GW - 351

GW

REPORTS

YEAR(S):

2011

2011 ANNUAL MONITORING REPORT

RECEIVED

APR 2 2012

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

LEA STATION
PLAINS REF: 2003-00339
(COMPANY # 231735)

NW¼ OF SECTION 28, T20S, R37E
~9.5 MILES NORTH-NORTHWEST OF
EUNICE, LEA COUNTY, NEW MEXICO
LATITUDE: N32° 32' 51.3" LONGITUDE: W103° 15' 37.0"

MARCH 2012

PREPARED BY:
ENVIRONMENTAL PLUS, INC.
P.O. BOX 1558
2100 AVENUE O
EUNICE, NEW MEXICO 88231

PREPARED FOR:

PLAINS
ALL AMERICAN

PLAINS
ALL AMERICAN

March 29, 2012

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APR 2 2012

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

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

Re: Plains All American – 2011 Annual Monitoring Report
1 Site in Lea County, New Mexico

Dear Mr. Hansen:

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 an Annual Monitoring report for the following site:

Lea Station GW-351 Section 28, Township 20 South, Range 37 East, Lea County

Environmental Plus, Inc. (EPI) prepared this document and has vouched for its accuracy and completeness, and on behalf of Plains All American, I have personally reviewed the document and interviewed EPI personnel in order to verify the accuracy and completeness of the report. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Report for the above facility.

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

Sincerely,

Jason Henry

Jason Henry
Remediation Coordinator
Plains All American

CC: Geoff Leking, NMOCD, Hobbs, NM

Enclosures

Distribution List

2011 Annual Monitoring and Soil Closure Report

Plains Pipeline, L.P.

Lea Station (Ref. #2003-00339)

Name	Title	Company or Agency	Mailing Address	e-mail
Edward Hansen	Environmental Engineer	New Mexico Oil Conservation Division – Santa Fe	1120 South St. Francis Drive Santa Fe, NM 87505	edward.hansen@state.nm.us
Geoffrey Leking	Environmental Engineer	New Mexico Oil Conservation Division – Hobbs	1625 North French Drive Hobbs, NM 88240	geoffreyr.leking@state.nm.us
Jeff Dann	Senior Environmental Specialist	Plains All American Pipeline	333 Clay Street, Suite 1600 Houston, TX 77002	jpdann@paalp.com
Jason Henry	Remediation Coordinator	Plains All American Pipeline	2530 State Highway 214 Denver City, Texas 79323	jhenry@paalp.com
File	- -	Environmental Plus, Inc.	P.O. Box 1558 Eunice, NM 88231	dduncanepi@gmail.com

Standard of Care

2011 Annual Monitoring Report

Lea Station
Ref. # 2003-00339

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.

Report was prepared by:

David S Duncan

3-23-12

David P. Duncan
Civil Engineer

Date

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FIGURES

TABLES

APPENDIX

I. Background

Lea Station is located approximately nine (9) miles north-northwest of Eunice in Lea County, New Mexico, at an elevation of approximately 3,495 feet above mean sea level (reference *Figures 1* and *2*). The site is located in the Monument-Jal Oil Field and is utilized as a crude oil pipeline pumping station. There are no residences or surface water bodies within a 1,000-foot radius of the facility. The facility is surrounded by a barbed wire fence and has a locked gate (reference *Figure 3*).

In 1992, Shell Pipeline Corporation (SPLC) retained CURA to establish baseline conditions of the subsurface environment at the site. In December 1992, twelve (12) soil borings were advanced around the site and seven (7) groundwater monitoring wells installed. Analytical results for soil samples collected during this phase of the investigation indicated two general areas of concern (one each in the eastern and western half of the site) were identified as hydrocarbon-impacted areas by elevated total petroleum hydrocarbon (TPH) concentrations in soils [>100 parts per million (ppm)]. Analytical results for groundwater samples collected during this phase of the investigation indicated dissolved phase hydrocarbon contaminants present in five (5) of seven (7) groundwater samples.

Based on these results, an additional four (4) soil borings were advanced with four (4) groundwater monitoring wells installed in September 1993. Results of this and previous phases of the investigation indicated three (3) hydrocarbon-impacted areas present on the site. One is located in the eastern portion, one in the north-central portion and one in the western portion. In addition, phase separated hydrocarbons (PSH) were detected in groundwater monitoring well MW-8. Due to the presence of PSH, extent of hydrocarbon-impacted soil and groundwater, CURA recommended feasibility testing be completed to evaluate soil and groundwater remedial methods for potential implementation at the site.

In September 1994, CURA submitted a *Remediation Plan* to SPLC. The plan consisted of a soil vapor extraction (SVE) and product-only pumping system in the vicinity of groundwater monitoring well MW-8. The *Remediation Plan* included installation of two (2) recovery wells (RW-1 and RW-2), installation of two (2) PSH only pump/air extraction units (one unit each in RW-1 and RW-2), regulatory notification of air emissions, final installation of the system, performance monitoring, operation/maintenance activities and reporting.

In February 1995, a remediation system consisting of SVE with product-only pumping was installed at the west end of the site. The system was designed with high vacuum levels at the wellheads in an effort to induce oil flow towards the wells, as observed during the pilot testing. Recovery of PSH occurred from 1994 to 2003. Currently no PSH is present in this area and the SVE system has been turned off.

Plains assumed responsibility for Lea Station remediation activities in late 2003.

Annual Monitoring Reports submitted to the NMOCD from 2004 through 2010 documented quarterly gauging results, PSH recovery efforts, laboratory analytical results for BTEX and PAH concentrations and recommendations for upgrading sampling of the groundwater monitor well network.

II. Field Activities

Site visits were made monthly throughout 2011 to gauge monitor wells for determining depth to PSH (if present) and groundwater.

Groundwater samples were collected on March 25, June 29, September 30 and December 30, 2011 for laboratory analyses.

III. Groundwater Gradient and PSH Thickness

Prior to purging, monitoring wells were gauged to determine depth to groundwater and thickness of any PSH. Except for minor fluctuations, average groundwater levels have generally risen during recordable years (2003-2011). PSH was non-detectable in groundwater monitoring wells during 2011. A summary of groundwater elevations and PSH thickness is included in *Table 1.*

Based on data collected during the four (4) sampling and twelve (12) gauging events, groundwater is flowing in the southeast direction (reference *Figures 4, 6, 8* and *10*).

IV. PSH Recovery

No appreciable PSH thickness was detected in the groundwater monitoring wells during 2011 gauging and sampling activities. In the past, absorbent booms and hand bailing accomplished recovery of PSH on-site. Approximately 260 gallons of PSH have been recovered to date. However, no recordable volume of PSH was recovered in 2011. A summary of historic PSH recovery is presented in *Table 1.*

V. Groundwater Sampling

Groundwater monitoring wells are sampled on a quarterly basis until analytical results indicate contaminant concentrations are below New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards for eight (8) consecutive quarters. Water samples are submitted to an independent laboratory for quantification of benzene, toluene, ethyl-benzene and total xylenes (BTEX) on a quarterly basis and poly-aromatic hydrocarbons (PAH) on an annual basis. After receipt of analytical results indicating contaminant concentrations below NMWQCC standards for eight (8) consecutive quarters, qualifying groundwater monitoring wells are sampled on an annual basis and water samples submitted for quantification of BTEX, until analytical results for all samples collected from the groundwater monitoring well network are below NMWQCC standards for eight (8) consecutive quarters. Groundwater monitoring wells with quarterly laboratory analytical results below NMWQCC Groundwater Standards for eight (8) consecutive quarters which are not needed to monitor existing contaminant plume may be plugged and abandoned (P&A).

On March 25 and September 30, 2011, groundwater samples collected from monitoring wells MW-1, -2, -3 and MW-11 were submitted to an independent laboratory for quantification of BTEX concentrations.

On June 29 and December 30, 2011, groundwater samples collected from monitoring wells MW-1 through MW-4, MW-7, and MW-9 through MW-12 were submitted to an independent laboratory for quantification of BTEX concentrations.

On December 30, 2011, groundwater samples were also collected from monitoring wells MW-1 through MW-3, MW-7, MW-11 and MW-12 with submittal to an independent laboratory for quantification of PAH constituent concentrations.

VI. Groundwater Analytical Results

Except for MW-1, PSH was not detected in groundwater monitoring wells during sampling events in 2011. MW-1 did display a sheen of PSH on 29 July 2011 of one-hundredth (0.01) foot. However, this may be considered an anomaly as monthly gauging activities for the remaining five (5) months of 2011 did not detect any PSH levels in MW-1. Excluding monitor wells which were not sampled, laboratory analytical data collected from three (3) monitor wells (MW-4, -9 and MW-10) indicated benzene concentrations below NMWQCC Groundwater Standards. Laboratory analytical data collected from six (6) monitor wells (MW-1, -2, -3, -7, -11 and MW-12) indicated benzene concentrations above NMWQCC Groundwater Standards. However, laboratory analytical data collected from all monitor wells indicated accumulative BTEX constituent concentrations below NMWQCC Groundwater Standards.

Summaries of PSH recovery are presented in *Table 1*, BTEX and TPH laboratory analytical results in *Table 2* and PAH laboratory analytical results in *Table 3*. Hence, monitor well analytical results were not expanded on individually, but can be addressed by reviewing the above referenced *Tables*.

Due to voluminous data contained in gauging and analytical tables, only data collected from 2008 – 2011 are presented in *Tables 1 – 3* for this report. Complete tables containing all gauging and laboratory analytical data are included on an attached USB Flash Drive (*Appendix A* and *B*).

VII. Recommendations

Based on field monitoring and laboratory analytical results on groundwater samples collected during 2011 in conjunction with analytical data amassed during the previous fourteen (14) years, the following are recommendations with regards to gauging and sampling protocol for 2012. (summarized in *Table 4*):

1) Gauge all groundwater monitoring wells for water levels and presence of PSH on a monthly basis.

2) Sample groundwater monitoring wells MW-1, -2, -3, -7, -11 and MW-12 on a quarterly basis and submit samples for quantification of BTEX concentrations. In the event PSH is detected during any groundwater sampling event, the monitoring well(s) will (shall) be excluded from quarterly sampling events.

3) Sample groundwater monitoring wells MW-4, -8, -9, -10 and MW-13 on semi-annual basis with submittal of samples for quantification of BTEX. Should analytical results indicate presence of contaminants above NMWQCC Groundwater Standards, sample the impacted well(s) on a quarterly basis for quantification of BTEX constituent concentrations.

4) Based on results of PAH analysis over the past few years, further PAH analysis should be conducted only on those monitor wells (MW-2 and MW-3) which have historically exhibited PAH constituent concentrations near or above NMWQCC Groundwater Standards.

5) Sample groundwater monitoring wells RW-1, RW-2, MW-5 and MW-6 on an annual basis and submit samples for quantification of BTEX concentrations for verification of compliance with NMWQCC Groundwater Standards.

FIGURES

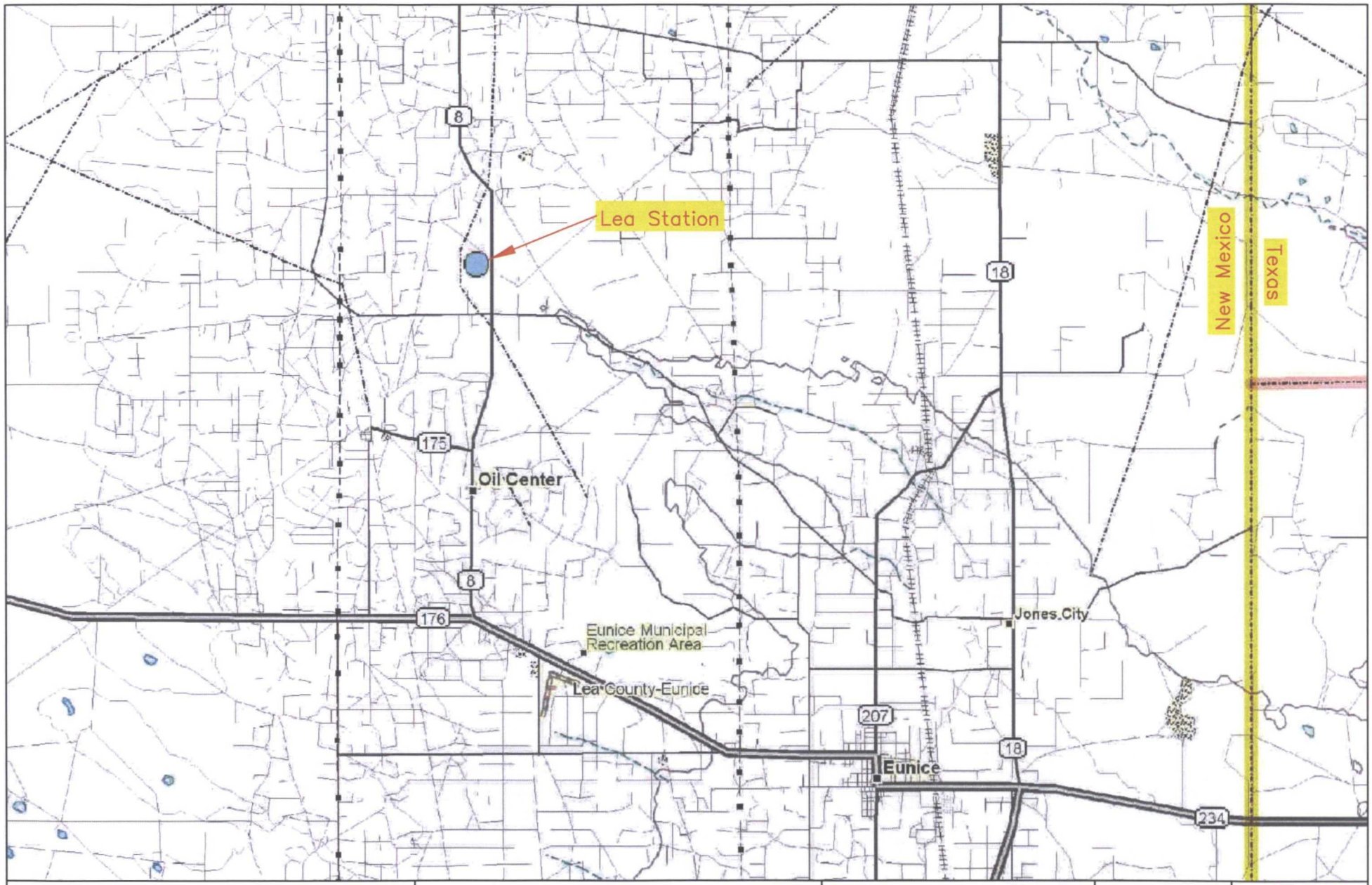

Figure 1
Area Map
Plains All American Pipeline, L.P.
Lea Station

Lea County, New Mexico
NW 1/4, Sec. 28, T20S, R37E
N 32° 32' 51.3" W 103° 15' 37.0"
Elevation: 3,495 feet amsl

DWG By: Iain Olness
February 2005

REVISED:

SHEET
1 of 1

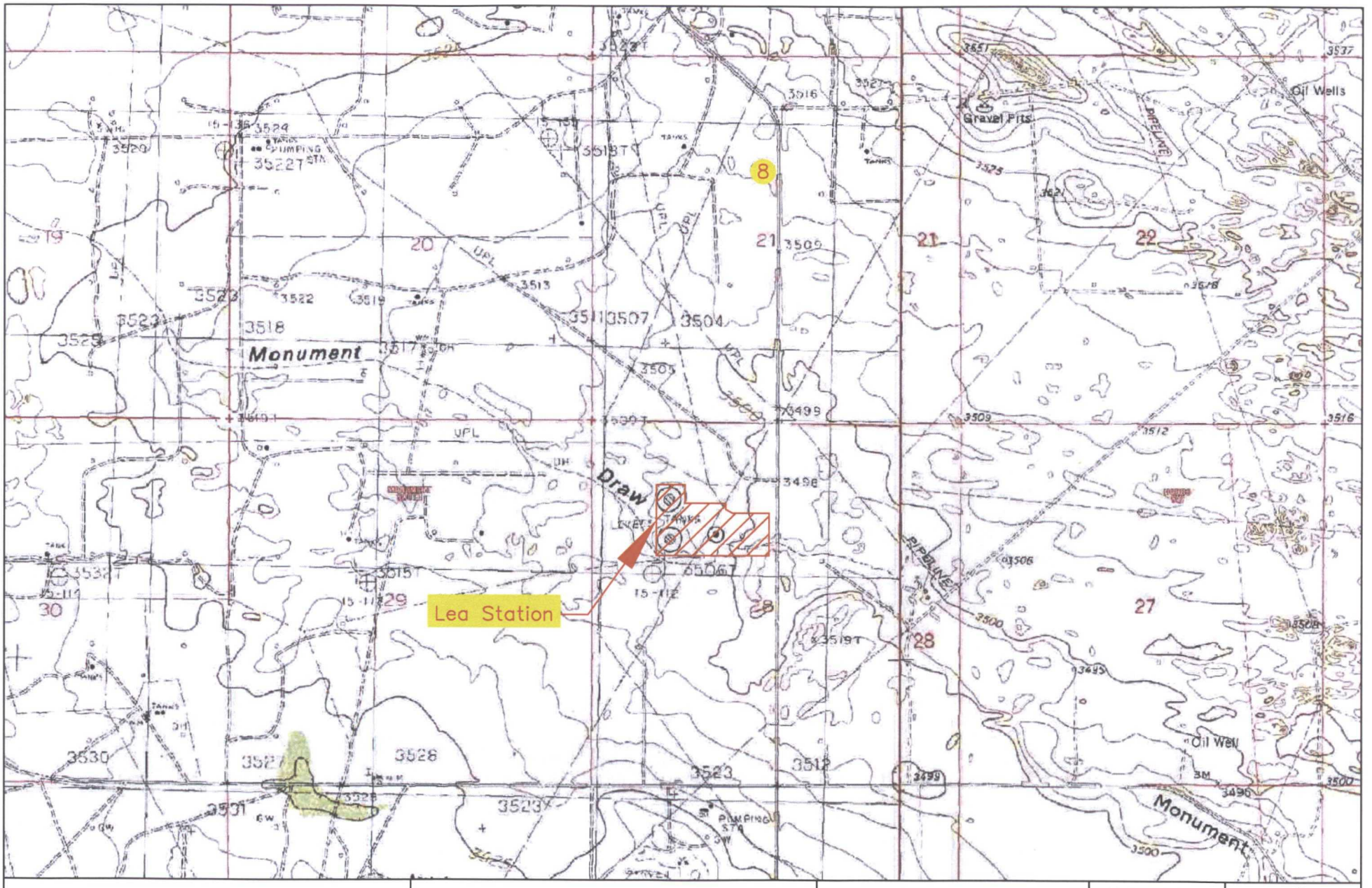

Figure 2 Site Location Map Plains All American Pipeline, L.P. Lea Station	Lea County, New Mexico NW 1/4, Sec. 28, T20S, R37E N 32° 32' 51.3" W 103° 15' 37.0" Elevation: 3,495 feet amsl	DWG By: Iain Olness February 2005	REVISED:	N
		0 230 460 Feet	SHEET 1 of 1	

