

1R - 91

REPORT

DATE:

2006



PR-91
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 – Annual Monitoring Reports
3 Sites in Lea County, New Mexico

Dear Mr. Stone:

Plains All American is an operator of crude oil pipelines and terminal facilities in the state of New Mexico. Plains All American actively monitors certain historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico Oil Conservation Division (NMOCD). In accordance with the rules and regulations of the NMOCD, Plains All American hereby submits our Annual Monitoring reports for the following sites:

Lea Station	Section 28, Township 20 South, Range 37 East, Lea County
— South Mattix	Section 15, Township 24 South, Range 37 East, Lea County
Denton Station	Section 14, Township 15 South, Range 37 East, Lea County

EPI prepared these documents and has vouched for their accuracy and completeness, and on behalf of Plains All American, I have personally reviewed the documents and interviewed EPI in order to verify the accuracy and completeness of these documents. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Reports for the above facilities.

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

2000-10410 NM

Report Entered

2006 ANNUAL MONITORING AND SOIL CLOSURE REPORT

SOUTH MATTIX

Delivered by

**PLAINS REF: 2000-10410
(COMPANY #231735)**

NW¼ OF THE SE¼ OF SECTION 15, T24S, R37 E

~10 MILES NORTHEAST OF JAL,

LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 13' 01"

LONGITUDE: W 103° 08' 57"

1R-0091

APRIL 2007

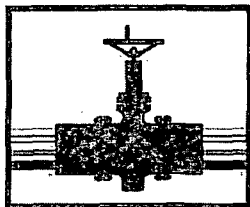
PREPARED BY:

ENVIRONMENTAL PLUS, INC.

2100 AVENUE O

EUNICE, NEW MEXICO 88231

PREPARED FOR:



PLAINS
ALL AMERICAN

Distribution List
2006 Annual Monitoring and Soil Closure Report
Plains Pipeline, L.P.
South Mattix (Ref. #2000-10410)

Name	Title	Company or Agency	Mailing Address	e-mail
Ben Stone	Environmental Engineer	New Mexico Oil Conservation Division - Santa Fe	1120 South St. Francis Santa Fe, NM 87505	ben.stone@state.nm.us
Larry Johnson	Environmental Engineer	New Mexico Oil Conservation Division - Hobbs	1625 North French Drive Hobbs, NM 88240	larry.johnson@state.nm.us
Jeff Dann	Senior Environmental Specialist	Plains All American Pipeline	333 Clay Street, Suite 1600 Houston, TX 77002	jpdann@paalp.com
Camille Reynolds	Remediation Coordinator	Plains All American Pipeline	3112 West Highway 82 Lovington, NM 88260	cjreynolds@paalp.com
File	--	Environmental Plus, Inc.	P.O. Box 1558 Eunice, NM 88231	jstegemoller@envvplus.net

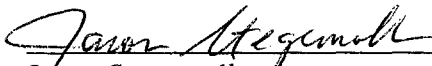
Standard of Care

2006 Annual Monitoring and Soil Closure Report

South Mattix
Ref. # 2000-10410

The information provided in this report was collected consistent with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993), the NMOCD Unlined Surface Impoundment Closure Guidelines (February 1993), and the Environmental Plus, Inc. (EPI) Standard Operating Procedures and Quality Assurance/Quality Control Plan. The conclusions are based on field observations and laboratory analytical reports as presented in the report. Recommendations follow NMOCD guidance and represent the professional opinions of EPI staff. These opinions were arrived at with currently accepted geologic, hydrogeologic and engineering practices at this time and location. The report was prepared or reviewed by a certified or registered EPI professional with a background in engineering, environmental, and/or the natural sciences.

This report was prepared by:


Jason Stegemoller
Environmental Scientist

4-3-2007
Date

This report was reviewed by:


David P. Duncan
Civil Engineer

4/03/07
Date

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Appendix D: NMOCD Final C-141 Form

1.0 Introduction

The Plains South Mattix remediation site is an active crude oil pump facility. The purpose of this report is to provide the New Mexico Oil Conservation Division (NMOCD) with documentation of groundwater monitoring and soil remediation activities at the site and request closure until the site is decommissioned.

2.0 Background

The Plains Pipeline, L.P. (Plains) South Mattix remediation site is located in Unit Letter-G (the NW¼ of the SE¼), of Section 15, Range 37E, Township 24S at a latitude N 32°13'01" and a longitude W 103°08'57" approximately 10 miles northeast of Jal, Lea County, New Mexico on property owned by the Grobe Estate (reference *Figures 1 and 2*). There are no domestic or agricultural water wells or surface water bodies within 1,000 horizontal feet of the site. The remediation site, associated with the Plains South Mattix crude oil transfer pump station, has historically been impacted from pump leaks and a below-grade sump.

For further background information, please refer to Site Characterization – South Mattix Transfer Pump (July, 2000); 2003 Annual Monitoring Report (April 2004); 2004 Annual Monitoring Report – South Mattix (January 2005); Soil Characterization Report and Interim Remediation Plan – South Mattix (January 2006); and the 2005 Annual Monitoring Report – Plains Pipeline, L.P. South Mattix (February 2006).

3.0 Field Activities

Groundwater Monitoring –

Site visits were made to the site on February 14, May 25, August 10, November 21 and December 11, 2006 to collect samples from the groundwater monitoring well. In addition, groundwater level measurements were obtained prior to purging the well to determine the depth to groundwater and to determine if PSH were present on the water surface.

Soil Remediation –

EPI personnel were on site from May 5 through July 21, 2006 to remediate the most impacted soil beneath and around the transfer pump. Approximately 1,176-cubic yards of soil were excavated and transported to the Plains-Lea Station Landfarm for treatment. Soil samples were collected from the excavation sidewalls on May 18, 2006. Excavation activities continued based on laboratory analytical results. Additional soil samples were collected from the excavation sidewalls on June 6 and 7, 2006. After a site inspection on June 12, 2006, the NMOCD granted approval to cease excavation and proceed with the installation of the clay barrier on the floor to isolate residual hydrocarbons from vertical migration. The two-foot thick clay barrier was installed in 6-inch lifts and compacted with a vibratory plate compactor. To verify compaction, an independent engineering firm tested the certified to be within 95% Proctor Density (reference *Appendix B*). Upon verification of compaction, the excavation was backfilled with clean caliche obtained from an off-site source and graded/contoured to allow natural drainage.

4.0 Groundwater Gradient

The area groundwater gradient, according to the USGS Ground-Water Report 6, Geology and Ground-Water Conditions in Southern Lea County, New Mexico (A. Nicholson and A. Clebsch, 1961), is to the southeast.

5.0 PSH Recovery and Thickness

PSH was not detected on the groundwater surface during quarterly gauging in 2006 (reference *Table 1*).

6.0 Groundwater Sampling

During 2006, groundwater monitoring well MW-1 was sampled on February 14, May 25, August 10, November 21 and December 11, 2006. The samples were submitted to an independent laboratory for the quantification of BTEX via EPA Method 8260b. In addition, the groundwater samples collected on February 14 was analyzed for the presence of poly-aromatic hydrocarbons (PAHs) via EPA Method 8270C. The well was purged a minimum of three well volumes or dry and samples collected utilizing dedicated or disposable sample bailers. Samples were jarred and immediately placed on ice and shipped to an independent laboratory under chain-of-custody for analysis.

7.0 Analytical Results

Groundwater Analytical Results –

Analytical results for the February 14, 2006 groundwater sample indicated ethylbenzene concentrations were 1.65 µg/L, below the 750 µg/L remedial threshold. The remaining analytes were not detected (ND) at or above laboratory method detection limits (MDL). Laboratory analytical data from the February 14, 2006 sample indicated PAH concentrations were ND at or above laboratory MDL. The remaining four sampling events indicated BTEX constituent concentrations were ND at or above each analytes respective method detection limit MDL (reference *Tables 2 and 3*).

Soil Sample Analytical Results –

Analytical results for the May 18, 2006 soil sampling indicated BTEX concentrations ranged from ND to 0.0992 mg/Kg for all sample locations (i.e., SP-1 through SP-20). Soil samples SP-2, SP-11, SP-17 and SP-18 indicated TPH concentrations were in excess of the 1,000 mg/Kg remedial threshold. Additional excavation was subsequently conducted and soil samples were collected on June 6 and June 7, 2006. Laboratory analyses indicated TPH concentrations in these samples were below the NMOCD remedial threshold, with the exception of soil sample SP-11-W (i.e., TPH concentration of 1,550 mg/Kg) (reference *Table 4*).

8.0 Site Status

Groundwater Status –

Groundwater sample laboratory analytical results indicate BTEX constituent concentrations and PAHs have been below remedial thresholds for ten (10) quarters and three (3) years, respectively. In addition, quarterly groundwater field monitoring has indicated no PSH for the last sixteen (16) quarters. A summary of groundwater field monitoring activities is included as Table 1, laboratory analytical results are summarized in Table 2 and Table 3 and copies of laboratory analytical results are included as Appendix A.

Soil Status –

Soil impacted above NMOCD remedial thresholds was excavated to approximately 5-feet bgs and transported to Plains – Lea Station Landfarm for treatment. Laboratory and field analyses of soil samples collected from the excavation sidewalls indicated remedial thresholds were achieved (reference *Table 4*). A portion of the floor of the excavation indicated TPH concentrations above NMOCD criteria and with approval from the NMOCD, a compacted clay liner was installed in the excavation floor to isolate in situ soils above NMOCD remedial thresholds from vertical migration. After certification of proper compaction (i.e., via an independent engineering firm), the excavation was backfilled with clean caliche obtained from an off-site source and graded/contoured to allow natural drainage.

9.0 Recommendations

Based on field and laboratory analytical data indicating groundwater remediation has been achieved, as well as remediation of near-surface soils and isolation of residual, impacted sub-surface soils, EPI, on behalf of Plains, request the following:

- 1) Require no-further action concerning groundwater;
- 2) Suspend further groundwater sampling and monitoring operations and plug and abandon groundwater monitoring well MW-1 by a licensed water well company;
- 3) Require no-further action concerning in-situ, isolated hydrocarbon-impacted soil, until such time that the facility is decommissioned, at which time a remediation plan will be developed for the entire site; and
- 4) Issue a site closure letter to Plains.

EPI, on behalf of Plains requests formal written approval from the NMOCD to implement the proposed remedial activities outlined in Section 9.0.

FIGURES

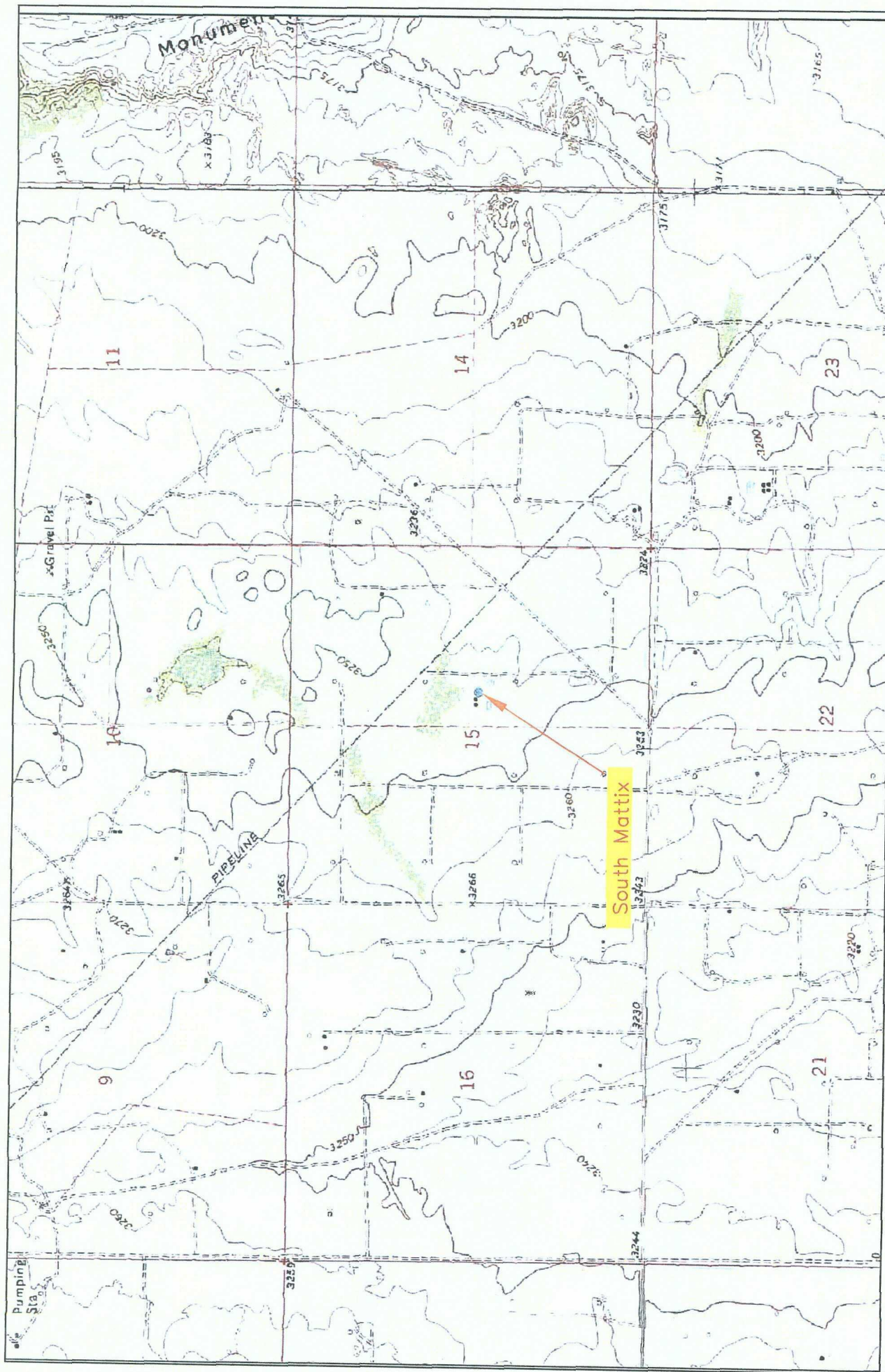


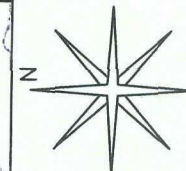
Figure 2
Site Location Map
Plains Pipeline, LP
South Mattix
2000-10410

