



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

April 12, 2006

Ms. Camille Reynolds  
Plains Marketing, L.P.  
3112 West Highway 82  
Lovington, NM 88260

RE: 2005 Annual Monitoring Report  
Plains Marketing, L.P. Saunders 8" #4 Site  
SE/4 NW/4 Section 35, Township 13 South, Range 33 East  
Lea County, New Mexico  
Plains EMS Number: 2004-00184  
NMOCD File Number: 1R-0453

Dear Ms. Reynolds:

The New Mexico Oil Conservation Division (NMOCD) has received and reviewed the above report submitted, on behalf of Plains Marketing, L.P. (Plains), by Basin Environmental Service Technologies, LLC. This report is hereby accepted and approved with the following understandings and conditions:

1. Plains will continue to monitor the groundwater throughout 2006 and report such activities in the 2006 Annual Report to be submitted to this office no later than April 1, 2007.
2. Plains will implement the previously approved "Remediation Work Plan" as soon as possible.
3. Such work will be followed by a soil remediation/closure report upon completion.

NMOCD approval does not relieve Plains of liability should its operations at this site prove to have been harmful to public health or the environment. Nor does it relieve Plains of its responsibility to comply with the rules and regulations of any other governmental agency.

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

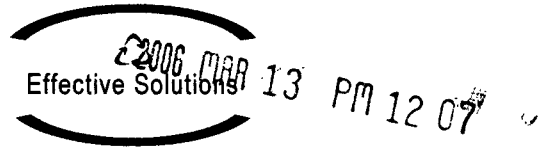
NEW MEXICO OIL CONSERVATION DIVISION

Edwin E. Martin  
Environmental Bureau

Copy: NMOCD, Hobbs  
Ken Dutton, Basin

# *Basin Environmental Service Technologies, LLC*

P. O. Box 301  
Lovington, New Mexico 88260  
kdutton@basinenv.com  
Office: (505) 396-2378 Fax: (505) 396-1429



## **2005 ANNUAL MONITORING REPORT**

**SAUNDERS 8" # 4**  
**SE ¼ NW ¼ SECTION 35, TOWNSHIP 13 SOUTH, RANGE 33 EAST**  
**LATITUDE 33°, 08', 55.6" NORTH, LONGITUDE 103°, 35', 15.3" WEST**  
**LEA COUNTY, NEW MEXICO**  
**PLAINS EMS NUMBER: 2004-00184**

**PREPARED FOR:**

**PLAINS MARKETING, L.P.**  
**333 CLAY STEET, SUITE 1600**  
**HOUSTON, TEXAS 77002**

*Report is on the  
L-Drive*

**PREPARED BY:**

**BASIN ENVIRONMENTAL SERVICE TECHNOLOGIES, LLC**  
**P. O. Box 301**  
**Lovington, New Mexico 88260**

**March 2006**

  
Ken Dutton  
Project Manager

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## INTRODUCTION

Basin Environmental Service Technologies, LLC, (Basin) on behalf of Plains Marketing, L.P., (Plains), prepared this annual report in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an annual report by April 1 of each year. This report is intended to be viewed as a complete document with text, figures, tables, and appendices. This report presents the results of the initial quarterly groundwater monitoring event conducted in calendar year 2005 only. Additional site activities and remedial work is summarized in several letters and reports previously submitted to the NMOCD. For reference, the Site Location Map is provided as Figure 1.

Initial groundwater monitoring was conducted during the fourth (4<sup>th</sup>) quarter in 2005 to assess the levels and extent of dissolved phase constituents and presence of phase-separated hydrocarbons (PSH). The groundwater monitoring event consisted of measuring static water levels in the monitoring wells, checking for the presence of PSH atop the water column, and purging and sampling of each well exhibiting sufficient recharge. Monitoring or recovery wells containing a thickness of PSH greater than 0.01 foot were not sampled.

## SITE DESCRIPTION AND BACKGROUND INFORMATION

The legal description of the site is SE ¼ NW ¼ Section 35, Township 13 South, Range 33 East. The site latitude is 32° 08' 55.6" North and the site longitude is 103° 35' 15.3" West. On 12 August 2004, Basin responded to the pipeline release on behalf of Plains to repair the pipeline and excavate the impacted soil. Approximately 15 barrels of crude oil were released from the Plains Pipeline and 0 barrels were recovered. The site is characterized by a right-of-way for the pipeline in a pasture utilized for cattle grazing. The initial visibly surface stained area includes the release point covering an area approximately 128 feet long by 89 feet wide. Excavation activities during the emergency response and subsequent remediation the site covered an area approximately 198 feet long by 194 feet wide and ranging from 12 to 18 feet below ground surface (bgs), respectively. All excavated soil was placed on a poly-liner for future remedial action.

A Revised Preliminary Site Investigation Report and Remediation Plan, dated 19 July 2005, was submitted and approved by NMOCD, Santa Fe. The Revised Plan proposed to conduct the following remedial activities; installation of a 20-ml poly liner at the floor of the excavation (22 feet bgs), backfill the excavation to 12 feet bgs with the stockpiled material on-site, collecting soil samples at 500 cubic yard intervals ensuring TPH constituent concentrations are below 1000 mg/kg. After backfilling to the 12 feet bgs level, install a second (2<sup>nd</sup>) 20-ml poly liner and backfill to surface, contour backfill and reseed with approved grass seed.

Additionally, the Revised Plan proposed to install three (3) monitoring wells to evaluate the quality of groundwater. During the installation of the three (3) groundwater monitor wells (03 October 2005), there were no visual signs of PSH and laboratory results of the selected soil samples indicated the twenty-seven (27) total soil samples analyzed for BTEX and TPH constituent concentrations were not detected above laboratory method detection limits.



Currently, there are three (3) monitoring wells, MW-1 which is up gradient, MW-2 and MW-3, which are down gradient, on site.

## **FIELD ACTIVITIES**

The site monitoring wells were gauged and sampled on 24 October 2005. During the initial sampling event, the monitoring wells, designated to be sampled, were purged of approximately 3 well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos Pump. Groundwater was allowed to recharge and samples were obtained using disposable Teflon bailers. Water samples were stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in polystyrene fifty-five gallon drums which remain temporarily stored on-site.

Locations of the monitoring wells and the groundwater elevations, which were constructed from the measurements collected during the initial 4<sup>th</sup> quarter monitoring event, are depicted on Figure 3. The groundwater elevation data are provided as Table 1.

The Groundwater Gradient Map, Figure 3, indicates a general gradient of approximately 0.002 ft/ft. to the southeast as measured between groundwater monitor wells MW-1 and MW-2. The corrected groundwater elevation ranged between 4129.48 and 4128.93 feet, in MW-1 and MW-2, 24 October 2005, respectively.

## **LABORATORY RESULTS**

Groundwater samples were collected from the monitor wells MW-1, MW-2 and MW-3 during the initial fourth quarter monitoring event and were delivered to Environmental Laboratory of Texas, Odessa, Texas for determination of Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) constituent concentrations by EPA Method SW846-8021b. A listing of BTEX constituent concentrations for 2005 is summarized in Table 2 and the laboratory reports are provided as Appendix A.

Laboratory results for the three (3) site groundwater samples, obtained during the 2005 annual period, indicate that benzene and total BTEX constituent concentrations were below laboratory detection limits for monitor wells MW-1, MW-2 and MW-3, as depicted on Figure 4.

Laboratory analytical results were compared to NMOCD regulatory limits based on the New Mexico groundwater standards found in section 20.6.2.3103 of the New Mexico Administrative Code.

## **SUMMARY**

This report presents the results of monitoring activities for the 2005 annual monitoring period. Currently, there are three (3) groundwater monitoring wells (MW-1, MW-2 and MW-3) on-site. The initial groundwater sampling event on 24 October 2005, indicates a general gradient of

approximately 0.002 ft/ft to the southeast, as indicated on the Groundwater Gradient Map, Figure 3.

Laboratory results for the three (3) site groundwater samples, obtained during the 2005 annual period, indicated that benzene and BTEX constituent concentrations were below laboratory detection limits for monitor wells MW-1, MW-2 and MW-3.

#### **ANTICIPATED ACTIONS**

Groundwater monitoring and annual reporting will continue in 2006. A Remediation Work Plan has been approved NMOCD and remediation of the site will commence in calendar year 2006. A soil remediation/closure report will be prepared and submitted to the NMOCD upon completion of the proposed activities.

#### **LIMITATIONS**

Basin has prepared this Annual Monitoring Report to the best of its ability. No other warranty, expressed or implied, is made or intended.

Basin has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin 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 has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin 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. 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 and/or Plains.

## DISTRIBUTION

Copy 1: Ed Martin  
New Mexico Energy, Minerals and Natural Resources Department  
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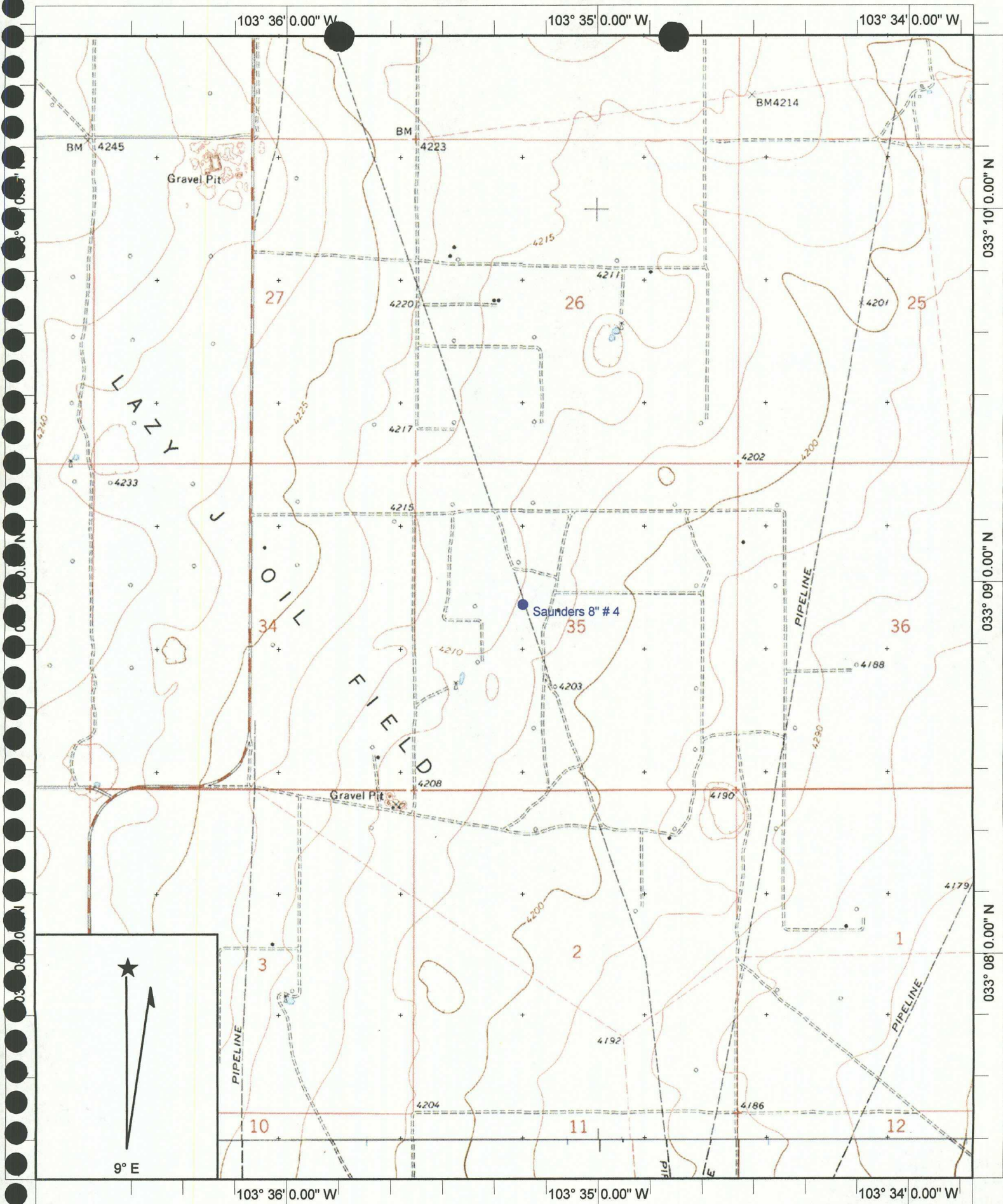
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P. O. Box 301  
Lovington, New Mexico 88260  
[kdutton@basinenv.com](mailto:kdutton@basinenv.com)

Copy Number: 1

# FIGURES

**FIGURE 1**

**SITE LOCATION MAP**



Name: FRIER RANCH  
Date: 2/27/2006  
Scale: 1 inch equals 2000 feet

Location: 033° 08' 55.89" N 103° 35' 18.7" W  
Caption: Figure 1  
Plains Marketing, L. P.  
Saunders 8" #4

**FIGURE 2**

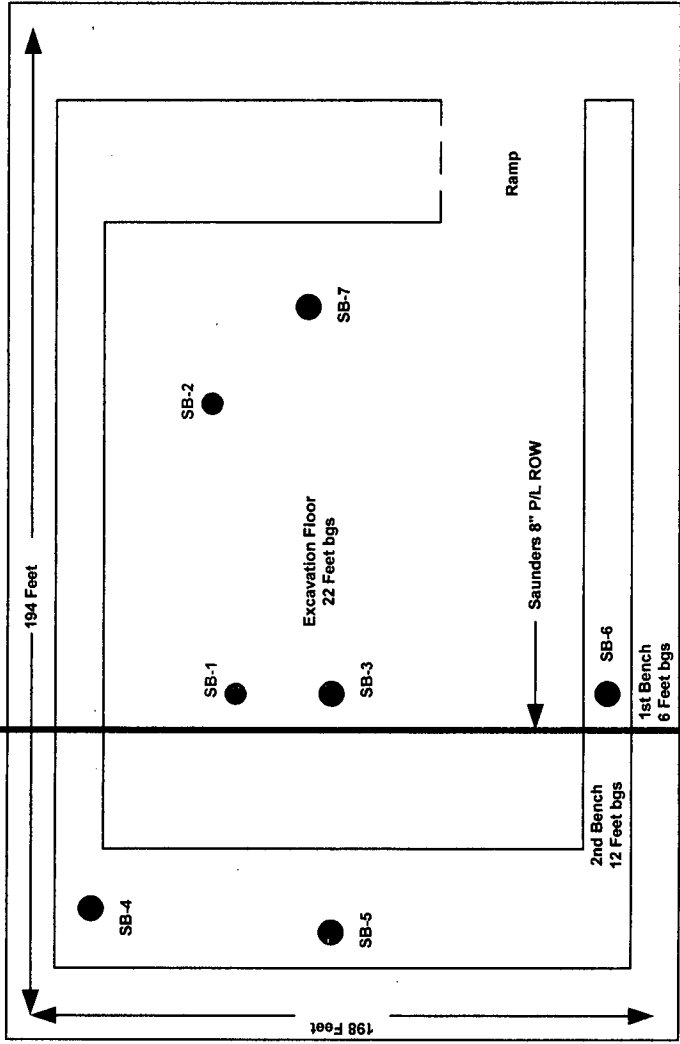
**SITE MAP**



Plains Marketing, L. P.  
Saunders 8" #4  
SE/NW S35,T13S,R33E  
Lea County, New Mexico  
EMS: 2004-00184

LEGEND

- Groundwater Monitor Well Location
- Soil Boring Locations Installed 04 May 2005
- Soil Boring Locations Installed 15 September 2004



DESCRIPTION

Figure 2  
Site Map



**FIGURE 3**

**INFERRED GROUNDWATER  
GRADIENT MAP**



Plains Marketing, L. P.  
Saunders 8" #4  
SE/NW S35,T13S,R33E  
Lea County, New Mexico  
EMS: 2004-00184

