

**Closure Compliance Report**

**Shafter Lake 8" WTI  
UL-I, NE ¼ of the SE ¼ of Section 33, T25S, R37E  
Plains Leak Number 2003-00145  
Lea County, New Mexico**

**Terracon Project Number 94057171**

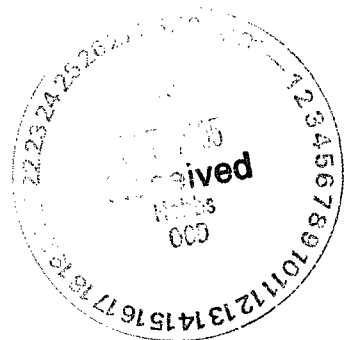
**October 14, 2005**

***Prepared for:***

**Plains Pipeline, L.P.  
3705 East Highway 158  
P.O. Box 3119  
Midland, Texas 79702**

***Prepared by:***

**Terracon  
Midland, Texas**



*Plains - 231735  
facility - FPAC0603452033  
incident - NPAC0603452162  
application - PPAC0603452394*

October 14, 2005

Plains Pipeline, L.P.  
3705 East Highway 158  
P.O. Box 3119  
Midland, Texas 79702  
Attn: Mr. Daniel Bryant

**Terracon**  
Consulting Engineers & Scientists

Terracon Consultants, Inc.  
24 Smith Road, Suite 261  
Midland, Texas 79705  
Phone 432.684.9600  
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Re: Closure Compliance Report  
Shafter Lake 8" WTI  
UL-I, NE ¼ of the SE ¼ of Section 33, T25S, R37E  
Plains Leak Number 2003-00145  
Lea County, New Mexico  
Terracon Project No. 94057171

Dear Mr. Bryant:

Terracon is pleased to submit three copies of the Closure Compliance Report for the above referenced site.

We appreciate the opportunity to participate in the site remediation project at Shafter Lake 8" WTI for Plains Pipeline, L.P. Please contact either of the undersigned at (432) 684-9600 if you have questions regarding the information provided in the report.

Sincerely,

**Terracon**

Prepared by:



Shanna L. Smith  
Project Manager

Reviewed by:



Barrett Bole, P.G.  
Project Manager

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## **Closure Compliance Report**

**Shafter Lake 8" WTI**  
**UL-I, NE ¼ of the SE ¼ of Section 33, T25S, R37E**  
**Plains Leak Number 2003-00145**  
**Lea County, New Mexico**

**Terracon Project Number 94057171**

### **1.0 INTRODUCTION**

This site is located in Lea County, New Mexico approximately 2.5 miles south of Jal, New Mexico approximately three-quarters of a mile east of State Road 18 on a lease road (Figure 1). The property is owned by George and Joyce Willis.

The leak occurred on June 5, 2003, on the Plains Pipeline Shafter Lake 8" WTI in Lea County, New Mexico. Approximately 250 barrels of crude oil were released and 190 barrels recovered. The cause of the spill was reported as internal corrosion. The crude oil flowed onto an oilfield caliche road from the release site covering an area approximately 18 feet wide and 400 feet long.

### **1.1 Site Description**

<b>Site Name</b>	Shafter Lake 8" WTI
<b>Site Location/GPS</b>	Lea County, New Mexico / 32° 05' 05" N, 103° 09' 33.7" W
<b>General Site Description</b>	The release occurred in the immediate area surrounding the pipeline and flowed west onto an oilfield caliche road.

A topographic map (Figure 1) and a site map (Figure 2) are included in Appendix A.

### **1.2 Scope of Services**

The Scope of Services for Terracon as requested by Plains Pipeline included:

- Excavation and remediation of the area of concern;
- Collection of confirmation soil samples in the area of concern; and
- Submittal of a Closure Compliance Report detailing field activities, analytical results, site maps and photos.

### 1.3 Regulatory Framework

Crude oil facilities in New Mexico are generally regulated by the New Mexico Oil Conservation Division (NMOCD). Contamination of soil due to a surface release of crude oil is addressed within a NMOCD guideline titled *Guidelines for Remediation of Leaks, Spills and Release*.

Soils which are impacted by petroleum constituents are scored according to the ranking criteria to determine their relative threat to public health, fresh water, and the environment. Such limits are defined by the depth to groundwater, wellhead protection area, and distance to surface water. Based on these ranking criteria, the remediation action level at this site is as follows:

Depth to Ground Water	50-99 feet	Ranking Score = 10
(As defined as vertical distance from lowermost contaminants to seasonal high water level)		

Wellhead Protection Area	>1000' to water source >200' to domestic well	Ranking Score = 0
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Distance to Surface Water	>1000 horizontal feet	Ranking Score = 0
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Total Ranking Score = 10

Based on total ranking criteria of 10, the remediation levels are as follows:

Benzene = 10 ppm

BTEX = 50 ppm

TPH = 1,000 ppm

### 1.4 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report.

### 1.5 Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of

work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this remediation activities. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

## **1.6 Reliance**

This report has been prepared for the exclusive use of PLAINS PIPELINE, LP, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of PLAINS PIPELINE, LP and Terracon. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in this report, and Terracon's Terms and Conditions. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.

## **2.0 FIELD ACTIVITIES**

### **2.1 Excavation and Remediation**

During initial response activities, Environmental Plus, Inc. (EPI) hauled approximately 130 cubic yards of oil saturated soil from the site. The soil was taken to the EPI land farm located in Eunice, New Mexico. Waste manifests are provided in Appendix C.

On August 8 and 9, 2005, Basin Environmental, working in conjunction with Terracon, commenced excavation of impacted soil from the source area and caliche road. The impacted soil excavated at the source area was approximately 22 feet wide, 34 feet long and 8 feet below ground surface (bgs). The western excavation was approximately 18 feet wide, 80 feet long and 10 feet bgs. The caliche road was excavated approximately 20 feet wide, 300 feet long and 2 feet bgs. Approximately 1,200 cubic yards of impacted soil was stockpiled onsite for remediation. A 30 feet wide, 250 feet long and 2 feet bgs temporary road was built, south of the excavations, to be utilized for blending material and to detour the lease road traffic. Approximately 555 cubic yards of ambient soil from the surrounding area was excavated and blended to assist in the remediation and aeration of the impacted soil (See Figure 2 Site Map).

On August 15 and 16, 2005, four stockpile samples, 8 caliche road samples, and 10 excavation confirmation samples were collected and analyzed for TPH and benzene, toluene, ethylbenzene, xylenes (BTEX) to ensure the NMOCD remediation action levels of 10 mg/kg benzene, 50 mg/kg total BTEX, and 1,000 mg/kg TPH had been achieved. Analytical results from two of the blended stockpile soil samples and one road sample indicated the TPH concentrations exceeded the NMOCD standard of 1,000 mg/kg TPH. The blended material was further aerated and three more soil samples from the stockpile and a road were collected on August 23, 2005, to evaluate the TPH concentrations. Laboratory results of the three samples were below the NMOCD standard of 1,000 mg/kg TPH. One blended stockpile TPH analytical result indicated a TPH concentration of 1,230 mg/kg. The NMOCD gave authorization to backfill the site on August 24, 2005 based on this data.

The site excavation was backfilled with the blended soil and was restored, as near possible to the natural grade of the surrounding area on August 26 and 27, 2005.

## **2.2 Soil Sampling**

Terracon's soil sampling program included the collection of 19 confirmation soil samples from the impacted area and six confirmation soil samples of the blended material utilized for backfill on August 23, 2005. The soil samples were analyzed for TPH using EPA method 8015 modified and BTEX using EPA method 8021 B.

The soil samples collected were placed in laboratory prepared glassware, sealed with custody tape and placed on ice in a cooler which was secured with a custody seal. The sample and completed chain-of-custody form was relinquished to Environmental Lab of Texas in Odessa, Texas for analysis. The executed chain-of-custody forms, laboratory data sheets are provided in Appendix B.

## **3.0 DATA EVALUATION**

Nineteen confirmation soil samples were collected from each side wall and floor in the east and west excavated areas and caliche road and six confirmation soil samples were collected from the stockpiled material. The laboratory results from the excavation confirmation samples and stockpiled soil samples subsequent to remediation and aeration indicated BTEX concentrations below the NMOCD remediation action levels of 10 mg/kg benzene and 50 mg/kg total BTEX. The TPH concentrations of the confirmation and stockpiled soil samples were below or near the NMOCD standard for the site 1,000 mg/kg. One stockpile sample indicated a TPH concentration of 1,230 mg/kg. The NMOCD granted authorization to backfill the excavation on August 24, 2005 based on this data. The laboratory results are presented in Appendix B, Table 1.

**Closure Compliance Report  
Shafter Lake 8" WTI  
Plains Pipeline # 2003-00145  
Terracon Project #94057171  
October 14, 2005**

**Terracon**

#### **4.0 FINDINGS AND CONCLUSIONS**

Terracon respectfully submits this closure compliance report on behalf of Plains Pipeline, L.P. documenting the site remediation and closure activities. Based on results of our field activities and laboratory analyses, the NMOCD approved backfilling and site restoration activities. If the New Mexico Oil Conservation Division is in agreement with this recommendation, Plains Pipeline, L.P. requests a "no further action" letter for this site.



Plains Pipeline, L.P.  
Shafter Lake 8"  
EMS #2003-00145  
Terracon Project #94057171  
October 14, 2005

**Terracon**

**DISTRIBUTION LIST**

**New Mexico Oil Conservation Division**

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**Plains Pipeline, L.P.**

Daniel Bryant - Remediation Coordinator                      432-686-1769                      [dmbryant@paalp.com](mailto:dmbryant@paalp.com)  
Jeff Dann – Senior Environmental Specialist                      713-646-4657                      [jpdann@paalp.com](mailto:jpdann@paalp.com)

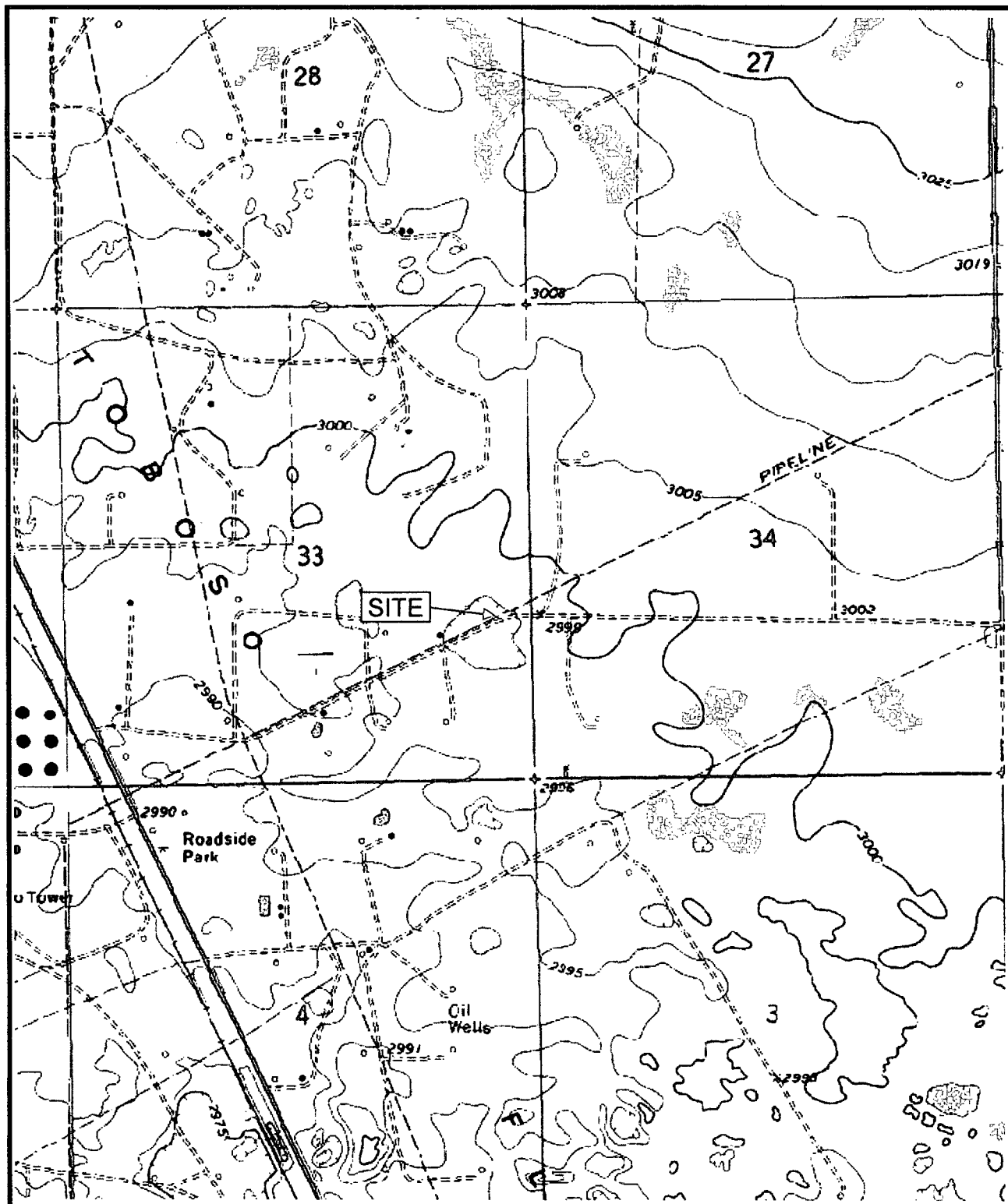
**Terracon**

Clay McDonald – Environmental Manager                      432-684-9600                      [camcdonald@terracon.com](mailto:camcdonald@terracon.com)  
Shanna Smith - Project Manager                      432-684-9600                      [slsmith@terracon.com](mailto:slsmith@terracon.com)

## **APPENDIX A**

**Figure 1 – Topographic Map**

**Figure 2 – Site Plan and Confirmation Sample Location Map**



**USGS TOPOGRAPHIC QUADRANGLE MAP**

Jal, New Mexico

Dated 1977

SCALE: 1" = 2000'

