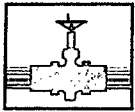


**GW - 351**

**REPORTS**

**DATE:**

**2006**



PLAINS  
ALL AMERICAN

GW-351

Report  
2006

April 2, 2007

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

Re: Plains All American Lea Station Landfarm-GW-351  
Annual Report  
Section 28, Township 20 South, Range 37 East  
Lea County, New Mexico

Dear Mr. Stone:

Please find enclosed the Annual Report, dated April 2007 for the Plains Lea Station Landfarm located in Section 28 of Township 20 South, Range 37 East of Lea County, New Mexico. This report details activities conducted in accordance with the rules and regulations of the New Mexico Oil Conservation Division during the 2006 calendar year at the Plains Lea Station Landfarm.

If you have any questions or require further information, please contact me at (505) 441-0965.

Sincerely,

Camille Reynolds  
Remediation Coordinator  
Plains All American

CC: Larry Johnson, NMOCD, Hobbs, NM

Enclosures



# ENVIRONMENTAL PLUS, INC.

STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

2 April 2007

Ben Stone  
Environmental Specialist  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Re: Annual Report-2006  
Plains Pipeline, L.P. (Company #231735),  
Lea Station Landfarm - Discharge Permit #GW-351, (Plains Ref. #2004-00061)  
W½ of the NW¼ of Section 28, Township 20 South, Range 37 East, Lea County, New Mexico  
Latitude: 32° 32' 56"N and Longitude: 103° 15' 45"W

Dear Mr. Stone:

Environmental Plus, Inc. (EPI), on behalf of Plains Pipeline, L.P. (Plains), submits the *2006 Annual Report* for the Plains Lea Station Landfarm being operated and maintained in accordance with New Mexico Oil Conservation Division (NMOCD) Discharge Permit #GW-351. The landfarm is operated by Plains as a "centralized" facility for Plains use only.

## DISPOSAL VOLUME

Receipt of impacted soil began on January 27, 2004. As of December 31, 2006, a total of 47,635 cubic yards (yd<sup>3</sup>) of crude oil impacted soils from within the Plains crude oil transmission system have been emplaced in Cell-A, Cell-B, Cell-C and Cell-E. Approximately 8,054 yd<sup>3</sup> of impacted soil were transferred into the landfarm during 2006.

## MAINTENANCE

Within 72-hours of being delivered, soil piles were pushed down and contoured into the lift. Disking of the landfarmed soil occurred every 2-weeks. In August 2005, to accelerate attenuation, the impacted soils in Cell-E and Cell-C were processed with a soil pulverizing unit. Based on laboratory analytical data indicating soil in sectors C1 through C5 of Cell-C and sectors E2 and E7 through E9 of Cell-E had attenuated to below the NMOCD remedial goals and soil in sector E4 and C9 were just above the NMOCD remedial goal. Soil from these cells was removed from the respective landfarm cells into a clean soil staging area located near the entrance of Cell-D (currently inactive) to be utilized as clean backfill at Plains sites (reference Lift Zone Monitoring).

## TREATMENT ZONE MONITORING

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

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

Analytical results of background samples indicated TPH was not detected at or above laboratory method detection limits (MDL). Anions, cations and RCRA metals concentrations of background samples were typical of undisturbed soil (Reference *Table 1*).

Analytical results for samples collected on August 31, 2004 from treatment zones of the active landfarm cells, (i.e., Cell-C and Cell-E) indicated TPH and BTEX were ND above each analytes respective MDL.

ENVIRONMENTAL PLUS, INC.

The highest chloride concentration, from the October 18, 2005 sampling event, was 20.9 mg/Kg from Cell-E treatment zone sample and is nominally higher than the background chloride concentration of 10.6 mg/Kg. Reported sulfate concentrations ranged from 23.1 to 35.2 mg/Kg. Chloride and sulfate concentrations in soil are considered to be within normal background ranges.

Analytical results for samples collected on October 28, 2005 from the treatment zones of the active landfarm cells, (i.e., Cell-B, Cell-C and Cell-E) indicated TPH and BTEX were ND at or above each analytes respective MDL.

A single soil sample was collected on July 26, 2006 from the treatment zones from a random location within each of the active landfarm cells (i.e., Cell-A, Cell-B, Cell-C and Cell-E). Analytical results indicated TPH and BTEX constituent concentrations were ND at or above each analytes respective MDL. The highest reported chloride concentration was 4.75 mg/Kg, which is only an estimate as the actual chloride concentration was below the laboratory analytical MDL of 5.00 mg/Kg. Reported sulfate concentrations ranged from 8.35 to 44.7 mg/Kg. Calcium and sodium concentrations in these samples were lower than background concentrations (reference *Figure 2*).

### LIFT ZONE MONITORING

On May 12, 2005, seventeen (17) equally spaced grab samples were collected from the Cell-E soil lift and submitted to an independent laboratory for quantification of TPH, BTEX and chloride concentrations (reference *Figure 1*). Each grab sample was collected from the surface of the soil lift to a depth of approximately 8-inches, (i.e., the thickness of the soil lift) and represented between 300 to 400 yd<sup>3</sup> of soil. TPH concentrations ranged from 2,550 mg/Kg in sample E17, consisting of the most recently emplaced soil, to ND at or above laboratory MDL of 10.0 mg/Kg in samples E5, E6 and E14. BTEX was detected in the E17 sample at 0.110 mg/Kg, below the NMOCD remedial goal of 50 mg/Kg. BTEX constituents were ND at or above laboratory MDL in the other samples. Chloride concentrations ranged from 0.5 mg/Kg in samples E2 and E7 to 67.2 mg/Kg in the E1 sample (Reference *Table 2* and *Figure 1*)

On September 8, 2005, to assess the remediation status of impacted soil after being processed in August 2005, nine equally spaced grab samples were collected from Cell-E and Cell-C sampling sector grids and submitted to the laboratory for quantification of TPH. Each sampling sector in Cell-E represented between 500 to 700 yd<sup>3</sup> of soil and each sampling sector in Cell-C represented between 700 to 900 yd<sup>3</sup>. TPH concentrations in the Cell-E sampling sectors E2, E7, E8 and E9 were less than the 100 mg/Kg NMOCD remedial goal, while sectors E1 (TPH-128 mg/Kg), E3 (TPH-239 mg/Kg), E4 (TPH-101 mg/Kg), E5 (TPH-165 mg/Kg) and E6 (TPH-493 mg/Kg) were above the remedial goal. Organic vapor concentrations, submitted in lieu of laboratory BTEX analyses, ranged from 3.1 ppm in sector E8 to 6.5 ppm in sector E7, below the NMOCD acceptable level of 100 ppm (reference *Table 2* and *Figure 2*). TPH concentrations in the Cell-C sampling sectors C1 through C5 were less than the 100 mg/Kg NMOCD remedial goal, while sectors C6 (TPH-337 mg/Kg), C7 (TPH-632 mg/Kg), C8 (TPH-855 mg/Kg), and C9 (TPH-105 mg/Kg) were above the remedial goal. Organic vapor concentrations ranged from 6 ppm in sector C8 to 20.2 ppm in sector C6, below the NMOCD acceptable level of 100 ppm (reference *Table 2* and *Figure 3*).

The lift zone was tilled continuously and soil was allowed to attenuate throughout 2006 with no samples collected.

### CONCLUSIONS

Laboratory analyses of soil samples indicate impacted soils continued to attenuate within the lift zone, while the treatment zone remains unaffected by soil emplacement and tilling.

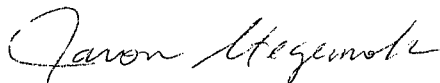
### RECOMMENDATIONS

Continued treatment of impacted soil within the landfarm via bi-monthly tillage. Collect and submit soil samples from the treatment zone bi-annually for laboratory quantification of TPH and BTEX constituent concentrations

and annually for metals, anions and cations. In addition, collect and submit soil samples annually from the lift zone for laboratory quantification of TPH, BTEX constituent and chloride concentrations.

Should you have any questions or concerns, please call Cody Miller, David Duncan or me at (505) 394-3481.