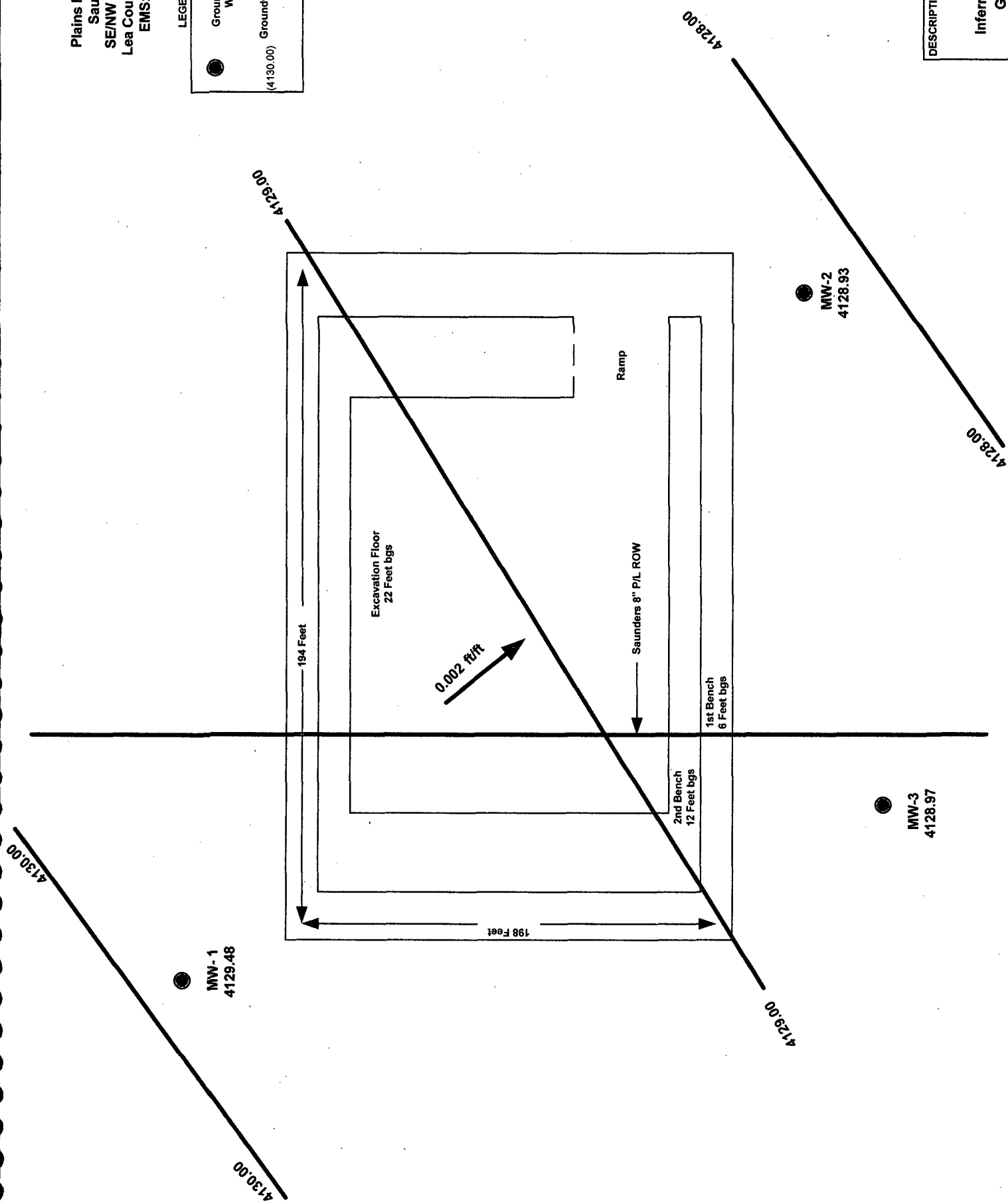
LEGEND

Groundwater Monitor  
Well Location

Groundwater Elevation  
in Feet  
(4130.00)

DESCRIPTION

Figure 3  
Inferred Groundwater  
Gradient Map



**FIGURE 4**

**GROUNDWATER CONCENTRATION  
MAP (BTEX)**

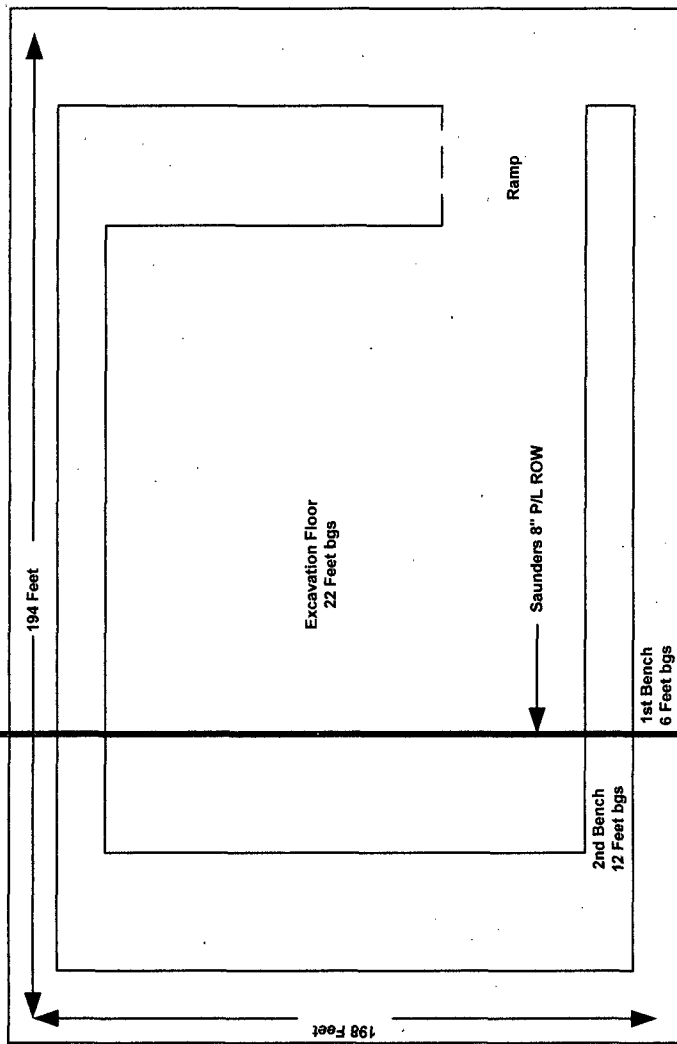


Plains Marketing, L. P.  
Saunders 8" #4  
SE/NW S35,T13S,R33E  
Lea County, New Mexico  
EMS: 2004-00184

LEGEND

● Groundwater Monitor  
Well Location

<0.001 Constituent Concentration  
mg/L



● MW-1  
Benzene: <0.001 mg/L  
BTEX: <0.001 mg/L

● MW-2  
Benzene: <0.001 mg/L  
BTEX: <0.001 mg/L

● MW-3  
Benzene: <0.001 mg/L  
BTEX: <0.001 mg/L

DESCRIPTION  
Figure 4  
Groundwater  
Concentration Map  
(BTEX)

# TABLES

**TABLE 1**

**GROUNDWATER ELEVATION DATA  
(2005)**

TABLE 1

## GROUNDWATER ELEVATION DATA (2005)

PLAINS MARKETING, L.P.  
SAUNDERS 8" #4  
LEA COUNTY, NEW MEXICO  
PLAINS EMS NO. 2004-00184

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 1	10/24/05	4,213.31	-	83.83	0.00	4,129.48
MW - 2	10/24/05	4,212.89	-	83.96	0.00	4,128.93
MW-3	10/24/05	4,213.71	-	84.74	0.00	4,128.97

**TABLE 2**

**CONCENTRATIONS OF BENZENE AND  
BTEX IN GROUNDWATER (2005)**



TABLE 2

## CONCENTRATIONS OF BENZENE AND BTEX IN GROUNDWATER (2005)

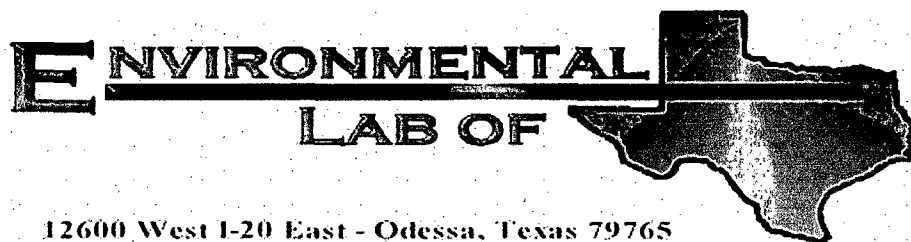
PLAINS MARKETING, L.P.  
 SAUNDERS 8" #4  
 LEA COUNTY, NEW MEXICO  
 PLAINS EMS NO: 2004-00184

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021B				
		BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M.P. XYLENES (mg/L)	O-XYLENES (mg/L)
NMOC REGULATORY STANDARD		0.01	0.75	0.75	TOTAL XYLENES 0.62	
MW-1	10/24/05	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	10/24/05	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	10/24/05	<0.001	<0.001	<0.001	<0.001	<0.001

# **APPENDICES**

## **APPENDIX A**

# **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: Saunders 8" #4

Project Number: 2004-00184

Location: Lea County, NM

Lab Order Number: 5J27013

Report Date: 11/04/05

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

Project: Saunders 8" #4  
Project Number: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Reported:**  
11/04/05 08:58

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	5J27013-01	Water	10/24/05 11:40	10/27/05 13:22
MW-2	5J27013-02	Water	10/24/05 14:15	10/27/05 13:22
MW-3	5J27013-03	Water	10/24/05 15:30	10/27/05 13:22

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

Project: Saunders 8" #4  
Project Number: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
11/04/05 08:58

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (5J27013-01) Water</b>									
Benzene	ND	0.0100	mg/L	10	EK50220	11/02/05	11/02/05	EPA 8021B	
Toluene	ND	0.0100	"	"	"	"	"	"	
Ethylbenzene	ND	0.0100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0100	"	"	"	"	"	"	
Xylene (o)	ND	0.0100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		97.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	80-120		"	"	"	"	
<b>MW-2 (5J27013-02) Water</b>									
Benzene	ND	0.00100	mg/L	1	EK50220	11/02/05	11/02/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	80-120		"	"	"	"	
<b>MW-3 (5J27013-03) Water</b>									
Benzene	ND	0.00100	mg/L	1	EK50220	11/02/05	11/02/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		99.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %	80-120		"	"	"	"	

Environmental Lab of Texas

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

Page 2 of 5

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

Project: Saunders 8" #4  
Project Number: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
11/04/05 08:58

**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 EK50220 - EPA 5030C (GC)**

**Blank (EK50220-BLK1)**

Prepared & Analyzed: 11/02/05

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	38.4		ug/l	40.0		96.0	80-120			
Surrogate: 4-Bromofluorobenzene	37.2		"	40.0		93.0	80-120			

**LCS (EK50220-BS1)**

Prepared & Analyzed: 11/02/05

Benzene	0.0473	0.00100	mg/L	0.0500		94.6	80-120			
Toluene	0.0493	0.00100	"	0.0500		98.6	80-120			
Ethylbenzene	0.0486	0.00100	"	0.0500		97.2	80-120			
Xylene (p/m)	0.0916	0.00100	"	0.100		91.6	80-120			
Xylene (o)	0.0498	0.00100	"	0.0500		99.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.3		ug/l	40.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	42.4		"	40.0		106	80-120			

**Calibration Check (EK50220-CCV1)**

Prepared & Analyzed: 11/02/05

Benzene	41.5		ug/l	50.0		83.0	80-120			
Toluene	40.6		"	50.0		81.2	80-120			
Ethylbenzene	40.7		"	50.0		81.4	80-120			
Xylene (p/m)	81.2		"	100		81.2	80-120			
Xylene (o)	41.5		"	50.0		83.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	33.8		"	40.0		84.5	80-120			
Surrogate: 4-Bromofluorobenzene	37.0		"	40.0		92.5	80-120			

**Matrix Spike (EK50220-MS1)**

Source: 5K02011-01

Prepared: 11/02/05 Analyzed: 11/03/05

Benzene	0.0431	0.00100	mg/L	0.0500	ND	86.2	80-120			
Toluene	0.0450	0.00100	"	0.0500	0.000346	89.3	80-120			
Ethylbenzene	0.0434	0.00100	"	0.0500	ND	86.8	80-120			
Xylene (p/m)	0.0849	0.00100	"	0.100	0.000799	84.1	80-120			
Xylene (o)	0.0445	0.00100	"	0.0500	ND	89.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	36.6		ug/l	40.0		91.5	80-120			
Surrogate: 4-Bromofluorobenzene	33.4		"	40.0		83.5	80-120			

Environmental Lab of Texas

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Page 3 of 5

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

Project: Saunders 8" #4  
Project Number: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
11/04/05 08:58

**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 EK50220 - EPA 5030C (GC)**

Matrix Spike Dup (EK50220-MSD1)		Source: 5K02011-01			Prepared & Analyzed: 11/02/05					
Benzene	0.0443	0.00100	mg/L	0.0500	ND	88.6	80-120	2.75	20	
Toluene	0.0460	0.00100	"	0.0500	0.000346	91.3	80-120	2.21	20	
Ethylbenzene	0.0449	0.00100	"	0.0500	ND	89.8	80-120	3.40	20	
Xylene (p/m)	0.0849	0.00100	"	0.100	0.000799	84.1	80-120	0.00	20	
Xylene (o)	0.0467	0.00100	"	0.0500	ND	93.4	80-120	4.82	20	
Surrogate: a,a,a-Trifluorotoluene	38.1		ug/l	40.0		95.2	80-120			
Surrogate: 4-Bromofluorobenzene	42.7		"	40.0		107	80-120			

Environmental Lab of Texas

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Page 4 of 5



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

Project: Saunders 8" #4  
Project Number: 2004-00184  
Project Manager: Camille Reynolds

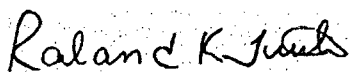
Fax: (432) 687-4914

Reported:  
11/04/05 08:58

### Notes and Definitions

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

Report Approved By:



Date:

11/4/2005

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

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

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**12600 West I-20 East  
Odessa, Texas 79763  
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) 369-1429

Sampler Signature: Ben Sutton

Fax No: (505) 369-1429

[illegible]

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

Client: Plains  
Date/Time: 10/27/05 13:22  
Order #: 5527013  
Initials: CK

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	2.0 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	Yes	No	Not Applicable

Other observations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Variance Documentation:**

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

\_\_\_\_\_

\_\_\_\_\_

Corrective Action Taken:

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\_\_\_\_\_

## **APPENDIX B**

# **RELEASE NOTIFICATION AND CORRECTIVE ACTION (NMOCD FORM C-141)**

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised October 10, 2003

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

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Plains Marketing, LP	Contact Camille Reynolds	
Address 5805 East Hwy. 80, Midland, TX 79706	Telephone No. 505-441-0965	
Facility Name Saunders 8" #4	Facility Type 8" Steel Pipeline	
Surface Owner Norman Hahn	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter F	Section 35	Township 13S	Range 33E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	---------------

Latitude 33°08'55.6" Longitude 103°35'15.3"

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 15 barrels	Volume Recovered 0 barrels
Source of Release 8" Steel Pipeline	Date and Hour of Occurrence 8-12-04 @ 06:00	Date and Hour of Discovery 8-12-04 @ 13:45
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 8-12-04 @ 19:00	
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.\*

Describe Cause of Problem and Remedial Action Taken.\* External corrosion of the 8" steel pipeline. A line clamp was installed to mitigate the release. The line is an 8 inch steel transmission pipeline that produces approximately 1,400 barrels of crude per day. The pressure on the line varies from 25 to 30 psi and the gravity of the sweet crude oil is 38-42. The sweet crude has an H<sub>2</sub>S content of less than 10 ppm

Describe Area Affected and Cleanup Action Taken.\* The impacted soil was excavated and stockpiled on plastic. Aerial extent of surface impact was 7,176 ft<sup>2</sup>.

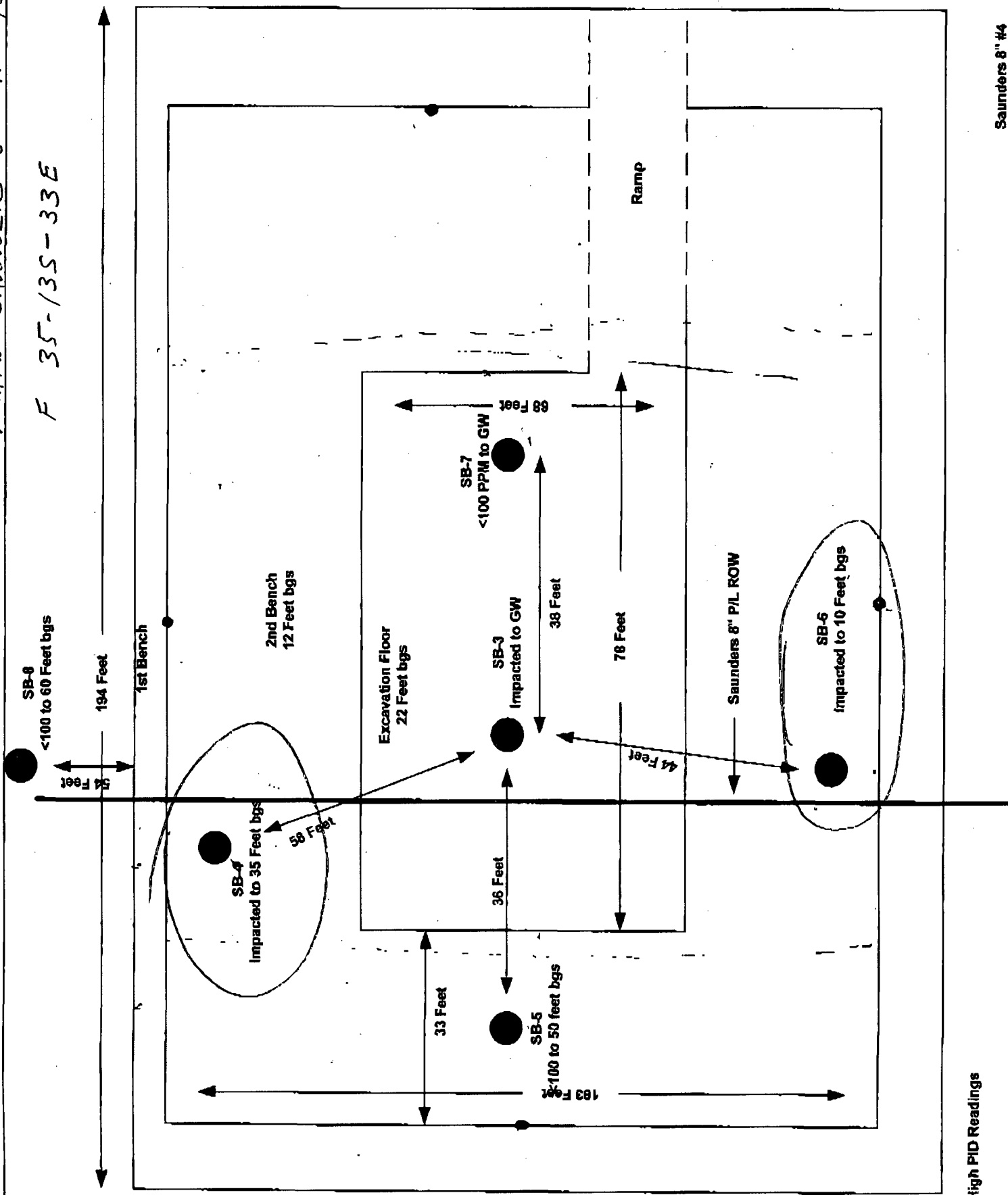
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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: <u>Camille Reynolds</u>		OIL CONSERVATION DIVISION	
Printed Name: Camille Reynolds		Approved by District Supervisor:	
Title: Remediation Coordinator		Approval Date:	Expiration Date:
E-mail Address: cjreynolds@paalp.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: 8-17-04		Phone: 505-441-0965	

Attach Additional Sheets If Necessary

PLAINS SAUNDERS 8" #4 IR-453

F 35-135-33E



High PID Readings

<100 PID Readings

Saunders 8" #4  
Plains Marketing, L. P.



