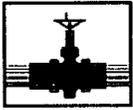


**1R - 381**

**REPORT**

**DATE:**

**11-08-06**



**PLAINS  
PIPELINE**

February 2, 2007

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

Re: Plains Pipeline Soil Work Plan Implementation Report/Closure Report  
8-Inch Moore to Jal #2 Release Site  
NW ¼, SE ¼ of Section 16, Township 17 South, Range 37 East  
Lea County, New Mexico  
NMOCD File Number 1R-0381

Dear Mr. Stone:

Please find attached for your approval the Soil Work Plan Implementation Report/Closure Report, dated November 8, 2007, for the 8-Inch Moore to Jal #2 release site located in Section 16 of Township 17 South and Range 37 East of Lea County, New Mexico. The Soil Work Plan Implementation Report/Closure Report details site activities conducted to date for soil remediation and soil closure of the site.

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

Sincerely,

Camille Reynolds  
Remediation Coordinator  
Plains All American Pipeline

Cc: Larry Johnson, NMOCD, Hobbs, NM  
Thaddeus Kostrubala, State Land Office, Santa Fe, NM

Enclosure

\*1R 381  
Report  
11-8-06

2007 FEB 7 AM 10 49



IR-0381

Wm

IR-0381

Report

11-8-06

**SOIL WORKPLAN IMPLEMENTATION  
REPORT/ CLOSURE REPORT  
MOORE TO JAL # 2  
LEA COUNTY, NEW MEXICO  
SRS #~~2002-10273~~**

*Prepared for:*

**PLAINS MARKETING, L.P.  
333 Clay Street  
Suite 1600  
Houston, Texas 77002**

Report Entered

AMARILLO  
921 North Bivins  
Amarillo, Texas 79107  
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*Prepared by:*

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**Talon/LPE  
Ronald K. Rounsaville  
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Midland, Texas 79701**

MIDLAND  
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1439 East 41st Street  
Tulsa, OK 74105  
Phone 918-742-0871  
Fax 918-742-0876

November 8, 2006

# Soil Workplan Implementation Report/Closure Report

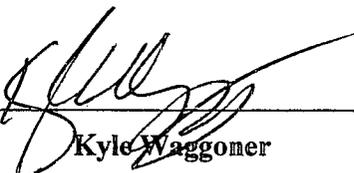
Plains Marketing, L.P.  
Houston, Texas

Talon/LPE PROJECT NO. PLAINS008SPL

Prepared by:



Ronald K. Rounsaville  
Senior Project Manager



Kyle Waggoner  
Senior Project Manager

Talon/LPE  
#9 East Industrial Loop  
Midland, Texas 79701

November 8, 2006

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### Appendix A Drawings

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- Figure 2 – Site Layout Map
- Figure 3 – Additional Excavation Location Map
- Figure 4 – Sampling Location Map

### Appendix B Tables

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### Appendix C Laboratory Analytical Data Sheets and Chain of Custody Documentation

### Appendix D New Mexico Office of the State Engineer Water Well Database Report

### Appendix E NMOCD C-141

## 1.0 INTRODUCTION

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### 1.1 Site Description and Background

The 8" Moore to Jal #2 release site is located approximately 9.2 miles southeast of Lovington in Lea County, New Mexico, at an elevation of approximately 3,770 feet above mean sea level. In October 2002, a release of approximately 25 barrels occurred from a Plains Pipeline, L.P. (Plains) pipeline at this location which is owned by the State of New Mexico. A site location map is provided as Figure 1 in Appendix A. The site is located in a rural area within the West Lovington Oil Field, with no residences or surface water within a 1,000-foot radius of the facility.

In November 2002, Environmental Plus, Inc. (EPI) began delineation activities at the site to determine the lateral and vertical extent of impacted soil below the spill area. In June 2003, EPI commenced excavation activities at the site. Approximately 1,022 cubic yards of soil and rock were excavated and processed through a shaker. Approximately 575 cubic yards of segregated soil was then placed into two (2) land treatment areas for remediation. Composite soil samples collected from the excavation sidewalls were submitted for laboratory analysis between November 2003 and June 2005 indicated maximum TPH concentrations were below the NMOCD remedial threshold limits, with the exception of samples collected from the north sidewall which exhibited TPH concentrations only slightly above the 100 mg/kg threshold limit.

In June 2005, Plains submitted a Soil Remediation Workplan to the NMOCD which subsequently granted approval in October 2005. In January 2006, Talon/LPE excavated an additional one (1) foot of soil from the north sidewall and collected two confirmation soil samples for laboratory analysis. Laboratory analytical results indicated the sample collected from the northwest portion of the sidewall remained above NMOCD remedial threshold limits.

On May 23, 2006, Talon/LPE, on behalf of Plains, submitted a Soil Over-Excavation Report and Backfill Workplan to the NMOCD documenting the implementation of the original Excavation Work Plan which had been approved on October 16, 2005. On June 8, 2006, Plains received approval from the NMOCD to complete the additional over-excavation and sampling activities in conjunction with lining and backfilling activities at the site.