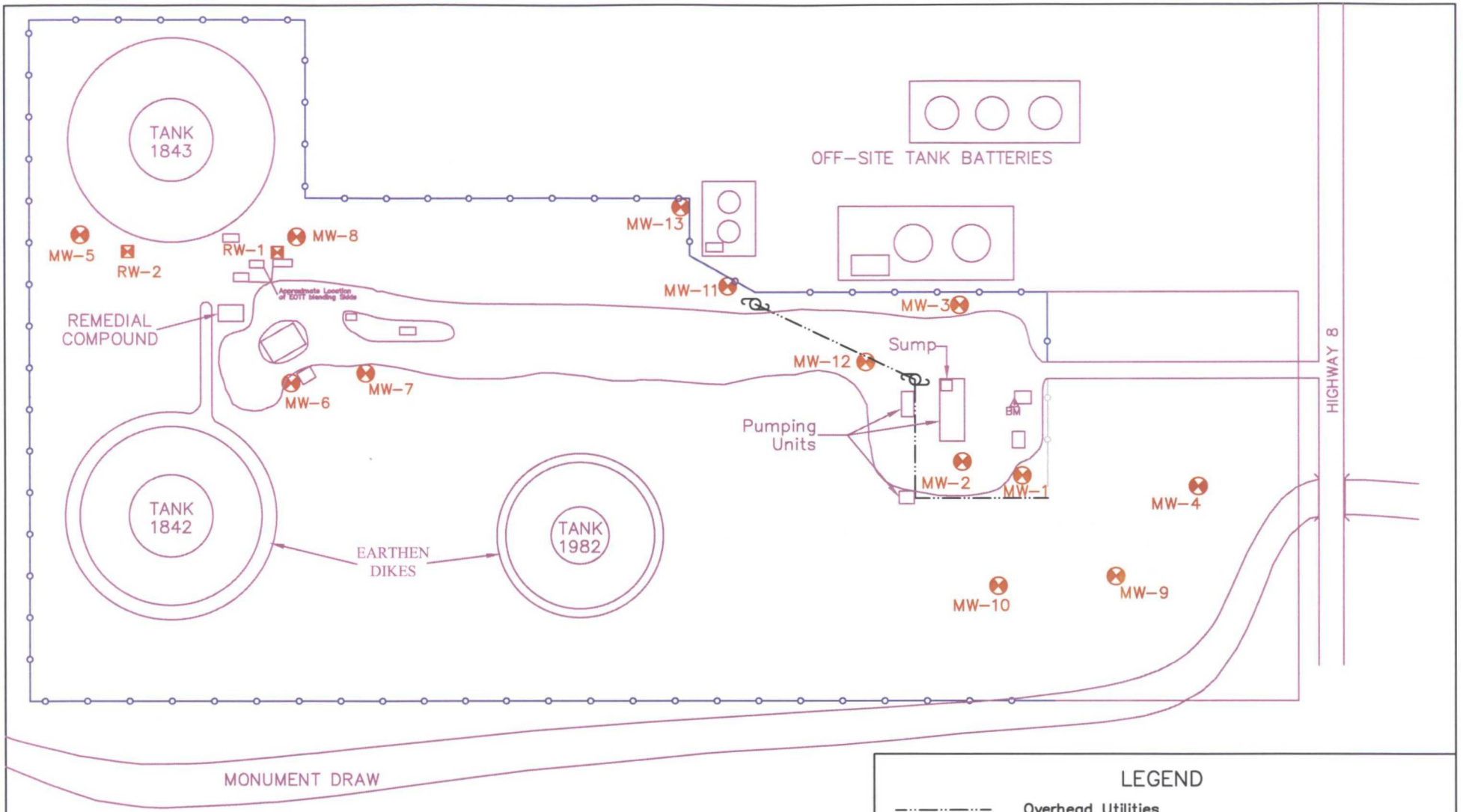

Figure 3 Site Map Plains All American Pipeline, L.P. Lea Station	Lea County, New Mexico NW 1/4, Sec. 28, T20S, R37E N 32° 32' 51.3" W 103° 15' 37.0" Elevation: 3,495 feet amsl	DWG By: Iain Olness February 2004	REVISED: Jan. 2005	SHEET 1 of 1

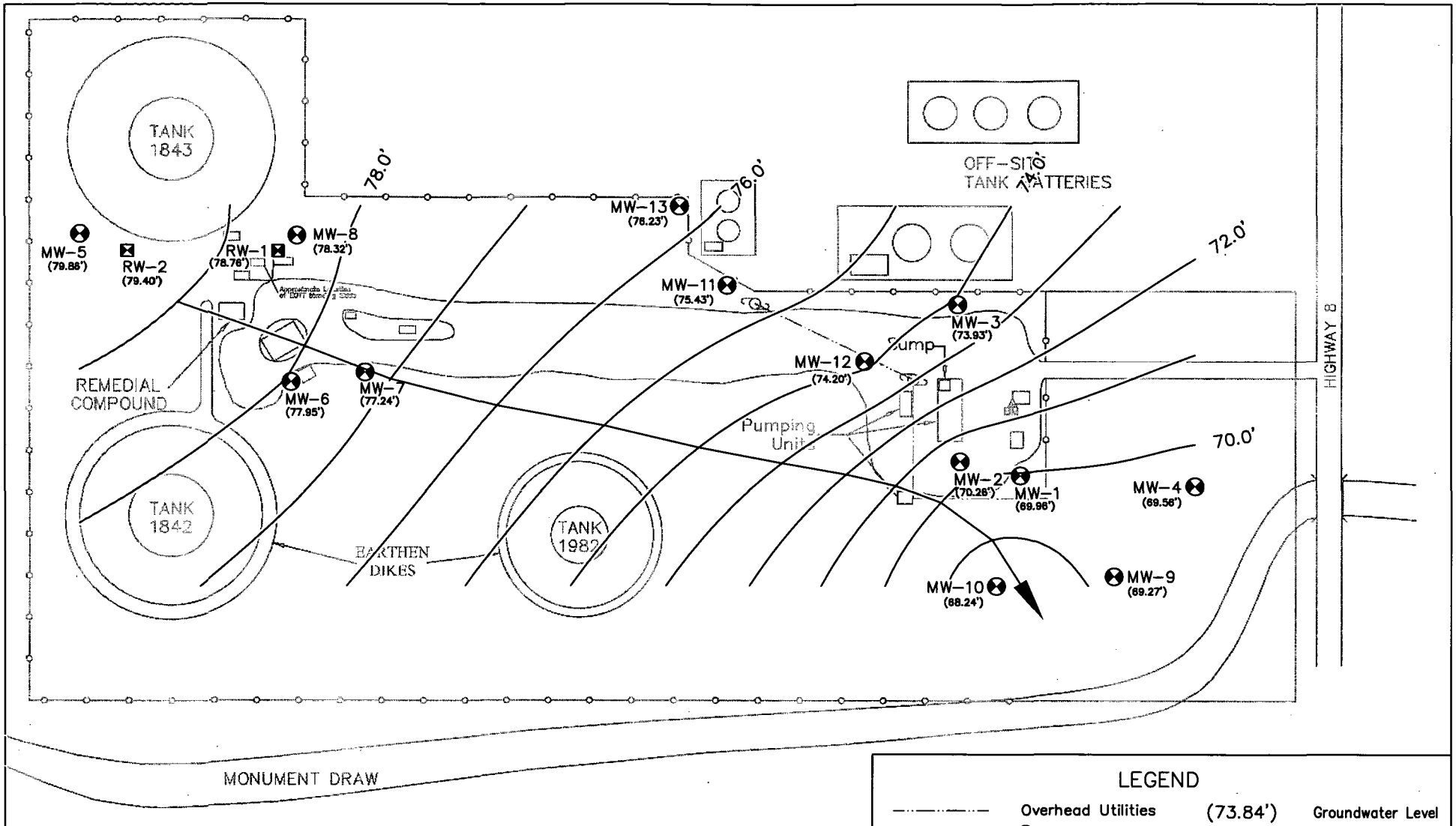

Figure 4 Groundwater Contour Map–3/25/11 Plains All American Pipeline, L.P. Lea Station	Lea County, New Mexico NW 1/4, Sec. 28, T20S, R37E N 32° 32' 51.3" W 103° 15' 37.0" Elevation: 3,495 feet amsl	DWG By: I. Olness February 2005	REVISED: March 2011	SHEET 1 of 1

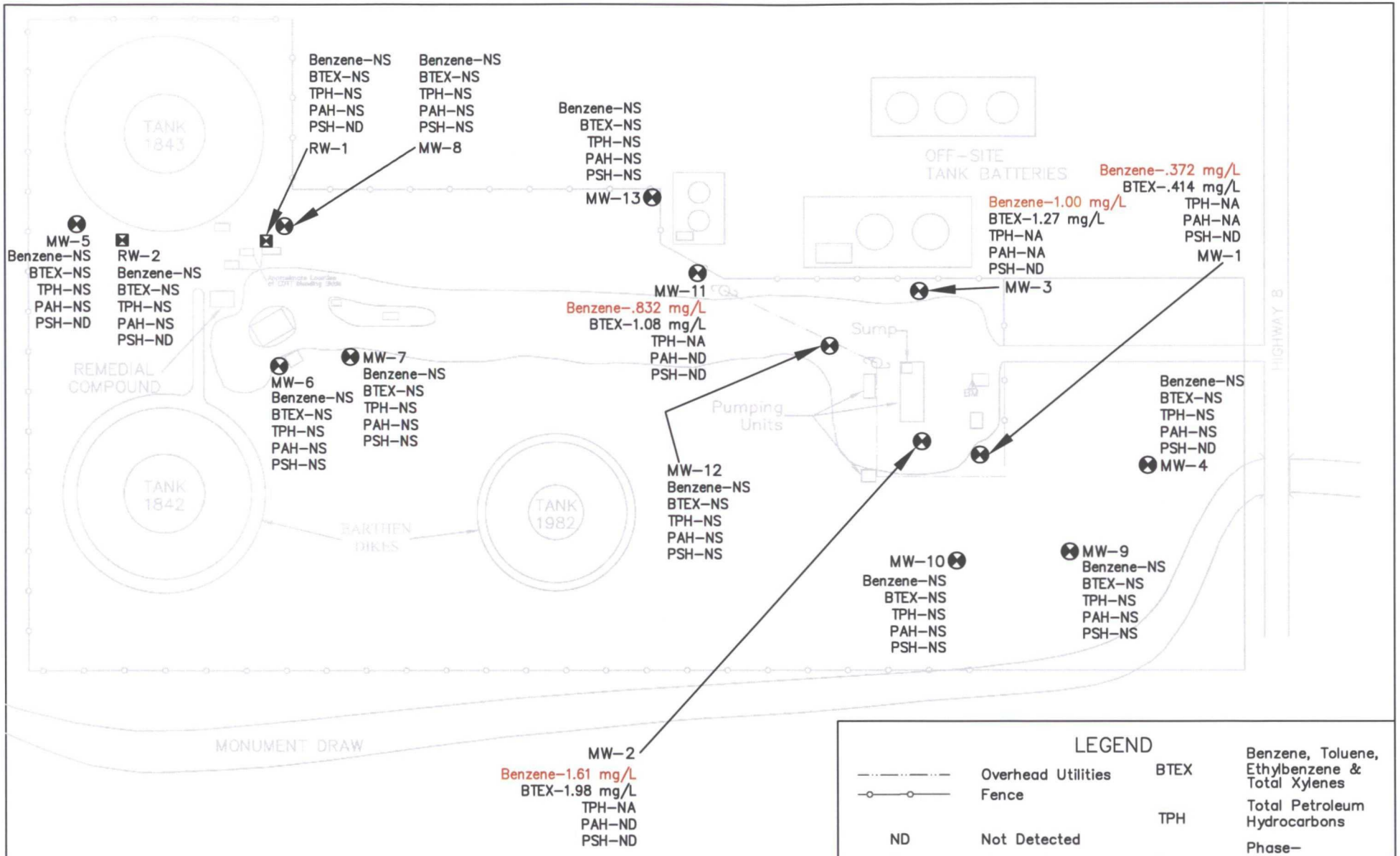

Figure 5
Contaminant Concentration Map–03/25/11
Plains All American Pipeline, L.P.
Lea Station

Lea County, New Mexico
NW 1/4, Sec. 28, T20S, R37E
N 32° 32' 51.3" W 103° 15' 37.0"
Elevation: 3,495 feet amsl

DWG By: I. Olness
February 2005

REVISED:
March 2011

SHEET
1 of 1

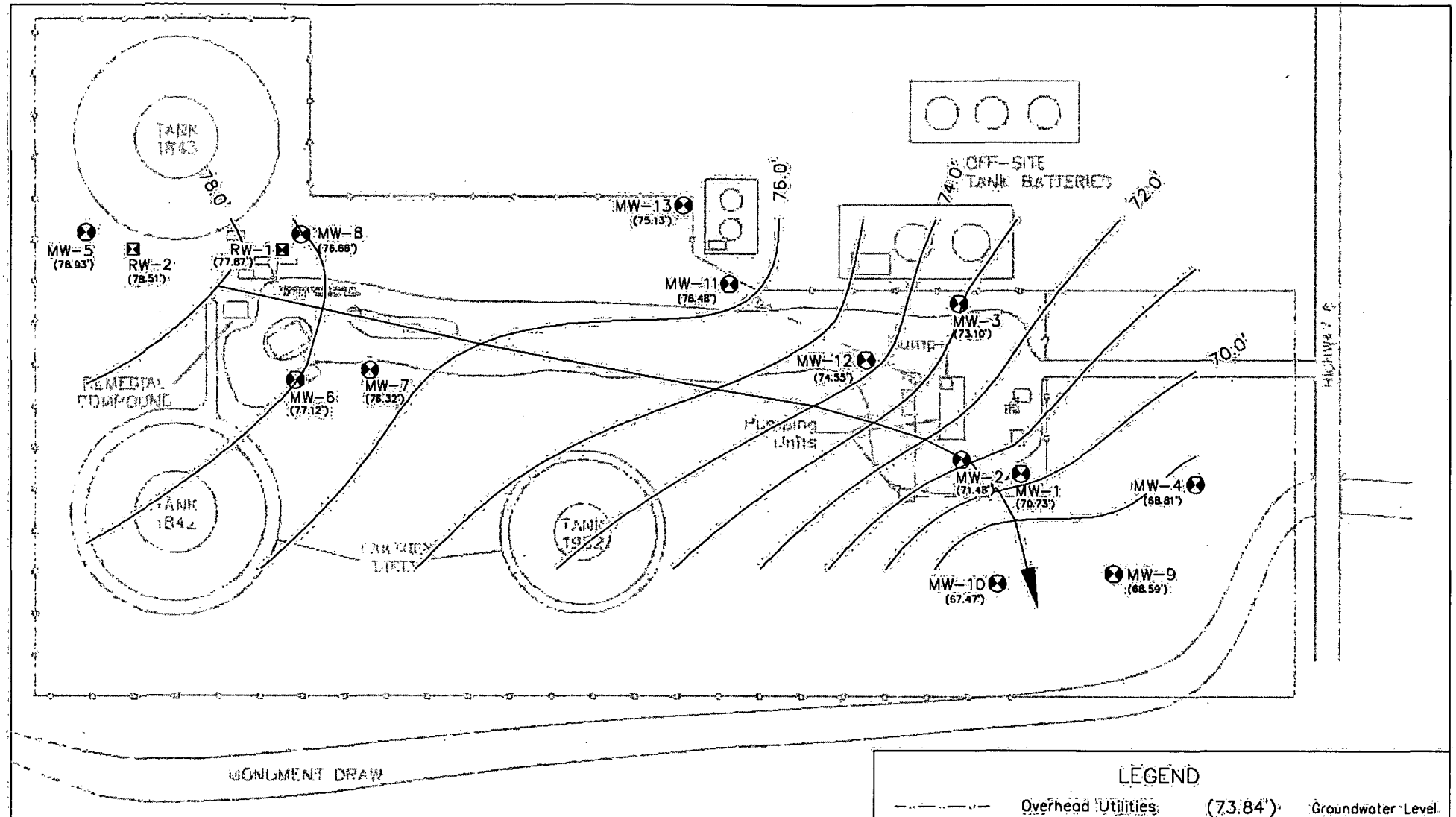

Figure 6 Groundwater Contour Map–6/29/11 Plains All American Pipeline, L.P. Lea Station	Lea County, New Mexico NW 1/4, Sec. 28, T20S, R37E N 32° 32' 51.3" W 103° 15' 37.0" Elevation: 3,495 feet amsl	DWG By: I. Olness February 2005	REVISED: March 2011	N
		0 230 460 Feet	SHEET 1 of 1	

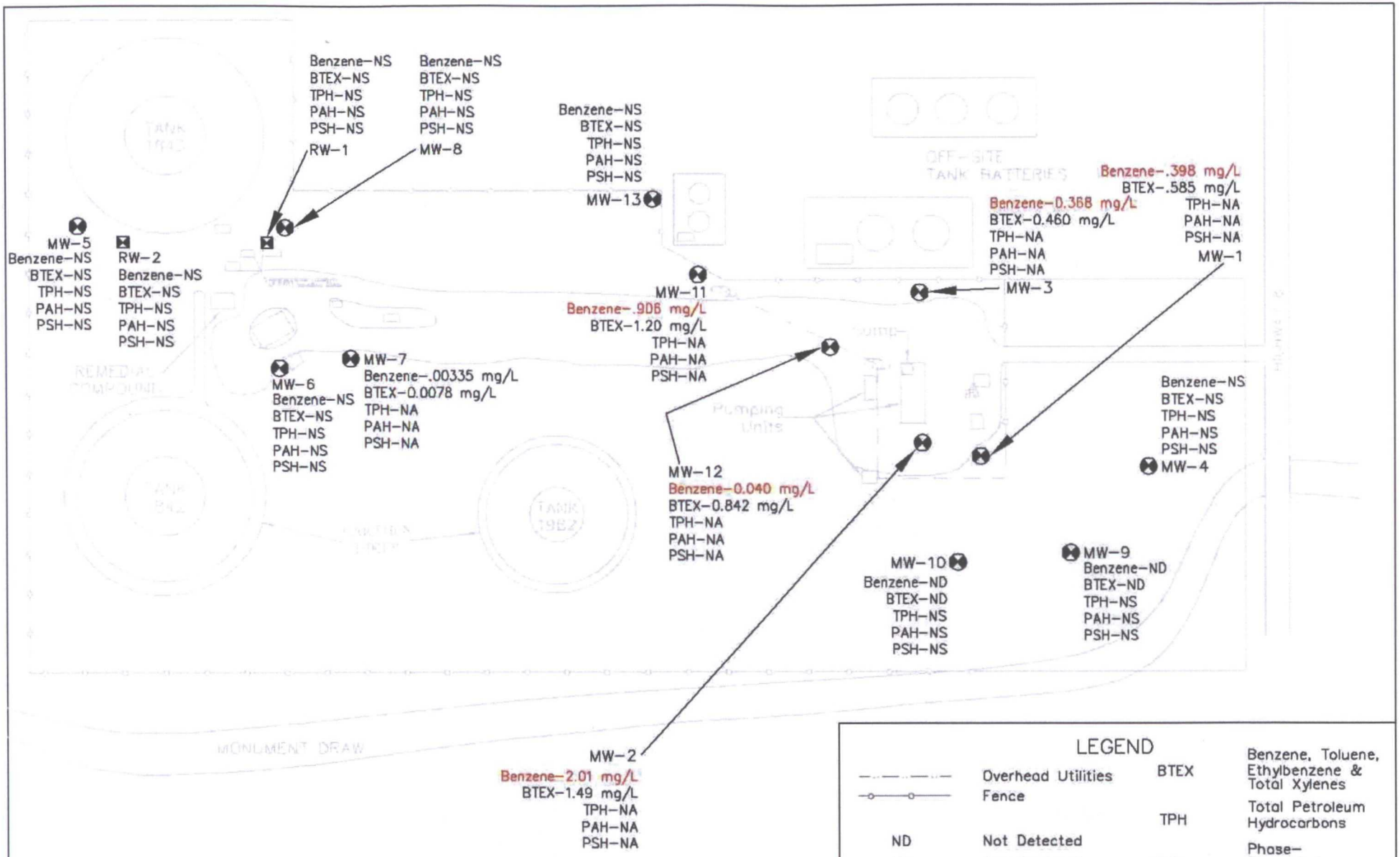

Figure 7
Contaminant Concentration Map–06/29/11
Plains All American Pipeline, L.P.
Lea Station

Lea County, New Mexico
NW 1/4, Sec. 28, T20S, R37E
N 32° 32' 51.3" W 103° 15' 37.0"
Elevation: 3,495 feet amsl