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

September 6, 2005

Ms. Camille Reynolds  
Plains Pipeline  
3112 West Highway 82  
Lovington, NM 88260

Re: Revised Preliminary Site Investigation Report and Remediation Plan  
For the Plains Marketing, L.P. Saunders 8" #4 (EMS No. 2004-00184)  
Unit Letter F, Section 35, Township 13 South, Range 33 East  
Lea County, New Mexico  
NMOCD Ref: 1R-0453

Dear Ms. Reynolds:

The New Mexico Oil Conservation Division (NMOCD) has received and reviewed the report shown above, prepared on behalf of Plains Pipeline (Plains) by Basin Environmental Service Technologies, LLC (Basin), dated July 19, 2005. The remediation plan is approved with the following understandings and conditions:

1. Plains will install a 20-mil poly liner at the floor of the excavation (22 feet bgs) with six inches of mechanically screened material above and below the liner. Soil samples will be collected from the mechanically screened material and delivered to a certified laboratory. The mechanically screened material to be used as padding will be at or below 1000 ppm TPH.
2. Plains will backfill the excavation to 12 feet bgs with stockpiled material with TPH concentrations of less than 1000 ppm. Soil samples will be collected at approximately 500 cubic yard intervals to insure TPH concentration standards are met.
3. Plains will install a 20-mil poly liner at the resulting 12 feet bgs level with six inches of mechanically screened material above and below the liner. The liner at this level will extend beyond the lateral extent of the contamination. Excavation will then be backfilled to ground surface using stockpiled material with TPH concentrations of less than 1000 ppm.
4. Plains will install three groundwater-monitoring wells, one up gradient and two down gradient from the release area. Such monitoring wells will be sampled quarterly and the results of this monitoring will be included in annual reports to be submitted on the activities at this site. These annual reports will be submitted to the NMOCD Santa Fe office no later than March 31 of each year.

5. Plains will prepare a separate report to be submitted to the NMOCD Santa Fe office that describes the activities in items numbered 1-3 above and reports the laboratory analyses for the samples gathered during these activities.

NMOCD approval of this plan does not relieve Plains of responsibility should its activities at this site prove to have been harmful to public health or the environment. Nor does it relieve Plains of its responsibility to comply with the rules and regulations of any other local, state, or federal governmental agency.

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

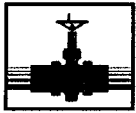
NEW MEXICO OIL CONSERVATION DIVISION



Edwin E. Martin  
Environmental Bureau

cc: NMOCD, Hobbs





**PLAINS  
PIPELINE**

August 3, 2005

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

Re: Plains Pipeline Revised Preliminary Site Investigation and  
Remediation Plan  
Saunders 8 Inch #4 Release Site  
Section 35, T13S, R33E  
Lea County, New Mexico

Dear Mr. Martin:

Please find attached for your approval the Revised Preliminary Site Investigation and Remediation Work Plan, dated July 19, 2005, for the Saunders 8 Inch #4 release site located in Section 35 of Township 13 South, and Range 33 East of Lea County, New Mexico. The proposed Remediation Plan details site activities conducted to date and future activities for remediation and closure of the site.

Should you have any questions or comments, please contact me at (505) 441-0965.

Sincerely,

Camille Reynolds  
Remediation Coordinator  
Plains Pipeline

Enclosure

# *Basin Environmental Service Technologies, LLC*

P. O. Box 301  
Lovington, New Mexico 88260  
kdutton@basinenv.com  
Office: (505) 396-2378 Fax: (505) 396-1429



## **REVISED PRELIMINARY SITE INVESTIGATION REPORT and REMEDIAL PLAN (15 November 2004)**

1R-453

**PLAINS MARKETING L.P.  
SAUNDERS 8" # 4  
EMS No. 2004-00184  
Lea County, New Mexico  
UNIT F (SE $\frac{1}{4}$ /NW  $\frac{1}{4}$ ), Section 35, Township 13 South, Range 33 East  
33°, 08', 55.6" North, 103°, 35', 15.3" 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

**19 July 2005**

  
Ken Dutton

Basin Environmental Service Technologies, LLC

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Figure 4:	Digital Photo of Site
Figure 5:	Installation of 20-ml Poly Liner

## **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 and NMOCD Approval Letter

## **INTRODUCTION**

Allstate Environmental Services, LLC (AES) responded to a pipeline release for Plains Marketing L.P. (Plains), located on the Saunders 8" Pipeline on 12 August 2004. The Saunders 8" Pipeline was clamped and the impacted soils were excavated and stockpiled on a poly liner. Basin Environmental Service Technologies, LLC (Basin), will perform subsequent remediation of the site at the request of Plains.

This site is located in Unit F, Section 35, Township 13 South, Range 33 East, in Lea County, New Mexico (topographic Site Location Map is attached as Figure 1). The latitude is 33°, 08', 55.6" North, and longitude is 103°, 35', 15.3" West. The site is characterized by a right-of-way for the pipeline in a pasture utilized for cattle grazing. The stained area includes the release point and progresses east covering an area approximately 128 feet long by 89 feet wide. Approximately 15 barrels of crude oil were released from the Plains pipeline and 0 barrels were recovered.

An Emergency One-Call was initiated 12 August 2004 and all responding companies either cleared or marked their respective lines. Subsequent renewals of the one-call have been accomplished as required.

Mr. Larry Johnson, New Mexico Oil Conservation Division, Hobbs District 1 was verbally notified of the release on 12 August 2004.

The landowner, Mr. Norman Hahn, was out of state for an extended period of time when the release occurred, however; the ranch foreman, Mr. Kenneth Augustine was notified and is aware of the release and subsequent remedial actions taken. Contact with Mr. Hahn was accomplished 13 September 2004. Mr. Hahn was informed of all activities that have been accomplished to date and remedial actions that are being considered.

On 18 August 2004, Plains Pipeline replaced approximately 800 feet of the existing 8" steel pipeline with a 6" poly line. The 8" steel pipeline was purged of fluid and removed from the existing Plains right-of-way. After removal from the Plains right-of-way, the steel pipeline was cut into 30-foot joints and transported to the Plains Pipeline Lovington, New Mexico yard. The 6" poly line will be placed in the existing Plains right-of-way upon completion of remediation of the impacted soil.

## **SUMMARY OF FIELD ACTIVITIES**

On 12 August 2004, AES employee Bobby Blackwood arrived at the Saunders 8" Pipeline release to repair and contain the crude oil pipeline release. After the release had been contained utilizing a pipeline repair clamp, excavation of the impacted soil was initiated. The impacted soil was placed on a poly liner adjacent to the release.

On 13 August 2004, AES employee Bobby Blackwood began extended excavation of the impacted area. The release point was excavated to approximately 128 feet long by 89 feet wide and 3 to 4 feet below ground surface (bgs). All excavated soil was placed on a poly liner for future remedial action.

On 15 September 2004, Basin employee, Ken Dutton, installed 2 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 at the floor of the excavation (4 feet bgs) at the release point, and continued east on the excavation floor (pooling area). The soil borings ranged in depth from 10 feet bgs to 44 feet bgs (soil boring logs are attached as Appendix C). Each sample was screened with a Photoionization Detector (PID) which was calibrated on 13 September 2004. 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 04 November 2004, soil samples were collected from the excavation sidewalls, release point (floor), and pooling area and were analyzed for concentrations of BTEX and TPH-GRO/DRO.

On 04 May 2005, Basin installed 6 additional 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 at the floor of the excavation (22 feet bgs) at the release point, the second tier benched area (12 feet bgs) and continued north and south adjacent to the excavated Plains pipeline right-of-way. The soil borings ranged in depth from 60 feet bgs to 87 feet bgs (soil boring logs are attached as Appendix C). Each sample was screened with a Photoionization Detector (PID), which was calibrated on 04 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).

#### **NEW MEXICO OIL CONSERVATION DIVISION (NMOCD) SOIL CLASSIFICATION**

A search of the New Mexico State Engineers database revealed water depth information for that section averaged 87 feet bgs. Analytical results from the installation of Soil Boring (SB-3) indicated that crude oil contaminants exist to the saturated zone (87 feet bgs), which sets the TPH concentration remediation level at 100 ppm. 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 >19, which sets the remediation levels at:

Benzene: 10 ppm

BTEX: 50 ppm

TPH:

100 ppm

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

The release point area has been excavated to a depth of approximately 22 feet bgs and evidence of crude oil impact still exist on the floor of the excavation. Analytical results and PID readings reflect elevated concentrations of Volatile Organic Compounds (VOC) remain. A drill rig was utilized to delineate the vertical and horizontal extent of crude oil impacted soil. Soil boring 1 was installed on the floor of the excavation (release point) and the soil boring 2 east of the release point and on the excavation floor (pooling area). Soil borings 3, 4, 5, 6, 7 and 8 were installed along the excavated Plains Pipeline right-of-way. 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 8 soil borings (as indicated on Appendix C) or excavation of the site. 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 (Appendix B).

Soil Boring 1, as depicted on the Site Map (Figure 2), was installed on the floor of the excavation at 4 feet bgs. Samples collected at the 5, 15, 30 and 40 feet bgs were analyzed. The true depth below surface of each sample is determined by adding 4 feet to each soil boring depth due to the installation of the soil boring at 4 feet bgs on the floor of the excavation. Analytical results indicated that BTEX and TPH concentrations were above NMOCD regulatory standards at 5 and 15 feet bgs. Analytical results indicated that the soil samples were below NMOCD regulatory standards at 30 and 40 feet bgs for BTEX and TPH concentrations.

Soil Boring 2, as depicted on the Site Map (Figure 2), was installed east of the release point on the floor of the excavation at the pooling area. Soil samples collected at the 5 and 10 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were not detected above the laboratory method detection limits from these 2 soil samples.

Soil samples were collected from the excavation on 04 November 2004, from the release point, pooling area and the sidewalls as depicted on the Site Map (Figure 2). The soil sample collected at the release point was actually backfill from the initial excavation to determine the vertical extent of contamination and is not an accurate depiction of the native soil. The soil sample collected from the pooling area was at a depth of approximately 4 feet bgs. Analytical results indicated that BTEX concentrations were below laboratory detection limits and TPH concentrations were above NMOCD regulatory standards at 226 mg/kg. The four soil samples from the sidewalls were collected at a depth of approximately 2 feet bgs. Analytical results indicated that BTEX concentrations were below laboratory detection limits on all four-soil samples. Analytical results for the four sidewall samples indicated that TPH concentrations were below NMOCD regulatory standards on the east sidewall and

the north, west and south sidewall soil samples exceeded NMOCD regulatory standards at 1200 mg/kg, 772 mg/kg and 307 mg/kg, respectively.

Soil Boring 3, as depicted on the Site Map (Figure 2), was installed on the floor of the excavation at 22 feet bgs. Samples collected at the 5, 10, 20, 30, 50 and 65 feet bgs were analyzed. The true depth below surface of each sample is determined by adding 22 feet to each soil boring depth due to the installation of the soil boring at 22 feet bgs on the floor of the excavation. Analytical results indicated that BTEX concentrations were below NMOCD regulatory standards at 5, 10, 20, 30, 50 and 65 feet bgs. Analytical results indicated that TPH concentrations exceeded NMOCD regulatory standards at 5, 10, 20, 30, 50 and 65 feet bgs at 1900 mg/kg, 1640 mg/kg, 1130 mg/kg, 1300 mg/kg, 2210 mg/kg and 1100 mg/kg, respectively.

Soil Boring 4, as depicted on the Site Map (Figure 2), was installed on the second bench of the excavation at 12 feet bgs. Samples collected at the 5, 10, 20, 30, 40, 50 and 60 feet bgs were analyzed. The true depth below surface of each sample is determined by adding 12 feet to each soil boring depth due to the installation of the soil boring at 12 feet bgs on the second bench of the excavation. Analytical results indicated that BTEX concentrations were below NMOCD regulatory standards at 5, 10, 20 and 30, feet bgs. Analytical results indicated that BTEX concentrations were not detected above laboratory method detection limits at 40, 50 and 60 feet bgs. Analytical results indicated that TPH concentrations exceeded NMOCD regulatory standards at 5, 10, 20, 30 and 40 feet bgs at 2200 mg/kg, 2780 mg/kg, 2770 mg/kg, 2610 mg/kg, and 145 mg/kg, respectively. Analytical results indicated that TPH concentrations were below NMOCD regulatory standards at 50 and 60 feet bgs.

Soil Boring 5, as depicted on the Site Map (Figure 2), was installed on the second bench of the excavation at 12 feet bgs. Samples collected at the 10, 20, 30, and 50 feet bgs were analyzed. The true depth below surface of each sample is determined by adding 12 feet to each soil boring depth due to the installation of the soil boring at 12 feet bgs on the second bench of the excavation. Analytical results indicated that BTEX and TPH concentrations were not detected above laboratory method detection limits at 10, 20, 30, and 50 feet bgs.

Soil Boring 6, as depicted on the Site Map (Figure 2), was installed on the second bench of the excavation at 12 feet bgs. Samples collected at the 5, 10, 20, 30, and 50 feet bgs were analyzed. The true depth below surface of each sample is determined by adding 12 feet to each soil boring depth due to the installation of the soil boring at 12 feet bgs on the second bench of the excavation. Analytical results indicated that BTEX concentrations were below NMOCD regulatory standards at 5 and 10 feet bgs. Analytical results indicated that BTEX concentrations were not detected above laboratory method detection limits at 20, 30, and 50 feet bgs. Analytical results indicated that TPH concentrations exceeded NMOCD regulatory standards at 5 and 10 feet bgs at 2840 mg/kg and 1260 mg/kg, respectively. Analytical results indicated that TPH concentrations were below NMOCD regulatory standards at 20 and 30 feet bgs and not detected above laboratory method detection limits at 50 feet bgs.

Soil Boring 7, as depicted on the Site Map (Figure 2), was installed on the floor of the excavation at 22 feet bgs. Samples collected at the 10, 20, 30, 50 and 65 feet bgs were analyzed. The true depth below surface of each sample is determined by adding 22 feet to each soil boring depth due to the installation of the soil boring at 22 feet bgs on the floor of the excavation. Analytical results indicated that BTEX and TPH concentrations were not detected above laboratory method detection limits at 10, 20, 30, 50 and 65 feet bgs.

Soil Boring 8, as depicted on the Site Map (Figure 2), was installed at normal surface grade north of the excavation adjacent to the Plains Pipeline right-of-way. Samples collected at the 10, 20, 30 and 60 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were not detected above laboratory method detection limits at 10, 20, 30 and 60 feet bgs.

### **RECOMMENDATIONS FOR REMEDIATION/CLOSURE PROPOSAL**

As stated above, the depth of the excavation is 22 feet bgs and measures approximately 198 feet long and 194 feet wide. Approximately 14, 566 cubic yards of hydrocarbon impacted soil and clean overburden has been stockpiled on site. Due to the depth of the excavation (22 feet bgs), a professional engineer was consulted to ascertain the OSHA Shoring and Benching requirements. To meet the benching standards, the original stockpiled material was transported away from the excavation, resulting in blending the hydrocarbon-impacted soil with clean overburden. Basin and Plains has evaluated the site conditions related to use of the surrounding land, soil types, laboratory results, depth to groundwater, and potential risk to human health and the environment. Based on this information, Plains proposes to the following:

- Install a 20-mil poly liner at the floor of the excavation (22 feet bgs) with six – inches of mechanically screened material above and below the poly liner (see Figure 5, Installation of 20-mil poly liner). Soil samples will be collected from the mechanically screened material and delivered to a certified laboratory. The mechanically screened material to be used as padding will be at or below 1000 ppm, TPH concentration.
- Backfill the excavation to 12 feet bgs with stockpiled material with TPH concentrations of less than 1000 ppm. Soil samples will be collected at approximately 500 cubic yard intervals to insure TPH concentrations are met.
- Install a 20-mil poly liner at the 12 feet bgs level with six-inches of mechanically screened material above and below the poly liner (see Figure 5, Installation of 20-mil poly liner). Sidewall soil samples have been collected to determine the size of the 20-mil poly liner. Backfill the remaining excavation with stockpiled material with TPH concentrations of less than 1000 ppm.



- Install three (3) groundwater monitoring wells, one up gradient and two down gradient to evaluate the quality of groundwater. These monitoring wells will be sampled on a quarterly basis as required by NMOCD guidelines. During installation of the groundwater monitoring wells, soil samples will be collected at 5 feet intervals in order to delineate the horizontal and vertical nature and extent of crude oil impacted soil at the release site. Each soil sample will be field screened with a PID and the selected soil samples will be analyzed for concentrations of benzene, toluene, ethylbenzene, and exlyenes (BTEX), and total petroleum hydrocarbons – gas range organics/diesel range organics (TPH-GRO/DRO).