Sincerely,



Jason Stegemoller  
Environmental Plus, Inc.

cc: Jeff Dann, Plains – Houston, TX (JPDann@paalp.com)  
Camille Reynolds, Plains – Lovington, NM (CJReynolds@paalp.com)  
file

Enclosures:

**Figures**

Figure 1: Lea Station Landfarm Survey Map

Figure 2: Treatment Zone Sample Location Map

**Tables**

Table 1: Summary of Treatment Zone Analytical Results (Hydrocarbons, Chlorides, Sulfates and Alkalinity)

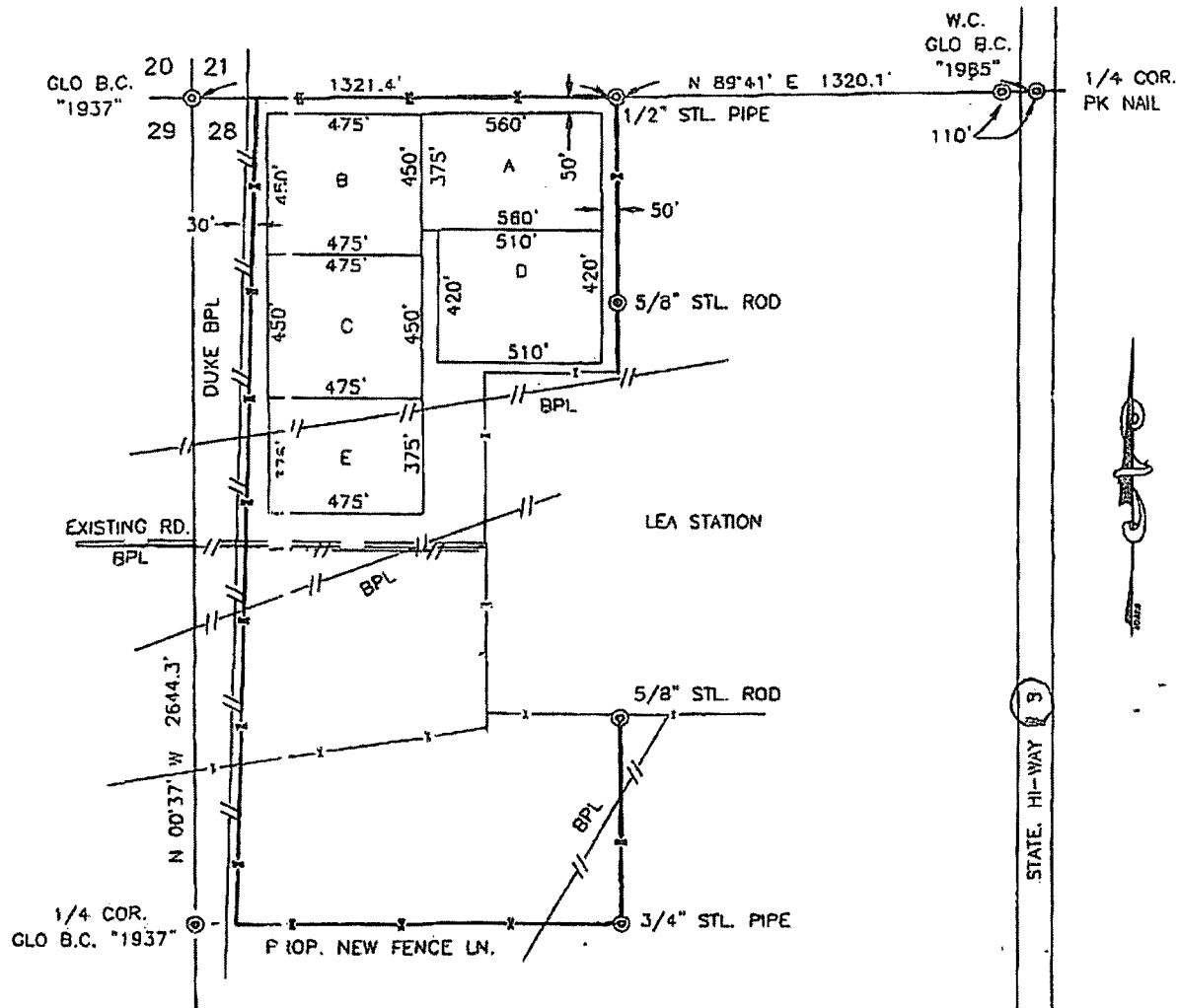
Table 2: Summary of Treatment Zone Analytical Results (Metals)

Table 3: Summary of Lift Zone Analytical Results (2005)

**Laboratory Analytical Reports**

**Photographs**

## FIGURES



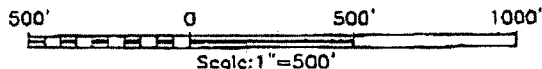
# LEGEND

⊙ DEVOTES FOUND MONUMENT AS NOTED

— I — DENOTES EXISTING FENCE  
 — X — DENOTES PROPOSED FENCE

## NOTE

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



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

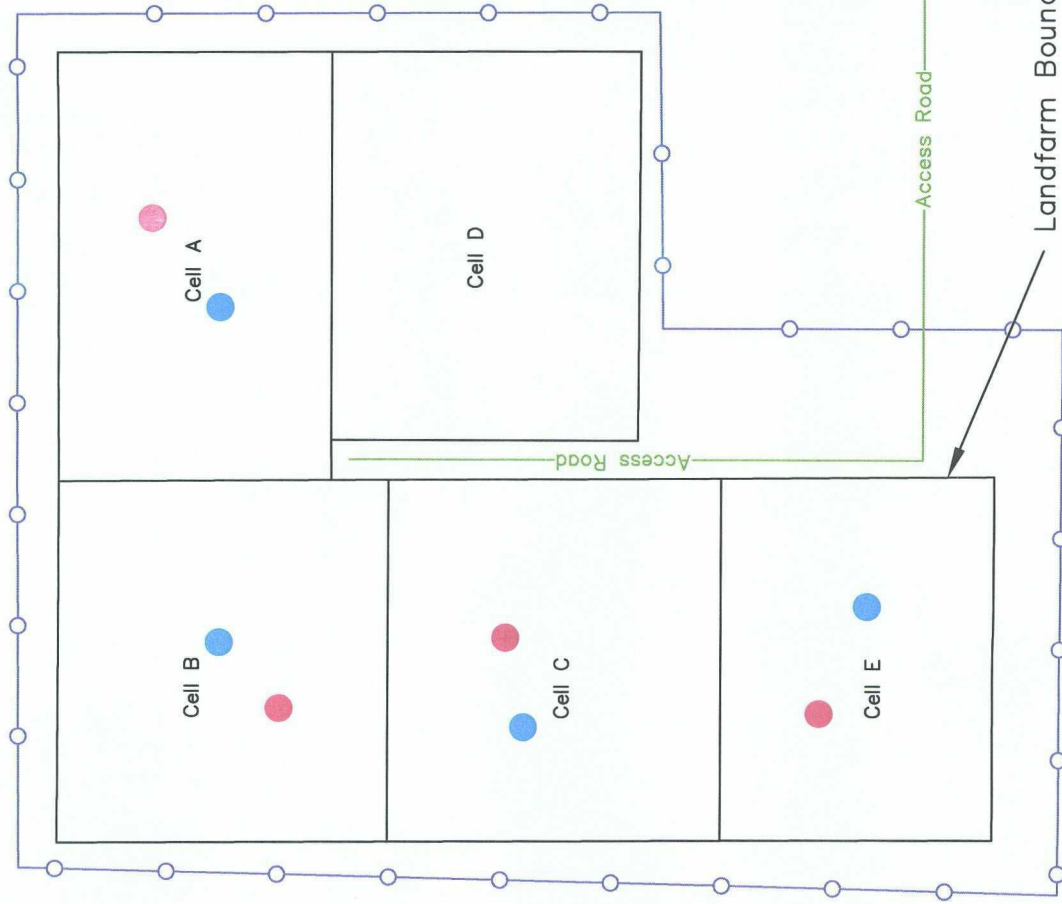
CARY G. EIDSON  
 CARY G. EIDSON N.M.C.P.S. No. 12641  
 JOHN WEST SURVEYING COMPANY  
 412 N. DAL PASO - HOBBS, NEW MEXICO - 505-393-3117

## LINK ENERGY PIPELINE LIMITED PARTNERSHIP

SURVEY TO LOCATE PROPERTY CORNERS,  
 PROPOSED FENCE LINES AND CELL SITES IN SECTION 28,  
 TOWNSHIP 20 SOUTH, RANGE 37 EAST,  
 N.M.P.M., LEA COUNTY, NEW MEXICO.

Survey Date: 12/04/03	Sheet 1 of 1 Sheets
W.O. Number: 03.11.1325	DRAWN BY: A.W.B
Date: 12/05/03	DISK: 10
LOTS & LAND	Scale: 1"=500'

Figure 1: Lea Station Landfarm Survey Map



# LEGEND

Fence line

July 26, 2006 Sample Location (approximate)

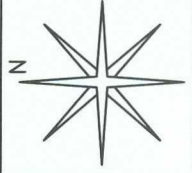
Dec. 14, 2006 Sample Location (approximate)

Figure 2  
Treatment Zone Sample  
Location Map  
Plains Pipeline, LP  
Lea Station Landfarm  
2004-00061

Lea County, New Mexico  
W 1/2 of the NW 1/4, Sec. 28, T20S, R37E  
N 32° 32' 56" W 103° 15' 45"

DWG By: J Stegemoller  
March 2007

REVISED:





## TABLES

**Table 1**  
**Summary of Treatment Zone Analytical Results (Hydrocarbons, Chlorides, Sulfates and Alkalinity)**  
**Plains Pipeline, L.P. - Lea Station Landfarm**  
**Plains Ref. 2004-00061**

