

# *Basin Environmental Service Technologies, LLC*

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IRP-301  
11.7.05

## **REVISED PRELIMINARY SITE INVESTIGATION REPORT and REMEDIATION/CLOSURE PLAN**

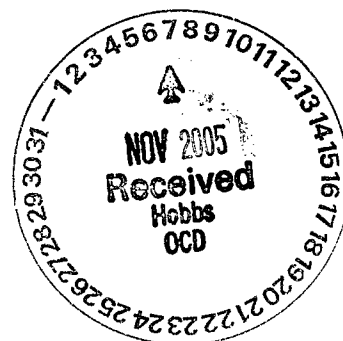
VERBAL  
APPROVED 11.7.05  
JQ

**PLAINS MARKETING, L.P.  
Lovington Pump Station  
Lea County, New Mexico  
Plains EMS # 2005-00015**

**UNIT D (NW/NW), Section 16, Township 17 South, Range 37 East  
Latitude 32°, 50', 30.7" North, Longitude 103°, 15', 45.3" West**

Prepared For:

Plains Marketing, L.P.  
333 Clay Street  
Suite 1600  
Houston, Texas 77002



Prepared By:  
Basin Environmental Service Technologies, LLC  
P. O. Box 301  
Lovington, New Mexico 88260

**31 October 2005**

  
Ken Dutton

Basin Environmental Service Technologies, LLC

## **Table of Contents**

Introduction	1
Summary of Field Activities	1
New Mexico Oil Conservation Division (NMOCD) Soil Classification	2
Distribution of Hydrocarbons in the Unsaturated Zone	2
Recommendations for Remediation	4
Limitations	4
Distribution	5

## **Figures**

Figure 1:	Site Location Map
Figure 2:	Site Map
Figure 3:	Digital Photo of Site
Figure 4:	Installation of 40-ml Poly Liner

## **Tables**

Table 1:	Soil Chemistry Table
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## **Appendices**

Appendix A:	New Mexico Office of the State Engineer Water Well Database Report
Appendix B:	Environmental Laboratory of Texas Analytical Results
Appendix C:	Soil Boring Logs
Appendix D:	NMOCD C-141

## **INTRODUCTION**

Basin Environmental Service Technologies, LLC (Basin), responded to a crude oil release for Plains Marketing, L.P. (Plains), located at the Lovington Pump Station on 14 January 2005. The equipment malfunction was repaired and excavation of the impacted soil was initiated and impacted soil was stockpiled on a 6-mil poly-liner.

This site is located in Unit D (NW/NW), Section 16, Township 17 South, Range 37 East, in Lea County, New Mexico (topographic Site Location Map is attached as Figure 1). The latitude is 32° 50' 30.7" North, and longitude is 103° 15' 45.3" West. The site is characterized as an operational pipeline pumping station containing various pieces of crude oil pumping equipment. The visually stained area included the release point and covered an area approximately 15 feet long by 20 feet wide. It is estimated 6 barrels of crude oil were released from the Lovington Pump Station and 0 barrels were recovered.

Plains Pipeline operations personnel marked their respective lines inside the pumping station before excavation activities commenced.

Mr. Larry Johnson, New Mexico Oil Conservation Division (NMOCD), Hobbs, New Mexico District 1 was verbally notified of the release on 14 January 2005. Mr. Leon Anderson and Ms. Myra Meyers, New Mexico State Land Office (NMSLO), Hobbs Office, were notified 14 January 2005. A Right of Entry Permit was not required as the crude oil release occurred in a Plains leased area.

## **SUMMARY OF FIELD ACTIVITIES**

On 14 January 2005, Basin arrived at the Lovington Pump Station crude oil release to repair and contain the crude oil pipeline release under the direction of Plains operations personnel. After repairing the malfunctioning equipment, excavation of the impacted soil was initiated. The visually stained area was approximately 15 feet long by 20 feet wide and extended to approximately 5 feet below ground surface (bgs) at the release point.

On 26 January 2005, Basin excavated the release point area to a depth of 14 feet bgs attempting to delineate the vertical and horizontal extent of crude oil impacted soil at the release point (see Site Map, Figure 2). Photoionization Detector (PID) readings indicate elevated concentrations of Volatile Organic Compounds (VOC) remain in place. The delineation trench was backfilled to a depth of 5 feet bgs due to operational and safety concerns. Approximately 75 cubic yards of impacted soil was excavated and stockpiled on-site as a result of this delineation activity.

On 05 May 2005, Basin installed four soil borings utilizing Straub Corporation, of Stanton, Texas, collecting soil samples every 5 feet in order to delineate the horizontal and vertical nature and extent of crude oil impacted soil at the pipeline

release (see Site Map, Figure 2). The soil borings were installed adjacent to the release point, up gradient, down gradient and cross gradient to ensure effective delineation of the site. The soil borings ranged in depth from 68 feet bgs to 20 feet bgs (soil boring logs are attached as Appendix C). Each sample was screened with a PID, which was calibrated on 05 May 2005. The selected soil samples were analyzed for concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons – gasoline range organics/diesel range organics (TPH-GRO/DRO).

On 14 October 2005, Basin excavated the release point area to a depth of approximately 12 feet bgs and expanded the original excavation to an area approximately 21 feet long by 24 feet wide. Confirmation soil samples were collected from the excavation 17 October 2005. The soil samples were analyzed for concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons – gasoline range organics/diesel range organics (TPH-GRO/DRO). Approximately 300 cubic yards of impacted soil was excavated and stockpiled on-site as a result of this delineation activity.

#### **New Mexico Oil Conservation Division (NMOCD) Soil Classification**

Actual groundwater gauging data obtained from the Plains Moore to Jal # 2 remediation site, located less than one-half mile to the south, southeast, indicates the depth to groundwater ranges from 77 feet to 79 feet bgs. There are no surface water bodies or water wells within 1000 feet of the release site. Based on this data, the site has an NMOCD Ranking Score of 10 -19, which sets the remediation levels at:

Benzene:	10 ppm
BTEX:	50 ppm
TPH:	1000 ppm

The above criterion is assumed and may be adjusted based on the actual results of the soil delineation activities.

#### **Distribution of Hydrocarbons in the Unsaturated Zone**

The release point and visually stained area has been excavated to a depth of approximately 12 feet bgs and evidence of crude oil impact still exists on the floor and sidewalls at the release point. Analytical results and PID readings indicate elevated concentrations of VOC's remain in place. The five confirmation soil samples from the sidewalls and excavation floor were collected at a depth of approximately 6 and 12 feet bgs, respectively. Analytical results indicated that BTEX concentrations were below NMOCD regulatory standards for all sidewall samples and the excavation floor soil sample. Analytical results indicated that BTEX concentrations were not detected above the laboratory method detection limits on the

north sidewall, south sidewall and west sidewall soil samples. Analytical results indicated that detectable TPH concentrations exceeded NMOCD regulatory standards for the release point excavation east sidewall and excavation floor soil samples at 2530 mg/kg and 4950 mg/kg, respectively. Analytical results indicated that detectable TPH concentrations were below NMOCD regulatory standards on the west sidewall soil sample and were not detected above the laboratory method detection limits on the north sidewall and south sidewall soil samples. Approximately 300 cubic yards of impacted soil was excavated and stockpiled on a 6-mil poly-liner.

A drill rig was utilized to delineate the horizontal and vertical extent of crude oil impacted soil. The four soil borings were installed adjacent to the release point, up gradient, down gradient and cross gradient to ensure effective delineation of the site. Soil samples were collected in the subsurface from the soil borings at 5 feet intervals. No visual observations of free phase hydrocarbons were encountered during the installation of the four soil borings. PID field screenings were utilized to determine which soil samples were to be submitted to the laboratory for analysis. Selected soil samples were analyzed for concentrations of BTEX and TPH. Laboratory data sheets and chain-of-custody forms are attached as Appendix B.

Soil Boring 1, as depicted on the Site Map (Figure 2) was installed adjacent to the release point. Due to the numerous pipelines and electrical conduit lines at and around the release point, the soil boring could not be installed at the exact release point due to safety concerns. Soil samples collected at 10, 20 and 30 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were not detected above the laboratory method detection limits from these three soil samples. Soil Boring 1 was advanced to a total depth below surface of 68 feet bgs. PID field readings for the soil samples collected at 5 feet intervals from Soil Boring 1 were all less than 5 ppm to total depth.

Soil Boring 2, as depicted on the Site Map (Figure 2) was installed up gradient of the release point. Soil samples collected at the 10 and 20 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were not detected above the laboratory method detection limits from these two soil samples.

Soil Boring 3, as depicted on the Site Map (Figure 2) was installed down gradient of the release point. Soil samples collected at the 10 and 20 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were not detected above the laboratory method detection limits from these two soil samples.

Soil Boring 4, as depicted on the Site Map (Figure 2) was installed cross gradient of the release point. Soil samples collected at the 10 and 20 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were not detected above the laboratory method detection limits from these two soil samples.

## **RECOMMENDATIONS FOR DELINEATION/REMEDIATION**

Approximately 300 cubic yards of impacted soil has been excavated and stockpiled on-site resulting from the emergency response and equipment repair. Based on the results of the soil delineation investigation which indicate the impacted soils are limited in extent and Lovington Pump Station being an operational location, Basin and Plains requests approval from the NMOCD and NMSLO to install an impermeable 40-mil poly liner at the release point (see Figure 4, Installation of 40-mil Poly Liner). The impermeable liner, approximately 25 feet wide by 22 feet long, will mitigate vertical migration of contaminants and allow natural attenuation of the limited impacted soils. Cushion sand will be placed above and below the liner to protect the integrity of the liner. The stockpiled material will be transported to the Lea Station Landfarm and clean soil will be transported to the site and utilized as backfill material. Upon cessation of operational activities at Lovington Pump Station, Plains will remediate the area to NMOCD regulatory standards as required.

## **LIMITATIONS**

Basin Environmental Service Technologies, LLC, has prepared this Preliminary Investigation Report and Work Plan to the best of its ability. No other warranty, expressed or implied, is made or intended.

Basin Environmental Service Technologies, LLC, has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin Environmental Service Technologies, LLC, has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Basin Environmental Service Technologies, LLC, has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental Service Technologies, LLC, also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Plains Marketing, L.P. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and Plains Marketing, L.P.