## **QA/QC PROCEDURES**

### **Soil Sampling**

Soil samples were delivered to Environmental Lab of Texas, Inc. in Midland, Texas for BTEX, TPH analyses using the methods described below. Soil samples were analyzed for BTEX, TPH-GRO/DRO within fourteen days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH concentrations in accordance with modified EPA Method 8015M GRO/DRO

### **Groundwater Sampling**

The groundwater monitoring wells will be developed utilizing the Environmental Protection Agency (EPA) protocol of approximately nine well volumes of groundwater or until the monitoring wells are dry using an electrical Grundfos Pump. With forty-eight hours of development, the monitoring wells will be measured and purged of approximately three well volumes utilizing and electrical Grundfos Pump. Groundwater samples will be collected using a disposable Teflon sampler and the groundwater samples will be stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water will be collected in a polystyrene tank and disposed of at a licensed New Mexico disposal facility. Groundwater samples will be delivered to Environmental Lab of Texas, Odessa, Texas for analysis of BTEX concentrations using the method described below. All samples will be analyzed within approved holding times following the collection date.

- BTEX concentrations in accordance with EPA method 8260B/5030

## **Decontamination Of Equipment**

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox<sup>®</sup> detergent and rinsed with distilled water.

## **Laboratory Protocol**

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

## **LIMITATIONS**

Basin Environmental Service Technologies, LLC has prepared this Preliminary Investigation Report and General Remediation 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

- Copy 1: Jeff Dann  
Plains All American  
333 Clay Street  
Suite 1600  
Houston, Texas 77002  
[jpdann@paalp.com](mailto:jpdann@paalp.com)
- Copy 2: Camille Reynolds  
Plains All American  
214 W. C-61  
Hobbs, New Mexico 88240  
[cjreynolds@paalp.com](mailto:cjreynolds@paalp.com)
- Copy 3: Mr. Ed Martin  
New Mexico Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
[Ed.Martin@state.nm.us](mailto:Ed.Martin@state.nm.us)
- Copy 4: Basin Environmental Service Technologies LLC  
P. O. Box 301  
Lovington, New Mexico 88260  
[kdutton@basinenv.com](mailto:kdutton@basinenv.com)

Copy 3

## **TABLES**

**TABLE 1**

**SOIL CHEMISTRY, EXCAVATION/SOIL  
BORINGS**

TABLE 1

## SOIL CHEMISTRY

PLAINS MARKETING L.P.  
 SAUNDERS 8" #4  
 LEA COUNTY, NEW MEXICO  
 EMS: 2004-00184

SAMPLE LOCATION	SAMPLE DEPTH (Below Normal Surface Grade)	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M		TOTAL TPH
			BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL- BENZENE (mg/kg)	M,P- XYLENES (mg/kg)	O-XYLENE (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	
SB-1 5'	9'	09/15/04	0.604	9.36	3.75	18.8	7.5	1730	3900	5630
SB-1 15'	19'	09/15/04	0.216	3.96	2.57	14.3	5.34	1800	4210	6010
SB-1 30'	34'	09/15/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	26.7	26.7
SB-1 40'	44'	09/15/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
SB-2	5'	09/15/04	<0.025	<0.025	<0.025	0.050	<0.025	<10	<10	<10
SB-2	10'	09/15/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
Exc Floor-RP	4' bgs	11/04/04	<0.025	0.895	0.074	0.506	0.264	103	1030	1130
Exc Floor Pooling	4' bgs	11/04/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	226	226
West Wall-Exc	2' bgs	11/04/04	<0.025	0.096	0.042	0.281	0.141	77.4	695	772
East Wall-Exc	2' bgs	11/04/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	81.8	81.8
North Wall-Exc	2' bgs	11/04/04	<0.025	<0.025	<0.025	0.052	<0.025	44.7	1150	1200
South Wall-Exc	2' bgs	11/04/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	307	307
SB-3 5'	27' bgs	05/04/05	<0.025	0.302	0.522	4.34	1.79	829	1070	1900
SB-3 10'	32' bgs	05/04/05	<0.025	0.546	0.460	3.31	1.25	625	1010	1640
SB-3 20'	42' bgs	05/04/05	<0.025	<0.025	0.039	0.307	0.134	292	834	1130
SB-3 30'	52' bgs	05/04/05	<0.025	<0.025	0.034	0.249	0.124	312	988	1300
SB-3 50'	72' bgs	05/04/05	<0.025	0.104	0.211	1.37	0.687	598	1620	2210
SB-3 65'	87' bgs	05/04/05	<0.025	0.046	0.061	0.387	0.162	242	859	1100

TABLE 1 (continued)

## SOIL CHEMISTRY

PLAINS MARKETING L.P.  
 SAUNDERS 8" #4  
 LEA COUNTY, NEW MEXICO  
 EMS: 2004-00184

SAMPLE LOCATION	SAMPLE DEPTH (Below Normal Surface Grade)	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M		TOTAL TPH
			BENZENE	TOLUENE	ETHYL- BENZENE	M,P- XYLENES	O-XYLENE	GRO	DRO	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SB-4 5'	17' bgs	05/04/05	<0.025	0.328	0.785	5.71	2.21	811	1410	2220
SB-4 10'	22' bgs	05/04/05	<0.025	0.833	0.837	5.84	2.11	943	1840	2780
SB-4 20'	32' bgs	05/04/05	<0.025	0.137	0.250	1.62	0.655	750	2020	2770
SB-4 30'	42' bgs	05/04/05	<0.025	0.032	0.093	0.601	0.272	580	2030	2610
SB-4 40'	52' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	19.2	126	145
SB-4 50'	62' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	62.0	62.0
SB-4 60'	72' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	52.5	52.5
SB-5 10'	22' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-5 20'	32' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-5 30'	42' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-5 50'	62' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-6 5'	17' bgs	05/04/05	0.141	5.67	2.670	14.8	4.94	1000	1840	2840
SB-6 10'	22' bgs	05/04/05	<0.025	0.075	0.114	0.661	0.257	258	1000	1260
SB-6 20'	32' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	24.5	24.5
SB-6 30'	42' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	18.6	18.6
SB-6 50'	62' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-7 10'	22' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-7 20'	42' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-7 30'	52' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-7 50'	72' bgs	05/04/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0

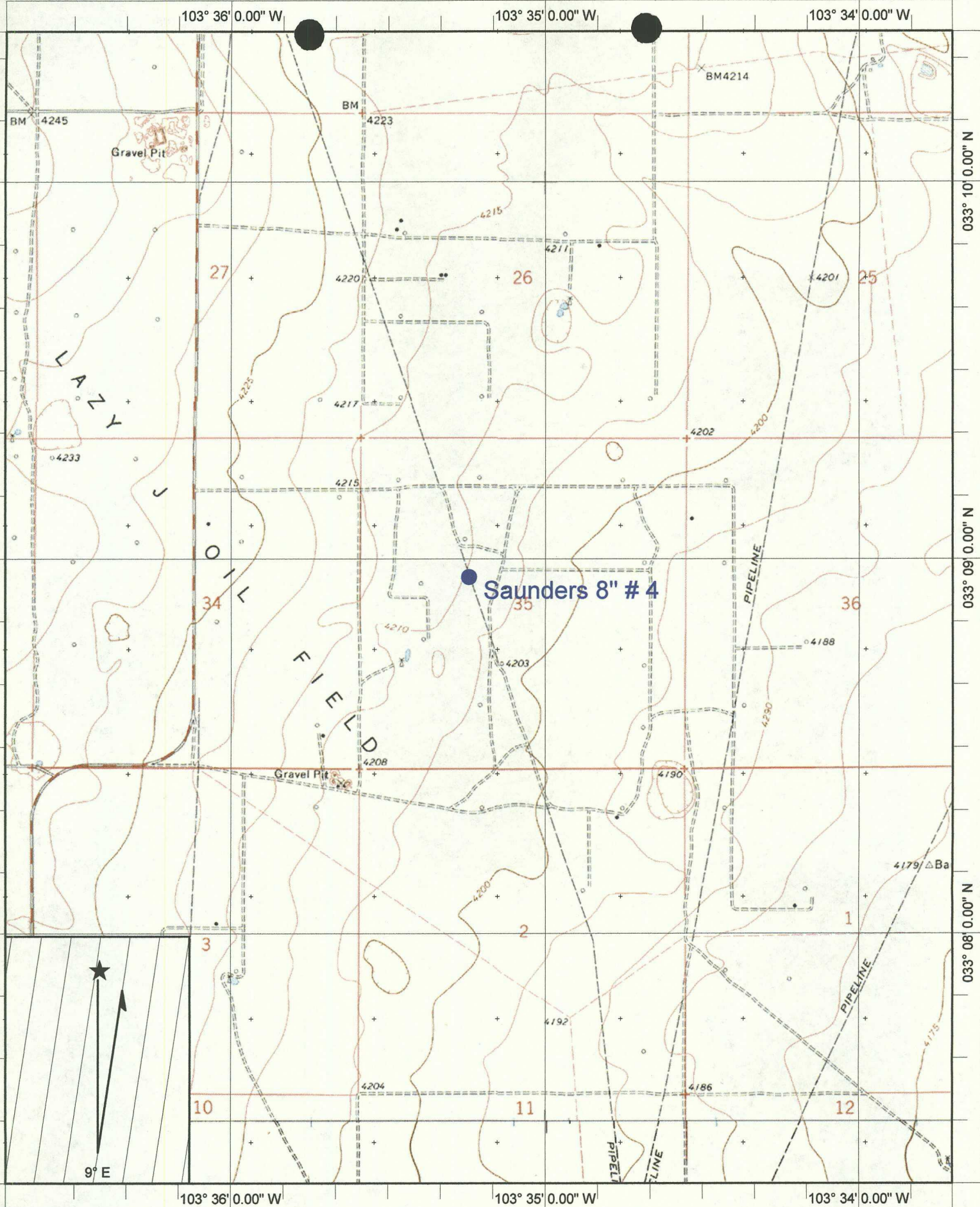




## FIGURES

**FIGURE 1**

**SITE LOCATION MAP**



Name: FRIER RANCH  
 Date: 7/29/2005  
 Scale: 1 inch equals 2000 feet

Location: 033° 08' 52.16" N 103° 35' 12.66" W  
 Caption: Figure 1, Site Location Map  
 Plains Marketing, L. P.  
 Saunders 8" # 4

**FIGURE 2**

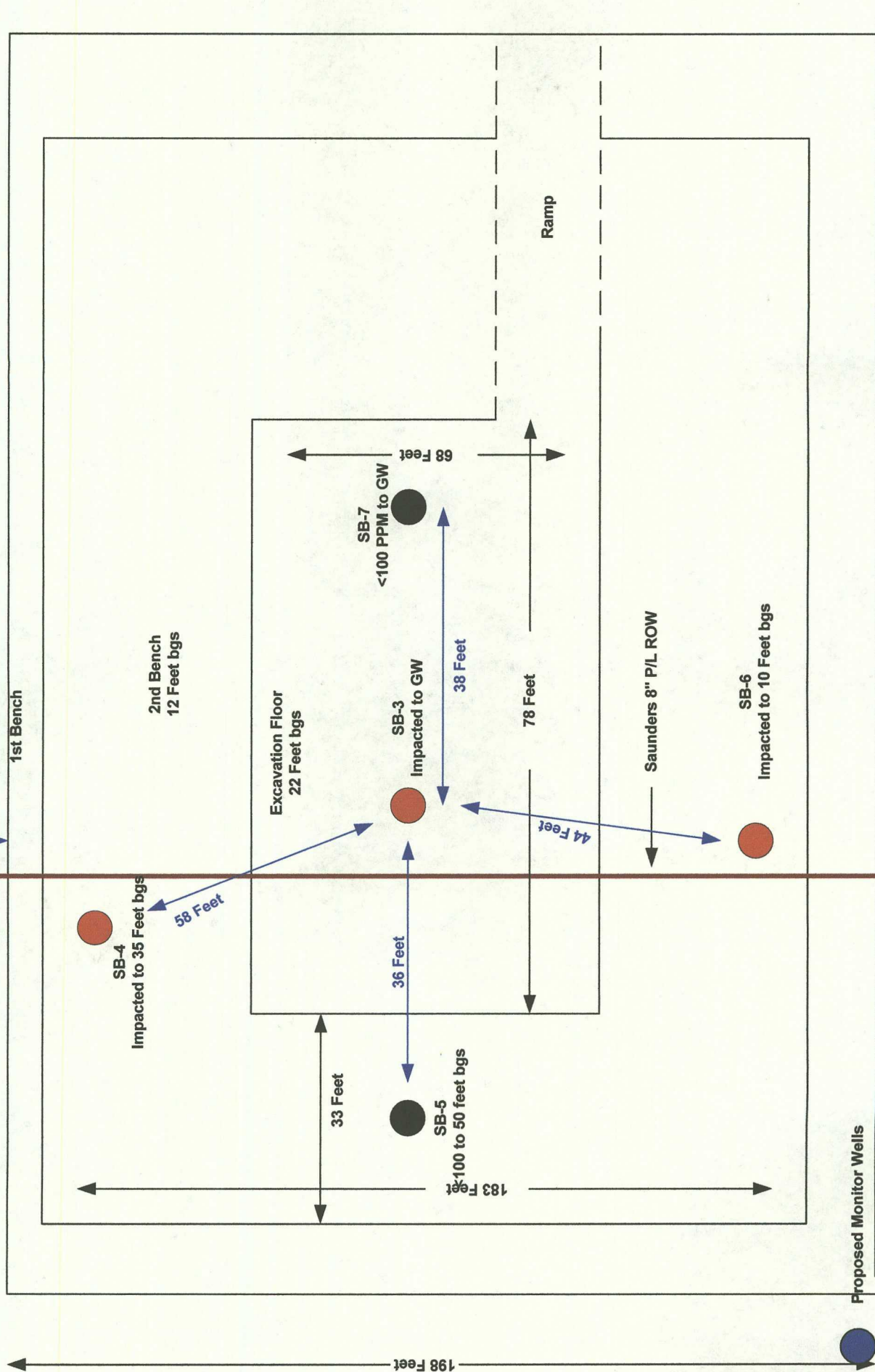
**REVISED SITE MAP**





Saunders 8" #4  
Plains Marketing, L. P.  
Soil Boring Locations/  
Proposed Monitor Well Locations