### 1.2 Scope of Work

The NMOCD granted approval to Plains on June 8, 2006 to over-excavate an additional two (2) feet of the northwest sidewall, collect a confirmation soil sample from the excavated area and analyze for total petroleum hydrocarbons (TPH), place six-inch layers of sand underneath and above a 20-mil liner, vertically extend monitor well MW-1 to a level above the top of the excavation, and backfill the entire excavation with remediated soils stockpiled on-site.

### 1.3 Regulatory Framework

A search of the New Mexico State Engineers database revealed groundwater information of 40 feet in depth for Section 16 (sixteen) (see Appendix D, POD Reports) and the immediate area. Gauging data obtained from the monitoring wells at the site indicate depth to groundwater to be from between 70 to 80 feet below ground surface (bgs). There are no surface water bodies or water wells within 1,000 feet of the release site. Due to the presence of PSH impacting the groundwater below the site, the site has an NMOCD Ranking Score of >19, which sets the remediation levels at:

Benzene:	10 ppm
BTEX:	50 ppm
TPH:	100 ppm

## 2.0 SOIL REMOVAL AND BACKFILLING ACTIVITIES

The following sections present a summary of the soil excavation and backfilling activities conducted at the Moore to Jal # 2 site. The focus of the activities was the removal of the hydrocarbon impacted soils above NMOCD standards, aerating and blending stockpiled soils and lining the excavation with a 20 mil liner in between sand layers, and backfilling the entire excavation with the remediated soils.

### 2.1 Soil Removal Activities

On August 15, 2006, Talon/LPE utilized a backhoe to excavate an additional two (2) feet from the northwest sidewall area of the excavation which previously exhibited TPH concentrations above NMOCD threshold limits. The newly excavated area measured approximately 25 feet in length, 2 feet wide and extended vertically to a maximum depth of 5 feet bgs. Approximately 9.25 cubic yards of impacted soil were excavated, tilled for aeration and blended into the existing soil stockpile to be later used for backfill. A photo ionization detector (PID) was utilized to screen soil samples taken from the wall area to verify that remaining soil concentrations were below the NMOCD threshold limit of one hundred (100) ppm. In addition, a confirmation soil sample was collected and submitted for analysis.

### 2.2 Soil Sampling and Analysis

Talon/LPE personnel collected one confirmation soil sample from the newly excavated northwest sidewall and submitted for analysis of TPH by EPA Method 8015M. The soil sample was placed in a pre-cleaned 4 oz. glass jar and placed on ice in a cooler under a custody seal, and transported to Environmental Labs of Texas in Odessa, Texas for analysis.

### 2.3 Soil Analytical Results

Talon/LPE received the laboratory analytical report on August 18, 2006. Analytical results indicate the maximum TPH concentrations were below the NMOCD remedial thresholds limits of 100 ppm. The results of the laboratory analyses are summarized in Appendix B, Table 1. Laboratory analytical reports and chain of custody documentation for samples collected by Talon/LPE are provided as Appendix C to this report.

### **3.0 LINING AND BACKFILL ACTIVITIES**

---

#### **3.1 Excavation Lining and Backfill Activities**

On August 17, 2006, Plains commenced the approved backfilling activities by placing approximately six (6) inches of sand on the floor of the excavation area in preparation for the installation of a 20 mil poly liner. On August 19 and 20, 2006, the 20 mil liner was placed in the excavation. A bentonite clay barrier was placed around the base of monitor well MW-1 to provide a seal between the well casing and the installed liner. At this time, the monitor well casing was extended to a height greater than the surface topography. A second 6-inch bed of sand was placed over the 20 mil liner and the entire excavation area was backfilled with remediated soils from the blending area. On August 28, 2006, Plains began removal of the portion of the pipeline running through the excavation and capped each end. Caps were welded in place on August 31, 2006.

### **4.0 CONCLUSIONS**

---

The following section presents recommendations for future actions at the Moore to Jal # 2 site.