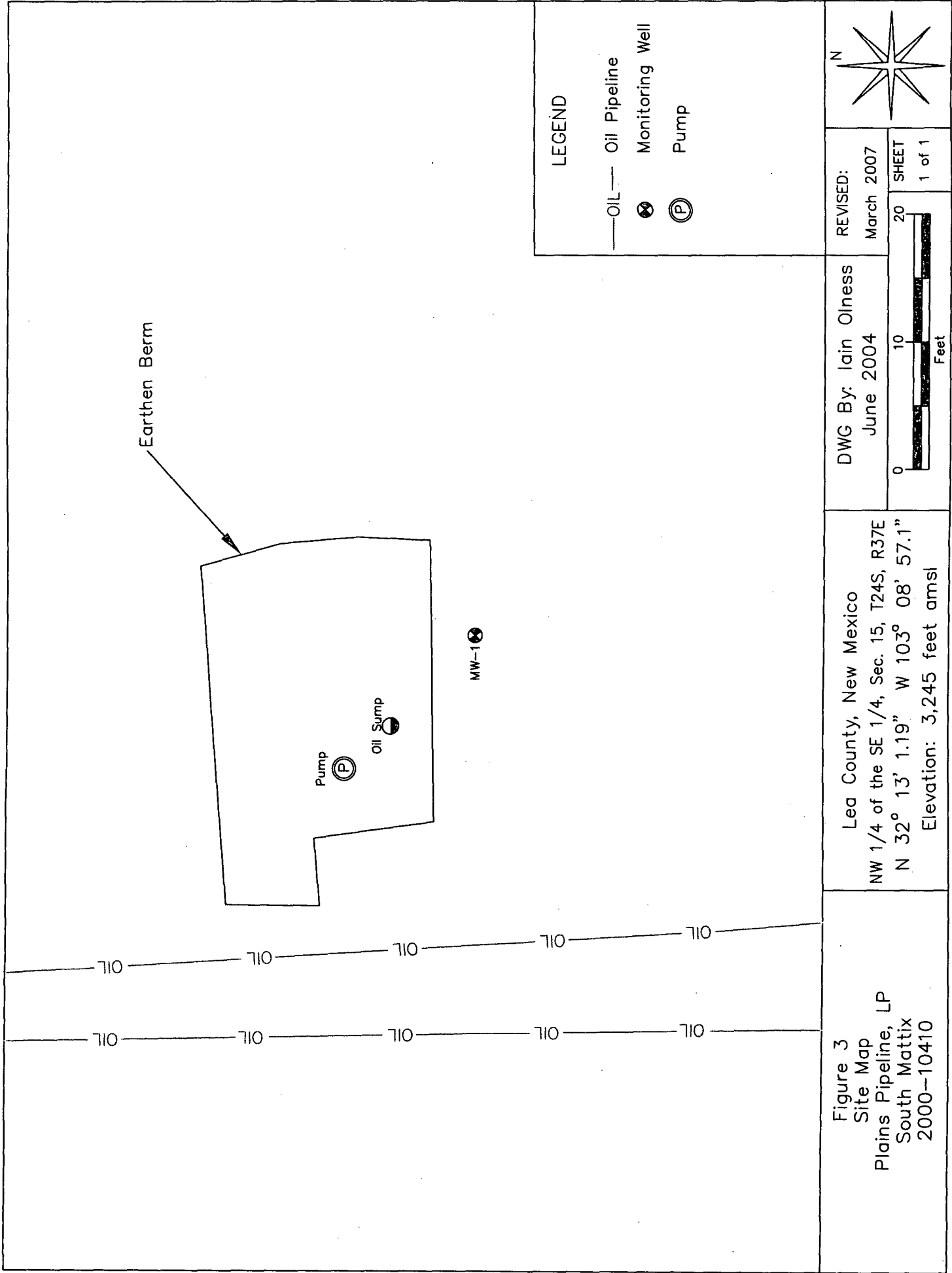
Lea County, New Mexico
NW 1/4 of the SE 1/4, Sec. 15, T24S, R37E
N 32° 13' 1.19" W 103° 08' 57.1"
Elevation: 3,245 feet amsl

DWG By: Iain Olness
June 2004

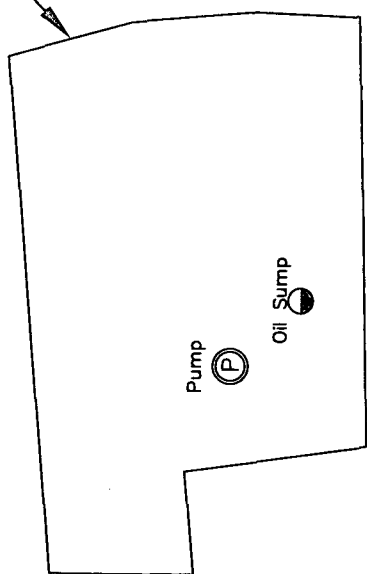
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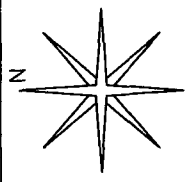
Earthen Berm



MW-10
Benzene: ND
BTEX: 1.65 mg/Kg
PAH: ND
PSH: ND

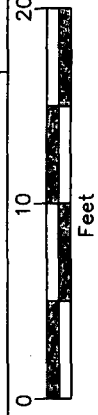
LEGEND

- Oil Pipeline
- Monitoring Well
- Pump
- Non Detectable



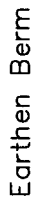
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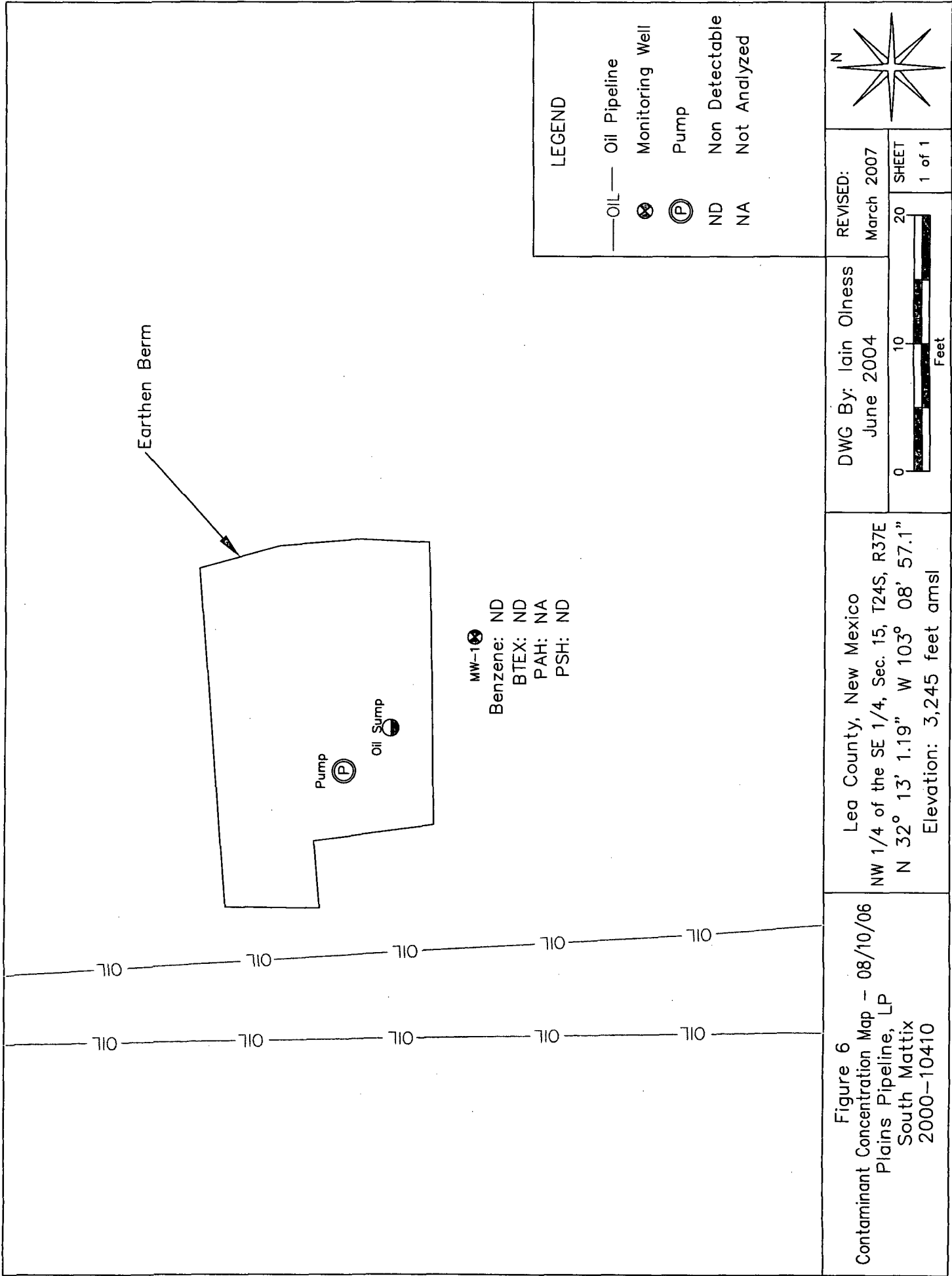
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June 2004

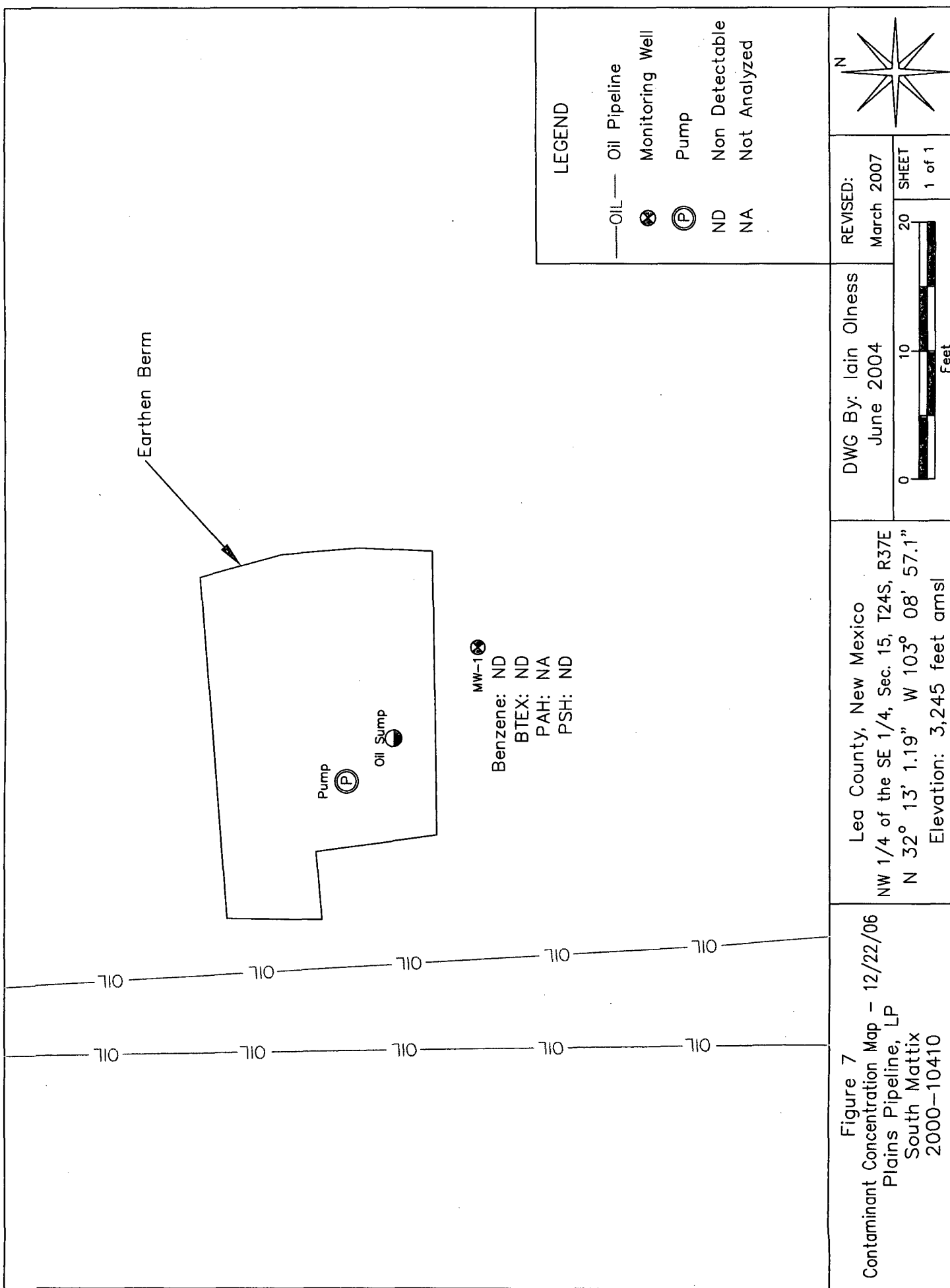


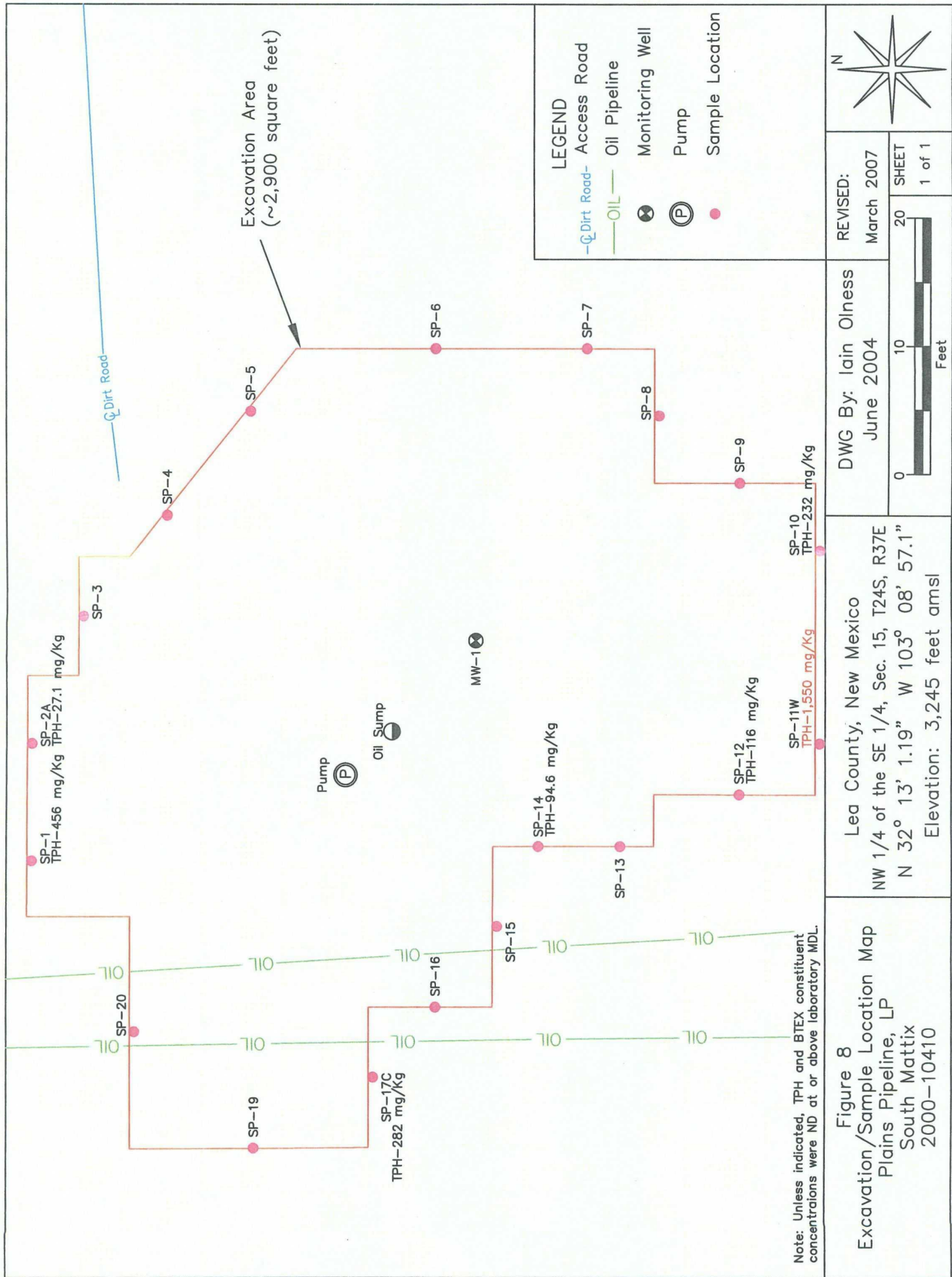
Lea County, New Mexico
NW 1/4 of the SE 1/4, Sec. 15, T24S, R37E
N 32° 13' 1.19" W 103° 08' 57.1"
Elevation: 3,245 feet amsl