DWG By: I. Olness
February 2005

REVISED:
March 2011

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Feet

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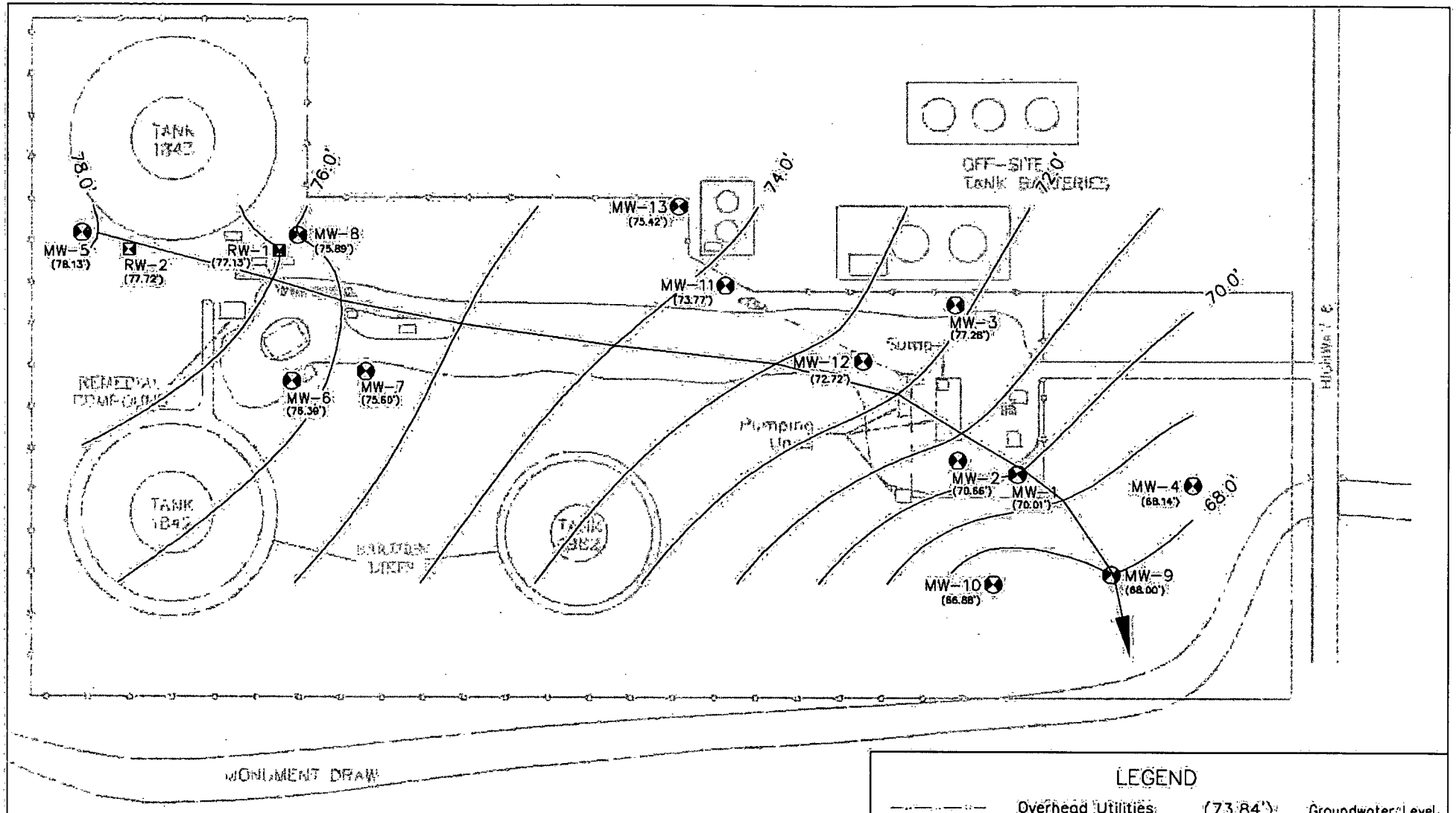

LEGEND

- Overhead Utilities
- Fence
- (73.84') Groundwater Level
- 73.0' Groundwater Contour
- Approximate Direction of Groundwater Flow

Figure 8 Groundwater Contour Map–9/30/11 Plains All American Pipeline, L.P. Lea Station	Lea County, New Mexico NW 1/4, Sec. 28, T20S, R37E N 32° 32' 51.3" W 103° 15' 37.0" Elevation: 3,495 feet amsl	DWG By: I. Olness February 2005	REVISED: March 2011
		0 230 460 Feet	SHEET 1 of 1

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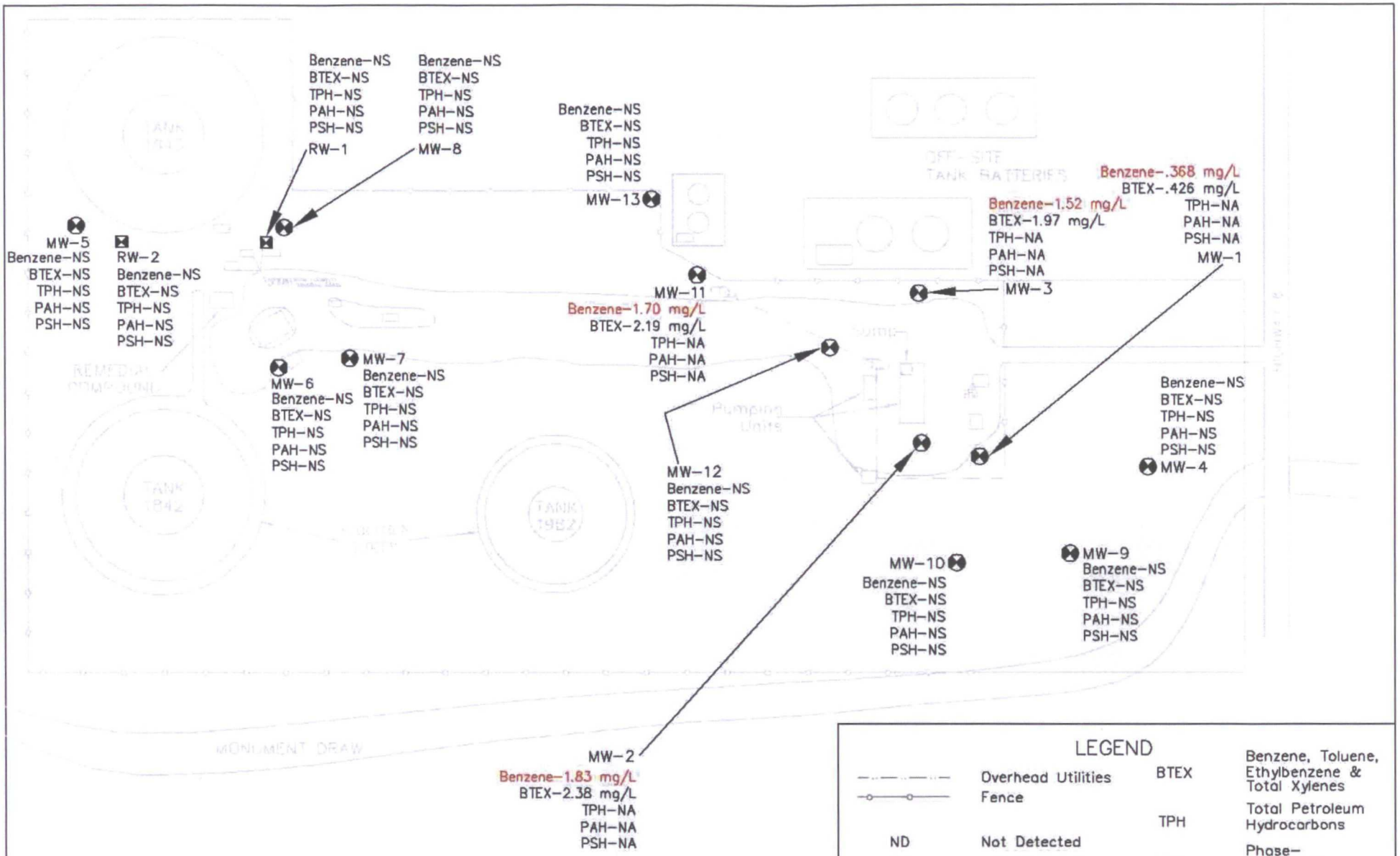
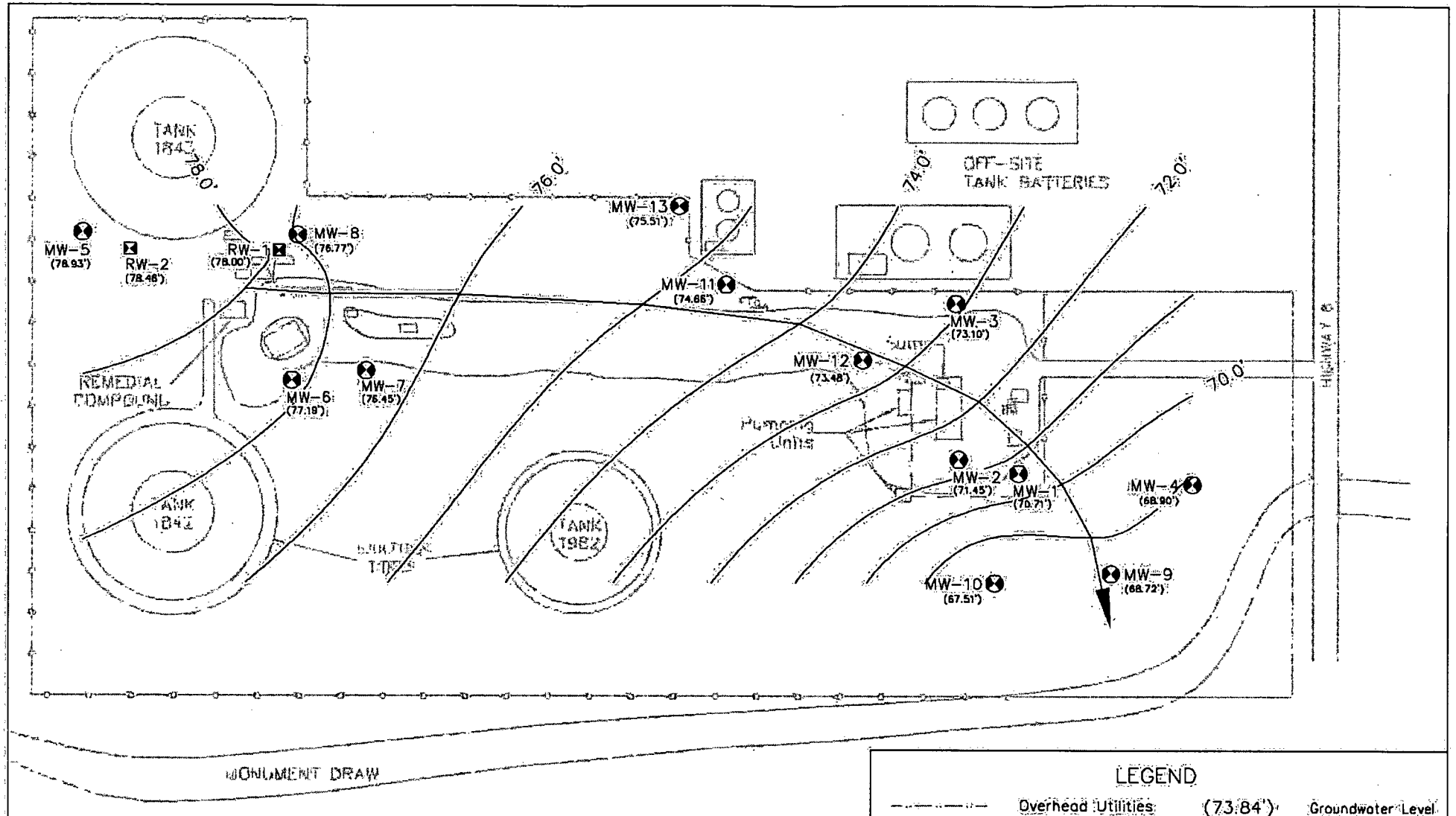


Figure 9 Contaminant Concentration Map–09/30/11 Plains All American Pipeline, L.P. Lea Station	Lea County, New Mexico NW 1/4, Sec. 28, T20S, R37E N 32° 32' 51.3" W 103° 15' 37.0" Elevation: 3,495 feet amsl	DWG By: I. Olness February 2005	REVISED: March 2011	SHEET 1 of 1



LEGEND

- Overhead Utilities
- Fence
- (73.84') Groundwater Level
- 73.0' Groundwater Contour
- Approximate Direction of Groundwater Flow

Figure 10
Groundwater Contour Map–12/30/11
Plains All American Pipeline, L.P.
Lea Station

Lea County, New Mexico
NW 1/4, Sec. 28, T20S, R37E
N 32° 32' 51.3" W 103° 15' 37.0"
Elevation: 3,495 feet amsl

DWG By: I. Olness
February 2005

REVISED:
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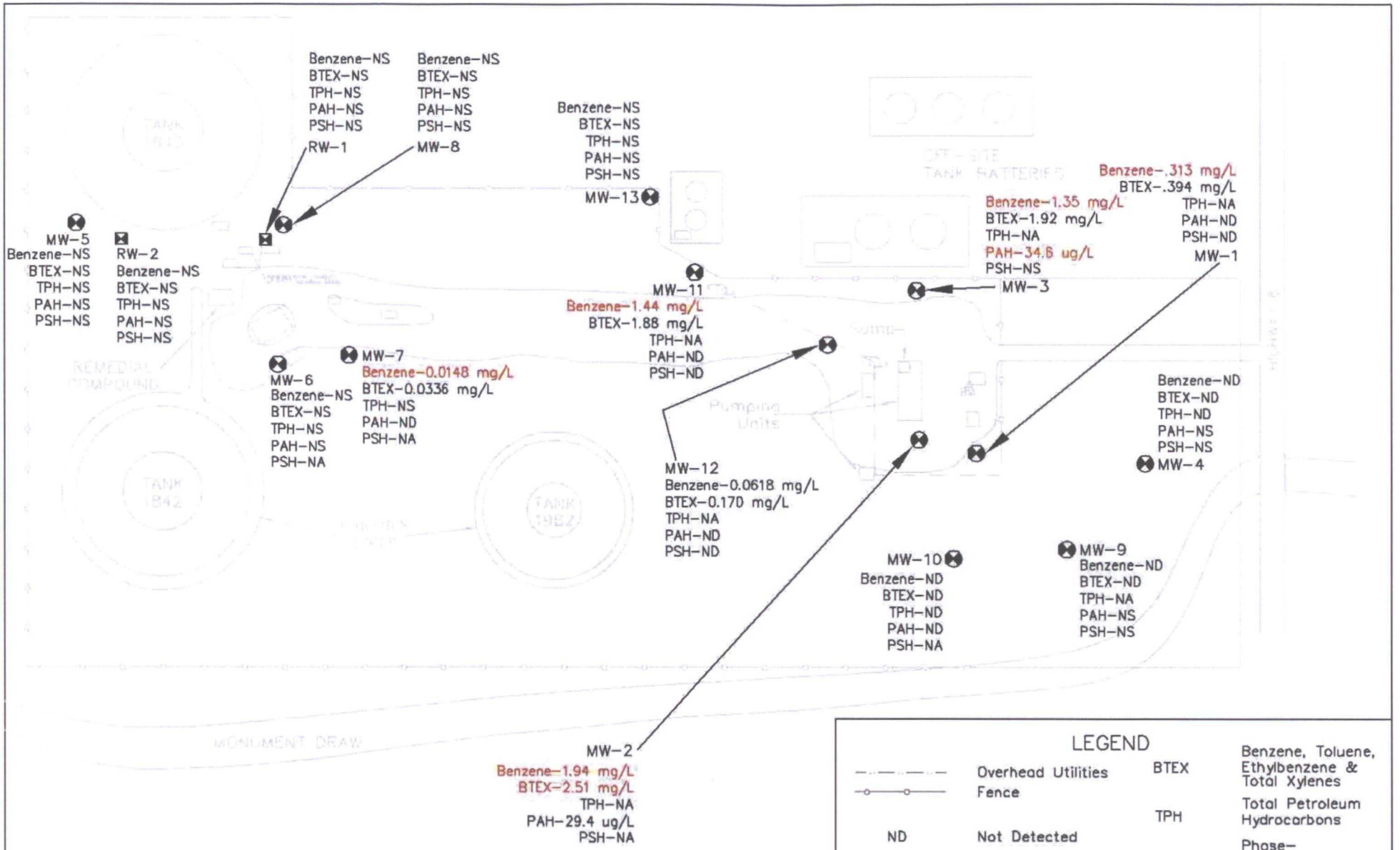

LEGEND

	Overhead Utilities	BTEX	Benzene, Toluene, Ethylbenzene & Total Xylenes
	Fence	TPH	Total Petroleum Hydrocarbons
ND	Not Detected		
NA	Not Analyzed	PSH	Phase–Seperated Hydrocarbons
NS	Not Sampled		

Figure 11
Contaminant Concentration Map–12/30/11
Plains All American Pipeline, L.P.
Lea Station

Lea County, New Mexico
NW 1/4, Sec. 28, T20S, R37E
N 32° 32' 51.3" W 103° 15' 37.0"
Elevation: 3,495 feet amsl

DWG By: I. Olness
February 2005

REVISED:
March 2011

0 230 460
Feet

SHEET
1 of 1

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TABLES

TABLE 1

RELATIVE GROUNDWATER ELEVATIONS, PHASE SEPARATED HYDROCARBON THICKNESSES AND MANUAL PHASE-SEPARATED HYDROCARBON RECOVERY

PLAINS ALL AMERICAN PIPELINE, L.P. - LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Gauged	Relative Ground Surface Elevation (feet)	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)	PSH Recovery (gallons)	PSH Cumulative Recovery (gallons)	Type of Recovery
MW-1	09/30/08		100.73		27.72	73.01				color
	10/31/08				27.75	72.98				
	11/26/08				27.81	72.92				
	12/30/08				27.90	72.83				
	01/30/09				28.07	72.66				
	02/26/09				28.00	72.73				
	03/31/09				28.18	72.55				
	04/30/09				28.19	72.54				
	05/29/09				28.34	72.39				
	06/26/09				28.41	72.32				
	07/31/09				28.49	72.24				
	08/28/09				28.66	72.07				
	09/25/09				28.84	71.89				
	10/30/09				29.11	71.89				
	11/27/09				29.16	71.57				
	12/21/09				29.28	71.45				
	1/29/2010				28.98	71.75				
	2/26/2010				29.38	71.35				
	3/26/2010				29.20	71.53				
	4/30/2010				29.21	71.52				
	5/27/2010				29.31	71.42				
	6/30/2010				28.91	71.82				
	7/30/2010				27.05	73.68				
	8/26/2010				27.81	72.92				
	9/28/2010				28.15	72.58				
	10/29/2010				28.41	72.32				
	11/29/2010				28.59	72.14				
	12/29/2010		100.73		28.64	72.09				
	1/28/2011				28.98	71.75				
	2/25/2011				29.17	71.56				
	3/25/2011				30.77	69.96				
	4/29/2011				29.62	71.11				
	5/31/2011				29.80	70.93				
	6/29/2011				30.00	70.73				
	7/29/2011			30.25	30.26	70.48	0.01			
	8/31/2011				30.80	69.93				
	9/30/2011				30.72	70.01				
	10/28/2011				30.83	69.90				
	11/30/2011				29.87	70.86				
MW-1	12/30/2011				30.02	70.71				
MW-2	09/30/08		102.37		29.00	73.37				color
	10/31/08				28.89	73.48				
	11/26/08				28.85	73.52				
	12/30/08				28.88	73.49				
	01/30/09				29.07	73.30				
	02/26/09				29.01	73.36				
	03/31/09				29.13	73.24				
	04/30/09				29.26	73.11				
	05/29/09				29.28	73.09				
	06/26/09				29.34	73.03				
	07/31/09				29.53	72.84				
	08/28/09				29.67	72.70				
	09/25/09				29.83	72.54				
	10/30/09				30.10	72.27				
	11/27/09				30.14	72.23				
	12/21/09				30.18	72.19				
	1/29/2010				30.34	72.03				
	2/26/2010				30.39	71.98				
	3/26/2010				30.17	72.20				
	4/30/2010				30.21	72.16				
	5/27/2010				30.29	72.08				
	6/30/2010				28.91	73.46				
	7/30/2010				28.91	73.46				
	8/26/2010				29.05	73.32				
	9/28/2010				29.12	73.25				
	10/29/2010				29.20	73.17				
	11/29/2010				29.34	73.03				
	12/29/2010		102.37		29.50	72.87				
	1/28/2011				29.71	72.66				
	2/25/2011				29.91	72.46				
	3/25/2011				30.11	70.26				
	4/29/2011				30.39	71.98				
	5/31/2011				30.70	71.67				
	6/29/2011				30.89	71.48				
	7/29/2011				31.02	71.35				
	8/31/2011				31.30	71.07				
	9/30/2011				31.71	70.66				
	10/28/2011				31.67	70.70				
	11/30/2011				30.65	71.72				
MW-2	12/30/2011				30.92	71.45				