## DISTRIBUTION

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New Mexico Oil Conservation Division  
1625 N. French Dr.  
Hobbs, New Mexico 88240  
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P. O. Box 1148  
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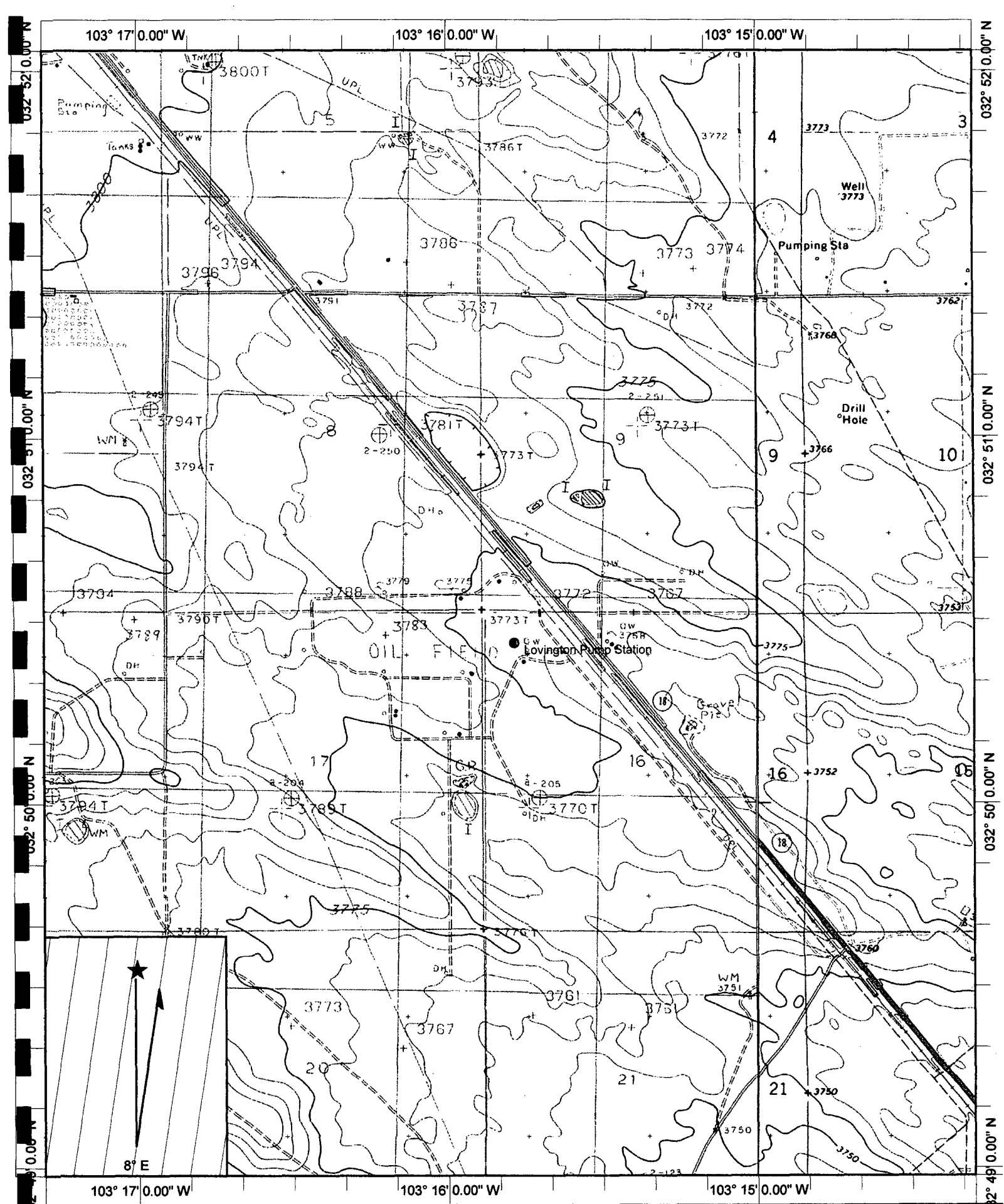
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# FIGURES



**FIGURE 1**

**SITE LOCATION MAP**



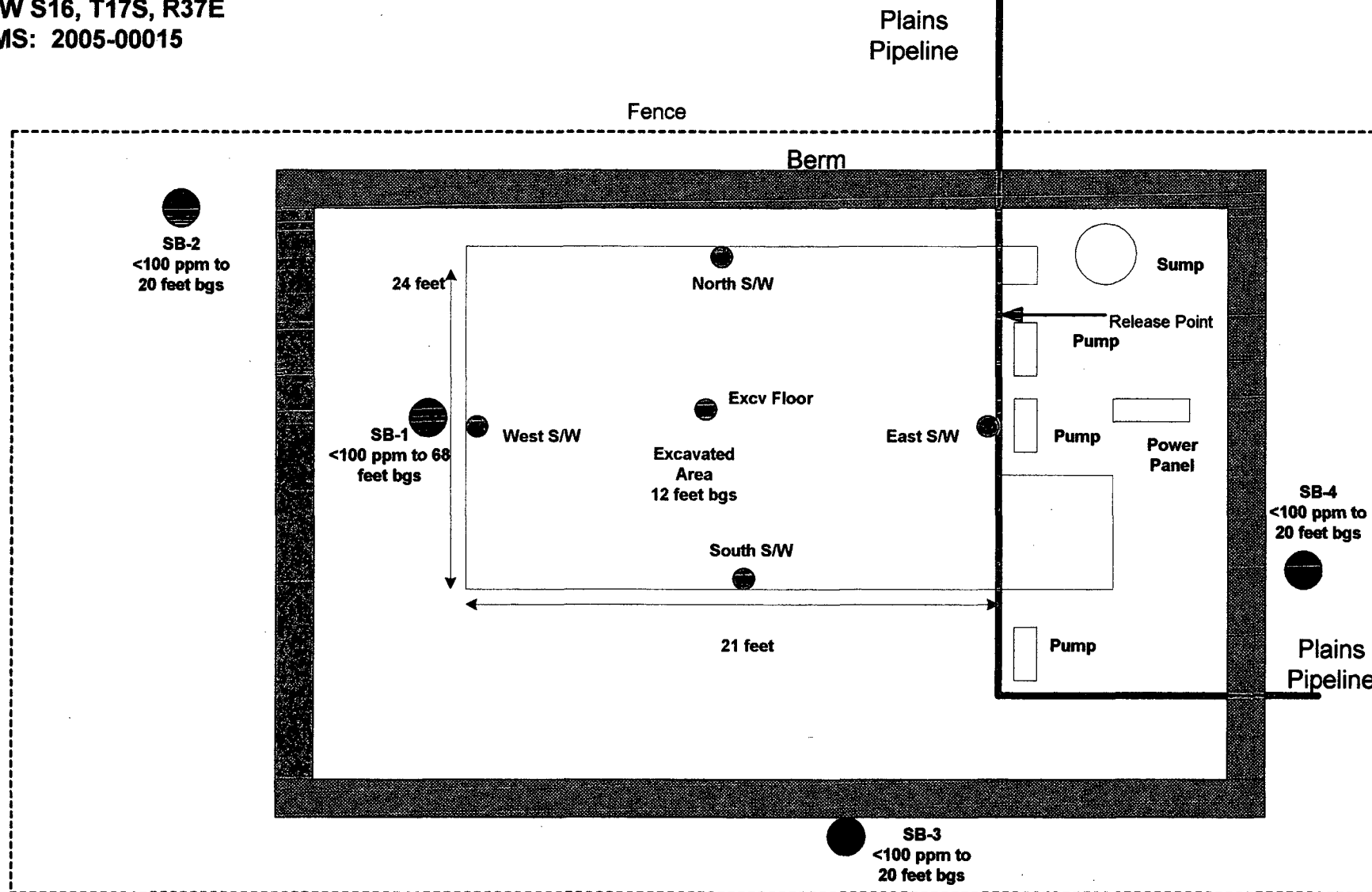
Name: LOVINGTON SE  
Date: 11/4/2005  
Scale: 1 inch equals 2000 feet

Location: 032° 50' 30.99\" N 103° 15' 48.6\" W  
Caption: Plains Marketing, L. P.  
Lovington Pump Station

**FIGURE 2**

**SITE MAP**

Plains Marketing, L. P.  
 Lovington Pump Station  
 Lea County, New Mexico  
 NW/NW S16, T17S, R37E  
 EMS: 2005-00015