Figure 4
Contaminant Concentration Map - 02/14/06
Plains Pipeline, LP
South Mattix
2000-10410









TABLES

TABLE 1

**RELATIVE GROUNDWATER ELEVATIONS AND
PHASE SEPARATED HYDROCARBON THICKNESSES**

South Mattix - Ref #2000-10410

Monitor Well	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)**	Phase Separated Hydrocarbon Thickness (feet)
MW-1	28-Dec-01	3,245	--	86.00	3,159.00	
	30-Apr-02		--	86.10	3,158.90	--
	9-Jul-02		--	86.05	3,158.95	--
	5-Oct-02		--	86.07	3,158.93	--
	13-Dec-02		86.07	86.08	3,158.93	0.01
	17-Feb-03		--	86.07	3,158.93	--
	2-Apr-03		--	86.04	3,158.96	--
	25-Jul-03		--	86.15	3,158.85	--
	1-Oct-03		--	86.15	3,158.85	--
	27-Jan-04		--	86.17	3,158.83	--
	21-Apr-04		--	86.10	3,158.90	--
	14-Jul-04		--	86.04	3,158.96	--
	20-Oct-04		--	86.12	3,158.88	--
	22-Feb-05		--	85.88	3,159.12	--
	9-May-05		--	85.74	3,159.26	--
	17-Aug-05		--	85.74	3,159.26	--
	15-Nov-05		--	86.97	3,158.03	--
	14-Feb-06			85.61	3,159.39	
	25-May-06			87.52	3,157.48	
	10-Aug-06			86.42	3,158.58	
	21-Nov-06			88.41	3,156.39	
	11-Dec-06			86.52	3,158.48	
	10-Jan-07			86.51	3,158.49	

* = Top of casing elevation set from USGS Topographical map

** Corrected Groundwater Elevation = Top of Casing Elevation - (Depth to Water Below Top of Casing - (SG)(PSH Thickness))

-- = Not detected

If cell is blank, the well was not gauged

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (BTX & TPH)

PLAINS ALL AMERICAN PIPELINE, L.P.
SOUTH MATIX - REF. #2000-10410
LEA COUNTY, NEW MEXICO

Monitor Well	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	m,p- Xylenes (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)	Chloride (mg/L)	Total Dissolved Solids (mg/L)	TPH as Gasoline (mg/L)	TPH as Diesel (mg/L)	Total TPH (mg/L)
MW-1	28-Dec-01	2	1	1	7	2	9	46	655	<3	<3	<6
	3-Apr-02	26.1	26.0	10.1	25.5	13.2	38.7					
	9-Jul-02	26.1	13.4	5.93	16.7	7.48	24.2	38	667			
	5-Oct-02	16	5.82	2.88	7.89	2.54	10.4					
	13-Dec-02	10.2	<1	1.06	5.18	<1	5.18					
	17-Feb-03	<1	<1	<1	<1	<1	<2					
	2-Apr-03	7.63	<1	<1	4.54	1.30	5.84					
	25-Jul-03	4.68	3.07	1.41	3.32	1.63	4.95			<0.5	<0.5	<1
	1-Oct-03	<1	<1	<1	<1	<1	<2					
	27-Jan-04	12.2	9.57	4.19	12.3	5.71	18.0					
	21-Apr-04	21.4	21.1	6.78	17.2	8.80	26.0					
	14-Jul-04	<1	<1	<1	<2	<1	<3					
	20-Oct-04	<1	<1	<1	<2	<1	<3					
	22-Mar-05	<1	<1	<1	<2	<1	<3					
	9-May-05	<1	<1	<1	<2	<1	<3					
	17-Aug-05	<1	<1	<1	<2	<1	<3					
	15-Nov-05	<1	<1	<1	<2	<1	<3					
	14-Feb-06	<1	<1	1.65	<2	<1	<3					
	24-May-06	<1	<1	<1	<2	<1	<3					
	10-Aug-06	<1	<1	<1	<2	<1	<3					
	21-Nov-06 *	<1	<1	<1	<2	<1	<3					
	22-Dec-06	<1	<1	<1	<2	<1	<3					
NMOCD Remedial Thresholds		10	750	750			620	250	1,000			

Red, bolded values are in excess of the NMOCD Remediation Thresholds or Other Standards for Domestic Water Supply.

If cell is blank, that parameter was not analyzed

TABLE 3

CONCENTRATION OF PAH'S IN GROUNDWATER

PLAINS ALL AMERICAN PIPELINE, L.P.
SOUTH MATTIX - REF. #2000-10410
LEA COUNTY, NEW MEXICO

Monitor Well	Date Sampled	Acenaphthene (ug/L)	Acenaphthylene (ug/L)	Anthracene (ug/L)	Benzo(a)anthracene (ug/L)	Benzo(a)pyrene (ug/L)	Benzo(b)fluoranthene (ug/L)	Benzo(g,h,i)perylene (ug/L)	Benzo(f,k)fluoranthene (ug/L)	Chrysene (ug/L)	Dibenz(a,h)anthracene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indenol(1,2,3-cd)pyrene (ug/L)	1-Methylnaphthene (ug/L)	2-Methylnaphthene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
MW-1	14-Jul-04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05	<0.05
	22-Mar-05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05	<0.05
	14-Feb-06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05	<0.05
New Mexico Water Quality						0.7										30			

TABLE 4

Summary of Excavation Analytical Results for Soil

South Mattix - Ref #2000-10410

Sample ID	Sample Date	Soil Status	Field Headspace Analysis (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Carbon Ranges (C6-C12) (mg/kg)	Carbon Ranges (C12-C28) (mg/kg)	Carbon Ranges (C-28-C35) (mg/kg)	TPH (mg/kg)
SP-1	18-May-06	In Situ	20.7	0.0174 ^A	0.0177 ^A	0.0365	0.0627	0.0992	<10.0	400	56.0	456
SP-2	18-May-06	Excavated	70.7	<0.0250	<0.0250	0.0414	0.160	0.202	279	2,350	259	2,890
SP-2A	6-Jun-06	In Situ	29.9	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	27.1	<10.0	27.1
SP-3	18-May-06	In Situ	5.9	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-4	18-May-06	In Situ	6.3	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-5	18-May-06	In Situ	5.2	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-6	18-May-06	In Situ	8.3	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-7	18-May-06	In Situ	10.8	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-8	18-May-06	In Situ	15.9	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-9	18-May-06	In Situ	17.2	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-10	18-May-06	In Situ	62.3	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	232	<10.0	232
SP-11	18-May-06	Excavated	50.4	<0.0250	<0.0250	<0.0250	<0.050	<0.125	276	3,730	416	4,420
SP-11A	6-Jun-06	Excavated	45.9									
SP-11B	7-Jun-06	Excavated	262.0									
SP-11-W	7-Jun-06	In Situ	30.9	<0.0250	<0.0250	<0.0250	<0.050	<0.125	11.0	1,320	215	1,550
SP-12	18-May-06	In Situ	16.4	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	97.0	18.5	116
SP-13	18-May-06	In Situ	20.3	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-14	18-May-06	In Situ	27.1	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	81.7	12.9	94.6
SP-15	18-May-06	In Situ	20.5	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-16	18-May-06	In Situ	13.6	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
SP-17	18-May-06	Excavated	437	0.0117 ^A	0.216	0.944	2.02	3.18	1,020	3,410	335	4,760
SP-17Q	7-Jun-06	Excavated	407									
SP-17B	7-Jun-06	Excavated	103									
SP-17C	7-Jun-06	In Situ	10.1	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	220	62	282
SP-18	18-May-06	Excavated	266	<0.0250	0.240	0.853	2.73	3.81	1,120	4,230	446	5,800
SP-18A	7-Jun-06	Excavated	652									
SP-19	18-May-06	In Situ	127	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	5.58 ^A	<10.0	<10.0
SP-20	18-May-06	In Situ	12.8	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0
NMOC Remedial Thresholds												1,000

Bolded values are in excess of the NMOC Remedial Thresholds

--- = Not Analyzed

Shaded cells indicate sample area excavated.

^A Detected, but below the Reporting Limit; therefore, result is an estimated concentration.

APPENDICES

APPENDIX A

Analytical Reports and Chain-of-Custody Forms



LABORATORY TEST REPORT
PETTIGREW & ASSOCIATES, P.A.
1110 N. GRIMES
HOBBS, NM 88240
(505) 393-9827



DEBRA P. HICKS, P.E./L.S.I.
WILLIAM M. HICKS, III, P.E./P.S.

To: Environmental Plus
Attn: Roger Boone
P.O. Box 1558
Eunice, NM 88231

Material: Red Clay

Test Method: ASTM: D 2922

Project: General Information - South Mattix Pump
Project Number 2006.1007

Date of Test: July 12, 2006

Depth: 3' Below Finished Subgrade

Reading Depth: 12"

Test No.	Location	Dry Density % Maximum	% Moisture	Depth
SG 9	Pit - 20' S. & 15' E. of the NW Corner	97.5	12.9	
SG 10	Pit - 30' N. & 20' W. of the SE Corner	98.4	13.6	

Control Density: 105.9
ASTM: D 698

Optimum Moisture: 17.6

Required Compaction: 95%

Lab No.: 06 5937-5939

Copies To: Environmental Plus

PETTIGREW & ASSOCIATES

BY: *Debra P. Hicks*
BY: *William M. Hicks, III* P.E.



LABORATORY TEST REPORT
PETTIGREW & ASSOCIATES, P.A.

1110 N. GRIMES
HOBBS, NM 88240
(505) 393-9827



DEBRA P. HICKS, P.E./L.S.I.
WILLIAM M. HICKS, III, P.E./P.S.

To: Environmental Plus
Attn: Roger Boone
P.O. Box 1558
Eunice, NM 88231

Material: Red Clay

Test Method: ASTM: D 2922

Project: General Information - South Mattix Pump
Project Number 2006.1007

Date of Test: July 17, 2006

Depth: Finished Subgrade

Reading Depth: 12"

Test No.	Location	Dry Density % Maximum	% Moisture	Depth
SG 11	Pit - 25' S. & 15' E. of the NW Corner	95.1	14.1	
SG 12	Pit - 10' N. & 15' W. of the SE Corner	95.2	14.2	

Control Density: 105.9
ASTM: D 698

Optimum Moisture: 17.6

Required Compaction: 95%

Lab No.: 06 6141-6143

Copies To: Environmental Plus

PETTIGREW & ASSOCIATES

BY: Erica M. Hart

BY: Dan P. [Signature] P.E.

PETTIGREW & ASSOCIATES. P.A.

FOR:

EP-1

DATE:

7/6/04

PROJECT:

South Middle River



1110 N. GRIMES
HOBBS NM 88240
(505) 393-9827

LAB NO.

DENSITY DETERMINATION

TYPE OF MATERIAL:

Red Clay

Control Density:

105.9 @ 17.6

Proctor Type:

Test #	LOCATION:						
		Depth of Probe:		Elevation:			
DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
1031.8	142.1		116.6	13.8	102.8		
Avg. Dry Density:			% M % Moisture (avg.)	13.4	% Comp. % Lab Dens (avg.)	97.1	

Test #	LOCATION:						
		Depth of Probe:		Elevation:			
DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
983.7	128.7		118.2	12.3	105.9		
Avg. Dry Density:			% M % Moisture (avg.)	11.6	% Comp. % Lab Dens (avg.)	100.0	

Test #	LOCATION:						
		Depth of Probe:		Elevation:			
DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
1345.2	120.6		115.2	11.4			
Avg. Dry Density:			% M % Moisture (avg.)	10.9	% Comp. % Lab Dens (avg.)	98.1	

Test #	LOCATION:						
		Depth of Probe:		Elevation:			
DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
1935.2	133.7		117.9	12.8			
Avg. Dry Density:			% M % Moisture (avg.)	12.2	% Comp. % Lab Dens (avg.)	99.2	

Required:

95%

Tech Time

If testing by time

Copies:

Tested By:

PETTIGREW & ASSOCIATES. P.A.

FOR:

EPI



DATE:

7/10/06

PROJECT:

LAB NO.