TABLE 1

RELATIVE GROUNDWATER ELEVATIONS, PHASE SEPARATED HYDROCARBON THICKNESSES AND MANUAL PHASE-SEPARATED HYDROCARBON RECOVERY

PLAINS ALL AMERICAN PIPELINE, L.P. - LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Gauged	Relative Ground Surface Elevation (feet)	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)	PSH Recovery (gallons)	PSH Cumulative Recovery (gallons)	Type of Recovery
MW-3	09/30/08		103.61		28.87	74.74				color
	10/31/08				28.82	74.79				
	11/26/08				28.66	74.95				
	12/30/08				28.58	75.03				
	01/30/09				28.71	74.90				
	02/26/09				28.67	74.94				
	03/31/09				28.77	74.84				
	04/30/09				28.82	74.79				
	05/29/09				28.95	74.66				
	06/26/09				29.09	74.52				
	07/31/09				29.33	74.28				
	08/28/09				29.45	74.16				
	09/25/09				29.61	74.00				
	10/30/09				29.79	73.82				
	11/27/09				29.81	73.80				
	12/21/09				29.81	73.80				
	1/29/2010				29.95	73.66				
	2/26/2010				29.37	74.24				
	3/26/2010				29.78	73.83				
	4/30/2010				29.73	73.88				
	5/27/2010				29.78	73.83				
	6/30/2010				29.05	74.56				
	7/30/2010				29.05	74.56				
	8/26/2010				28.84	74.77				
	9/28/2010				28.81	74.80				
	10/29/2010				28.96	74.65				
	11/29/2010		103.61		29.06	74.55				
	12/29/2010				29.10	74.51				
	1/28/2011				29.41	74.20				
	2/25/2011				29.57	74.04				
	3/25/2011				29.68	73.93				
	4/29/2011				30.34	73.27				
	5/31/2011				30.27	73.34				
	6/29/2011				30.51	73.10				
	7/29/2011				30.86	72.75				
	8/31/2011				31.12	72.49				
	9/30/2011				31.33	72.28				
	10/28/2011				31.44	72.17				
	11/30/2011				30.43	73.18				
MW-3	12/30/2011				30.51	73.10				
MW-4	09/30/08		96.08		24.41	71.67				
	10/31/08				24.15	71.93				
	11/26/08				24.63	71.45				
	12/30/08				24.86	71.22				
	01/30/09				25.09	70.99				
	02/26/09				25.08	71.00				
	03/31/09				25.23	70.85				
	04/30/09				25.27	70.81				
	05/29/09				25.42	70.66				
	06/26/09				25.56	70.52				
	07/31/09				25.37	70.71				
	08/28/09				25.73	70.35				
	09/25/09				26.04	70.04				
	10/30/09				26.31	69.77				
	11/27/09				26.38	69.70				
	12/21/09				26.42	69.66				
	1/29/2010				26.56	69.52				
	2/26/2010				26.28	69.80				
	3/26/2010				26.28	69.80				
	4/30/2010				26.29	69.79				
	5/27/2010				26.41	69.67				
	6/30/2010				26.49	69.59				
	7/30/2010				23.14	72.94				
	8/26/2010				24.46	71.62				
	9/28/2010				25.18	70.90				
	10/29/2010				25.57	70.51				
	11/29/2010		96.08		25.80	70.28				
	12/29/2010				25.94	70.14				
	1/28/2011				26.25	69.83				
	2/25/2011				26.39	69.69				
	3/25/2011				26.52	69.56				
	4/29/2011				26.82	69.26				
	5/31/2011				27.03	69.05				
	6/29/2011				27.27	68.81				
	7/29/2011				27.53	68.55				
	8/31/2011				27.73	68.35				
	9/30/2011				27.94	68.14				
	10/28/2011				28.00	68.08				
	11/30/2011				27.12	68.96				
MW-4	12/30/2011				27.18	68.90				

TABLE 1

RELATIVE GROUNDWATER ELEVATIONS, PHASE SEPARATED HYDROCARBON THICKNESSES
AND MANUAL PHASE-SEPARATED HYDROCARBON RECOVERY

PLAINS ALL AMERICAN PIPELINE, L.P. - LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Gauged	Relative Ground Surface Elevation (feet)	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)	PSH Recovery (gallons)	PSH Cumulative Recovery (gallons)	Type of Recovery
MW-5	09/30/08		109.21		28.91	80.30				
	10/31/08				28.79	80.42				
	11/26/08				28.65	80.56				
	12/30/08				28.59	80.62				
	01/30/09				28.79	80.42				
	02/26/09				28.63	80.58				
	03/31/09				28.79	80.42				
	04/30/09				28.81	80.40				
	05/29/09				29.02	80.19				
	06/26/09				29.16	80.05				
	07/31/09				29.42	79.79				
	08/28/09				29.53	79.68				
	09/25/09				29.68	79.53				
	10/30/09				29.84	79.37				
	11/27/09				29.91	79.30				
	12/21/09				29.81	79.40				
	1/29/2010				30.00	79.21				
	2/26/2010				29.94	79.27				
	3/26/2010				29.70	79.51				
	4/30/2010				29.65	79.56				
	5/27/2010				29.78	79.43				
	6/30/2010				30.02	79.19				
	7/30/2010				28.01	81.20				
	8/26/2010				27.91	81.30				
	9/28/2010				27.98	81.23				
	10/29/2010				28.33	80.88				
	11/29/2010		109.21		28.50	80.71				
	12/29/2010				28.52	80.69				
	1/28/2011				29.02	80.19				
	2/25/2011				29.24	79.97				
	3/25/2011				29.35	79.86				
	4/29/2011				29.83	79.38				
	5/31/2011				30.03	79.18				
	6/29/2011				30.28	78.93				
	7/29/2011				30.62	78.59				
	8/31/2011				29.92	79.29				
	9/30/2011				31.08	78.13				
	10/28/2011				31.17	78.04				
	11/30/2011				30.16	79.05				
MW-5	12/30/2011				30.22	78.99				
MW-6	09/30/08		106.26		27.48	78.78				
	10/31/08				27.37	78.89				
	11/26/08				27.43	78.83				
	12/30/08				27.87	78.39				
	01/30/09				27.66	78.60				
	02/26/09				27.55	78.71				
	03/31/09				27.69	78.57				
	04/30/09				27.73	78.53				
	05/29/09				27.92	78.34				
	06/26/09				27.99	78.27				
	07/31/09				28.98	77.28				
	08/28/09				28.21	78.05				
	09/25/09				28.42	77.84				
	10/30/09				28.64	77.62				
	11/27/09				28.70	77.56				
	12/21/09				28.64	77.62				
	1/29/2010				28.85	77.41				
	2/26/2010				28.71	77.55				
	3/26/2010				28.53	77.73				
	4/30/2010				28.52	77.74				
	5/27/2010				28.69	77.57				
	6/30/2010				28.76	77.50				
	7/30/2010				26.67	79.59				
	8/26/2010				27.04	79.22				
	9/28/2010				27.16	79.10				
	10/29/2010				27.46	78.80				
	11/29/2010				27.58	78.68				
	12/29/2010		106.26		27.62	78.64				
	1/28/2011				28.03	78.23				
	2/25/2011				28.21	78.05				
	3/25/2011				28.31	77.95				
	4/29/2011				28.73	77.53				
	5/31/2011				28.92	77.34				
	6/29/2011				29.14	77.12				
	7/29/2011				29.45	76.81				
	8/31/2011				29.69	76.57				
	9/30/2011				29.87	76.39				
	10/28/2011				29.95	76.31				
	11/30/2011				28.99	77.27				
MW-6	12/30/2011				29.07	77.19				

TABLE 1

RELATIVE GROUNDWATER ELEVATIONS, PHASE SEPARATED HYDROCARBON THICKNESSES AND MANUAL PHASE-SEPARATED HYDROCARBON RECOVERY

PLAINS ALL AMERICAN PIPELINE, L.P. - LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Gauged	Relative Ground Surface Elevation (feet)	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)	PSH Recovery (gallons)	PSH Cumulative Recovery (gallons)	Type of Recovery
MW-7	09/30/08		106.27		28.39	77.88				
	10/31/08				28.43	77.84				
	11/26/08				28.22	78.05				
	12/30/08				28.20	78.07				
	01/30/09				28.52	77.75				
	02/26/09				28.27	78.00				
	03/31/09				28.41	77.86				
	04/30/09				28.44	77.83				
	05/29/09				28.64	77.63				
	06/26/09				28.77	77.50				
	07/31/09				28.98	77.29				
	08/28/09				29.05	77.22				
	09/25/09				29.20	77.07				
	10/30/09				29.39	76.88				
	11/27/09				29.43	76.84				
	12/21/09				29.37	76.90				
	1/29/2010				29.56	76.71				
	2/26/2010				29.45	76.82				
	3/26/2010				29.26	77.01				
	4/30/2010				29.22	77.05				
	5/27/2010				29.39	76.88				
	6/30/2010				29.61	76.66				
	7/30/2010				27.73	78.54				
	8/26/2010				27.86	78.41				
	9/28/2010				27.95	78.32				
	10/29/2010				28.21	78.06				
	11/29/2010				28.31	77.96				
	12/29/2010		106.27		28.35	77.92				
	1/28/2011				28.74	77.53				
	2/25/2011				28.93	77.34				
	3/25/2011				29.03	77.24				
	4/29/2011				29.49	76.78				
	5/31/2011				29.69	76.58				
	6/29/2011				29.95	76.32				
	7/29/2011				30.23	76.04				
	8/31/2011				30.48	75.79				
	9/30/2011				30.67	75.60				
	10/28/2011				30.72	75.55				
	11/30/2011				29.74	76.53				
MW-7	12/30/2011				29.82	76.45				
MW-8	09/30/08		107.44		29.31	78.13				
	10/31/08				29.20	78.24				
	11/26/08				29.13	78.31				
	12/30/08				29.09	78.35				
	01/30/09				29.28	78.16				
	02/26/09				29.15	78.29				
	03/31/09				29.30	78.14				
	04/30/09				29.31	78.13				
	05/29/09				29.52	77.92				
	06/26/09				29.66	77.78				
	07/31/09				29.83	77.61				
	08/28/09				29.91	77.53				
	09/25/09				30.07	77.37				
	10/30/09				30.26	77.18				
	11/27/09				30.28	77.16				
	12/21/09				30.16	77.28				
	1/29/2010				30.39	77.05				
	2/26/2010				30.31	77.13				
	3/26/2010				30.06	77.38				
	4/30/2010				30.02	77.42				
	5/27/2010				30.19	77.25				
	6/30/2010				30.46	76.98				
	7/30/2010				28.52	78.92				
	8/26/2010				28.59	78.85				
	9/28/2010				28.67	78.77				
	10/29/2010				28.97	78.47				
	11/29/2010				29.08	78.36				
	12/29/2010		107.44		29.04	78.40				
	1/28/2011				29.52	77.92				
	2/25/2011				29.72	77.72				
	3/25/2011				29.12	78.32				
	4/29/2011				30.32	77.12				
	5/31/2011				30.54	76.90				
	6/29/2011				30.78	76.66				
	7/29/2011				31.10	76.34				
	8/31/2011				31.38	76.06				
	9/30/2011				31.55	75.89				
	10/28/2011				31.63	75.81				
	11/30/2011				30.58	76.86				
MW-8	12/30/2011				30.67	76.77				

TABLE 1

RELATIVE GROUNDWATER ELEVATIONS, PHASE SEPARATED HYDROCARBON THICKNESSES AND MANUAL PHASE-SEPARATED HYDROCARBON RECOVERY

PLAINS ALL AMERICAN PIPELINE, L.P. - LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Gauged	Relative Ground Surface Elevation (feet)	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)	PSH Recovery (gallons)	PSH Cumulative Recovery (gallons)	Type of Recovery
MW-9	09/30/08		97.21		26.15	71.06				
	10/31/08				26.10	71.11				
	11/26/08				26.31	70.90				
	12/31/08				26.46	70.75				
	01/30/09				26.42	70.79				
	02/26/09				26.38	70.83				
	03/31/09				26.55	70.66				
	04/30/09				26.59	70.62				
	05/29/09				26.78	70.43				
	06/26/09				26.92	70.29				
	07/31/09				27.06	70.15				
	08/28/09				27.23	69.98				
	09/25/09				27.41	69.80				
	10/30/09				27.61	69.60				
	11/27/09				27.68	69.53				
	12/21/09				27.71	69.50				
	1/29/2010				27.86	69.35				
	2/26/2010				27.81	69.40				
	3/26/2010				27.71	69.50				
	4/30/2010				27.69	69.52				
	5/27/2010				27.87	69.34				
	6/30/2010				28.03	69.18				
	7/30/2010				25.74	71.47				
	8/26/2010				26.37	70.84				
	9/28/2010				26.75	70.46				
	10/29/2010				27.08	70.13				
	11/29/2010				27.21	70.00				
	12/29/2010		97.21		27.31	69.90				
	1/28/2011				27.66	69.55				
	2/25/2011				27.81	69.40				
	3/25/2011				27.94	69.27				
	4/29/2011				28.25	68.96				
	5/31/2011				28.43	68.78				
	6/29/2011				28.62	68.59				
	7/29/2011				28.84	68.37				
	8/31/2011				29.04	68.17				
	9/30/2011				29.21	68.00				
	10/28/2011				29.30	67.91				
	11/30/2011				28.41	68.80				
MW_9	12/30/2011				28.49	68.72				
MW-10	09/30/08		102.51		32.69	69.82				
	10/31/08				32.64	69.87				
	11/26/08				32.57	69.94				
	12/31/08				32.78	69.73				
	01/30/09				32.88	69.63				
	02/26/09				32.83	69.68				
	03/31/09				32.98	69.53				
	04/30/09				33.01	69.50				
	05/29/09				33.16	69.35				
	06/26/09				33.31	69.20				
	07/31/09				33.47	69.04				
	08/28/09				33.62	68.89				
	09/25/09				33.81	68.70				
	10/30/09				34.02	68.49				
	11/27/09				34.11	68.40				
	12/21/09				34.15	68.36				
	1/29/2010				34.33	68.18				
	2/26/2010				34.31	68.20				
	3/26/2010				34.21	68.30				
	4/30/2010				34.17	68.34				
	5/27/2010				34.34	68.17				
	6/30/2010				34.49	68.02				
	7/30/2010				32.48	70.03				
	8/26/2010				32.86	69.65				
	9/28/2010				33.21	69.30				
	10/29/2010				33.45	69.06				
	11/29/2010				33.55	68.96				
	12/29/2010		102.51		33.55	68.96				
	1/28/2011				33.99	68.52				
	2/25/2011				34.15	68.36				
	3/25/2011				34.27	68.24				
	4/29/2011				34.65	67.86				
	5/31/2011				34.82	67.69				
	6/29/2011				35.04	67.47				
	7/29/2011				35.21	67.30				
	8/31/2011				35.42	67.09				
	9/30/2011				35.63	66.88				
	10/28/2011				35.71	66.80				
	11/30/2011				34.86	67.65				
MW-10	12/30/2011				35.00	67.51				

TABLE 1

RELATIVE GROUNDWATER ELEVATIONS, PHASE SEPARATED HYDROCARBON THICKNESSES AND MANUAL PHASE-SEPARATED HYDROCARBON RECOVERY

PLAINS ALL AMERICAN PIPELINE, L.P. - LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Gauged	Relative Ground Surface Elevation (feet)	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)	PSH Recovery (gallons)	PSH Cumulative Recovery (gallons)	Type of Recovery
MW-11	09/30/08		105.62		29.50	76.12				color
	10/31/08				29.42	76.20				
	11/26/08				29.28	76.34				
	12/30/08				29.21	76.41				
	01/30/09				29.34	76.28				
	02/26/09				29.27	76.35				
	03/31/09				29.39	76.23				Changed Sock
	04/30/09				29.41	76.21				
	05/29/09				29.61	76.01				
	06/26/09				29.76	75.86				
	07/31/09				30.00	75.62				
	08/28/09				30.13	75.49				flipped sock
	09/25/09				30.27	75.35				color
	10/30/09				30.41	75.21				
	11/27/09				30.41	75.21				
	12/21/09				30.38	75.24				
	1/29/2010				30.51	75.11				
	2/26/2010				30.47	75.15				
	3/26/2010				30.28	75.34				
	4/30/2010				30.23	75.39				
	5/27/2010				30.36	75.26				
	6/30/2010				30.69	74.93				
	7/30/2010				29.64	75.98				
	8/26/2010				29.44	76.18				
	9/28/2010				29.41	76.21				
	10/29/2010				29.55	76.07				
	11/29/2010				29.61	76.01				
	12/29/2010		105.62		29.61	76.01				
	1/28/2011				29.92	75.70				
	2/25/2011				30.07	75.55				
	3/25/2011				30.19	75.43				
	4/29/2011				30.58	75.04				
	5/21/2011				30.85	74.77				
	6/29/2011				31.14	74.48				
	7/29/2011				31.48	74.14				
	8/31/2011				31.71	73.91				
	9/30/2011				31.85	73.77				
	10/28/2011				31.94	73.68				
	11/30/2011				30.91	74.71				
MW-11	12/30/2011				30.96	74.66				
MW-12	09/30/08		103.90		28.72	75.18				
	10/31/08				28.74	75.16				
	11/26/08				28.65	75.25				
	12/30/08				28.61	75.29				
	01/30/09				28.77	75.13				
	02/26/09				28.74	75.16				
	03/31/09				28.81	75.09				
	04/30/09				28.87	75.03				
	05/29/09				28.96	74.94				
	06/26/09				29.07	74.83				
	07/31/09				29.27	74.63				
	08/28/09				29.36	74.54				
	09/25/09				29.52	74.38				
	10/30/09				29.68	74.22				
	11/27/09				29.76	74.14				
	12/21/09				29.80	74.10				
	1/29/2010				29.94	73.96				
	2/26/2010				29.34	74.56				
	3/26/2010				29.83	74.07				
	4/30/2010				29.77	74.13				
	5/27/2010				29.84	74.06				
	6/30/2010				30.04	73.86				
	7/30/2010				29.19	74.71				
	8/26/2010				28.96	74.94				
	9/28/2010				28.87	75.03				
	10/29/2010				28.97	74.93				
	11/29/2010				29.03	74.87				
	12/29/2010		103.90		29.11	74.79				
	1/28/2011				29.41	74.49				
	2/25/2011				29.56	74.34				
	3/25/2011				29.70	74.20				
	4/29/2011				30.02	73.88				
	5/31/2011				30.19	73.71				
	6/29/2011				29.35	74.55				
	7/29/2011				30.68	73.22				
	8/31/2011				30.92	72.98				
	9/30/2011				31.18	72.72				
	10/28/2011				31.30	72.60				
	11/30/2011				30.39	73.51				
MW-12	12/30/2011				30.42	73.48				

TABLE 1

RELATIVE GROUNDWATER ELEVATIONS, PHASE SEPARATED HYDROCARBON THICKNESSES AND MANUAL PHASE-SEPARATED HYDROCARBON RECOVERY

PLAINS ALL AMERICAN PIPELINE, L.P. - LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Gauged	Relative Ground Surface Elevation (feet)	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)	PSH Recovery (gallons)	PSH Cumulative Recovery (gallons)	Type of Recovery
MW-13	09/30/08		103.89		27.08	76.81				
	10/31/08				26.91	76.98				
	11/26/08				26.77	77.12				
	12/31/08				26.75	77.14				
	01/30/09				26.78	77.11				
	02/26/09				26.75	77.14				
	03/31/09				26.83	77.06				
	04/30/09				26.88	77.01				
	05/29/09				27.13	76.76				
	06/26/09				27.38	76.51				
	07/31/09				27.61	76.28				
	08/28/09				27.82	76.07				add sock
	09/25/09				27.91	75.98				
	10/30/09				27.97	75.92				
	11/27/09				27.96	75.93				
	12/21/09				27.94	75.95				
	1/29/2010				28.03	75.86				
	2/26/2010				27.92	75.97				
	3/26/2010				27.76	76.13				
	4/30/2010				27.68	76.21				
	5/27/2010				27.91	75.98				
	6/30/2010				28.28	75.61				
	7/30/2010				27.12	76.77				
	8/26/2010				26.93	76.96				
	9/28/2010				26.99	76.90				
	10/29/2010				27.10	76.79				
	11/29/2010				27.10	76.79				
	12/29/2010		103.89		27.22	76.67				
	1/28/2011				27.47	76.42				
	2/25/2011				27.55	76.34				
	3/25/2011				27.66	76.23				
	4/29/2011				28.05	75.84				
	5/31/2011				28.36	75.53				
	6/29/2011				28.76	75.13				
	7/29/2011				29.08	74.81				
	8/31/2011				29.31	74.58				
	9/30/2011				29.37	74.52				
	10/28/2011				29.38	74.51				
	11/30/2011				28.41	75.48				
MW-13	12/30/2011				28.38	75.51				
RW-1	09/30/08		106.40		27.02	79.38				
	10/31/08				26.89	79.51				
	11/26/08				26.80	79.60				
	12/30/08				26.76	79.64				
	01/30/09				26.98	79.42				
	02/26/09				26.84	79.56				
	03/31/09				26.99	79.41				
	04/30/09				27.00	79.40				
	05/29/09				27.21	79.19				
	06/26/09				27.34	79.06				
	07/31/09				27.58	78.82				
	08/28/09				27.68	78.72				
	09/25/09				27.81	78.59				
	10/30/09				27.99	78.41				
	11/27/09				28.02	78.38				
	12/21/09				27.93	78.47				
	1/29/2010				28.14	78.26				
	2/26/2010				28.04	78.36				
	3/26/2010				27.83	78.57				
	4/30/2010				27.80	78.60				
	5/27/2010				27.95	78.45				
	6/30/2010				28.20	78.20				
	7/30/2010				26.28	80.12				
	8/26/2010				26.38	80.02				
	9/28/2010				26.47	79.93				
	10/29/2010				26.74	79.66				
	11/29/2010				26.82	79.58				
	12/29/2010		106.40		26.88	79.52				
	1/28/2011				27.37	79.03				
	2/25/2011				27.53	78.87				
	3/25/2011				27.64	78.76				
	4/29/2011				28.08	78.32				
	5/31/2011				28.28	78.12				
	6/29/2011				28.53	77.87				
	7/29/2011				28.83	77.57				
	8/31/2011				29.10	77.30				
	9/30/2011				29.27	77.13				
	10/28/2011				29.33	77.07				
	11/30/2011				28.31	78.09				
RW-1	12/30/2011				28.40	78.00				

TABLE 1

RELATIVE GROUNDWATER ELEVATIONS, PHASE SEPARATED HYDROCARBON THICKNESSES AND MANUAL PHASE-SEPARATED HYDROCARBON RECOVERY

PLAINS ALL AMERICAN PIPELINE, L.P. - LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Gauged	Relative Ground Surface Elevation (feet)	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)	PSH Recovery (gallons)	PSH Cumulative Recovery (gallons)	Type of Recovery
RW-2	09/30/08		106.65		27.04	79.61				
	10/31/08				26.99	79.66				
	11/26/08				26.52	80.13				
	12/30/08				26.51	80.14				
	01/30/09				26.64	80.01				
	02/26/09				26.52	80.13				
	03/31/09				26.66	79.99				
	04/30/09				26.66	79.99				
	05/29/09				26.85	79.80				
	06/26/09				27.04	79.61				
	07/31/09				27.28	79.37				
	08/28/09				27.36	79.29				
	09/25/09				27.54	79.11				
	10/30/09				27.70	78.95				
	11/27/09				27.77	78.88				
	12/21/09				27.72	78.93				
	1/29/2010				27.85	78.80				
	2/26/2010				27.77	78.88				
	3/26/2010				27.60	79.05				
	4/30/2010				27.49	79.16				
	5/27/2010				27.65	79.00				
	6/30/2010				27.90	78.75				
	7/30/2010				25.96	80.69				
	8/26/2010				25.93	80.72				
	9/28/2010				25.98	80.67				
	10/29/2010				26.34	80.31				
	11/29/2010				26.39	80.26				
	12/29/2010		106.65		26.51	80.14				
	1/28/2011				26.96	79.69				
	2/25/2011				27.16	79.49				
	3/25/2011				27.25	79.40				
	4/29/2011				27.69	78.96				
	5/31/2011				27.89	78.76				
	6/29/2011				28.14	78.51				
	7/29/2011				28.47	78.18				
	8/31/2011				28.75	77.90				
	9/30/2011				28.93	77.72				
	10/28/2011				28.99	77.66				
	11/30/2011				28.04	78.61				
RW-2	12/30/2011				28.19	78.46				

* Measured from a relative datum (benckmark = 100 feet).