Excavated Area



Sampling Locations



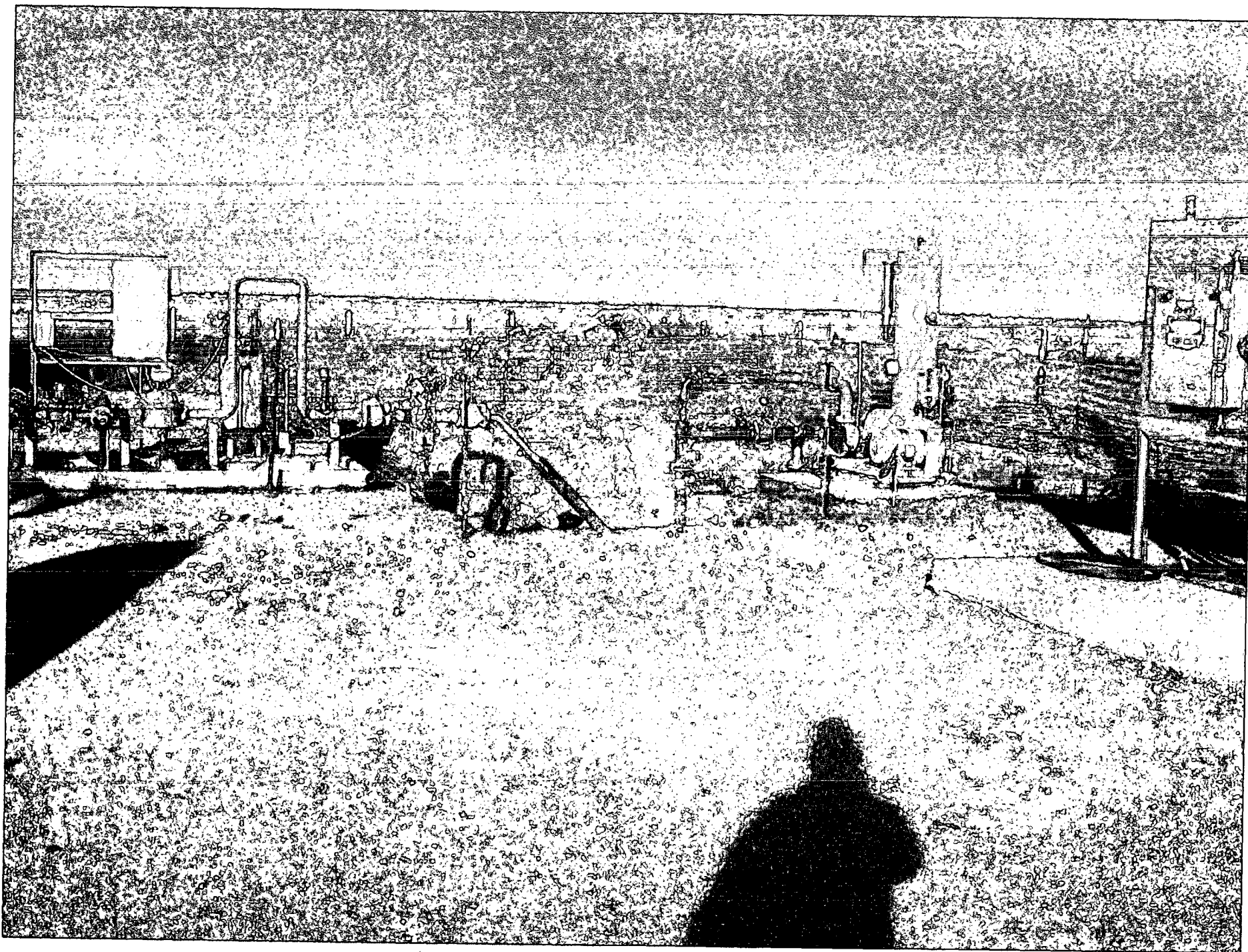
Soil Borings

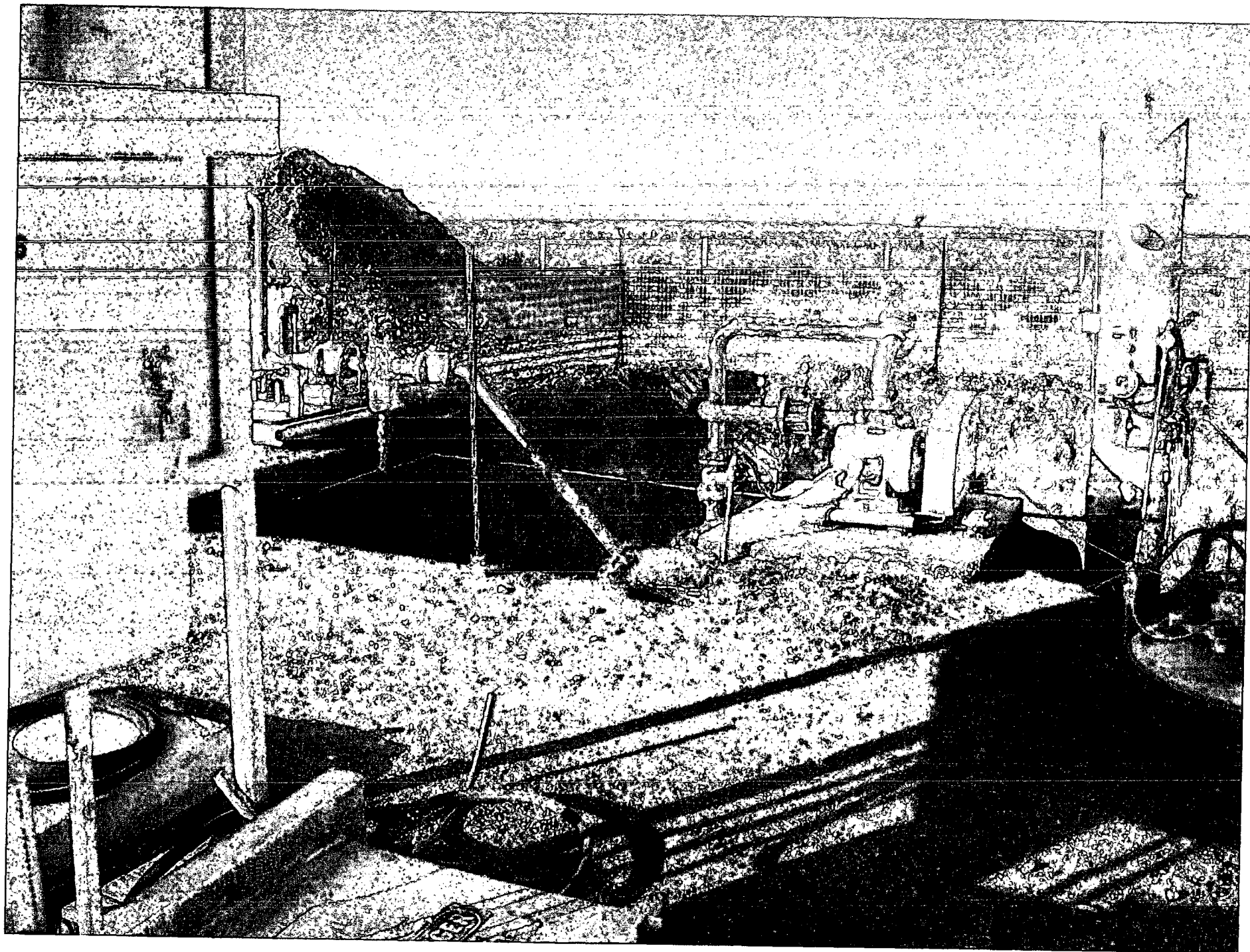
TITLE  
 Figure 2, Site Map  
 Lovington Pump Station

DRAWN BY  
 Basin Environmental Svc.  
 kad

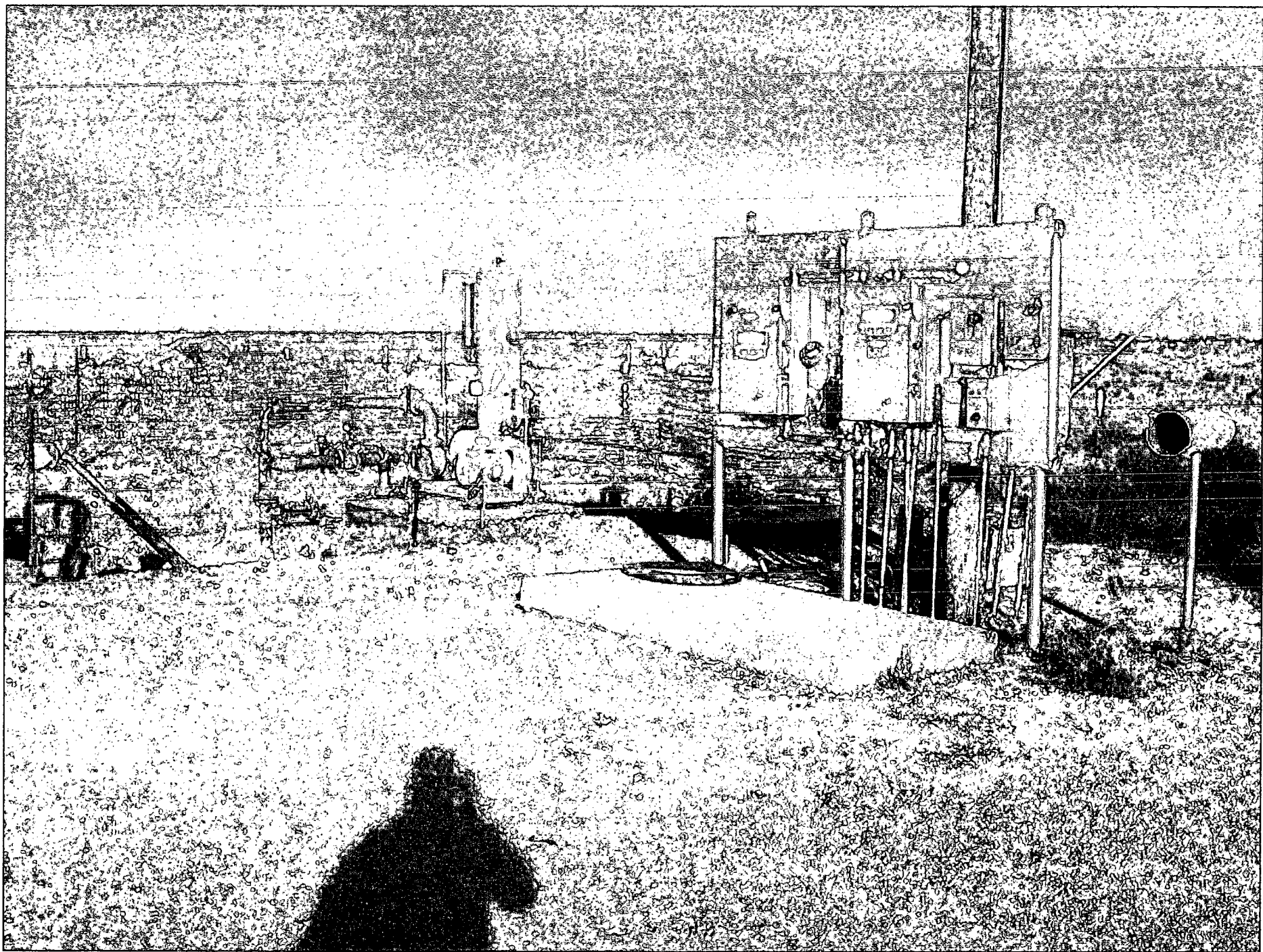
**FIGURE 3**

**DIGITAL PHOTO OF SITE**









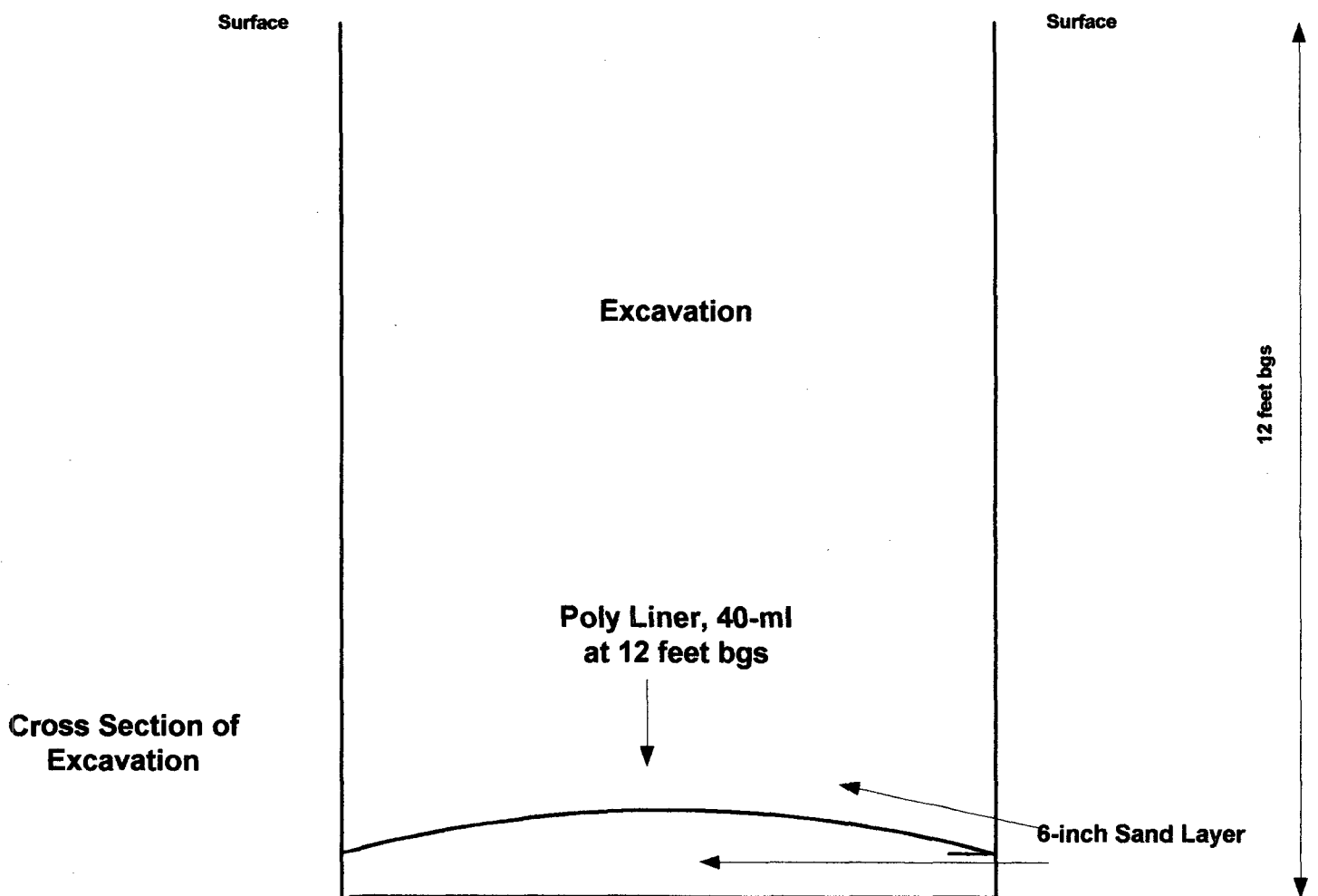


**FIGURE 4**

**INSTALLATION OF 40-ML POLY  
LINER**

**Lovington Pump Station  
40-mil Poly-Liner Installation**

**Plains Marketing, L. P.  
Lovington Pump Station  
NW/NW S16, T17S, R37E  
Lea County, New Mexico  
EMS No. 2005-00015**



