater S - Soil/SOI	NP - Non-Portable Specify Other	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Mileage 300				
										X								SOIL	X	TPH: 418.1 8015M 8015B							X						
			VZ Cell F G-1			6/10/10	0800		1	X								SOIL	X							X							
			VZ Cell F G-2			6/10/10	0820		1	X								SOIL	X							X							
			VZ Cell F G-3			6/10/10	0840		1	X								SOIL	X							X							
			VZ Cell F G-4			6/10/10	0900		1	X								SOIL	X							X							
			VZ Cell F G-5			6/10/10	0920		1	X								Soil	X							X							

**Special Instructions:**

Relinquished by: *[Signature]* Date: 6/10/10 Time: 1300

Relinquished by: *[Signature]* Date: 6/10/10 Time: 1600

Relinquished by: *[Signature]* Date: 6/10/10 Time: 1610

**Laboratory Comments:**

VOCs Free of Headspace? *[X]*

Custody seals on container(s)? *[X]*

Sample Hand Delivered by Sampler/Client Rep.? *[X]*

by Courier? *[X]* UPS *[X]* DHL *[X]*

Temperature Upon Receipt: 1.4 °C

**Order #:** 376703

**Sampler Signature:** *[Signature]*

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**Client: Basin Env. / PlainsDate/Time: 6-10-10 16:10Lab ID #: 374703Initials: AL**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - ☐ Initial and Backup Temperature confirm out of temperature conditions
  - ☐ Client understands and would like to proceed with analysis

# **Analytical Report 376704**

**for**

## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295)



16-JUN-10

Project Manager: **Jason Henry**  
**PLAINS ALL AMERICAN EH&S**  
1301 S. COUNTY ROAD 1150  
Midland, TX 79706

Reference: XENCO Report No: **376704**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376704. 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. 376704 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 376704



### PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell G G-1	S	Jun-10-10 09:40		376704-001
VZ Cell G G-2	S	Jun-10-10 10:00		376704-002
VZ Cell G G-3	S	Jun-10-10 10:20		376704-003
VZ Cell G G-4	S	Jun-10-10 10:40		376704-004
VZ Cell G G-5	S	Jun-10-10 11:00		376704-005



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376704*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

*Batch: LBA-810308 Percent Moisture*

None

*Batch: LBA-810421 BTEX by EPA 8021*

SW8021BM

*Batch 810421, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis*

*Samples affected are: 376704-001,376704-005,376704-004,376704-003.*

SW8021BM

*Batch 810421, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 376704-002, -001, -005, -003, -004.*

*The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits*

SW8021BM

*Batch 810421, m,p-Xylenes RPD was outside QC limits.*

*Samples affected are: 376704-002, -001, -005, -003, -004*

*Batch: LBA-810644 TPH by SW8015 Mod*

None

*Batch: LBA-810796 Inorganic Anions by EPA 300*

None

# Certificate of Analysis Summary 376704

## PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station Landfarm

Project Id: 2004-00061

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	376704-001	376704-002	376704-003	376704-004	376704-005
	Field Id:	VZ Cell G G-1	VZ Cell G G-2	VZ Cell G G-3	VZ Cell G G-4	VZ Cell G G-5
	Depth:	SOIL	SOIL	SOIL	SOIL	SOIL
	Matrix:	Jun-10-10 09:40	Jun-10-10 10:00	Jun-10-10 10:20	Jun-10-10 10:40	Jun-10-10 11:00
BTEx by EPA 8021	Sampled:					
	Extracted:	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45
	Analyzed:	Jun-13-10 04:06	Jun-13-10 05:13	Jun-13-10 05:36	Jun-13-10 05:59	Jun-13-10 06:21
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
Toluene		ND 0.0020	ND 0.0021	ND 0.0021	ND 0.0020	ND 0.0021
Ethylbenzene		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
m,p-Xylenes		ND 0.0020	ND 0.0021	ND 0.0021	ND 0.0020	ND 0.0021
o-Xylene		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
Xylenes, Total		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
Total BTEx		ND 0.0010	ND 0.0010	ND 0.0011	ND 0.0010	ND 0.0011
Inorganic Anions In Soil by E300						
	Extracted:					
	Analyzed:	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8.87 5.06	10.9 5.21	8.70 5.31	6.58 5.02	6.79 5.33
Percent Moisture						
	Extracted:					
	Analyzed:	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28
	Units/RL:	% RL	% RL	% RL	% RL	% RL
Percent Moisture		1.17 1.00	3.98 1.00	5.90 1.00	ND 1.00	6.25 1.00
TPH by SW8015 Mod						
	Extracted:	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30
	Analyzed:	Jun-15-10 04:10	Jun-15-10 04:37	Jun-15-10 05:03	Jun-15-10 05:31	Jun-15-10 05:57
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.2	ND 15.6	ND 15.9	ND 15.0	ND 16.0
C12-C28 Diesel Range Hydrocarbons		ND 15.2	ND 15.6	ND 15.9	ND 15.0	ND 16.0
C28-C35 Oil Range Hydrocarbons		ND 15.2	ND 15.6	ND 15.9	ND 15.0	ND 16.0
Total TPH		ND 15.2	ND 15.6	ND 15.9	ND 15.0	ND 16.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretation, and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Brent Barron, II  
Odessa Laboratory Manager

## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

# Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376704,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 565604-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 21:45

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 565604-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 22:07

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 565604-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 23:15

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376702-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 376702-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:22

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376704,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 376704-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 04:06

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0238	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 810421

Sample: 376704-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 05:13

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0239	0.0300	80	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376704-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 05:36

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	*
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 810421

Sample: 376704-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 05:59

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 376704-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 06:21

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0236	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376704,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376704-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 04:10

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.8	100	96	70-135	
o-Terphenyl	45.7	50.1	91	70-135	

Lab Batch #: 810644

Sample: 376704-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 04:37

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	99.9	99	70-135	
o-Terphenyl	47.8	50.0	96	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376704,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 376704-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 05:03

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.5	99.8	99	70-135	
o-Terphenyl	48.5	49.9	97	70-135	

Lab Batch #: 810644

Sample: 376704-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 05:31

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	99.8	91	70-135	
o-Terphenyl	42.6	49.9	85	70-135	

Lab Batch #: 810644

Sample: 376704-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 05:57

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	50.7	50.0	101	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

### 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	49.3	50.2	98	70-135	

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

### 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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.



# Project Name: Lea Station Landfarm

Work Order #: 376704

Analyst: ASA

Lab Batch ID: 810421

Sample: 565604-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/12/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BTEX by EPA 8021										
	Benzene	ND	0.1000	0.0946	95	0.1	0.0998	100	5	70-130	35
	Toluene	ND	0.1000	0.0915	92	0.1	0.0960	96	5	70-130	35
	Ethylbenzene	ND	0.1000	0.0908	91	0.1	0.0957	96	5	71-129	35
	m,p-Xylenes	ND	0.2000	0.1791	90	0.2	0.1895	95	6	70-135	35
	o-Xylene	ND	0.1000	0.0905	91	0.1	0.0958	96	6	71-133	35

Analyst: LATCOR

Lab Batch ID: 810796

Sample: 810796-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	8.62	86	10	9.52	95	10	75-125	20	

Relative Percent Difference  $RPD = 200 * [(C-F)/(C+F)]$   
Blank Spike Recovery  $[D] = 100 * (C)/[B]$   
Blank Spike Duplicate Recovery  $[G] = 100 * (F)/[E]$   
All results are based on MDL and Validated for QC Purposes

**Project Name: Lea Station Landfarm**

**Work Order #: 376704**

**Analyst: BEV**

**Lab Batch ID: 810644**

**Sample: 565718-1-BKS**

**Date Prepared: 06/11/2010**

**Batch #: 1**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	893	89	997	878	88	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 Landfarm

Work Order #: 376704

Lab Batch #: 810796

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Analyst: LATCOR

QC- Sample ID: 376701-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	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

BRL - Below Reporting Limit

# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm

Work Order #: 376704

Lab Batch ID: 810421

Date Analyzed: 06/13/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376702-001 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1089	0.0679	62	0.1096	0.0662	60	3	70-130	35	X
	Toluene	ND	0.1089	0.0596	55	0.1096	0.0549	50	8	70-130	35	X
	Ethylbenzene	ND	0.1089	0.0666	61	0.1096	0.0618	56	7	71-129	35	X
	m,p-Xylenes	ND	0.2179	0.0639	29	0.2192	0.0394	18	47	70-135	35	XF
	o-Xylene	ND	0.1089	0.0642	59	0.1096	0.0598	55	7	71-133	35	X

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 376705-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg											
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1060	1140	108	1060	1140	108	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1060	889	84	1060	894	84	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  
ApplicableN See Narrative, EQL Estimated Quantification Limit

Matrix Spike Duplicate Percent Recovery [G] 100\*(F-A)/E

**Project Name: Lea Station Landfarm**

**Work Order #: 376704**

**Lab Batch #: 810796**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376701-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #: 810308**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376702-001 D**