Proposed Monitor Well - 1



Proposed Monitor Wells

High PID Readings

<100 PID Readings

Proposed Monitor Well - 2

Proposed Monitor Well - 3

Plains Pipeline



Excavated  
Material

North wall  
sample

SB-2

Pooling area  
sample

East wall  
sample

West wall  
sample

Release Point  
SB-1

Excavated Area  
128' long by 89'  
wide by 4' bgs

South wall  
sample

TITLE

Figure 2, Site Map  
Saunders 8" # 4

DRAWN BY  
Basin Environmental Services  
KAD

Date

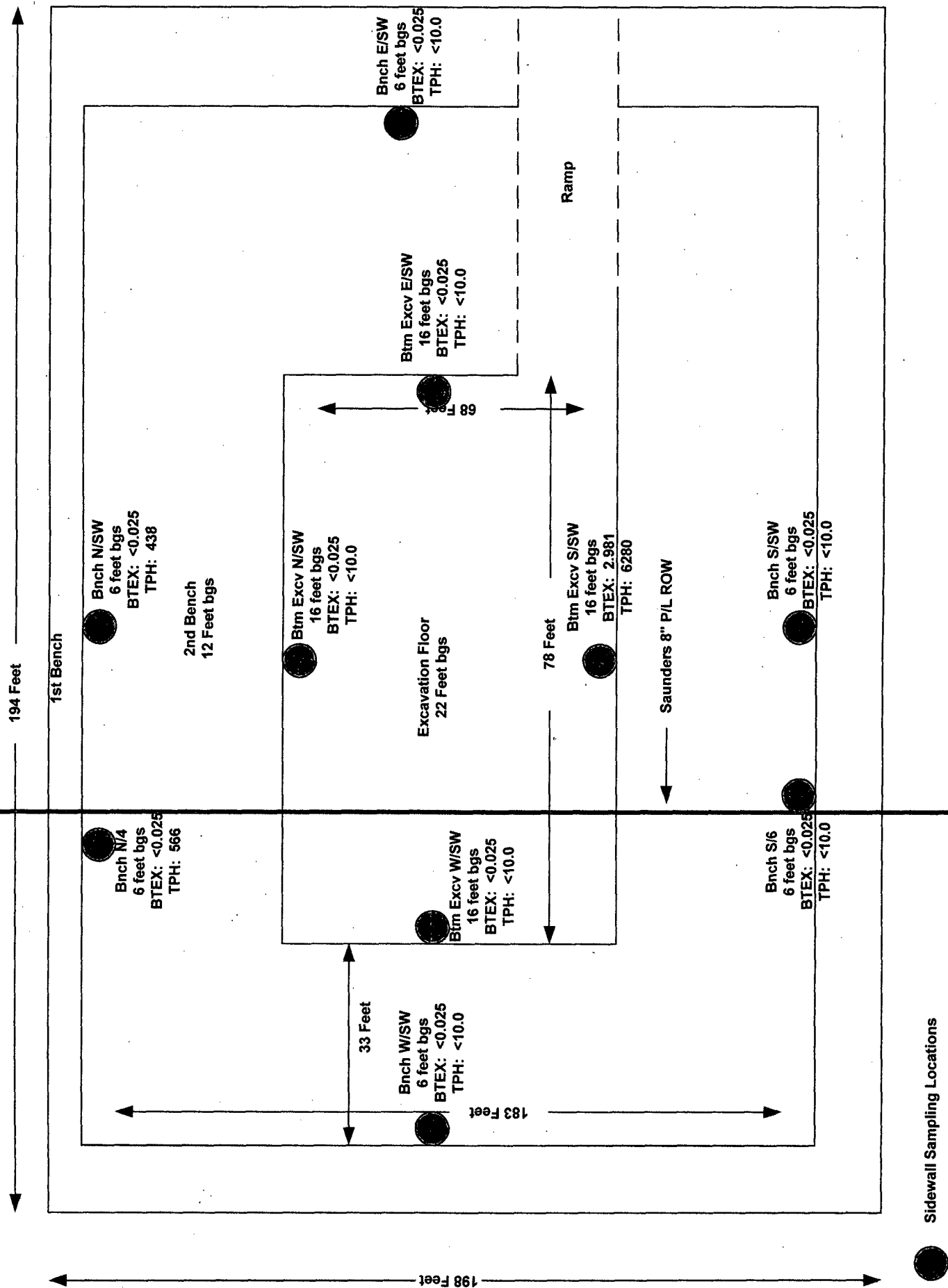
15 Nov 04

**FIGURE 3**

**REVISED SITE MAP, SIDEWALL SAMPLING  
LOCATIONS**



Saunders 8" #4  
Plains Marketing, L. P.  
Sidewall Sampling Locations





**FIGURE 4**

**DIGITAL PHOTO OF SITE**





Release Point

Pooling Area

Saunders 8" # 4  
Plains Marketing  
Unit L, S24, T14S, R33E

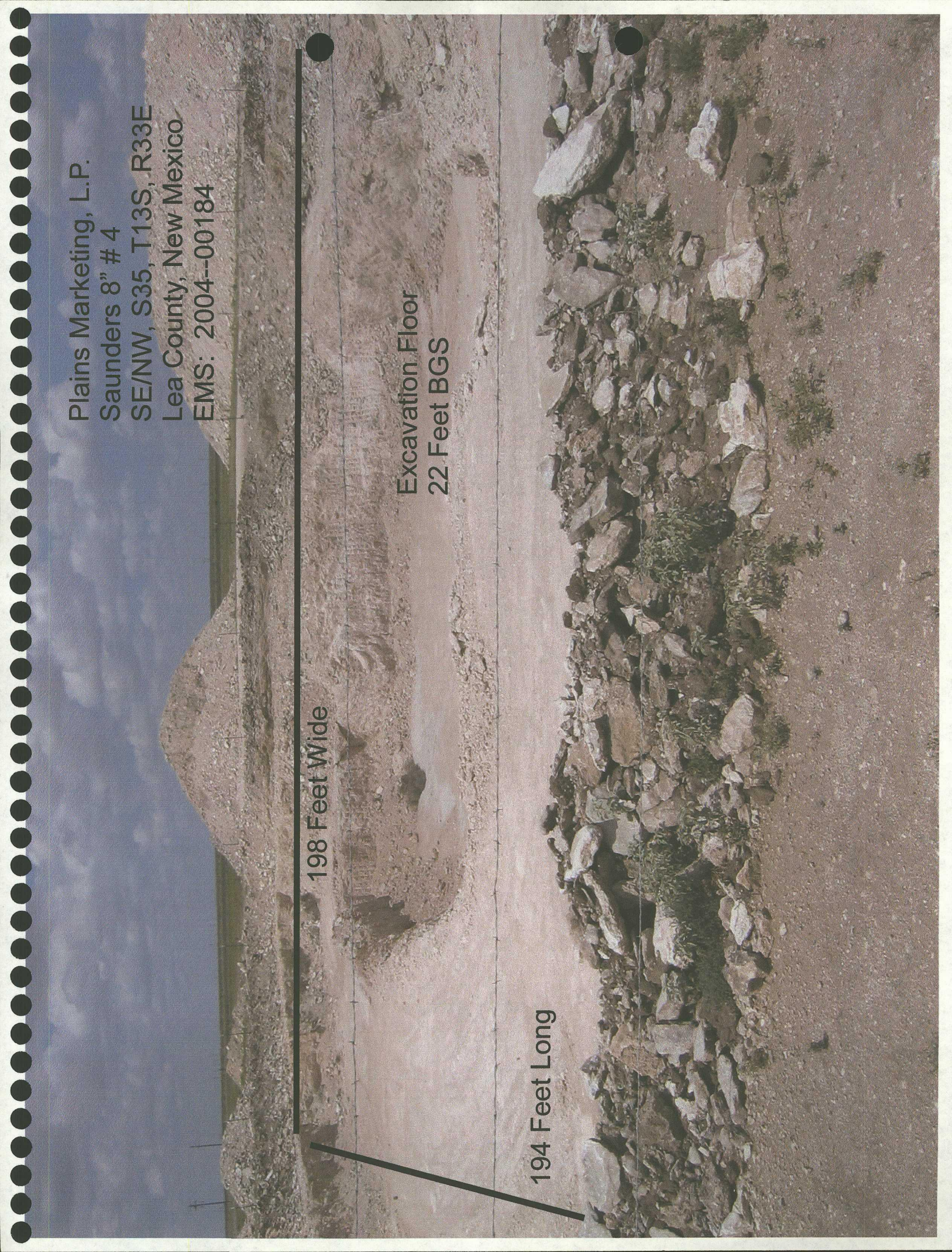


Plains Marketing, L.P.  
Saunders 8" # 4  
SE/NW, S35, T13S, R33E  
Lea County, New Mexico  
EMS: 2004--00184

198 Feet Wide

Excavation Floor  
22 Feet BGS

194 Feet Long





Plains Marketing, L. P.  
Saunders 8" # 4    Your text here.  
SE/NW, S35, T13S, R33E  
Lea County, New Mexico  
EMS: 2004-00184



198 Feet Wide

Excavation Floor  
22 Feet BGS

194 Feet Long



**FIGURE 5**

**INSTALLATION OF 20-ml POLY LINER**

Surface

Surface

12 Feet bgs  
Bench

20-mil Poly Liner

6-inch Sand Layer  
above and below  
20-mil Poly Liner

12 feet bgs  
bench

22 feet bgs

Excavation

Cross Section of  
Excavation

20-mil Poly Liner

6-inch Sand Layer  
above and below  
20-mil Poly Liner

TITLE	DATE
Saunders 8" # 4	29 Jun 05
DRAWN BY	LABEL
Basin Environmental Services KAD	Installation of 20-mil Poly Liner

# APPENDICES

## **APPENDIX A**

# **NEW MEXICO OFFICE OF THE STATE ENGINEER WATER WELL DATABASE REPORT**



***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

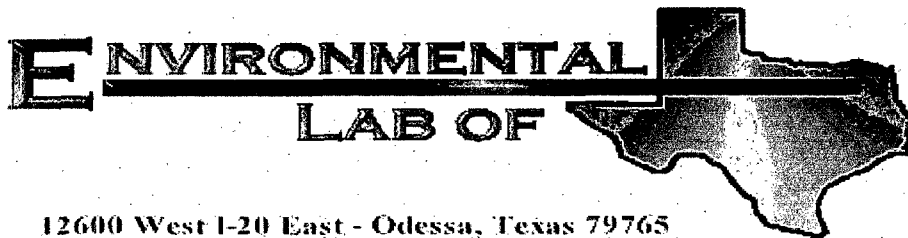
**AVERAGE DEPTH OF WATER REPORT 11/15/2004**

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
L	13S	33E	35				4	80	95	87

Record Count: 4

**APPENDIX B**

**ENVIRONMENTAL LABORATORY OF  
TEXAS ANALYTICAL RESULTS**



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Ken Dutton

Basin Environmental Services

P.O. Box 301

Lovington, NM 88260

Project: Saunders 8 inch #4

Project Number: 2004-00184

Location: Lea County, NM

Lab Order Number: 4K05015

Report Date: 11/11/04

Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/11/04 10:22

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Exc. Floor-RP-5' BGS	4K05015-01	Soil	11/04/04 13:05	11/05/04 15:27
Exc. Floor-Pooling Area 4'	4K05015-02	Soil	11/04/04 13:10	11/05/04 15:27
West Wall-Exc	4K05015-03	Soil	11/04/04 13:20	11/05/04 15:27
East Wall-Exc	4K05015-04	Soil	11/04/04 13:25	11/05/04 15:27
North Wall-Exc	4K05015-05	Soil	11/04/04 13:30	11/05/04 15:27
South Wall-Exc	4K05015-06	Soil	11/04/04 13:40	11/05/04 15:27

Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Exc. Floor-RP-5' BGS (4K05015-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41003	11/09/04	11/09/04	EPA 8021B	
Toluene	0.0895	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0747	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.506	0.0250	"	"	"	"	"	"	
Xylene (o)	0.264	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		93.3 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	103	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	1030	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1130	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		99.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		123 %	70-130		"	"	"	"	
<b>Exc. Floor-Pooling Area 4' (4K05015-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41003	11/09/04	11/10/04	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		85.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	226	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	226	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		87.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		100 %	70-130		"	"	"	"	
<b>West Wall-Exc (4K05015-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41003	11/09/04	11/10/04	EPA 8021B	
Toluene	0.0964	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0427	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.281	0.0250	"	"	"	"	"	"	
Xylene (o)	0.141	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		91.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	77.4	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	695	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	772	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

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Page 2 of 11

Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>West Wall-Exc (4K05015-03) Soil</b>									
Surrogate: 1-Chlorooctane		102 %	70-130		EK40508	11/05/04	11/06/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		117 %	70-130		"	"	"	"	
<b>East Wall-Exc (4K05015-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41003	11/09/04	11/10/04	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		93.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	81.8	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	81.8	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		96.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		101 %	70-130		"	"	"	"	
<b>North Wall-Exc (4K05015-05) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41003	11/09/04	11/10/04	EPA 8021B	
Toluene	J [0.0126]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0524	0.0250	"	"	"	"	"	"	
Xylene (o)	J [0.0149]	0.0250	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		89.3 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	44.7	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	1150	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1200	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		102 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	70-130		"	"	"	"	

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>South Wall-Exc (4K05015-06) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41003	11/09/04	11/10/04	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		92.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	J [7.62]	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	J
Diesel Range Organics >C12-C35	307	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	307	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		105 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		121 %	70-130		"	"	"	"	

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Exc. Floor-RP-5' BGS (4K05015-01) Soil</b>									
% Moisture	12.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>Exc. Floor-Pooling Area 4' (4K05015-02) Soil</b>									
% Moisture	7.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>West Wall-Exc (4K05015-03) Soil</b>									
% Moisture	11.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>East Wall-Exc (4K05015-04) Soil</b>									
% Moisture	14.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>North Wall-Exc (4K05015-05) Soil</b>									
% Moisture	6.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>South Wall-Exc (4K05015-06) Soil</b>									
% Moisture	7.0		%	1	EK40804	11/08/04	11/08/04	% calculation	

Environmental Lab of Texas

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Page 5 of 11



Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

**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 EK40508 - Solvent Extraction (GC)</b>									
<b>Blank (EK40508-BLK1)</b>									
				Prepared & Analyzed: 11/05/04					
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	42.8		mg/kg	50.0		85.6	70-130		
Surrogate: 1-Chlorooctadecane	52.7		"	50.0		105	70-130		
<b>Blank (EK40508-BLK2)</b>									
				Prepared: 11/05/04 Analyzed: 11/06/04					
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	44.9		mg/kg	50.0		89.8	70-130		
Surrogate: 1-Chlorooctadecane	52.4		"	50.0		105	70-130		
<b>LCS (EK40508-BS1)</b>									
				Prepared & Analyzed: 11/05/04					
Gasoline Range Organics C6-C12	446	10.0	mg/kg wet	500		89.2	75-125		
Diesel Range Organics >C12-C35	477	10.0	"	500		95.4	75-125		
Total Hydrocarbon C6-C35	923	10.0	"	1000		92.3	75-125		
Surrogate: 1-Chlorooctane	52.2		mg/kg	50.0		104	70-130		
Surrogate: 1-Chlorooctadecane	50.9		"	50.0		102	70-130		
<b>LCS (EK40508-BS2)</b>									
				Prepared: 11/05/04 Analyzed: 11/06/04					
Gasoline Range Organics C6-C12	430	10.0	mg/kg wet	500		86.0	75-125		
Diesel Range Organics >C12-C35	502	10.0	"	500		100	75-125		
Total Hydrocarbon C6-C35	932	10.0	"	1000		93.2	75-125		
Surrogate: 1-Chlorooctane	53.0		mg/kg	50.0		106	70-130		
Surrogate: 1-Chlorooctadecane	45.7		"	50.0		91.4	70-130		
<b>LCS Dup (EK40508-BSD1)</b>									
				Prepared & Analyzed: 11/05/04					
Gasoline Range Organics C6-C12	437	10.0	mg/kg wet	500		87.4	75-125	2.04	20
Diesel Range Organics >C12-C35	477	10.0	"	500		95.4	75-125	0.00	20
Total Hydrocarbon C6-C35	914	10.0	"	1000		91.4	75-125	0.980	20
Surrogate: 1-Chlorooctane	50.1		mg/kg	50.0		100	70-130		
Surrogate: 1-Chlorooctadecane	53.3		"	50.0		107	70-130		

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

**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 EK40508 - Solvent Extraction (GC)**

**Calibration Check (EK40508-CCV1)**

Prepared & Analyzed: 11/05/04

Gasoline Range Organics C6-C12	503		mg/kg	500		101	80-120			
Diesel Range Organics >C12-C35	551		"	500		110	80-120			
Total Hydrocarbon C6-C35	1050		"	1000		105	80-120			
Surrogate: 1-Chlorooctane	55.5		"	50.0		111	70-130			
Surrogate: 1-Chlorooctadecane	53.2		"	50.0		106	70-130			

**Calibration Check (EK40508-CCV2)**

Prepared: 11/05/04 Analyzed: 11/06/04

Gasoline Range Organics C6-C12	493		mg/kg	500		98.6	80-120			
Diesel Range Organics >C12-C35	567		"	500		113	80-120			
Total Hydrocarbon C6-C35	1060		"	1000		106	80-120			
Surrogate: 1-Chlorooctane	55.6		"	50.0		111	70-130			
Surrogate: 1-Chlorooctadecane	54.5		"	50.0		109	70-130			

**Matrix Spike (EK40508-MS2)**

Source: 4K05013-14

Prepared: 11/05/04 Analyzed: 11/06/04

Gasoline Range Organics C6-C12	567	10.0	mg/kg dry	521	ND	109	75-125			
Diesel Range Organics >C12-C35	593	10.0	"	521	ND	114	75-125			
Total Hydrocarbon C6-C35	1160	10.0	"	1040	ND	112	75-125			
Surrogate: 1-Chlorooctane	58.8		mg/kg	50.0		118	70-130			
Surrogate: 1-Chlorooctadecane	56.0		"	50.0		112	70-130			

**Matrix Spike Dup (EK40508-MSD2)**

Source: 4K05013-14

Prepared: 11/05/04 Analyzed: 11/06/04

Gasoline Range Organics C6-C12	594	10.0	mg/kg dry	521	ND	114	75-125	4.65	20	
Diesel Range Organics >C12-C35	604	10.0	"	521	ND	116	75-125	1.84	20	
Total Hydrocarbon C6-C35	1200	10.0	"	1040	ND	115	75-125	3.39	20	
Surrogate: 1-Chlorooctane	59.4		mg/kg	50.0		119	70-130			
Surrogate: 1-Chlorooctadecane	53.1		"	50.0		106	70-130			

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

**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 EK41003 - EPA 5030C (GC)**

**Blank (EK41003-BLK1)**

Prepared & Analyzed: 11/09/04

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	88.3		ug/kg	100		88.3	80-120			
Surrogate: 4-Bromofluorobenzene	102		"	100		102	80-120			

**LCS (EK41003-BS1)**

Prepared & Analyzed: 11/09/04

Benzene	88.8		ug/kg	100		88.8	80-120			
Toluene	98.0		"	100		98.0	80-120			
Ethylbenzene	98.8		"	100		98.8	80-120			
Xylene (p/m)	220		"	200		110	80-120			
Xylene (o)	102		"	100		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	102		"	100		102	80-120			
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120			

**Calibration Check (EK41003-CCV1)**

Prepared: 11/09/04 Analyzed: 11/10/04

Benzene	88.4		ug/kg	100		88.4	80-120			
Toluene	98.0		"	100		98.0	80-120			
Ethylbenzene	92.2		"	100		92.2	80-120			
Xylene (p/m)	199		"	200		99.5	80-120			
Xylene (o)	95.5		"	100		95.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	105		"	100		105	80-120			
Surrogate: 4-Bromofluorobenzene	102		"	100		102	80-120			

**Matrix Spike (EK41003-MS1)**

Source: 4K08003-01

Prepared: 11/09/04 Analyzed: 11/10/04

Benzene	87.9		ug/kg	100	ND	87.9	80-120			
Toluene	98.0		"	100	ND	98.0	80-120			
Ethylbenzene	103		"	100	ND	103	80-120			
Xylene (p/m)	225		"	200	ND	112	80-120			
Xylene (o)	106		"	100	ND	106	80-120			
Surrogate: a,a,a-Trifluorotoluene	106		"	100		106	80-120			
Surrogate: 4-Bromofluorobenzene	115		"	100		115	80-120			