TITLE	DATE
Lovington Pump Station	31 Oct 05
DRAWN BY	LABEL
Basin Environmental Services KAD	Installation of 40 ml Poly Liner

# TABLES

# **TABLE 1**

## **SOIL CHEMISTRY TABLE**

TABLE 1

## SOIL CHEMISTRY

PLAINS MARKETING, L.P.  
 LOVINGTON PUMP STATION  
 LEA COUNTY, NEW MEXICO  
 PLAINS EMS: 2005-00015

SAMPLE LOCATION	SAMPLE DEPTH	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M		TOTAL	300.0
			BENZENE	TOLUENE	ETHYL-BENZENE	M,P-XYLENES	O-XYLENE	GRO	DRO	TPH	CHLORIDE
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SB-1 10'	10' bgs	05/05/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-1 20'	20' bgs	05/05/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-1 30'	30' bgs	05/05/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	14.9
SB-2 10'	10' bgs	05/05/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-2 20'	20' bgs	05/05/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-3 10'	10' bgs	05/05/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-3 20'	20' bgs	05/05/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-4 10'	10' bgs	05/05/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-4 20'	20' bgs	05/05/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
R/P EXCV BTM	5' bgs	05/05/05	0.101	0.399	0.336	1.12	0.273	324	3460	3780	
R/P EXCV N/SW	3' bgs	05/05/05	0.754	0.330	0.322	1.14	0.261	922	5150	6070	
R/P EXCV S/SW	3' bgs	05/05/05	0.115	0.447	0.438	1.48	0.321	890	6600	7490	
R/P EXCV E/SW	3' bgs	05/05/05	0.287	0.876	0.661	1.90	0.419	7040	22900	29900	
R/P EXCV W/SW	3' bgs	05/05/05	<0.025	<0.025	<0.025	0.046	<0.025	254	5640	5890	
North S/W	6' bgs	10/21/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
South S/W	6' bgs	10/21/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
East S/W	6' bgs	10/21/05	<0.025	<0.025	0.225	0.111	0.0269	<10.0	2530	2530	
West S/W	6' bgs	10/21/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	546	546	
Excv Flr	12' bgs	10/21/05	<0.025	0.092	7.74	0.278	0.109	585	4360	4950	
NMOC D CRITERIA			10			50				1000	

# **APPENDICES**

## **APPENDIX A**

# **NEW MEXICO OFFICE OF THE STATE ENGINEER WATER WELL DATA BASE**

**New Mexico Office of the State Engineer  
Well Reports and Downloads**

Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  Search Radius:

County:  Basin:  Number:  Suffix:

Owner Name: (First)  (Last)  ☐ Non-Domestic  
☐ Domestic ☒ All

Well / Surface Data Report

Avg Depth to Water Report

Water Column Report

Clear Form

WATERS Menu

Help

**AVERAGE DEPTH OF WATER REPORT 01/18/2005**

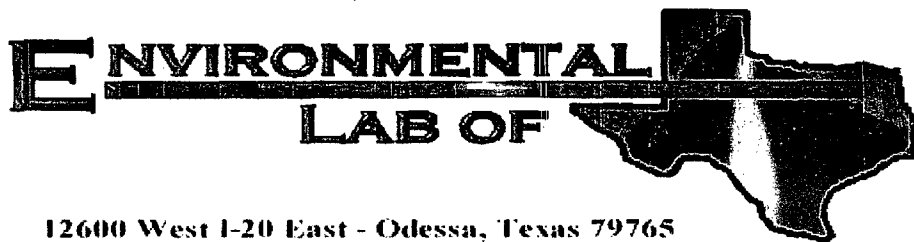
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
L	17S	37E	16				2	40	40	40

Record Count: 2



## **APPENDIX B**

# **ENVIRONMENTAL LABORATORY OF TEXAS ANALYTICAL RESULTS**



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Lovington Pump Station

Project Number: EMS: 2005-00015

Location: Lea County, NM

Lab Order Number: 5J23005

Report Date: 10/27/05

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914  
**Reported:**  
10/27/05 16:01

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
North S/W	5J23005-01	Soil	10/21/05 09:00	10/21/05 16:40
South S/W	5J23005-02	Soil	10/21/05 09:15	10/21/05 16:40
East S/W	5J23005-03	Soil	10/21/05 09:30	10/21/05 16:40
West S/W	5J23005-04	Soil	10/21/05 09:45	10/21/05 16:40
Excav Flr	5J23005-05	Soil	10/21/05 10:00	10/21/05 16:40

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
10/27/05 16:01

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>North S/W (5J23005-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EJ52502	10/25/05	10/25/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		86.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.5 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EJ52405	10/24/05	10/26/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		85.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.0 %	70-130		"	"	"	"	
<b>South S/W (5J23005-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EJ52502	10/25/05	10/25/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EJ52405	10/24/05	10/26/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		90.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		92.2 %	70-130		"	"	"	"	
<b>East S/W (5J23005-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EJ52502	10/25/05	10/25/05	EPA 8021B	
Toluene	J [0.0103]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	0.225	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.111	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0269	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	50.0	mg/kg dry	5	EJ52405	10/24/05	10/26/05	EPA 8015M	
Diesel Range Organics >C12-C35	2530	50.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2530	50.0	"	"	"	"	"	"	

Environmental Lab of Texas

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

Page 2 of 10

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
10/27/05 16:01

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>East S/W (5J23005-03) Soil</b>									
Surrogate: 1-Chlorooctane		20.4 %	70-130		EJ52405	10/24/05	10/26/05	EPA 8015M	S-06
Surrogate: 1-Chlorooctadecane		17.7 %	70-130		"	"	"	"	S-06
<b>West S/W (5J23005-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EJ52509	10/25/05	10/25/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		97.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EJ52405	10/24/05	10/26/05	EPA 8015M	
Diesel Range Organics >C12-C35	546	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	546	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		89.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		141 %	70-130		"	"	"	"	S-04
<b>Excv Flr (5J23005-05) Soil</b>									
Benzene	J [0.0186]	0.0250	mg/kg dry	25	EJ52509	10/25/05	10/26/05	EPA 8021B	J
Toluene	0.0929	0.0250	"	"	"	"	"	"	
Ethylbenzene	7.74	0.100	"	100	"	"	"	"	
Xylene (p/m)	0.278	0.0250	"	25	"	"	"	"	
Xylene (o)	0.109	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		130 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		88.8 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	585	50.0	mg/kg dry	5	EJ52405	10/24/05	10/26/05	EPA 8015M	
Diesel Range Organics >C12-C35	4360	50.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	4950	50.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		19.6 %	70-130		"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		25.2 %	70-130		"	"	"	"	S-06

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
10/27/05 16:01

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>North S/W (5J23005-01) Soil</b>									
% Moisture	7.9	0.1	%	1	EJ52503	10/24/05	10/25/05	% calculation	
<b>South S/W (5J23005-02) Soil</b>									
% Moisture	11.3	0.1	%	1	EJ52503	10/24/05	10/25/05	% calculation	
<b>East S/W (5J23005-03) Soil</b>									
% Moisture	7.2	0.1	%	1	EJ52503	10/24/05	10/25/05	% calculation	
<b>West S/W (5J23005-04) Soil</b>									
% Moisture	3.9	0.1	%	1	EJ52503	10/24/05	10/25/05	% calculation	
<b>Excav Flr (5J23005-05) Soil</b>									
% Moisture	9.3	0.1	%	1	EJ52503	10/24/05	10/25/05	% calculation	

Environmental Lab of Texas

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Page 4 of 10

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Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
10/27/05 16:01

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EJ52405 - Solvent Extraction (GC)</b>										
<b>Blank (EJ52405-BLK1)</b>										
Prepared: 10/24/05 Analyzed: 10/25/05										
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	45.6		mg/kg	50.0		91.2	70-130			
Surrogate: 1-Chlorooctadecane	64.0		"	50.0		128	70-130			
<b>LCS (EJ52405-BS1)</b>										
Prepared: 10/24/05 Analyzed: 10/25/05										
Gasoline Range Organics C6-C12	450	10.0	mg/kg wet	500		90.0	75-125			
Diesel Range Organics >C12-C35	442	10.0	"	500		88.4	75-125			
Total Hydrocarbon C6-C35	892	10.0	"	1000		89.2	75-125			
Surrogate: 1-Chlorooctane	51.9		mg/kg	50.0		104	70-130			
Surrogate: 1-Chlorooctadecane	58.1		"	50.0		116	70-130			
<b>Calibration Check (EJ52405-CCV1)</b>										
Prepared: 10/24/05 Analyzed: 10/26/05										
Gasoline Range Organics C6-C12	453		mg/kg	500		90.6	80-120			
Diesel Range Organics >C12-C35	568		"	500		114	80-120			
Total Hydrocarbon C6-C35	1020		"	1000		102	80-120			
Surrogate: 1-Chlorooctane	47.4		"	50.0		94.8	70-130			
Surrogate: 1-Chlorooctadecane	60.3		"	50.0		121	70-130			
<b>Matrix Spike (EJ52405-MS1)</b>										
Source: 5J23004-21 Prepared: 10/24/05 Analyzed: 10/25/05										
Gasoline Range Organics C6-C12	462	10.0	mg/kg dry	530	ND	87.2	75-125			
Diesel Range Organics >C12-C35	428	10.0	"	530	ND	80.8	75-125			
Total Hydrocarbon C6-C35	890	10.0	"	1060	ND	84.0	75-125			
Surrogate: 1-Chlorooctane	52.7		mg/kg	50.0		105	70-130			
Surrogate: 1-Chlorooctadecane	55.2		"	50.0		110	70-130			
<b>Matrix Spike Dup (EJ52405-MSD1)</b>										
Source: 5J23004-21 Prepared: 10/24/05 Analyzed: 10/25/05										
Gasoline Range Organics C6-C12	478	10.0	mg/kg dry	530	ND	90.2	75-125	3.40	20	
Diesel Range Organics >C12-C35	451	10.0	"	530	ND	85.1	75-125	5.23	20	
Total Hydrocarbon C6-C35	929	10.0	"	1060	ND	87.6	75-125	4.29	20	
Surrogate: 1-Chlorooctane	54.2		mg/kg	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	56.6		"	50.0		113	70-130			