1110 N. GRIMES
HOBBS NM 88240
(505) 393-9827

DENSITY DETERMINATION

TYPE OF MATERIAL:

Red Clay

Control Density:

105.9 @ 17.6

Proctor Type:

Test #

LOCATION:

Depth of Probe:

12"

Elevation:

4' 0" PCF

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
----------------------	--------------------	----------------	---------------------------	----------------------	--------------------------	---------------	--------------

2326.1	131.6		114.6	10.8	103.9		
--------	-------	--	-------	------	-------	--	--

Avg. Dry Density:			% M % Moisture (avg.)	10.4	% Comp. % Lab Dens (avg.)	98.1	
-------------------	--	--	--------------------------	------	------------------------------	------	--

Test #

LOCATION:

Depth of Probe:

12"

Elevation:

4' 0" PCF

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
----------------------	--------------------	----------------	---------------------------	----------------------	--------------------------	---------------	--------------

3055.6	118.5		110.5	9.4	101.1		
--------	-------	--	-------	-----	-------	--	--

Avg. Dry Density:			% M % Moisture (avg.)	9.3	% Comp. % Lab Dens (avg.)	75.5	
-------------------	--	--	--------------------------	-----	------------------------------	------	--

Test #

LOCATION:

Depth of Probe:

12"

Elevation:

4' 0" PCF

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
----------------------	--------------------	----------------	---------------------------	----------------------	--------------------------	---------------	--------------

1455.2	134.2		117.0	11.0	105.7		
--------	-------	--	-------	------	-------	--	--

Avg. Dry Density:			% M % Moisture (avg.)	10.4	% Comp. % Lab Dens (avg.)	100.1	
-------------------	--	--	--------------------------	------	------------------------------	-------	--

Test #

LOCATION:

Depth of Probe:

12"

Elevation:

4' 0" PCF

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
----------------------	--------------------	----------------	---------------------------	----------------------	--------------------------	---------------	--------------

2176.1	129.4		117.3	10.5	106.7		
--------	-------	--	-------	------	-------	--	--

Avg. Dry Density:			% M % Moisture (avg.)	9.9	% Comp. % Lab Dens (avg.)	100.8	
-------------------	--	--	--------------------------	-----	------------------------------	-------	--

Required:

9570

Tech Time
If testing by time

Copies:

Tested By:

RF

PETTIGREW & ASSOCIATES. P.A.

FOR:

Enviro Plus

PROJECT:

MATTIX PUMP



1110 N. GRIMES
HOBBS NM 88240
(505) 393-9827

DATE:

7/17/06

LAB NO.

DENSITY DETERMINATION

TYPE OF MATERIAL:

RED CLAY (WALLACH)

Control Density:

105.9 @ 17.6

Proctor Type:

D698

Test #

56

LOCATION:

PT 25' S & 15' E. OF THE NW CORNER

Probe Depth:

12"

Elevation:

F56

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
835.0	123.6		114.9	14.2	100.7		

Avg. Dry Density:

% M
% Moisture (avg.)

14.1

% Comp.
% Lab Dens (avg.)

95.1

Test #

56
SE CORNER

LOCATION:

PT 15' W. & 10' N. OF THE

Probe Depth:

12"

Elevation:

F56

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
828.5	124.4		115.1	14.3	100.8		

Avg. Dry Density:

% M
% Moisture (avg.)

14.2

% Comp.
% Lab Dens (avg.)

95.2

Test #

LOCATION:

Probe Depth:

Elevation:

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
----------------------	--------------------	----------------	---------------------------	----------------------	--------------------------	---------------	--------------

Avg. Dry Density:

% M
% Moisture (avg.)

% Comp.
% Lab Dens (avg.)

Test #

LOCATION:

Probe Depth:

Elevation:

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
----------------------	--------------------	----------------	---------------------------	----------------------	--------------------------	---------------	--------------

Avg. Dry Density:

% M
% Moisture (avg.)

% Comp.
% Lab Dens (avg.)

Required:

95%

Tech Time
If testing by time

Tested By:

Copies:

HTP

Densometer ID:

PETTIGREW & ASSOCIATES. P.A.

FOR:

EP1

PROJECT:

Mattix



1110 N. GRIMES
HOBBS NM 88240
(505) 393-9827

DATE:

7/12/06

LAB NO.

DENSITY DETERMINATION

TYPE OF MATERIAL:

Red Clay

Control Density:

105.9 @ 17.6

Proctor Type:

10698

Test #

LOCATION:

Depth of Probe:

12"

Elevation:

3' 4" F30

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
2711.1	143.6		116.5	13.3	103.3		
Avg. Dry Density:			% M % Moisture (avg.)	12.9	% Comp. % Lab Dens (avg.)	97.5	

Test #

LOCATION:

Depth of Probe:

12"

Elevation:

3' 4" F30

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
2213.6	151.6		118.3	14.1	104.1		
Avg. Dry Density:			% M % Moisture (avg.)	13.6	% Comp. % Lab Dens (avg.)	98.4	

Test #

LOCATION:

Depth of Probe:

Elevation:

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
Avg. Dry Density:			% M % Moisture (avg.)		% Comp. % Lab Dens (avg.)		

Test #

LOCATION:

Depth of Probe:

Elevation:

DC Contact CPM	MC Moisture CPM	Air Gap CPM	WD Bulk Density PCF	M Moisture PCF	DD Dry Density PCF	% Moisture	% Density
Avg. Dry Density:			% M % Moisture (avg.)		% Comp. % Lab Dens (avg.)		

Required:

95%

Copies:

Tech Time
If testing by time

Tested By:

RF



LABORATORY TEST REPORT
PETTIGREW & ASSOCIATES, P.A.
1110 N. GRIMES
HOBBS, NM 88240
(505) 393-9827



DEBRA P. HICKS, P.E./L.S.I.
WILLIAM M. HICKS, III, P.E./P.S.

To: Environmental Plus
Attn: Roger Boone
P.O. Box 1558
Eunice, NM 88231

Material: Red Clay

Test Method: ASTM: D 2922

Project: General Information - South Mattix Pump
Project Number 2006.1007

Date of Test: July 10, 2006

Depth: 4' Below Finished Subgrade

Reading Depth: 12"

Test No.	Location	Dry Density % Maximum	% Moisture	Depth
SG 5	Pit - 10' N. & 15' W. of the SE Corner	98.1	10.4	
SG 6	Pit - 5' N. & 5' E. of the SW Corner	95.5	9.3	
SG 7	Pit - 10' N. & 20' E. of the SW Corner	100.1	10.4	
SG 8	Pit - 15' S. & 25' E. of the NW Corner	100.8	9.9	

Control Density: 105.9
ASTM: D 698

Optimum Moisture: 17.6

Required Compaction: 95%

Lab No.: 06 5161-5165

PETTIGREW & ASSOCIATES

Copies To: Environmental Plus

BY: Erica Hart

BY: Debra Hicks

P.E.



LABORATORY TEST REPORT
PETTIGREW & ASSOCIATES, P.A.

1110 N. GRIMES
HOBBS, NM 88240
(505) 393-9827



DEBRA P. HICKS, P.E./L.S.I.
WILLIAM M. HICKS, III, P.E./P.S.

To: Environmental Plus
Attn: Roger Boone
P.O. Box 1558
Eunice, NM 88231

Material: Red Clay

Test Method: ASTM: D 2922

Project: General Information - South Mattix Pump
Project Number 2006.1007

Date of Test: July 6, 2006

Depth: 5' Below Finished Subgrade

Reading Depth: 12"

Test No.	Location	Dry Density % Maximum	% Moisture	Depth
SG 1	Pit - 10' N. & 5' W. of the SE Corner	97.1	13.4	
SG 2	Pit - 10' N. of Centerline of Pit	100.0	11.6	
SG 3	Pit - 10' E. & 5' N. of the SW Corner	98.1	10.9	
SG 4	Pit - 12' E. & 10' S. of the NW Corner	99.2	12.2	

Control Density: 105.9
ASTM: D 698

Optimum Moisture: 17.6

Required Compaction: 95%

Lab No.: 06 6048-6052

Copies To: Environmental Plus

PETTIGREW & ASSOCIATES

BY: Eric McVey

BY: Debra Hicks **P.E.**

APPENDIX B

Soil Compaction Analytical Results

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

Client: EPI / Plains
 Date/Time: 6/9/06 11:00
 Order #: 6F09010
 Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	<u>30</u>	C
Shipping container/cooler in good condition?	<u>Yes</u>	No		
Custody Seals intact on shipping container/cooler?	Yes	No	<u>Not present</u>	
Custody Seals intact on sample bottles?	<u>Yes</u>	No	<u>Not present</u>	
Chain of custody present?	<u>Yes</u>	No		
Sample Instructions complete on Chain of Custody?	<u>Yes</u>	No		
Chain of Custody signed when relinquished and received?	<u>Yes</u>	No		
Chain of custody agrees with sample label(s)	<u>Yes</u>	No		
Container labels legible and intact?	<u>Yes</u>	No		
Sample Matrix and properties same as on chain of custody?	<u>Yes</u>	No		
Samples in proper container/bottle?	<u>Yes</u>	No		
Samples properly preserved?	<u>Yes</u>	No		
Sample bottles intact?	<u>Yes</u>	No		
Preservations documented on Chain of Custody?	<u>Yes</u>	No		
Containers documented on Chain of Custody?	<u>Yes</u>	No		
Sufficient sample amount for indicated test?	<u>Yes</u>	No		
All samples received within sufficient hold time?	<u>Yes</u>	No		
VOC samples have zero headspace?	<u>Yes</u>	No	<u>Not Applicable</u>	

Other observations:

Variance Documentation:

Contact Person: _____ Date/Time: _____ Contacted by: _____
 Regarding: _____

Corrective Action Taken:

2100 Avenue O, Eunice, NM 88231

P.O. Box 1558, Eunice, NM 88231

LAB: ELT

Company Name										Environmental Plus, Inc.										Bill To										ANALYSIS REQUEST									
EPI Project Manager										Iain Olness																													
Mailing Address										P.O. BOX 1558																													
City, State, Zip										Eunice New Mexico 88231																													
EPI Phone#/Fax#										505-394-3481 / 505-394-2601																													
Client Company										Plains Pipeline																													
Facility Name										South Matfix																													
Location										UL-G, Sec. 15, T 24 S, R 37 E																													
Project Reference										2000-10410																													
EPI Sampler Name										Danny Deaton																													
LAB I.D.										SAMPLE I.D.																													
1 SP-2A										1																													
2 SP-11-W										1																													
3 SP-17C										1																													
4																																							
5																																							
6																																							
7																																							
8																																							
9																																							
10																																							

Attn: ENV Accounts Payable
PO Box 4648,
Houston, TX 77210-4648

PAH
OTHER >>>
TCLP
PH
SULFATES (SO₄)
CHLORIDES (Cl)
TPH 8015M
BTX 8021B

PLAINS
ALL-AMERICAN
PIPELINE L.P.

DATE
TIME
06-Jun-06 15:35
07-Jun-06 8:15
07-Jun-06 15:35

GROUND WATER
WASTEWATER
SOIL
CRUDE OIL
SLUDGE
OTHER:
ACID/BASE
ICE/COOL
OTHER

PRESERV.
SAMPLING

LAB I.D.
1 SP-2A
2 SP-11-W
3 SP-17C
4
5
6
7
8
9
10

(G)RAB OR (C)OMP.
CONTAINERS
GROUND WATER
WASTEWATER
SOIL
CRUDE OIL
SLUDGE
OTHER:
ACID/BASE
ICE/COOL
OTHER

Company Name
EPI Project Manager
Mailing Address
City, State, Zip
EPI Phone#/Fax#
Client Company
Facility Name
Location
Project Reference
EPI Sampler Name

Environmental Plus, Inc.
Iain Olness
P.O. BOX 1558
Eunice New Mexico 88231
505-394-3481 / 505-394-2601
Plains Pipeline
South Matfix
UL-G, Sec. 15, T 24 S, R 37 E
2000-10410
Danny Deaton

Received By:
Time
06/06/06
07/15/06
07/15/06
11:00

Received By: (lab staff)
Time
07/15/06
11:00

Sample Requiring: *Lead*
Relinquished by: *David Boone*
Delivered by: *David Boone*

Sample Cool & Intact
Yes ☒ No ☐
Checked By: *David Boone*

E-mail results to: iolness@envplus.net and creynolds@paalp.com

REMARKS:
402 gas
3.0
1/1 seal jar & label

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

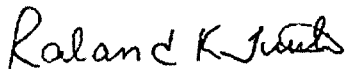
Project: South Mattix
Project Number: 2000-10410
Project Manager: Daniel Bryant

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:

6/14/2006

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.

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

Project: South Mattix
Project Number: 2000-10410
Project Manager: Daniel Bryant

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch EF61101 - General Preparation (Prep)									
Blank (EF61101-BLK1)									
				Prepared: 06/10/06 Analyzed: 06/11/06					
% Solids	100		%						
Duplicate (EF61101-DUP1)									
				Source: 6F08014-01 Prepared: 06/10/06 Analyzed: 06/11/06					
% Solids	88.3		%		88.8		0.565	20	
Duplicate (EF61101-DUP2)									
				Source: 6F09002-02 Prepared: 06/10/06 Analyzed: 06/11/06					
% Solids	99.2		%		99.0		0.202	20	
Duplicate (EF61101-DUP3)									
				Source: 6F09002-22 Prepared: 06/10/06 Analyzed: 06/11/06					
% Solids	95.8		%		95.1		0.733	20	
Duplicate (EF61101-DUP4)									
				Source: 6F09007-02 Prepared: 06/10/06 Analyzed: 06/11/06					
% Solids	91.0		%		90.4		0.662	20	
Duplicate (EF61101-DUP5)									
				Source: 6F09012-01 Prepared: 06/10/06 Analyzed: 06/11/06					
% Solids	90.6		%		90.9		0.331	20	

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

Project: South Mattix
Project Number: 2000-10410
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Organics by GC - Quality Control
Environmental Lab of Texas

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

Batch EF61305 - EPA 5030C (GC)

Matrix Spike (EF61305-MS1)

Source: 6F09002-40

Prepared: 06/13/06 Analyzed: 06/14/06

Benzene	1.53	0.0250	mg/kg dry	1.60	ND	95.6	80-120			
Toluene	1.47	0.0250	"	1.60	ND	91.9	80-120			
Ethylbenzene	1.35	0.0250	"	1.60	ND	84.4	80-120			
Xylene (p/m)	2.98	0.0250	"	3.19	ND	93.4	80-120			
Xylene (o)	1.57	0.0250	"	1.60	ND	98.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	37.7		ug/kg	40.0		94.2	80-120			
Surrogate: 4-Bromofluorobenzene	37.9		"	40.0		94.8	80-120			

Matrix Spike Dup (EF61305-MSD1)

Source: 6F09002-40

Prepared: 06/13/06 Analyzed: 06/14/06

Benzene	1.56	0.0250	mg/kg dry	1.60	ND	97.5	80-120	1.97	20	
Toluene	1.65	0.0250	"	1.60	ND	103	80-120	11.4	20	
Ethylbenzene	1.51	0.0250	"	1.60	ND	94.4	80-120	11.2	20	
Xylene (p/m)	3.33	0.0250	"	3.19	ND	104	80-120	10.7	20	
Xylene (o)	1.75	0.0250	"	1.60	ND	109	80-120	10.5	20	
Surrogate: a,a,a-Trifluorotoluene	39.1		ug/kg	40.0		97.8	80-120			
Surrogate: 4-Bromofluorobenzene	38.4		"	40.0		96.0	80-120			

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

Project: South Mattix
Project Number: 2000-10410
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Organics by GC - Quality Control
Environmental Lab of Texas

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

Batch EF60931 - Solvent Extraction (GC)

Matrix Spike Dup (EF60931-MSD1)