PROJECT NO. 94057171

**Terracon**



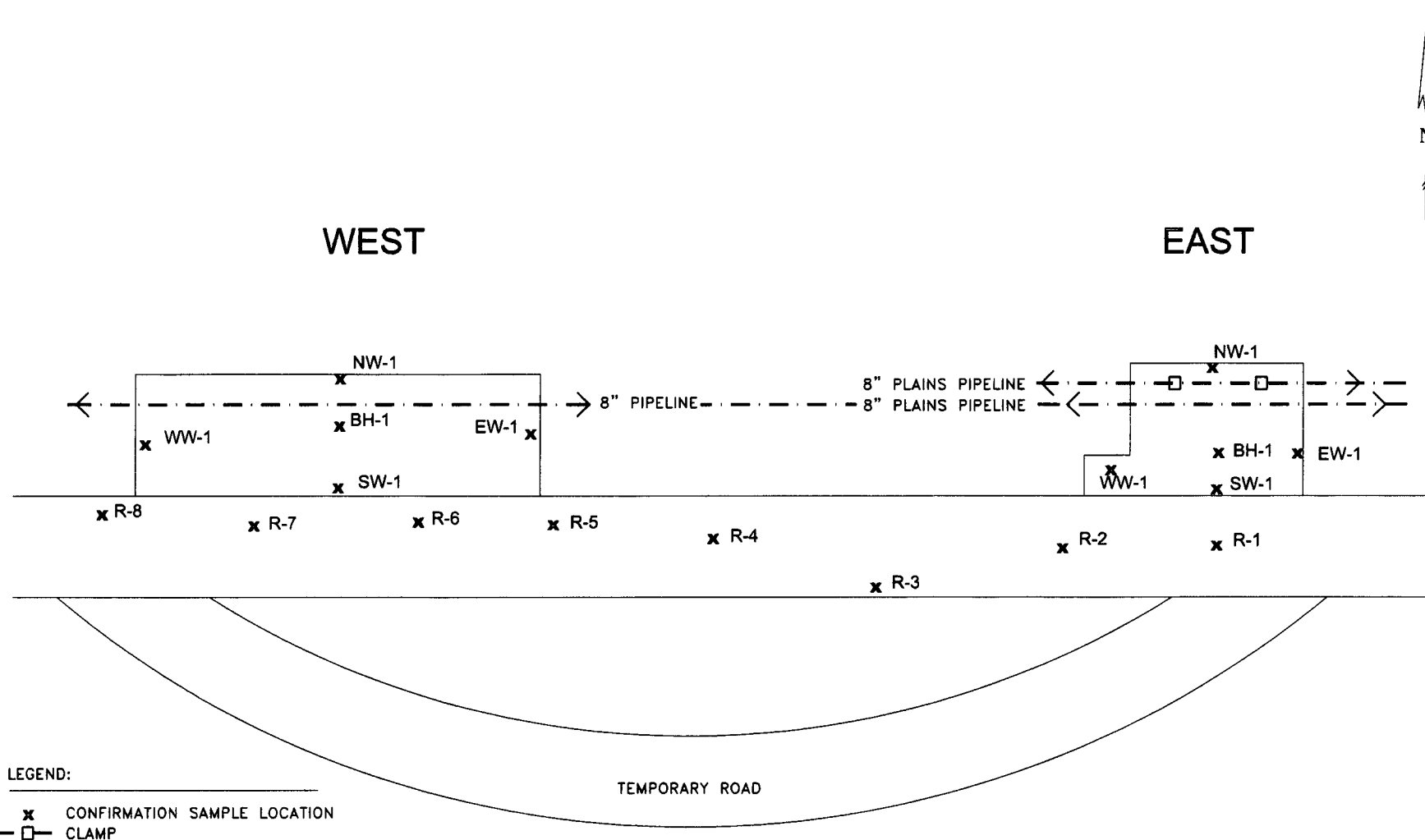
**Shafter Lake 8"**

UL-1 NE ¼ of the SE ¼ of Sect. 33 T25S R37E

Jal, Lea County, New Mexico

EMS# 2003-00145

**FIGURE 1: TOPOGRAPHIC MAP**



THIS DRAWING SHOULD  
NOT BE USED SEPARATELY  
FROM ORIGINAL REPORT.

0 15 30 FEET  
APPROXIMATE SCALE

PLAINS PIPELINE  
SHAFTER LAKE 8"  
EMS #2003-00145

**FIGURE 2: SITE PLAN and CONFIRMATION  
SAMPLE LOCATION PLAN**

## **APPENDIX B**

**Analytical Summary Tables**  
**Laboratory Data Sheets**  
**Laboratory Chain of Custody Documents**

Table 1

## CONCENTRATIONS OF TPH &amp; BTEX IN SOIL

Plains Pipeline, L.P.

Shafter Lake 8"

UL -I, NE 1/4 of SE 1/4 Sec 33, T25S, R37E

2.5 Miles South of Jal, Lea County, New Mexico

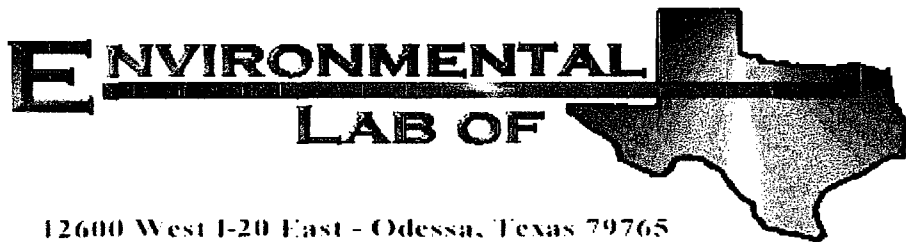
Plains Pipeline Leak Number 2003-00145

Terracon Project Number 94057171

All concentrations are in mg/kg

SAMPLE DATE	SAMPLE LOCATION	EPA 8015 modified			EPA Method 8021B					
		TPH C <sub>6</sub> -C <sub>12</sub>	TPH >C <sub>12</sub> -C <sub>35</sub>	TPH C <sub>6</sub> -C <sub>35</sub>	BENZENE	TOLUENE	ETHYL- BENZENE	M,P- XYLENES	O- XYLENES	BTEX
03/21/05	DSW-1 2'	457	9940	<b>10400</b>						
	DSW-1 5'	<10.0	<10.0	<10.0						
	DM-1 5'	<10.0	<10.0	<10.0						
	DM-1 10'	<10.0	<10.0	<10.0						
	DNW-1 5'	<10.0	<10.0	<10.0						
	DR-1 2'	<10.0	<10.0	<10.0						
	DR-1 4'	<10.0	<10.0	<10.0						
	DR-2 4'	9.8	26.8	26.8						
	DR-3 2'	<10.0	<10.0	<10.0						
	DR-4 3'	<10.0	<10.0	<10.0						
08/15/05	East NW-1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	East WW-1	<10.0	42.2	42.2	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	East SW-1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	East EW-1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	East BH-1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	R-1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	R-2	89.1	407	496	<0.025	0.0303	0.0404	0.0775	0.0574	0.2056
	R-3	121	1160	<b>1280</b>	<0.025	<0.025	<0.025	0.0236	<0.026	0.0236
	R-4	126	399	525	0.0983	0.129	0.255	0.347	0.0669	0.8962
	R-5	12.3	212	224	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	R-6	29.5	169	199	0.00993	0.0225	0.0362	0.0985	0.0227	0.18983
	R-7	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	R-8	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	0.048	<0.025	0.048
	West WW-1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	West NW-1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	West SW-1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	West BH-1	98	383	481	<0.025	0.0504	0.0547	0.111	0.0677	0.2838
	West EW-1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
08/16/05	SP-1	176	1090	<b>1270</b>	<0.025	0.0191	0.0373	0.0625	0.0379	0.1568
	SP-2	56.7	346	403	<0.025	0.0152	0.0274	0.552	0.0347	0.6293
	SP-3	61.5	444	505	<0.025	<0.025	<0.025	0.0284	<0.025	0.0284
	SP-4	191	1120	<b>1310</b>	<0.025	0.0315	0.0464	0.0831	0.0866	0.2476
08/23/05	R-3A	28.7	252	281	<0.025	0.0292	0.0177	0.0558	0.0171	0.1198
	SP-1A	141	1090	<b>1230</b>	<0.025	0.0107	0.0215	0.0498	<0.025	0.082
	SP-4A	111	890	1000	<0.05	<0.025	0.0182	0.0365	0.0189	0.0736

CONCENTRATIONS IN BOLD ARE ABOVE REGULATORY LIMITS



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Daniel Bryant

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Shafter Lake 8inch

Project Number: 94057171

Location: None Given

Lab Order Number: 5C22001

Report Date: 03/29/05

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

Project: Shafter Lake 8inch  
Project Number: 94057171  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
03/29/05 15:35

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DSW-1 2'	5C22001-01	Soil	03/21/05 07:50	03/22/05 08:09
DSW-1 5'	5C22001-02	Soil	03/21/05 07:54	03/22/05 08:09
DM-1 5'	5C22001-03	Soil	03/21/05 08:02	03/22/05 08:09
DM-1 10'	5C22001-04	Soil	03/21/05 08:14	03/22/05 08:09
DNW-1 5'	5C22001-05	Soil	03/21/05 08:24	03/22/05 08:09
DR-1 2'	5C22001-06	Soil	03/21/05 10:21	03/22/05 08:09
DR-1 4'	5C22001-07	Soil	03/21/05 10:24	03/22/05 08:09
DR-2 4'	5C22001-08	Soil	03/21/05 10:39	03/22/05 08:09
DR-3 2'	5C22001-09	Soil	03/21/05 11:16	03/22/05 08:09
DR-4 3'	5C22001-10	Soil	03/21/05 11:26	03/22/05 08:09



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

Project: Shafter Lake 8inch  
Project Number: 94057171  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
03/29/05 15:35

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>DSW-1 2' (5C22001-01) Soil</b>									
Gasoline Range Organics C6-C12	457	50.0	mg/kg dry	5	EC52310	03/23/05	03/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	9940	50.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	10400	50.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		17.9 %	67.6-140		"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		23.8 %	70-130		"	"	"	"	S-06
<b>DSW-1 5' (5C22001-02) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC52310	03/23/05	03/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		96.4 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	70-130		"	"	"	"	
<b>DM-1 5' (5C22001-03) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC52310	03/23/05	03/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		113 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		125 %	70-130		"	"	"	"	
<b>DM-1 10' (5C22001-04) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC52310	03/23/05	03/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		104 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		110 %	70-130		"	"	"	"	
<b>DNW-1 5' (5C22001-05) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC52310	03/23/05	03/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		92.2 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		101 %	70-130		"	"	"	"	

Environmental Lab of Texas

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

Page 2 of 7

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

Project: Shafter Lake 8inch  
Project Number: 94057171  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
03/29/05 15:35

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>DR-1 2' (5C22001-06) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC52310	03/23/05	03/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		93.0 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		97.2 %	70-130		"	"	"	"	
<b>DR-1 4' (5C22001-07) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC52310	03/23/05	03/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		107 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		120 %	70-130		"	"	"	"	
<b>DR-2 4' (5C22001-08) Soil</b>									
Gasoline Range Organics C6-C12	J [9.80]	10.0	mg/kg dry	1	EC52310	03/23/05	03/24/05	EPA 8015M	J
Diesel Range Organics >C12-C35	26.8	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	26.8	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		111 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		113 %	70-130		"	"	"	"	
<b>DR-3 2' (5C22001-09) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC52310	03/23/05	03/25/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		108 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		124 %	70-130		"	"	"	"	
<b>DR-4 3' (5C22001-10) Soil</b>									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC52310	03/23/05	03/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		80.6 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		88.0 %	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: Shafter Lake 8inch  
Project Number: 94057171  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
03/29/05 15:35

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>DSW-1 2' (5C22001-01) Soil</b>									
% Moisture	0.9	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	
<b>DSW-1 5' (5C22001-02) Soil</b>									
% Moisture	10.0	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	
<b>DM-1 5' (5C22001-03) Soil</b>									
% Moisture	6.1	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	
<b>DM-1 10' (5C22001-04) Soil</b>									
% Moisture	8.5	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	
<b>DNW-1 5' (5C22001-05) Soil</b>									
% Moisture	10.6	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	
<b>DR-1 2' (5C22001-06) Soil</b>									
% Moisture	3.8	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	
<b>DR-1 4' (5C22001-07) Soil</b>									
% Moisture	6.6	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	
<b>DR-2 4' (5C22001-08) Soil</b>									
% Moisture	11.7	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	
<b>DR-3 2' (5C22001-09) Soil</b>									
% Moisture	9.6	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	
<b>DR-4 3' (5C22001-10) Soil</b>									
% Moisture	1.2	0.1	%	1	EC52305	03/22/05	03/23/05	% calculation	

Environmental Lab of Texas

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

Project: Shafter Lake 8inch  
Project Number: 94057171  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
03/29/05 15:35

**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 EC52310 - Solvent Extraction (GC)**

**Blank (EC52310-BLK1)**

Prepared: 03/23/05 Analyzed: 03/24/05

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	37.3		mg/kg	50.0		74.6	67.6-140			
Surrogate: 1-Chlorooctadecane	36.5		"	50.0		73.0	70-130			

**LCS (EC52310-BS1)**

Prepared: 03/23/05 Analyzed: 03/24/05

Gasoline Range Organics C6-C12	447	10.0	mg/kg wet	500		89.4	76.3-104			
Diesel Range Organics >C12-C35	503	10.0	"	500		101	76.1-118			
Total Hydrocarbon C6-C35	950	10.0	"	1000		95.0	81.8-105			
Surrogate: 1-Chlorooctane	42.1		mg/kg	50.0		84.2	67.6-140			
Surrogate: 1-Chlorooctadecane	42.1		"	50.0		84.2	70-130			

**Calibration Check (EC52310-CCV1)**

Prepared: 03/23/05 Analyzed: 03/24/05

Gasoline Range Organics C6-C12	507		mg/kg	500		101	80-120			
Diesel Range Organics >C12-C35	511		"	500		102	80-120			
Total Hydrocarbon C6-C35	1020		"	1000		102	80-120			
Surrogate: 1-Chlorooctane	37.4		"	50.0		74.8	67.6-140			
Surrogate: 1-Chlorooctadecane	37.9		"	50.0		75.8	70-130			

**Matrix Spike (EC52310-MS1)**

Source: 5C21022-02

Prepared: 03/23/05 Analyzed: 03/24/05

Gasoline Range Organics C6-C12	512	10.0	mg/kg dry	526	ND	97.3	75.9-114			
Diesel Range Organics >C12-C35	556	10.0	"	526	ND	106	85.3-122			
Total Hydrocarbon C6-C35	1070	10.0	"	1050	ND	102	84.4-115			
Surrogate: 1-Chlorooctane	50.1		mg/kg	50.0		100	67.6-140			
Surrogate: 1-Chlorooctadecane	52.4		"	50.0		105	70-130			