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Reported:  
10/27/05 16:01

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EJ52502 - EPA 5030C (GC)</b>										
<b>Blank (EJ52502-BLK1)</b>										
Prepared & Analyzed: 10/25/05										
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	39.9		ug/kg	40.0		99.8	80-120			
Surrogate: 4-Bromofluorobenzene	39.1		"	40.0		97.8	80-120			
<b>LCS (EJ52502-BS1)</b>										
Prepared & Analyzed: 10/25/05										
Benzene	0.0540	0.00100	mg/kg wet	0.0500		108	80-120			
Toluene	0.0551	0.00100	"	0.0500		110	80-120			
Ethylbenzene	0.0594	0.00100	"	0.0500		119	80-120			
Xylene (p/m)	0.120	0.00100	"	0.100		120	80-120			
Xylene (o)	0.0570	0.00100	"	0.0500		114	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.1		ug/kg	40.0		95.2	80-120			
Surrogate: 4-Bromofluorobenzene	45.8		"	40.0		114	80-120			
<b>Calibration Check (EJ52502-CCV1)</b>										
Prepared & Analyzed: 10/25/05										
Benzene	55.4		ug/kg	50.0		111	80-120			
Toluene	54.4		"	50.0		109	80-120			
Ethylbenzene	58.4		"	50.0		117	80-120			
Xylene (p/m)	114		"	100		114	80-120			
Xylene (o)	58.4		"	50.0		117	80-120			
Surrogate: a,a,a-Trifluorotoluene	39.1		"	40.0		97.8	80-120			
Surrogate: 4-Bromofluorobenzene	42.8		"	40.0		107	80-120			
<b>Matrix Spike (EJ52502-MS1)</b>										
Source: 5J23004-20 Prepared & Analyzed: 10/25/05										
Benzene	0.0563	0.00100	mg/kg dry	0.0530	ND	106	80-120			
Toluene	0.0569	0.00100	"	0.0530	ND	107	80-120			
Ethylbenzene	0.0624	0.00100	"	0.0530	ND	118	80-120			
Xylene (p/m)	0.118	0.00100	"	0.106	ND	111	80-120			
Xylene (o)	0.0612	0.00100	"	0.0530	ND	115	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.7		ug/kg	40.0		96.8	80-120			
Surrogate: 4-Bromofluorobenzene	41.3		"	40.0		103	80-120			

Environmental Lab of Texas

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Page 6 of 10



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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
10/27/05 16:01

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EJ52502 - EPA 5030C (GC)**

**Matrix Spike Dup (EJ52502-MSD1)**

Source: 5J23004-20

Prepared & Analyzed: 10/25/05

Benzene	0.0623	0.00100	mg/kg dry	0.0530	ND	118	80-120	10.7	20	
Toluene	0.0635	0.00100	"	0.0530	ND	120	80-120	11.5	20	
Ethylbenzene	0.0635	0.00100	"	0.0530	ND	120	80-120	1.68	20	
Xylene (p/m)	0.127	0.00100	"	0.106	ND	120	80-120	7.79	20	
Xylene (o)	0.0618	0.00100	"	0.0530	ND	117	80-120	1.72	20	
Surrogate: a,a,a-Trifluorotoluene	42.2		ug/kg	40.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	47.2		"	40.0		118	80-120			

**Batch EJ52509 - EPA 5030C (GC)**

**Blank (EJ52509-BLK1)**

Prepared & Analyzed: 10/25/05

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	38.0		ug/kg	40.0		95.0	80-120			
Surrogate: 4-Bromofluorobenzene	40.4		"	40.0		101	80-120			

**LCS (EJ52509-BS1)**

Prepared & Analyzed: 10/25/05

Benzene	0.0526	0.00100	mg/kg wet	0.0500		105	80-120			
Toluene	0.0537	0.00100	"	0.0500		107	80-120			
Ethylbenzene	0.0587	0.00100	"	0.0500		117	80-120			
Xylene (p/m)	0.114	0.00100	"	0.100		114	80-120			
Xylene (o)	0.0575	0.00100	"	0.0500		115	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.6		ug/kg	40.0		96.5	80-120			
Surrogate: 4-Bromofluorobenzene	45.1		"	40.0		113	80-120			

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Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
10/27/05 16:01

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EJ52509 - EPA 5030C (GC)</b>										
<b>Calibration Check (EJ52509-CCV1)</b>				Prepared: 10/25/05 Analyzed: 10/26/05						
Benzene	49.8		ug/kg	50.0		99.6	80-120			
Toluene	49.8		"	50.0		99.6	80-120			
Ethylbenzene	54.2		"	50.0		108	80-120			
Xylene (p/m)	103		"	100		103	80-120			
Xylene (o)	54.8		"	50.0		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	34.8		"	40.0		87.0	80-120			
Surrogate: 4-Bromofluorobenzene	36.0		"	40.0		90.0	80-120			
<b>Matrix Spike (EJ52509-MS1)</b>				Source: 5J25005-02 Prepared: 10/25/05 Analyzed: 10/26/05						
Benzene	1.29	0.0250	mg/kg dry	1.34	ND	96.3	80-120			
Toluene	1.34	0.0250	"	1.34	0.0127	99.1	80-120			
Ethylbenzene	1.55	0.0250	"	1.34	0.0225	114	80-120			
Xylene (p/m)	2.93	0.0250	"	2.68	0.0609	107	80-120			
Xylene (o)	1.45	0.0250	"	1.34	0.0264	106	80-120			
Surrogate: a,a,a-Trifluorotoluene	35.3		ug/kg	40.0		88.2	80-120			
Surrogate: 4-Bromofluorobenzene	42.2		"	40.0		106	80-120			
<b>Matrix Spike Dup (EJ52509-MSD1)</b>				Source: 5J25005-02 Prepared: 10/25/05 Analyzed: 10/26/05						
Benzene	1.24	0.0250	mg/kg dry	1.34	ND	92.5	80-120	4.03	20	
Toluene	1.29	0.0250	"	1.34	0.0127	95.3	80-120	3.91	20	
Ethylbenzene	1.51	0.0250	"	1.34	0.0225	111	80-120	2.67	20	
Xylene (p/m)	2.91	0.0250	"	2.68	0.0609	106	80-120	0.939	20	
Xylene (o)	1.51	0.0250	"	1.34	0.0264	111	80-120	4.61	20	
Surrogate: a,a,a-Trifluorotoluene	33.6		ug/kg	40.0		84.0	80-120			
Surrogate: 4-Bromofluorobenzene	43.6		"	40.0		109	80-120			

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Midland TX, 79706-4476

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
10/27/05 16:01

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EJ52503 - General Preparation (Prep)</b>										
<b>Blank (EJ52503-BLK1)</b>		Prepared: 10/24/05 Analyzed: 10/25/05								
% Solids	100		%							
<b>Duplicate (EJ52503-DUP1)</b>		<b>Source: 5J21011-01</b>		Prepared: 10/24/05 Analyzed: 10/25/05						
% Solids	94.3		%		93.8			0.532	20	
<b>Duplicate (EJ52503-DUP2)</b>		<b>Source: 5J23004-15</b>		Prepared: 10/24/05 Analyzed: 10/25/05						
% Solids	94.6		%		94.5			0.106	20	
<b>Duplicate (EJ52503-DUP3)</b>		<b>Source: 5J23005-04</b>		Prepared: 10/24/05 Analyzed: 10/25/05						
% Solids	95.4		%		96.1			0.731	20	

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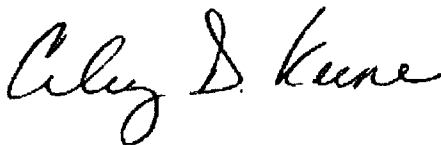
Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
10/27/05 16:01

### Notes and Definitions

S-06  
S-04  
J  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate



Report Approved By: \_\_\_\_\_

Date: 10/27/2005

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

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

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**Phone: 915-563-1800**  
**Fax: 915-563-1713**

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: KEN DUTTON

Company Name **BASIN ENV SYC**

Company Address: P.O. Box 301

City/State/Zip: LOVINGTON NM 88260

Telephone No: (505) 441-2124

**Sampler Signature:**

Project Name: LOVINGTON PUMP STATION

Project #: EMG: 2005-00015

Project Loc: LEA COUNTY NM

PO #: PFA/C. REYNOLDS

Fax No: (505) 369-1429

LAB # (lab use only)		FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative							Matrix			Other (specify):	Analyze For:										RUSH TAT (Pre-Schedule)	Standard TAT							
						Ice	HNO <sub>3</sub>	HCl	NaOH	H <sub>2</sub> SO <sub>4</sub>	None	Water	Sludge	Soil	TCLP:		TOTAL:	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , CO <sub>3</sub> , HCO <sub>3</sub> )	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semi-volatiles	BT EX 80219/6030	RCI	N.O.R.M.			Total Gamma						
-01	NORTH S/W	21 OCT	0900	1	X										X																				
-02	SOUTH S/W		0915																																
-03	EAST S/W		0930																																
-04	WEST S/W		0945																																
-05	EXCV FLR		1000																																
Special Instructions:																Sample Containers Intact? <input checked="" type="checkbox"/> N Temperature Upon Receipt: Laboratory Comments: 402																			
Relinquished by:		Date	Time	Received by:		Date		Time																											
<i>[Signature]</i>		21 OCT 05	1642	<i>[Signature]</i>		10/21/05		1640												Seals / Labels															
Relinquished by:		Date	Time	Received by ELDT:		Date		Time																											

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

Client: Plains  
Date/Time: 10/21/05 16:40  
Order #: 55210 5J23005  
Initials: CK

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	3.0 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	No	
Custody Seals intact on shipping container/cooler?	<input checked="" type="checkbox"/> Yes	No	Not present
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/> Yes	No	Not present
Chain of custody present?	<input checked="" type="checkbox"/> Yes	No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	No	
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	No	
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No	
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No	
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable

Other observations:

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**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
Regarding: \_\_\_\_\_

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Corrective Action Taken:

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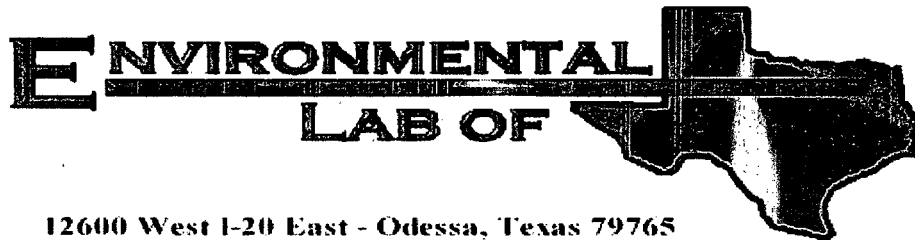
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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Lovington Pump Station