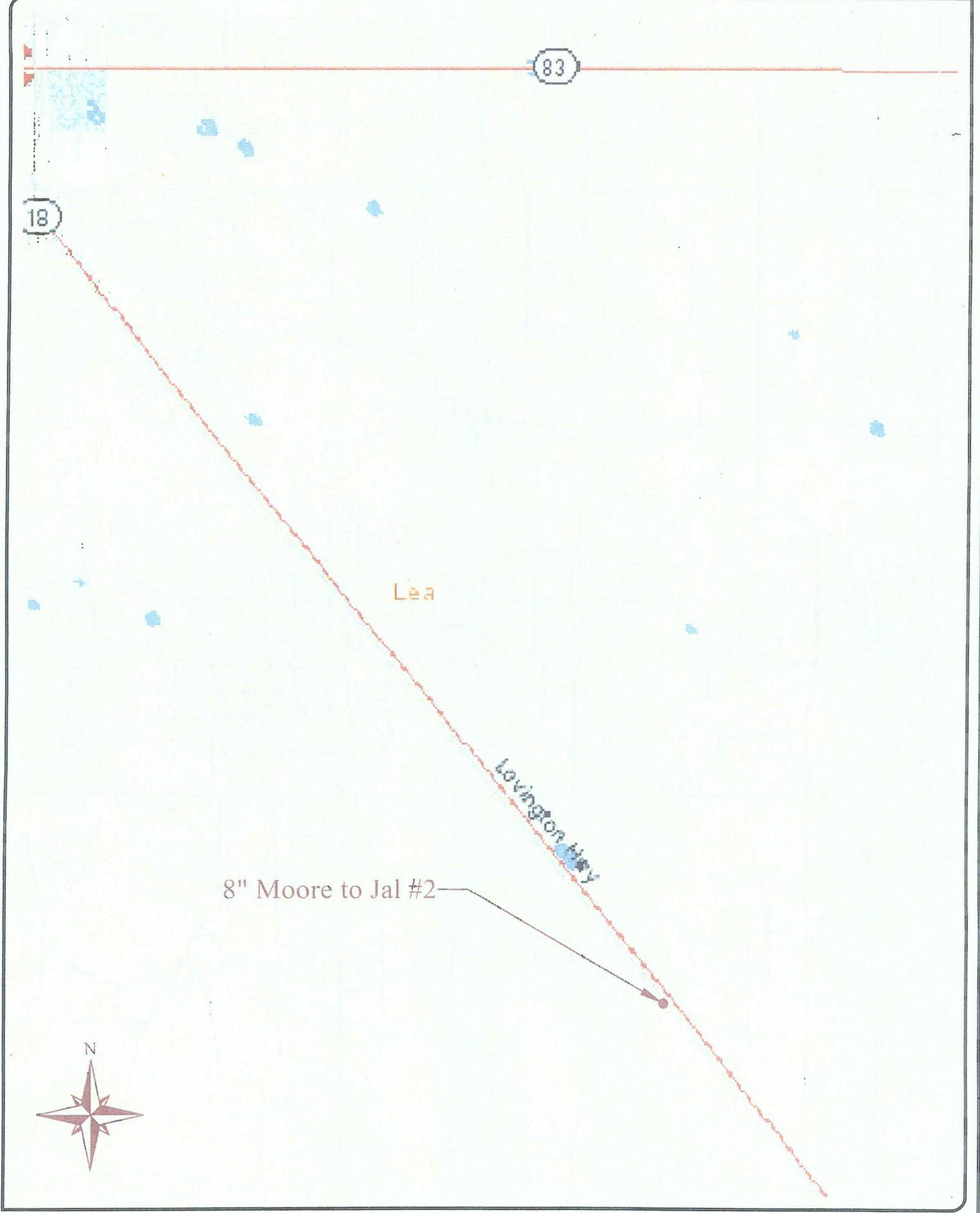
#### **4.1 Recommendations**

Based upon the findings of this investigation, Talon/LPE makes no further recommendations for future soil remediation actions. This report will be the final action in regards to the soil investigation and remediation at the site and Plains requests that this report be the final document and action in regards to soil activities at this site. Talon/LPE will provide recommendations for continued groundwater investigation and PSH recovery activities under separate cover.

## Appendix A

### Drawings

- Figure 1 – Site Location Map
- Figure 2 – Site Layout Map
- Figure 3 – Additional Excavation Location Map
- Figure 4 – Sampling Location Map



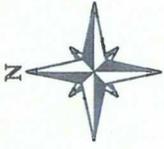
**TALONLPE**

Date: 09/27/2006

Scale: NTS

Drawn By: TJS

Moore to Jal #2  
9.2 Miles SE of Lovington, NM  
Lea County, New Mexico  
Figure 1 - Site Location Map



**Legend**

- Monitor Well
- Surface Soil Samples
- Fence Line
- Excavation
- Rock Stock Pile
- Blending Cell



Moore to Jal #2  
9.2 Miles SE of Lovington, NM  
Lea County, New Mexico  
Figure 2 - Site Layout Map