**Matrix Spike Dup (EC52310-MSD1)**

Source: 5C21022-02

Prepared: 03/23/05 Analyzed: 03/24/05

Gasoline Range Organics C6-C12	520	10.0	mg/kg dry	526	ND	98.9	75.9-114	1.55	10.4	
Diesel Range Organics >C12-C35	571	10.0	"	526	ND	109	85.3-122	2.66	10.4	
Total Hydrocarbon C6-C35	1090	10.0	"	1050	ND	104	84.4-115	1.85	7.6	
Surrogate: 1-Chlorooctane	53.4		mg/kg	50.0		107	67.6-140			
Surrogate: 1-Chlorooctadecane	53.5		"	50.0		107	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: Shafter Lake 8inch  
Project Number: 94057171  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
03/29/05 15:35

**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 EC52305 - General Preparation (Prep)**

**Blank (EC52305-BLK1)**

Prepared: 03/22/05 Analyzed: 03/23/05

% Moisture	ND	0.1	%							
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**Duplicate (EC52305-DUP1)**

Source: 5C21021-01

Prepared: 03/22/05 Analyzed: 03/23/05

% Moisture	20.0	0.1	%		19.0			5.13	20	
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Environmental Lab of Texas

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Page 6 of 7

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

Project: Shafter Lake 8inch  
Project Number: 94057171  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
03/29/05 15:35

### Notes and Definitions

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

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:

3/29/2005

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

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

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Environmental Lab of Texas

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

Client: Plains Pipeline

Date/Time: 3/22/05 8:15

Order #: 5022001

Initials: CK

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	0.5	C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	No		
Custody Seals intact on shipping container/cooler?	Yes	No	<del>Not present</del>	
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/>	No	Not present	
Chain of custody present?	<input checked="" type="checkbox"/>	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	No		
Container labels legible and intact?	<input checked="" type="checkbox"/>	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	No		
Samples properly preserved?	<input checked="" type="checkbox"/>	No		
Sample bottles intact?	<input checked="" type="checkbox"/>	No		
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	No		
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No		
VOC samples have zero headspace?	<input checked="" 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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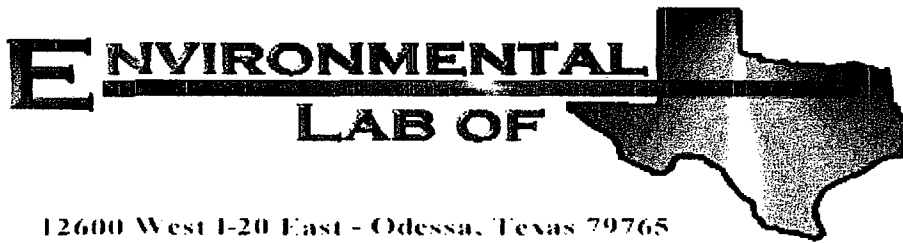


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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Daniel Bryant

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Shafter Lake 8 inch

Project Number: 2003-00145

Location: None Given

Lab Order Number: 5H16001

Report Date: 08/22/05

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
East NW-1	5H16001-01	Soil	08/15/05 08:45	08/16/05 08:50
East WW-1	5H16001-02	Soil	08/15/05 08:50	08/16/05 08:50
East SW-1	5H16001-03	Soil	08/15/05 08:55	08/16/05 08:50
East EW-1	5H16001-04	Soil	08/15/05 09:00	08/16/05 08:50
East BH-1	5H16001-05	Soil	08/15/05 09:05	08/16/05 08:50
R-1	5H16001-06	Soil	08/15/05 09:41	08/16/05 08:50
R-2	5H16001-07	Soil	08/15/05 09:45	08/16/05 08:50
R-3	5H16001-08	Soil	08/15/05 09:48	08/16/05 08:50
R-4	5H16001-09	Soil	08/15/05 09:53	08/16/05 08:50
R-5	5H16001-10	Soil	08/15/05 09:57	08/16/05 08:50
R-6	5H16001-11	Soil	08/15/05 10:01	08/16/05 08:50
R-7	5H16001-12	Soil	08/15/05 10:04	08/16/05 08:50
R-8	5H16001-13	Soil	08/15/05 10:07	08/16/05 08:50
West WW-1	5H16001-14	Soil	08/15/05 15:11	08/16/05 08:50
West NW-1	5H16001-15	Soil	08/15/05 15:13	08/16/05 08:50
West SW-1	5H16001-16	Soil	08/15/05 15:14	08/16/05 08:50
West BH-1	5H16001-17	Soil	08/15/05 15:16	08/16/05 08:50
West EW-1	5H16001-18	Soil	08/15/05 15:17	08/16/05 08:50

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>East NW-1 (SH16001-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/17/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		<b>94.8 %</b>	<b>80-120</b>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<b>109 %</b>	<b>80-120</b>		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		<b>101 %</b>	<b>70-130</b>		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		<b>114 %</b>	<b>70-130</b>		"	"	"	"	
<b>East WW-1 (SH16001-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/17/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		<b>90.2 %</b>	<b>80-120</b>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<b>101 %</b>	<b>80-120</b>		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>42.2</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>42.2</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		<b>103 %</b>	<b>70-130</b>		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		<b>115 %</b>	<b>70-130</b>		"	"	"	"	
<b>East SW-1 (SH16001-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/17/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		<b>91.6 %</b>	<b>80-120</b>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<b>98.5 %</b>	<b>80-120</b>		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>East SW-1 (5H16001-03) Soil</b>									
Surrogate: 1-Chlorooctane		83.0 %	70-130		EH51606	08/16/05	08/16/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		113 %	70-130		"	"	"	"	
<b>East EW-1 (5H16001-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/17/05	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		91.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		97.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		110 %	70-130		"	"	"	"	
<b>East BH-1 (5H16001-05) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/18/05	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		104 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		93.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		106 %	70-130		"	"	"	"	

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R-1 (5H16001-06) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/17/05	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		85.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		105 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		115 %	70-130		"	"	"	"	
<b>R-2 (5H16001-07) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/18/05	EPA 8021B	
Toluene	0.0303	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0404	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0775	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0574	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		84.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	89.1	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	407	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	496	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		101 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		128 %	70-130		"	"	"	"	
<b>R-3 (5H16001-08) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/18/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	J [0.0236]	0.0250	"	"	"	"	"	"	J
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		90.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	121	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	1160	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1280	10.0	"	"	"	"	"	"	

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R-3 (5H16001-08) Soil</b>									
Surrogate: 1-Chlorooctane		104 %	70-130		EH51606	08/16/05	08/16/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		129 %	70-130		"	"	"	"	
<b>R-4 (5H16001-09) Soil</b>									
Benzene	0.0983	0.0250	mg/kg dry	25	EH51802	08/17/05	08/18/05	EPA 8021B	
Toluene	0.129	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.255	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.347	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0669	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		85.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	126	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	399	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	525	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		110 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		130 %	70-130		"	"	"	"	
<b>R-5 (5H16001-10) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/18/05	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		99.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	12.3	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	212	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	224	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		101 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		127 %	70-130		"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R-6 (5H16001-11) Soil</b>									
Benzene	J [0.00993]	0.0250	mg/kg dry	25	EH51802	08/17/05	08/18/05	EPA 8021B	J
Toluene	J [0.0225]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	0.0362	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0985	0.0250	"	"	"	"	"	"	
Xylene (o)	J [0.0227]	0.0250	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		82.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	29.5	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	169	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	199	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		112 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		129 %	70-130		"	"	"	"	
<b>R-7 (5H16001-12) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/18/05	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		103 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		98.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		125 %	70-130		"	"	"	"	
<b>R-8 (5H16001-13) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/18/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0480	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R-8 (5H16001-13) Soil</b>									
Surrogate: 1-Chlorooctane		104 %	70-130		EH51606	08/16/05	08/16/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		128 %	70-130		"	"	"	"	
<b>West WW-1 (5H16001-14) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51802	08/17/05	08/18/05	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		93.8 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		94.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		129 %	70-130		"	"	"	"	
<b>West NW-1 (5H16001-15) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51803	08/18/05	08/18/05	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		106 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		91.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		124 %	70-130		"	"	"	"	



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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>West SW-1 (5H16001-16) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51803	08/18/05	08/18/05	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		100 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		90.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		125 %	70-130		"	"	"	"	
<b>West BH-1 (5H16001-17) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51803	08/18/05	08/18/05	EPA 8021B	
Toluene	0.0504	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0547	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.111	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0677	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	98.0	10.0	mg/kg dry	1	EH51606	08/16/05	08/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	383	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	481	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		107 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		126 %	70-130		"	"	"	"	
<b>West EW-1 (5H16001-18) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51803	08/18/05	08/18/05	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		89.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.5 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EH51607	08/16/05	08/17/05	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914  
**Reported:**  
08/22/05 08:17

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>West EW-1 (SH16001-18) Soil</b>									
Surrogate: 1-Chlorooctane		101 %	70-130		EH51607	08/16/05	08/17/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		112 %	70-130		"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>East NW-1 (5H16001-01) Soil</b>									
% Moisture	13.3	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>East WW-1 (5H16001-02) Soil</b>									
% Moisture	15.8	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>East SW-1 (5H16001-03) Soil</b>									
% Moisture	17.5	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>East EW-1 (5H16001-04) Soil</b>									
% Moisture	22.0	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>East BH-1 (5H16001-05) Soil</b>									
% Moisture	11.6	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>R-1 (5H16001-06) Soil</b>									
% Moisture	13.5	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>R-2 (5H16001-07) Soil</b>									
% Moisture	10.8	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>R-3 (5H16001-08) Soil</b>									
% Moisture	14.7	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>R-4 (5H16001-09) Soil</b>									
% Moisture	9.8	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>R-5 (5H16001-10) Soil</b>									
% Moisture	12.4	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>R-6 (5H16001-11) Soil</b>									
% Moisture	10.8	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R-7 (5H16001-12) Soil</b>									
% Moisture	18.2	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>R-8 (5H16001-13) Soil</b>									
% Moisture	16.1	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>West WW-1 (5H16001-14) Soil</b>									
% Moisture	6.7	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>West NW-1 (5H16001-15) Soil</b>									
% Moisture	9.2	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>West SW-1 (5H16001-16) Soil</b>									
% Moisture	5.7	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>West BH-1 (5H16001-17) Soil</b>									
% Moisture	7.2	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	
<b>West EW-1 (5H16001-18) Soil</b>									
% Moisture	6.6	0.1	%	1	EH51703	08/16/05	08/17/05	% calculation	

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EH51606 - Solvent Extraction (GC)**

**Blank (EH51606-BLK1)**

Prepared & Analyzed: 08/16/05

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	49.3		mg/kg	50.0		98.6	70-130			
Surrogate: 1-Chlorooctadecane	57.8		"	50.0		116	70-130			

**LCS (EH51606-BS1)**

Prepared & Analyzed: 08/16/05

Gasoline Range Organics C6-C12	435	10.0	mg/kg wet	500		87.0	75-125			
Diesel Range Organics >C12-C35	448	10.0	"	500		89.6	75-125			
Total Hydrocarbon C6-C35	883	10.0	"	1000		88.3	75-125			
Surrogate: 1-Chlorooctane	51.0		mg/kg	50.0		102	70-130			
Surrogate: 1-Chlorooctadecane	55.8		"	50.0		112	70-130			

**Calibration Check (EH51606-CCV1)**

Prepared: 08/16/05 Analyzed: 08/17/05

Gasoline Range Organics C6-C12	414		mg/kg	500		82.8	80-120			
Diesel Range Organics >C12-C35	487		"	500		97.4	80-120			
Total Hydrocarbon C6-C35	901		"	1000		90.1	80-120			
Surrogate: 1-Chlorooctane	49.6		"	50.0		99.2	0-200			
Surrogate: 1-Chlorooctadecane	57.4		"	50.0		115	0-200			

**Matrix Spike (EH51606-MS1)**

Source: 5H16001-01

Prepared & Analyzed: 08/16/05

Gasoline Range Organics C6-C12	476	10.0	mg/kg dry	577	ND	82.5	75-125			
Diesel Range Organics >C12-C35	516	10.0	"	577	ND	89.4	75-125			
Total Hydrocarbon C6-C35	992	10.0	"	1150	ND	86.3	75-125			
Surrogate: 1-Chlorooctane	54.1		mg/kg	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	60.4		"	50.0		121	70-130			

**Matrix Spike Dup (EH51606-MSD1)**

Source: 5H16001-01

Prepared & Analyzed: 08/16/05

Gasoline Range Organics C6-C12	486	10.0	mg/kg dry	577	ND	84.2	75-125	2.08	20	
Diesel Range Organics >C12-C35	537	10.0	"	577	ND	93.1	75-125	3.99	20	
Total Hydrocarbon C6-C35	1020	10.0	"	1150	ND	88.7	75-125	2.78	20	
Surrogate: 1-Chlorooctane	54.9		mg/kg	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	59.8		"	50.0		120	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

**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 EH51607 - Solvent Extraction (GC)**

**Blank (EH51607-BLK1)**

Prepared: 08/16/05 Analyzed: 08/17/05

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	46.6		mg/kg	50.0		93.2	70-130			
Surrogate: 1-Chlorooctadecane	60.0		"	50.0		120	70-130			

**LCS (EH51607-BS1)**

Prepared: 08/16/05 Analyzed: 08/17/05

Gasoline Range Organics C6-C12	441	10.0	mg/kg wet	500		88.2	75-125			
Diesel Range Organics >C12-C35	490	10.0	"	500		98.0	75-125			
Total Hydrocarbon C6-C35	931	10.0	"	1000		93.1	75-125			
Surrogate: 1-Chlorooctane	52.3		mg/kg	50.0		105	70-130			
Surrogate: 1-Chlorooctadecane	60.9		"	50.0		122	70-130			

**Calibration Check (EH51607-CCV1)**

Prepared: 08/16/05 Analyzed: 08/17/05

Gasoline Range Organics C6-C12	414		mg/kg	500		82.8	80-120			
Diesel Range Organics >C12-C35	484		"	500		96.8	80-120			
Total Hydrocarbon C6-C35	898		"	1000		89.8	80-120			
Surrogate: 1-Chlorooctane	51.7		"	50.0		103	0-200			
Surrogate: 1-Chlorooctadecane	57.5		"	50.0		115	0-200			

**Matrix Spike (EH51607-MS1)**

Source: 5H16001-18

Prepared: 08/16/05 Analyzed: 08/17/05

Gasoline Range Organics C6-C12	477	10.0	mg/kg dry	535	ND	89.2	75-125			
Diesel Range Organics >C12-C35	475	10.0	"	535	ND	88.8	75-125			
Total Hydrocarbon C6-C35	952	10.0	"	1070	ND	89.0	75-125			
Surrogate: 1-Chlorooctane	55.1		mg/kg	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	61.4		"	50.0		123	70-130			