Project Number: EMS: 2005-00015

Location: Lea County, NM

Lab Order Number: 5E13017

Report Date: 05/17/05

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Reported:**  
05/17/05 09:08

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
R/P EXCV BTM	5E13017-01	Soil	05/05/05 08:30	05/13/05 09:40
R/P EXCV N/SW	5E13017-02	Soil	05/05/05 08:40	05/13/05 09:40
R/P EXCV S/SW	5E13017-03	Soil	05/05/05 08:50	05/13/05 09:40
R/P EXCV E/SW	5E13017-04	Soil	05/05/05 08:59	05/13/05 09:40
R/P EXCV W/SW	5E13017-05	Soil	05/05/05 09:08	05/13/05 09:40



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Midland TX, 79706-4476

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:08

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R/P EXCV BTM (5E13017-01) Soil</b>									
Benzene	0.101	0.0250	mg/kg dry	25	EE51312	05/13/05	05/14/05	EPA 8021B	
Toluene	0.399	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.336	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.12	0.0250	"	"	"	"	"	"	
Xylene (o)	0.273	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		143 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		117 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	324	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	3460	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	3780	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		112 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		121 %	70-130		"	"	"	"	
<b>R/P EXCV N/SW (5E13017-02) Soil</b>									
Benzene	0.0754	0.0250	mg/kg dry	25	EE51312	05/13/05	05/14/05	EPA 8021B	
Toluene	0.330	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.322	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.14	0.0250	"	"	"	"	"	"	
Xylene (o)	0.261	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		127 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		114 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	922	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	5150	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	6070	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		104 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	70-130		"	"	"	"	
<b>R/P EXCV S/SW (5E13017-03) Soil</b>									
Benzene	0.115	0.0250	mg/kg dry	25	EE51312	05/13/05	05/14/05	EPA 8021B	
Toluene	0.447	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.438	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.48	0.0250	"	"	"	"	"	"	
Xylene (o)	0.321	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		130 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		115 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	890	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	6600	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	7490	10.0	"	"	"	"	"	"	

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Page 2 of 10

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:08

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R/P EXCV S/SW (5E13017-03) Soil</b>									
Surrogate: 1-Chlorooctane		109 %	70-130		EE51305	05/13/05	05/14/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		104 %	70-130		"	"	"	"	
<b>R/P EXCV E/SW (5E13017-04) Soil</b>									
Benzene	0.287	0.0250	mg/kg dry	25	EE51312	05/13/05	05/14/05	EPA 8021B	
Toluene	0.876	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.661	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.90	0.0250	"	"	"	"	"	"	
Xylene (o)	0.419	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		467 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		104 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	7040	50.0	mg/kg dry	5	EE51305	05/13/05	05/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	22900	50.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	29900	50.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		34.2 %	70-130		"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		19.2 %	70-130		"	"	"	"	S-06
<b>R/P EXCV W/SW (5E13017-05) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/14/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	J [0.0203]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	0.0462	0.0250	"	"	"	"	"	"	
Xylene (o)	J [0.0175]	0.0250	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		90.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	254	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	5640	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	5890	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		93.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		100 %	70-130		"	"	"	"	

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Page 3 of 10

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R/P EXCV BTM (5E13017-01) Soil</b>									
% Moisture	9.5	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>R/P EXCV N/SW (5E13017-02) Soil</b>									
% Moisture	7.9	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>R/P EXCV S/SW (5E13017-03) Soil</b>									
% Moisture	7.8	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>R/P EXCV E/SW (5E13017-04) Soil</b>									
% Moisture	13.7	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>R/P EXCV W/SW (5E13017-05) Soil</b>									
% Moisture	6.9	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	

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Page 4 of 10

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE51305 - Solvent Extraction (GC)**

**Blank (EE51305-BLK1)**

Prepared: 05/13/05 Analyzed: 05/14/05

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	39.4		mg/kg	50.0		78.8	70-130			
Surrogate: 1-Chlorooctadecane	37.6		"	50.0		75.2	70-130			

**LCS (EE51305-BS1)**

Prepared: 05/13/05 Analyzed: 05/14/05

Gasoline Range Organics C6-C12	475	10.0	mg/kg wet	500		95.0	75-125			
Diesel Range Organics >C12-C35	505	10.0	"	500		101	75-125			
Total Hydrocarbon C6-C35	980	10.0	"	1000		98.0	75-125			
Surrogate: 1-Chlorooctane	38.6		mg/kg	50.0		77.2	70-130			
Surrogate: 1-Chlorooctadecane	36.2		"	50.0		72.4	70-130			

**Calibration Check (EE51305-CCV1)**

Prepared: 05/13/05 Analyzed: 05/14/05

Gasoline Range Organics C6-C12	499		mg/kg	500		99.8	80-120			
Diesel Range Organics >C12-C35	530		"	500		106	80-120			
Total Hydrocarbon C6-C35	1030		"	1000		103	80-120			
Surrogate: 1-Chlorooctane	48.4		"	50.0		96.8	70-130			
Surrogate: 1-Chlorooctadecane	41.2		"	50.0		82.4	70-130			

**Matrix Spike (EE51305-MS1)**

Source: 5E13021-02

Prepared: 05/13/05 Analyzed: 05/14/05

Gasoline Range Organics C6-C12	477	10.0	mg/kg dry	517	ND	92.3	75-125			
Diesel Range Organics >C12-C35	502	10.0	"	517	ND	97.1	75-125			
Total Hydrocarbon C6-C35	979	10.0	"	1030	ND	95.0	75-125			
Surrogate: 1-Chlorooctane	52.8		mg/kg	50.0		106	70-130			
Surrogate: 1-Chlorooctadecane	47.0		"	50.0		94.0	70-130			

**Matrix Spike Dup (EE51305-MSD1)**

Source: 5E13021-02

Prepared: 05/13/05 Analyzed: 05/14/05

Gasoline Range Organics C6-C12	488	10.0	mg/kg dry	517	ND	94.4	75-125	2.28	20	
Diesel Range Organics >C12-C35	511	10.0	"	517	ND	98.8	75-125	1.78	20	
Total Hydrocarbon C6-C35	999	10.0	"	1030	ND	97.0	75-125	2.02	20	
Surrogate: 1-Chlorooctane	53.3		mg/kg	50.0		107	70-130			
Surrogate: 1-Chlorooctadecane	48.5		"	50.0		97.0	70-130			

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**Organics by GC - Quality Control**  
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE51312 - EPA 5030C (GC)</b>										
<b>Blank (EE51312-BLK1)</b>										
Prepared & Analyzed: 05/13/05										
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	102		ug/kg	100		102	80-120			
Surrogate: 4-Bromofluorobenzene	85.2		"	100		85.2	80-120			
<b>LCS (EE51312-BS1)</b>										
Prepared: 05/13/05 Analyzed: 05/14/05										
Benzene	90.3		ug/kg	100		90.3	80-120			
Toluene	82.9		"	100		82.9	80-120			
Ethylbenzene	82.2		"	100		82.2	80-120			
Xylene (p/m)	185		"	200		92.5	80-120			
Xylene (o)	91.0		"	100		91.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	115		"	100		115	80-120			
Surrogate: 4-Bromofluorobenzene	99.3		"	100		99.3	80-120			
<b>Calibration Check (EE51312-CCV1)</b>										
Prepared: 05/13/05 Analyzed: 05/14/05										
Benzene	95.4		ug/kg	100		95.4	80-120			
Toluene	93.0		"	100		93.0	80-120			
Ethylbenzene	91.5		"	100		91.5	80-120			
Xylene (p/m)	208		"	200		104	80-120			
Xylene (o)	97.1		"	100		97.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	119		"	100		119	80-120			
Surrogate: 4-Bromofluorobenzene	104		"	100		104	80-120			
<b>Matrix Spike (EE51312-MS1)</b>										
Source: 5E12014-02 Prepared: 05/13/05 Analyzed: 05/14/05										
Benzene	88.8		ug/kg	100	ND	88.8	80-120			
Toluene	85.7		"	100	ND	85.7	80-120			
Ethylbenzene	84.8		"	100	ND	84.8	80-120			
Xylene (p/m)	192		"	200	ND	96.0	80-120			
Xylene (o)	84.6		"	100	ND	84.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	101		"	100		101	80-120			
Surrogate: 4-Bromofluorobenzene	103		"	100		103	80-120			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE51312 - EPA 5030C (GC)**

Matrix Spike Dup (EE51312-MSD1)		Source: SE12014-02		Prepared: 05/13/05 Analyzed: 05/14/05						
Benzene	92.9		ug/kg	100	ND	92.9	80-120	4.51	20	
Toluene	90.3		"	100	ND	90.3	80-120	5.23	20	
Ethylbenzene	92.0		"	100	ND	92.0	80-120	8.14	20	
Xylene (p/m)	211		"	200	ND	106	80-120	9.90	20	
Xylene (o)	94.4		"	100	ND	94.4	80-120	10.9	20	
Surrogate: a,a,a-Trifluorotoluene	115		"	100		115	80-120			
Surrogate: 4-Bromofluorobenzene	113		"	100		113	80-120			

**Batch EE51401 - EPA 5030C (GC)**

Blank (EE51401-BLK1)		Prepared & Analyzed: 05/14/05								
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	90.0		ug/kg	100		90.0	80-120			
Surrogate: 4-Bromofluorobenzene	92.4		"	100		92.4	80-120			

**LCS (EE51401-BS1)**

		Prepared & Analyzed: 05/14/05								
Benzene	85.3		ug/kg	100		85.3	80-120			
Toluene	82.9		"	100		82.9	80-120			
Ethylbenzene	86.9		"	100		86.9	80-120			
Xylene (p/m)	200		"	200		100	80-120			
Xylene (o)	91.1		"	100		91.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	104		"	100		104	80-120			
Surrogate: 4-Bromofluorobenzene	114		"	100		114	80-120			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE51401 - EPA 5030C (GC)</b>										
<b>Calibration Check (EE51401-CCV1)</b>				Prepared: 05/14/05 Analyzed: 05/15/05						
Benzene	98.5		ug/kg	100		98.5	80-120			
Toluene	93.6		"	100		93.6	80-120			
Ethylbenzene	88.8		"	100		88.8	80-120			
Xylene (p/m)	200		"	200		100	80-120			
Xylene (o)	96.2		"	100		96.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	115		"	100		115	80-120			
Surrogate: 4-Bromofluorobenzene	103		"	100		103	80-120			
<b>Matrix Spike (EE51401-MS1)</b>				Source: 5E13021-01 Prepared & Analyzed: 05/14/05						
Benzene	87.4		ug/kg	100	ND	87.4	80-120			
Toluene	86.5		"	100	ND	86.5	80-120			
Ethylbenzene	86.8		"	100	ND	86.8	80-120			
Xylene (p/m)	198		"	200	ND	99.0	80-120			
Xylene (o)	92.0		"	100	ND	92.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	107		"	100		107	80-120			
Surrogate: 4-Bromofluorobenzene	114		"	100		114	80-120			
<b>Matrix Spike Dup (EE51401-MSD1)</b>				Source: 5E13021-01 Prepared & Analyzed: 05/14/05						
Benzene	90.9		ug/kg	100	ND	90.9	80-120	3.93	20	
Toluene	90.7		"	100	ND	90.7	80-120	4.74	20	
Ethylbenzene	93.4		"	100	ND	93.4	80-120	7.33	20	
Xylene (p/m)	215		"	200	ND	108	80-120	8.70	20	
Xylene (o)	98.1		"	100	ND	98.1	80-120	6.42	20	
Surrogate: a,a,a-Trifluorotoluene	108		"	100		108	80-120			
Surrogate: 4-Bromofluorobenzene	116		"	100		116	80-120			