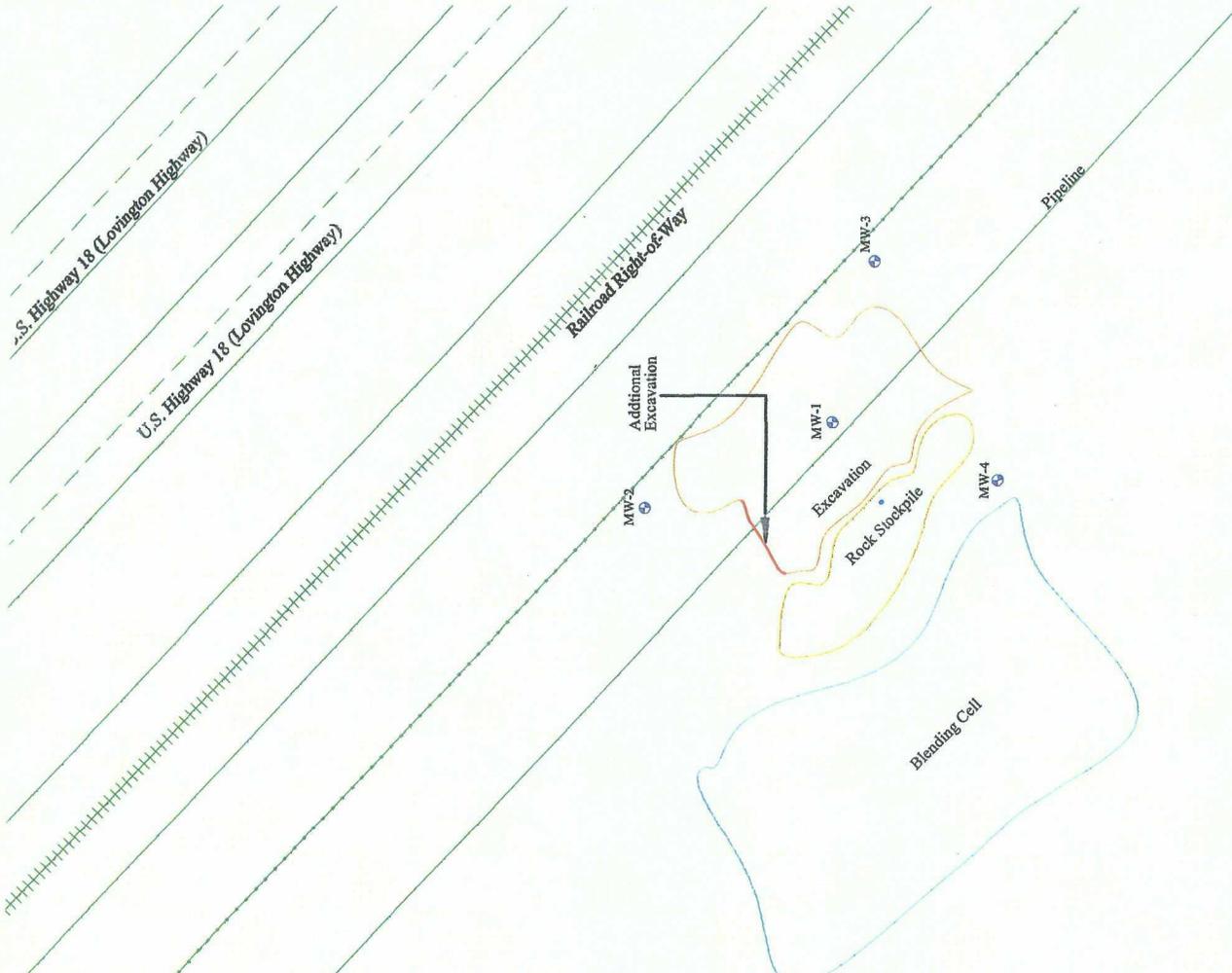
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Drawn By: WDR





**Legend**

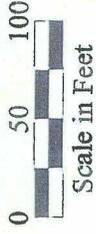
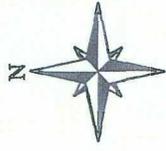
- Monitor Well (blue circle with cross)
- Surface Soil Samples (red triangle)
- Fence Line (green line with cross-ticks)
- Excavation (yellow outline)
- Rock Stock Pile (orange outline)
- Blending Cell (light blue outline)



	Date: 10/16/2006
	Scale: 1" = 100'
Drawn By: WDR	

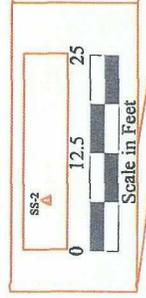
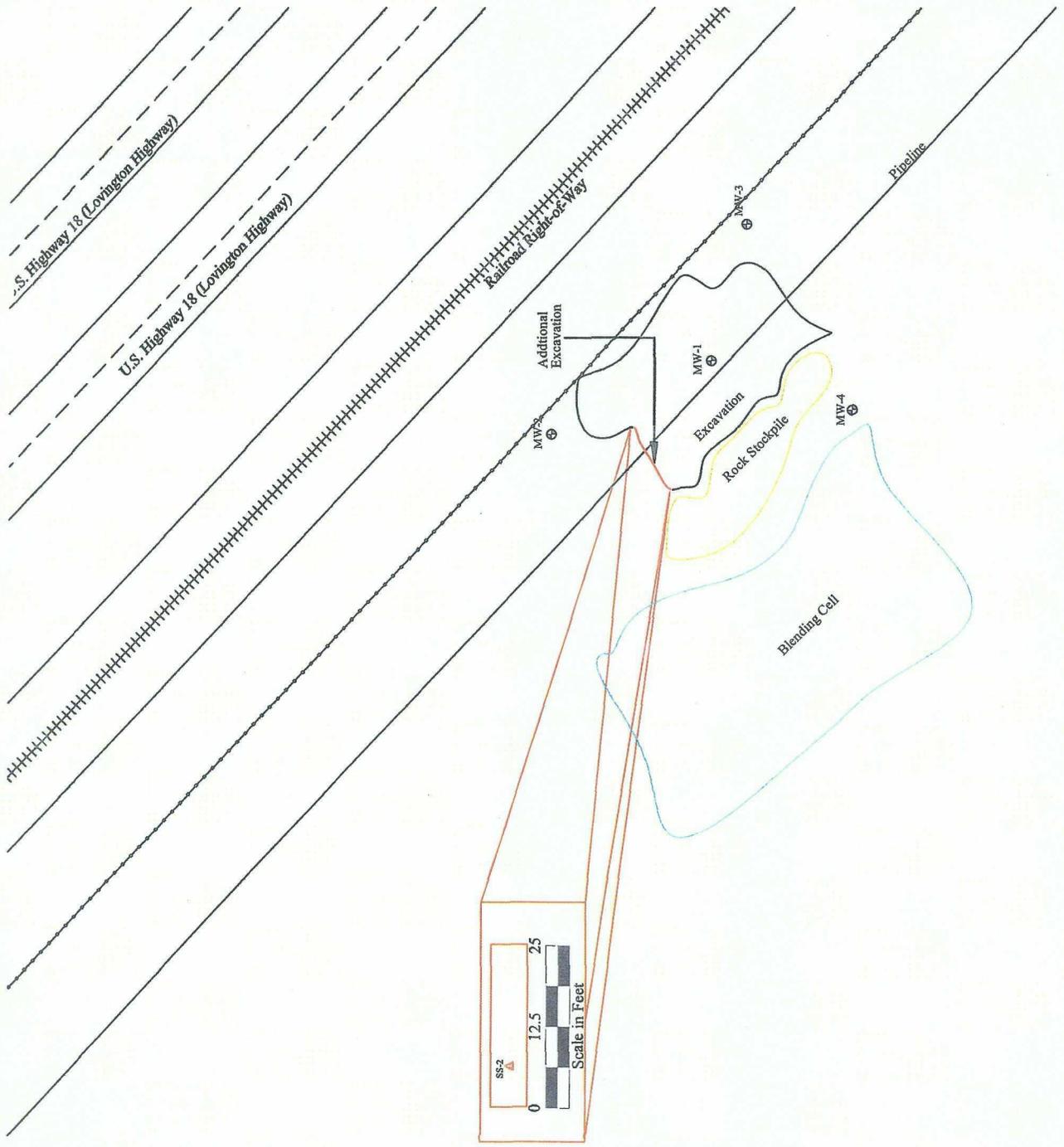
Moore to Jal #2  
9.2 Miles SE of Lovington, NM  
Lea County, New Mexico