**Matrix Spike Dup (EH51607-MSD1)**

Source: 5H16001-18

Prepared: 08/16/05 Analyzed: 08/17/05

Gasoline Range Organics C6-C12	425	10.0	mg/kg dry	535	ND	79.4	75-125	11.5	20	
Diesel Range Organics >C12-C35	460	10.0	"	535	ND	86.0	75-125	3.21	20	
Total Hydrocarbon C6-C35	885	10.0	"	1070	ND	82.7	75-125	7.29	20	
Surrogate: 1-Chlorooctane	54.0		mg/kg	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	57.5		"	50.0		115	70-130			

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

**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 EH51802 - EPA 5030C (GC)**

**Blank (EH51802-BLK1)**

Prepared: 08/17/05 Analyzed: 08/18/05

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	105		ug/kg	100		105	80-120			
Surrogate: 4-Bromofluorobenzene	98.1		"	100		98.1	80-120			

**LCS (EH51802-BS1)**

Prepared & Analyzed: 08/17/05

Benzene	100		ug/kg	100		100	80-120			
Toluene	102		"	100		102	80-120			
Ethylbenzene	119		"	100		119	80-120			
Xylene (p/m)	230		"	200		115	80-120			
Xylene (o)	118		"	100		118	80-120			
Surrogate: a,a,a-Trifluorotoluene	101		"	100		101	80-120			
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120			

**Calibration Check (EH51802-CCV1)**

Prepared: 08/17/05 Analyzed: 08/18/05

Benzene	90.0		ug/kg	100		90.0	80-120			
Toluene	88.8		"	100		88.8	80-120			
Ethylbenzene	97.7		"	100		97.7	80-120			
Xylene (p/m)	188		"	200		94.0	80-120			
Xylene (o)	100		"	100		100	80-120			
Surrogate: a,a,a-Trifluorotoluene	86.2		"	100		86.2	0-200			
Surrogate: 4-Bromofluorobenzene	92.1		"	100		92.1	0-200			

**Matrix Spike (EH51802-MS1)**

Source: 5H16001-14

Prepared: 08/17/05 Analyzed: 08/18/05

Benzene	100		ug/kg	100	ND	100	80-120			
Toluene	100		"	100	ND	100	80-120			
Ethylbenzene	115		"	100	ND	115	80-120			
Xylene (p/m)	221		"	200	ND	110	80-120			
Xylene (o)	116		"	100	ND	116	80-120			
Surrogate: a,a,a-Trifluorotoluene	91.7		"	100		91.7	80-120			
Surrogate: 4-Bromofluorobenzene	114		"	100		114	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

**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 EH51802 - EPA 5030C (GC)**

**Matrix Spike Dup (EH51802-MSD1)**

Source: 5H16001-14

Prepared: 08/17/05 Analyzed: 08/18/05

Benzene	93.5		ug/kg	100	ND	93.5	80-120	6.72	20	
Toluene	93.6		"	100	ND	93.6	80-120	6.61	20	
Ethylbenzene	102		"	100	ND	102	80-120	12.0	20	
Xylene (p/m)	196		"	200	ND	98.0	80-120	11.5	20	
Xylene (o)	101		"	100	ND	101	80-120	13.8	20	
Surrogate: a,a,a-Trifluorotoluene	84.4		"	100		84.4	80-120			
Surrogate: 4-Bromofluorobenzene	96.0		"	100		96.0	80-120			

**Batch EH51803 - EPA 5030C (GC)**

**Blank (EH51803-BLK1)**

Prepared & Analyzed: 08/18/05

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	94.9		ug/kg	100		94.9	80-120			
Surrogate: 4-Bromofluorobenzene	85.7		"	100		85.7	80-120			

**LCS (EH51803-BS1)**

Prepared & Analyzed: 08/18/05

Benzene	107		ug/kg	100		107	80-120			
Toluene	108		"	100		108	80-120			
Ethylbenzene	120		"	100		120	80-120			
Xylene (p/m)	240		"	200		120	80-120			
Xylene (o)	119		"	100		119	80-120			
Surrogate: a,a,a-Trifluorotoluene	100		"	100		100	80-120			
Surrogate: 4-Bromofluorobenzene	112		"	100		112	80-120			



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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

**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 EH51803 - EPA 5030C (GC)**

**Calibration Check (EH51803-CCV1)**

Prepared & Analyzed: 08/18/05

Benzene	85.1		ug/kg	100		85.1	80-120			
Toluene	83.8		"	100		83.8	80-120			
Ethylbenzene	90.3		"	100		90.3	80-120			
Xylene (p/m)	174		"	200		87.0	80-120			
Xylene (o)	90.1		"	100		90.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	83.8		"	100		83.8	0-200			
Surrogate: 4-Bromofluorobenzene	84.5		"	100		84.5	0-200			

**Matrix Spike (EH51803-MS1)**

Source: 5H16001-15

Prepared & Analyzed: 08/18/05

Benzene	91.7		ug/kg	100	ND	91.7	80-120			
Toluene	93.6		"	100	ND	93.6	80-120			
Ethylbenzene	104		"	100	ND	104	80-120			
Xylene (p/m)	202		"	200	ND	101	80-120			
Xylene (o)	101		"	100	ND	101	80-120			
Surrogate: a,a,a-Trifluorotoluene	92.8		"	100		92.8	80-120			
Surrogate: 4-Bromofluorobenzene	98.8		"	100		98.8	80-120			

**Matrix Spike Dup (EH51803-MSD1)**

Source: 5H16001-15

Prepared & Analyzed: 08/18/05

Benzene	90.1		ug/kg	100	ND	90.1	80-120	1.76	20	
Toluene	90.9		"	100	ND	90.9	80-120	2.93	20	
Ethylbenzene	102		"	100	ND	102	80-120	1.94	20	
Xylene (p/m)	199		"	200	ND	99.5	80-120	1.50	20	
Xylene (o)	100		"	100	ND	100	80-120	0.995	20	
Surrogate: a,a,a-Trifluorotoluene	88.0		"	100		88.0	80-120			
Surrogate: 4-Bromofluorobenzene	95.8		"	100		95.8	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EH51703 - General Preparation (Prep)**

**Blank (EH51703-BLK1)**

Prepared: 08/16/05 Analyzed: 08/17/05

% Solids	100		%						
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**Duplicate (EH51703-DUP1)**

Source: 5H16001-01

Prepared: 08/16/05 Analyzed: 08/17/05

% Solids	85.3		%		86.7		1.63	20	
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**Duplicate (EH51703-DUP2)**

Source: 5H16002-03

Prepared: 08/16/05 Analyzed: 08/17/05

% Solids	91.3		%		87.6		4.14	20	
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Plains All American EH & S  
1301 S. County Road 1150  
Midland TX, 79706-4476

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:17

### 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:

*Raland K. Tuttle*

Date:

8/22/2005

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.

# HBC

## Terracon

Consulting Engineers & Scientists

Office Location: MidlandLaboratory: ELoT

Address:

Contact:

Phone:

PO/SO #: 2003-00145Project Manager: Shawna Smith

Sampler's Name

Sampler's Signature

Shawna SmithShawna Smith

Proj. No.	Matrix	Date	Time	C om p	G r a b	Identifying Marks of Sample(s)	Depth ft	Depth in	No/Type of Containers			Lab Sample ID (Lab Use Only)
									VOA	AVG 1 L	P/O ml	
99057171	S	8/15/05	845	X		East NW-1			10			5H16001-01
			880			East W-1						-02
			855			East SW-1						-03
			900			East EW-1						-04
			905			East BH-1						-05
			941			R-1						-06
			945			R-2						-07
			948			R-3						-08
			953			R-4						-09
			957			R-5						-10

Turn around time	Normal	50% Rush	100% Rush	Date	Time	Date	Time	Notes
Relinquished by (Signature)	<u>Shawna Smith</u>			8/16/05	8:50			Plains: Daniel Beyant
Relinquished by (Signature)								
Relinquished by (Signature)								
Relinquished by (Signature)								

Matrix	Container	W - Water	WV - Wastewater	VOA - 40 ml vial	S - Soil	SD - Solid	L - Liquid	A - Air Bag	C - Charcoal tube	SL - sludge	O - Oil

Houston Office	Dallas Office	Fort Worth Office	Austin Office	Atlanta Office
11555 Clay Road, Suite 100 Houston, Texas 77043 (713) 690-8989 Fax (713) 690-8787	8901 Carpenter Freeway, Suite 100 Dallas, Texas 75247 (214) 630-1010 Fax (214) 630-7070	2601 Gravel Drive Fort Worth, Texas 76118 (817) 268-8600 Fax (817) 268-8602	5307 Industrial Oaks Blvd. # 160 Austin, Texas 78735 (512) 442-1122 Fax (512) 442-1181	2855 Premiere Parkway, Suite C Duluth, Georgia 30097 (770) 623-0755 Fax (770) 623-0628



Office Location Middleland

Laboratory: EL&T

Address:

Contact:

Phone:

Project Manager Shawna Smith

PO/ISO #: 2003-00145

Sampler's Name

Sampler's Signature

Shawna Smith

Shawna Smith

Proj. No.		Project Name		No/Type of Containers					Lab Sample ID (Lab Use Only)	
94057171		Shafter Lake 8"		3					5H10001	
Matrix	Date	Time	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AVG 1 L.	250 ml	P/O	
S	8/15/65	1001	R-6						X	X
		1004	R-7							X
		1007	R-8							X
		1511	WEST WW-1							
		1513	WEST NW-1							
		1514	WEST SW-1							
		1516	WEST BH-1							
		1517	WEST EW-1							

# Environmental Lab of Texas

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

Client: Plains

Date/Time: 8/16/05 8:50

Order #: 5H16001

Initials: CR

### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	<u>6.5</u>	<u>C</u>
Shipping container/cooler in good condition?	<u>Yes</u>	No		
Custody Seals intact on shipping container/cooler?	Yes	No	<del>Not present</del>	
Custody Seals intact on sample bottles?	<u>Yes</u>	No	Not present	
Chain of custody present?	<u>Yes</u>	No		
Sample Instructions complete on Chain of Custody?	<u>Yes</u>	No		
Chain of Custody signed when relinquished and received?	<u>Yes</u>	No		
Chain of custody agrees with sample label(s)	<u>Yes</u>	No		
Container labels legible and intact?	<u>Yes</u>	No		
Sample Matrix and properties same as on chain of custody?	<u>Yes</u>	No		
Samples in proper container/bottle?	<u>Yes</u>	No		
Samples properly preserved?	<u>Yes</u>	No		
Sample bottles intact?	<u>Yes</u>	No		
Preservations documented on Chain of Custody?	<u>Yes</u>	No		
Containers documented on Chain of Custody?	<u>Yes</u>	No		
Sufficient sample amount for indicated test?	<u>Yes</u>	No		
All samples received within sufficient hold time?	<u>Yes</u>	No		
VOC samples have zero headspace?	<u>Yes</u>	No	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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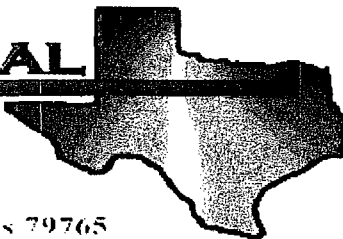


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# ENVIRONMENTAL LAB OF



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Daniel Bryant

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Shafter Lake 8 inch

Project Number: 2003-00145

Location: None Given

Lab Order Number: 5H17001

Report Date: 08/22/05

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

**Reported:**  
08/22/05 08:23

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-1	5H17001-01	Soil	08/16/05 14:15	08/17/05 08:35
SP-2	5H17001-02	Soil	08/16/05 14:20	08/17/05 08:35
SP-3	5H17001-03	Soil	08/16/05 14:25	08/17/05 08:35
SP-4	5H17001-04	Soil	08/16/05 14:35	08/17/05 08:35



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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:23

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP-1 (SH17001-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51803	08/18/05	08/18/05	EPA 8021B	
Toluene	J [0.0191]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	0.0373	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0625	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0379	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.3 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	176	10.0	mg/kg dry	1	EH51717	08/17/05	08/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	1090	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1270	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		86.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		108 %	70-130		"	"	"	"	
<b>SP-2 (SH17001-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51803	08/18/05	08/18/05	EPA 8021B	
Toluene	J [0.0152]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	0.0274	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0552	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0347	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		87.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	56.7	10.0	mg/kg dry	1	EH51717	08/17/05	08/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	346	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	403	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		80.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		105 %	70-130		"	"	"	"	
<b>SP-3 (SH17001-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51803	08/18/05	08/18/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0284	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		88.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	61.5	10.0	mg/kg dry	1	EH51717	08/17/05	08/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	444	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	505	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

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Page 2 of 9

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:23

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP-3 (5H17001-03) Soil</b>									
Surrogate: 1-Chlorooctane		81.4 %	70-130		EH51717	08/17/05	08/17/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		107 %	70-130		"	"	"	"	
<b>SP-4 (5H17001-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH51803	08/18/05	08/18/05	EPA 8021B	
Toluene	0.0315	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0464	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0831	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0866	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		91.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	191	10.0	mg/kg dry	1	EH51717	08/17/05	08/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	1120	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1310	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		84.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

**Reported:**  
08/22/05 08:23

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP-1 (5H17001-01) Soil</b>									
% Moisture	3.4	0.1	%	1	EH51801	08/17/05	08/18/05	% calculation	
<b>SP-2 (5H17001-02) Soil</b>									
% Moisture	25.1	0.1	%	1	EH51801	08/17/05	08/18/05	% calculation	
<b>SP-3 (5H17001-03) Soil</b>									
% Moisture	8.7	0.1	%	1	EH51801	08/17/05	08/18/05	% calculation	
<b>SP-4 (5H17001-04) Soil</b>									
% Moisture	4.6	0.1	%	1	EH51801	08/17/05	08/18/05	% calculation	

Environmental Lab of Texas

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Page 4 of 9

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:23

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

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

**Batch EH51717 - Solvent Extraction (GC)**

**Blank (EH51717-BLK1)**

Prepared & Analyzed: 08/17/05

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	42.9		mg/kg	50.0		85.8	70-130			
Surrogate: 1-Chlorooctadecane	45.5		"	50.0		91.0	70-130			