** Correction Equation for Phase-Separated Hydrocarbons: Corrected Groundwater Elevation = Top of Casing Elevation - [Depth to Water Below Top of Casing - (SG)(PSH Thickness)].
Specific Gravity (SG) = 0.9 for crude oil.

Note 1: Total recovery: 0.00 gallons by manual means.

Note 2: The SVE System blower failed on 3/12/98. The system was reactivated on 4/15/99.

TABLE 2

GROUNDWATER ANALYTICAL RESULTS (BTEX & TPH)

PLAINS ALL AMERICAN PIPELINE, L.P.
LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Sampled	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Total Xylenes (mg/L)	Total BTEX (mg/L)	TPH as Gasoline	TPH as Diesel	TPH as Oil	Total TPH
MW-1	09/30/08	**0.3516**	0.0603	0.0530	0.0372	0.5021				
	12/30/08	**0.3155**	ND	0.0565	ND	0.3720	3.54	1.88	ND	5.42
	03/31/09	**0.1453**	ND	0.0386	0.019	0.2030				
	06/26/09	**0.3280**	0.212	ND	ND	0.5400				
	09/25/09	**0.3140**	ND	0.0730	ND	0.3870				
	12/21/09	**0.3203**	ND	0.0721	0.036	0.4279				
	3/26/2010	**0.2837**	ND	0.0633	0.0222	0.3692				
	6/30/2010	**0.3557**	ND	0.0724	0.0149	0.443				
	9/28/2010	**0.1313**	ND	0.0207	0.015	0.167				
	12/30/2010	**0.1362**	ND	ND	ND	0.1362				
	3/25/2011	**0.372**	ND	0.0416	ND	0.414				
	6/29/2011	**0.398**	ND	0.0855	0.101	0.585				
	9/30/2011	**0.368**	ND	0.0582	ND	0.426				
	12/30/2011	**0.313**	ND	0.0810	ND	0.394				
MW-2	06/30/08	**0.8336**	0.0107	0.1227	0.058	1.0250	4.57	2.44	ND	7.01
	09/30/08	**0.7206**	0.0509	0.0831	0.051	0.9055				
	12/30/08	**0.9645**	ND	0.1245	ND	1.0890	7.97	12.90	ND	20.87
	03/31/09	**0.8256**	ND	0.1024	0.047	0.9746				
	06/26/09	**0.9340**	ND	ND	ND	0.9340				
	09/25/09	**0.6570**	ND	0.1925	0.1485	0.9980				
	12/21/09	**0.8145**	ND	0.1690	0.102	1.0850				
	3/26/2010	**1.768**	ND	0.2405	0.157	**2.1655**				
	6/30/2010	**1.013**	ND	0.202	0.172	1.387				
	9/28/2010	**0.733**	ND	0.0917	0.0297	0.8544				
	12/30/2010	**0.799**	ND	ND	0.1285	0.9275				
	3/25/2011	**1.61**	ND	0.246	0.128	**1.98**				
	6/29/2011	**2.01**	ND	0.292	0.185	**2.49**				
	9/30/2011	**1.83**	ND	0.285	0.266	**2.38**				
	12/30/2011	**1.94**	ND	0.338	0.235	**2.51**				
MW-3	06/30/08	**0.1805**	0.0028	0.0129	0.0045	0.2007	ND	ND	ND	ND
	09/30/08	**0.2517**	0.0231	0.0158	ND	0.2906				
	12/30/08	**0.3475**	0.11	0.0950	0.221	0.7730	ND	2.61	ND	2.61
	03/31/09	**0.9449**	0.3079	0.1205	0.087	1.4600				
	06/26/09	**0.7060**	ND	ND	ND	0.7060				
	09/25/09	**1.3040**	ND	0.2275	ND	1.5315				
	12/21/09	**1.3740**	ND	0.1990	ND	1.5730				
	3/26/2010	**1.922**	ND	0.394	ND	**2.316**				
	6/30/2010	**1.497**	ND	0.322	0.1565	1.9755				
	9/28/2010	**0.0768**	0.0021	0.015	0.0358	0.1297				
	12/30/2010	**0.564**	ND	0.2145	0.268	1.0465				
	3/25/2011	**1.00**	ND	0.183	0.087	**1.27**				
	6/29/2011	**0.368**	ND	0.0915	ND	0.460				
	9/30/2011	**1.52**	ND	0.310	0.142	**1.97**				
	12/30/2011	**1.35**	ND	0.381	0.184	**1.92**				
MW-4	06/30/08	ND	ND	ND	ND	ND	--	--	--	--
	09/30/08	Not Sampled [A]								
	12/30/08	0.0043	0.0121	0.0040	0.0064	0.0268	--	--	--	--
	03/31/09	Not Sampled [A]								
	06/26/09	ND	ND	ND	ND	ND				
	09/25/09	Not Sampled [A]								
	12/21/09	ND	ND	ND	ND	ND				
	6/30/2010	ND	ND	ND	ND	ND				
	12/30/2010	ND	ND	ND	ND	ND				
	3/25/2011	Not Sampled [A]								
	6/29/2011	ND	ND	ND	ND	ND				
	9/30/2011	Not Sampled [A]								
	12/30/2011	ND	ND	ND	ND	ND				
MW-5	06/30/08	Not Sampled [A]								
	09/30/08	Not Sampled [A]								
	12/30/08	Not Sampled [A]								
	03/31/09	Not Sampled [A]								
	06/26/09	Not Sampled [A]								
	09/25/09	Not Sampled [A]								
	12/21/09	Not Sampled [A]								
	3/26/2010	Not Sampled [A]								
	6/30/2010	Not Sampled [A]								
	9/28/2010	Not Sampled [A]								

TABLE 2

GROUNDWATER ANALYTICAL RESULTS (BTEX & TPH)

PLAINS ALL AMERICAN PIPELINE, L.P.
LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Sampled	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Total Xylenes (mg/L)	Total BTEX (mg/L)	TPH as Gasoline	TPH as Diesel	TPH as Oil	Total TPH
MW-5 (con't.)	12/30/2010	Not Sampled [A]								
	3/25/2011	Not Sampled [A]								
	6/29/2011	Not Sampled [A]								
	9/30/2011	Not Sampled [A]								
	12/30/2011	Not Sampled [A]								
MW-6	06/30/08	Not Sampled [A]								
	09/30/08	Not Sampled [A]								
	12/30/08	Not Sampled [A]								
	03/31/09	Not Sampled [A]								
	06/26/09	Not Sampled [A]								
	09/25/09	Not Sampled [A]								
	12/21/09	Not Sampled [A]								
	3/26/2010	Not Sampled [A]								
	6/30/2010	Not Sampled [A]								
	9/28/2010	Not Sampled [A]								
	12/30/2010	Not Sampled [A]								
	3/25/2011	Not Sampled [A]								
	6/29/2011	Not Sampled [A]								
	9/30/2011	Not Sampled [A]								
	12/30/2011	Not Sampled [A]								
MW-7	06/30/08	0.0010	ND	0.0010	ND	0.0020	--	--	--	--
	09/30/08	Not Sampled [A]								
	12/30/08	0.0046	0.0103	0.0052	0.0059	0.0260	--	--	--	--
	03/31/09	Not Sampled [A]								
	06/26/09	0.0011	ND	0.0013	ND	0.0024				
	09/25/09	Not Sampled [A]								
	12/21/09	0.0012	ND	0.0023	ND	0.0035				
	3/26/2010	0.0017	ND	0.0023	ND	0.0040				
	6/30/2010	Not Sampled [A]								
	9/28/2010	Not Sampled [A]								
	12/30/2010	0.0028	ND	0.0026	ND	0.0054				
	3/25/2011	Not Sampled								
	6/29/2011	0.00335	ND	0.00445	ND	0.0078				
	9/30/2011	Not Sampled								
	12/30/2011	0.0148	ND	0.0149	0.00386	0.0336				
MW-8	06/30/08	ND	ND	ND	ND	ND	--	--	--	--
	09/30/08	Not Sampled [A]								
	12/30/08	0.0062	0.0172	0.0064	0.0088	0.0386	--	--	--	--
	03/31/09	Not Sampled [A]								
	06/26/09	0.0023	ND	0.0023	ND	0.0046				
	09/25/09	Not Sampled [A]								
	12/21/09	0.0044	ND	0.0049	ND	0.0093				
	3/26/2010	0.005	ND	0.0042	ND	0.0092				
	6/30/2010									
	9/28/2010									
	12/30/2010									
	3/25/2011	Not Sampled								
	6/29/2011	Not Sampled								
	9/30/2011	Not Sampled								
	12/30/2011	Not Sampled								
MW-9	06/30/08	ND	ND	ND	ND	ND	--	--	--	--
	09/30/08	Not Sampled [A]								
	12/31/08	0.0081	0.0240	0.0057	0.0091	0.0469	--	--	--	--
	03/31/09	Not Sampled [A]								
	06/26/09	ND	ND	ND	ND	ND				
	09/25/09	Not Sampled [A]								
	12/21/09	ND	ND	ND	ND	ND				
	3/26/2010	ND	ND	ND	ND	ND				
	6/30/2010	Not Sampled [A]								
	9/28/2010	Not Sampled [A]								
	12/30/2010	ND	ND	ND	ND	ND				
	3/25/2011	Not Sampled								
	6/29/2011	ND	ND	ND	ND	ND				
	9/30/2011	Not Sampled								
	12/30/2011	ND	ND	ND	ND	ND				

TABLE 2

GROUNDWATER ANALYTICAL RESULTS (BTEX & TPH)

PLAINS ALL AMERICAN PIPELINE, L.P.
LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Sampled	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Total Xylenes (mg/L)	Total BTEX (mg/L)	TPH as Gasoline	TPH as Diesel	TPH as Oil	Total TPH
MW-10	03/31/07	<0.001	<0.001	<0.001	<0.003	<0.006				
	08/01/07	<0.001	<0.001	<0.001	<0.003	<0.006				
	12/13/07					Not Sampled [A]				
	03/31/08	Not Sampled [A]								
	06/30/08	ND	ND	ND	ND	ND	--	--	--	--
	09/30/08	Not Sampled [A]								
	12/31/08	0.0074	0.0249	0.0057	0.0095	0.0475	--	--	--	--
	03/31/09	Not Sampled [A]								
	06/26/09	ND	ND	ND	ND	ND				
	09/25/09	Not Sampled [A]								
	12/21/09	ND	ND	ND	ND	ND				
	3/26/2010	ND	ND	ND	ND	ND				
	6/30/2010	Not Sampled [A]								
	9/28/2010	Not Sampled [A]								
	12/30/2010	ND	ND	ND	ND	ND				
	3/25/2011	Not Sampled								
	6/29/2011	ND	ND	ND	ND	ND				
	9/30/2011	Not Sampled								
	12/30/2011	ND	ND	ND	ND	ND				
MW-11	06/30/08	0.6838	ND	0.2066	ND	0.8904	2.40	ND	ND	2.40
	09/30/08	0.4075	ND	0.1226	ND	0.5301				
	12/30/08	0.2820	ND	0.0630	ND	0.3450	2.93	7.03	ND	9.96
	03/31/09	0.2698	ND	0.0595	0.014	0.3432				
	06/26/09	0.5740	ND	0.1105	ND	0.6845				
	09/25/09	1.7760	ND	0.4095	ND	2.1855				
	12/21/09	1.1020	ND	0.2765	ND	1.3785				
	3/26/2010	0.4538	ND	0.0977	0.011	0.5625				
	6/30/2010	1.143	ND	0.2448	ND	1.3878				
	9/28/2010	0.6323	ND	0.0686	ND	0.7009				
	12/30/2010	0.888	ND	0.2008	ND	1.0888				
	3/25/2011	0.832	ND	0.243	ND	1.08				
	6/29/2011	0.906	ND	0.236	0.061	1.20				
	9/30/2011	1.70	ND	0.492	ND	2.19				
	12/30/2011	1.44	ND	0.437	ND	1.88				
MW-12	06/30/08	0.0063	ND	0.0076	ND	0.0139	--	--	--	--
	09/30/08	1.7								
	12/30/08	0.0360	ND	0.0476	ND	0.0836	--	--	--	--
	03/31/09	Not Sampled								
	06/26/09	0.0314	ND	0.0234	ND	0.0548				
	09/25/09	Not Sampled								
	12/21/09	0.0640	ND	0.0508	0.003	0.1175				
	3/26/2010	0.0525	ND	0.0584	ND	0.1109				
	6/30/2010									
	9/28/2010									
	12/30/2010	0.0196	ND	0.0225	ND	0.0421				
	3/25/2011	Not Sampled								
	6/29/2011	0.040	ND	0.0442	ND	0.0842				
	9/30/2011	Not Sampled								
	12/30/2011	0.0618	ND	0.108	ND	0.170				
MW-13	06/30/08	0.0019	ND	0.0024	ND	0.0043	--	--	--	--
	09/03/08	Not Sampled [A]								
	12/31/08	0.0030	0.0093	0.0026	0.0045	0.0194	--	--	--	--
	03/31/09	Not Sampled [A]								
	06/26/09	0.0030	ND	0.0029	ND	0.0059				
	09/25/09	Not Sampled [A]								
	12/21/09	0.0032	ND	0.0039	ND	0.0071				
	3/26/2010	0.0047	ND	0.0047	ND	0.0094				
	6/30/2010	Not Sampled [A]								
	9/28/2010	Not Sampled [A]								
	12/30/2010	Not Sampled [A]								
	3/25/2011	Not Sampled [A]								
	6/29/2011	Not Sampled [A]								
	9/30/2011	Not Sampled [A]								
	12/30/2011	Not Sampled [A]								

TABLE 2

GROUNDWATER ANALYTICAL RESULTS (BTEX & TPH)

PLAINS ALL AMERICAN PIPELINE, L.P.
LEA STATION
LEA COUNTY, NEW MEXICO

Monitor Well	Date Sampled	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Total Xylenes (mg/L)	Total BTEX (mg/L)	TPH as Gasoline	TPH as Diesel	TPH as Oil	Total TPH
RW-1	06/30/08	Not Sampled [A]								
	09/30/08	Not Sampled [A]								
	12/30/08	Not Sampled [A]								
	03/31/09	Not Sampled [A]								
	06/26/09	Not Sampled [A]								
	09/25/09	Not Sampled [A]								
	12/21/09	Not Sampled [A]								
	3/26/2010	Not Sampled [A]								
	6/30/2010	Not Sampled [A]								
	9/28/2010	Not Sampled [A]								
	12/30/2010	Not Sampled [A]								
	3/25/2011	Not Sampled [A]								
	6/29/2011	Not Sampled [A]								
	9/30/2011	Not Sampled [A]								
	12/30/2011	Not Sampled [A]								
NMWQCC Groundwater Standards		**0.01**	**0.75**	**0.75**	**0.62**	**2.13**				

Bold Numbers indicate elevated concentrations above NMWQCC Groundwater Standards
mg/L = milligrams per liter
ND = None Detected
If the cell is blank, analysis was not performed.
[A] Not sampled due to eight consecutive quarters of analytical data below NMWQCC Groundwater Standards.