Figure 3 - Additional Excavation Location Map



**Legend**

- ⊕ - Monitor Well
- △ - Surface Soil Samples
- \*— Fence Line
- Excavation
- Rock Stock Pile
- Blending Cell



Moore to Jal #2  
 9.2 Miles SE of Lovington, NM  
 Lea County, New Mexico  
 Figure 4 - Sampling Location

Date: 10/16/2006  
 Scale: 1" = 100'  
 Drawn By: WDR



## APPENDIX B

### Tables

Table 1 – Laboratory Analytical Results - Soil



9 East Industrial Loop, Midland, Texas 79701  
 Phone: 432/522-2133, FAX: 432/522-2180

**SUMMARY OF EXCAVATION ANALYTICAL RESULTS (SOIL)**

Plains All American Pipeline, LP - 8" Moore to Jal #2 - Ref #2002-10273

Sample ID	Sample Date	Sample Location	Field PID Analysis (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	m,p-Xylenes (mg/kg)	o-Xylene (mg/kg)	Total BTEX (mg/kg)	TPH (as gasoline) (mg/kg)	TPH (as diesel) (mg/kg)	Total TPH (mg/kg)
SEMR31302NSW	13-Mar-02	North Sidewall	NA	<25	0.937	3.590	4.410	2.140	11.077	224	545	769
SEMR31302RAMP	13-Mar-02	Ramp	NA	<25	<25	<25	<25	<25	<125	<10	<10	<10
SEMR51302SP	13-May-02	Stockpile	NA	<1	<1	<1	<1	<1	NA	NA	NA	NA
SEMR51702BCC3'	17-May-02	Bottom -3'	NA	<25	<25	<25	<25	<25	<125	<10	<10	<10
SE103002SRPile	30-Oct-02	Stockpile	NA	0.002	0.006	0.003	0.007	0.004	0.022	NA	NA	NA
SLE8M211203NSWC	12-Nov-03	North Sidewall Composite (3'-4')	3.2	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	195	195
SLE8M211203SSWC	12-Nov-03	South Sidewall Composite (3'-4')	6.9	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
SLE8M211203ESWC	12-Nov-03	East Sidewall Composite (3'-4')	8.5	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
SLE8M211203BHC	12-Nov-03	Bottomhole Composite (4')	9.7	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
WW-N-01	3-Jun-05	West Sidewall - North End Grab (3'-4')	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
WW-S-01	3-Jun-05	West Sidewall - South End Grab (3'-4')	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
NE-1 Site 2	16-Jan-06	North Sidewall - East End Grab (3'-4')	0.5	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
NW-2 Site 2	16-Jan-06	North Sidewall - West End Grab (3'-4')	1.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	169	169.0
NF-01	26-Jan-06	North Floor	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	10.3	10.3
SP-01	26-Jan-06	South Floor	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	259.0	259.0
EF-01	26-Jan-06	East Floor	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	67.2	67.2
WF-01	26-Jan-06	West Floor	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	99.8	99.8
CF-01	26-Jan-06	Center Floor	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	186.0	186.0
NW-2	15-Aug-06	Northwest Sidewall - Resample	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
<b>NMIOCD Remedial Thresholds (ppm)</b>												50
<b>NMIOCD Remedial Thresholds (ppm)</b>												10