**LCS (EH51717-BS1)**

Prepared & Analyzed: 08/17/05

Gasoline Range Organics C6-C12	461	10.0	mg/kg wet	500		92.2	75-125			
Diesel Range Organics >C12-C35	488	10.0	"	500		97.6	75-125			
Total Hydrocarbon C6-C35	950	10.0	"	1000		95.0	75-125			
Surrogate: 1-Chlorooctane	55.5		mg/kg	50.0		111	70-130			
Surrogate: 1-Chlorooctadecane	63.5		"	50.0		127	70-130			

**Calibration Check (EH51717-CCV1)**

Prepared & Analyzed: 08/17/05

Gasoline Range Organics C6-C12	442		mg/kg	500		88.4	80-120			
Diesel Range Organics >C12-C35	458		"	500		91.6	80-120			
Total Hydrocarbon C6-C35	900		"	1000		90.0	80-120			
Surrogate: 1-Chlorooctane	46.4		"	50.0		92.8	0-200			
Surrogate: 1-Chlorooctadecane	52.7		"	50.0		105	0-200			

**Matrix Spike (EH51717-MS1)**

Source: 5H17001-02

Prepared & Analyzed: 08/17/05

Gasoline Range Organics C6-C12	749	10.0	mg/kg dry	668	56.7	104	75-125			
Diesel Range Organics >C12-C35	1160	10.0	"	668	346	122	75-125			
Total Hydrocarbon C6-C35	1910	10.0	"	1340	403	112	75-125			
Surrogate: 1-Chlorooctane	47.7		mg/kg	50.0		95.4	70-130			
Surrogate: 1-Chlorooctadecane	53.2		"	50.0		106	70-130			

**Matrix Spike Dup (EH51717-MSD1)**

Source: 5H17001-02

Prepared & Analyzed: 08/17/05

Gasoline Range Organics C6-C12	738	10.0	mg/kg dry	668	56.7	102	75-125	1.48	20	
Diesel Range Organics >C12-C35	1150	10.0	"	668	346	120	75-125	0.866	20	
Total Hydrocarbon C6-C35	1890	10.0	"	1340	403	111	75-125	1.05	20	
Surrogate: 1-Chlorooctane	47.5		mg/kg	50.0		95.0	70-130			
Surrogate: 1-Chlorooctadecane	53.4		"	50.0		107	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:23

**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 EH51803 - EPA 5030C (GC)**

**Blank (EH51803-BLK1)**

Prepared & Analyzed: 08/18/05

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	94.9		ug/kg	100		94.9	80-120			
Surrogate: 4-Bromofluorobenzene	85.7		"	100		85.7	80-120			

**LCS (EH51803-BS1)**

Prepared & Analyzed: 08/18/05

Benzene	107		ug/kg	100		107	80-120			
Toluene	108		"	100		108	80-120			
Ethylbenzene	120		"	100		120	80-120			
Xylene (p/m)	240		"	200		120	80-120			
Xylene (o)	119		"	100		119	80-120			
Surrogate: a,a,a-Trifluorotoluene	100		"	100		100	80-120			
Surrogate: 4-Bromofluorobenzene	112		"	100		112	80-120			

**Calibration Check (EH51803-CCV1)**

Prepared & Analyzed: 08/18/05

Benzene	85.1		ug/kg	100		85.1	80-120			
Toluene	83.8		"	100		83.8	80-120			
Ethylbenzene	90.3		"	100		90.3	80-120			
Xylene (p/m)	174		"	200		87.0	80-120			
Xylene (o)	90.1		"	100		90.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	83.8		"	100		83.8	0-200			
Surrogate: 4-Bromofluorobenzene	84.5		"	100		84.5	0-200			

**Matrix Spike (EH51803-MS1)**

Source: 5H16001-15

Prepared & Analyzed: 08/18/05

Benzene	91.7		ug/kg	100	ND	91.7	80-120			
Toluene	93.6		"	100	ND	93.6	80-120			
Ethylbenzene	104		"	100	ND	104	80-120			
Xylene (p/m)	202		"	200	ND	101	80-120			
Xylene (o)	101		"	100	ND	101	80-120			
Surrogate: a,a,a-Trifluorotoluene	92.8		"	100		92.8	80-120			
Surrogate: 4-Bromofluorobenzene	98.8		"	100		98.8	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:23

**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 EH51803 - EPA 5030C (GC)**

**Matrix Spike Dup (EH51803-MSD1)**

**Source: 5H16001-15**

**Prepared & Analyzed: 08/18/05**

Benzene	90.1		ug/kg	100	ND	90.1	80-120	1.76	20	
Toluene	90.9		"	100	ND	90.9	80-120	2.93	20	
Ethylbenzene	102		"	100	ND	102	80-120	1.94	20	
Xylene (p/m)	199		"	200	ND	99.5	80-120	1.50	20	
Xylene (o)	100		"	100	ND	100	80-120	0.995	20	
Surrogate: a,a,a-Trifluorotoluene	88.0		"	100		88.0	80-120			
Surrogate: 4-Bromofluorobenzene	95.8		"	100		95.8	80-120			

Environmental Lab of Texas

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Page 7 of 9

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:23

**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 EH51801 - General Preparation (Prep)**

**Blank (EH51801-BLK1)**

Prepared: 08/17/05 Analyzed: 08/18/05

% Solids	100		%							
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**Duplicate (EH51801-DUP1)**

Source: 5H17001-01

Prepared: 08/17/05 Analyzed: 08/18/05

% Solids	96.7		%		96.6			0.103	20	
----------	------	--	---	--	------	--	--	-------	----	--

Environmental Lab of Texas

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Page 8 of 9

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/22/05 08:23

### 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:

*Raland K. Tuttle*

Date:

8/22/2005

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

Environmental Lab of Texas

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# HBC

## Terracon

Consulting Engineers & Scientists

Office Location Midland TXLaboratory: ELOT

Address: \_\_\_\_\_

Contact: \_\_\_\_\_

Phone: \_\_\_\_\_

PO/ISO #: 2003-00145

Sampler's Signature \_\_\_\_\_

Project Manager Shannon Smith

Sampler's Name \_\_\_\_\_

Brandon Wilson

Proj. No. \_\_\_\_\_

Project Name Shafter Lake 8"No/Type of Containers 4-4oz.Matrix S Date 8/14/05 Time 14:15 Identifying Marks of Sample(s) SP-1Matrix I Date 14:20 Time 14:20 Identifying Marks of Sample(s) SP-2Matrix I Date 14:25 Time 14:25 Identifying Marks of Sample(s) SP-3Matrix I Date 14:35 Time 14:35 Identifying Marks of Sample(s) SP-45H17001  
Lab Sample ID (Lab Use Only)

-01

-02

-03

-04

TPH (8015 max.)  
BTX (8021 B)Lab use only  
Due Date: \_\_\_\_\_Temp. of coolers  
when received (C°): 50

1 2 3 4 5

Page \_\_\_\_\_ of \_\_\_\_\_

ANALYSIS  
REQUESTED

Daniel Bryant w/ Plains

Turn around time ☒ Normal ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature) \_\_\_\_\_

Date: 8/16/05 08:55

Received by (Signature) \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Relinquished by (Signature) \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Received by (Signature) \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Relinquished by (Signature) \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Received by (Signature) \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Relinquished by (Signature) \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Received by (Signature) \_\_\_\_\_

Date: 8/15/05Time: 08:35

Matrix \_\_\_\_\_

Container WW - Wastewater

VOA - 40 ml vial

W - Water

S - Soil

SD - Solid

L - Liquid

250 ml - Glasswide mouth

Air Bag

P/O - Plastic or other

SL - sludge

O - Oil

Houston Office

2314 W. Sam Houston Pkwy N., Suite 107

Houston, Texas 77043

(713) 722-0700 Fax (713) 722-0788

Dallas Office

8901 Carpenter Freeway, Suite 100

Dallas, Texas 75247

(214) 630-1010 Fax (214) 630-7070

Fort Worth Office

2301 E. Loop 820 North

Fort Worth, Texas 76118

(817) 268-8600 Fax (817) 268-8602

Austin Office

3913 Todd Lane, Suite 312

Austin, Texas 78744

(512) 442-1122 Fax (512) 442-1181

Atlanta Office

6621 Ray Circle, Suite 120

Norcross, Georgia 30071

(770) 263-6774 Fax (770) 263-9766

# Environmental Lab of Texas

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

Client: Plains

Date/Time: 8/17/05 8:55

Order #: SH17001

Initials: CK

### Sample Receipt Checklist

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

Other observations:

---



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### Variance Documentation:

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

Corrective Action Taken:

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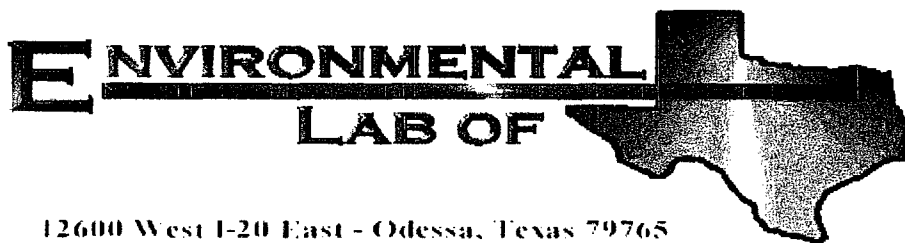
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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Daniel Bryant

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Shafter Lake 8 inch

Project Number: 2003-00145

Location: None Given

Lab Order Number: 5H23015

Report Date: 08/24/05

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

**Reported:**  
08/24/05 14:05

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
R-3A	5H23015-01	Soil	08/23/05 12:44	08/23/05 15:19
SP-1A	5H23015-02	Soil	08/23/05 12:49	08/23/05 15:19
SP-4A	5H23015-03	Soil	08/23/05 12:51	08/23/05 15:19

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/24/05 14:05

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R-3A (5H23015-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH52312	08/23/05	08/23/05	EPA 8021B	
Toluene	0.0292	0.0250	"	"	"	"	"	"	
Ethylbenzene	J [0.0177]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	0.0558	0.0250	"	"	"	"	"	"	
Xylene (o)	J [0.0171]	0.0250	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		85.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	28.7	10.0	mg/kg dry	1	EH52309	08/23/05	08/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	252	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	281	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		97.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		111 %	70-130		"	"	"	"	
<b>SP-1A (5H23015-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH52312	08/23/05	08/23/05	EPA 8021B	
Toluene	J [0.0107]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	J [0.0215]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	0.0498	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		82.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.2 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	141	10.0	mg/kg dry	1	EH52309	08/23/05	08/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	1090	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1230	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		91.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		117 %	70-130		"	"	"	"	
<b>SP-4A (5H23015-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH52312	08/23/05	08/23/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	J [0.0182]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	0.0365	0.0250	"	"	"	"	"	"	
Xylene (o)	J [0.0189]	0.0250	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		84.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	111	10.0	mg/kg dry	1	EH52309	08/23/05	08/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	890	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1000	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/24/05 14:05

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP-4A (5H23015-03) Soil</b>									
Surrogate: 1-Chlorooctane		101 %	70-130		EH52309	08/23/05	08/24/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		114 %	70-130		"	"	"	"	

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/24/05 14:05

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>R-3A (5H23015-01) Soil</b>									
% Moisture	8.4	0.1	%	1	EH52401	08/23/05	08/24/05	% calculation	
<b>SP-1A (5H23015-02) Soil</b>									
% Moisture	4.2	0.1	%	1	EH52401	08/23/05	08/24/05	% calculation	
<b>SP-4A (5H23015-03) Soil</b>									
% Moisture	4.6	0.1	%	1	EH52401	08/23/05	08/24/05	% calculation	

Environmental Lab of Texas

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Page 4 of 9

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/24/05 14:05

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

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

**Batch EH52309 - Solvent Extraction (GC)**

**Blank (EH52309-BLK1)**

Prepared & Analyzed: 08/23/05

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	43.7		mg/kg	50.0		87.4	70-130			
Surrogate: 1-Chlorooctadecane	51.2		"	50.0		102	70-130			

**LCS (EH52309-BS1)**

Prepared & Analyzed: 08/23/05

Gasoline Range Organics C6-C12	394	10.0	mg/kg wet	500		78.8	75-125			
Diesel Range Organics >C12-C35	401	10.0	"	500		80.2	75-125			
Total Hydrocarbon C6-C35	795	10.0	"	1000		79.5	75-125			
Surrogate: 1-Chlorooctane	50.3		mg/kg	50.0		101	70-130			
Surrogate: 1-Chlorooctadecane	52.8		"	50.0		106	70-130			

**Calibration Check (EH52309-CCV1)**

Prepared: 08/23/05 Analyzed: 08/24/05

Gasoline Range Organics C6-C12	433		mg/kg	500		86.6	80-120			
Diesel Range Organics >C12-C35	403		"	500		80.6	80-120			
Total Hydrocarbon C6-C35	836		"	1000		83.6	80-120			
Surrogate: 1-Chlorooctane	55.1		"	50.0		110	0-200			
Surrogate: 1-Chlorooctadecane	55.0		"	50.0		110	0-200			

**Matrix Spike (EH52309-MS1)**

Source: 5H23011-01

Prepared: 08/23/05 Analyzed: 08/24/05

Gasoline Range Organics C6-C12	428	10.0	mg/kg dry	531	9.65	78.8	75-125			
Diesel Range Organics >C12-C35	459	10.0	"	531	55.5	76.0	75-125			
Total Hydrocarbon C6-C35	887	10.0	"	1060	55.5	78.4	75-125			
Surrogate: 1-Chlorooctane	49.5		mg/kg	50.0		99.0	70-130			
Surrogate: 1-Chlorooctadecane	48.5		"	50.0		97.0	70-130			

**Matrix Spike Dup (EH52309-MSD1)**

Source: 5H23011-01

Prepared: 08/23/05 Analyzed: 08/24/05

Gasoline Range Organics C6-C12	450	10.0	mg/kg dry	531	9.65	82.9	75-125	5.01	20	
Diesel Range Organics >C12-C35	459	10.0	"	531	55.5	76.0	75-125	0.00	20	
Total Hydrocarbon C6-C35	909	10.0	"	1060	55.5	80.5	75-125	2.45	20	
Surrogate: 1-Chlorooctane	47.1		mg/kg	50.0		94.2	70-130			
Surrogate: 1-Chlorooctadecane	53.4		"	50.0		107	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/24/05 14:05

**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 EH52312 - EPA 5030C (GC)**

**Blank (EH52312-BLK1)**

Prepared & Analyzed: 08/23/05

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	89.7		ug/kg	100		89.7	80-120			
Surrogate: 4-Bromofluorobenzene	88.2		"	100		88.2	80-120			