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

**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 EK41003 - EPA 5030C (GC)**

**Matrix Spike Dup (EK41003-MSD1)**

Source: 4K08003-01

Prepared: 11/09/04 Analyzed: 11/10/04

Benzene	90.9		ug/kg	100	ND	90.9	80-120	3.36	20	
Toluene	103		"	100	ND	103	80-120	4.98	20	
Ethylbenzene	106		"	100	ND	106	80-120	2.87	20	
Xylene (p/m)	235		"	200	ND	118	80-120	5.22	20	
Xylene (o)	110		"	100	ND	110	80-120	3.70	20	
Surrogate: a,a,a-Trifluorotoluene	110		"	100		110	80-120			
Surrogate: 4-Bromofluorobenzene	116		"	100		116	80-120			

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

**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 EK40804 - General Preparation (Prep)</b>										
<b>Blank (EK40804-BLK1)</b>				Prepared & Analyzed: 11/08/04						
% Moisture	0.0		%							
<b>Duplicate (EK40804-DUP1)</b>				Source: 4K05006-01 Prepared & Analyzed: 11/08/04						
% Moisture	20.0		%		20.0			0.00	20	

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Saunders 8 inch #4  
Project Number: 2004-00184  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:22

### Notes and Definitions

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:

*Roland K. Tuttle*

Date: 11/11/2004

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

Environmental Lab of Texas

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Page 11 of 11

12600 West I-20 East  
Odessa, Texas 79768

Phone: 432-593-1900  
Fax: 432-593-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: SAUNDERS 8" #4  
Project #: EMS: 2004-184  
Project Loc: LEA COUNTY, NM  
PO #:

Project Manager: KEN DUTTON  
Company Name: BES  
Company Address: P.O. BOX 301  
City/State/Zip: LOVINGTON, NM 88260  
Telephone No: (505) 441-2124  
Fax No: (505) 396-1429  
Sampler Signature: [Signature]

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative										Matrix					Analyze For:										TOTAL:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
					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	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	Semivolatiles	BTEX 80218/5030 or BTEX 8260	NO <sub>2</sub> /M	Standard TAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
4K05015	-01	EXC FLOOR-RP- 5' BGS	04 NOV	1305	1	X																X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

Special Instructions:

Sample Containers Intact? (Y) N  
Temperature Upon Receipt: 110 °C  
Laboratory Comments:

Requisitioned by:	Date	Time	Received by:	Date	Time
<u>[Signature]</u>	05 NOV 04	1200	<u>[Signature]</u>	11-05-04	11:58
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
<u>[Signature]</u>	11-8-04	15:27	<u>[Signature]</u>	11-05-04	1527

# Environmental Lab of Texas

## Variance / Corrective Action Report – Sample Log-In

Client: Basin Environmental

Date/Time: 11-05-04 @ 1600

Order #: 4K 05015

Initials: JMM

### Sample Receipt Checklist

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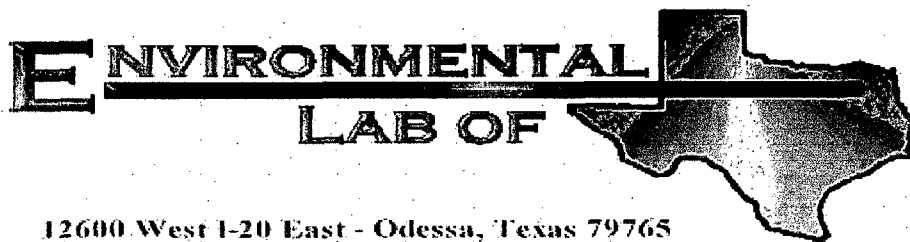


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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Saunders 8" #4

Project Number: EMS: 2004-00184

Location: Lea County, NM

Lab Order Number: 5E13023

Report Date: 05/17/05

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-3 5'	5E13023-01	Soil	05/04/05 10:10	05/13/05 09:40
SB-3 10'	5E13023-02	Soil	05/04/05 10:15	05/13/05 09:40
SB-3 20'	5E13023-03	Soil	05/04/05 10:30	05/13/05 09:40
SB-3 30'	5E13023-04	Soil	05/04/05 10:50	05/13/05 09:40
SB-3 50'	5E13023-05	Soil	05/04/05 11:30	05/13/05 09:40
SB-3 65'	5E13023-06	Soil	05/04/05 11:55	05/13/05 09:40
SB-4 5'	5E13023-07	Soil	05/04/05 12:51	05/13/05 09:40
SB-4 10'	5E13023-08	Soil	05/04/05 12:55	05/13/05 09:40
SB-4 20'	5E13023-09	Soil	05/04/05 13:06	05/13/05 09:40
SB-4 30'	5E13023-10	Soil	05/04/05 13:18	05/13/05 09:40
SB-4 40'	5E13023-11	Soil	05/04/05 13:28	05/13/05 09:40
SB-4 50'	5E13023-12	Soil	05/04/05 13:35	05/13/05 09:40
SB-4 60'	5E13023-13	Soil	05/04/05 13:43	05/13/05 09:40
SB-5 10'	5E13023-14	Soil	05/04/05 13:55	05/13/05 09:40
SB-5 20'	5E13023-15	Soil	05/04/05 14:06	05/13/05 09:40
SB-5 30'	5E13023-16	Soil	05/04/05 14:18	05/13/05 09:40
SB-5 50'	5E13023-17	Soil	05/04/05 14:36	05/13/05 09:40
SB-6 5'	5E13023-18	Soil	05/04/05 15:05	05/13/05 09:40
SB-6 10'	5E13023-19	Soil	05/04/05 15:08	05/13/05 09:40
SB-6 20'	5E13023-20	Soil	05/04/05 15:15	05/13/05 09:40
SB-6 30'	5E13023-21	Soil	05/04/05 15:21	05/13/05 09:40
SB-6 50'	5E13023-22	Soil	05/04/05 15:35	05/13/05 09:40
SB-7 10'	5E13023-23	Soil	05/04/05 16:13	05/13/05 09:40
SB-7 20'	5E13023-24	Soil	05/04/05 16:17	05/13/05 09:40
SB-7 30'	5E13023-25	Soil	05/04/05 16:27	05/13/05 09:40
SB-7 50'	5E13023-26	Soil	05/04/05 16:46	05/13/05 09:40
SB-7 65'	5E13023-27	Soil	05/04/05 16:55	05/13/05 09:40
SB-8 10'	5E13023-28	Soil	05/04/05 17:20	05/13/05 09:40
SB-8 20'	5E13023-29	Soil	05/04/05 17:29	05/13/05 09:40
SB-8 30'	5E13023-30	Soil	05/04/05 17:39	05/13/05 09:40
SB-8 60'	5E13023-31	Soil	05/04/05 18:06	05/13/05 09:40

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-3 5' (5E13023-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51402	05/14/05	05/15/05	EPA 8021B	
Toluene	0.302	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.522	0.0250	"	"	"	"	"	"	
Xylene (p/m)	4.34	0.0250	"	"	"	"	"	"	
Xylene (o)	1.79	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.3 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	829	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	1070	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1900	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		99.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		90.0 %	70-130		"	"	"	"	
<b>SB-3 10' (5E13023-02) Soil</b>									
Benzene	J [0.0220]	0.0250	mg/kg dry	25	EE51402	05/14/05	05/15/05	EPA 8021B	J
Toluene	0.546	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.460	0.0250	"	"	"	"	"	"	
Xylene (p/m)	3.31	0.0250	"	"	"	"	"	"	
Xylene (o)	1.25	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		120 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	625	10.0	mg/kg dry	1	EE51305	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	1010	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1640	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		95.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		89.4 %	70-130		"	"	"	"	
<b>SB-3 20' (5E13023-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	J [0.0101]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	0.0392	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.307	0.0250	"	"	"	"	"	"	
Xylene (o)	0.134	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	292	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	834	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1130	10.0	"	"	"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-3 20' (5E13023-03) Soil</b>									
Surrogate: 1-Chlorooctane		80.4 %	70-130		EE51313	05/13/05	05/14/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		72.4 %	70-130		"	"	"	"	
<b>SB-3 30' (5E13023-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0346	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.249	0.0250	"	"	"	"	"	"	
Xylene (o)	0.124	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	312	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	988	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1300	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		83.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		78.6 %	70-130		"	"	"	"	
<b>SB-3 50' (5E13023-05) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	0.104	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.211	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.37	0.0250	"	"	"	"	"	"	
Xylene (o)	0.687	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	598	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	1620	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2210	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		95.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		81.0 %	70-130		"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-3 65' (SE13023-06) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	0.0461	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0612	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.387	0.0250	"	"	"	"	"	"	
Xylene (o)	0.162	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		98.3 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	242	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	859	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1100	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		86.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		77.6 %	70-130		"	"	"	"	
<b>SB-4 5' (SE13023-07) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	0.328	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.785	0.0250	"	"	"	"	"	"	
Xylene (p/m)	5.71	0.0250	"	"	"	"	"	"	
Xylene (o)	2.21	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		126 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	811	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	1410	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2220	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		94.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		78.6 %	70-130		"	"	"	"	
<b>SB-4 10' (SE13023-08) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	0.833	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.837	0.0250	"	"	"	"	"	"	
Xylene (p/m)	5.84	0.0250	"	"	"	"	"	"	
Xylene (o)	2.11	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		110 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	943	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	1840	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2780	10.0	"	"	"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-4 10' (5E13023-08) Soil</b>									
Surrogate: 1-Chlorooctane		98.8 %	70-130		EE51313	05/13/05	05/14/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		79.0 %	70-130		"	"	"	"	
<b>SB-4 20' (5E13023-09) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	0.137	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.250	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.62	0.0250	"	"	"	"	"	"	
Xylene (o)	0.655	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	750	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	2020	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2770	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		94.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		80.2 %	70-130		"	"	"	"	
<b>SB-4 30' (5E13023-10) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	0.0320	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0935	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.601	0.0250	"	"	"	"	"	"	
Xylene (o)	0.272	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		84.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	580	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	2030	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2610	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		89.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		82.4 %	70-130		"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-4 40' (5E13023-11) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	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		86.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	19.2	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	126	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	145	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		77.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		76.6 %	70-130		"	"	"	"	
<b>SB-4 50' (5E13023-12) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	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		82.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51313	05/13/05	05/14/05	EPA 8015M	
Diesel Range Organics >C12-C35	62.0	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	62.0	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		78.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		72.4 %	70-130		"	"	"	"	
<b>SB-4 60' (5E13023-13) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	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		90.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	52.5	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	52.5	10.0	"	"	"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-4 60' (SE13023-13) Soil</b>									
Surrogate: 1-Chlorooctane		86.2 %	70-130		EE51313	05/13/05	05/15/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		78.6 %	70-130		"	"	"	"	
<b>SB-5 10' (SE13023-14) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	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		87.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		85.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		77.8 %	70-130		"	"	"	"	
<b>SB-5 20' (SE13023-15) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	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		88.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		84.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		76.8 %	70-130		"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-5 30' (SE13023-16) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	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		89.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.2 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		80.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		74.4 %	70-130		"	"	"	"	
<b>SB-5 50' (SE13023-17) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	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		89.3 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		77.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		70.8 %	70-130		"	"	"	"	
<b>SB-6 5' (SE13023-18) Soil</b>									
Benzene	0.141	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	5.67	0.0250	"	"	"	"	"	"	
Ethylbenzene	2.67	0.0250	"	"	"	"	"	"	
Xylene (p/m)	14.8	0.0250	"	"	"	"	"	"	
Xylene (o)	4.94	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		137 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		130 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	1000	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	1840	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2840	10.0	"	"	"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-6 5' (SE13023-18) Soil</b>									
Surrogate: 1-Chlorooctane		97.8 %	70-130		EE51313	05/13/05	05/15/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		78.0 %	70-130		"	"	"	"	
<b>SB-6 10' (SE13023-19) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	05/16/05	EPA 8021B	
Toluene	0.0758	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.114	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.661	0.0250	"	"	"	"	"	"	
Xylene (o)	0.257	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		92.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	258	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	1000	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1260	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		86.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		80.4 %	70-130		"	"	"	"	
<b>SB-6 20' (SE13023-20) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	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		89.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	24.5	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	24.5	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		83.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		76.2 %	70-130		"	"	"	"	

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

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Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-6 30' (5E13023-21) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51603	05/16/05	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		88.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	18.6	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	18.6	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		100 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		89.8 %	70-130		"	"	"	"	
<b>SB-6 50' (5E13023-22) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	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		84.3 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51313	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		80.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		72.4 %	70-130		"	"	"	"	
<b>SB-7 10' (5E13023-23) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	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		88.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51314	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-7 10' (5E13023-23) Soil</b>									
Surrogate: 1-Chlorooctane		81.4 %	70-130		EE51314	05/13/05	05/15/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		74.0 %	70-130		"	"	"	"	
<b>SB-7 20' (5E13023-24) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	05/17/05	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		91.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51314	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		91.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		79.8 %	70-130		"	"	"	"	
<b>SB-7 30' (5E13023-25) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	05/17/05	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		89.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51314	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		86.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		77.8 %	70-130		"	"	"	"	

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Midland TX, 79706-4476

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Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-7 50' (5E13023-26) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	05/17/05	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		90.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51314	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		82.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		74.0 %	70-130		"	"	"	"	
<b>SB-7 65' (5E13023-27) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	05/17/05	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		90.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51314	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		81.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		71.4 %	70-130		"	"	"	"	
<b>SB-8 10' (5E13023-28) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	05/17/05	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		90.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51314	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-8 10' (5E13023-28) Soil</b>									
Surrogate: 1-Chlorooctane		82.8 %	70-130		EE51314	05/13/05	05/15/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		81.0 %	70-130		"	"	"	"	
<b>SB-8 20' (5E13023-29) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	05/17/05	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		93.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51314	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		91.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		81.8 %	70-130		"	"	"	"	
<b>SB-8 30' (5E13023-30) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	05/17/05	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		88.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51314	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		77.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		75.4 %	70-130		"	"	"	"	

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Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-8 60' (5E13023-31) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51701	05/16/05	05/17/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		88.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.5 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51314	05/13/05	05/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		79.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		71.2 %	70-130		"	"	"	"	

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Project Number: EMS: 2004-00184  
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Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-3 5' (5E13023-01) Soil</b>									
% Moisture	15.3	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-3 10' (5E13023-02) Soil</b>									
% Moisture	3.8	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-3 20' (5E13023-03) Soil</b>									
% Moisture	4.4	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-3 30' (5E13023-04) Soil</b>									
% Moisture	4.1	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-3 50' (5E13023-05) Soil</b>									
% Moisture	4.4	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-3 65' (5E13023-06) Soil</b>									
% Moisture	6.5	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-4 5' (5E13023-07) Soil</b>									
% Moisture	6.5	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-4 10' (5E13023-08) Soil</b>									
% Moisture	4.8	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-4 20' (5E13023-09) Soil</b>									
% Moisture	4.0	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-4 30' (5E13023-10) Soil</b>									
% Moisture	3.9	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-4 40' (5E13023-11) Soil</b>									
% Moisture	3.6	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	

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Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-4 50' (5E13023-12) Soil</b>									
% Moisture	4.1	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-4 60' (5E13023-13) Soil</b>									
% Moisture	3.9	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-5 10' (5E13023-14) Soil</b>									
% Moisture	6.4	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-5 20' (5E13023-15) Soil</b>									
% Moisture	4.3	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-5 30' (5E13023-16) Soil</b>									
% Moisture	4.6	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-5 50' (5E13023-17) Soil</b>									
% Moisture	4.2	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-6 5' (5E13023-18) Soil</b>									
% Moisture	7.9	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-6 10' (5E13023-19) Soil</b>									
% Moisture	5.2	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-6 20' (5E13023-20) Soil</b>									
% Moisture	4.0	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-6 30' (5E13023-21) Soil</b>									
% Moisture	3.9	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-6 50' (5E13023-22) Soil</b>									
% Moisture	3.8	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	

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

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Reported:  
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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>SB-7 10' (5E13023-23) Soil</b>									
% Moisture	4.0	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-7 20' (5E13023-24) Soil</b>									
% Moisture	4.2	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-7 30' (5E13023-25) Soil</b>									
% Moisture	4.2	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-7 50' (5E13023-26) Soil</b>									
% Moisture	3.9	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-7 65' (5E13023-27) Soil</b>									
% Moisture	8.2	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-8 10' (5E13023-28) Soil</b>									
% Moisture	3.7	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-8 20' (5E13023-29) Soil</b>									
% Moisture	5.4	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-8 30' (5E13023-30) Soil</b>									
% Moisture	3.6	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	
<b>SB-8 60' (5E13023-31) Soil</b>									
% Moisture	2.9	0.1	%	1	EE51301	05/13/05	05/16/05	% calculation	

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Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

**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		

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Project Number: EMS: 2004-00184  
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Fax: (432) 687-4914

Reported:  
05/17/05 14:49

**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 EE51313 - Solvent Extraction (GC)**

**Blank (EE51313-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	38.7		mg/kg	50.0		77.4	70-130			
Surrogate: 1-Chlorooctadecane	35.2		"	50.0		70.4	70-130			

**LCS (EE51313-BS1)**

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

Gasoline Range Organics C6-C12	438	10.0	mg/kg wet	500		87.6	75-125			
Diesel Range Organics >C12-C35	498	10.0	"	500		99.6	75-125			
Total Hydrocarbon C6-C35	936	10.0	"	1000		93.6	75-125			
Surrogate: 1-Chlorooctane	37.5		mg/kg	50.0		75.0	70-130			
Surrogate: 1-Chlorooctadecane	35.9		"	50.0		71.8	70-130			

**Calibration Check (EE51313-CCV1)**

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

Gasoline Range Organics C6-C12	470		mg/kg	500		94.0	80-120			
Diesel Range Organics >C12-C35	492		"	500		98.4	80-120			
Total Hydrocarbon C6-C35	962		"	1000		96.2	80-120			
Surrogate: 1-Chlorooctane	48.2		"	50.0		96.4	70-130			
Surrogate: 1-Chlorooctadecane	41.0		"	50.0		82.0	70-130			