**Batch #: 1**

**Matrix: Soil**

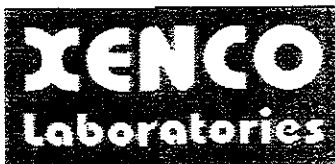
**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.12	8.67	5	20	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$   
 All Results are based on MDL and validated for QC purposes.  
 BRL - Below Reporting Limit



**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376704  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis





**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 376704  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

# **Analytical Report 376705**

**for**

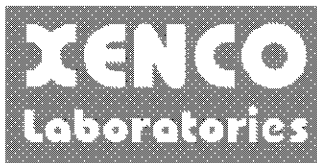
## **PLAINS ALL AMERICAN EH&S**

**Project Manager: Jason Henry**

**Lea Station Landfarm**

**2004-00061**

**16-JUN-10**



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295)



16-JUN-10

Project Manager: **Jason Henry**  
**PLAINS ALL AMERICAN EH&S**  
1301 S. COUNTY ROAD 1150  
Midland, TX 79706

Reference: XENCO Report No: **376705**  
**Lea Station Landfarm**  
Project Address: Lea County, NM

**Jason Henry:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 376705. 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. 376705 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

---

**Brent Barron, II**

Odessa Laboratory Manager

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*Certified and approved by numerous States and Agencies.*

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## Sample Cross Reference 376705



### PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell H G-1	S	Jun-10-10 11:20		376705-001
VZ Cell H G-2	S	Jun-10-10 11:40		376705-002
VZ Cell H G-3	S	Jun-10-10 12:00		376705-003



## CASE NARRATIVE

*Client Name: PLAINS ALL AMERICAN EH&S*

*Project Name: Lea Station Landfarm*



*Project ID: 2004-00061*

*Work Order Number: 376705*

*Report Date: 16-JUN-10*

*Date Received: 06/10/2010*

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**Sample receipt non conformances and Comments:**

None

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**Sample receipt Non Conformances and Comments per Sample:**

None

**Analytical Non Conformances and Comments:**

Batch: LBA-810308 Percent Moisture

None

Batch: LBA-810421 BTEX by EPA 8021

SW8021BM

Batch 810421, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376705-002, -003, -001.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 810421, m,p-Xylenes RPD was outside QC limits.

Samples affected are: 376705-002, -003, -001

SW8021BM

Batch 810421, 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 376705-002.

Batch: LBA-810644 TPH by SW8015 Mod

None

Batch: LBA-810796 Inorganic Anions by EPA 300

None

# Certificate of Analysis Summary 376705

## PLAINS ALL AMERICAN EH&S, Midland, TX

### Project Name: Lea Station Landfarm

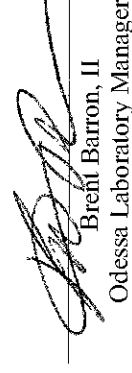
Project Id: 2004-00061  
 Contact: Jason Henry  
 Project Location: Lea County, NM

Date Received in Lab: Thu Jun-10-10 04:10 pm  
 Report Date: 16-JUN-10  
 Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	376705-001	376705-002	376705-003	
	Field Id: Depth: Matrix: Sampled:	VZ Cell H G-1 Jun-10-10 11:20 SOIL	VZ Cell H G-2 Jun-10-10 11:40 SOIL	VZ Cell H G-3 Jun-10-10 12:00 SOIL	
BTEX by EPA 8021	Extracted:	Jun-11-10 10:45	Jun-11-10 10:45	Jun-11-10 10:45	
	Analyzed:	Jun-13-10 06:43	Jun-13-10 07:06	Jun-13-10 07:28	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	
	Benzene	ND 0.0011	ND 0.0010	ND 0.0011	
	Toluene	ND 0.0022	ND 0.0021	ND 0.0021	
Inorganic Anions In Soil by E300	Ethylbenzene	ND 0.0011	ND 0.0010	ND 0.0011	
	m,p-Xylenes	ND 0.0022	ND 0.0021	ND 0.0021	
	o-Xylene	ND 0.0011	ND 0.0010	ND 0.0011	
	Xylenes, Total	ND 0.0011	ND 0.0010	ND 0.0011	
	Total BTEX	ND 0.0011	ND 0.0010	ND 0.0011	
Percent Moisture	Extracted:				
	Analyzed:	Jun-14-10 19:11	Jun-14-10 19:11	Jun-14-10 19:11	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	
	Chloride	11.4 5.42	ND 5.24	ND 5.26	
	Extracted:				
TPH by SW8015 Mod	Analyzed:	Jun-11-10 14:28	Jun-11-10 14:28	Jun-11-10 14:28	
	Units/RL:	% RL	% RL	% RL	
	Percent Moisture	7.74 1.00	4.49 1.00	5.03 1.00	
	Extracted:	Jun-11-10 14:30	Jun-11-10 14:30	Jun-11-10 14:30	
	Analyzed:	Jun-15-10 06:25	Jun-15-10 06:51	Jun-15-10 07:18	
Total TPH	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	
	C6-C12 Gasoline Range Hydrocarbons	ND 16.3	ND 15.6	ND 15.8	
	C12-C28 Diesel Range Hydrocarbons	ND 16.3	ND 15.6	ND 15.8	
	C28-C35 Oil Range Hydrocarbons	ND 16.3	ND 15.6	ND 15.8	
	Total TPH	ND 16.3	ND 15.6	ND 15.8	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