Sample ID	Landfarm Cell	Sample Date	PID analyses (ppm)	Sample Depth (feet-bgs)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	m,p-xylene (mg/Kg)	o-xylene (mg/Kg)	Total BTEX (mg/Kg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)	Carbonate Alkalinity (mg/Kg)	Bicarbonate Alkalinity (mg/Kg)	Hydroxide Alkalinity (mg/Kg)	Total Alkalinity (mg/Kg)
CESLEISLF11604BGS	Background	16-Jan-04	--	3.5-4.0	<0.020	<0.020	<0.020	<0.040	<0.020	<0.040	<5.0	<2.5	<5.0	10.60	<5	<50	<50	--	<50
SPLSIF83104CC-4'	C	31-Aug-04	--	3.5-4.0	<0.020	<0.020	<0.020	<0.040	<0.020	<0.040	<5.0	<2.5	<5.0	--	--	--	--	--	--
SPLSIF83104CE-4'	E	31-Aug-04	--	3.5-4.0	<0.020	<0.020	<0.020	<0.040	<0.020	<0.040	<5.0	<2.5	<5.0	--	--	--	--	--	--
Cell B Treatment Zone	B	28-Oct-05	0.80	3.5-4.0	<0.025	0.0159 <sup>A</sup>	0.0273	0.0896	0.0190 <sup>A</sup>	0.30	<10.0	<10.0	<10.0	9.37	24.4	nr	nr	--	433
Cell C Treatment Zone	C	28-Oct-05	1.20	3.5-4.0	<0.025	<0.025	<0.025	0.0235 <sup>A</sup>	<0.025	<0.025	<10.0	<10.0	<10.0	7.74	23.1	nr	nr	--	433
Cell E Treatment Zone	E	28-Oct-05	0.30	3.5-4.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	20.9	35.2	nr	nr	--	1,580
Cell A Treatment Zone- 3' to 4'	A	26-Jul-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	1.17 <sup>A</sup>	8.35	<0.500	240	<0.500	240
Cell B Treatment Zone- 3' to 4'	B	26-Jul-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	4.76 <sup>A</sup>	9.51	40.0	180	<0.500	220
Cell C Treatment Zone- 3' to 4'	C	26-Jul-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	1.45 <sup>A</sup>	45.8	<0.500	220	<0.500	220
Cell E Treatment Zone- 3' to 4'	E	26-Jul-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	2.95 <sup>A</sup>	44.7	<0.500	225	<0.500	225
Cell A Treatment Zone- 3' to 4'	A	14-Dec-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	--	--	--	--	--	--
Cell B Treatment Zone- 3' to 4'	B	14-Dec-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	--	--	--	--	--	--
Cell C Treatment Zone- 3' to 4'	C	14-Dec-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	--	--	--	--	--	--
Cell E Treatment Zone- 3' to 4'	E	14-Dec-06	--	3.0-4.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	--	--	--	--	--	--

A = Estimated value, analyte detected less than reported limit

-- = Not analyzed

nr = Not reported separately for the sample

**Table 2**  
**Summary of Treatment Zone Analytical Results (Metals)**  
**Plains Pipeline, L.P. - Lea Station Landfarm**  
**Plains Ref. 2004-00061**

Sample ID	Landfarm Cell	Sample Date	Sample Depth (feet-bgs)	Calcium (mg/Kg)	Magnesium (mg/Kg)	Potassium (mg/Kg)	Sodium (mg/Kg)	Mercury (mg/Kg)	Chromium (mg/Kg)	Arsenic (mg/Kg)	Selenium (mg/Kg)	Silver (mg/Kg)	Cadmium (mg/Kg)	Barium (mg/Kg)	Lead (mg/Kg)
CESLESLF11604BGS	Background	16-Jan-04	3.5-4.0	664	1,540	744	30.1	<0.04	4.42	<1	<5.0	<2.5	<2	15.2	<1
SPLSLF83104CC-4'	C	31-Aug-04	3.5-4.0	--	--	--	--	--	--	--	--	--	--	--	--
SPLSLF83104CE-4'	E	31-Aug-04	3.5-4.0	--	--	--	--	--	--	--	--	--	--	--	--
Cell B Treatment Zone	B	28-Oct-05	3.5-4.0	30,400	1,350	235	1,420	0.01230 <sup>A</sup>	1.43	<0.400	<0.200	<0.250	0.423	35.8	2.30
Cell C Treatment Zone	C	28-Oct-05	3.5-4.0	20,800	902	238	1,700	0.02204 <sup>A</sup>	3.81	<0.400	<0.200	<0.250	0.973	47.4	<0.550
Cell E Treatment Zone	E	28-Oct-05	3.5-4.0	89,900	3,680	506	2,670	0.01847 <sup>A</sup>	3.52	1.36	<0.200	<0.250	1.13	111	2.80
Cell A Treatment Zone- 3' to 4'	A	26-Jul-06	3.0-4.0	47.8	5.82	4.48	2.26	0.009424 <sup>A</sup>	<2.44	1.65 <sup>A</sup>	<7.51	1.01	<1.73	17.3	<0.740
Cell B Treatment Zone- 3' to 4'	B	26-Jul-06	3.0-4.0	27.9	8.16	9.17	3.78	0.03174	<2.44	3.33 <sup>A</sup>	1.71 <sup>A</sup>	<1.01	<1.73	147	<0.740
Cell C Treatment Zone- 3' to 4'	C	26-Jul-06	3.0-4.0	51.5	6.06	3.07	12.1	0.009956 <sup>A</sup>	<2.44	0.953 <sup>A</sup>	<7.51	<1.01	<1.73	40.0	<0.740
Cell E Treatment Zone- 3' to 4'	E	26-Jul-06	3.0-4.0	57.5	10.3	16.0	9.17	0.01564	1.47 <sup>A</sup>	1.29 <sup>A</sup>	2.47 <sup>A</sup>	<1.01	<1.73	50.4	<0.740

A = Estimated value, analyte detected less than reported limit  
-- = Not analyzed

**Table 3**  
**Plains Pipeline, L.P. Lea Station Landfarm**  
**Lift Zone Analytical Results (2005)**

Landfarm	SAMPLE ID		Description	Sampling Interval (feet-bgs)	Date Sampled	PID Analyses (ppm)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	m,p-Xylene (mg/Kg)	o-Xylene (mg/Kg)	BTEX (mg/Kg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
	Cell	Sector														
<b>C</b>	C1	PLSLF9805C1	Lift	0-1	9/8/2005	10.4	--	--	--	--	--	--	<10	<10	<10	--
	C2	PLSLF9805C2	Lift	0-1	9/8/2005	8.3	--	--	--	--	--	--	5.99 <sup>A</sup>	39.5	39.5	--
	C3	PLSLF9805C3	Lift	0-1	9/8/2005	16.2	--	--	--	--	--	--	8.93 <sup>A</sup>	50	50.0	--
	C4	PLSLF9805C4	Lift	0-1	9/8/2005	8.6	--	--	--	--	--	--	7.19 <sup>A</sup>	90.6	90.6	--
	C5	PLSLF9805C5	Lift	0-1	9/8/2005	10.5	--	--	--	--	--	--	<10	<10	<10	--
	C6	PLSLF9805C6	Lift	0-1	9/8/2005	20.2	--	--	--	--	--	--	25.2	312	337	--
	C7	PLSLF9805C7	Lift	0-1	9/8/2005	12.9	--	--	--	--	--	--	20.2	612	632	--
	C8	PLSLF9805C8	Lift	0-1	9/8/2005	6	--	--	--	--	--	--	5.49 <sup>A</sup>	855	855	--
	C9	PLSLF9805C9	Lift	0-1	9/8/2005	7	--	--	--	--	--	--	5.44 <sup>A</sup>	103	103	--

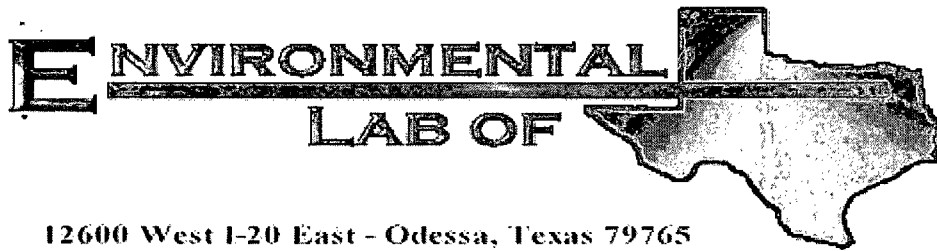
**Table 3**  
**Plains Pipeline, L.P. Lea Station Landfarm**  
**Lift Zone Analytical Results (2005)**