**Matrix Spike (EE51313-MS1)**

Source: 5E13023-12

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

Gasoline Range Organics C6-C12	482	10.0	mg/kg dry	521	ND	92.5	75-125			
Diesel Range Organics >C12-C35	570	10.0	"	521	62.0	97.5	75-125			
Total Hydrocarbon C6-C35	1050	10.0	"	1040	62.0	95.0	75-125			
Surrogate: 1-Chlorooctane	45.0		mg/kg	50.0		90.0	70-130			
Surrogate: 1-Chlorooctadecane	38.6		"	50.0		77.2	70-130			

**Matrix Spike Dup (EE51313-MSD1)**

Source: 5E13023-12

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

Gasoline Range Organics C6-C12	488	10.0	mg/kg dry	521	ND	93.7	75-125	1.24	20	
Diesel Range Organics >C12-C35	559	10.0	"	521	62.0	95.4	75-125	1.95	20	
Total Hydrocarbon C6-C35	1050	10.0	"	1040	62.0	95.0	75-125	0.00	20	
Surrogate: 1-Chlorooctane	45.6		mg/kg	50.0		91.2	70-130			
Surrogate: 1-Chlorooctadecane	39.1		"	50.0		78.2	70-130			

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Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE51314 - Solvent Extraction (GC)**

**Blank (EE51314-BLK1)**

Prepared: 05/13/05 Analyzed: 05/15/05

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	44.0		mg/kg	50.0		88.0	70-130		
Surrogate: 1-Chlorooctadecane	35.5		"	50.0		71.0	70-130		

**LCS (EE51314-BS1)**

Prepared: 05/13/05 Analyzed: 05/15/05

Gasoline Range Organics C6-C12	461	10.0	mg/kg wet	500		92.2	75-125		
Diesel Range Organics >C12-C35	496	10.0	"	500		99.2	75-125		
Total Hydrocarbon C6-C35	957	10.0	"	1000		95.7	75-125		
Surrogate: 1-Chlorooctane	38.6		mg/kg	50.0		77.2	70-130		
Surrogate: 1-Chlorooctadecane	35.6		"	50.0		71.2	70-130		

**Calibration Check (EE51314-CCV1)**

Prepared: 05/13/05 Analyzed: 05/15/05

Gasoline Range Organics C6-C12	475		mg/kg	500		95.0	80-120		
Diesel Range Organics >C12-C35	492		"	500		98.4	80-120		
Total Hydrocarbon C6-C35	967		"	1000		96.7	80-120		
Surrogate: 1-Chlorooctane	47.5		"	50.0		95.0	70-130		
Surrogate: 1-Chlorooctadecane	39.6		"	50.0		79.2	70-130		

**Matrix Spike (EE51314-MS1)**

Source: 5E13025-01

Prepared: 05/13/05 Analyzed: 05/15/05

Gasoline Range Organics C6-C12	485	10.0	mg/kg dry	534	ND	90.8	75-125		
Diesel Range Organics >C12-C35	530	10.0	"	534	ND	99.3	75-125		
Total Hydrocarbon C6-C35	1010	10.0	"	1070	ND	94.4	75-125		
Surrogate: 1-Chlorooctane	40.6		mg/kg	50.0		81.2	70-130		
Surrogate: 1-Chlorooctadecane	35.6		"	50.0		71.2	70-130		

**Matrix Spike Dup (EE51314-MSD1)**

Source: 5E13025-01

Prepared: 05/13/05 Analyzed: 05/15/05

Gasoline Range Organics C6-C12	513	10.0	mg/kg dry	534	ND	96.1	75-125	5.61	20
Diesel Range Organics >C12-C35	550	10.0	"	534	ND	103	75-125	3.70	20
Total Hydrocarbon C6-C35	1060	10.0	"	1070	ND	99.1	75-125	4.83	20
Surrogate: 1-Chlorooctane	43.1		mg/kg	50.0		86.2	70-130		
Surrogate: 1-Chlorooctadecane	37.4		"	50.0		74.8	70-130		

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE51402 - EPA 5030C (GC)**

**Blank (EE51402-BLK1)**

Prepared: 05/14/05 Analyzed: 05/16/05

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	95.6		ug/kg	100		95.6	80-120			
Surrogate: 4-Bromofluorobenzene	83.0		"	100		83.0	80-120			

**LCS (EE51402-BS1)**

Prepared: 05/14/05 Analyzed: 05/15/05

Benzene	92.5		ug/kg	100		92.5	80-120			
Toluene	84.8		"	100		84.8	80-120			
Ethylbenzene	83.1		"	100		83.1	80-120			
Xylene (p/m)	182		"	200		91.0	80-120			
Xylene (o)	85.1		"	100		85.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	103		"	100		103	80-120			
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120			

**Calibration Check (EE51402-CCV1)**

Prepared: 05/14/05 Analyzed: 05/15/05

Benzene	92.8		ug/kg	100		92.8	80-120			
Toluene	86.8		"	100		86.8	80-120			
Ethylbenzene	82.8		"	100		82.8	80-120			
Xylene (p/m)	185		"	200		92.5	80-120			
Xylene (o)	89.6		"	100		89.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	114		"	100		114	80-120			
Surrogate: 4-Bromofluorobenzene	110		"	100		110	80-120			

**Matrix Spike (EE51402-MS1)**

Source: 5E13025-12

Prepared: 05/14/05 Analyzed: 05/15/05

Benzene	96.6		ug/kg	100	ND	96.6	80-120			
Toluene	88.0		"	100	ND	88.0	80-120			
Ethylbenzene	84.8		"	100	ND	84.8	80-120			
Xylene (p/m)	193		"	200	ND	96.5	80-120			
Xylene (o)	88.9		"	100	ND	88.9	80-120			
Surrogate: a,a,a-Trifluorotoluene	115		"	100		115	80-120			
Surrogate: 4-Bromofluorobenzene	100		"	100		100	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 EE51402 - EPA 5030C (GC)**

**Matrix Spike Dup (EE51402-MSD1)**

Source: 5E13025-12

Prepared: 05/14/05 Analyzed: 05/15/05

Benzene	97.3		ug/kg	100	ND	97.3	80-120	0.722	20	
Toluene	93.9		"	100	ND	93.9	80-120	6.49	20	
Ethylbenzene	92.0		"	100	ND	92.0	80-120	8.14	20	
Xylene (p/m)	210		"	200	ND	105	80-120	8.44	20	
Xylene (o)	93.2		"	100	ND	93.2	80-120	4.72	20	
Surrogate: a,a,a-Trifluorotoluene	116		"	100		116	80-120			
Surrogate: 4-Bromofluorobenzene	110		"	100		110	80-120			

**Batch EE51603 - EPA 5030C (GC)**

**Blank (EE51603-BLK1)**

Prepared & Analyzed: 05/16/05

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	95.3		ug/kg	100		95.3	80-120			
Surrogate: 4-Bromofluorobenzene	94.9		"	100		94.9	80-120			

**LCS (EE51603-BS1)**

Prepared & Analyzed: 05/16/05

Benzene	90.3		ug/kg	100		90.3	80-120			
Toluene	88.4		"	100		88.4	80-120			
Ethylbenzene	88.0		"	100		88.0	80-120			
Xylene (p/m)	201		"	200		100	80-120			
Xylene (o)	91.7		"	100		91.7	80-120			
Surrogate: a,a,a-Trifluorotoluene	109		"	100		109	80-120			
Surrogate: 4-Bromofluorobenzene	113		"	100		113	80-120			

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Fax: (432) 687-4914

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05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE51603 - EPA 5030C (GC)**

**Calibration Check (EE51603-CCV1)**

Prepared & Analyzed: 05/16/05

Benzene	90.3		ug/kg	100		90.3	80-120		
Toluene	86.8		"	100		86.8	80-120		
Ethylbenzene	83.1		"	100		83.1	80-120		
Xylene (p/m)	187		"	200		93.5	80-120		
Xylene (o)	89.3		"	100		89.3	80-120		
Surrogate: a,a,a-Trifluorotoluene	115		"	100		115	80-120		
Surrogate: 4-Bromofluorobenzene	99.8		"	100		99.8	80-120		

**Matrix Spike (EE51603-MS1)**

Source: 5E13023-21

Prepared & Analyzed: 05/16/05

Benzene	89.4		ug/kg	100	ND	89.4	80-120		
Toluene	86.2		"	100	ND	86.2	80-120		
Ethylbenzene	83.7		"	100	ND	83.7	80-120		
Xylene (p/m)	189		"	200	ND	94.5	80-120		
Xylene (o)	87.6		"	100	ND	87.6	80-120		
Surrogate: a,a,a-Trifluorotoluene	106		"	100		106	80-120		
Surrogate: 4-Bromofluorobenzene	109		"	100		109	80-120		

**Matrix Spike Dup (EE51603-MSD1)**

Source: 5E13023-21

Prepared & Analyzed: 05/16/05

Benzene	88.2		ug/kg	100	ND	88.2	80-120	1.35	20
Toluene	85.9		"	100	ND	85.9	80-120	0.349	20
Ethylbenzene	83.9		"	100	ND	83.9	80-120	0.239	20
Xylene (p/m)	194		"	200	ND	97.0	80-120	2.61	20
Xylene (o)	90.6		"	100	ND	90.6	80-120	3.37	20
Surrogate: a,a,a-Trifluorotoluene	111		"	100		111	80-120		
Surrogate: 4-Bromofluorobenzene	108		"	100		108	80-120		

**Batch EE51701 - EPA 5030C (GC)**

**Blank (EE51701-BLK1)**

Prepared & Analyzed: 05/16/05

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	87.8		ug/kg	100		87.8	80-120		
Surrogate: 4-Bromofluorobenzene	81.2		"	100		81.2	80-120		

Environmental Lab of Texas

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
05/17/05 14:49

**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 EE51701 - EPA 5030C (GC)**

**LCS (EE51701-BS1)**

Prepared & Analyzed: 05/16/05

Benzene	93.4		ug/kg	100		93.4	80-120			
Toluene	91.6		"	100		91.6	80-120			
Ethylbenzene	88.7		"	100		88.7	80-120			
Xylene (p/m)	203		"	200		102	80-120			
Xylene (o)	95.1		"	100		95.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	113		"	100		113	80-120			
Surrogate: 4-Bromofluorobenzene	111		"	100		111	80-120			

**Calibration Check (EE51701-CCV1)**

Prepared & Analyzed: 05/16/05

Benzene	90.3		ug/kg	100		90.3	80-120			
Toluene	86.8		"	100		86.8	80-120			
Ethylbenzene	83.1		"	100		83.1	80-120			
Xylene (p/m)	187		"	200		93.5	80-120			
Xylene (o)	89.3		"	100		89.3	80-120			
Surrogate: a,a,a-Trifluorotoluene	115		"	100		115	80-120			
Surrogate: 4-Bromofluorobenzene	99.8		"	100		99.8	80-120			

**Matrix Spike (EE51701-MS1)**

Source: 5E13023-22

Prepared: 05/16/05 Analyzed: 05/17/05

Benzene	86.7		ug/kg	100	ND	86.7	80-120			
Toluene	84.6		"	100	ND	84.6	80-120			
Ethylbenzene	83.0		"	100	ND	83.0	80-120			
Xylene (p/m)	188		"	200	ND	94.0	80-120			
Xylene (o)	88.5		"	100	ND	88.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	106		"	100		106	80-120			
Surrogate: 4-Bromofluorobenzene	97.4		"	100		97.4	80-120			

**Matrix Spike Dup (EE51701-MSD1)**

Source: 5E13023-22

Prepared: 05/16/05 Analyzed: 05/17/05

Benzene	87.6		ug/kg	100	ND	87.6	80-120	1.03	20	
Toluene	85.7		"	100	ND	85.7	80-120	1.29	20	
Ethylbenzene	85.8		"	100	ND	85.8	80-120	3.32	20	
Xylene (p/m)	197		"	200	ND	98.5	80-120	4.68	20	
Xylene (o)	92.6		"	100	ND	92.6	80-120	4.53	20	
Surrogate: a,a,a-Trifluorotoluene	111		"	100		111	80-120			
Surrogate: 4-Bromofluorobenzene	110		"	100		110	80-120			

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Reported:**  
05/17/05 14:49

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE51301 - General Preparation (Prep)**

**Blank (EE51301-BLK1)**

Prepared & Analyzed: 05/13/05

% Moisture	ND	0.1	%
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**Duplicate (EE51301-DUP1)**

Source: 5E12011-01

Prepared & Analyzed: 05/13/05

% Solids	98.2	%	97.4	0.818	20
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Plains All American EH & S  
1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**Reported:**  
05/17/05 14:49

### Notes and Definitions

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

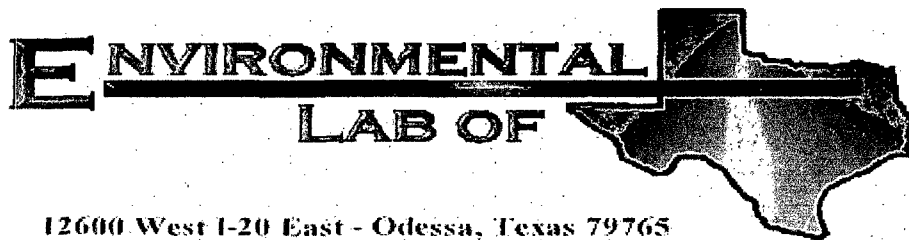
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### Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
5E13023-18	8021B BTEX	a,a,a-Trifluorotoluene	S-04
5E13023-18	8021B BTEX	4-Bromofluorobenzene	S-04
5E13023-07	8021B BTEX	4-Bromofluorobenzene	S-04
5E13023-18	8021B BTEX	a,a,a-Trifluorotoluene	Exceeds upper control limit
5E13023-18	8021B BTEX	4-Bromofluorobenzene	Exceeds upper control limit
5E13023-07	8021B BTEX	4-Bromofluorobenzene	Exceeds upper control limit
	TPH 8015	(Soil)	J-Flags used
	8021B BTEX	(Soil)	J-Flags used
	8021B BTEX	(Soil)	RPD calculations based on %Recovery
	TPH 8015	(Soil)	Result calculations based on MDL
	8021B BTEX	(Soil)	Result calculations based on MDL
			Default Report (not modified)



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: Saunders 8" #4

Project Number: EMS: 2004-00184

Location: Lea County, NM

Lab Order Number: 5F16006

Report Date: 06/17/05

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BTM EXCV. N/SW	5F16006-01	Soil	06/15/05 13:45	06/16/05 14:00
BTM EXCV. W/SW	5F16006-02	Soil	06/15/05 14:00	06/16/05 14:00
BTM EXCV. S/SW	5F16006-03	Soil	06/15/05 14:15	06/16/05 14:00
BTM EXCV. E/SW	5F16006-04	Soil	06/15/05 14:30	06/16/05 14:00
BNCH N/SW	5F16006-05	Soil	06/15/05 14:45	06/16/05 14:00
BNCH W/SW	5F16006-06	Soil	06/15/05 15:00	06/16/05 14:00
BNCH S/SW	5F16006-07	Soil	06/15/05 15:15	06/16/05 14:00
BNCH E/SW	5F16006-08	Soil	06/15/05 15:30	06/16/05 14:00
BNCH N/4	5F16006-09	Soil	06/15/05 15:45	06/16/05 14:00
BNCH S/6	5F16006-10	Soil	06/15/05 16:00	06/16/05 14:00

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BTM EXCV. N/SW (5F16006-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EF51611	06/16/05	06/16/05	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		86.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EF51606	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		72.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		79.2 %	70-130		"	"	"	"	
<b>BTM EXCV. W/SW (5F16006-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EF51611	06/16/05	06/16/05	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		84.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EF51606	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		72.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		80.0 %	70-130		"	"	"	"	
<b>BTM EXCV. S/SW (5F16006-03) Soil</b>									
Benzene	0.0304	0.0250	mg/kg dry	25	EF51611	06/16/05	06/16/05	EPA 8021B	
Toluene	0.670	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.271	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.47	0.0250	"	"	"	"	"	"	
Xylene (o)	0.540	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		93.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	240	10.0	mg/kg dry	1	EF51606	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	6040	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	6280	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BTM EXCV. S/SW (5F16006-03) Soil</b>									
Surrogate: 1-Chlorooctane		74.8 %	70-130		EF51606	06/16/05	06/17/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		252 %	70-130		"	"	"	"	S-04
<b>BTM EXCV. E/SW (5F16006-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EF51611	06/16/05	06/16/05	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		86.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EF51606	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		71.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		83.2 %	70-130		"	"	"	"	
<b>BNCH N/SW (5F16006-05) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EF51611	06/16/05	06/16/05	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		83.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	11.8	10.0	mg/kg dry	1	EF51606	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	426	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	438	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		74.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		89.4 %	70-130		"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BNCH W/SW (5F16006-06) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EF51611	06/16/05	06/16/05	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		87.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EF51606	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		74.4 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		81.0 %	70-130		"	"	"	"	
<b>BNCH S/SW (5F16006-07) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EF51611	06/16/05	06/16/05	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		83.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EF51606	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		73.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		79.8 %	70-130		"	"	"	"	
<b>BNCH E/SW (5F16006-08) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EF51611	06/16/05	06/17/05	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		86.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EF51610	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BNCH E/SW (5F16006-08) Soil</b>									
Surrogate: 1-Chlorooctane		73.0 %	70-130		EF51610	06/16/05	06/17/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		77.8 %	70-130		"	"	"	"	
<b>BNCH N/4 (5F16006-09) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EF51611	06/16/05	06/17/05	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		85.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	19.1	10.0	mg/kg dry	1	EF51610	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	547	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	566	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		73.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		95.6 %	70-130		"	"	"	"	
<b>BNCH S/6 (5F16006-10) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EF51611	06/16/05	06/17/05	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		86.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EF51610	06/16/05	06/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		73.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		79.2 %	70-130		"	"	"	"	