  
 Brent Barron, II  
 Odessa Laboratory Manager

## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the MQL and above the SQL.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit

**PQL** Practical Quantitation Limit

\* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376705,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 565604-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 21:45

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 810421

Sample: 565604-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 22:07

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 565604-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/12/10 23:15

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 810421

Sample: 376702-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:00

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 810421

Sample: 376702-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 00:22

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376705,

Project ID: 2004-00061

Lab Batch #: 810421

Sample: 376705-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 06:43

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 810421

Sample: 376705-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 07:06

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	80-120	*
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 810421

Sample: 376705-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/13/10 07:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 810644

Sample: 565718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:29

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	132	99.8	132	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 810644

Sample: 565718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 21:56

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.7	128	70-135	
o-Terphenyl	49.2	49.9	99	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376705,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 565718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/14/10 22:23

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.5	109	70-135	
o-Terphenyl	51.9	49.8	104	70-135	

Lab Batch #: 810644

Sample: 376705-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 06:25

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	100	97	70-135	
o-Terphenyl	47.5	50.1	95	70-135	

Lab Batch #: 810644

Sample: 376705-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 06:51

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.5	104	70-135	
o-Terphenyl	50.0	49.8	100	70-135	

Lab Batch #: 810644

Sample: 376705-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 07:18

### SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.6	99.8	98	70-135	
o-Terphenyl	47.3	49.9	95	70-135	

Lab Batch #: 810644

Sample: 376705-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:12

### 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	49.3	50.2	98	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: Lea Station Landfarm

Work Orders : 376705,

Project ID: 2004-00061

Lab Batch #: 810644

Sample: 376705-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/15/10 08:41

### 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	48.5	50.2	97	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] –  $100 * A / B$

All results are based on MDL and validated for QC purposes.

# Project Name: Lea Station Landfarm

Work Order #: 376705

Analyst: ASA

Lab Batch ID: 810421

Sample: 565604-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/12/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021  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	0.0946	95	0.1	0.0998	100	5	70-130	35
	Toluene	ND	0.1000	0.0915	92	0.1	0.0960	96	5	70-130	35
	Ethylbenzene	ND	0.1000	0.0908	91	0.1	0.0957	96	5	71-129	35
	m,p-Xylenes	ND	0.2000	0.1791	90	0.2	0.1895	95	6	70-135	35
	o-Xylene	ND	0.1000	0.0905	91	0.1	0.0958	96	6	71-133	35

Analyst: LATCOR

Lab Batch ID: 810796

Sample: 810796-1-BKS

Date Prepared: 06/14/2010

Batch #: 1

Date Analyzed: 06/14/2010

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions In Soil by E300		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		ND	10.0	8.62	86	10	9.52	95	10	75-125	20	

Relative Percent Difference  $RPD = 200 * [(C-F)/(C+F)]$   
Blank Spike Recovery  $[D] = 100 * (C)/[B]$   
Blank Spike Duplicate Recovery  $[G] = 100 * (F)/[E]$   
All results are based on MDL and Validated for QC Purposes

# Project Name: Lea Station Landfarm

Work Order #: 376705

Analyst: BEV

Lab Batch ID: 810644

Sample: 565718-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: 2004-00061

Date Analyzed: 06/14/2010

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	998	1150	115	997	1160	116	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		ND	998	893	89	997	878	88	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 Landfarm

Work Order #: 376705

Lab Batch #: 810796

Project ID: 2004-00061

Date Analyzed: 06/14/2010

Date Prepared: 06/14/2010

Analyst: LATCOR

QC- Sample ID: 376701-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	5.94	104	113	103	75-125	

Matrix Spike Percent Recovery [D] =  $100 * (C - A) / B$   
Relative Percent Difference [E] =  $200 * (C - A) / (C + B)$   
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