Landfarm	Cell	SAMPLE ID	Description	Sampling Interval (feet-bgs)	Date Sampled	PID Analyses (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	m,p-Xylene (mg/kg)	o-Xylene (mg/kg)	BTEX (mg/kg)	TPH (as gasoline) (mg/kg)	TPH (as diesel) (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
E	E1	PLSLF51205CE-E1	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	10.3	1,590	1,600	67.2
		PLSLF51205CE-E2	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	8.71 <sup>A</sup>	883	883	0.5
		PLSLF9805E1	Lift	0-1	9/8/2005	6.4	--	--	--	--	--	--	<10	128	128	--
	E2	PLSLF51205CE-E9	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	12	2,120	2,130	0.9
		PLSLF51205CE-E10	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10	334	334	1.8
		PLSLF51205CE-E11	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	21.9	1,550	1,570	31.9
	E3	PLSLF9805E2	Lift	0-1	9/8/2005	5.2	--	--	--	--	--	--	<10	31.3	31.3	--
		PLSLF51205CE-E17	Lift	0-1	5/12/2005	--	<0.025	0.0126 <sup>A</sup>	0.033	0.047	0.029	0.110	73.9	2,480	2,550	30.3
		PLSLF9805E3	Lift	0-1	9/8/2005	4.3	--	--	--	--	--	--	8.52 <sup>A</sup>	239	239	--
	E4	PLSLF51205CE-E12	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6.57 <sup>A</sup>	1,180	1,180	30.6
		PLSLF51205CE-E15	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	5.84 <sup>A</sup>	759	759	0.8
		PLSLF51205CE-E16	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	12.3	1,700	1,710	1.9
E	E5	PLSLF9805E4	Lift	0-1	9/8/2005	5.8	--	--	--	--	--	--	<10	101	101	--
		PLSLF51205CE-E7	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	5.09 <sup>A</sup>	151	151	0.5
		PLSLF51205CE-E8	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	29.2	1,680	1,710	3.1
	E6	PLSLF9805E5	Lift	0-1	9/8/2005	5	--	--	--	--	--	--	10.3	154	164	--
		PLSLF51205CE-E3	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	11.7	1,940	1,950	1.4
		PLSLF9805E6	Lift	0-1	9/8/2005	4.7	--	--	--	--	--	--	12.5	480	493	--
	E7	PLSLF51205CE-E13	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10	12.9	12.9	1.1
		PLSLF51205CE-E14	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10	0.9
		PLSLF9805E7	Lift	0-1	9/8/2005	6.5	--	--	--	--	--	--	<10	<10	<10	--
	E8	PLSLF51205CE-E6	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10	26.1
		PLSLF9805E8	Lift	0-1	9/8/2005	3.1	--	--	--	--	--	--	<10	<10	<10	--
		PLSLF51205CE-E4	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	23	2,190	2,210	2.9
E9	E9	PLSLF51205CE-E5	Lift	0-1	5/12/2005	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10	2.8
	E9	PLSLF9805E9	Lift	0-1	9/8/2005	5.5	--	--	--	--	--	--	<10	21.3	21.3	--

<sup>A</sup> = Estimated value, analyte detected but less than the reporting limit

-- = Not Analyzed

## LABORATORY ANALYTICAL REPORTS



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Lea Station Landfarm

Project Number: 2004-00061

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

Lab Order Number: 6G28009

Report Date: 08/04/06

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

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

Fax: (432) 687-4914

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Cell E Treatment Zone- 3' to 4'	6G28009-01	Soil	2006-07-26 08:20	2006-07-28 10:50
Cell C Treatment Zone- 3' to 4'	6G28009-02	Soil	2006-07-26 08:45	2006-07-28 10:50
Cell B Treatment Zone- 3' to 4'	6G28009-03	Soil	2006-07-26 09:05	2006-07-28 10:50
Cell A Treatment Zone- 3' to 4'	6G28009-04	Soil	2006-07-26 09:25	2006-07-28 10:50



Plains All American EH & S  
1301 S. County Road 1150  
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**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Cell E Treatment Zone- 3' to 4' (6G28009-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH60114	08/01/06	08/02/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		82.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.0 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62818	07/28/06	07/31/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		111 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		110 %	70-130		"	"	"	"	
<b>Cell C Treatment Zone- 3' to 4' (6G28009-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH60114	08/01/06	08/02/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.0 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		106 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	70-130		"	"	"	"	
<b>Cell B Treatment Zone- 3' to 4' (6G28009-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH60114	08/01/06	08/02/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.5 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	

Environmental Lab of Texas

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

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

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

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Cell B Treatment Zone- 3' to 4' (6G28009-03) Soil</b>									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/30/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		119 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		116 %	70-130		"	"	"	"	
<b>Cell A Treatment Zone- 3' to 4' (6G28009-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH60114	08/01/06	08/02/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		86.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.5 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EG62817	07/28/06	07/31/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		120 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		117 %	70-130		"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Cell E Treatment Zone- 3' to 4' (6G28009-01) Soil</b>									
<b>Total Alkalinity</b>	<b>225</b>	10.0	mg/kg	5	EG63117	07/31/06	07/31/06	EPA 310.1M	
Carbonate Alkalinity	ND	0.500	"	"	"	"	"	"	
<b>Bicarbonate Alkalinity</b>	<b>225</b>	10.0	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.500	"	"	"	"	"	"	
<b>Chloride</b>	<b>J [2.95]</b>	5.00	"	10	EH60105	07/31/06	07/31/06	EPA 300.0	J
<b>% Moisture</b>	<b>13.7</b>	0.1	%	1	EG63118	07/28/06	07/31/06	% calculation	
<b>Sulfate</b>	<b>44.7</b>	5.00	mg/kg	10	EH60105	07/31/06	07/31/06	EPA 300.0	
<b>Cell C Treatment Zone- 3' to 4' (6G28009-02) Soil</b>									
<b>Total Alkalinity</b>	<b>220</b>	10.0	mg/kg	5	EG63117	07/31/06	07/31/06	EPA 310.1M	
Carbonate Alkalinity	ND	0.500	"	"	"	"	"	"	
<b>Bicarbonate Alkalinity</b>	<b>220</b>	10.0	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.500	"	"	"	"	"	"	
<b>Chloride</b>	<b>J [1.45]</b>	5.00	"	10	EH60105	07/31/06	07/31/06	EPA 300.0	J
<b>% Moisture</b>	<b>9.6</b>	0.1	%	1	EG63118	07/28/06	07/31/06	% calculation	
<b>Sulfate</b>	<b>45.8</b>	5.00	mg/kg	10	EH60105	07/31/06	07/31/06	EPA 300.0	
<b>Cell B Treatment Zone- 3' to 4' (6G28009-03) Soil</b>									
<b>Total Alkalinity</b>	<b>220</b>	10.0	mg/kg	5	EG63117	07/31/06	07/31/06	EPA 310.1M	
<b>Carbonate Alkalinity</b>	<b>40.0</b>	0.500	"	"	"	"	"	"	
<b>Bicarbonate Alkalinity</b>	<b>180</b>	10.0	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.500	"	"	"	"	"	"	
<b>Chloride</b>	<b>J [4.76]</b>	5.00	"	10	EH60105	07/31/06	07/31/06	EPA 300.0	J
<b>% Moisture</b>	<b>3.9</b>	0.1	%	1	EG63118	07/28/06	07/31/06	% calculation	
<b>Sulfate</b>	<b>9.51</b>	5.00	mg/kg	10	EH60105	07/31/06	07/31/06	EPA 300.0	
<b>Cell A Treatment Zone- 3' to 4' (6G28009-04) Soil</b>									
<b>Total Alkalinity</b>	<b>240</b>	10.0	mg/kg	5	EG63117	07/31/06	07/31/06	EPA 310.1M	
Carbonate Alkalinity	ND	0.500	"	"	"	"	"	"	
<b>Bicarbonate Alkalinity</b>	<b>240</b>	10.0	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.500	"	"	"	"	"	"	
<b>Chloride</b>	<b>J [1.17]</b>	5.00	"	10	EH60105	07/31/06	07/31/06	EPA 300.0	J
<b>% Moisture</b>	<b>4.5</b>	0.1	%	1	EG63118	07/28/06	07/31/06	% calculation	
<b>Sulfate</b>	<b>8.35</b>	5.00	mg/kg	10	EH60105	07/31/06	07/31/06	EPA 300.0	

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

Project: Lea Station Landfarm  
Project Number: 2004-00061  
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Fax: (432) 687-4914