Source: 6F09002-40

Prepared: 06/09/06 Analyzed: 06/11/06

Carbon Ranges C6-C12	668	10.0	mg/kg dry	639	ND	105	75-125	0.299	20	
Carbon Ranges C12-C28	697	10.0	"	639	ND	109	75-125	0.865	20	
Total Hydrocarbon nC6-nC35	1360	10.0	"	1280	ND	106	75-125	0.00	20	
Surrogate: 1-Chlorooctane	46.4		mg/kg	50.0		92.8	70-130			
Surrogate: 1-Chlorooctadecane	43.6		"	50.0		87.2	70-130			

Batch EF61305 - EPA 5030C (GC)

Blank (EF61305-BLK1)

Prepared & Analyzed: 06/13/06

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	32.1		ug/kg	40.0		80.2	80-120			
Surrogate: 4-Bromofluorobenzene	32.7		"	40.0		81.8	80-120			

LCS (EF61305-BS1)

Prepared & Analyzed: 06/13/06

Benzene	1.13	0.0250	mg/kg wet	1.25		90.4	80-120			
Toluene	1.21	0.0250	"	1.25		96.8	80-120			
Ethylbenzene	1.08	0.0250	"	1.25		86.4	80-120			
Xylene (p/m)	2.47	0.0250	"	2.50		98.8	80-120			
Xylene (o)	1.30	0.0250	"	1.25		104	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.9		ug/kg	40.0		97.2	80-120			
Surrogate: 4-Bromofluorobenzene	39.9		"	40.0		99.8	80-120			

Calibration Check (EF61305-CCV1)

Prepared: 06/13/06 Analyzed: 06/14/06

Benzene	0.0469		mg/kg wet	0.0500		93.8	80-120			
Toluene	0.0490		"	0.0500		98.0	80-120			
Ethylbenzene	0.0521		"	0.0500		104	80-120			
Xylene (p/m)	0.0979		"	0.100		97.9	80-120			
Xylene (o)	0.0528		"	0.0500		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	35.9		ug/kg	40.0		89.8	80-120			
Surrogate: 4-Bromofluorobenzene	41.9		"	40.0		105	80-120			

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 6 of 9

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

Project: South Mattix
Project Number: 2000-10410
Project Manager: Daniel Bryant

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
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

Batch EF60931 - Solvent Extraction (GC)

Blank (EF60931-BLK1)

Prepared: 06/09/06 Analyzed: 06/10/06

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 Hydrocarbon nC6-nC35	ND	10.0	"						
Surrogate: 1-Chlorooctane	37.7		mg/kg	50.0		75.4	70-130		
Surrogate: 1-Chlorooctadecane	39.5		"	50.0		79.0	70-130		

LCS (EF60931-BS1)

Prepared: 06/09/06 Analyzed: 06/10/06

Carbon Ranges C6-C12	502	10.0	mg/kg wet	500		100	75-125		
Carbon Ranges C12-C28	538	10.0	"	500		108	75-125		
Total Hydrocarbon nC6-nC35	1040	10.0	"	1000		104	75-125		
Surrogate: 1-Chlorooctane	58.2		mg/kg	50.0		116	70-130		
Surrogate: 1-Chlorooctadecane	58.2		"	50.0		116	70-130		

Calibration Check (EF60931-CCV1)

Prepared: 06/09/06 Analyzed: 06/11/06

Carbon Ranges C6-C12	269		mg/kg	250		108	80-120		
Carbon Ranges C12-C28	290		"	250		116	80-120		
Total Hydrocarbon nC6-nC35	559		"	500		112	80-120		
Surrogate: 1-Chlorooctane	51.4		"	50.0		103	70-130		
Surrogate: 1-Chlorooctadecane	54.3		"	50.0		109	70-130		

Matrix Spike (EF60931-MS1)

Source: 6F09002-40

Prepared: 06/09/06 Analyzed: 06/11/06

Carbon Ranges C6-C12	670	10.0	mg/kg dry	639	ND	105	75-125		
Carbon Ranges C12-C28	691	10.0	"	639	ND	108	75-125		
Total Hydrocarbon nC6-nC35	1360	10.0	"	1280	ND	106	75-125		
Surrogate: 1-Chlorooctane	46.7		mg/kg	50.0		93.4	70-130		
Surrogate: 1-Chlorooctadecane	42.8		"	50.0		85.6	70-130		

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

Project: South Mattix
Project Number: 2000-10410
Project Manager: Daniel Bryant

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-2A (6F09010-01) Soil									
% Moisture	9.0	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
SP-11-W (6F09010-02) Soil									
% Moisture	8.4	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
SP-17C (6F09010-03) Soil									
% Moisture	10.5	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	

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Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-17C (6F09010-03) Soil									
Carbon Ranges C12-C28	220	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C28-C35	62.3	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	282	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		78.6 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		79.8 %	70-130		"	"	"	"	

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Project: South Mattix
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Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-2A (6F09010-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/13/06	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		97.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.8 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	27.1	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	27.1	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		74.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		74.6 %	70-130		"	"	"	"	
SP-11-W (6F09010-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/13/06	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		95.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.5 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	11.0	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	1320	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	215	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	1550	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		77.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		81.6 %	70-130		"	"	"	"	
SP-17C (6F09010-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/13/06	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		86.5 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	

Environmental Lab of Texas

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Page 2 of 9

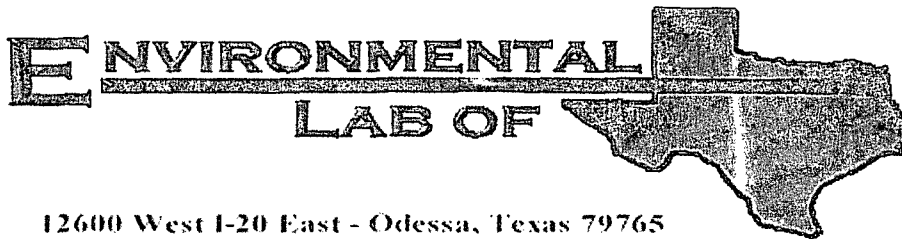
Plains All American EH & S
1301 S. County Road 1150
Midland TX, 79706-4476

Project: South Mattix
Project Number: 2000-10410
Project Manager: Daniel Bryant

Fax: (432) 687-4914

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-2A	6F09010-01	Soil	06/06/06 15:35	06/09/06 11:00
SP-11-W	6F09010-02	Soil	06/07/06 08:15	06/09/06 11:00
SP-17C	6F09010-03	Soil	06/07/06 15:35	06/09/06 11:00



12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Daniel Bryant

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: South Mattix

Project Number: 2000-10410

Location: UL-G, Sec. 15, T 24 S, R 37 E

Lab Order Number: 6F09010

Report Date: 06/14/06

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

Client: EPI / Plains
 Date/Time: 5/19/06 12:35
 Order #: 6E1901
 Initials: UK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	40 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	Yes	No	Not Applicable

Other observations:

Variance Documentation:

Contact Person: - _____ Date/Time: _____ Contacted by: _____
 Regarding: _____

Corrective Action Taken:

2100 Avenue O, Eunice, NM 88231

P.O. Box 1558, Eunice, NM 88231

(505) 394-3481 FAX: (505) 394-2601

LAB: ELT

173

Company Name		Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST	
EPI Project Manager		Iain Olness		PRESERV.		SAMPLING	
Mailing Address		P.O. BOX 1558		MATRIX		TIME	
City, State, Zip		Eunice New Mexico 88231		OTHER:		DATE	
EPI Phone# / Fax#		505-394-3481 / 505-394-2601		SLUDGE		11:35	
Client Company		Plains Pipeline		CRUDE OIL		11:45	
Facility Name		South Matfix		WASTEWATER		11:55	
Location		UL-G, Sec. 15, T 24 S, R 37 E		GROUND WATER		12:45	
Project Reference		2000-10410		# CONTAINERS		12:55	
EPI Sampler Name		George Blackburn		(G) RAB OR (C) OMP.		13:05	
LAB I.D.		SAMPLE I.D.		WASTEWATER		13:15	
1		1 SP-11		1		13:25	
2		2 SP-12		1		13:35	
3		3 SP-13		1		13:45	
4		4 SP-14		1			
5		5 SP-15		1			
6		6 SP-16		1			
7		7 SP-17		1			
8		8 SP-18		1			
9		9 SP-19		1			
10		10 SP-20		1			
PAH							
OTHER >>>							
TCLP							
PH							
SULFATES (SO ₄)							
CHLORIDES (Cl)							
TPH 8015M							
BTEX 8021B							



PLAINS
ALL AMERICAN
PIPELINE, L.P.

Attn: ENV Accounts Payable
PO Box 4648,
Houston, TX 77210-4648

Company Name: Environmental Plus, Inc.
EPI Project Manager: Iain Olness
Mailing Address: P.O. BOX 1558
City, State, Zip: Eunice New Mexico 88231
EPI Phone# / Fax#: 505-394-3481 / 505-394-2601
Client Company: Plains Pipeline
Facility Name: South Matfix
Location: UL-G, Sec. 15, T 24 S, R 37 E
Project Reference: 2000-10410
EPI Sampler Name: George Blackburn

LAB I.D. 657611

SAMPLE I.D.

Company Name: Environmental Plus, Inc.
EPI Project Manager: Iain Olness
Mailing Address: P.O. BOX 1558
City, State, Zip: Eunice New Mexico 88231
EPI Phone# / Fax#: 505-394-3481 / 505-394-2601
Client Company: Plains Pipeline
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LAB I.D. 657611

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LAB I.D. 657611

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Facility Name: South Matfix
Location: UL-G, Sec. 15, T 24 S, R 37 E
Project Reference: 2000-10410
EPI Sampler Name: George Blackburn

LAB I.D. 657611

SAMPLE I.D.

2100 Avenue O, Eunice, NM 88231

P.O. Box 1558, Eunice, NM 88231

LAB: ELT

(505) 394-3481 FAX: (505) 394-2601

Company Name Environmental Plus, Inc.						Bill-To		ANALYSIS REQUEST							
EPI Project Manager Iain Olness															
Mailing Address P.O. BOX 1558															
City, State, Zip Eunice New Mexico 88231															
EPI Phone#/Fax# 505-394-3481 / 505-394-2601															
Client Company Plains Pipeline															
Facility Name South Mattix															
Location UL-G, Sec. 15, T 24 S, R 37 E															
Project Reference 2000-10410															
EPI Sampler Name George Blackburn															
LAB I.D. <i>6E901</i>	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (CI)	SULFATES (SO ₄)	pH	TCLP	OTHER >>	PAH
<i>-01</i>	1 SP-1		1	GROUND WATER WASTEWATER SOIL CRUDE OIL SLUDGE OTHER: ACID/BASE ICE/COL OTHER	X	18-May-06	9:55	X	X						
<i>-02</i>	2 SP-2		1		X	18-May-06	10:05	X	X						
<i>-03</i>	3 SP-3		1		X	18-May-06	10:15	X	X						
<i>-04</i>	4 SP-4		1		X	18-May-06	10:25	X	X						
<i>-05</i>	5 SP-5		1		X	18-May-06	10:35	X	X						
<i>-06</i>	6 SP-6		1		X	18-May-06	10:45	X	X						
<i>-07</i>	7 SP-7		1		X	18-May-06	10:55	X	X						
<i>-08</i>	8 SP-8		1		X	18-May-06	11:05	X	X						
<i>-09</i>	9 SP-9		1		X	18-May-06	11:15	X	X						
<i>-10</i>	10 SP-10		1		X	18-May-06	11:25	X	X						

E-mail results to: iolness@envplus.net and creynolds@paalp.com

REMARKS:
bor glass 4.0
w/ label
w/ seal on jar

Received By: *Iain Olness*
 Date: *5/19/06*

Relinquished by: *Daron Boone*
 Date: *5/19/06*
 Time: *11:55*

Delivered by:

Sample Cool & Intact Yes No

Cheated By: *[Signature]*

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

Project: South Mattix
Project Number: 2000-10410
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:
05/26/06 08:59

Notes and Definitions

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

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

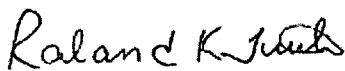
RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

5/26/2006

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 Lab of Texas

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Page 18 of 18

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

Project: South Mattix
Project Number: 2000-10410
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:
05/26/06 08:59

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 EE62210 - General Preparation (Prep)

Blank (EE62210-BLK1)

Prepared: 05/19/06 Analyzed: 05/22/06

% Solids 100 %

Duplicate (EE62210-DUP1)

Source: 6E18023-02

Prepared: 05/19/06 Analyzed: 05/22/06

% Solids 98.0 % 98.3 0.306 20

Duplicate (EE62210-DUP2)

Source: 6E19003-02

Prepared: 05/19/06 Analyzed: 05/22/06

% Solids 96.0 % 96.3 0.312 20

Duplicate (EE62210-DUP3)

Source: 6E19003-28

Prepared: 05/19/06 Analyzed: 05/22/06

% Solids 74.8 % 74.9 0.134 20

Duplicate (EE62210-DUP4)

Source: 6E19005-01

Prepared: 05/19/06 Analyzed: 05/22/06

% Solids 97.8 % 97.2 0.615 20

Duplicate (EE62210-DUP5)

Source: 6E19011-12

Prepared: 05/19/06 Analyzed: 05/22/06

% Solids 99.7 % 99.5 0.201 20

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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 EE62422 - EPA 5030C (GC)

LCS (EE62422-BS1)

Prepared & Analyzed: 05/24/06

Benzene	1.09	0.0250	mg/kg wet	1.25		87.2	80-120			
Toluene	1.13	0.0250	"	1.25		90.4	80-120			
Ethylbenzene	1.27	0.0250	"	1.25		102	80-120			
Xylene (p/m)	2.69	0.0250	"	2.50		108	80-120			
Xylene (o)	1.37	0.0250	"	1.25		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	44.2		ug/kg	40.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	42.4		"	40.0		106	80-120			

Calibration Check (EE62422-CCV1)

Prepared: 05/24/06 Analyzed: 05/25/06

Benzene	45.6		ug/kg	50.0		91.2	80-120			
Toluene	43.3		"	50.0		86.6	80-120			
Ethylbenzene	56.9		"	50.0		114	80-120			
Xylene (p/m)	101		"	100		101	80-120			
Xylene (o)	51.3		"	50.0		103	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.2		"	40.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	42.0		"	40.0		105	80-120			

Matrix Spike (EE62422-MS1)

Source: 6E23009-02

Prepared: 05/24/06 Analyzed: 05/25/06

Benzene	1.15	0.0250	mg/kg dry	1.41	ND	81.6	80-120			
Toluene	1.26	0.0250	"	1.41	ND	89.4	80-120			
Ethylbenzene	1.39	0.0250	"	1.41	ND	98.6	80-120			
Xylene (p/m)	3.04	0.0250	"	2.81	ND	108	80-120			
Xylene (o)	1.53	0.0250	"	1.41	ND	109	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.3		ug/kg	40.0		95.8	80-120			
Surrogate: 4-Bromofluorobenzene	43.0		"	40.0		108	80-120			