Environmental Lab of Texas

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BTM EXCV. N/SW (5F16006-01) Soil</b>									
% Moisture	0.6	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	
<b>BTM EXCV. W/SW (5F16006-02) Soil</b>									
% Moisture	0.7	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	
<b>BTM EXCV. S/SW (5F16006-03) Soil</b>									
% Moisture	1.0	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	
<b>BTM EXCV. E/SW (5F16006-04) Soil</b>									
% Moisture	0.2	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	
<b>BNCH N/SW (5F16006-05) Soil</b>									
% Moisture	6.3	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	
<b>BNCH W/SW (5F16006-06) Soil</b>									
% Moisture	1.9	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	
<b>BNCH S/SW (5F16006-07) Soil</b>									
% Moisture	4.2	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	
<b>BNCH E/SW (5F16006-08) Soil</b>									
% Moisture	7.7	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	
<b>BNCH N/4 (5F16006-09) Soil</b>									
% Moisture	4.4	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	
<b>BNCH S/6 (5F16006-10) Soil</b>									
% Moisture	6.1	0.1	%	1	EF51605	06/16/05	06/17/05	% calculation	

Environmental Lab of Texas

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

**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 EF51606 - Solvent Extraction (GC)</b>									
<b>Blank (EF51606-BLK1)</b>									
Prepared & Analyzed: 06/16/05									
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	51.9		mg/kg	50.0		104	70-130		
Surrogate: 1-Chlorooctadecane	65.0		"	50.0		130	70-130		
<b>LCS (EF51606-BS1)</b>									
Prepared & Analyzed: 06/16/05									
Gasoline Range Organics C6-C12	457	10.0	mg/kg wet	500		91.4	75-125		
Diesel Range Organics >C12-C35	525	10.0	"	500		105	75-125		
Total Hydrocarbon C6-C35	981	10.0	"	1000		98.1	75-125		
Surrogate: 1-Chlorooctane	59.9		mg/kg	50.0		120	70-130		
Surrogate: 1-Chlorooctadecane	64.9		"	50.0		130	70-130		
<b>Calibration Check (EF51606-CCV1)</b>									
Prepared: 06/16/05 Analyzed: 06/17/05									
Gasoline Range Organics C6-C12	454		mg/kg	500		90.8	80-120		
Diesel Range Organics >C12-C35	504		"	500		101	80-120		
Total Hydrocarbon C6-C35	958		"	1000		95.8	80-120		
Surrogate: 1-Chlorooctane	65.0		"	50.0		130	70-130		
Surrogate: 1-Chlorooctadecane	63.4		"	50.0		127	70-130		
<b>Matrix Spike (EF51606-MS1)</b>									
Source: 5F16003-02 Prepared: 06/16/05 Analyzed: 06/17/05									
Gasoline Range Organics C6-C12	595	10.0	mg/kg dry	574	ND	104	75-125		
Diesel Range Organics >C12-C35	647	10.0	"	574	ND	113	75-125		
Total Hydrocarbon C6-C35	1240	10.0	"	1150	ND	108	75-125		
Surrogate: 1-Chlorooctane	49.3		mg/kg	50.0		98.6	70-130		
Surrogate: 1-Chlorooctadecane	45.9		"	50.0		91.8	70-130		
<b>Matrix Spike Dup (EF51606-MSD1)</b>									
Source: 5F16003-02 Prepared: 06/16/05 Analyzed: 06/17/05									
Gasoline Range Organics C6-C12	578	10.0	mg/kg dry	574	ND	101	75-125	2.90	20
Diesel Range Organics >C12-C35	632	10.0	"	574	ND	110	75-125	2.35	20
Total Hydrocarbon C6-C35	1210	10.0	"	1150	ND	105	75-125	2.45	20
Surrogate: 1-Chlorooctane	49.4		mg/kg	50.0		98.8	70-130		
Surrogate: 1-Chlorooctadecane	45.9		"	50.0		91.8	70-130		

Environmental Lab of Texas

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

**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 EF51610 - Solvent Extraction (GC)**

**Blank (EF51610-BLK1)**

Prepared: 06/16/05 Analyzed: 06/17/05

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	51.5		mg/kg	50.0		103	70-130			
Surrogate: 1-Chlorooctadecane	62.8		"	50.0		126	70-130			

**LCS (EF51610-BS1)**

Prepared: 06/16/05 Analyzed: 06/17/05

Gasoline Range Organics C6-C12	429	10.0	mg/kg wet	500		85.8	75-125			
Diesel Range Organics >C12-C35	510	10.0	"	500		102	75-125			
Total Hydrocarbon C6-C35	939	10.0	"	1000		93.9	75-125			
Surrogate: 1-Chlorooctane	64.3		mg/kg	50.0		129	70-130			
Surrogate: 1-Chlorooctadecane	64.3		"	50.0		129	70-130			

**Calibration Check (EF51610-CCV1)**

Prepared: 06/16/05 Analyzed: 06/17/05

Gasoline Range Organics C6-C12	472		mg/kg	500		94.4	80-120			
Diesel Range Organics >C12-C35	532		"	500		106	80-120			
Total Hydrocarbon C6-C35	1000		"	1000		100	80-120			
Surrogate: 1-Chlorooctane	64.4		"	50.0		129	70-130			
Surrogate: 1-Chlorooctadecane	61.4		"	50.0		123	70-130			

**Matrix Spike (EF51610-MS1)**

Source: 5F16006-08

Prepared: 06/16/05 Analyzed: 06/17/05

Gasoline Range Organics C6-C12	520	10.0	mg/kg dry	542	ND	95.9	75-125			
Diesel Range Organics >C12-C35	583	10.0	"	542	ND	108	75-125			
Total Hydrocarbon C6-C35	1100	10.0	"	1080	ND	102	75-125			
Surrogate: 1-Chlorooctane	47.7		mg/kg	50.0		95.4	70-130			
Surrogate: 1-Chlorooctadecane	44.2		"	50.0		88.4	70-130			

**Matrix Spike Dup (EF51610-MSD1)**

Source: 5F16006-08

Prepared: 06/16/05 Analyzed: 06/17/05

Gasoline Range Organics C6-C12	535	10.0	mg/kg dry	542	ND	98.7	75-125	2.84	20	
Diesel Range Organics >C12-C35	589	10.0	"	542	ND	109	75-125	1.02	20	
Total Hydrocarbon C6-C35	1120	10.0	"	1080	ND	104	75-125	1.80	20	
Surrogate: 1-Chlorooctane	47.5		mg/kg	50.0		95.0	70-130			
Surrogate: 1-Chlorooctadecane	44.1		"	50.0		88.2	70-130			

Environmental Lab of Texas

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

**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 EF51611 - EPA 5030C (GC)**

**Blank (EF51611-BLK1)**

Prepared & Analyzed: 06/16/05

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	80.0		ug/kg	100		80.0	80-120			
Surrogate: 4-Bromofluorobenzene	101		"	100		101	80-120			

**LCS (EF51611-BS1)**

Prepared & Analyzed: 06/16/05

Benzene	97.3		ug/kg	100		97.3	80-120			
Toluene	95.8		"	100		95.8	80-120			
Ethylbenzene	95.1		"	100		95.1	80-120			
Xylene (p/m)	216		"	200		108	80-120			
Xylene (o)	102		"	100		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	96.3		"	100		96.3	80-120			
Surrogate: 4-Bromofluorobenzene	114		"	100		114	80-120			

**Calibration Check (EF51611-CCV1)**

Prepared: 06/16/05 Analyzed: 06/17/05

Benzene	101		ug/kg	100		101	80-120			
Toluene	97.3		"	100		97.3	80-120			
Ethylbenzene	89.4		"	100		89.4	80-120			
Xylene (p/m)	197		"	200		98.5	80-120			
Xylene (o)	90.0		"	100		90.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	102		"	100		102	80-120			
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120			

**Matrix Spike (EF51611-MS1)**

Source: 5F16006-10

Prepared: 06/16/05 Analyzed: 06/17/05

Benzene	98.7		ug/kg	100	ND	98.7	80-120			
Toluene	94.7		"	100	ND	94.7	80-120			
Ethylbenzene	88.2		"	100	ND	88.2	80-120			
Xylene (p/m)	195		"	200	ND	97.5	80-120			
Xylene (o)	93.7		"	100	ND	93.7	80-120			
Surrogate: a,a,a-Trifluorotoluene	91.1		"	100		91.1	80-120			
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120			

Environmental Lab of Texas

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

**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 EF51611 - EPA 5030C (GC)**

Matrix Spike Dup (EF51611-MSD1)		Source: 5F16006-10		Prepared: 06/16/05		Analyzed: 06/17/05				
Benzene	94.6		ug/kg	100	ND	94.6	80-120	4.24	20	
Toluene	91.8		"	100	ND	91.8	80-120	3.11	20	
Ethylbenzene	85.8		"	100	ND	85.8	80-120	2.76	20	
Xylene (p/m)	187		"	200	ND	93.5	80-120	4.19	20	
Xylene (o)	89.9		"	100	ND	89.9	80-120	4.14	20	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	92.6		"	100		92.6	80-120			
Surrogate: 4-Bromofluorobenzene	119		"	100		119	80-120			

Environmental Lab of Texas

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch EF51605 - General Preparation (Prep)**

**Blank (EF51605-BLK1)**

Prepared & Analyzed: 06/16/05

% Moisture	ND	0.1	%
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**Duplicate (EF51605-DUP1)**

Source: 5F16001-01

Prepared & Analyzed: 06/16/05

% Moisture	9.8	0.1	%	10.1	3.02	20
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Environmental Lab of Texas

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

Project: Saunders 8" #4  
Project Number: EMS: 2004-00184  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
06/17/05 18:20

### Notes and Definitions

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

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:

6/17/2005

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

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

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

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

Environmental Lab of Texas

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12800 West 1-20 East  
Odessa, Texas 79763

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**Project Name:**

Project # 9MS# 2004-00

Project Loc: 1 GA 10 7M

PAH/C. Ben

Fax No: (505) 391-1429

11-25-72

# Environmental Lab of Texas

## Variance / Corrective Action Report – Sample Log-In

Client: Basin / Plains

Date/Time: 6/16/05

Order #: SF16006

Initials: CR

### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	<u>LO</u> 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:

### Variance Documentation:


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

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

Corrective Action Taken:

## **APPENDIX C**

### **SOIL BORING LOGS**

Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
5		1012 ppm	Heavy	Heavy	Caliche Layer
10		889 ppm	Heavy	Heavy	Caliche Layer
15		712 ppm	Slight	None	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, Dry
20		625 ppm	Slight	None	
25		29.9 ppm	None	None	
30		30.2 ppm	None	None	
35		25.6 ppm	None	None	
40	13.4 ppm	None	None		

TD: 40 feet bgs

Soil Boring plugged with 8 bags of Bentonite

☐ Samples selected for analysis

TITLE	DESCRIPTION
Saunders 8" # 4	Soil Boring 1
DRAWN BY	DATE
KAD	15 Nov 04


Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
5		47.8 ppm	None	None	Caliche Layer
10		3.0 ppm	None	None	Caliche Layer
15		4.2 ppm	None	None	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, Dry

TD: 15 feet bgs

Soil Boring plugged with 3 bags of Bentonite

☐ Samples selected for analysis

TITLE	DESCRIPTION
Saunders 8" # 4	Soil Boring 2
DRAWN BY KAD	DATE 15 Nov 04

Depth		Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description	Plains Marketing, L. P. Saunders 8" #4 SB-3 Lea County, New Mexico Unit F, S35, T13S, R33E	
Excavation Floor 22 feet bgs								
	5		1132 ppm	Heavy	None	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, Dry	<b>Soil Boring Completion Data</b>  ↓ Groundwater Depth  <input type="checkbox"/> Samples selected for analysis  TD: 87 Feet bgs  Installed 04 May 05 Basin Environmental Services  Plugged with 1 bag cement at depth, 12 bags of bentonite and water, and 1 bag cement at surface	
	10		854 ppm	Heavy	None			
	15		847 ppm	Heavy	None			
	20		548 ppm	Heavy	None			
	25		369 ppm	Heavy	None			
	30		504 ppm	Heavy	None			
	35		639 ppm	Heavy	None			
	40		534 ppm	Heavy	None			
	45		385 ppm	Heavy	None			
	50		547 ppm	Heavy	None			
	55		413 ppm	Heavy	None			
	60		359 ppm	Heavy	None	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, Moist		
	65	64' ↓	1594 ppm	Heavy	None	Sand (SP) White-Brown-Red, Very Fine Grained, Well Sorted, Wet, imbedded w/gravel		

TITLE	DESCRIPTION
Saunders 8" # 4	Soil Boring 3
DRAWN BY	DATE
KAD	18 May 04









Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
Excavation Floor 22 feet bgs					
5		2.0 ppm	None	None	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, Dry
10		2.4 ppm	None	None	
15		2.0 ppm	None	None	
20		2.4 ppm	None	None	
25		2.1 ppm	None	None	
30		2.3 ppm	None	None	
35		1.2 ppm	None	None	
40		2.5 ppm	None	None	
45		1.9 ppm	None	None	
50		1.9 ppm	None	None	
55		3.6 ppm	None	None	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, Moist
60		2.4 ppm	None	None	
65		3.2 ppm	None	None	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, Wet

**Plains Marketing, L. P.**  
Saunders 8" #4  
SB-7

Lea County, New Mexico  
Unit F, S35, T13S, R33E

**Soil Boring Completion Data**

☐ Samples selected for analysis

TD: 87 Feet bgs

Installed 04 May 05  
Basin Environmental Services

Plugged with 1 bag cement at depth,  
11 bags of bentonite and water, and 1 bag  
cement at surface

Groundwater Depth

TITLE	DESCRIPTION
Saunders 8" # 4	Soil Boring 7
DRAWN BY KAD	DATE 18 May 04



## **APPENDIX D**

### **NMOCD C-141 and NMOCD APPROVAL LETTER**

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised October 10, 2003

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

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Plains Marketing, LP	Contact Camille Reynolds
Address 5805 East Hwy. 80, Midland, TX 79706	Telephone No. 505-441-0965
Facility Name Saunders 8" #4	Facility Type 8" Steel Pipeline

Surface Owner Norman Hahn	Mineral Owner	Lease No.
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LOCATION OF RELEASE

Unit Letter F	Section 35	Township 13S	Range 33E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude 33°08'55.6" Longitude 103°35'15.3"

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 15 barrels	Volume Recovered 0 barrels
Source of Release 8" Steel Pipeline	Date and Hour of Occurrence 8-12-04 @ 06:00	Date and Hour of Discovery 8-12-04 @ 13:45
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 8-12-04 @ 19:00	
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.*		

Describe Cause of Problem and Remedial Action Taken.\* External corrosion of the 8" steel pipeline. A line clamp was installed to mitigate the release. The line is an 8 inch steel transmission pipeline that produces approximately 1,400 barrels of crude per day. The pressure on the line varies from 25 to 30 psi and the gravity of the sweet crude oil is 38-42. The sweet crude has an H<sub>2</sub>S content of less than 10 ppm.

Describe Area Affected and Cleanup Action Taken.\* The impacted soil was excavated and stockpiled on plastic. Aerial extent of surface impact was 7,176 ft<sup>2</sup>.

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: <u>Camille Reynolds</u>		OIL CONSERVATION DIVISION	
Printed Name: Camille Reynolds		Approved by District Supervisor:	
Title: Remediation Coordinator		Approval Date:	Expiration Date:
E-mail Address: cjreynolds@paalp.com		Conditions of Approval:	
Date: 8-17-04 Phone: 505-441-0965		Attached <input type="checkbox"/>	

Attach Additional Sheets If Necessary



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

November 29, 2004

Ms. Camille Reynolds      [cireynolds@paalp.com](mailto:cireynolds@paalp.com)  
Plains All American Pipeline

Re:    Plan Approval, Saunders 8" #4  
      Site Reference UL-F Sec-35 T-13S R-33E  
      Initial C-144 Dated: 8-12-04  
      Request Plan Dated: 11-15-04

Dear Ms. Reynolds,

The Remediation Work Plan Proposal submitted to the New Mexico Oil Conservation Division (OCD) by Basin Environmental for Plains All American Pipeline (PAAP) is **hereby approved for 120 days** with the following considerations:

- Immediate notification if additional contamination is discovered during excavation (any contamination undetected by borehole delineation)
- 48 hour notification to OCD prior to final sampling
- Progress reports of lift installations
- Disturbed areas to be seeded for re-vegetation of native grasses and other plants must demonstrate growth within a reasonable time after site remediation operations cease

Please be advised that OCD approval of this plan does not relieve PAAP of responsibility should their operations fail to adequately investigate and remediate contaminants that threaten ground water, surface water, human health or the environment. Additionally, OCD approval does not relieve PAAP of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If you have any questions or need assistance please call (505) 393-6161, x111 or e-mail [lwjohnson@state.nm.us](mailto:lwjohnson@state.nm.us)

Sincerely,

Larry Johnson - Environmental Engineer

Cc:

Chris Williams - District I Supervisor  
Ed Martin - Environmental Engineer  
Paul Sheeley - Environmental Engineer  
Ken Dutton - Basin Environmental Project Consultant      [kdutton@basinenv.com](mailto:kdutton@basinenv.com)