**LCS (EH52312-BS1)**

Prepared & Analyzed: 08/23/05

Benzene	89.5		ug/kg	100		89.5	80-120			
Toluene	91.3		"	100		91.3	80-120			
Ethylbenzene	101		"	100		101	80-120			
Xylene (p/m)	197		"	200		98.5	80-120			
Xylene (o)	97.5		"	100		97.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	91.9		"	100		91.9	80-120			
Surrogate: 4-Bromofluorobenzene	91.7		"	100		91.7	80-120			

**Calibration Check (EH52312-CCV1)**

Prepared & Analyzed: 08/23/05

Benzene	82.6		ug/kg	100		82.6	80-120			
Toluene	81.5		"	100		81.5	80-120			
Ethylbenzene	88.1		"	100		88.1	80-120			
Xylene (p/m)	171		"	200		85.5	80-120			
Xylene (o)	89.6		"	100		89.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	80.3		"	100		80.3	0-200			
Surrogate: 4-Bromofluorobenzene	85.0		"	100		85.0	0-200			

**Matrix Spike (EH52312-MS1)**

Source: 5H23015-03

Prepared & Analyzed: 08/23/05

Benzene	2140		ug/kg	2500	ND	85.6	80-120			
Toluene	2240		"	2500	198	81.7	80-120			
Ethylbenzene	2510		"	2500	434	83.0	80-120			
Xylene (p/m)	4960		"	5000	871	81.8	80-120			
Xylene (o)	2490		"	2500	450	81.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	86.1		"	100		86.1	80-120			
Surrogate: 4-Bromofluorobenzene	103		"	100		103	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: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/24/05 14:05

**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 EH52312 - EPA 5030C (GC)**

**Matrix Spike Dup (EH52312-MSD1)**

**Source: 5H23015-03**

**Prepared & Analyzed: 08/23/05**

Benzene	2270		ug/kg	2500	ND	90.8	80-120	5.90	20	
Toluene	2340		"	2500	198	85.7	80-120	4.78	20	
Ethylbenzene	2690		"	2500	434	90.2	80-120	8.31	20	
Xylene (p/m)	5200		"	5000	871	86.6	80-120	5.70	20	
Xylene (o)	2510		"	2500	450	82.4	80-120	0.976	20	
Surrogate: a,a,a-Trifluorotoluene	91.7		"	100		91.7	80-120			
Surrogate: 4-Bromofluorobenzene	115		"	100		115	80-120			

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/24/05 14:05

**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 EH52401 - General Preparation (Prep)**

**Blank (EH52401-BLK1)**

Prepared: 08/23/05 Analyzed: 08/24/05

% Solids	100	%
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**Duplicate (EH52401-DUP1)**

Source: 5H23009-03

Prepared: 08/23/05 Analyzed: 08/24/05

% Solids	99.9	%	99.6	0.301	20
----------	------	---	------	-------	----

**Duplicate (EH52401-DUP2)**

Source: 5H23011-04

Prepared: 08/23/05 Analyzed: 08/24/05

% Solids	90.2	%	90.6	0.442	20
----------	------	---	------	-------	----

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

Project: Shafter Lake 8 inch  
Project Number: 2003-00145  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
08/24/05 14:05

### 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:

*Raland K. Tuttle*

Date:

8/24/2005

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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# Environmental Lab of Texas

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

Client: Plains

Date/Time: 8/23/05 15:20

Order #: 5H23015

Initials: CK

### Sample Receipt Checklist

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

Other observations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Variance Documentation:

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

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

\_\_\_\_\_

\_\_\_\_\_

Corrective Action Taken:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

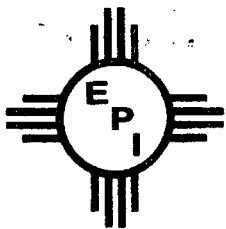
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\_\_\_\_\_

## **APPENDIX C**

### **Waste Manifests**



# ENVIRONMENTAL PLUS, INC.

STATE APPROVED LAND FARM

PHONE (505) 394-3481

P.O. BOX 969

EUNICE, NEW MEXICO 88231

N2 2585

COMPANY NAME Eott

COMPANY REPRESENTATIVE NAME Frank Hernandez

LEASE NAME Spach Lake #3 6503

SEC. - TOWNSHIP - RANGE OR LOCATION Sec 33 T25S R37E

TRUCKING COMPANY NAME EPI

DRIVER'S SIGNATURE [Signature]

TYPE OF MATERIAL AND QUANTITY Contaminated soil 5 loads at 14 yds 20 yds

EXEMPT WASTE FROM OIL & GAS PRODUCTION \_\_\_\_\_

OTHER \_\_\_\_\_ EXPLAIN \_\_\_\_\_

COPY OF ANALYSIS ATTACHED: YES \_\_\_\_\_ NO ✓

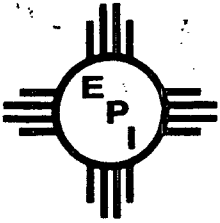
CELL NO. 17

COMMENTS: \_\_\_\_\_

NAME OF ATTENDANT ON DUTY Roger Boone

DATE ACCEPTED 6-6-03





# ENVIRONMENTAL PLL, INC.

STATE APPROVED LAND FARM

PHONE (505) 394-3481

P.O. BOX 969

EUNICE, NEW MEXICO 88231

N<sup>o</sup> 2586

COMPANY NAME Ealt

COMPANY REPRESENTATIVE NAME Frankl Hernandez

LEASE NAME Shafter Lake #8 6503

SEC. - TOWNSHIP - RANGE OR LOCATION Sec 33 T25S R37E

TRUCKING COMPANY NAME EPI

DRIVER'S SIGNATURE Ch. Hall

TYPE OF MATERIAL AND QUANTITY Contaminated soil 5 loads at 12 yds 60 yds

EXEMPT WASTE FROM OIL & GAS PRODUCTION \_\_\_\_\_

OTHER \_\_\_\_\_ EXPLAIN \_\_\_\_\_

COPY OF ANALYSIS ATTACHED: YES \_\_\_\_\_ NO ✓

CELL NO. 12

COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

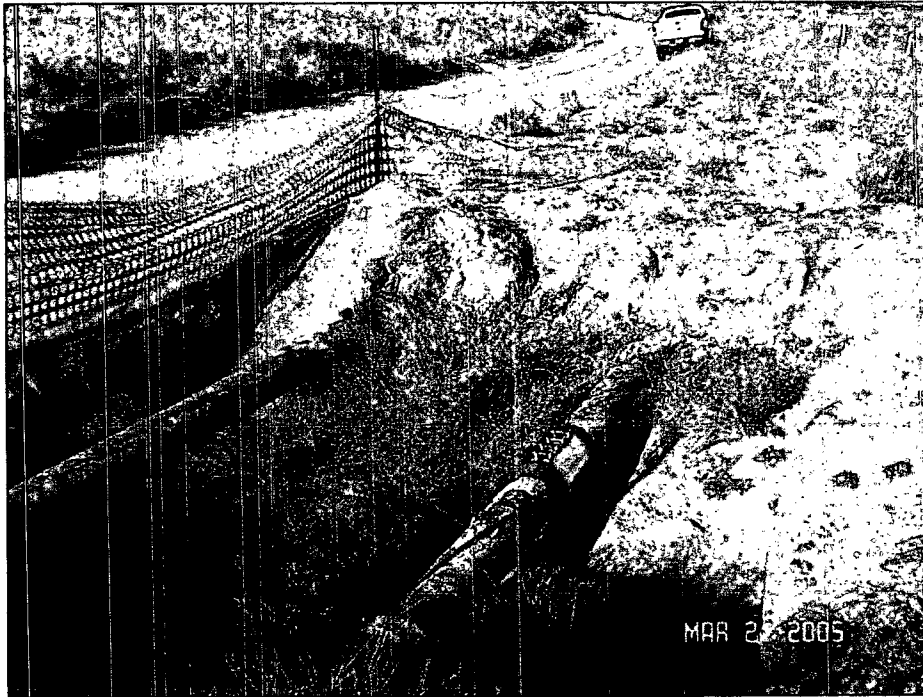
NAME OF ATTENDANT ON DUTY Roger Boone

DATE ACCEPTED 6-6-03

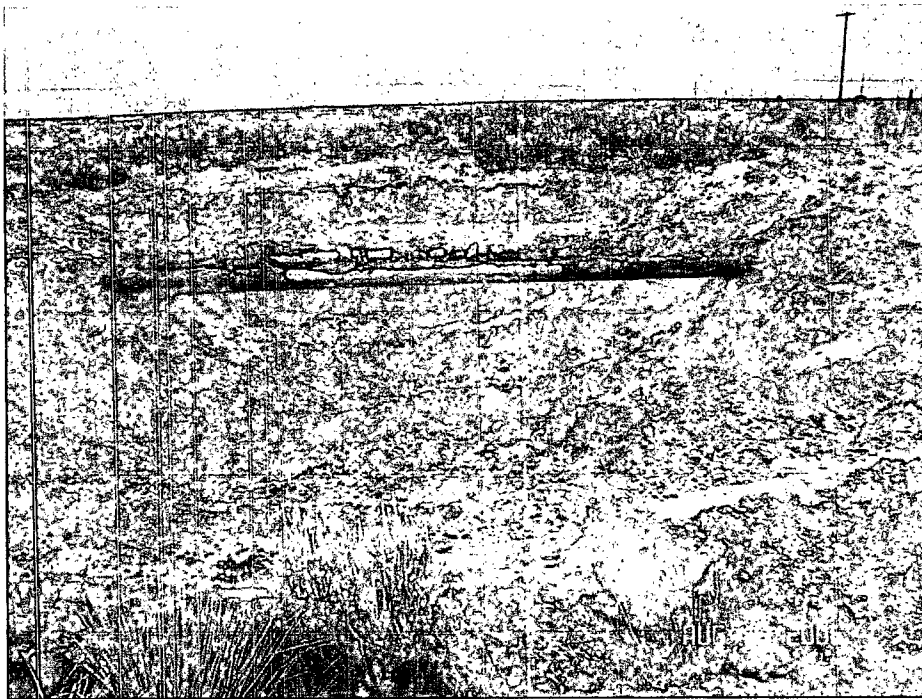
**APPENDIX D**

**Photographs**

Plains Pipeline  
Shafter Lake 8"  
EMS #2003-00145  
Lea County, New Mexico

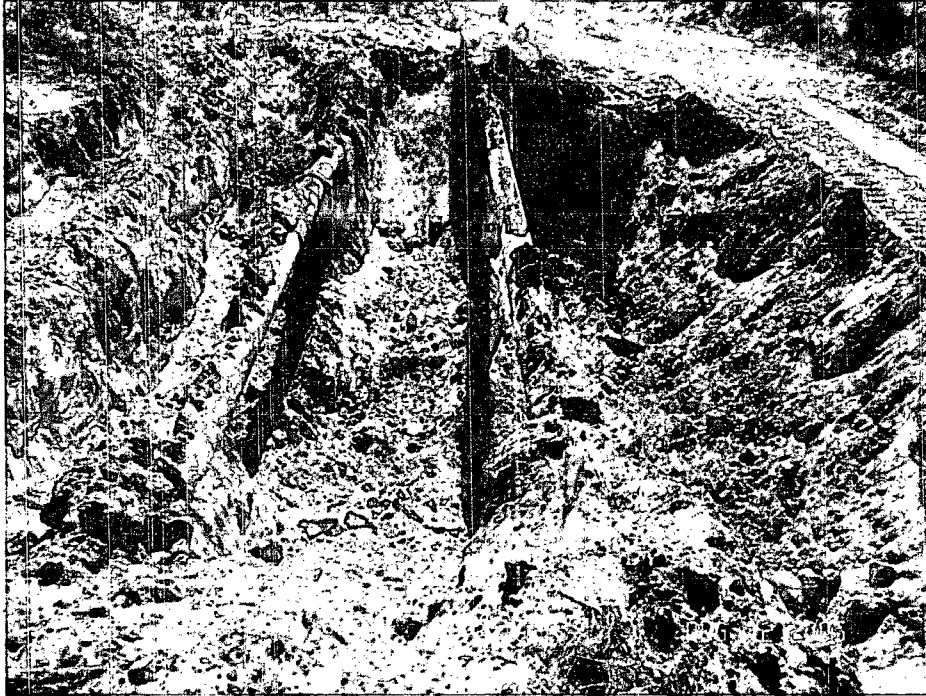


West view of origination point of leak.



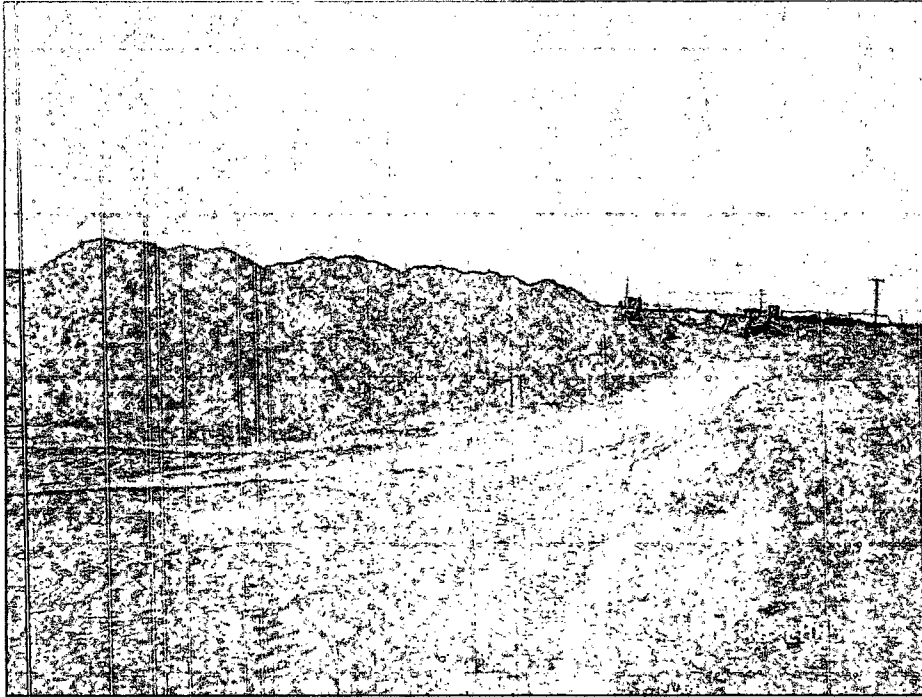
North view of east excavation.