Matrix Spike Dup (EE62422-MSD1)

Source: 6E23009-02

Prepared: 05/24/06 Analyzed: 05/25/06

Benzene	1.13	0.0250	mg/kg dry	1.41	ND	80.1	80-120	1.86	20	
Toluene	1.22	0.0250	"	1.41	ND	86.5	80-120	3.30	20	
Ethylbenzene	1.39	0.0250	"	1.41	ND	98.6	80-120	0.00	20	
Xylene (p/m)	2.96	0.0250	"	2.81	ND	105	80-120	2.82	20	
Xylene (o)	1.49	0.0250	"	1.41	ND	106	80-120	2.79	20	
Surrogate: a,a,a-Trifluorotoluene	38.2		ug/kg	40.0		95.5	80-120			
Surrogate: 4-Bromofluorobenzene	44.4		"	40.0		111	80-120			

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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 EE62308 - EPA 5030C (GC)

Calibration Check (EE62308-CCV1)

Prepared: 05/23/06 Analyzed: 05/25/06

Benzene	43.2		ug/kg	50.0		86.4	80-120			
Toluene	43.7		"	50.0		87.4	80-120			
Ethylbenzene	56.7		"	50.0		113	80-120			
Xylene (p/m)	101		"	100		101	80-120			
Xylene (o)	51.3		"	50.0		103	80-120			
Surrogate: a,a,a-Trifluorotoluene	39.5		"	40.0		98.8	80-120			
Surrogate: 4-Bromofluorobenzene	40.2		"	40.0		100	80-120			

Matrix Spike (EE62308-MS1)

Source: 6E22002-01

Prepared: 05/23/06 Analyzed: 05/24/06

Benzene	1.08	0.0250	mg/kg dry	1.34	ND	80.6	80-120			
Toluene	1.21	0.0250	"	1.34	ND	90.3	80-120			
Ethylbenzene	1.45	0.0250	"	1.34	ND	108	80-120			
Xylene (p/m)	2.98	0.0250	"	2.67	ND	112	80-120			
Xylene (o)	1.52	0.0250	"	1.34	ND	113	80-120			
Surrogate: a,a,a-Trifluorotoluene	42.4		ug/kg	40.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	44.6		"	40.0		112	80-120			

Matrix Spike Dup (EE62308-MSD1)

Source: 6E22002-01

Prepared: 05/23/06 Analyzed: 05/25/06

Benzene	1.09	0.0250	mg/kg dry	1.34	ND	81.3	80-120	0.865	20	
Toluene	1.15	0.0250	"	1.34	ND	85.8	80-120	5.11	20	
Ethylbenzene	1.31	0.0250	"	1.34	ND	97.8	80-120	9.91	20	
Xylene (p/m)	2.87	0.0250	"	2.67	ND	107	80-120	4.57	20	
Xylene (o)	1.43	0.0250	"	1.34	ND	107	80-120	5.45	20	
Surrogate: a,a,a-Trifluorotoluene	42.2		ug/kg	40.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	42.6		"	40.0		106	80-120			

Batch EE62422 - EPA 5030C (GC)

Blank (EE62422-BLK1)

Prepared & Analyzed: 05/24/06

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	44.0		ug/kg	40.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	41.4		"	40.0		104	80-120			

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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 EE62209 - Solvent Extraction (GC)

Matrix Spike (EE62209-MS1)

Source: 6E19011-05

Prepared: 05/22/06 Analyzed: 05/24/06

Carbon Ranges C6-C12	538	10.0	mg/kg dry	505	ND	107	75-125			
Carbon Ranges C12-C28	551	10.0	"	505	ND	109	75-125			
Total Hydrocarbon nC6-nC35	1090	10.0	"	1010	ND	108	75-125			
Surrogate: 1-Chlorooctane	58.9		mg/kg	50.0		118	70-130			
Surrogate: 1-Chlorooctadecane	58.4		"	50.0		117	70-130			

Matrix Spike Dup (EE62209-MSD1)

Source: 6E19011-05

Prepared: 05/22/06 Analyzed: 05/24/06

Carbon Ranges C6-C12	546	10.0	mg/kg dry	505	ND	108	75-125	1.48	20	
Carbon Ranges C12-C28	555	10.0	"	505	ND	110	75-125	0.723	20	
Total Hydrocarbon nC6-nC35	1100	10.0	"	1010	ND	109	75-125	0.913	20	
Surrogate: 1-Chlorooctane	59.8		mg/kg	50.0		120	70-130			
Surrogate: 1-Chlorooctadecane	59.2		"	50.0		118	70-130			

Batch EE62308 - EPA 5030C (GC)

Blank (EE62308-BLK1)

Prepared & Analyzed: 05/23/06

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	42.7		ug/kg	40.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	44.8		"	40.0		112	80-120			

LCS (EE62308-BS1)

Prepared & Analyzed: 05/23/06

Benzene	1.08	0.0250	mg/kg wet	1.25		86.4	80-120			
Toluene	1.12	0.0250	"	1.25		89.6	80-120			
Ethylbenzene	1.28	0.0250	"	1.25		102	80-120			
Xylene (p/m)	2.73	0.0250	"	2.50		109	80-120			
Xylene (o)	1.38	0.0250	"	1.25		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	46.3		ug/kg	40.0		116	80-120			
Surrogate: 4-Bromofluorobenzene	45.4		"	40.0		114	80-120			

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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 EE62208 - Solvent Extraction (GC)

Matrix Spike Dup (EE62208-MSD1)

Source: 6E19003-42

Prepared: 05/22/06 Analyzed: 05/23/06

Carbon Ranges C6-C12	561	10.0	mg/kg dry	585	ND	95.9	75-125	0.178	20	
Carbon Ranges C12-C28	586	10.0	"	585	ND	100	75-125	0.171	20	
Total Hydrocarbon nC6-nC35	1150	10.0	"	1170	ND	98.3	75-125	0.00	20	
Surrogate: 1-Chlorooctane	54.5		mg/kg	50.0		109	70-130			
Surrogate: 1-Chlorooctadecane	51.8		"	50.0		104	70-130			

Batch EE62209 - Solvent Extraction (GC)

Blank (EE62209-BLK1)

Prepared: 05/22/06 Analyzed: 05/24/06

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 Hydrocarbon nC6-nC35	ND	10.0	"							
Surrogate: 1-Chlorooctane	55.1		mg/kg	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	58.1		"	50.0		116	70-130			

LCS (EE62209-BS1)

Prepared: 05/22/06 Analyzed: 05/24/06

Carbon Ranges C6-C12	545	10.0	mg/kg wet	500		109	75-125			
Carbon Ranges C12-C28	556	10.0	"	500		111	75-125			
Total Hydrocarbon nC6-nC35	1100	10.0	"	1000		110	75-125			
Surrogate: 1-Chlorooctane	61.2		mg/kg	50.0		122	70-130			
Surrogate: 1-Chlorooctadecane	59.4		"	50.0		119	70-130			

Calibration Check (EE62209-CCV1)

Prepared: 05/22/06 Analyzed: 05/24/06

Carbon Ranges C6-C12	284		mg/kg	250		114	80-120			
Carbon Ranges C12-C28	289		"	250		116	80-120			
Total Hydrocarbon nC6-nC35	573		"	500		115	80-120			
Surrogate: 1-Chlorooctane	57.3		"	50.0		115	70-130			
Surrogate: 1-Chlorooctadecane	58.9		"	50.0		118	70-130			

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Organics by GC - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EE62208 - Solvent Extraction (GC)

Blank (EE62208-BLK1)

Prepared: 05/22/06 Analyzed: 05/23/06

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 Hydrocarbon nC6-nC35	ND	10.0	"							
Surrogate: 1-Chlorooctane	51.4		mg/kg	50.0		103	70-130			
Surrogate: 1-Chlorooctadecane	53.0		"	50.0		106	70-130			

LCS (EE62208-BS1)

Prepared: 05/22/06 Analyzed: 05/23/06

Carbon Ranges C6-C12	485	10.0	mg/kg wet	500		97.0	75-125			
Carbon Ranges C12-C28	500	10.0	"	500		100	75-125			
Total Hydrocarbon nC6-nC35	985	10.0	"	1000		98.5	75-125			
Surrogate: 1-Chlorooctane	54.3		mg/kg	50.0		109	70-130			
Surrogate: 1-Chlorooctadecane	52.0		"	50.0		104	70-130			

Calibration Check (EE62208-CCV1)

Prepared: 05/22/06 Analyzed: 05/23/06

Carbon Ranges C6-C12	282		mg/kg	250		113	80-120			
Carbon Ranges C12-C28	278		"	250		111	80-120			
Total Hydrocarbon nC6-nC35	560		"	500		112	80-120			
Surrogate: 1-Chlorooctane	50.0		"	50.0		100	70-130			
Surrogate: 1-Chlorooctadecane	51.6		"	50.0		103	70-130			

Matrix Spike (EE62208-MS1)

Source: 6E19003-42

Prepared: 05/22/06 Analyzed: 05/23/06

Carbon Ranges C6-C12	562	10.0	mg/kg dry	585	ND	96.1	75-125			
Carbon Ranges C12-C28	585	10.0	"	585	ND	100	75-125			
Total Hydrocarbon nC6-nC35	1150	10.0	"	1170	ND	98.3	75-125			
Surrogate: 1-Chlorooctane	54.7		mg/kg	50.0		109	70-130			
Surrogate: 1-Chlorooctadecane	51.9		"	50.0		104	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
SP-12 (6E19011-12) Soil									
% Moisture	0.5	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-13 (6E19011-13) Soil									
% Moisture	0.5	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-14 (6E19011-14) Soil									
% Moisture	0.6	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-15 (6E19011-15) Soil									
% Moisture	2.8	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-16 (6E19011-16) Soil									
% Moisture	4.8	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-17 (6E19011-17) Soil									
% Moisture	2.3	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-18 (6E19011-18) Soil									
% Moisture	1.7	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-19 (6E19011-19) Soil									
% Moisture	2.6	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-20 (6E19011-20) Soil									
% Moisture	1.9	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-1 (6E19011-01) Soil									
% Moisture	1.7	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-2 (6E19011-02) Soil									
% Moisture	1.6	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-3 (6E19011-03) Soil									
% Moisture	0.8	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-4 (6E19011-04) Soil									
% Moisture	1.1	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-5 (6E19011-05) Soil									
% Moisture	1.0	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-6 (6E19011-06) Soil									
% Moisture	0.7	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-7 (6E19011-07) Soil									
% Moisture	0.8	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-8 (6E19011-08) Soil									
% Moisture	1.0	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-9 (6E19011-09) Soil									
% Moisture	2.6	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-10 (6E19011-10) Soil									
% Moisture	2.2	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	
SP-11 (6E19011-11) Soil									
% Moisture	0.8	0.1	%	1	EE62210	05/19/06	05/22/06	% calculation	

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Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-18 (6E19011-18) Soil									
Carbon Ranges C12-C28	4230	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C28-C35	446	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	5800	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		118 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		121 %	70-130		"	"	"	"	
SP-19 (6E19011-19) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62422	05/24/06	05/25/06	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		101 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	J [5.58]	10.0	"	"	"	"	"	"	J
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		102 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		107 %	70-130		"	"	"	"	
SP-20 (6E19011-20) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62422	05/24/06	05/25/06	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		97.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.8 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		130 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		129 %	70-130		"	"	"	"	

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

Project: South Mattix
Project Number: 2000-10410
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:
05/26/06 08:59

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SP-16 (6E19011-16) Soil

Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		99.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		105 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		110 %	70-130		"	"	"	"	

SP-17 (6E19011-17) Soil

Benzene	J [0.0117]	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	EPA 8021B	J
Toluene	0.216	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.944	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.83	0.0250	"	"	"	"	"	"	
Xylene (o)	0.191	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		120 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		155 %	80-120		"	"	"	"	S-04
Carbon Ranges C6-C12	1020	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	3410	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	335	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	4760	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		112 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		118 %	70-130		"	"	"	"	

SP-18 (6E19011-18) Soil

Benzene	ND	0.0250	mg/kg dry	25	EE62422	05/24/06	05/25/06	EPA 8021B	
Toluene	0.240	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.833	0.0250	"	"	"	"	"	"	
Xylene (p/m)	2.46	0.0250	"	"	"	"	"	"	
Xylene (o)	0.274	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		110 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		144 %	80-120		"	"	"	"	S-04
Carbon Ranges C6-C12	1120	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	

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Project: South Mattix
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Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-13 (6E19011-13) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		96.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		102 %	70-130		"	"	"	"	
SP-14 (6E19011-14) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		98.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	81.7	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	12.9	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	94.6	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		103 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	70-130		"	"	"	"	
SP-15 (6E19011-15) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		99.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		102 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		107 %	70-130		"	"	"	"	

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Project: South Mattix
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Project Manager: Camille Reynolds

Fax: (432) 687-4914

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Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-11 (6E19011-11) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		106 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	276	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	3730	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	416	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	4420	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		114 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		115 %	70-130		"	"	"	"	
SP-12 (6E19011-12) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		102 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	97.0	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	18.5	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	116	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		109 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		115 %	70-130		"	"	"	"	
SP-13 (6E19011-13) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		97.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	

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

Project: South Mattix
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Project Manager: Camille Reynolds

Fax: (432) 687-4914

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-8 (6E19011-08) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		113 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		117 %	70-130		"	"	"	"	
SP-9 (6E19011-09) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		102 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		107 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		113 %	70-130		"	"	"	"	
SP-10 (6E19011-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		108 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	50.0	mg/kg dry	5	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	232	50.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	50.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	232	50.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		19.7 %	70-130		"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		21.0 %	70-130		"	"	"	"	S-06

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1301 S. County Road 1150
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Project: South Mattix
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-6 (6E19011-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		109 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		98.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	70-130		"	"	"	"	
SP-7 (6E19011-07) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		108 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		101 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		107 %	70-130		"	"	"	"	
SP-8 (6E19011-08) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		107 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-3 (6E19011-03) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		102 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		107 %	70-130		"	"	"	"	
SP-4 (6E19011-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		110 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		100 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		105 %	70-130		"	"	"	"	
SP-5 (6E19011-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		104 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62209	05/22/06	05/24/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		106 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		112 %	70-130		"	"	"	"	

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 3 of 18

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

Project: South Mattix
Project Number: 2000-10410
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:
05/26/06 08:59

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP-1 (6E19011-01) Soil									
Benzene	J [0.0174]	0.0250	mg/kg dry	25	EE62308	05/23/06	05/23/06	EPA 8021B	J
Toluene	J [0.0177]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	0.0365	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0627	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		104 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	400	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	56.0	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	456	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		97.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	70-130		"	"	"	"	
SP-2 (6E19011-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/23/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0414	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.102	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0584	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		104 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		163 %	80-120		"	"	"	"	S-04
Carbon Ranges C6-C12	279	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	
Carbon Ranges C12-C28	2350	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	259	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	2890	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		109 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		115 %	70-130		"	"	"	"	
SP-3 (6E19011-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE62308	05/23/06	05/24/06	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		114 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62208	05/22/06	05/23/06	EPA 8015M	