*Bolded values are in excess of the NMIOCD Remediation Thresholds*

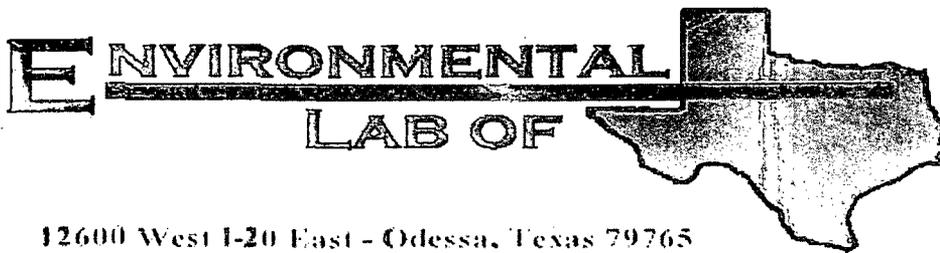
*NA : Not Analyzed*

*NS : Not Sampled*

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

**APPENDIX C**

**Laboratory Analytical Reports and Chain of Custody  
Documentation**



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

Prepared for:

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: 8 inch Moore to Jal #2

Project Number: 2002-10273

Location: Hobbs, NM- Lea Co.

Lab Order Number: 6H15013

Report Date: 08/17/06

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

Project: 8 inch Moore to Jal #2  
Project Number: 2002-10273  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NW-2	6H15013-01	Soil	08/15/06 00:00	08-15-2006 15:40

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

Project: 8 inch Moore to Jal #2  
 Project Number: 2002-10273  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>NW-2 (6H15013-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EH61616	08/16/06	08/16/06	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>		93.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EH61503	08/15/06	08/16/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		112 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		106 %	70-130		"	"	"	"	

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

Project: 8 inch Moore to Jal #2  
Project Number: 2002-10273  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>NW-2 (6H15013-01) Soil</b>									
% Moisture	9.9	0.1	%	1	EH61601	08/15/06	08/16/06	% calculation	

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

Project: 8 inch Moore to Jal #2  
 Project Number: 2002-10273  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

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

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

**Batch EH61503 - EPA 5030C (GC)**

**Blank (EH61503-BLK1)**

Prepared: 08/15/06 Analyzed: 08/16/06

Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	51.9		mg/kg	50.0		104	70-130			
Surrogate: 1-Chlorooctadecane	49.2		"	50.0		98.4	70-130			

**LCS (EH61503-BS1)**

Prepared: 08/15/06 Analyzed: 08/16/06

Carbon Ranges C6-C12	471	10.0	mg/kg wet	500		94.2	75-125			
Carbon Ranges C12-C28	489	10.0	"	500		97.8	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	960	10.0	"	1000		96.0	75-125			
Surrogate: 1-Chlorooctane	55.5		mg/kg	50.0		111	70-130			
Surrogate: 1-Chlorooctadecane	47.5		"	50.0		95.0	70-130			

**Calibration Check (EH61503-CCV1)**

Prepared: 08/15/06 Analyzed: 08/16/06

Carbon Ranges C6-C12	244		mg/kg	250		97.6	80-120			
Carbon Ranges C12-C28	295		"	250		118	80-120			
Total Hydrocarbons	539		"	500		108	80-120			
Surrogate: 1-Chlorooctane	64.6		"	50.0		129	70-130			
Surrogate: 1-Chlorooctadecane	59.7		"	50.0		119	70-130			

**Matrix Spike (EH61503-MS1)**

Source: 6H15010-02

Prepared: 08/15/06 Analyzed: 08/16/06

Carbon Ranges C6-C12	564	10.0	mg/kg dry	605	ND	93.2	75-125			
Carbon Ranges C12-C28	575	10.0	"	605	ND	95.0	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1140	10.0	"	1210	ND	94.2	75-125			
Surrogate: 1-Chlorooctane	58.7		mg/kg	50.0		117	70-130			
Surrogate: 1-Chlorooctadecane	50.3		"	50.0		101	70-130			

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

Project: 8 inch Moore to Jal #2  
 Project Number: 2002-10273  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

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

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

**Batch EH61503 - EPA 5030C (GC)**

Matrix Spike Dup (EH61503-MSD1)	Source: 6H15010-02			Prepared: 08/15/06		Analyzed: 08/16/06				
Carbon Ranges C6-C12	606	10.0	mg/kg dry	605	ND	100	75-125	7.18	20	
Carbon Ranges C12-C28	613	10.0	"	605	ND	101	75-125	6.40	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1220	10.0	"	1210	ND	101	75-125	6.78	20	
Surrogate: 1-Chlorooctane	62.1		mg/kg	50.0		124	70-130			
Surrogate: 1-Chlorooctadecane	53.7		"	50.0		107	70-130			

**Batch EH61616 - EPA 5030C (GC)**

Blank (EH61616-BLK1)	Prepared & Analyzed: 08/16/06									
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	40.3		ug/kg	40.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	39.8		"	40.0		99.5	80-120			

**LCS (EH61616-BS1)**

LCS (EH61616-BS1)	Prepared & Analyzed: 08/16/06									
Benzene	1.14	0.0250	mg/kg wet	1.25		91.2	80-120			
Toluene	1.31	0.0250	"	1.25		105	80-120			
Ethylbenzene	1.20	0.0250	"	1.25		96.0	80-120			
Xylene (p/m)	2.78	0.0250	"	2.50		111	80-120			
Xylene (o)	1.34	0.0250	"	1.25		107	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.6		ug/kg	40.0		96.5	80-120			
Surrogate: 4-Bromofluorobenzene	44.9		"	40.0		112	80-120			