**Total Metals by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Cell E Treatment Zone- 3' to 4' (6G28009-01) Soil</b>									
Calcium	57.5	0.200	mg/kg dry	20	EG63111	07/31/06	07/31/06	EPA 6010B	
Magnesium	10.3	0.0200	"	"	"	"	"	"	
Potassium	16.0	1.00	"	"	"	"	"	"	
Sodium	9.17	0.200	"	"	"	"	"	"	
Mercury	0.01564	0.01250	"	50	EH60212	08/01/06	08/02/06	7471	
Chromium	J [1.47]	2.44	"	2500	EH60201	07/31/06	08/02/06	EPA 6020A	J
Arsenic	J [1.29]	4.26	"	"	"	"	"	"	J
Selenium	J [2.47]	7.51	"	"	"	"	"	"	J
Silver	ND	1.01	"	"	"	"	"	"	
Cadmium	ND	1.73	"	"	"	"	"	"	
Barium	50.4	1.22	"	"	"	"	"	"	
Lead	ND	0.740	"	"	"	"	"	"	
<b>Cell C Treatment Zone- 3' to 4' (6G28009-02) Soil</b>									
Calcium	51.5	0.200	mg/kg dry	20	EG63111	07/31/06	07/31/06	EPA 6010B	
Magnesium	6.06	0.0200	"	"	"	"	"	"	
Potassium	3.07	1.00	"	"	"	"	"	"	
Sodium	12.1	0.200	"	"	"	"	"	"	
Mercury	J [0.00956]	0.01250	"	50	EH60212	08/01/06	08/02/06	7471	J
Chromium	ND	2.44	"	2500	EH60201	07/31/06	08/02/06	EPA 6020A	
Arsenic	J [0.953]	4.26	"	"	"	"	"	"	J
Selenium	ND	7.51	"	"	"	"	"	"	
Silver	ND	1.01	"	"	"	"	"	"	
Cadmium	ND	1.73	"	"	"	"	"	"	
Barium	40.0	1.22	"	"	"	"	"	"	
Lead	ND	0.740	"	"	"	"	"	"	
<b>Cell B Treatment Zone- 3' to 4' (6G28009-03) Soil</b>									
Calcium	27.9	0.200	mg/kg dry	20	EG63111	07/31/06	07/31/06	EPA 6010B	
Magnesium	8.16	0.0200	"	"	"	"	"	"	
Potassium	9.17	1.00	"	"	"	"	"	"	
Sodium	3.78	0.200	"	"	"	"	"	"	
Mercury	0.03174	0.01250	"	50	EH60212	08/01/06	08/02/06	7471	
Chromium	ND	2.44	"	2500	EH60201	07/31/06	08/02/06	EPA 6020A	
Arsenic	J [3.33]	4.26	"	"	"	"	"	"	J
Selenium	J [1.71]	7.51	"	"	"	"	"	"	J
Silver	ND	1.01	"	"	"	"	"	"	
Cadmium	ND	1.73	"	"	"	"	"	"	

Environmental Lab of Texas

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

Page 5 of 18

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

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

Fax: (432) 687-4914

**Total Metals by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Cell B Treatment Zone- 3' to 4' (6G28009-03) Soil</b>									
Barium	147	1.22	mg/kg dry	2500	EH60201	07/31/06	08/02/06	EPA 6020A	
Lead	ND	0.740	"	"	"	"	"	"	
<b>Cell A Treatment Zone- 3' to 4' (6G28009-04) Soil</b>									
Calcium	47.8	0.200	mg/kg dry	20	EG63111	07/31/06	07/31/06	EPA 6010B	
Magnesium	5.82	0.0200	"	"	"	"	"	"	
Potassium	4.48	1.00	"	"	"	"	"	"	
Sodium	2.26	0.200	"	"	"	"	"	"	
Mercury	J [0.009424]	0.01250	"	50	EH60212	08/01/06	08/02/06	7471	J
Chromium	ND	2.44	"	2500	EH60201	07/31/06	08/02/06	EPA 6020A	
Arsenic	J [1.65]	4.26	"	"	"	"	"	"	J
Selenium	ND	7.51	"	"	"	"	"	"	
Silver	ND	1.01	"	"	"	"	"	"	
Cadmium	ND	1.73	"	"	"	"	"	"	
Barium	17.3	1.22	"	"	"	"	"	"	
Lead	ND	0.740	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EG62817 - Solvent Extraction (GC)**

**Blank (EG62817-BLK1)**

Prepared: 07/28/06 Analyzed: 07/30/06

Carbon Ranges C6-C12	ND	10.0	mg/kg wet						
Carbon Ranges C12-C28	ND	10.0	"						
Carbon Ranges C28-C35	ND	10.0	"						
Total Hydrocarbons	ND	10.0	"						
Surrogate: 1-Chlorooctane	64.7		mg/kg	50.0		129	70-130		
Surrogate: 1-Chlorooctadecane	64.1		"	50.0		128	70-130		

**LCS (EG62817-BS1)**

Prepared: 07/28/06 Analyzed: 07/30/06

Carbon Ranges C6-C12	574	10.0	mg/kg wet	500		115	75-125		
Carbon Ranges C12-C28	417	10.0	"	500		83.4	75-125		
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125		
Total Hydrocarbons	991	10.0	"	1000		99.1	75-125		
Surrogate: 1-Chlorooctane	62.8		mg/kg	50.0		126	70-130		
Surrogate: 1-Chlorooctadecane	63.4		"	50.0		127	70-130		

**Calibration Check (EG62817-CCV1)**

Prepared: 07/28/06 Analyzed: 07/31/06

Carbon Ranges C6-C12	298		mg/kg	250		119	80-120		
Carbon Ranges C12-C28	228		"	250		91.2	80-120		
Total Hydrocarbons	526		"	500		105	80-120		
Surrogate: 1-Chlorooctane	83.3		"	100		83.3	70-130		
Surrogate: 1-Chlorooctadecane	80.8		"	100		80.8	70-130		

**Matrix Spike (EG62817-MS1)**

Source: 6G28008-02

Prepared: 07/28/06 Analyzed: 07/31/06

Carbon Ranges C6-C12	663	10.0	mg/kg dry	565	ND	117	75-125		
Carbon Ranges C12-C28	501	10.0	"	565	ND	88.7	75-125		
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		
Total Hydrocarbons	1160	10.0	"	1130	ND	103	75-125		
Surrogate: 1-Chlorooctane	62.2		mg/kg	50.0		124	70-130		
Surrogate: 1-Chlorooctadecane	63.3		"	50.0		127	70-130		

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EG62817 - Solvent Extraction (GC)**

**Matrix Spike Dup (EG62817-MSD1)**

Source: 6G28008-02

Prepared: 07/28/06 Analyzed: 07/30/06

Carbon Ranges C6-C12	654	10.0	mg/kg dry	565	ND	116	75-125	1.37	20	
Carbon Ranges C12-C28	474	10.0	"	565	ND	83.9	75-125	5.54	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1130	10.0	"	1130	ND	100	75-125	2.62	20	
Surrogate: 1-Chlorooctane	61.6		mg/kg	50.0		123	70-130			
Surrogate: 1-Chlorooctadecane	64.9		"	50.0		130	70-130			

**Batch EG62818 - Solvent Extraction (GC)**

**Blank (EG62818-BLK1)**

Prepared: 07/28/06 Analyzed: 07/31/06

Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	63.3		mg/kg	50.0		127	70-130			
Surrogate: 1-Chlorooctadecane	64.7		"	50.0		129	70-130			

**LCS (EG62818-BS1)**

Prepared: 07/28/06 Analyzed: 07/31/06

Carbon Ranges C6-C12	583	10.0	mg/kg wet	500		117	75-125			
Carbon Ranges C12-C28	438	10.0	"	500		87.6	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	1020	10.0	"	1000		102	75-125			
Surrogate: 1-Chlorooctane	64.5		mg/kg	50.0		129	70-130			
Surrogate: 1-Chlorooctadecane	61.0		"	50.0		122	70-130			

**Calibration Check (EG62818-CCV1)**

Prepared: 07/28/06 Analyzed: 07/31/06

Carbon Ranges C6-C12	284		mg/kg	250		114	80-120			
Carbon Ranges C12-C28	209		"	250		83.6	80-120			
Total Hydrocarbons	493		"	500		98.6	80-120			
Surrogate: 1-Chlorooctane	99.0		"	100		99.0	70-130			
Surrogate: 1-Chlorooctadecane	96.9		"	100		96.9	70-130			

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

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

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EG62818 - Solvent Extraction (GC)**

**Matrix Spike (EG62818-MS1)**

Source: 6G28009-01

Prepared: 07/28/06 Analyzed: 07/31/06

Carbon Ranges C6-C12	650	10.0	mg/kg dry	579	ND	112	75-125			
Carbon Ranges C12-C28	507	10.0	"	579	ND	87.6	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1160	10.0	"	1160	ND	100	75-125			
Surrogate: 1-Chlorooctane	64.5		mg/kg	50.0		129	70-130			
Surrogate: 1-Chlorooctadecane	62.6		"	50.0		125	70-130			

**Matrix Spike Dup (EG62818-MSD1)**

Source: 6G28009-01

Prepared: 07/28/06 Analyzed: 07/31/06

Carbon Ranges C6-C12	597	10.0	mg/kg dry	579	ND	103	75-125	8.50	20	
Carbon Ranges C12-C28	466	10.0	"	579	ND	80.5	75-125	8.43	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1060	10.0	"	1160	ND	91.4	75-125	9.01	20	
Surrogate: 1-Chlorooctane	63.5		mg/kg	50.0		127	70-130			
Surrogate: 1-Chlorooctadecane	58.9		"	50.0		118	70-130			

**Batch EH60114 - EPA 5030C (GC)**

**Blank (EH60114-BLK1)**

Prepared: 08/01/06 Analyzed: 08/02/06

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	35.5		ug/kg	40.0		88.8	80-120			
Surrogate: 4-Bromofluorobenzene	33.2		"	40.0		83.0	80-120			

**LCS (EH60114-BS1)**

Prepared: 08/01/06 Analyzed: 08/02/06

Benzene	1.20	0.0250	mg/kg wet	1.25		96.0	80-120			
Toluene	1.27	0.0250	"	1.25		102	80-120			
Ethylbenzene	1.13	0.0250	"	1.25		90.4	80-120			
Xylene (p/m)	2.68	0.0250	"	2.50		107	80-120			
Xylene (o)	1.33	0.0250	"	1.25		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.7		ug/kg	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	38.8		"	40.0		97.0	80-120			