TABLE 3

PAH CONCENTRATIONS IN GROUNDWATER

LEA STATION
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(j,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-Methylnapthlene (ug/L)	2-Methylnapthlene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
MW-1	30-Dec-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.010	ND	ND	ND	ND
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	ND	ND
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	30-Dec-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.027	ND	0.008	ND	ND
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.022	ND	ND	ND	ND
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	29.4	ND	ND	ND	ND
MW-3	30-Dec-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.012	ND	ND	ND	ND
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.032	ND	ND
	30-Dec-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	25-Mar-11	NOT SAMPLED																	
	28-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.0	ND	22.6	ND	ND
MW-4	30-Dec-08	NOT SAMPLED																	
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	NOT SAMPLED																	
MW-5	30-Dec-08	NOT SAMPLED																	
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	NOT SAMPLED																	
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	

TABLE 3

PAH CONCENTRATIONS IN GROUNDWATER

LEA STATION
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(j,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-Methylnapthlene (ug/L)	2-Methylnapthlene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
MW-5 (con't.)	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	NOT SAMPLED																	
MW-6	30-Dec-08	NOT SAMPLED																	
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	NOT SAMPLED																	
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	NOT SAMPLED																	
MW-7	30-Dec-08	NOT SAMPLED																	
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-8	30-Dec-08	NOT SAMPLED																	
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	NOT SAMPLED																	
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	NOT SAMPLED																	
MW-9	31-Dec-08	NOT SAMPLED																	
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	NOT SAMPLED																	
MW-10	31-Dec-08	NOT SAMPLED																	
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	25-Mar-11	NOT SAMPLED																	

TABLE 3

PAH CONCENTRATIONS IN GROUNDWATER

LEA STATION
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(j,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-Methylnapthlene (ug/L)	2-Methylnapthlene (ug/L)	Naphthalene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)
MW-10 (con't.)	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	NOT SAMPLED																	
MW-11	30-Dec-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.017	ND	ND	0.011	ND
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	ND	ND
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	30-Dec-08	NOT SAMPLED																	
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	31-Dec-08	NOT SAMPLED																	
	21-Dec-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	30-Dec-10	NOT SAMPLED																	
	25-Mar-11	NOT SAMPLED																	
	29-Jun-11	NOT SAMPLED																	
	30-Sep-11	NOT SAMPLED																	
	30-Dec-11	NOT SAMPLED																	
NMWQCC Groundwater Standards						0.7									30				

ND = Not Detected
NA = Not Analyzed

TABLE 4

Summary of Groundwater Sampling Recommendations for 2011
Plains All American Pipeline, L.P.
Lea Station - Ref. #2003-00339
Lea County, New Mexico

Monitoring Well	Eight Quarters Below	Sampling Schedule				Notes
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
RW-1					BTEX	Recommend Annual BTEX analysis
RW-2					BTEX	Recommend Annual BTEX analysis
MW-1	No	BTEX	BTEX	BTEX	BTEX	
MW-2	No	BTEX	BTEX	BTEX	BTEX, PAH	Recommend Annual PAH analysis
MW-3	No	BTEX	BTEX	BTEX	BTEX, PAH	Recommend Annual PAH analysis
MW-4	Yes		BTEX		BTEX	
MW-5	Yes				BTEX	Recommend Annual BTEX analysis
MW-6	Yes				BTEX	Recommend Annual BTEX analysis
MW-7	No	BTEX	BTEX	BTEX	BTEX	
MW-8	Yes		BTEX		BTEX	
MW-9	Yes		BTEX		BTEX	
MW-10	Yes		BTEX		BTEX	
MW-11	No	BTEX	BTEX	BTEX	BTEX	
MW-12	No	BTEX	BTEX	BTEX	BTEX	
MW-13	Yes		BTEX		BTEX	

Analytical Report 411076

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

Lea Station

2003-00339

29-MAR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

29-MAR-11

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

Reference: XENCO Report No: **411076**
Lea Station
Project Address: NW1/4, Sec. 28, T 20 S, R 37 E

Jason Henry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 411076. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 411076 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 411076

PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1 (vials)	W	Mar-25-11 08:00		411076-001
MW-2 (vials)	W	Mar-25-11 08:40		411076-002
MW-3 (vials)	W	Mar-25-11 09:05		411076-003
MW-11 (vials)	W	Mar-25-11 09:35		411076-004

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: Lea Station

Project ID:	*2003-00339*	*Report Date:*	*29-MAR-11*
Work Order Number:	*411076*	*Date Received:*	*03/25/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 411076

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: Jason Henry
Project Location: NW1/4, Sec. 28, T 20 S, R 37 E

Date Received in Lab: Fri Mar-25-11 04:14 pm
Report Date: 29-MAR-11
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	411076-001		411076-002		411076-003		411076-004			
	Field Id:	MW-1 (vials)		MW-2 (vials)		MW-3 (vials)		MW-11 (vials)			
	Depth:										
	Matrix:	WATER		WATER		WATER		WATER			
	Sampled:	Mar-25-11 08:00		Mar-25-11 08:40		Mar-25-11 09:05		Mar-25-11 09:35			
BTEX by EPA 8021B	*Extracted:*	Mar-28-11 12:45		Mar-28-11 12:45		Mar-28-11 12:45		Mar-28-11 12:45			
	Analyzed:	Mar-28-11 23:30		Mar-28-11 23:53		Mar-29-11 01:45		Mar-29-11 02:07			
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL		
Benzene		0.372	0.0200	1.61	0.0500	1.00	0.0200	0.832	0.0200		
Toluene		ND	0.0400	ND	0.100	ND	0.0400	ND	0.0400		
Ethylbenzene		0.0416	0.0200	0.246	0.0500	0.183	0.0200	0.243	0.0200		
m_p-Xylenes		ND	0.0400	0.128	0.100	0.0870	0.0400	ND	0.0400		
o-Xylene		ND	0.0200	ND	0.0500	ND	0.0200	ND	0.0200		
Total Xylenes		ND	0.0200	0.128	0.0500	0.0870	0.0200	ND	0.0200		
Total BTEX		0.414	0.0200	1.98	0.0500	1.27	0.0200	1.08	0.0200		

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders : 411076,

Project ID: 2003-00339

Lab Batch #: 849635 **Sample:** 599132-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/28/11 18:36

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 849635 **Sample:** 599132-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/28/11 18:59

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 849635 **Sample:** 599132-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/28/11 20:06

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 849635 **Sample:** 411076-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/28/11 23:30

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0262	0.0300	87	80-120	

Lab Batch #: 849635 **Sample:** 411076-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/28/11 23:53

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders : 411076,

Project ID: 2003-00339

Lab Batch #: 849635 **Sample:** 410846-009 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/29/11 00:15

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 849635 **Sample:** 410846-009 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/29/11 00:37

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 849635 **Sample:** 411076-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/29/11 01:45

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 849635 **Sample:** 411076-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/29/11 02:07

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0270	0.0300	90	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

BS / BSD Recoveries

Project Name: Lea Station

Work Order #: 411076 **Project ID:** 2003-00339

Analyst: ASA **Date Prepared:** 03/28/2011 **Date Analyzed:** 03/28/2011

Lab Batch ID: 849635 **Sample:** 599132-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0917	92	0.100	0.0868	87	5	70-125	25	
Toluene	<0.00200	0.100	0.0952	95	0.100	0.0903	90	5	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0984	98	0.100	0.0924	92	6	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.195	98	0.200	0.182	91	7	70-131	25	
o-Xylene	<0.00100	0.100	0.101	101	0.100	0.0946	95	7	71-133	25	

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

Form 3 - MS / MSD Recoveries

Project Name: Lea Station

Work Order # : 411076 **Project ID:** 2003-00339

Lab Batch ID: 849635 **QC- Sample ID:** 410846-009 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 03/29/2011 **Date Prepared:** 03/28/2011 **Analyst:** ASA

Reporting Units: mg/L

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.00262	0.100	0.0942	92	0.100	0.0935	91	1	70-125	25	
Toluene	0.00699	0.100	0.102	95	0.100	0.102	95	0	70-125	25	
Ethylbenzene	0.00249	0.100	0.101	99	0.100	0.0998	97	1	71-129	25	
m_p-Xylenes	0.00673	0.200	0.200	97	0.200	0.200	97	0	70-131	25	
o-Xylene	0.00351	0.100	0.105	101	0.100	0.104	100	1	71-133	25	

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

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

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

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 *P.O. Box 1558, Eunice, NM 88231*
(505) 394-3481 FAX: (505) 394-2601

LAB:

Company Name	Environmental Plus, Inc.
EPI Project Manager	Jerry Smith
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	575-394-3481 / 575-394-2601
Client Company	Plains Pipeline
Facility Name	Lea Station
Location	NW¼, Sec. 28, T 20 S, R 37 E
Project Reference	2003-00339
EPI Sampler Name	Kirby Bingham

Bill To:

PLAINS ALL AMERICAN PIPELINE, L.P.

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

LAB I.D. 411076	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
001	MW-1 (vials)	G	2	X						X	X		25-Mar-11	8:00	X										
002	MW-2 (vials)	G	2	X						X	X		25-Mar-11	8:40	X										
003	MW-3 (vials)	G	2	X						X	X		25-Mar-11	9:05	X										
004	MW-11 (vials)	G	2	X						X	X		25-Mar-11	9:35	X										
5																									
6																									
7																									
8																									
9																									
10																									

Sampler Relinquished:	03/25/11	Received By:	E-mail results to: ddominguezepi@gmail.com and jhenry@paalp.com
Relinquished by:	Time 7:20	Received By:	REMARKS:
Delivered by:	Time 4:14	Received By: (lab staff) Lisa Murdock	
	5.6°C Sample Cool & Intact Yes / No	Checked By:	

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 3-25-11 4:14

Lab ID #: 411076

Initials: KM

Sample Receipt Checklist

1. Samples on ice?						Blue	(Water)	No	
2. Shipping container in good condition?						(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?						Yes	No	(N/A)	
4. Chain of Custody present?						(Yes)	No		
5. Sample instructions complete on chain of custody?						(Yes)	No		
6. Any missing / extra samples?						Yes	(No)		
7. Chain of custody signed when relinquished / received?						(Yes)	No		
8. Chain of custody agrees with sample label(s)?						(Yes)	No		
9. Container labels legible and intact?						(Yes)	No		
10. Sample matrix / properties agree with chain of custody?						(Yes)	No		
11. Samples in proper container / bottle?						(Yes)	No		
12. Samples properly preserved?						(Yes)	No	N/A	
13. Sample container intact?						(Yes)	No		
14. Sufficient sample amount for indicated test(s)?						(Yes)	No		
15. All samples received within sufficient hold time?						(Yes)	No		
16. Subcontract of sample(s)?						Yes	(No)	N/A	
17. VOC sample have zero head space?						Yes	No	(N/A)	
18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	5.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

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

Analytical Report 421522

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jerry Smith

Lea Station

2003-00339

05-JUL-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

05-JUL-11

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

Reference: XENCO Report No: **421522**
Lea Station
Project Address: NW 1/4, Sec. 28, T 20 S, R 37 E

Jerry Smith:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 421522. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 421522 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 421522

PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1V	W	Jun-29-11 08:20		421522-001
MW-2V	W	Jun-29-11 08:40		421522-002
MW-3V	W	Jun-29-11 08:56		421522-003
MW-4V	W	Jun-29-11 07:24		421522-004
MW-7V	W	Jun-29-11 09:40		421522-005
MW-9V	W	Jun-29-11 07:40		421522-006
MW-10V	W	Jun-29-11 08:05		421522-007
MW-11V	W	Jun-29-11 09:18		421522-008
MW-12V	W	Jun-29-11 10:00		421522-009

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: Lea Station

Project ID:	*2003-00339*	*Report Date:*	*05-JUL-11*
Work Order Number:	*421522*	*Date Received:*	*06/29/2011*

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 421522

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: Jerry Smith
Project Location: NW 1/4, Sec. 28, T 20 S, R 37 E

Date Received in Lab: Wed Jun-29-11 02:55 pm
Report Date: 05-JUL-11
Project Manager: Brent Barron, II

Analysis Requested	*Lab Id:*	421522-001		421522-002		421522-003		421522-004		421522-005		421522-006	
	Field Id:	MW-1V		MW-2V		MW-3V		MW-4V		MW-7V		MW-9V	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Jun-29-11 08:20		Jun-29-11 08:40		Jun-29-11 08:56		Jun-29-11 07:24		Jun-29-11 09:40		Jun-29-11 07:40	
BTEX by EPA 8021	*Extracted:*	Jun-30-11 16:00		Jun-30-11 16:00		Jun-30-11 16:00		Jun-30-11 16:00		Jun-30-11 16:00		Jun-30-11 16:00	
	Analyzed:	Jul-01-11 10:44		Jul-01-11 11:44		Jul-01-11 12:07		Jul-01-11 07:20		Jul-01-11 07:43		Jul-01-11 08:06	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		0.398	0.0500	2.01	0.0500	0.368	0.0500	ND	0.0010	0.00335	0.0010	ND	0.0010
Toluene		ND	0.100	ND	0.100	ND	0.100	ND	0.0020	ND	0.0020	ND	0.0020
Ethylbenzene		0.0855	0.0500	0.292	0.0500	0.0915	0.0500	ND	0.0010	0.00445	0.0010	ND	0.0010
m_p-Xylenes		0.101	0.100	0.185	0.100	ND	0.100	ND	0.0020	ND	0.0020	ND	0.0020
o-Xylene		ND	0.0500	ND	0.0500	ND	0.0500	ND	0.0010	ND	0.0010	ND	0.0010
Xylenes, Total		0.101	0.0500	0.185	0.0500	ND	0.0500	ND	0.0010	ND	0.0010	ND	0.0010
Total BTEX		0.585	0.0500	2.49	0.0500	0.460	0.0500	ND	0.0010	0.00780	0.0010	ND	0.0010

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Certificate of Analysis Summary 421522

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: Jerry Smith
Project Location: NW 1/4, Sec. 28, T 20 S, R 37 E

Date Received in Lab: Wed Jun-29-11 02:55 pm
Report Date: 05-JUL-11
Project Manager: Brent Barron, II

Analysis Requested	*Lab Id:*	421522-007		421522-008		421522-009				
	Field Id:	MW-10V		MW-11V		MW-12V				
	Depth:									
	Matrix:	WATER		WATER		WATER				
	Sampled:	Jun-29-11 08:05		Jun-29-11 09:18		Jun-29-11 10:00				
BTEX by EPA 8021	*Extracted:*	Jun-30-11 16:00		Jun-30-11 16:00		Jun-30-11 16:00				
	Analyzed:	Jul-01-11 08:28		Jul-01-11 12:30		Jul-01-11 11:22				
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL			
Benzene		ND	0.0010	0.906	0.0500	0.0400	0.0100			
Toluene		ND	0.0020	ND	0.100	ND	0.0200			
Ethylbenzene		ND	0.0010	0.236	0.0500	0.0442	0.0100			
m_p-Xylenes		ND	0.0020	ND	0.100	ND	0.0200			
o-Xylene		ND	0.0010	0.0610	0.0500	ND	0.0100			
Xylenes, Total		ND	0.0010	0.0610	0.0500	ND	0.0100			
Total BTEX		ND	0.0010	1.20	0.0500	0.0842	0.0100			

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

LOD Limit of Detection

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders : 421522,

Project ID: 2003-00339

Lab Batch #: 862337 **Sample:** 606974-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 03:57

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120	

Lab Batch #: 862337 **Sample:** 606974-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 04:20

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 862337 **Sample:** 606974-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 05:27

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 862337 **Sample:** 421522-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 07:20

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 862337 **Sample:** 421522-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 07:43

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders : 421522,

Project ID: 2003-00339

Lab Batch #: 862337 **Sample:** 421522-006 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 08:06

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	80-120	
4-Bromofluorobenzene	0.0263	0.0300	88	80-120	

Lab Batch #: 862337 **Sample:** 421522-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 08:28

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 862337 **Sample:** 421100-002 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 08:51

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 862337 **Sample:** 421100-002 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 09:14

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 862337 **Sample:** 421522-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 10:44

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders : 421522,

Project ID: 2003-00339

Lab Batch #: 862337 **Sample:** 421522-009 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 11:22

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 862337 **Sample:** 421522-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 11:44

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 862337 **Sample:** 421522-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 12:07

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 862337 **Sample:** 421522-008 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 07/01/11 12:30 .

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

BS / BSD Recoveries

Project Name: Lea Station

Work Order #: 421522 **Project ID:** 2003-00339

Analyst: ASA **Date Prepared:** 06/30/2011 **Date Analyzed:** 07/01/2011

Lab Batch ID: 862337 **Sample:** 606974-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0978	98	0.100	0.0990	99	1	70-125	25	
Toluene	<0.00200	0.100	0.0902	90	0.100	0.0932	93	3	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0983	98	0.100	0.102	102	4	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.187	94	0.200	0.197	99	5	70-131	25	
o-Xylene	<0.00100	0.100	0.0940	94	0.100	0.0990	99	5	71-133	25	

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

Final 1.000

Form 3 - MS / MSD Recoveries

Project Name: Lea Station

Work Order # : 421522 **Project ID:** 2003-00339

Lab Batch ID: 862337 **QC- Sample ID:** 421100-002 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 07/01/2011 **Date Prepared:** 06/30/2011 **Analyst:** ASA

Reporting Units: mg/L

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
BTEX by EPA 8021 **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**Spiked Sample %R [D]**	**Spike Added [E]**	**Duplicate Spiked Sample Result [F]**	**Spiked Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Benzene	<0.00100	0.100	0.0941	94	0.100	0.103	103	9	70-125	25	
Toluene	<0.00200	0.100	0.0854	85	0.100	0.0929	93	8	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0950	95	0.100	0.104	104	9	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.182	91	0.200	0.197	99	8	70-131	25	
o-Xylene	<0.00100	0.100	0.0888	89	0.100	0.0998	100	12	71-133	25	

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

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

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

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 *P.O. Box 1558, Eunice, NM 88231*
(505) 394-3481 FAX: (505) 394-2601

LAB: XENCO (ELT)

Company Name	Environmental Plus, Inc.
EPI Project Manager	Jerry Smith
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	Lea Station
Location	NW¼, Sec. 28, T 20 S, R 37 E
Project Reference	2003-00339
EPI Sampler Name	Kirby Bingham

Bill To

PLAINS ALL AMERICAN PIPELINE, L.P.

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

ANALYSIS REQUEST

LAB I.D. 421522		SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
001	1	MW-1V		4	X						X	X		29-Jun-11	8:20	X										
002	2	MW-2V		4	X						X	X		29-Jun-11	8:40	X										
003	3	MW-3V		4	X						X	X		29-Jun-11	8:56	X										
004	4	MW-4V		4	X						X	X		29-Jun-11	7:24	X										
005	5	MW-7V		4	X						X	X		29-Jun-11	9:40	X										
	6	~~MW-8V~~		~~4~~	~~X~~						~~X~~	~~X~~		~~29-Jun-11~~	~~xxxx~~	~~X~~										
006	7	MW-9V		4	X						X	X		29-Jun-11	7:40	X										
007	8	MW-10V		4	X						X	X		29-Jun-11	8:05	X										
~~008~~	9																								
	10																								

Sampler Relinquished: Kirby Bingham	29-Jun-11 Time 10:40	Received By:	E-mail results to: jsmith.epi@gmail.com
Relinquished by:	29-Jun-11 Time 2:55	Received By: (lab staff) Lisa Murdock	REMARKS:
Delivered by:	Sample Cool & Intact: intact (Yes) (No) cool	Checked By:	

21.6

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 *P.O. Box 1558, Eunice, NM 88231*
(505) 394-3481 FAX: (505) 394-2601

LAB: XENCO (ELT)

Company Name	Environmental Plus, Inc.
EPI Project Manager	Jerry Smith
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	Lea Station
Location	NW¼, Sec. 28, T 20 S, R 37 E
Project Reference	2003-00339
EPI Sampler Name	Kirby Bingham

Bill To

PLAINS ALL AMERICAN PIPELINE, L.P.

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

ANALYSIS REQUEST

	LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES (SO_4^{-2})	pH	TCLP	OTHER >>>	PAH			
	421522																								
008	1	MW-11V		4	X						X	X		29-Jun-11	9:18	X										
009	2	MW-12V		4	X						X	X		29-Jun-11	10:00	X										
	3	MW-13V		4	X						X	X		29-Jun-11		X										
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									

Sampler Relinquished: Kirby Bingham	29-Jun-11 Time 10:40	Received By: [signature]	E-mail results to: jsmith.epi@gmail.com
Relinquished by: [signature]	29-Jun-11 Time 2:55	Received By: (lab staff)	REMARKS:
Delivered by:	Sample Cool & Intact: intact (Yes) (No)-Cool	Checked By:	

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Environmental Plus

Date/Time: 6.29.11 2:55

Lab ID #: 421522

Initials: LM

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	21.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

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

Analytical Report 428776

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

Lea Station

2003-00339

05-OCT-11

Collected By□Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-□ouston (EPA Lab code□TX00122)□
Texas (T104704215-10-6-TX), Arizona (A□0765), Arkansas (08-039-0), Connecticut (P□-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), □ansas (E-10380), □entucky (45), Louisiana (03054)
New □ampshire (297408), New Jersey (TX007), New □ork (11763), □klahoma (9218), Pennsylvania (68-03610)
Rhode Island (LA□00312), □SDA (S-44102)

Xenco-Atlanta (EPA Lab Code□GA00046)□
Florida (E87429), North Carolina (483), South Carolina (98015), □tah (AALI1), West □irginia (362), □entucky (85)
Louisiana (04176), □SDA (P330-07-00105)

Xenco-Miami (EPA Lab code□FL01152)□Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code□FL01212)□Florida (E84900)
Xenco-□dessa (EPA Lab code□TX00158)□Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code□TX01468)□Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code□A□00901)□Arizona(A□0757)
Xenco-Phoenix Mobile (EPA Lab code□A□00901)□Arizona (A□M757)
Xenco Tucson (EPA Lab code□A□000989)□Arizona (A□0758)

05-□CT-11

Pro□ect Manager□**Jason Henry**
PLAINS ALL AMERICAN EH&S
1301 S. C□□NT□ R□AD 1150
Midland, TX 79706

Reference□XENC□ Report No□**428776**
Lea Station
Pro□ect Address□NW 1/4, Sec. 28, T 20 S, R 37 E

Jason Henry□

We are reporting to you the results of the analyses performed on the samples received under the pro□ect name referenced above and identified with the XENC□ Report Number 428776. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

□nless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENC□ Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 428776 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron II

□dessa Laboratory Manager

Sample Cross Reference 428776

PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	09-30-11 08:00		428776-001
MW-2	W	09-30-11 08:30		428776-002
MW-3	W	09-30-11 09:00		428776-003
MW-11	W	09-30-11 09:45		428776-004

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: Lea Station

Project ID:	*2003-00339*	*Report Date:*	*05-OCT-11*
Work Order Number:	*428776*	*Date Received:*	*09/30/2011*

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 428776

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: Jason □enry
Project Location: NW 1/4, Sec. 28, T 20 S, R 37 E

Date Received in Lab: Fri Sep-30-11 03□15 pm
Report Date: 05-□CT-11
Project Manager: Brent Barron II

Analysis Requested	*Lab Id:*	428776-001		428776-002		428776-003		428776-004			
	Field Id:	MW-1□		MW-2□		MW-3□		MW-11□			
	Depth:										
	Matrix:	WATER		WATER		WATER		WATER			
	Sampled:	Sep-30-11 08□00		Sep-30-11 08□30		Sep-30-11 09□00		Sep-30-11 09□45			
BTEX by EPA 8021	*Extracted:*	□ct-04-11 10□14		□ct-04-11 10□14		□ct-04-11 10□14		□ct-04-11 10□14			
	Analyzed:	□ct-04-11 18□55		□ct-04-11 19□18		□ct-04-11 19□41		□ct-04-11 20□04			
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL		
Benzene		0.368	0.0200	1.83	0.0200	1.52	0.0200	1.70	0.0500		
Toluene		ND	0.0400	ND	0.0400	ND	0.0400	ND	0.100		
Ethylbenzene		0.0582	0.0200	0.285	0.0200	0.310	0.0200	0.492	0.0500		
m_p-Xylenes		ND	0.0400	0.222	0.0400	0.142	0.0400	ND	0.100		
o-Xylene		ND	0.0200	0.0440	0.0200	ND	0.0200	ND	0.0500		
Xylenes, Total		ND	0.0200	0.266	0.0200	0.142	0.0200	ND	0.0500		
Total BTEX		0.426	0.0200	2.38	0.0200	1.97	0.0200	2.19	0.0500		

Brent Barron II
□dessa Laboratory Manager

Final 1.000

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit□therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the □N□and the □J□qualifier. The analysis indicates that the analyte is □tentatively identified□and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ □utside XENC□□scope of NELAC Accreditation.