Plains Pipeline  
Shafter Lake 8"  
EMS #2003-00145  
Lea County, New Mexico

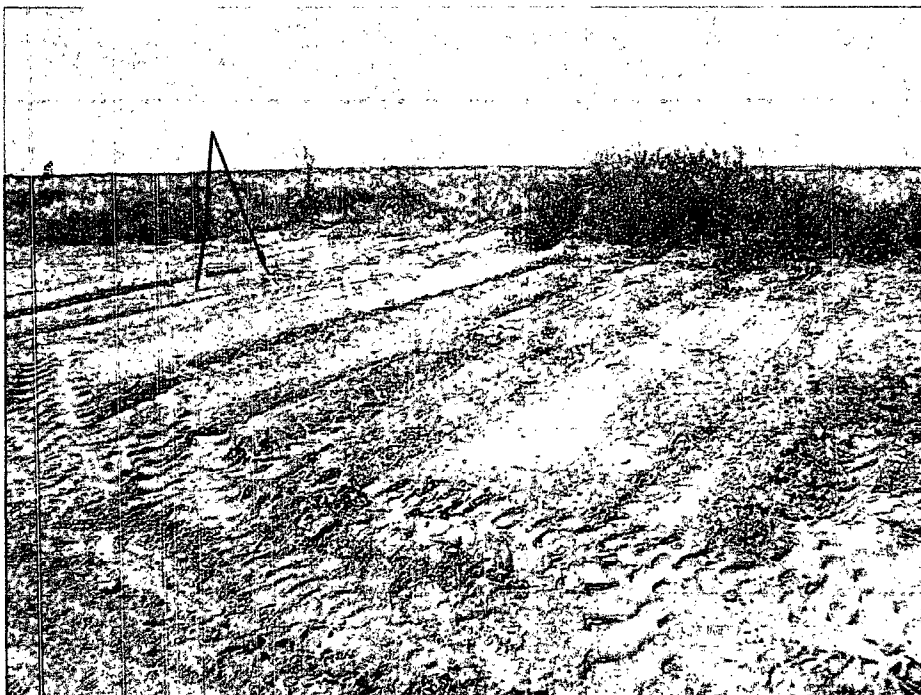


Eastern view of west excavation.

Plains Pipeline  
Shafter Lake 8"  
EMS #2003-00145  
Lea County, New Mexico

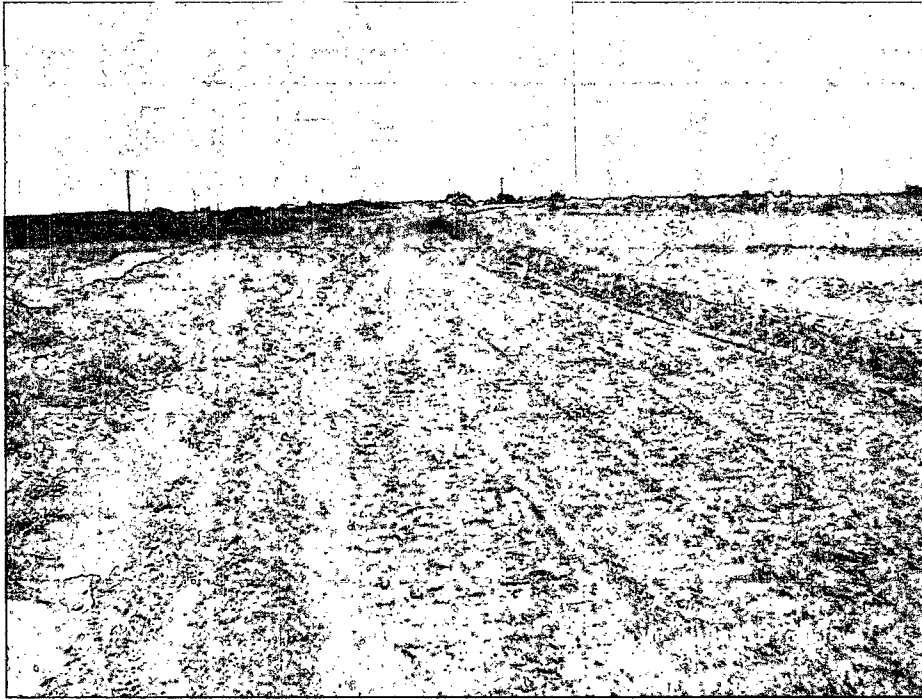


West view of road excavation and stockpiles.

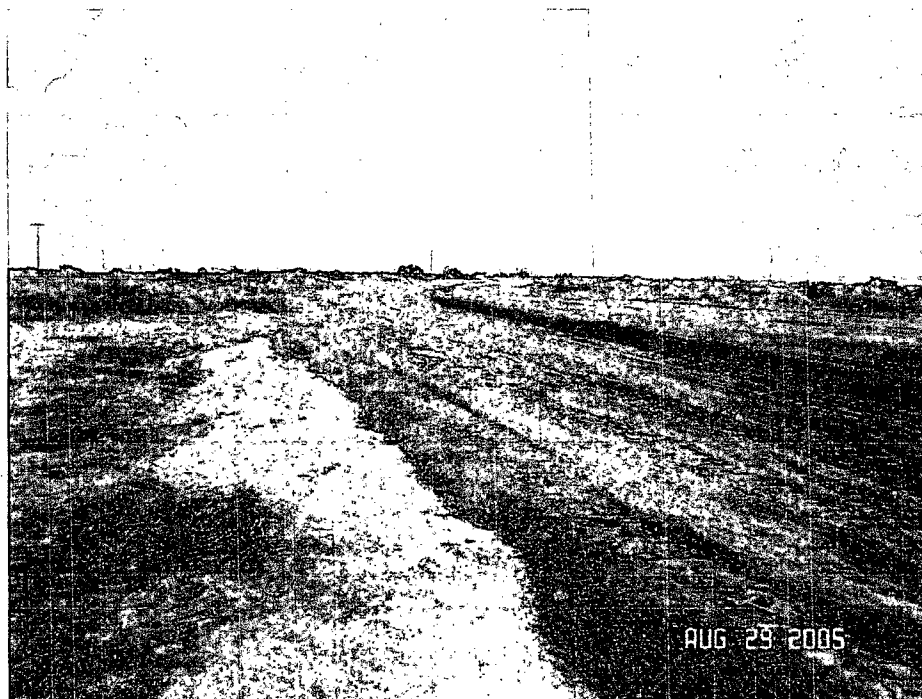


North view of site restoration.

Plains Pipeline  
Shafter Lake 8"  
EMS #2003-00145  
Lea County, New Mexico



East view of site restoration.



East view of site restoration.

## **APPENDIX E**

### **Regulatory Reports**



June 6, 2003

Mr. Paul Sheeley  
New Mexico Oil Conservation Division  
1625 North French  
Hobbs, New Mexico 88240

Subject: EOTT Energy Pipeline "Shafter Lake 8-Inch Sweet" (2003-00145) Initial C-141 and Remediation Plan

Dear Mr. Sheeley:

Environmental Plus, Inc. (EPI), on behalf of Mr. Frank Hernandez, EOTT Energy Company, submits the attached New Mexico Oil Conservation Division Form C-141 for the above referenced leak site located on lands owned by Joyce Willis. The release volume is estimated to be 250-bbl of crude petroleum with 190-bbl recovered. The release site is located in the NE¼ of the SE¼ (Unit Letter I), Section 33, Township 25 South, and Range 37 East. The geographic location is N32°05'04.92"; W103°09'34.56". The site is ~2.8 miles south-southeast (bearing 134.8°) from Jal, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is >200-ft bgs. The site matrix ranking for this site is 0 due to the depth to ground water from lower contaminant level being >150-ft. There are no water wells and/or surface water features within 1000-ft of the release site.

The remedial action plan for this site is to delineate and characterize the soil contamination along the flow path, excavate, dispose of and/or blend and attenuate on-site the RCRA non-exempt contaminated soils, and backfill the excavation with clean soil materials obtained on-site and/or off-site from private or public sources. Any RCRA non-hazardous contaminated soils excavated from the site will be disposed of in a NMOCD approved surface waste disposal facility.

The Constituents of Concern (CoC's) and associated NMOCD acceptable remedial levels are as follows:

- BTEX<sup>8620</sup> (Benzene, Toluene, Ethyl Benzene, and Xylenes): 50 mg/kg
- TPH<sup>8015m</sup> (Total Petroleum Hydrocarbon): 5000 mg/kg
- Benzene<sup>8620</sup>: 10 mg/kg

It is EPI's standard operating procedure to evaluate crude oil release sites for the presence of elevated levels of SO<sub>4</sub><sup>=</sup> and/or Cl<sup>-</sup> ions. These inorganic contaminants are often present in subsurface soils associated with sour crude releases and/or releases containing a brine component. Chloride and sulfate contamination of the soil will be evaluated relative to NMWQCC Ground Water Standards, 250 mg/ml and 600 mg/ml respectively.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at (505) 390-0288 and (505) 390-9804, respectively or Mr. Frank Hernandez at (915) 638-3799. All official written communications should be addressed to:

Mr. Frank Hernandez  
EOTT Energy Pipeline, L.P.  
PO Box 1660  
Midland, TX 79701

Sincerely,

John Good  
EPI Environmental Consultant

cc: Frank Hernandez, EOTT – District Environmental Supervisor, w/enclosure  
Bill Von Drehle - EOTT-Environmental Director, w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President



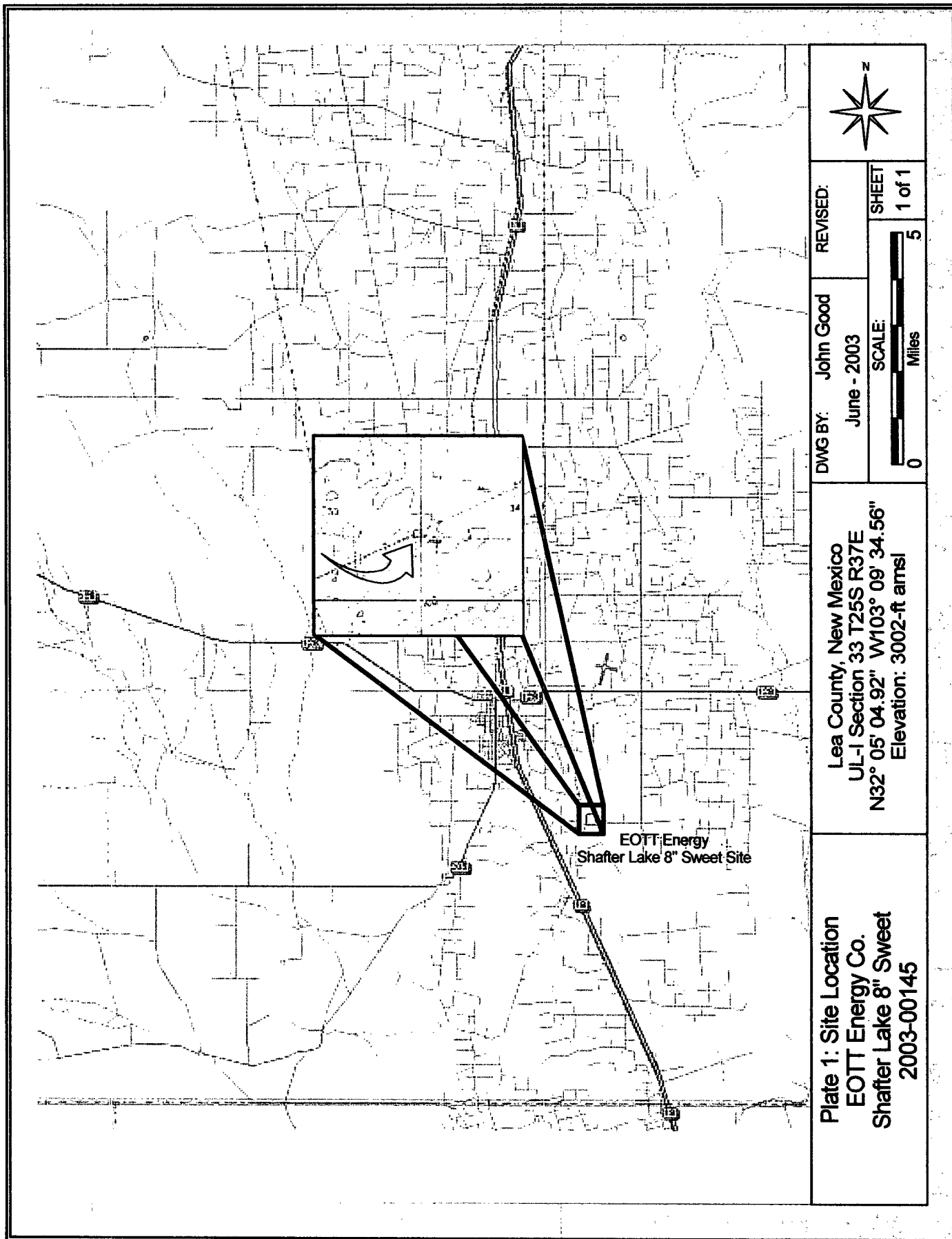

**Incident Date and NMOCD Notified?**

6/05/03-2:00 PM

6/05/03-2:45 PM

<b>SITE:</b> Shafter Lake 8"		<b>Assigned Site Reference</b> 2003-00145	
<b>Company:</b> EOTT Energy Pipeline LP			
<b>Street Address:</b>			
<b>Mailing Address:</b> 5805 E. Hwy 80			
<b>City, State, Zip:</b> Midland, TX 79702			
<b>Representative:</b> Frank Hernandez			
<b>Representative Telephone:</b> 915-638-3799			
<b>Telephone:</b>			
<b>Fluid volume released (bbls):</b> 250		<b>Recovered (bbls):</b> 190	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
<b>Leak, Spill, or Pit (LSP) Name:</b> 2003-00145			
<b>Source of contamination:</b> Shafter Lake 8" Steel Pipeline			
<b>Land Owner, i.e., BLM, ST, Fee, Other:</b> Joyce Willis			
<b>LSP Dimensions:</b> 400-ft X 20-ft (Site diagram Attached)			
<b>LSP Area:</b> 12,750 -ft <sup>2</sup>			
<b>Location of Reference Point (RP):</b>			
<b>Location distance and direction from RP:</b>			
<b>Latitude:</b> N32° 05' 04.92"			
<b>Longitude:</b> W103° 09' 34.56"			
<b>Elevation above mean sea level:</b> 3200 -ft amsl			
<b>Feet from South Section Line:</b> 1864			
<b>Feet from West Section Line:</b> 5128			
<b>Location - Unit and 1/4 1/4:</b> UL- I NE 1/4 of SE 1/4			
<b>Location - Section:</b> 33			
<b>Location - Township:</b> 25S			
<b>Location - Range:</b> 37E			
<b>Surface water body within 1000' radius of Site:</b> 0			
<b>Surface water body within 1000' radius of Site:</b> 0			
<b>Domestic water wells within 1000' radius of Site:</b> 0			
<b>Domestic water wells within 1000' radius of Site:</b> 0			
<b>Agricultural water wells within 1000' radius of Site:</b> 0			
<b>Agricultural water wells within 1000' radius of Site:</b> 0			
<b>Public water supply wells within 1000' radius of Site:</b> 0			
<b>Public water supply wells within 1000' radius of Site:</b> 0			
<b>Depth (ft) from land surface to ground water (DG):</b> 200			
<b>Depth (ft) of contamination (DC):</b> 10			
<b>Depth (ft) to ground water (DG - DC = DtGW):</b> 190			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
If Depth to GW <50 feet: 20 points	If <1000' from water source, or, <200' from private domestic water source: 20 points	3. Distance to Surface Water Body	
If Depth to GW 50 to 99 feet: 10 points	If >1000' from water source, or, >200' from private domestic water source: 0 points	<200 horizontal feet: 20 points	
If Depth to GW >100 feet: 0 points		200-100 horizontal feet: 10 points	
		>1000 horizontal feet: 0 points	
<b>Ground water Score:</b> 0	<b>Wellhead Protection Area Score:</b> 0	<b>Surface Water Score:</b> 0	
<b>Site Rank (1+2+3) =</b> 0			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
<b>Parameter</b>	<b>20 or &gt;</b>	<b>10</b>	<b>0</b>
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