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Project Number: 2004-00061  
Project Manager: Camille Reynolds

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## Organics by GC - Quality Control

### Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch EH60114 - EPA 5030C (GC)

##### Calibration Check (EH60114-CCV1)

Prepared: 08/01/06 Analyzed: 08/02/06

Benzene	53.8		ug/kg	50.0		108	80-120			
Toluene	54.3		"	50.0		109	80-120			
Ethylbenzene	51.0		"	50.0		102	80-120			
Xylene (p/m)	110		"	100		110	80-120			
Xylene (o)	54.8		"	50.0		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	37.1		"	40.0		92.8	80-120			
Surrogate: 4-Bromofluorobenzene	33.0		"	40.0		82.5	80-120			

##### Matrix Spike (EH60114-MS1)

Source: 6G28010-01

Prepared: 08/01/06 Analyzed: 08/02/06

Benzene	1.43	0.0250	mg/kg dry	1.39	ND	103	80-120			
Toluene	1.44	0.0250	"	1.39	ND	104	80-120			
Ethylbenzene	1.37	0.0250	"	1.39	ND	98.6	80-120			
Xylene (p/m)	3.09	0.0250	"	2.78	ND	111	80-120			
Xylene (o)	1.51	0.0250	"	1.39	ND	109	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.9		ug/kg	40.0		97.2	80-120			
Surrogate: 4-Bromofluorobenzene	36.9		"	40.0		92.2	80-120			

##### Matrix Spike Dup (EH60114-MSD1)

Source: 6G28010-01

Prepared: 08/01/06 Analyzed: 08/02/06

Benzene	1.30	0.0250	mg/kg dry	1.39	ND	93.5	80-120	9.67	20	
Toluene	1.37	0.0250	"	1.39	ND	98.6	80-120	5.33	20	
Ethylbenzene	1.29	0.0250	"	1.39	ND	92.8	80-120	6.06	20	
Xylene (p/m)	2.88	0.0250	"	2.78	ND	104	80-120	6.51	20	
Xylene (o)	1.42	0.0250	"	1.39	ND	102	80-120	6.64	20	
Surrogate: a,a,a-Trifluorotoluene	32.7		ug/kg	40.0		81.8	80-120			
Surrogate: 4-Bromofluorobenzene	37.0		"	40.0		92.5	80-120			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EG63117 - General Preparation (WetChem)**

**Blank (EG63117-BLK1)**

Prepared & Analyzed: 07/31/06

Total Alkalinity	ND	2.00	mg/kg							
Carbonate Alkalinity	ND	0.100	"							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							

**LCS (EG63117-BS1)**

Prepared & Analyzed: 07/31/06

Total Alkalinity	220		mg/kg	200		110	85-115			
Carbonate Alkalinity	0.00	0.100	"				85-115			
Bicarbonate Alkalinity	220		"	200		110	85-115			
Hydroxide Alkalinity	0.00	0.100	"				85-115			

**Duplicate (EG63117-DUP1)**

Source: 6G28009-02

Prepared & Analyzed: 07/31/06

Total Alkalinity	220	2.00	mg/kg		220			0.00	20	
Carbonate Alkalinity	0.00	0.100	"		0.00				20	
Bicarbonate Alkalinity	220	2.00	"		220			0.00	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	

**Batch EG63118 - General Preparation (Prep)**

**Blank (EG63118-BLK1)**

Prepared: 07/28/06 Analyzed: 07/31/06

% Moisture	ND	0.1	%							
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**Duplicate (EG63118-DUP1)**

Source: 6G21001-01

Prepared: 07/28/06 Analyzed: 07/31/06

% Solids	90.8		%		91.9			1.20	20	
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**Duplicate (EG63118-DUP2)**

Source: 6G28008-03

Prepared: 07/28/06 Analyzed: 07/31/06

% Solids	97.4		%		96.9			0.515	20	
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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EG63118 - General Preparation (Prep)**

**Duplicate (EG63118-DUP3)**                      **Source: 6G28013-01**                      Prepared: 07/28/06 Analyzed: 07/31/06

% Solids	93.9		%		93.5		0.427	20	
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**Batch EH60105 - Water Extraction**

**Blank (EH60105-BLK1)**    Prepared & Analyzed: 07/31/06

Sulfate	ND	0.500	mg/kg						
Chloride	ND	0.500	"						

**LCS (EH60105-BS1)**    Prepared & Analyzed: 07/31/06

Chloride	9.92	0.500	mg/kg	10.0	99.2	80-120			
Sulfate	10.4	0.500	"	10.0	104	80-120			

**Calibration Check (EH60105-CCV1)**    Prepared & Analyzed: 07/31/06

Chloride	11.9		mg/kg	10.0	119	80-120			
Sulfate	11.4		"	10.0	114	80-120			

**Duplicate (EH60105-DUP1)**    **Source: 6G28007-01**    Prepared & Analyzed: 07/31/06

Chloride	103	10.0	mg/kg		91.9		11.4	20	
Sulfate	390	10.0	"		374		4.19	20	

**Duplicate (EH60105-DUP2)**    **Source: 6G31003-01**    Prepared & Analyzed: 07/31/06

Sulfate	289	25.0	mg/kg		306		5.71	20	
Chloride	356	25.0	"		387		8.34	20	

**Matrix Spike (EH60105-MS1)**    **Source: 6G28007-01**    Prepared & Analyzed: 07/31/06

Chloride	300	10.0	mg/kg	200	91.9	104	80-120		
Sulfate	595	10.0	"	200	374	110	80-120		

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EH60105 - Water Extraction**

**Matrix Spike (EH60105-MS2)**

**Source: 6G31003-01**

Prepared & Analyzed: 07/31/06

Chloride	907	25.0	mg/kg	500	387	104	80-120			
Sulfate	797	25.0	"	500	306	98.2	80-120			

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### Total Metals by EPA / Standard Methods - Quality Control

#### Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch EG63111 - 6010B/No Digestion

##### Blank (EG63111-BLK1)

Prepared & Analyzed: 07/31/06

Calcium	ND	0.0100	mg/kg wet
Magnesium	ND	0.00100	"
Potassium	ND	0.0500	"
Sodium	ND	0.0100	"

##### Calibration Check (EG63111-CCV1)

Prepared & Analyzed: 07/31/06

Calcium	2.02		mg/kg	2.00	101	85-115
Magnesium	2.06		"	2.00	103	85-115
Potassium	1.91		"	2.00	95.5	85-115
Sodium	2.02		"	2.00	101	85-115

##### Duplicate (EG63111-DUP1)

Source: 6G27011-01

Prepared & Analyzed: 07/31/06

Calcium	97.8	0.200	mg/kg dry	99.5		1.72	20
Magnesium	15.3	0.0200	"	16.5		7.55	20
Potassium	37.0	1.00	"	37.5		1.34	20
Sodium	210	0.200	"	206		1.92	20

#### Batch EH60201 - EPA 3050B

##### Blank (EH60201-BLK1)

Prepared: 07/28/06 Analyzed: 08/02/06

Chromium	ND	0.000975	mg/kg wet
Arsenic	ND	0.00170	"
Selenium	ND	0.00300	"
Silver	ND	0.000405	"
Cadmium	ND	0.000692	"
Barium	ND	0.000489	"
Lead	ND	0.000296	"

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**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EH60201 - EPA 3050B</b>									
<b>LCS (EH60201-BS1)</b> Prepared: 07/28/06 Analyzed: 08/02/06									
Chromium	0.191	0.000975	mg/kg wet	0.200		95.5	85-115		
Arsenic	0.751	0.00170	"	0.800		93.9	85-115		
Selenium	0.409	0.00300	"	0.400		102	85-115		
Silver	0.0979	0.000405	"	0.100		97.9	85-115		
Cadmium	0.189	0.000692	"	0.200		94.5	85-115		
Barium	0.187	0.000489	"	0.200		93.5	85-115		
Lead	1.04	0.000296	"	1.10		94.5	85-115		
<b>LCS Dup (EH60201-BS1)</b> Prepared: 07/28/06 Analyzed: 08/02/06									
Chromium	0.191	0.000975	mg/kg wet	0.200		95.5	85-115	0.00	20
Arsenic	0.711	0.00170	"	0.800		88.9	85-115	5.47	20
Selenium	0.391	0.00300	"	0.400		97.8	85-115	4.50	20
Silver	0.0960	0.000405	"	0.100		96.0	85-115	1.96	20
Cadmium	0.189	0.000692	"	0.200		94.5	85-115	0.00	20
Barium	0.191	0.000489	"	0.200		95.5	85-115	2.12	20
Lead	1.05	0.000296	"	1.10		95.5	85-115	0.957	20
<b>Calibration Check (EH60201-CCV1)</b> Prepared: 07/28/06 Analyzed: 08/02/06									
Chromium	0.0503		mg/kg	0.0500		101	90-110		
Arsenic	0.0509		"	0.0500		102	90-110		
Selenium	0.0517		"	0.0500		103	90-110		
Silver	0.0509		"	0.0500		102	90-110		
Cadmium	0.0512		"	0.0500		102	90-110		
Barium	0.0514		"	0.0500		103	90-110		
Lead	0.0501		"	0.0500		100	90-110		
<b>Matrix Spike (EH60201-MS1)</b> Source: 6G21001-01 Prepared: 07/28/06 Analyzed: 08/02/06									
Chromium	9.93	2.44	mg/kg dry	10.9	ND	91.1	75-125		
Arsenic	41.0	4.26	"	43.5	20.5	47.1	75-125		M1
Selenium	20.8	7.51	"	21.8	4.85	73.2	75-125		MS-3
Silver	ND	1.01	"	5.44	0.253	NR	75-125		M1
Cadmium	8.83	1.73	"	10.9	ND	81.0	75-125		
Barium	607	1.22	"	10.9	567	367	75-125		MS-4
Lead	51.1	0.740	"	59.8	1.22	83.4	75-125		