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders : 428776,

Project ID: 2003-00339

Lab Batch #: 871633 **Sample:** 428776-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/04/11 18:55

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0256	0.0300	85	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 871633 **Sample:** 428776-002 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/04/11 19:18

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0252	0.0300	84	80-120	
4-Bromofluorobenzene	0.0248	0.0300	83	80-120	

Lab Batch #: 871633 **Sample:** 428776-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/04/11 19:41

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Lab Batch #: 871633 **Sample:** 428776-004 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/04/11 20:04

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0264	0.0300	88	80-120	

Lab Batch #: 871633 **Sample:** 612257-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/04/11 12:22

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0269	0.0300	90	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits□data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders : 428776□ **Project ID:** 2003-00339

Lab Batch #: 871633 **Sample:** 612257-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/04/11 10:49

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0273	0.0300	91	80-120	
4-Br□m□□□□r□□e□□e□e	0.0279	0.0300	93	80-120	

Lab Batch #: 871633 **Sample:** 612257-1-BS□ / BS□ **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/04/11 11:12

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0283	0.0300	94	80-120	
4-Br□m□□□□r□□e□□e□e	0.0281	0.0300	94	80-120	

Lab Batch #: 871633 **Sample:** 428738-013 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/04/11 15:52

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0284	0.0300	95	80-120	
4-Br□m□□□□r□□e□□e□e	0.0292	0.0300	97	80-120	

Lab Batch #: 871633 **Sample:** 428738-013 S□ / MS□ **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 10/04/11 16:15

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0268	0.0300	89	80-120	
4-Br□m□□□□r□□e□□e□e	0.0287	0.0300	96	80-120	

□ S□rr□gate □□t□□□e □□La□□rat□r□□□ □m□t□
□□S□rr□gate□□□t□□□e □m□t□□□ata a□□ □□rr□gate□□□□□me□ □□rea□a□□□□
□□□P□□r re□□□er□□□□e t□ □□□t□□□
S□rr□gate □e□□□er□□□□□100 □□ / B
□□re□□□t□are □a□e□□□M□L a□□ □a□□ate□□□r □□ □□r□□□e□□

Final 1.000

BS / BSD Recoveries

Project Name: Lea Station

Work Order #: 428776
Analyst: □S□
Lab Batch ID: 871633
Sample: 612257-1-BKS
Units: mg/L

Date Prepared: 10/04/2011
Batch #: 1

Project ID: 2003-00339
Date Analyzed: 10/04/2011
Matrix: Water

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Be□□e□e	□0.00100	0.100	0.0972	97	0.100	0.0962	96	1	70-125	25	
□□□e□e	□0.00200	0.100	0.100	100	0.100	0.0987	99	1	70-125	25	
□t□□□e□□e□e	□0.00100	0.100	0.107	107	0.100	0.106	106	1	71-129	25	
m□□-□□e□e□	□0.00200	0.200	0.215	108	0.200	0.215	108	0	70-131	25	
□-□□e□e	□0.00100	0.100	0.106	106	0.100	0.106	106	0	71-133	25	

□e□at□□e Per□e□t □□□ere□□e □P□ □200□□□-□□/□□□□□□
B□a□□S□□□e □e□□□er□ □□ □□100□□□□/□B□
B□a□□S□□□e □□□□□ate □e□□□er□ □□ □□100□□□□/□□□
□□□re□□□t□are □a□e□ □□M□L a□□ □a□□ate□ □□r □□P□r□□□e□

Final 1.000

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: Lea Station

Work Order # : 428776 **Project ID:** 2003-00339

Lab Batch ID: 871633 **QC- Sample ID:** 428738-013 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 10/04/2011 **Date Prepared:** 10/04/2011 **Analyst:** □S□

Reporting Units: mg/L

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Be□□e□e	0□00229	0□100	0□107	105	0□100	0□105	103	2	70-125	25	
□□□□e□e	□0□00200	0□100	0□110	110	0□100	0□106	106	4	70-125	25	
□t□□□□e□□e□e	0□00177	0□100	0□119	117	0□100	0□114	112	4	71-129	25	
m□□-□□□e□e□	□0□00200	0□200	0□238	119	0□200	0□229	115	4	70-131	25	
□-□□□e□e	□0□00100	0□100	0□118	118	0□100	0□115	115	3	71-133	25	

Matr□□S□□e Per□e□t □e□□□er□ □□□□ 100□□□-□□/B

Matr□□S□□e □□□□□ate Per□e□t □e□□□er□ □□□□ 100□□□-□□/□

□e□at□□e Per□e□t □□□ere□□e □P□ □ 200□□□-□□/□□□□□□

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Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 *P.O. Box 1558, Eunice, NM 88231*
(505) 394-3481 FAX: (505) 394-2601

LAB: XENCO (ELT)

Company Name	Environmental Plus, Inc.	Bill To	ANALYSIS REQUEST
EPI Project Manager	Jerry Smith		
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	Lea Station		
Location	NW¼, Sec. 28, T 20 S, R 37 E		
Project Reference	2003-00339		
EPI Sampler Name	Kirby Bingham		

PLAINS ALL AMERICAN PIPELINE, L.P.

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

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
428776																									
1	MW-1V	G	4	X						X	X		30-Sep-11	8:00	X										
2	MW-2V	G	4	X						X	X		30-Sep-11	8:30	X										
3	MW-3V	G	4	X						X	X		30-Sep-11	9:00	X										
4	MW-11V	G	4	X						X	X		30-Sep-11	9:45	X										
5																									
6																									
7																									
8																									
9																									
10																									

Sampler Relinquished: Kirby Bingham	30-Sep-11	Received By:	E-mail results to: jsmith.epi@gmail.com
Relinquished by:	Time 11:45		REMARKS:
	30-Sep-11	Received By: (lab staff)	
	Time 15:15	Andrea Elam 9.30.11 15:15	
Delivered by:	5.0 Sample Cool & Intact Yes / No	Checked By:	40ml VOA vials

XENCO Laboratories	XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: EPI / Plains

Date/Time: 9.30.11 15:15

Lab ID # : 428776

Initials: AE

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	5.0 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

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

Analytical Report 434323

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

Lea Station

2003-00339

09-JAN-12

[illegible]

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

09-□□□-12

Pr□e□t Ma□ager: **Jason Henry**
PLAINS ALL AMERICAN EH&S
1301 S□□□□□□ □□□□ 1150
M□□a□□□□ 79706

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Lea Station
Pr□e□t □□re□: □W 1/4□Se□28□□ 20 S□□ 37 □

Jason Henry:

We are re□□rt□□g t□ □□□t□e re□□lt□□□t□e a□a□□e□□er□□rme□ □□t□e □am□le□re□e□□e□ □□□er t□e □r□e□t □ame re□ere□□e□ a□□□e a□□ □□e□t□□e□ □□t□ t□e □□□□□ □e□□rt □□m□er 434323□□□□re□□lt□□e□□g re□□rte□ □□□er t□□□ □e□□rt □□m□er a□□□□ t□ t□e □am□le□a□a□□□e□ a□□ □r□□er□□ □□e□t□□e□ □□t□ a La□□rat□r□ □□ □□m□er□ S□□□□□tra□te□ a□a□□□e□ are □□e□t□□e□ □□ t□□□ re□□rt □□t□ e□t□er t□e □□L□□ □ert□□□□at□□□ □□m□er □□ t□e □□□□□□tra□t □a□ □□t□e a□a□□t □□ □□e□□□r t□e □□m□ete □□□□□□tra□te□re□□rt atta□□e□ t□ t□□□re□□rt□

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

Sample Cross Reference 434323

PLAINS ALL AMERICAN EH&S, Midland, TX

Lea Stat

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	12-30-11 09:18		434323-001
MW-1	W	12-30-11 09:22		434323-002
MW-2	W	12-30-11 09:36		434323-003
MW-2	W	12-30-11 09:40		434323-004
MW3	W	12-30-11 09:55		434323-005
MW-3	W	12-30-11 09:57		434323-006
MW-4	W	12-30-11 08:30		434323-007
MW-7	W	12-30-11 10:28		434323-008
MW-7	W	12-30-11 10:30		434323-009
MW-9	W	12-30-11 09:05		434323-010
MW-10	W	12-30-11 08:50		434323-011
MW-11	W	12-30-11 10:15		434323-012
MW-11	W	12-30-11 10:17		434323-013
MW-12	W	12-30-11 10:55		434323-014
MW-12	W	12-30-11 10:57		434323-015

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: Lea Station

Project ID:	*2003-00339*	*Report Date:*	*09-JAN-12*
Work Order Number:	*434323*	*Date Received:*	*12/30/2011*

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-878499 SVOAs by SW-846 8270C
Initial dilutions on samples due to sample matrix.

Certificate of Analysis Summary 434323

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: [illegible]
Project Location: [illegible]

Date Received in Lab: [illegible]
Report Date: 09-[illegible]-12
Project Manager: [illegible]

Analysis Requested	*Lab Id:*	434323-001		434323-002	434323-003		434323-004	434323-005		434323-006
	Field Id:	MW-1[illegible]		MW-1[illegible]	MW-2[illegible]		MW-2[illegible]	MW3[illegible]		MW-3[illegible]
	Depth:									
	Matrix:	W[illegible]		W[illegible]	W[illegible]		W[illegible]	W[illegible]		W[illegible]
	Sampled:	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
BTEX by EPA 8021	*Extracted:*	[illegible]			[illegible]			[illegible]		
	Analyzed:	[illegible]			[illegible]			[illegible]		
	Units/RL:	mg/L	[illegible]L		mg/L	[illegible]L		mg/L	[illegible]L	
Be[illegible]		0[illegible]13	0[illegible]0500		1[illegible]94	0[illegible]0200		1[illegible]35	0[illegible]0200	
[illegible]		[illegible]	0[illegible]100		[illegible]	0[illegible]0400		[illegible]	0[illegible]0400	
[illegible]		0[illegible]0810	0[illegible]0500		0[illegible]338	0[illegible]0200		0[illegible]381	0[illegible]0200	
m[illegible]		[illegible]	0[illegible]100		0[illegible]235	0[illegible]0400		0[illegible]184	0[illegible]0400	
[illegible]		[illegible]	0[illegible]0500		[illegible]	0[illegible]0200		[illegible]	0[illegible]0200	
[illegible]		[illegible]	0[illegible]0500		0[illegible]235	0[illegible]0200		0[illegible]184	0[illegible]0200	
[illegible]		0[illegible]394	0[illegible]0500		2[illegible]51	0[illegible]0200		1[illegible]92	0[illegible]0200	

[illegible]

[illegible]

[illegible]

[illegible]

Certificate of Analysis Summary 434323

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: □a□□ □e□r□
Project Location: □W 1/4□Se□28□20 S□ 37 □

Date Received in Lab: □r□□e□30-11 04:25 □m
Report Date: 09-□□□-12
Project Manager: Bre□t Barr□□□

Analysis Requested		434323-001	434323-002		434323-003	434323-004		434323-005	434323-006	
	Lab Id:	434323-001	434323-002		434323-003	434323-004		434323-005	434323-006	
	Field Id:	MW-1□	MW-1□		MW-2□	MW-2□		MW3□	MW-3□	
	Depth:									
	Matrix:	W□□□□	W□□□□		W□□□□	W□□□□		W□□□□	W□□□□	
	Sampled:	□e□30-11 09:18	□e□30-11 09:22		□e□30-11 09:36	□e□30-11 09:40		□e□30-11 09:55	□e□30-11 09:57	
SVOA PAHs List SUB: E871002	*Extracted:*		□a□04-12 11:42			□a□04-12 11:45			□a□04-12 11:48	
	Analyzed:		□a□05-12 12:45			□a□05-12 16:59			□a□06-12 14:38	
	Units/RL:		□g/L	□L		□g/L	□L		□g/L	□L
□□e□a□□t□e□e			□□	200		□□	50.0		□□	10.0
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2-Met□□□a□□t□a□e□e			□□	200		□□	50.0		□□	10.0
□a□□t□a□e□e			□□	200		□□	50.0		22.6	10.0
P□e□a□t□re□e			□□	200		□□	50.0		□□	10.0
P□re□e			□□	200		□□	50.0		□□	10.0

Bre□t Barr□□□
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Certificate of Analysis Summary 434323

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: □a□□□ □e□r□
Project Location: □W 1/4□Se□28□□ 20 S□□ 37 □

Date Received in Lab: □r□□e□-30-11 04:25 □m
Report Date: 09-□□□-12
Project Manager: Bre□t Barr□□ □□

Analysis Requested	*Lab Id:*	434323-007		434323-008		434323-009	434323-010		434323-011		434323-012	
	Field Id:	MW-4□		MW-7□		MW-7□	MW-9□		MW-10□		MW-11□	
	Depth:											
	Matrix:	W□□□□		W□□□□		W□□□□	W□□□□		W□□□□		W□□□□	
	Sampled:	□e□-30-11 08:30		□e□-30-11 10:28		□e□-30-11 10:30	□e□-30-11 09:05		□e□-30-11 08:50		□e□-30-11 10:15	
BTEX by EPA 8021	*Extracted:*	□a□-04-12 09:10		□a□-04-12 09:10			□a□-04-12 09:10		□a□-04-12 09:10		□a□-04-12 09:10	
	Analyzed:	□a□-04-12 12:42		□a□-04-12 13:04			□a□-04-12 13:27		□a□-04-12 13:50		□a□-04-12 15:44	
	Units/RL:	mg/L	□L	mg/L	□L		mg/L	□L	mg/L	□L	mg/L	□L
Bc□□e□c		□□	0□00100	0□0148	0□00100		□□	0□00100	□□	0□00100	1□44	0□0500
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□t□□□□e□□e□e		□□	0□00100	0□0149	0□00100		□□	0□00100	□□	0□00100	0□437	0□0500
m□□-□□□e□e□		□□	0□00200	0□00386	0□00200		□□	0□00200	□□	0□00200	□□	0□100
□-□□□e□e		□□	0□00100	□□	0□00100		□□	0□00100	□□	0□00100	□□	0□0500
□□□e□e□□□□ta□		□□	0□00100	0□00386	0□00100		□□	0□00100	□□	0□00100	□□	0□0500
□□ta□B□□□		□□	0□00100	0□0336	0□00100		□□	0□00100	□□	0□00100	1□88	0□0500

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Final 1.000

Certificate of Analysis Summary 434323

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: □a□□ □e□r□
Project Location: □W 1/4□Se□28□□20 S□□ 37 □

Date Received in Lab: □r□□e□30-11 04:25 □m
Report Date: 09-□□□-12
Project Manager: Bre□t Barr□□□□

Analysis Requested							
Lab Id:	434323-007	434323-008	434323-009		434323-010	434323-011	434323-012
Field Id:	MW-4□	MW-7□	MW-7□		MW-9□	MW-10□	MW-11□
Depth:							
Matrix:	W□□□□	W□□□□	W□□□□		W□□□□	W□□□□	W□□□□
Sampled:	□e□30-11 08:30	□e□30-11 10:28	□e□30-11 10:30		□e□30-11 09:05	□e□30-11 08:50	□e□30-11 10:15
SVOA PAHs List SUB: E871002 *Extracted:*			□a□04-12 11:51				
Analyzed:			□a□05-12 11:59				
Units/RL:			□g/L	□L			
□□e□a□□t□e□e			□□	10.0			
□□e□a□□t□□□e□e			□□	10.0			
□□t□ra□e□e			□□	10.0			
Be□□□a□a□t□ra□e□e			□□	10.0			
Be□□□a□□□re□e			□□	10.0			
Be□□□□□□□ra□t□e□e			□□	10.0			
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Be□□□g□□□□er□e□e			□□	10.0			
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□□□ra□t□e□e			□□	10.0			
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1-Met□□□a□□t□a□e□e			□□	50.0			
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Certificate of Analysis Summary 434323

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: [illegible]
Project Location: [illegible]

Date Received in Lab: [illegible]
Report Date: 09-[illegible]-12
Project Manager: [illegible]

Analysis Requested							
	Lab Id:	434323-013	434323-014	434323-015			
	Field Id:	MW-11[illegible]	MW-12[illegible]	MW-12[illegible]			
	Depth:						
	Matrix:	W[illegible]	W[illegible]	W[illegible]			
	Sampled:	[illegible]	[illegible]	[illegible]			
BTEX by EPA 8021	***Extracted:***		[illegible]				
	Analyzed:		[illegible]				
	Units/RL:		mg/L	[illegible]			
Be[illegible]			*0.0618*	*0.0100*			
[illegible]			[illegible]	0.0200			
[illegible]			0.108	0.0100			
m[illegible]			[illegible]	0.0200			
[illegible]			[illegible]	0.0100			
[illegible]			[illegible]	0.0100			
[illegible]			0.170	0.0100			

[illegible]

[illegible]

Bre[illegible] Barr[illegible]
[illegible]

Certificate of Analysis Summary 434323

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Lea Station

Project Id: 2003-00339
Contact: □a□□□ □e□r□
Project Location: □W 1/4□Se□28□□ 20 S□□ 37 □

Date Received in Lab: □r□□e□30-11 04:25 □m
Report Date: 09-□□□-12
Project Manager: Bre□t Barr□□□□

Analysis Requested								
	Lab Id:	434323-013		434323-014	434323-015			
	Field Id:	MW-11□		MW-12□	MW-12□			
	Depth:							
	Matrix:	W□□□□		W□□□□	W□□□□			
	Sampled:	□e□30-11 10:17		□e□30-11 10:55	□e□30-11 10:57			
SVOA PAHs List SUB: E871002	*Extracted:*	□a□-04-12 11:54			□a□-04-12 11:57			
	Analyzed:	□a□-05-12 18:08			□a□-05-12 17:22			
	Units/RL:	□g/L	□L		□g/L	□L		
□□e□a□□t□e□e		□□	100		□□	50□0		
□□e□a□□t□□e□e		□□	100		□□	50□0		
□□t□ra□e□e		□□	100		□□	50□0		
Be□□□a□a□t□ra□e□e		□□	100		□□	50□0		
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Be□□□g□□□□er□e□e		□□	100		□□	50□0		
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□□□ra□t□e□e		□□	100		□□	50□0		
□□□re□e		□□	100		□□	50□0		
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1-Met□□□a□□□a□e□e		□□	50□0		□□	25□0		
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P□e□a□t□re□e		□□	100		□□	50□0		
P□re□e		□□	100		□□	50□0		

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Final 1.000

XENCO Laboratories

Flagging Criteria

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D □□e □am□□e□□□□ere □□□□te□ □□e t□target□□ete□te□ □□er t□e □□g□e□t □□□□t □□t□e □a□□□rat□□□□□r□e□□r □□e t□matr□□□□ter□ere□□e□ □□□□t□□□□a□t□r□are □□□□□□e□ □□t□e □□a□re□□t□□□□□e re□□□t □□□□□n a □□□□te□ □am□□e□

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□S□rr□gate re□□□ere□ □□t□□□e □a□□rat□r□□□□tr□□□m□t□

BRL Be□□□ □e□□□rt□□g L□m□t□

RL □e□□□rt□□g L□m□t

MDL Met□□□ □ete□t□□□L□m□t **SDL** Sam□□e □ete□t□□□L□m□t **LOD** L□m□t □□□ete□t□□□

PQL Pra□t□□a□□□a□t□tat□□□L□m□t **MQL** Met□□□ □□a□t□tat□□□L□m□t **LOQ** L□m□t □□□□a□t□tat□□□

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Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Miami - Phoenix - Latin America