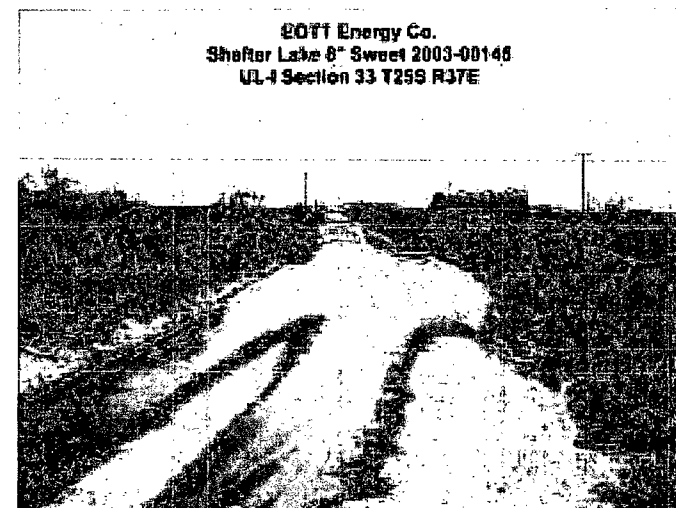
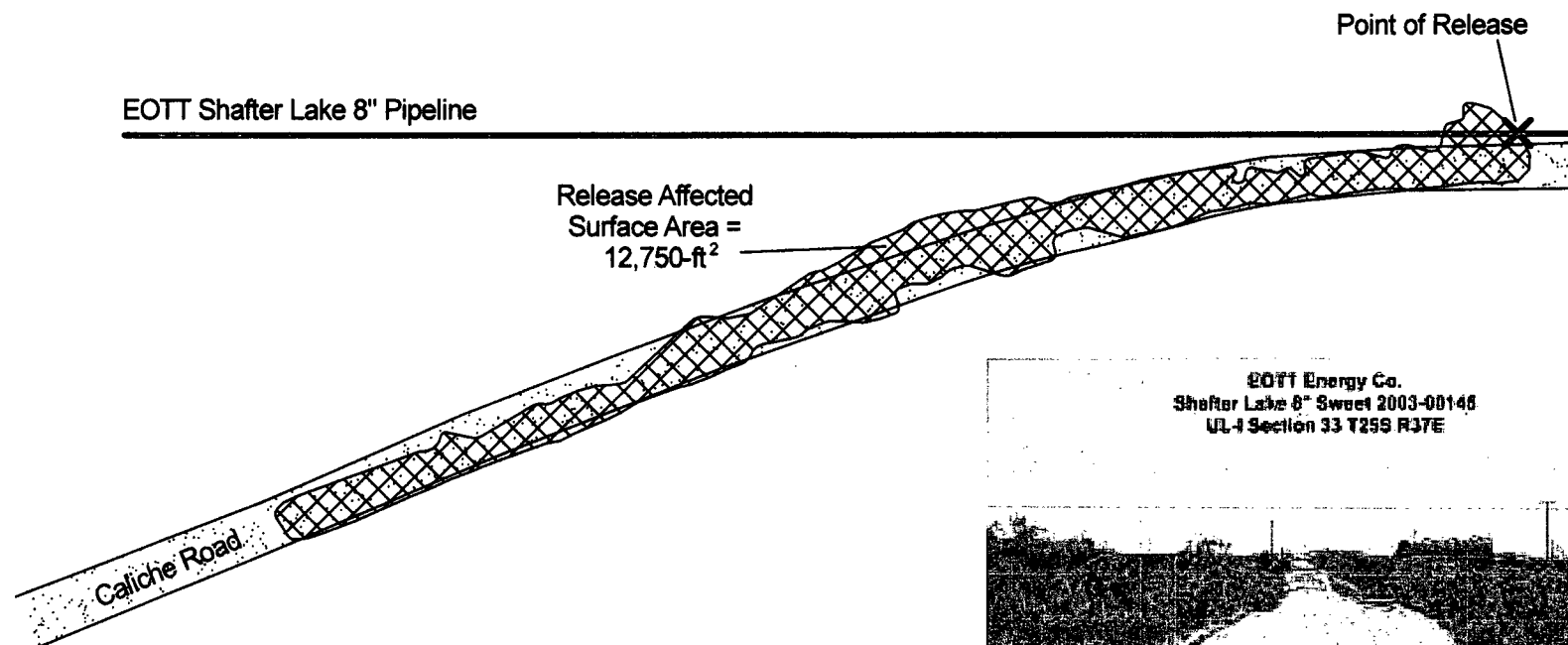
<sup>1</sup>100 ppm field VOC headspace measurement may be substituted for lab analysis





June - 2003

**Plate 1: Site Topography  
EOTT Energy Co.  
Shafter Lake 8" Sweet  
2003-00145**



**Plate 3: Initial Site GPS Demarcation**  
**EOTT Energy Co.**  
**Shafter Lake 8" Sweet 2003-00145**

Lea County, New Mexico  
 UL-I Section 33 T25S R37E  
 N32° 05' 04.92" W103° 09' 34.56"  
 Elevation: 3002-ft amsl

DWG BY: John Good  
 June - 2003

REVISED:

SHEET  
 1 of 1

SCALE:



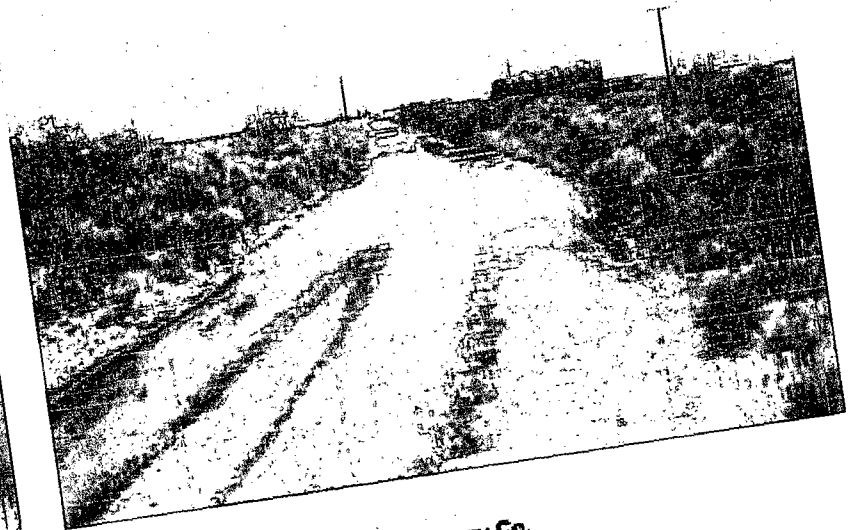
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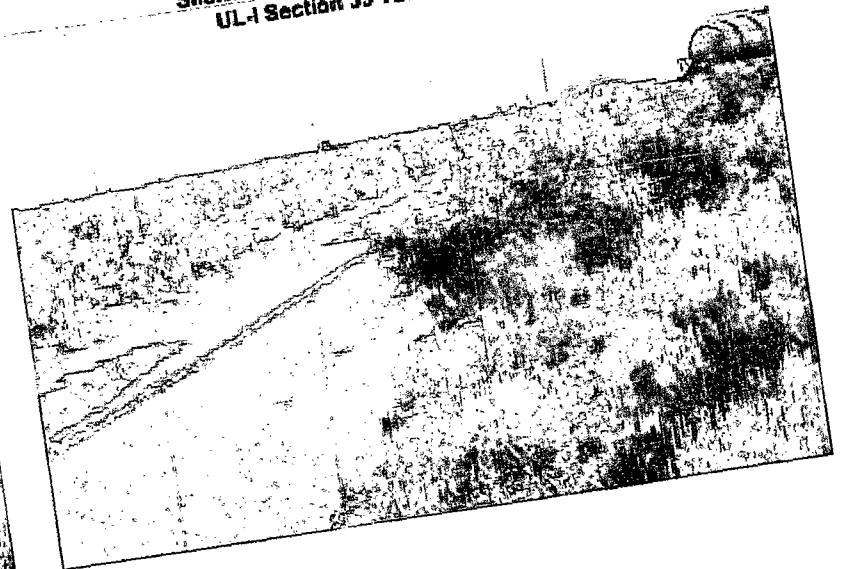
EOTT Energy Co.  
Shafter Lake 8" Sweet 2003-00145  
UL-4 Section 33 T25S R37E



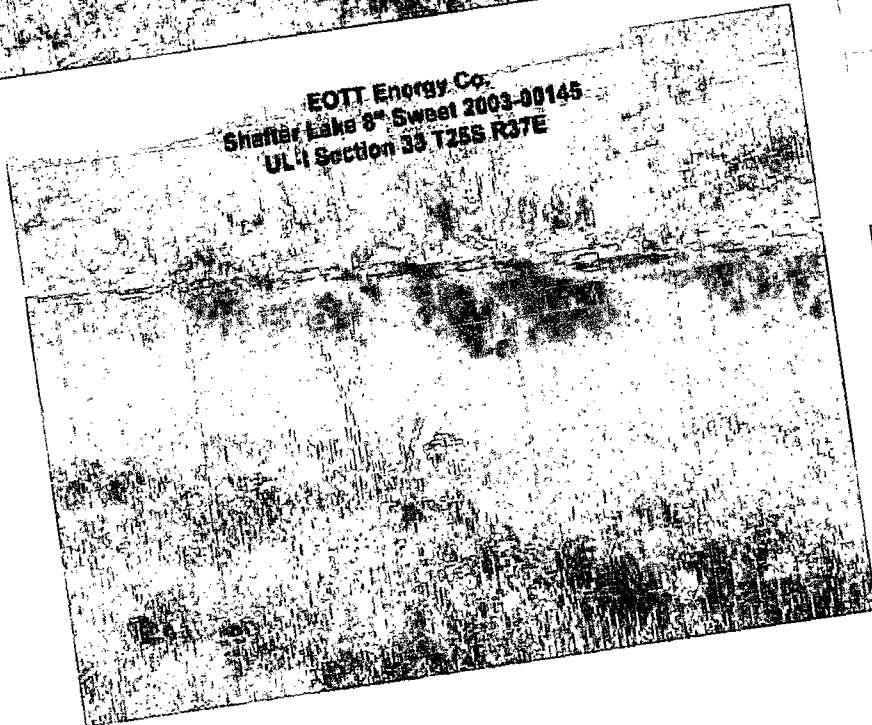
EOTT Energy Co.  
Shafter Lake 8" Sweet 2003-00145  
UL-4 Section 33 T25S R37E



EOTT Energy Co.  
Shafter Lake 8" Sweet 2003-00145  
UL-4 Section 33 T25S R37E



EOTT Energy Co.  
Shafter Lake 8" Sweet 2003-00145  
UL-4 Section 33 T25S R37E



1625 N. French Dr., Hobbs, NM 88240

**State of New Mexico**  
**Energy Minerals and Natural Resources**

Form C-141  
Revised March 17, 1999

## 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

## 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	Contact
<b>EOTT Energy Pipeline LP</b>	<b>Frank Hernandez</b>
Address	Telephone No.
<b>5805 E. Hwy 80</b> <b>Midland, TX 79702</b>	<b>915-638-3799</b>
Facility Name	Facility Type
<b>Shafter Lake 8"</b>	<b>Crude Oil Main Line</b>

Surface Owner	Mineral Owner	Lease No.
Joyce Willis	NA	NA


**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude	Latitude	County:
I	33	25S	37E	1864	5128	W103° 09' 34.56"	N32° 05' 04.92"	Lea

### NATURE OF RELEASE

Type of Release <b>Crude Oil Release and associated components</b>	Volume of Release <b>250 bbl</b>	Volume Recovered <b>190 bbl</b>
Source of Release <b>Shafter Lake 8" Steel Pipeline</b>	Date and Hour of Occurrence <b>6/05/03-1:30 PM</b>	Date and Hour of Discovery <b>6/05/03-2:00 PM</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Paul Sheeley, NMOCD-Hobbs</b>	
By Whom? <b>Pat McCasland - EPI</b>	Date and Hour <b>6/05/03-2:45 PM</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>NA</b>	
If a Watercourse was Impacted, Describe Fully.* <b>NA</b>		
Describe Cause of Problem and Remedial Action Taken.* <b>Internally and/or Externally Corroded pipeline, repaired with clamp</b>		
Describe Area Affected and Cleanup Action Taken.* <b>~12,750-ft<sup>2</sup> surface area affected (400-ft X 18-ft). 250-bbl of product released, 190 recovered. RCRA Non-Exempt Non-hazardous grossly contaminated soil was excavated and stockpiled on plastic by EPI.</b>		

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><b>OIL CONSERVATION DIVISION</b></u>	
Printed Name: <b>Frank Hernandez</b>		Approved by District Supervisor:	
Title: <b>District Environmental Supv.</b>		Approval Date:	Expiration Date:
Date: <b>6/6/03</b>	Phone: <b>915-638-3799</b>	Conditions of Approval:	
		<input type="checkbox"/> Attached	