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**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EH60201 - EPA 3050B**

Matrix Spike Dup (EH60201-MSD1)		Source: 6G21001-01		Prepared: 07/28/06 Analyzed: 08/02/06					
Chromium	9.69	2.44	mg/kg dry	10.9	ND	88.9	75-125	2.45	20
Arsenic	41.1	4.26	"	43.5	20.5	47.4	75-125	0.244	20 M1
Selenium	20.7	7.51	"	21.8	4.85	72.7	75-125	0.482	20 MS-3
Silver	ND	1.01	"	5.44	0.253	NR	75-125		20 M1
Cadmium	8.64	1.73	"	10.9	ND	79.3	75-125	2.18	20
Barium	607	1.22	"	10.9	567	367	75-125	0.00	20 MS-4
Lead	51.0	0.740	"	59.8	1.22	83.2	75-125	0.196	20

Post Spike (EH60201-PS1)		Source: 6G21001-01		Prepared: 07/28/06 Analyzed: 08/02/06					
Selenium	4880	37.6	mg/kg dry	5440	4.85	89.6	85-115		
Barium	3340	6.11	"	2720	567	102	85-115		

**Batch EH60212 - EPA 7471A**

Blank (EH60212-BLK1)		Prepared & Analyzed: 08/02/06							
Mercury	ND	0.0002500	mg/kg wet						

LCS (EH60212-BS1)		Prepared & Analyzed: 08/02/06							
Mercury	0.000870	0.0002500	mg/kg wet	0.00100		87.0	85-115		

LCS Dup (EH60212-BSD1)		Prepared & Analyzed: 08/02/06							
Mercury	0.000990	0.0002500	mg/kg wet	0.00100		99.0	85-115	12.9	20

Calibration Check (EH60212-CCV1)		Prepared & Analyzed: 08/02/06							
Mercury	0.00105		mg/kg	0.00100		105	90-110		

Matrix Spike (EH60212-MS1)		Source: 6G28009-01		Prepared & Analyzed: 08/02/06					
Mercury	0.0597	0.01250	mg/kg dry	0.0579	0.01564	76.1	75-125		

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### Notes and Definitions

MS-4 Matrix spike and/or matrix spike duplicate outside 75-125% acceptance limits. Serial dilution (x5) within 10% RPD limits. Post spike on serial dilution sample within 75-125% recovery limits indicating matrix interference.

MS-3 Matrix spike and/or matrix spike duplicate outside 75-125% limits. Serial dilution (x5) outside 10% RPD limits. Post spike for the serial dilution sample was within 75-125% recovery, therefore data accepted based on method requirements.

M1 The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

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

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

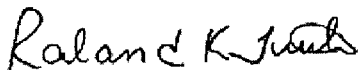
RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

8/4/2006

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
LaTasha Cornish, Chemist  
Sandra Sanchez, Lab Tech.

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[illegible]

E-mail results to: [pmccasland@envplus.net](mailto:pmccasland@envplus.net)

RKS: 402 class 1 L-poly Amber 2.5°C

W/ labels & jar seeds

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

Client: EP1  
Date/ Time: 7/28/06 10:50  
Job ID #: 6628009  
Initials: CK

**Sample Receipt Checklist**

Client Initials

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

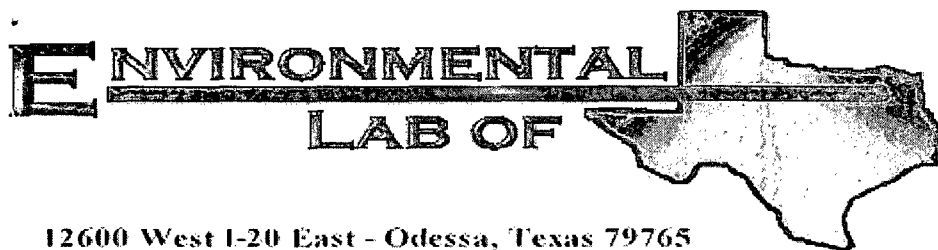
**Variance Documentation**

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

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

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

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



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Lea Station Landfarm

Project Number: 2004-00061

Location: Sect. 28, T20S, R37E

Lab Order Number: 6L14004

Report Date: 12/20/06

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

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

Fax: (432) 687-4914

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Cell E Treatment Zone- 3' to 4'	6L14004-01	Soil	12/14/06 08:50	12-14-2006 14:30
Cell C Treatment Zone- 3' to 4'	6L14004-02	Soil	12/14/06 09:15	12-14-2006 14:30
Cell B Treatment Zone- 3' to 4'	6L14004-03	Soil	12/14/06 09:35	12-14-2006 14:30
Cell A Treatment Zone- 3' to 4'	6L14004-04	Soil	12/14/06 09:55	12-14-2006 14:30

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

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

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Cell E Treatment Zone- 3' to 4' (6L14004-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL61903	12/19/06	12/19/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		98.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EL61411	12/14/06	12/14/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		109 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		94.2 %	70-130		"	"	"	"	
<b>Cell C Treatment Zone- 3' to 4' (6L14004-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL61903	12/19/06	12/20/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		97.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EL61411	12/14/06	12/14/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		103 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		89.4 %	70-130		"	"	"	"	
<b>Cell B Treatment Zone- 3' to 4' (6L14004-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL61903	12/19/06	12/19/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		116 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EL61411	12/14/06	12/14/06	EPA 8015M	

Environmental Lab of Texas

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

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

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

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Cell B Treatment Zone- 3' to 4' (6L14004-03) Soil</b>									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EL61411	12/14/06	12/14/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		112 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		96.4 %	70-130		"	"	"	"	
<b>Cell A Treatment Zone- 3' to 4' (6L14004-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EL61903	12/19/06	12/19/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		96.5 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EL61411	12/14/06	12/14/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		98.0 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		83.2 %	70-130		"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Cell E Treatment Zone- 3' to 4' (6L14004-01) Soil</b>									
% Moisture	8.5	0.1	%	1	EL61502	12/14/06	12/15/06	% calculation	
<b>Cell C Treatment Zone- 3' to 4' (6L14004-02) Soil</b>									
% Moisture	6.6	0.1	%	1	EL61502	12/14/06	12/15/06	% calculation	
<b>Cell B Treatment Zone- 3' to 4' (6L14004-03) Soil</b>									
% Moisture	10.9	0.1	%	1	EL61502	12/14/06	12/15/06	% calculation	
<b>Cell A Treatment Zone- 3' to 4' (6L14004-04) Soil</b>									
% Moisture	11.4	0.1	%	1	EL61502	12/14/06	12/15/06	% calculation	



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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL61411 - Solvent Extraction (GC)**

**Blank (EL61411-BLK1)**

Prepared: 12/14/06 Analyzed: 12/19/06

Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	40.0		mg/kg	50.0		80.0	70-130			
Surrogate: 1-Chlorooctadecane	43.9		"	50.0		87.8	70-130			

**LCS (EL61411-BS1)**

Prepared: 12/14/06 Analyzed: 12/19/06

Carbon Ranges C6-C12	593	10.0	mg/kg wet	500		119	75-125			
Carbon Ranges C12-C28	549	10.0	"	500		110	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	1140	10.0	"	1000		114	75-125			
Surrogate: 1-Chlorooctane	57.4		mg/kg	50.0		115	70-130			
Surrogate: 1-Chlorooctadecane	47.5		"	50.0		95.0	70-130			

**Calibration Check (EL61411-CCV1)**

Prepared: 12/14/06 Analyzed: 12/15/06

Carbon Ranges C6-C12	229		mg/kg	250		91.6	80-120			
Carbon Ranges C12-C28	293		"	250		117	80-120			
Total Hydrocarbons	522		"	500		104	80-120			
Surrogate: 1-Chlorooctane	62.9		"	50.0		126	70-130			
Surrogate: 1-Chlorooctadecane	55.2		"	50.0		110	70-130			