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4143 □ree□□r□r □r□Sta□□□r□□□□ 77477	□281□240-4200	□281□240-4280
9701 □arr□□□□e□B□□□□□a□□a□□□□ 75220	□214□902 0300	□214□351-9139
5332 B□a□□□err□□r□□e□Sa□□□□t□□□□□ 78238	□210□509-3334	□210□509-3335
2505 □□rt□□a□□e□□□rg □□□□am□a□□L 33619	□813□620-2000	□813□620-2033
5757 □W 158t□St□M□am□La□e□□□L 33014	□305□823-8500	□305□823-8555
12600 We□t □20 □a□t□□□e□□a□□□ 79765	□432□563-1800	□432□563-1713
6017 □□□a□□a□□r□□e□□□r□r□□□□□□ 30071	□770□449-8800	□770□449-5477
3725 □□□t□a□ta □□e□P□□e□□□□□□85040	□602□437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders 434323□ **Project ID:** 2003-00339

Lab Batch #: 878485 **Sample:** 434323-007 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 12:42

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0276	0.0300	92	80-120	
4-Br□m□□□□□r□□e□□e□e	0.0246	0.0300	82	80-120	

Lab Batch #: 878485 **Sample:** 434323-008 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 13:04

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0272	0.0300	91	80-120	
4-Br□m□□□□□r□□e□□e□e	0.0250	0.0300	83	80-120	

Lab Batch #: 878485 **Sample:** 434323-010 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 13:27

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0257	0.0300	86	80-120	
4-Br□m□□□□□r□□e□□e□e	0.0249	0.0300	83	80-120	

Lab Batch #: 878485 **Sample:** 434323-011 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 13:50

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0266	0.0300	89	80-120	
4-Br□m□□□□□r□□e□□e□e	0.0241	0.0300	80	80-120	

Lab Batch #: 878485 **Sample:** 434323-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 14:36

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0259	0.0300	86	80-120	
4-Br□m□□□□□r□□e□□e□e	0.0259	0.0300	86	80-120	

□ S□rr□gate □□t□□□e □□La□□rat□r□□□ □m□t□
□□S□rr□gate□□□t□□□e □m□t□□□ata a□□□□rr□gate□□□□□me□□rea□a□□□□
□□□P□□r·re□□□er□e□□□e t□ □□□□t□□□
S□rr□gate □e□□□er□□□□□ 100 □□ / B
□□□re□□□t□are □a□e□ □□M□L a□□ □a□□□ate□ □□r □□ □□r□□□e□□

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders 434323□ **Project ID:** 2003-00339

Lab Batch #: 878485 **Sample:** 434323-003 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 14:59

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□r□□e□□e□e	0.0244	0.0300	81	80-120	
4-Br□m□□□□r□□e□□e□e	0.0263	0.0300	88	80-120	

Lab Batch #: 878485 **Sample:** 434323-005 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 15:21

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□r□□e□□e□e	0.0273	0.0300	91	80-120	
4-Br□m□□□□r□□e□□e□e	0.0254	0.0300	85	80-120	

Lab Batch #: 878485 **Sample:** 434323-012 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 15:44

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□r□□e□□e□e	0.0259	0.0300	86	80-120	
4-Br□m□□□□r□□e□□e□e	0.0244	0.0300	81	80-120	

Lab Batch #: 878485 **Sample:** 434323-014 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 17:39

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□r□□e□□e□e	0.0262	0.0300	87	80-120	
4-Br□m□□□□r□□e□□e□e	0.0284	0.0300	95	80-120	

□ S□rr□gate □□t□□□e □□La□□rat□r□□□ □□m□t□
□□S□rr□gate□□□t□□□e □□m□t□□□ata a□□ □□rr□gate□□□□□me□□□rea□a□□□□
□□□P□□r re□□□er□e□□□e t□□□□t□□□
S□rr□gate □e□□□er□□□□□ 100 □□ / B
□□□re□□□t□are □a□e□□□M□L a□□ □a□□□ate□□□r □□ □□r□□□e□□

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders 434323□ **Project ID:** 2003-00339

Lab Batch #: 878499 **Sample:** 434323-009 / SMP **Batch:** 1 **Matrix:** Water

Units: □g/L **Date Analyzed:** 01/05/12 11:59

SVOA PAHs List Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-□□□□r□□□□e□□□	33□5	50□0	67	44-117	
2-□□□□r□□□e□□□	21□3	50□0	43	30-100	
□□tr□□e□□e□e-□5	34□0	50□0	68	46-111	
P□e□□□□□6	11□3	50□0	23	15-94	
□er□□e□□□□□14	46□1	50□0	92	46-126	
2□4□6-□r□□r□m□□□e□□□	47□7	50□0	95	48-117	

Lab Batch #: 878499 **Sample:** 434323-002 / SMP **Batch:** 1 **Matrix:** Water

Units: □g/L **Date Analyzed:** 01/05/12 12:45

SVOA PAHs List Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-□□□□r□□□□e□□□	30□4	50□0	61	44-117	
2-□□□□r□□□e□□□	18□2	50□0	36	30-100	
□□tr□□e□□e□e-□5	32□0	50□0	64	46-111	
P□e□□□□□6	7□60	50□0	15	15-94	
□er□□e□□□□□14	41□0	50□0	82	46-126	
2□4□6-□r□□r□m□□□e□□□	44□4	50□0	89	48-117	

Lab Batch #: 878499 **Sample:** 434323-004 / SMP **Batch:** 1 **Matrix:** Water

Units: □g/L **Date Analyzed:** 01/05/12 16:59

SVOA PAHs List Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-□□□□r□□□□e□□□	33□9	50□0	68	44-117	
2-□□□□r□□□e□□□	17□3	50□0	35	30-100	
□□tr□□e□□e□e-□5	34□6	50□0	69	46-111	
P□e□□□□□6	8□□0	50□0	16	15-94	
□er□□e□□□□□14	40□4	50□0	81	46-126	
2□4□6-□r□□r□m□□□e□□□	49□0	50□0	98	48-117	

□ S□rr□gate □□t□□□e □□La□□rat□r□□□ □□m□□□
□□S□rr□gate□□□t□□□e □□m□□□□ata a□□ □□rr□gate□□□□□me□□□rea□a□□□□□
□□□P□□r re□□□er□e□□□e t□ □□□□t□□□
S□rr□gate □e□□□er□□□□□ 100 □□ / B
□□□re□□□t□are □a□e□ □□M□L a□□ □a□□□ate□ □□r □□ □□r□□□e□□

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders 434323□ **Project ID:** 2003-00339

Lab Batch #: 878499 **Sample:** 434323-015 / SMP **Batch:** 1 **Matrix:** Water

Units: □g/L **Date Analyzed:** 01/05/12 17:22

SVOA PAHs List Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-□□□□r□□□□e□□□	29□6	50□0	59	44-117	
2-□□□□r□□□e□□□	18□9	50□0	38	30-100	
□□tr□□e□□e□e-□5	30□9	50□0	62	46-111	
P□e□□□□□6	9□00	50□0	18	15-94	
□er□□e□□□□14	40□3	50□0	81	46-126	
2□4□6-□r□□r□m□□□e□□□	39□□	50□0	78	48-117	

Lab Batch #: 878499 **Sample:** 434323-013 / SMP **Batch:** 1 **Matrix:** Water

Units: □g/L **Date Analyzed:** 01/05/12 18:08

SVOA PAHs List Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-□□□□r□□□□e□□□	29□2	50□0	58	44-117	
2-□□□□r□□□e□□□	17□5	50□0	35	30-100	
□□tr□□e□□e□e-□5	27□8	50□0	56	46-111	
P□e□□□□□6	8□40	50□0	17	15-94	
□er□□e□□□□14	36□3	50□0	73	46-126	
2□4□6-□r□□r□m□□□e□□□	37□8	50□0	76	48-117	

Lab Batch #: 878499 **Sample:** 434323-006 / SMP **Batch:** 1 **Matrix:** Water

Units: □g/L **Date Analyzed:** 01/06/12 14:38

SVOA PAHs List Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-□□□□r□□□□e□□□	30□2	50□0	60	44-117	
2-□□□□r□□□e□□□	17□3	50□0	35	30-100	
□□tr□□e□□e□e-□5	27□□	50□0	54	46-111	
P□e□□□□□6	9□79	50□0	20	15-94	
□er□□e□□□□14	38□3	50□0	77	46-126	
2□4□6-□r□□r□m□□□e□□□	42□0	50□0	84	48-117	

□ S□rr□gate □□t□□□e □□La□□rat□r□□□ □□m□□□
□□S□rr□gate□□□t□□□e □□m□t□□□ata a□□□□rr□gate□□□□□me□□□rea□a□□□□□
□□□P□□r re□□□er□e□□□e t□□□□□t□□□
S□rr□gate □e□□□er□□□□□ 100 □□ / B
□□□re□□□t□are □a□e□□□M□L a□□□a□□□ate□□□r □□ □□r□□□e□□

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders 434323□ **Project ID:**2003-00339

Lab Batch #: 878485 **Sample:** 616221-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 11:38

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-D□□□□□r□□e□□e□e	0□0258	0□0300	86	80-120	
4-Br□m□□□□□r□□e□□e□e	0□0267	0□0300	89	80-120	

Lab Batch #: 878499 **Sample:** 616181-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: □g/L **Date Analyzed:** 01/04/12 15:23

SVOA PAHs List Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-□□□□r□□□□□e□□□	33□8	50□0	68	44-117	
2-□□□□r□□□e□□□	31□7	50□0	63	30-100	
□□tr□□e□□e□e-□5	34□6	50□0	69	46-111	
P□e□□□□6	23□	50□0	46	15-94	
□er□□e□□□□14	45□5	50□0	91	46-126	
2□4□6-□r□□r□m□□□e□□□	33□8	50□0	68	48-117	

Lab Batch #: 878485 **Sample:** 616221-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 10:06

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-D□□□□□r□□e□□e□e	0□0294	0□0300	98	80-120	
4-Br□m□□□□□r□□e□□e□e	0□0303	0□0300	101	80-120	

Lab Batch #: 878499 **Sample:** 616181-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: □g/L **Date Analyzed:** 01/04/12 15:47

SVOA PAHs List Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-□□□□r□□□□□e□□□	35□0	50□0	70	44-117	
2-□□□□r□□□e□□□	31□3	50□0	63	30-100	
□□tr□□e□□e□e-□5	32□9	50□0	66	46-111	
P□e□□□□6	25□7	50□0	51	15-94	
□er□□e□□□□14	36□9	50□0	74	46-126	
2□4□6-□r□□r□m□□□e□□□	41□8	50□0	84	48-117	

□ S□rr□gate □□t□□□e □□La□□rat□r□□□ □□m□t□

□□S□rr□gate□□□t□□□e □□m□t□□□ata a□□ □□rr□gate□□□□□□me□ □□rea□a□□□□

□□□P□□r re□□□er□□□□e t□ □□□□t□□□

S□rr□gate □e□□□er□□□□□□ 100 □□ / B

□□□re□□□t□are □a□e□ □□M□L a□□ □a□□□ate□ □□r □□ □□r□□□e□□

Form 2 - Surrogate Recoveries

Project Name: Lea Station

Work Orders 434323□ **Project ID:** 2003-00339

Lab Batch #: 878485 **Sample:** 616221-1-BS□ / BS□ **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 10:29

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0292	0.0300	97	80-120	
4-Br□m□□□□r□□e□□e□e	0.0280	0.0300	93	80-120	

Lab Batch #: 878499 **Sample:** 616181-1-BS□ / BS□ **Batch:** 1 **Matrix:** Water

Units: □g/L **Date Analyzed:** 01/04/12 16:09

SVOA PAHs List Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-□□□r□□□□e□□□	35.6	50.0	71	44-117	
2-□□□r□□□e□□□	30.8	50.0	62	30-100	
□tr□□e□□e-□5	33.4	50.0	67	46-111	
P□e□□□.□6	25.6	50.0	51	15-94	
□er□□e□□□.□14	37.□	50.0	74	46-126	
2.4.6-□r□□r□m□□□e□□□	40.8	50.0	82	48-117	

Lab Batch #: 878485 **Sample:** 434356-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 16:07

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0275	0.0300	92	80-120	
4-Br□m□□□□r□□e□□e□e	0.0305	0.0300	102	80-120	

Lab Batch #: 878485 **Sample:** 434356-001 S□ / MS□ **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/04/12 16:30

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1□4-□□□□□r□□e□□e□e	0.0287	0.0300	96	80-120	
4-Br□m□□□□r□□e□□e□e	0.0294	0.0300	98	80-120	

□ S□rr□gate □□t□□□e □□La□□rat□r□□□ □□n!t□□
□□S□rr□gate□□□t□□□e □□n!t□□□ata a□□ □□rr□gate□□□□□□me□ □□rea□a□□□□□
□□□P□□r re□□□er□e□□□e t□ □□□□t□□□
S□rr□gate □e□□□er□ □□□□ 100 □□ / B
□□□re□□t□are □a□e□ □□M□L a□□ □a□□□ate□ □□r □□ □□r□□□e□□

BS / BSD Recoveries

Project Name: Lea Station

Work Order #: 434323 **Project ID:** 2003-00339

Analyst: □S□ **Date Prepared:** 01/04/2012 **Date Analyzed:** 01/04/2012

Lab Batch ID: 878485 **Sample:** 616221-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Be□□e□e	□0.00100	0.100	0.103	103	0.100	0.101	101	2	70-125	25	
□□□□e□e	□0.00200	0.100	0.106	106	0.100	0.101	101	5	70-125	25	
□t□□□□e□□e□e	□0.00100	0.100	0.106	106	0.100	0.105	105	1	71-129	25	
m□□-□□□e□e□	□0.00200	0.200	0.209	105	0.200	0.207	104	1	70-131	25	
□-□□□e□e	□0.00100	0.100	0.104	104	0.100	0.102	102	2	71-133	25	

□e□at□□e Per□e□t □□□ere□□e □P□ □200.□□□-□□/□□.□□□□
B□a□□S□□□e □e□□□er□□.□□ 100.□□□/□B□
B□a□□S□□□e □.□□□□ate □e□□□er□□.□□ 100.□□□/□□□
□□□re□□□t□are □a□e□ □□M□L a□□ □a□□ate□ □□r □□ P□r□□□e□

BS / BSD Recoveries

Project Name: Lea Station

Work Order #: 434323
Analyst: M□□
Date Prepared: 01/04/2012
Project ID: 2003-00339
Date Analyzed: 01/04/2012
Lab Batch ID: 878499
Sample: 616181-1-BKS
Batch #: 1
Matrix: Water
Units: □g/L

SVOA PAHs List Analytes	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
□e□a□□t□e□e	□10□	50□0	36□	72	50□0	38□8	78	7	27-132	31	
□e□a□□t□□□e□e	□10□	50□0	36□3	73	50□0	38□8	78	7	46-108	25	
□□t□ra□e□e	□10□	50□0	38□2	76	50□0	40□0	80	5	47-145	25	
Be□□□a□a□t□ra□e□e	□10□	50□0	38□5	77	50□0	39□8	80	3	33-143	25	
Be□□□a□□□re□e	□10□	50□0	38□6	77	50□0	41□3	83	7	65-135	25	
Be□□□□□□□□ra□t□e□e	□10□	50□0	39□6	79	50□0	41□5	83	5	24-159	25	
Be□□□□□□□□ra□t□e□e	□10□	50□0	37□9	76	50□0	40□9	82	8	25-125	25	
Be□□□g□□□□er□e□e	□10□	50□0	37□7	75	50□0	39□	78	4	65-135	25	
□□r□e□e	□10□	50□0	39□6	79	50□0	40□9	82	3	65-135	25	
□□□e□□a□□a□t□ra□e□e	□10□	50□0	38□4	77	50□0	39□7	79	3	50-125	25	
□□□□ra□t□e□e	□10□	50□0	39□6	79	50□0	41□8	84	5	47-125	25	
□□□□re□e	□10□	50□0	36□2	72	50□0	39□4	79	8	48-139	25	
□□□e□□□1,2,3-□□□P□re□e	□10□	50□0	38□7	77	50□0	40□	80	4	27-160	25	
□a□□t□a□e□e	□10□	50□0	35□3	71	50□0	37□3	75	6	26-175	25	
P□e□a□t□re□e	□10□	50□0	37□5	75	50□0	40□	80	7	65-135	25	
P□re□e	□10□	50□0	38□3	77	50□0	39□8	80	4	23-152	31	

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Final 1.000

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: Lea Station

Work Order # : 434323 **Project ID:** 2003-00339

Lab Batch ID: 878485 **QC- Sample ID:** 434356-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 01/04/2012 **Date Prepared:** 01/04/2012 **Analyst:** □S□

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Be□□e□e	□0□00100	0□100	0□0933	93	0□100	0□102	102	9	70-125	25	
□□□e□e	□0□00200	0□100	0□0935	94	0□100	0□102	102	9	70-125	25	
□t□□□e□□e□e	□0□00100	0□100	0□0981	98	0□100	0□108	108	10	71-129	25	
m□□-□□□e□e□	□0□00200	0□200	0□192	96	0□200	0□210	105	9	70-131	25	
□-□□□e□e	□0□00100	0□100	0□0946	95	0□100	0□104	104	9	71-133	25	

Matr□□S□□e Per□e□t □e□□□er□ □□□□ 100□□□-□□/B Matr□□S□□e □□□□ate Per□e□t □e□□□er□ □□□□ 100□□□-□□/□

□e□at□□e Per□e□t □□□ere□□e □P□ □200□□□-□□/□□□□□□

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Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(575) 394-3481 FAX: (575) 394-2601

LAB: XENCO (ELT)

Company Name	Environmental Plus, Inc.
EPI Project Manager	David P. Duncan
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	575-394-3481 / 575-394-2601
Client Company	Plains Pipeline
Facility Name	Lea Station
Location	NW¼, Sec. 28, T 20 S, R 37 E
Project Reference	2003-00339
EPI Sampler Name	Kirby Bingham

Remit Invoice To:

PLAINS ALL AMERICAN PIPELINE, L.P.

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

LAB I.D. 13123	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH			
1	MW-1V	G	4	X						X	X		30-Dec-11	9:18	X										
2	MW-1A	G	2	X							X		30-Dec-11	9:22								X			
3	MW-2V	G	4	X						X	X		30-Dec-11	9:36	X										
4	MW-2A	G	2	X							X		30-Dec-11	9:40								X			
5	MW-3V	G	4							X	X		30-Dec-11	9:55	X										
6	MW-3A	G	2								X		30-Dec-11	9:57								X			
7	MW-4V	G	4							X	X		30-Dec-11	8:30	X										
8	MW-7V	G	4							X	X		30-Dec-11	10:28	X										
9	MW-7A	G	2								X		30-Dec-11	10:30								X			
10	MW-9V	G	4							X	X		30-Dec-11	9:05	X										

Sampler Relinquished: Kirby Bingham	30-Dec-11	Received By:	E-mail results to: dduncanepi@gmail.com & jhenry@paalp.com
Relinquished by:	Time 11:25		REMARKS: NOTE: A=Amber and V=Vials
	30-Dec-11	Received By: (lab staff)	no seals
Delivered by:	Time 1:25		
	0°C Sample Cool & Intact Yes / No	Checked By:	

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 *P.O. Box 1558, Eunice, NM 88231*
(575) 394-3481 FAX: (575) 394-2601

LAB: XENCO (ELT)

Company Name	Environmental Plus, Inc.
EPI Project Manager	David P. Duncan
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	575-394-3481 / 575-394-2601
Client Company	Plains Pipeline
Facility Name	Lea Station
Location	NW¼, Sec. 28, T 20 S, R 37 E
Project Reference	2003-00339
EPI Sampler Name	Kirby Bingham

Remit Invoice To:

PLAINS ALL AMERICAN PIPELINE, L.P.

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

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH
1	MW-10V	G	4	X						X	X		30-Dec-11	8:50	X							
2	MW-11V	G	4	X						X	X		30-Dec-11	10:15	X							
3	MW-11A	G	2	X							X		30-Dec-11	10:17								X
4	MW-12V	G	4	X						X	X		30-Dec-11	10:55	X							
5	MW-12A	G	2	X							X		30-Dec-11	10:57								X
6																						
7																						
8																						
9																						
10																						

Sampler Relinquished: Kirby Bingham	30-Dec-11 Time 11:25	Received By: D.S. Lemon	E-mail results to: dduncanepi@gmail.com & jhenry@paalp.com
Relinquished by: D.S. Lemon	30-Dec-11 Time 4:25	Received By: (lab staff) C. Hernandez	REMARKS: NOTE: A=Amber and V=Vials no Seals
Delivered by:	Sample Cool & Intact 0°C Yes No	Checked By:	

XENCO Laboratories		
XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1	

Prelogin / Nonconformance Report - Sample Log-In

Client: Pinnacle

Date/Time: 12/30/11 16:25

Lab ID # : 434373

Initials: AH

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	0 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

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