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Page 8 of 10

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE51301 - General Preparation (Prep)</b>										
<b>Blank (EE51301-BLK1)</b>										
					Prepared & Analyzed: 05/13/05					
% Moisture	ND	0.1	%							
<b>Duplicate (EE51301-DUP1)</b>										
					Source: 5E12011-01 Prepared & Analyzed: 05/13/05					
% Solids	98.2		%		97.4			0.818	20	



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### Notes and Definitions

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

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

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

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:

*Raland K. Tuttle*

Date:

5/17/2005

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

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

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Page 10 of 10

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

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DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:

*Raland K. Tuttle*

Date: 5/17/2005

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

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

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Environmental Lab of Texas

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

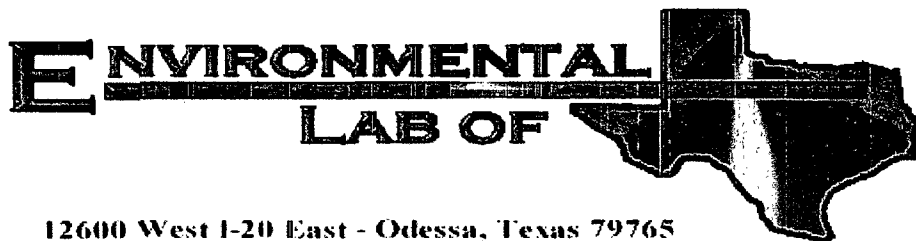
[illegible]

Client: Plains Pipeline  
Date/Time: 5/13/05 9:50  
Order #: 5E13017  
Initials: CR

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

Variance Documentation:  
Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
Regarding: \_\_\_\_\_

**Corrective Action Taken:**



## Analytical Report

**Prepared for:**

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Lovington Pump Station

Project Number: EMS: 2005-00015

Location: Lea County, NM

Lab Order Number: 5E13021

Report Date: 05/17/05

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Reported:**  
05/17/05 09:24

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 10'	5E13021-01	Soil	05/05/05 10:07	05/13/05 09:40
SB-1 20'	5E13021-02	Soil	05/05/05 10:17	05/13/05 09:40
SB-1 30'	5E13021-03	Soil	05/05/05 10:30	05/13/05 09:40
SB-2 10'	5E13021-07	Soil	05/05/05 13:10	05/13/05 09:40
SB-2 20'	5E13021-08	Soil	05/05/05 13:20	05/13/05 09:40
SB-3 10'	5E13021-09	Soil	05/05/05 14:01	05/13/05 09:40
SB-3 20'	5E13021-10	Soil	05/05/05 14:10	05/13/05 09:40
SB-4 10'	5E13021-11	Soil	05/05/05 14:40	05/13/05 09:40
SB-4 20'	5E13021-12	Soil	05/05/05 14:47	05/13/05 09:40

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:24

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 10' (5E13021-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/14/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		95.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		95.2 %	70-130		"	"	"	"	
<b>SB-1 20' (5E13021-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/14/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		93.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		104 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		101 %	70-130		"	"	"	"	
<b>SB-1 30' (5E13021-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/14/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		92.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

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Page 2 of 11

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:24

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 30' (5E13021-03) Soil</b>									
Surrogate: 1-Chlorooctane		93.2 %	70-130		EE51305	05/13/05	05/14/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		93.6 %	70-130		"	"	"	"	
<b>SB-2 10' (5E13021-07) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/14/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		78.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		71.4 %	70-130		"	"	"	"	
<b>SB-2 20' (5E13021-08) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/14/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		92.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		78.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		73.0 %	70-130		"	"	"	"	

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Page 3 of 11



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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:24

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-3 10' (5E13021-09) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/14/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.3 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		79.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		73.2 %	70-130		"	"	"	"	
<b>SB-3 20' (5E13021-10) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/14/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		77.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		71.4 %	70-130		"	"	"	"	
<b>SB-4 10' (5E13021-11) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/16/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.5 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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Page 4 of 11

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:24

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-4 10' (SE13021-11) Soil</b>									
Surrogate: 1-Chlorooctane		79.8 %	70-130		EE51305	05/13/05	05/14/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		74.2 %	70-130		"	"	"	"	
<b>SB-4 20' (SE13021-12) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51401	05/14/05	05/14/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		84.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		80.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		75.2 %	70-130		"	"	"	"	

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Page 5 of 11

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:24

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 10' (5E13021-01) Soil</b>									
% Moisture	7.5	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>SB-1 20' (5E13021-02) Soil</b>									
% Moisture	3.3	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>SB-1 30' (5E13021-03) Soil</b>									
Chloride	14.9	5.00	mg/kg	10	EE51404	05/13/05	05/13/05	EPA 300.0	
% Moisture	4.2	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>SB-2 10' (5E13021-07) Soil</b>									
% Moisture	10.3	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>SB-2 20' (5E13021-08) Soil</b>									
% Moisture	3.5	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>SB-3 10' (5E13021-09) Soil</b>									
% Moisture	11.4	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>SB-3 20' (5E13021-10) Soil</b>									
% Moisture	3.5	0.1	%	1	EE51301	05/13/05	05/13/05	% calculation	
<b>SB-4 10' (5E13021-11) Soil</b>									
% Moisture	10.6	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-4 20' (5E13021-12) Soil</b>									
% Moisture	3.0	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	

Environmental Lab of Texas

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Page 6 of 11

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:24

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE51305 - Solvent Extraction (GC)</b>									
<b>Blank (EE51305-BLK1)</b>									
				Prepared: 05/13/05 Analyzed: 05/14/05					
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet						
Diesel Range Organics >C12-C35	ND	10.0	"						
Total Hydrocarbon C6-C35	ND	10.0	"						
Surrogate: 1-Chlorooctane	39.4		mg/kg	50.0		78.8	70-130		
Surrogate: 1-Chlorooctadecane	37.6		"	50.0		75.2	70-130		
<b>LCS (EE51305-BS1)</b>									
				Prepared: 05/13/05 Analyzed: 05/14/05					
Gasoline Range Organics C6-C12	475	10.0	mg/kg wet	500		95.0	75-125		
Diesel Range Organics >C12-C35	505	10.0	"	500		101	75-125		
Total Hydrocarbon C6-C35	980	10.0	"	1000		98.0	75-125		
Surrogate: 1-Chlorooctane	38.6		mg/kg	50.0		77.2	70-130		
Surrogate: 1-Chlorooctadecane	36.2		"	50.0		72.4	70-130		
<b>Calibration Check (EE51305-CCV1)</b>									
				Prepared: 05/13/05 Analyzed: 05/14/05					
Gasoline Range Organics C6-C12	499		mg/kg	500		99.8	80-120		
Diesel Range Organics >C12-C35	530		"	500		106	80-120		
Total Hydrocarbon C6-C35	1030		"	1000		103	80-120		
Surrogate: 1-Chlorooctane	48.4		"	50.0		96.8	70-130		
Surrogate: 1-Chlorooctadecane	41.2		"	50.0		82.4	70-130		
<b>Matrix Spike (EE51305-MS1)</b>									
			Source: 5E13021-02		Prepared: 05/13/05 Analyzed: 05/14/05				
Gasoline Range Organics C6-C12	477	10.0	mg/kg dry	517	ND	92.3	75-125		
Diesel Range Organics >C12-C35	502	10.0	"	517	ND	97.1	75-125		
Total Hydrocarbon C6-C35	979	10.0	"	1030	ND	95.0	75-125		
Surrogate: 1-Chlorooctane	52.8		mg/kg	50.0		106	70-130		
Surrogate: 1-Chlorooctadecane	47.0		"	50.0		94.0	70-130		
<b>Matrix Spike Dup (EE51305-MSD1)</b>									
			Source: 5E13021-02		Prepared: 05/13/05 Analyzed: 05/14/05				
Gasoline Range Organics C6-C12	488	10.0	mg/kg dry	517	ND	94.4	75-125	2.28	20
Diesel Range Organics >C12-C35	511	10.0	"	517	ND	98.8	75-125	1.78	20
Total Hydrocarbon C6-C35	999	10.0	"	1030	ND	97.0	75-125	2.02	20
Surrogate: 1-Chlorooctane	53.3		mg/kg	50.0		107	70-130		
Surrogate: 1-Chlorooctadecane	48.5		"	50.0		97.0	70-130		

Plains All American EH & S  
1301 S. County Road 1150  
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Reported:  
05/17/05 09:24

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE51401 - EPA 5030C (GC)</b>										
<b>Blank (EE51401-BLK1)</b>										
Prepared & Analyzed: 05/14/05										
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	90.0		ug/kg	100		90.0	80-120			
Surrogate: 4-Bromofluorobenzene	92.4		"	100		92.4	80-120			
<b>LCS (EE51401-BS1)</b>										
Prepared & Analyzed: 05/14/05										
Benzene	85.3		ug/kg	100		85.3	80-120			
Toluene	82.9		"	100		82.9	80-120			
Ethylbenzene	86.9		"	100		86.9	80-120			
Xylene (p/m)	200		"	200		100	80-120			
Xylene (o)	91.1		"	100		91.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	104		"	100		104	80-120			
Surrogate: 4-Bromofluorobenzene	114		"	100		114	80-120			
<b>Calibration Check (EE51401-CCV1)</b>										
Prepared: 05/14/05 Analyzed: 05/15/05										
Benzene	98.5		ug/kg	100		98.5	80-120			
Toluene	93.6		"	100		93.6	80-120			
Ethylbenzene	88.8		"	100		88.8	80-120			
Xylene (p/m)	200		"	200		100	80-120			
Xylene (o)	96.2		"	100		96.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	115		"	100		115	80-120			
Surrogate: 4-Bromofluorobenzene	103		"	100		103	80-120			
<b>Matrix Spike (EE51401-MS1)</b>										
			Source: 5E13021-01		Prepared & Analyzed: 05/14/05					
Benzene	87.4		ug/kg	100	ND	87.4	80-120			
Toluene	86.5		"	100	ND	86.5	80-120			
Ethylbenzene	86.8		"	100	ND	86.8	80-120			
Xylene (p/m)	198		"	200	ND	99.0	80-120			
Xylene (o)	92.0		"	100	ND	92.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	107		"	100		107	80-120			
Surrogate: 4-Bromofluorobenzene	114		"	100		114	80-120			