**Matrix Spike (EL61411-MS1)**

Source: 6L14005-01

Prepared: 12/14/06 Analyzed: 12/15/06

Carbon Ranges C6-C12	479	10.0	mg/kg dry	523	ND	91.6	75-125			
Carbon Ranges C12-C28	422	10.0	"	523	20.5	76.8	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	901	10.0	"	1050	20.5	83.9	75-125			
Surrogate: 1-Chlorooctane	63.5		mg/kg	50.0		127	70-130			
Surrogate: 1-Chlorooctadecane	61.3		"	50.0		123	70-130			

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Midland TX, 79706-4476

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Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL61411 - Solvent Extraction (GC)**

Matrix Spike Dup (EL61411-MSD1)		Source: 6L14005-01		Prepared: 12/14/06		Analyzed: 12/15/06				
Carbon Ranges C6-C12	484	10.0	mg/kg dry	523	ND	92.5	75-125	0.978	20	
Carbon Ranges C12-C28	430	10.0	"	523	20.5	78.3	75-125	1.93	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	914	10.0	"	1050	20.5	85.1	75-125	1.42	20	
Surrogate: 1-Chlorooctane	65.0		mg/kg	50.0		130	70-130			
Surrogate: 1-Chlorooctadecane	57.7		"	50.0		115	70-130			

**Batch EL61903 - EPA 5030C (GC)**

Blank (EL61903-BLK1)				Prepared & Analyzed: 12/19/06						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	41.4		ug/kg	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	41.6		"	40.0		104	80-120			

LCS (EL61903-BS1)				Prepared & Analyzed: 12/19/06						
Benzene	1.41	0.0250	mg/kg wet	1.25		113	80-120			
Toluene	1.37	0.0250	"	1.25		110	80-120			
Ethylbenzene	1.31	0.0250	"	1.25		105	80-120			
Xylene (p/m)	2.50	0.0250	"	2.50		100	80-120			
Xylene (o)	1.18	0.0250	"	1.25		94.4	80-120			
Surrogate: a,a,a-Trifluorotoluene	47.8		ug/kg	40.0		120	80-120			
Surrogate: 4-Bromofluorobenzene	40.8		"	40.0		102	80-120			

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

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

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL61903 - EPA 5030C (GC)**

**Calibration Check (EL61903-CCV1)**

Prepared: 12/19/06 Analyzed: 12/20/06

Benzene	47.0		ug/kg	50.0		94.0	80-120		
Toluene	47.2		"	50.0		94.4	80-120		
Ethylbenzene	48.8		"	50.0		97.6	80-120		
Xylene (p/m)	89.3		"	100		89.3	80-120		
Xylene (o)	44.6		"	50.0		89.2	80-120		
Surrogate: a,a,a-Trifluorotoluene	37.7		"	40.0		94.2	80-120		
Surrogate: 4-Bromofluorobenzene	34.7		"	40.0		86.8	80-120		

**Matrix Spike (EL61903-MS1)**

Source: 6L11012-05

Prepared: 12/19/06 Analyzed: 12/20/06

Benzene	1.54	0.0250	mg/kg dry	1.49	0.0114	103	80-120		
Toluene	1.55	0.0250	"	1.49	0.0253	102	80-120		
Ethylbenzene	1.60	0.0250	"	1.49	0.0198	106	80-120		
Xylene (p/m)	3.00	0.0250	"	2.97	0.0570	99.1	80-120		
Xylene (o)	1.44	0.0250	"	1.49	0.0172	95.5	80-120		
Surrogate: a,a,a-Trifluorotoluene	41.2		ug/kg	40.0		103	80-120		
Surrogate: 4-Bromofluorobenzene	42.8		"	40.0		107	80-120		

**Matrix Spike Dup (EL61903-MSD1)**

Source: 6L11012-05

Prepared: 12/19/06 Analyzed: 12/20/06

Benzene	1.45	0.0250	mg/kg dry	1.49	0.0114	96.6	80-120	6.41	20
Toluene	1.44	0.0250	"	1.49	0.0253	94.9	80-120	7.21	20
Ethylbenzene	1.45	0.0250	"	1.49	0.0198	96.0	80-120	9.90	20
Xylene (p/m)	2.78	0.0250	"	2.97	0.0570	91.7	80-120	7.76	20
Xylene (o)	1.33	0.0250	"	1.49	0.0172	88.1	80-120	8.06	20
Surrogate: a,a,a-Trifluorotoluene	42.0		ug/kg	40.0		105	80-120		
Surrogate: 4-Bromofluorobenzene	41.0		"	40.0		102	80-120		

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL61502 - General Preparation (Prep)**

**Blank (EL61502-BLK1)**

Prepared: 12/14/06 Analyzed: 12/15/06

% Solids	99.9		%							
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**Duplicate (EL61502-DUP1)**

Source: 6L14008-01

Prepared: 12/14/06 Analyzed: 12/15/06

% Solids	92.8		%		93.0			0.215	20	
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Plains All American EH & S  
1301 S. County Road 1150  
Midland TX, 79706-4476

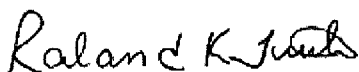
Project: Lea Station Landfarm  
Project Number: 2004-00061  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date:

12/20/2006

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
LaTasha Cornish, Chemist  
Sandra Sanchez, Lab Tech.

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

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

# Environmental Plus, Inc.

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

P.O. Box 1558, Eunice, NM 88231

## Chain of Custody Form

Company Name		Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST																																									
EPI Project Manager		Pat McCasland		PLAINS																																											
Mailing Address		P.O. BOX 1558		ALL AMERICAN PIPELINE, L.P.																																											
City, State, Zip		Eunice New Mexico 88231																																													
EPI Phone#/Fax#		505-394-3481 / 505-394-2601																																													
Client Company		Plains Marketing																																													
Facility Name		Lea Station Landfarm																																													
Location		Sect. 28, T 20 S, R 37 E																																													
Project Reference		2004-00061																																													
EPI Sampler Name		George Blackburn																																													
LAB I.D.		SAMPLE I.D.																																													
1		Cell E Treatment Zone-3' to 4'		G 1/2		CONTAINERS		GROUND WATER		WASTEWATER		SOIL		CRUDE OIL		SLUDGE		OTHER:		ACID/BASE		ICE/COOL		OTHER		PRESERV.		DATE		TIME		BTX 8021B		TPH 8015M		CHLORIDES (Cl)		SULFATES (SO <sub>4</sub> )		pH		Anions & Cations		PCRA Metals (8)		PAH	
2		Cell C Treatment Zone-3' to 4'		G 1/2																								14-Dec-06		8:50		X															
3		Cell B Treatment Zone-3' to 4'		G 1/2																								14-Dec-06		9:15		X		X													
4		Cell A Treatment Zone-3' to 4'		G 1/2																								14-Dec-06		9:35		X		X													
5																												14-Dec-06		9:55		X		X													
6																																															
7																																															
8																																															
9																																															
10																																															

Sample Relinquished: *[Signature]*

Relinquished by: *[Signature]*

Delivered by: *[Signature]*

Date: 12/14/06  
Time: 12:00  
Received By: *[Signature]*

Date: 12/14/06  
Time: 2:30  
Received By: *[Signature]*

Sample Cool & Intact: ☒  
No: ☐

Remarks: *w/labels w/label 2.0 402 glass*

E-mail results to: pmccasland@envplus.net

# Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains  
 Date/ Time: 12/14/06 2:30  
 Lab ID #: 6L14004  
 Initials: ck

## Sample Receipt Checklist

Client Initials

#1	Temperature of container/ cooler?	Yes	No	2.0 °C	
#2	Shipping container in good condition?	<del>Yes</del>	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	<del>Not Present</del>	
#4	Custody Seals intact on sample bottles/ container?	<del>Yes</del>	No	Not Present	
#5	Chain of Custody present?	<del>Yes</del>	No		
#6	Sample instructions complete of Chain of Custody?	<del>Yes</del>	No		
#7	Chain of Custody signed when relinquished/ received?	<del>Yes</del>	No		
#8	Chain of Custody agrees with sample label(s)?	<del>Yes</del>	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<del>Yes</del>	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<del>Yes</del>	No		
#11	Containers supplied by ELOT?	<del>Yes</del>	No		
#12	Samples in proper container/ bottle?	<del>Yes</del>	No	See Below	
#13	Samples properly preserved?	<del>Yes</del>	No	See Below	
#14	Sample bottles intact?	<del>Yes</del>	No		
#15	Preservations documented on Chain of Custody?	<del>Yes</del>	No		
#16	Containers documented on Chain of Custody?	<del>Yes</del>	No		
#17	Sufficient sample amount for indicated test(s)?	<del>Yes</del>	No	See Below	
#18	All samples received within sufficient hold time?	<del>Yes</del>	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	<del>Not Applicable</del>	
#20	VOC samples have zero headspace?	<del>Yes</del>	No	Not Applicable	

## Variance Documentation

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

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

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

Check all that Apply:

☐  
☐  
☐

See attached e-mail/ fax

Client understands and would like to proceed with analysis

Cooling process had begun shortly after sampling event

## PHOTOGRAPHS





Photo #1 – Cell A



Photo #2 – Cell B





Photo #3 – Cell C



Photo #4 – Cell E