Environmental Lab of Texas

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Page 2 of 18

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

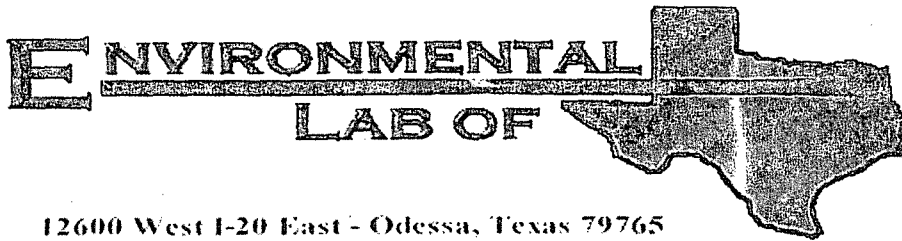
Project: South Mattix
Project Number: 2000-10410
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:
05/26/06 08:59

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-1	6E19011-01	Soil	05/18/06 09:55	05/19/06 12:35
SP-2	6E19011-02	Soil	05/18/06 10:05	05/19/06 12:35
SP-3	6E19011-03	Soil	05/18/06 10:15	05/19/06 12:35
SP-4	6E19011-04	Soil	05/18/06 10:25	05/19/06 12:35
SP-5	6E19011-05	Soil	05/18/06 10:35	05/19/06 12:35
SP-6	6E19011-06	Soil	05/18/06 10:45	05/19/06 12:35
SP-7	6E19011-07	Soil	05/18/06 10:55	05/19/06 12:35
SP-8	6E19011-08	Soil	05/18/06 11:05	05/19/06 12:35
SP-9	6E19011-09	Soil	05/18/06 11:15	05/19/06 12:35
SP-10	6E19011-10	Soil	05/18/06 11:25	05/19/06 12:35
SP-11	6E19011-11	Soil	05/18/06 11:35	05/19/06 12:35
SP-12	6E19011-12	Soil	05/18/06 11:45	05/19/06 12:35
SP-13	6E19011-13	Soil	05/18/06 11:55	05/19/06 12:35
SP-14	6E19011-14	Soil	05/18/06 12:45	05/19/06 12:35
SP-15	6E19011-15	Soil	05/18/06 12:55	05/19/06 12:35
SP-16	6E19011-16	Soil	05/18/06 13:05	05/19/06 12:35
SP-17	6E19011-17	Soil	05/18/06 13:15	05/19/06 12:35
SP-18	6E19011-18	Soil	05/18/06 13:25	05/19/06 12:35
SP-19	6E19011-19	Soil	05/18/06 13:35	05/19/06 12:35
SP-20	6E19011-20	Soil	05/18/06 13:45	05/19/06 12:35



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: South Mattix

Project Number: 2000-10410

Location: UL-G, Sec. 15, T 24 S, R 37 E

Lab Order Number: 6E19011

Report Date: 05/26/06

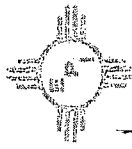
Environmental Plus, Inc.

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

P.O. Box 1558, Eunice, NM 88231

Chain of Custody Form

LAB: Analysis

Company Name Environmental Plus, Inc.		EPI to		ANALYSIS REQUEST	
EPI Project Manager Jason Stegemoller		 Attn: David P. Duncan PO Box 1558, Eunice, NM 88231			
Mailing Address P.O. BOX 1558					
City, State, Zip Eunice New Mexico 88231					
EPI Phone/Fax# 505-394-3481 / 505-394-2601					
Client Company Plains Pipeline					
Facility Name South Mattix					
Location UL-G, Sec. 15, T 24 S, R 37 E					
Project Reference 2000-10410					
EPI Sampler Name Jacob Melancon					
LAB I.D.	SAMPLE I.D.				
189663	MW-1				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Sampler Relinquished: <i>Jan 26</i>		Received By: <i>M. Helton</i>		E-mail results to: jstegemoller@envplus.net and creynolds@paalp.com	
Relinquished by: <i>Jan 26</i>		Received By: (lab staff)		REMARKS:	
Date 12-22-06		Time 12:00		Sample Cool & Intact Yes ☒ No ☐	
Delivered by: <i>Jan 26</i>		Checked By: <i>mg</i>			

Client: Environmental Plus, Inc.
Attn: Jason Stegemoller

Project ID: 2000-10410
Sample Name: MW-1

Report#/Lab ID#: 189663
Sample Matrix: water

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limits	Date Analyzed	Data Qualifiers
1,2-Dichloroethane-d4	8260b	98.4	70-130	12/27/06	---
Toluene-d8	8260b	101	80-125	12/27/06	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Client: Environmental Plus, Inc.
Attn: Jason Stegemoller
Address: PO Box 1558
Eunice NM 88231
Phone: 505-394-3481 **FAX:** 505-394-2601

Report#/Lab ID#: 189663 **Report Date:** 12/27/06
Project ID: 2000-10410
Sample Name: MW-1
Sample Matrix: water
Date Received: 12/26/2006 **Time:** 12:00
Date Sampled: 12/22/2006 **Time:** 07:45

REPORT OF ANALYSIS

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual. ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
Volatile organics-8260b/BTEX	---		---		12/27/06	8260b(5030/5035)	---	---	---	---	---
Benzene	<1	µg/L	1	<1	12/27/06	8260b	---	3.1	96.3	95.9	94.8
Ethylbenzene	<1	µg/L	1	<1	12/27/06	8260b	---	0	109.6	109.6	109
m,p-Xylenes	<2	µg/L	2	<2	12/27/06	8260b	---	0.2	102.4	102.8	102.8
o-Xylene	<1	µg/L	1	<1	12/27/06	8260b	---	3.5	110.8	111.9	110.8
Toluene	<1	µg/L	1	<1	12/27/06	8260b	---	1.1	90.8	84.1	88.2

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Respectfully Submitted,

Amy C. Hurd

A. C. Hurd, Technical Director (or designee)

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than (" $<$ ") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL, B = Analyte detected in associated method blank(s), S & SI = MS and/or MSD recovery exceed advisory limits, S2 = Post digestion spike (PDS) recovery exceeds advisory limit, S3 = MS and/or MSD and PDS recoveries exceed advisory limits, P = Precision higher than advisory limit, M = Matrix interference.

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

LAB: Analysis

Company Name Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST									
EPI Project Manager Jason Stegemoller													
Mailing Address P.O. BOX 1558													
City, State, Zip Eunice New Mexico 88231													
EPI Phone#/Fax# 505-394-3481 / 505-394-2601													
Client Company Plains Pipeline													
Facility Name South Mattix													
Location UL-G, Sec. 15, T 24 S, R 37 E													
Project Reference 2000-10410													
EPI Sampler Name Jacob Melancon													

LAB I.D.	SAMPLE I.D.	(G) RAB OR (C) OMP.	# CONTAINERS	GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (CI)	SULFATES (SO ₄)	PH	TCLP	OTHER >>	PAH
188360	1 MW-1	G	3	X						X	X		21-Nov-06	7:10	X							
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Sampler Relinquished:	Date	11-30	Received By:	Field EX
	Time			
Relinquished by:	Date		Received By: (lab staff)	12-2-00 (xxx)
	Time			
Delivered by:	Sample Cool & Intact		Checked By:	
	(Yes) No		M. Melancon ASI	

REMARKS: T66°C

E-mail results to: jstegemoller@envplus.net and creynolds@paalp.com

Exceptions Report:

Report #/Lab ID#: 188860 **Matrix:** water
Client: Environmental Plus, Inc. **Attn:** Jason Stegemoller
Project ID: 2000-10410
Sample Name: MW-1

Sample Temperature/Condition: <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

Sample Bottles & Preservation:

- ☒ Sample received in appropriate container(s) and appear to be appropriately preserved.
☐ Sample received in appropriate container(s). State of sample preservation unknown.
☐ Sample received in inappropriate container(s) and/or with unknown state of preservation.

J flag Discussion:

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Volatile organics 8260b/BTEX	H	Hold time for this parameter exceeded. Sample received from client with insufficient time to assure completion within hold-time.
Benzene	J	See J-flag discussion above.

Notes:

Client: Environmental Plus, Inc. Attn: Jason Stegemoller	Project ID: 2000-10410 Sample Name: MW-1	Report#/Lab ID#: 188860 Sample Matrix: water
---	---	---

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limits	Date Analyzed	Data Qualifiers
1,2-Dichloroethane-d4	8260b	94.1	70-130	12/06/06	---
Toluene-d8	8260b	104	80-125	12/06/06	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Client: Environmental Plus, Inc.
Attn: Jason Stegemoller
Address: PO Box 1558
Eunice NM 88231
Phone: 505-394-3481 **FAX:** 505-394-2601

Report#/Lab ID#: 188860 **Report Date:** 12/06/06
Project ID: 2000-10410
Sample Name: MW-1
Sample Matrix: water
Date Received: 12/02/2006 **Time:** 10:00
Date Sampled: 11/21/2006 **Time:** 07:10

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA 1

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual. ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
Volatile organics-8260b/BTEX	---		---		12/06/06	8260b(5030/5035)	---	---	---	---	---
Benzene	<1	µg/L	1	<1	12/06/06	8260b	J	1.2	103.7	100.6	95.9
Ethylbenzene	<1	µg/L	1	<1	12/06/06	8260b	---	1.1	109.4	110.5	104.2
m,p-Xylenes	<2	µg/L	2	<2	12/06/06	8260b	---	1.4	109.3	106.6	104.1
o-Xylene	<1	µg/L	1	<1	12/06/06	8260b	---	1.2	110.9	104.1	105.8
Toluene	<1	µg/L	1	<1	12/06/06	8260b	---	2	106.8	111.5	96.8

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Respectfully Submitted,
Amy C. Hurd
A. C. Hurd, Technical Director (or designee)

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than (" $<$ ") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S & S1 = MS and/or MSD recovery exceed advisory limits. S2 = Post digestion spike (PDS) recovery exceeds advisory limit. S3 = MS and/or MSD and PDS recoveries exceed advisory limits. P = Precision higher than advisory limit. M = Matrix interference.

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

LAB: Analysis

Company Name Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST																	
EPI Project Manager Iain Olness		PLAINS ALL AMERICAN PIPELINE, L.P.		PRESERV.		SAMPLING		TPH 8015M		CHLORIDES (Cl)		SULFATES (SO ₄)		pH		TCLP		OTHER >>		PAH	
Mailing Address P.O. BOX 1558		Attn: ENV Accounts Payable		ACID/BASE		OTHER		DATE		TIME		BTEX 8021B									
City, State, Zip Eunice New Mexico 88231		PO Box 4648,		OTHER:				10-Aug-06		7:30											
EPI Phone#/Fax# 505-394-3481 / 505-394-2601		Houston, TX 77210-4648		SLUDGE																	
Client Company Plains Pipeline				CRUDE OIL																	
Facility Name South Mattix				SOIL																	
Location UL-G, Sec. 15, T 24 S, R 37 E				WASTEWATER																	
Project Reference 2000-10410				GROUND WATER																	
EPI Sampler Name Jacob Melancon				# CONTAINERS																	
				(G) RAB OR (C) OMP.																	
LAB I.D.		SAMPLE I.D.		4		X															
1841671		MW-1																			
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Sampler Relinquished:

Date: 8-15-06
 Time: 14:30
 Received By: (lab staff) 8-16-06 aisc
 Signature: *Jason Stegmann*

Relinquished by:

Date: 8-15-06
 Time: 14:30
 Received By: (lab staff) 8-16-06 aisc
 Signature: *Matthew A. Stegmann*

Received By: (lab staff) 8-16-06 aisc

Delivered by:

Sample Cool & Intact
 Yes No

Checked By:

E-mail results to: jstegemoller@envplus.net and creynolds@paalp.com

REMARKS:

T-40°C

Exceptions Report:

Report #/Lab ID#: 184167 Matrix: water
Client: Environmental Plus, Inc. Attn: Iain Olness
Project ID: 2000-10410
Sample Name: MW-1

Sample Temperature/Condition: <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

Sample Bottles & Preservation:

- ☒ Sample received in appropriate container(s) and appear to be appropriately preserved.
☐ Sample received in appropriate container(s). State of sample preservation unknown.
☐ Sample received in inappropriate container(s) and/or with unknown state of preservation.

J flag Discussion:

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
o-Xylene	J	See J-flag discussion above.

Notes:

Client: Environmental Plus, Inc.	Project ID: 2000-10410	Report#/Lab ID#: 184167
Attn: Iain Olness	Sample Name: MW-1	Sample Matrix: water

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limits	Date Analyzed	Data Qualifiers
1,2-Dichloroethane-d4	8260b	108	70-130	08/19/06	---
Toluene-d8	8260b	98	80-125	08/19/06	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Client: Environmental Plus, Inc.
Attn: Iain Olness
Address: 2100 Ave. O
Euinee, NM 88231
Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report# / Lab ID#: 184167 **Report Date:** 08/21/06
Project ID: 2000-10410
Sample Name: MW-1
Sample Matrix: water
Date Received: 08/16/2006 **Time:** 08:30
Date Sampled: 08/10/2006 **Time:** 07:30

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA 1

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual. ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
Volatile organics-8260b/BTEX	---		---		08/19/06	8260b(5030/5035)	---	---	---	---	---
Benzene	<1	µg/L	1	<1	08/19/06	8260b	---	5.3	98.4	91.5	96.6
Ethylbenzene	<1	µg/L	1	<1	08/19/06	8260b	---	12.3	109.8	101.3	105.9
m,p-Xylenes	<2	µg/L	2	<2	08/19/06	8260b	---	11.1	109.1	100.6	105.7
o-Xylene	<1	µg/L	1	<1	08/19/06	8260b	J	6.7	107.6	101.8	108.8
Toluene	<1	µg/L	1	<1	08/19/06	8260b	---	5.8	104.8	95.6	102.9

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2003, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,



Richard Elton

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S & SI = MS and/or MSD recovery exceed advisory limits. S2 = Post digestion spike (PDS) recovery exceeds advisory limit. S3 = MS and/or MSD and PDS recoveries exceed advisory limits. P = Precision higher than advisory limit. M = Matrix interference.