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:24

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE51401 - EPA 5030C (GC)</b>										
<b>Matrix Spike Dup (EE51401-MSD1)</b>		<b>Source: 5E13021-01</b>		<b>Prepared &amp; Analyzed: 05/14/05</b>						
Benzene	90.9		ug/kg	100	ND	90.9	80-120	3.93	20	
Toluene	90.7		"	100	ND	90.7	80-120	4.74	20	
Ethylbenzene	93.4		"	100	ND	93.4	80-120	7.33	20	
Xylene (p/m)	215		"	200	ND	108	80-120	8.70	20	
Xylene (o)	98.1		"	100	ND	98.1	80-120	6.42	20	
Surrogate: a,a,a-Trifluorotoluene	108		"	100		108	80-120			
Surrogate: 4-Bromofluorobenzene	116		"	100		116	80-120			

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:24

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE51301 - General Preparation (Prep)</b>										
<b>Blank (EE51301-BLK1)</b>				Prepared & Analyzed: 05/13/05						
% Moisture	ND	0.1	%							
<b>Duplicate (EE51301-DUP1)</b>				Source: 5E12011-01		Prepared & Analyzed: 05/13/05				
% Solids	98.2		%		97.4			0.818	20	
<b>Batch EE51404 - Water Extraction</b>										
<b>Blank (EE51404-BLK1)</b>				Prepared & Analyzed: 05/13/05						
Chloride	ND	0.500	mg/kg							
<b>LCS (EE51404-BS1)</b>				Prepared & Analyzed: 05/13/05						
Chloride	10.2		mg/L	10.0		102	80-120			
<b>Calibration Check (EE51404-CCV1)</b>				Prepared & Analyzed: 05/13/05						
Chloride	10.4		mg/L	10.0		104	80-120			
<b>Duplicate (EE51404-DUP1)</b>				Source: 5E13025-04		Prepared & Analyzed: 05/13/05				
Chloride	1670	50.0	mg/kg		1680			0.597	20	

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

Project: Lovington Pump Station  
Project Number: EMS: 2005-00015  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 09:24

### Notes and Definitions

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

Report Approved By:

*Raland K. Tuttle*

Date:

5/17/2005

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

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

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

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



1

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

LAB # (lab use only)		FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative								Matrix			Analyze For:										RUSH TAT (Pre-Schedule)	Standard TAT						
						Ice	HNO <sub>3</sub>	HCl	NaOH	H <sub>2</sub> SO <sub>4</sub>	None	Other (Specify)	Water	Sludge	Soil	Other (Specify)	TPH: 418.1 8015M 1005 1006	Carbon (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , CO <sub>3</sub> , HCO <sub>3</sub> )	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTX 8021 B 5033	RCI	NORM	Total Camma	CHLORIDES	300.1					
01	SB-1	10'	05 MAY	1007	1	X									X		X							X								X		
02	SB-1	20'		1017	1	X									X		X							X								X		
03	SB-1	30'		1030	1	X									X		X							X								X		
04	SB-1	40' A		1039	1	X									X																	X		
05	SB-1	50' B		1056	1	X									X																		X	
06	SB-1	68' A		1120	1	X									X																		X	
07	SB-2	10'		1310	1	X									X		X							X									X	
08	SB-2	20'		1320	1	X									X		X							X									X	
09	SB-3	10'		1401	1	X									X		X							X									X	
10	SB-3	20'		1410	1	X									X		X							X									X	

Special Instructions: **X** HOLD SB-1 50', SB-1 40' + SB-1 68' FOR POSSIBLE ANALYSIS - **D**

Relinquished by: *Sam Dutton* Date: *13 MAY 05* Time: *0920* Received by: *[Signature]* Date: *5/13/05* Time: *9.40*

Sample Containers Intact? **(U)** N  
 Temperature Upon Receipt  
 Laboratory Comments: *403/ labels* *0.0*  
*402*

**Phone: 915-563-1800**  
**Fax: 915-563-1713**

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: KEN DUTTON

Company Name BASIN ENV SVC.

Company Address: P. O. Box 301

City/State/Zip: LOVINGTON, NM 88260

Telephone No: (505) 441-2124 Fax No: (505) 396-1429

Sampler Signature: Ken Dutton

Project Name: LOVINGTON PUMP STATION

Project #: EMS: 2005-00015

Project Loc: LEA COUNTY, NM

PO #: PAR/C. REYNOLDS

[illegible]

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

Client: Plains Pipeline  
 Date/Time: 5/13/05 9:50  
 Order #: SE13021  
 Initials: CK

**Sample Receipt Checklist**

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

Other observations:

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**Variance Documentation:**

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

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Corrective Action Taken:

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## **APPENDIX C**

### **SOIL BORING LOGS**

Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
					Caliche Layer, Gray-Black, Moist
5		2.8 ppm	Slight	Heavy	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, imbedded w/ caliche, moist
10		3.2 ppm	None	Slight	
15		1.2 ppm	None	None	
20		1.7 ppm	None	None	Caliche Layer, moist
25		1.9 ppm	None	None	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, imbedded w/ caliche, moist
30		1.8 ppm	None	None	
35		1.7 ppm	None	None	Caliche Layer, dry
40		2.3 ppm	None	None	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, imbedded w/ gravel rock, dry
45		0.7 ppm	None	None	Sand Stone Layer, dry
50		0.7 ppm	None	None	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, imbedded w/ caliche, dry
55		0.5 ppm	None	None	
60		0.2 ppm	None	None	
65		0.2 ppm	None	None	
68' TD 70		0.1 ppm	None	None	

Plains Marketing, L. P.  
 Lovington Pump Station  
 Lea County, New Mexico  
 NW/NW S16, T17S, R37E  
 EMS No. 2005-00015

**Soil Boring Completion Data**

TD: 68 Feet bgs

Installed 05 May 05  
 Basin Environmental  
 Service Technologies

 Samples selected for analysis

 Groundwater Depth

**Soil Boring Plugging Data**

Hydrated Bentonite Plug,  
 Surface to 68' bgs



TITLE	DESCRIPTION
Lovington Pump Station	SB-1
DRAWN BY	DATE
KAD	05 May 05

Depth

Soil Column

PID  
Reading

Petroleum  
Odor

Petroleum  
Stain

Soil  
Description

**Plains Marketing, L. P.  
Lovington Pump Station  
Lea County, New Mexico  
NW/NW S16, T17S, R37E  
EMS No. 2005-00015**

**Soil Boring Completion Data**

TD: 20 Feet bgs

Installed 05 May 05  
Basin Environmental  
Service Technologies

☐ Samples selected  
for analysis

**Soil Boring Plugging Data**

Hydrated Bentonite Plug,  
Surface to 20' bgs

5

0.6 ppm

None

None

Caliche Layer, dry

10

☐ 0.8 ppm

None

None

Sand (SP) Red-Brown, Very Fine  
Grained, Well Sorted, imbedded w/  
caliche, dry

15

0.1 ppm

None

None

20

☐ 0.1ppm

None

None

TITLE	DESCRIPTION
Lovington Pump Station	SB-2
DRAWN BY	DATE
KAD	05 May 05

Depth

Soil Column

PID  
ReadingPetroleum  
OdorPetroleum  
StainSoil  
Description

Plains Marketing, L. P.  
Lovington Pump Station  
Lea County, New Mexico  
NW/NW S16, T17S, R37E  
EMS No. 2005-00015

## Soil Boring Completion Data

TD: 20 Feet bgs

Installed 05 May 05  
Basin Environmental  
Service Technologies

☐ Samples selected  
for analysis

## Soil Boring Plugging Data

Hydrated Bentonite Plug,  
Surface to 20' bgs

5

1.0 ppm

None

None

Caliche Layer, moist

10

0.9 ppm

None

None

Sand (SP) White-Brown, Very Fine  
Grained, Well Sorted, imbedded w/  
caliche, moist

15

0.1 ppm

None

None

Caliche Layer, dry

20

0.3ppm

None

None

TITLE

Lovington Pump  
Station

DESCRIPTION

SB-3

DRAWN BY  
KAD

DATE

05 May 05

Depth

Soil Column

PID  
ReadingPetroleum  
OdorPetroleum  
StainSoil  
Description

Plains Marketing, L. P.  
Lovington Pump Station  
Lea County, New Mexico  
NW/NW S16, T17S, R37E  
EMS No. 2005-00015

## Soil Boring Completion Data

TD: 20 Feet bgs

Installed 05 May 05  
Basin Environmental  
Service Technologies

☐ Samples selected  
for analysis

## Soil Boring Plugging Data

Hydrated Bentonite Plug,  
Surface to 20' bgs

5

1.5 ppm

None

None

Caliche Layer, moist

10

1.5 ppm

None

None

Sand (SP) Red-Brown, Very Fine  
Grained, Well Sorted, imbedded w/  
caliche, dry

15

1.1 ppm

None

None

Caliche Layer, dry

20

0.8 ppm

None

None

TITLE

Lovington Pump  
Station

DESCRIPTION

SB-4

DRAWN BY  
KAD

DATE

05 May 05



# **APPENDIX D**

**NMOCD C-141**

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR x Initial Report ☐ Final Report

Name of Company Plains Marketing, LP	Contact Camille Reynolds
Address 5805 East Hwy. 80, Midland, TX 79706	Telephone No. 505-441-0965
Facility Name Lovington Station	Facility Type 4" Steel Pipeline

Surface Owner State Of New Mexico	Mineral Owner	Lease No.
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LOCATION OF RELEASE

Unit Letter D	Section 16	Township 17S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude 32°50'31.2" Longitude 103°15'45.5"

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 6 barrels	Volume Recovered 0 barrels
Source of Release 4" Steel Pipeline	Date and Hour of Occurrence 1/14/05 @ 08:55	Date and Hour of Discovery 1/14/05 @ 09:00
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Larry Johnson	
By Whom? Camille Reynolds	Date and Hour 1/14/05 @ 15:15	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*  
  
Hobbs  
OCD

Describe Cause of Problem and Remedial Action Taken.\* Failure of packing on pump caused release of sour crude oil. Pump was repaired. The line has approximately 70 psi and produces approximately 780 barrels of crude oil per day. The gravity on the crude is 35.7 and the H2S content is less than 10 ppm.

Describe Area Affected and Cleanup Action Taken.\* The pump was repaired and the saturated soil was excavated. Aerial extent of surface impact was approximately 15 x 20 feet.

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

Signature: Camille Reynolds	OIL CONSERVATION DIVISION	
Printed Name: Camille Reynolds	Approved by District Supervisor:	
Title: Remediation Coordinator	Approval Date:	Expiration Date:
E-mail Address: cgreynolds@paalp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date 1/20/05 Phone: 505-441-0965		

Attach Additional Sheets If Necessary