# Form 3 - MS / MSD Recoveries

Project Name: Lea Station Landfarm

Work Order #: 376705

Lab Batch ID: 810421

Date Analyzed: 06/13/2010

Reporting Units: mg/kg

Project ID: 2004-00061

QC-Sample ID: 376702-001 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: ASA

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by EPA 8021  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	ND	0.1089	0.0679	62	0.1096	0.0662	60	3	70-130	35	X
	Toluene	ND	0.1089	0.0596	55	0.1096	0.0549	50	8	70-130	35	X
	Ethylbenzene	ND	0.1089	0.0666	61	0.1096	0.0618	56	7	71-129	35	X
	m,p-Xylenes	ND	0.2179	0.0639	29	0.2192	0.0394	18	47	70-135	35	XF
	o-Xylene	ND	0.1089	0.0642	59	0.1096	0.0598	55	7	71-133	35	X

Lab Batch ID: 810644

Date Analyzed: 06/15/2010

Reporting Units: mg/kg

QC-Sample ID: 376705-003 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: BEV

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	TPH by SW8015 Mod	Analytes	Parent Sample Result	Spike Added	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]				
	C6-C12 Gasoline Range Hydrocarbons		ND	1060	1140	108	1060	1140	108	0	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		ND	1060	889	84	1060	894	84	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  
 ApplicableN See Narrative, EQL Estimated Quantification Limit

Matrix Spike Duplicate Percent Recovery [G] 100%(F-A)/E

**Project Name: Lea Station Landfarm**

**Work Order #: 376705**

**Lab Batch #: 810796**

**Project ID: 2004-00061**

**Date Analyzed: 06/14/2010**

**Date Prepared: 06/14/2010**

**Analyst: LATCOR**

**QC- Sample ID: 376701-004 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: mg/kg**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Inorganic Anions In Soil by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	5.94	ND	NC	20	

**Lab Batch #: 810308**

**Date Analyzed: 06/11/2010**

**Date Prepared: 06/11/2010**

**Analyst: JLG**

**QC- Sample ID: 376702-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

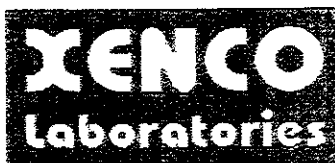
## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.12	8.67	5	20	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$   
 All Results are based on MDL and validated for QC purposes.  
 BRL - Below Reporting Limit





**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Basin Env. / Plains  
Date/Time: 6-10-10 10:10  
Lab ID #: 376705  
Initials: AL

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles?</u>	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
☐ Client understands and would like to proceed with analysis

**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 Landfarm**

**Project #: 2004-00061**

Project Loc: Lea County, NM

PO #: PAA - J. Henry

**Fax No: (505) 396-1429**

[cibryant@basin-consulting.com](mailto:cibryant@basin-consulting.com)

LAB # (lab use only)		FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers										Matrix	TCLP: TOTAL: X										Analyze For:									
									Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW - Drinking Water SL - Sludge	CW - Groundwater S - Soil/Soil	NP - Non-Portable Specify Other	TPH: 418.1 8015B	TPH: TX 1006 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TEX 8021B/8020 or BTEX 8260	RCI	N.O.R.M.	Chlorides 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY						
		VZ Cell H G-1			6/10/10	1120		1	X									SOIL		X								X											
		VZ Cell H G-2			6/10/10	1140		1	X									SOIL		X								X											
		VZ Cell H G-3			6/10/10	1200		1	X									SOIL		X								X											

Special Instructions:		Received by:		Date	Time
Relinquished by: Andrew B...		[Signature]		6/10/10	1300
Relinquished by: [Signature]		[Signature]		6-70	1610
Relinquished by: [Signature]		[Signature]		6-10-10	16:10

Laboratory Comments:		Received by:		Date	Time
VOCs Free of Headspace?		[Signature]		6-70	1300
Custody seals on container(s)		[Signature]		6-70	1300
Sample Hand Delivered by Sampler/Client Rep.?		[Signature]		6-70	1300
JPS DHL by Courier?		[Signature]		6-70	1300
Temperature Upon Receipt:		[Signature]		6-70	1300

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Basin Env. / Plains  
Date/Time: 6-10-10 16:10  
Lab ID #: 376705  
Initials: AL

**Sample Receipt Checklist**

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2. Shipping container in good condition?	<u>Yes</u>	No	None	
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8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
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17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>1.4</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.  
☐ Initial and Backup Temperature confirm out of temperature conditions  
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