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

LAB: Analysis

Company Name Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST																									
EPI Project Manager Iain Olness		Attn: ENV Accounts Payable PO Box 4648, Houston, TX 77210-4648		PRESERV.		SAMPLING		DATE		TIME		BTX 8021B		TPH 8015M		CHLORIDES (Cl)		SULFATES (SO ₄)		pH		TCLP		OTHER >>>		PAH			
Mailing Address P.O. BOX 1558				MATRIX				OTHER:		ACID/BASE		ICE/COOL		OTHER															
City, State, Zip Eunice New Mexico 88231				GROUND WATER		WASTEWATER		SOIL		CRUDE OIL		SLUDGE																	
EPI Phone#/Fax# 505-394-3481 / 505-394-2601				# CONTAINERS		4		(G)RAB OR (C)OMP.																					
Client Company Plains Pipeline																													
Facility Name South Mattix																													
Location UL-G, Sec. 15, T 24 S, R 37 E																													
Project Reference 2000-10410																													
EPI Sampler Name Jacob Melancon																													
LAB I.D.		SAMPLE I.D.																											
1807561 MW-1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													

Sampler Relinquished:		Received By:	
Date: 25 May 06 Time: 1630		Date: 25 May 06 Time: 1455	
Relinquished by: <i>Jain Olness</i>		Received By: (lab staff) <i>Manning ASI</i>	
Delivered by:		Sample Cool & Intact Yes ☐ No ☐	
		Checked By:	
		5-26-06 14:55 T: 5.6°C	

E-mail results to: iolness@envplus.net and creynolds@paalp.com

REMARKS:

Exceptions Report:

Report #/Lab ID#: 180756 Matrix: water

Client: Environmental Plus, Inc. Attn: Iain Olness

Project ID: 2000-10410

Sample Name: MW-1

Sample Temperature/Condition: <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

Sample Bottles & Preservation:

- ☒ Sample received in appropriate container(s) and appear to be appropriately preserved.
- ☐ Sample received in appropriate container(s). State of sample preservation unknown.
- ☐ Sample received in inappropriate container(s) and/or with unknown state of preservation.

J flag Discussion:

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Benzene	J	See J-flag discussion above.
Ethylbenzene	J	See J-flag discussion above.
m,p-Xylenes	J	See J-flag discussion above.
o-Xylene	J	See J-flag discussion above.

Notes:



3512 Montopolis Drive, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 385-5886 FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Iain Olness

Project ID: 2000-10410
Sample Name: MW-1

Report#/Lab ID#: 180756
Sample Matrix: water

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limits	Date Analyzed	Data Qualifiers
1,2-Dichloroethane-d4	8260b	104	70-130	05/31/06	---
Toluene-d8	8260b	94.1	80-125	05/31/06	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Client: Environmental Plus, Inc.
Attn: Ian Olness
Address: 2100 Ave. O
Eunice, NM 88231
Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 180756 **Report Date:** 06/01/06
Project ID: 2000-10410
Sample Name: MW-1
Sample Matrix: water
Date Received: 05/26/2006 **Time:** 14:55
Date Sampled: 05/24/2006 **Time:** 09:45

REPORT OF ANALYSIS

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual. ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
Volatile organics-8260b/BTEX	---		---		05/31/06	8260b(5030/5035)	---	---	---	---	---
Benzene	<1	µg/L	1	<1	05/31/06	8260b	J	0.8	86.2	98.6	92.4
Ethylbenzene	<1	µg/L	1	<1	05/31/06	8260b	J	0.3	98.7	101.8	95.9
m,p-Xylenes	<2	µg/L	2	<2	05/31/06	8260b	J	0.2	98.2	102.4	96.4
o-Xylene	<1	µg/L	1	<1	05/31/06	8260b	J	5.4	103.7	108.8	91.6
Toluene	<1	µg/L	1	<1	05/31/06	8260b	---	4.4	90.7	94.4	89

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2003, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,



Richard Elton

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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

LAB: Analysis

Company Name Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST									
EPI Project Manager Iain Olness		PLAINS ALL AMERICAN PIPELINE, L.P.											
Mailing Address P.O. BOX 1558		Attn: ENV Accounts Payable											
City, State, Zip Eunice New Mexico 88231		PO Box 4648,											
EPI Phone# / Fax# 505-394-3481 / 505-394-2601		Houston, TX 77210-4648											
Client Company Plains Pipeline													
Facility Name South Mattix													
Location UL-G, Sec. 15, T 24 S, R 37 E													
Project Reference 2000-10410													
EPI Sampler Name George Blackburn													

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	MATRIX						PRESERV.		SAMPLING		TPH 8015M	CHLORIDES (Cl)	SULFATES (SO ₄)	PH	TCLP	OTHER >>>	PAH	
			GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE								TIME
1768361	MW-1	4	X						X	X										
1768372	MW-1	2	X						X	X									X	
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Sampler Relinquished: <i>Iain Olness</i>	Date 2/16/06	Received By:
	Time 1630	
Relinquished by:	Date 2/17/06	Received By: (lab staff)
	Time 0830	<i>M. Thompson</i>
Delivered by:	Sample Cool & Intact Yes No Checked By:	

E-mail results to: iolness@envplus.net and creynolds@paalp.com

REMARKS:
T.S.S.C

Exceptions Report:

Report #/Lab ID#: 176837 **Matrix:** water
Client: Environmental Plus, Inc. **Attn:** Iain Olness
Project ID: 2000-10410
Sample Name: MW-1

Sample Temperature/Condition: <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
A/BN Extraction-PAH	H	Hold time for this parameter exceeded by /impEr* days.
A/BN Extraction-PAH	P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Acenaphthylene	P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Benzofg,h,i,lperylene	J	See J-flag discussion above.
Dibenz[a,h]anthracene	J	See J-flag discussion above.
Fluoranthene	P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.
Naphthalene	S,M	MS and/or MSD recoveries outside target recov. limits. LCS recovery in-limits; indicative of potential matrix interference as evidenced by M-flag.
Naphthalene	S,M	Frequently indicative of high level of analyte in sample spiked, masking spike recovery or high spike recovery with no analyte found in sample.
Pyrene	P	The precision of the MS & MSD (or sample and sample duplicate for those analyseswhere MS/MSD are not run) is outside advisory/acceptance limits.

Notes:

Client: Environmental Plus, Inc.	Project ID: 2000-10410	Report#/Lab ID#: 176837
Attn: Iain Olness	Sample Name: MW-1	Sample Matrix: water

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limits	Date Analyze	Data Qualifiers
1-Fluoronaphthalene	610 & 8270c	36	20-120	03/01/06	---
2-Fluorobiphenyl	610 & 8270c	39.2	20-110	03/01/06	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Client: Environmental Plus, Inc.
Attn: Iain Olness
Address: 2100 Ave. O
Eminec, NM 88231
Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 176837 **Report Date:** 03/02/06
Project ID: 2000-10410
Sample Name: MW-1
Sample Matrix: water
Date Received: 02/17/2006 **Time:** 08:30
Date Sampled: 02/15/2006 **Time:** 07:00

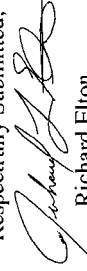
REPORT OF ANALYSIS

QUALITY ASSURANCE DATA 1

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual. ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
A/BN Extraction-PAH	---	---	---	---	02/22/06	3520	---	---	---	---	---
Extractable organics-PAH	---	---	---	---	03/01/06	610 & 8270c	---	---	---	---	---
Acenaphthene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	43	36.8	100.7	50
Acenaphthylene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	P	43	35.9	101.2	49.6
Anthracene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	38.9	35.7	99.2	51.5
Benzofluranthene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	39.1	38.9	97.3	56.9
Benzofluoranthene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	36.3	29.3	102.4	59.7
Benzofluoranthene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	36.3	30.3	104.5	62
Benzofluoranthene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	J	23.8	21.1	109.2	59.4
Benzofluoranthene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	34.1	27.9	102.2	59.4
Benzofluoranthene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	38.6	50.1	98.7	77.8
Chrysene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	J	21.5	23.9	104.5	66.6
Dibenzofluoranthene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	P	43.1	41	97.8	53.8
Fluoranthene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	44.2	31.2	99.7	49.6
Indeno[1,2,3-cd]pyrene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	29.1	22.5	107.1	60.7
Naphthalene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	S,M	39.5	28.5	104.4	48.9
Phenanthrene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	---	39.7	31.8	99.7	50
Pyrene	<0.05	µg/L	0.05	<0.05	03/01/06	610 & 8270c	P	40.7	42.1	101.5	56

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Exceptions Report:

Report #/Lab ID#: 176836 Matrix: water
Client: Environmental Plus, Inc. Attn: Iain Olness
Project ID: 2000-10410
Sample Name: MW-1

Sample Temperature/Condition: $\leq 6^{\circ}\text{C}$

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is $\leq 6^{\circ}\text{C}$. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Benzene	S, M	MS and/or MSD recoveries outside target recov. limits. LCS recovery in-limits; indicative of potential matrix interference as evidenced by M-flag.
Benzene	S, M	Frequently indicative of high level of analyte in sample spiked, masking spike recovery or high spike recovery with no analyte found in sample.
Benzene	J	See J-flag discussion above.
Ethylbenzene	S, M	MS and/or MSD recoveries outside target recov. limits. LCS recovery in-limits; indicative of potential matrix interference as evidenced by M-flag.
Ethylbenzene	S, M	Frequently indicative of high level of analyte in sample spiked, masking spike recovery or high spike recovery with no analyte found in sample.
m,p-Xylenes	J	See J-flag discussion above.

Notes:

Client: Environmental Plus, Inc. Attn: Iain Olness	Project ID: 2000-10410 Sample Name: MW-1	Report#/Lab ID#: 176836 Sample Matrix: water
---	---	---

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limits	Date Analyze	Data Qualifiers
1,2-Dichloroethane-d4	8260b	94.8	76-122	02/22/06	---
Toluene-d8	8260b	101.7	78-117	02/22/06	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Client: Environmental Plus, Inc.

Attn: Iain Olness

Address: 2100 Ave. O

Euinec, NM 88231

Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 176836 **Report Date:** 03/02/06

Project ID: 2000-10410

Sample Name: MW-1

Sample Matrix: water

Date Received: 02/17/2006 **Time:** 08:30

Date Sampled: 02/14/2006 **Time:** 16:15

REPORT OF ANALYSIS

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual. ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
Volatile organics-8260b/BTEX	---	---	---	---	02/22/06	8260b(5030/5035)	---	---	---	---	---
Benzene	<1	µg/L	1	<1	02/22/06	8260b	J,S,M	10.3	Mt. Inf.	106.7	108.3
Ethylbenzene	1.65	µg/L	1	<1	02/22/06	8260b	S,M	6.4	95.1	112.3	116.1
m,p-Xylenes	<2	µg/L	2	<2	02/22/06	8260b	J	4.8	98.4	117.5	114.3
o-Xylene	<1	µg/L	1	<1	02/22/06	8260b	---	3.8	115.7	119.9	NA-
Toluene	<1	µg/L	1	<1	02/22/06	8260b	---	1	101.5	109.5	110.1

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Richard Elton

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APPENDIX C

NMOCD Approval Letter for

Soil Characterization

and

Interim Remediation Plan (January 2006)



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

January 30, 2006

Ms. Camille Reynolds
Plains All American Pipeline, L.P.
3112 West Highway 82
Lovington, NM 88260

RE: Soil Characterization Report and Interim Remediation Plan
Prepared by Environmental Plus, Inc. and Dated January 2006
Plains All American Pipeline, L.P. South Mattix Release Site
Plains Reference 2000-10410 Located in the
SW/4 NE/4 of Section 15, Township 24 South, Range 37 East
NMPM, Lea County New Mexico
NMOCD Reference Number 1R-0091

Dear Ms. Reynolds:

The New Mexico Oil Conservation Division (NMOCD) has reviewed the above plan submitted by Plains All American Pipeline, L.P. (Plains). This plan is hereby approved with the following understandings and conditions:

1. Plains will complete an excavation, five feet below ground surface, in the area outlined in Figure 9 or the plan.
2. Samples will be collected from the sidewalls of such excavation. Such samples shall be analyzed for total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and xylene (BTEX). Sample analyses results shall be submitted to the NMOCD Santa Fe office prior to the installation of any impermeable barrier in the bottom of the excavation or backfilling operations.
3. Upon further approval by the NMOCD, Plains will install an impermeable barrier in the base of the excavation to prevent further migration of contaminants. Material to be used for this barrier shall be proposed in the report referred to in #2 above.
4. Upon further NMOCD approval, Plains will backfill the excavation with clay and caliche.
5. Groundwater monitoring shall continue at this site.

If you have any questions, contact me at (505) 476-3492 or ed.martin@state.nm.us

NEW MEXICO OIL CONSERVATION DIVISION

Edwin E. Martin
Environmental Bureau

Copy: Iain Olness, EPI

APPENDIX D

NMOCD Final C-141 Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised March 17, 1999

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Plains All American Pipeline		Contact: Camille Reynolds	
Address: 3112 W. Hwy 82, Lovington, NM 88260		Telephone No.: 505-396-3341	
Facility Name: South Mattix #2000-10410		Facility Type: Crude oil pump sump	
Surface Owner: Grobe		Mineral Owner:	Lease No.:

LOCATION OF RELEASE

Unit Letter G	Section 15	Township T24S	Range R37E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea
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Latitude: N32° 13' 01.19" **Longitude:** W103° 08' 57.1"

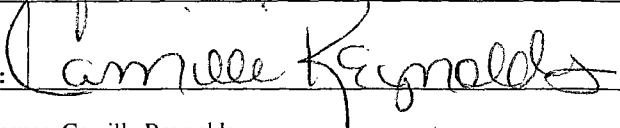
NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: unknown	Volume Recovered: 0 barrels
Source of Release: Crude oil pump & sump	Date and Hour of Occurrence: Historical	Date and Hour of Discovery: December 2000
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required		If YES, To Whom?
By Whom? NA	Date and Hour: NA	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse: NA	
If a Watercourse was Impacted, Describe Fully:* NA		

Describe Cause of Problem and Remedial Action Taken:*
Historical crude oil pump & sump leaks

Describe Area Affected and Cleanup Action Taken:* Impacted area of ~656-sq. ft. (20' x 30'). Remedial Goals: TPH 8015m = 1,000 mg/Kg for soil from the surface to 40'bgs & 100 mg/Kg for soil from 40'bgs to 90'bgs, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg. Approximately 1,176 yd³ was excavated from an area of approximately 2,900-sq. ft. to a depth of 5-feet bgs and transported to Plains' Lea Station Landfarm for treatment. A 2-foot thick, impermeable, compacted clay barrier was placed in the excavation floor to isolate residual subsurface hydrocarbon impacted soils. The excavation was then backfilled with clean caliche and graded to promote natural drainage. Quarterly groundwater monitoring and groundwater laboratory analyses has indicated no PSH, as well as BTEX and PAH concentrations below hydrocarbon groundwater remedial goals for 8 consecutive quarters.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Camille Reynolds		Approved by District Supervisor:	
E-mail Address: CJReynolds@paalp.com		Approval Date:	Expiration Date:
Title: Remediation Coordinator		Conditions of Approval:	Attached ☐
Date: Phone: 505-396-3341			

* Attach Additional Sheets If Necessary