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

Project: 8 inch Moore to Jal #2  
 Project Number: 2002-10273  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EH61616 - EPA 5030C (GC)**

**Calibration Check (EH61616-CCV1)**

Prepared & Analyzed: 08/16/06

Benzene	48.2		ug/kg	50.0		96.4	80-120			
Toluene	51.1		"	50.0		102	80-120			
Ethylbenzene	54.6		"	50.0		109	80-120			
Xylene (p/m)	103		"	100		103	80-120			
Xylene (o)	51.1		"	50.0		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.6		"	40.0		102	80-120			
Surrogate: 4-Bromofluorobenzene	38.6		"	40.0		96.5	80-120			

**Matrix Spike (EH61616-MS1)**

Source: 6H15013-01

Prepared: 08/16/06 Analyzed: 08/17/06

Benzene	1.27	0.0250	mg/kg dry	1.39	ND	91.4	80-120			
Toluene	1.55	0.0250	"	1.39	ND	112	80-120			
Ethylbenzene	1.45	0.0250	"	1.39	ND	104	80-120			
Xylene (p/m)	3.31	0.0250	"	2.77	ND	119	80-120			
Xylene (o)	1.65	0.0250	"	1.39	ND	119	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.4		ug/kg	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	38.4		"	40.0		96.0	80-120			

**Matrix Spike Dup (EH61616-MSD1)**

Source: 6H15013-01

Prepared: 08/16/06 Analyzed: 08/17/06

Benzene	1.25	0.0250	mg/kg dry	1.39	ND	89.9	80-120	1.65	20	
Toluene	1.44	0.0250	"	1.39	ND	104	80-120	7.41	20	
Ethylbenzene	1.41	0.0250	"	1.39	ND	101	80-120	2.93	20	
Xylene (p/m)	3.32	0.0250	"	2.77	ND	120	80-120	0.837	20	
Xylene (o)	1.60	0.0250	"	1.39	ND	115	80-120	3.42	20	
Surrogate: a,a,a-Trifluorotoluene	44.3		ug/kg	40.0		111	80-120			
Surrogate: 4-Bromofluorobenzene	46.1		"	40.0		115	80-120			

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

Project: 8 inch Moore to Jal #2  
 Project Number: 2002-10273  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EH61601 - General Preparation (Prep)</b>										
<b>Blank (EH61601-BLK1)</b>										
					Prepared: 08/15/06 Analyzed: 08/16/06					
% Solids	100		%							
<b>Duplicate (EH61601-DUP1)</b>										
					Source: 6H15002-01 Prepared: 08/15/06 Analyzed: 08/16/06					
% Solids	90.3		%		89.0			1.45	20	
<b>Duplicate (EH61601-DUP2)</b>										
					Source: 6H15007-04 Prepared: 08/15/06 Analyzed: 08/16/06					
% Solids	97.3		%		96.9			0.412	20	
<b>Duplicate (EH61601-DUP3)</b>										
					Source: 6H15013-01 Prepared: 08/15/06 Analyzed: 08/16/06					
% Solids	90.1		%		90.1			0.00	20	

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

Project: 8 inch Moore to Jal #2  
Project Number: 2002-10273  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

### Notes and Definitions

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

Report Approved By:

*Raland K Tuttle*

Date:

8/17/2006

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

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

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

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



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

Client: Plam3  
 Date/ Time: 8/15/06 3:40  
 ID #: 6H1501B  
 Initials: CK

**Sample Receipt Checklist**

Client Initials

	Yes	No		° C	
Temperature of container/ cooler?	Yes	No	35		
Shipping container in good condition?	Yes	No			
Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present		
Custody Seals intact on sample bottles/ container?	Yes	No	Not Present		
Chain of Custody present?	Yes	No			
Sample instructions complete of Chain of Custody?	Yes	No			
Chain of Custody signed when relinquished/ received?	Yes	No			
Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid		
Container label(s) legible and intact?	Yes	No	Not Applicable		
Sample matrix/ properties agree with Chain of Custody?	Yes	No			
1 Containers supplied by ELOT?	Yes	No			
2 Samples in proper container/ bottle?	Yes	No	See Below		
3 Samples properly preserved?	Yes	No	See Below		
4 Sample bottles intact?	Yes	No			
5 Preservations documented on Chain of Custody?	Yes	No			
6 Containers documented on Chain of Custody?	Yes	No			
7 Sufficient sample amount for indicated test(s)?	Yes	No	See Below		
8 All samples received within sufficient hold time?	Yes	No	See Below		
9 VOC samples have zero headspace?	Yes	No	Not Applicable		

**Variance Documentation**

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

Guarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that Apply:
- See attached e-mail/ fax
  - Client understands and would like to proceed with analysis
  - Cooling process had begun shortly after sampling event

## APPENDIX D

### New Mexico Office of the State Engineer Water Well Database Report

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

Township: 17S | Range: 37E | Sections: 16

NAD27 X: | Y: | Zone: | Search Radius:

County: | Basin: | Number: | Suffix:

Owner Name: (First) | (Last) |  Non-Domestic  Domestic  All

WATER COLUMN REPORT 09/28/2006

(quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column (in feet)
L 04952	17S	37E	16	3	3					106	40	66
L 04952 (1)	17S	37E	16	3	3					106	40	66

Record Count: 2

New Mexico Office of the State Engineer  
POD Reports and Downloads

Township: 17S Range: 37E Sections: 16

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

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

POD / Surface Data Report

Avg Depth to Water Report

Water Column Report

Clear Form

iWATERS Menu

Help

AVERAGE DEPTH OF WATER REPORT 09/28/2006

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

Record Count: 2

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

Township: 17S | Range: 37E | Sections: 16

NAD27 X: | Y: | Zone: | Search Radius:

County: | Basin: | Number: | Suffix:

Owner Name: (First) | (Last) |  Non-Domestic  Domestic  All

POD / SURFACE DATA REPORT 09/28/2006

(acre ft per annum)

(quarters are 1=  
(quarters are bi

DB File Nbr	Use	Diversion	Owner	POD Number	Source	1
L 04952	PRO	0	CARPER DRILLING COMPANY	L 04952	Shallow	17
L 04952 (1)	PRO	0	INC. CONSOLIDATED OIL & GAS	L 04952 (1)	Shallow	17
L 04952 (2)	PRO	0	INC. CONSOLIDATED OIL & GAS	L 04951 (2) EXP		17
L 04952 (3)	PRO	0	INC. CONSOLIDATED OIL & GAS	L 04952 (3) EXP		17
L 04952 (4)	PRO	0	INC. CONSOLIDATED OIL & GAS	L 04952 (4) EXP		17
L 04952 (5)	PRO	0	AMERIND OIL CO.	L 04952 (5) EXP		17

Record Count: 6

APPENDIX E

NMOCD C-141

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003  
Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report     Final Report

<b>Name of Company:</b> EOTT	<b>Contact:</b> Frank Hernandez
<b>Address:</b> PO Box 1660 5805 East Highway 80 Midland, Texas 79702	<b>Telephone No.:</b> 915.638.3799
<b>Facility Name:</b> 8" Moore to Jal #2	<b>Facility Type:</b> 8" Steel Pipeline

<b>Surface Owner:</b> State of New Mexico	<b>Mineral Owner:</b>	<b>Lease No.:</b>
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**LOCATION OF RELEASE**

<b>Unit Letter</b> J	<b>Section</b> 16	<b>Township</b> T17S	<b>Range</b> R37E	<b>Feet from the</b>	<b>North/South Line</b>	<b>Feet from the</b>	<b>East/West Line</b>	<b>County:</b> Lea Lat. 32 49' 56.61"N Lon. 103 15' 08.47"W
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**NATURE OF RELEASE**

<b>Type of Release</b> Crude Oil	<b>Volume of Release</b> 25 bbls barrels	<b>Volume Recovered</b> 0 bbls barrels
<b>Source of Release</b> 8" Steel Pipeline	<b>Date and Hour of Occurrence</b> EOTT	<b>Date and Hour of Discovery</b> 10-22-02 @ 7:00 PM
<b>Was Immediate Notice Given?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	<b>If YES, To Whom?</b> Larry Johnson	
<b>By Whom?</b> Pat McCasland, EPI	<b>Date and Hour</b> 10-23-02 @ 7:00 AM	
<b>Was a Watercourse Reached?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If YES, Volume Impacting the Watercourse:</b> NA	

**If a Watercourse was Impacted, Describe Fully:\*** NA

**Describe Cause of Problem and Remedial Action Taken:**\*8" Steel Pipeline. Site will be delineated to determine the vertical and horizontal extents of contamination. Contaminated soil will be blended on site or disposed of.

**Describe Area Affected and Cleanup Action Taken:**\*5,794 sqft ~160' x 40' Site will be delineated to determine the vertical and horizontal extents of contamination. Contaminated soil will be blended on site or disposed of. Remedial Goals: TPH 8015m = 100 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.

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.

<b>Signature:</b>	<b>OIL CONSERVATION DIVISION</b>		
<b>Printed Name:</b> Frank Hernandez	<b>Approved by District Supervisor:</b>		
<b>Title:</b> District Environmental Supervisor	<b>Approval Date:</b>	<b>Expiration Date:</b>	
<b>Date:</b> October 23, 2003 <b>Phone:</b> 915.638.3799	<b>Conditions of Approval:</b>		<b>Attached</b> <input type="checkbox"/>

\* Attach Additional Sheets If Necessary

<b>EOTT Site Information and Metrics</b>	Incident Date: <b>10-22-02 @ 5:00 Pm</b>	NMOCD Notified: <b>10-23-02 @ 7:00 AM</b>	
SITE: 8" Moore to Jal #2		Assigned Site Reference #: 2002-10273	
Company: EOTT			
Street Address: PO Box 1660			
Mailing Address: 5805 East Highway 80			
City, State, Zip: Midland, Texas 79702			
Representative: Frank Hernandez			
Representative Telephone: 915.638.3799			
Telephone:			
Fluid volume released (bbls): 25 bbls		Recovered (bbls): 0 bbls	
<small>&gt;25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases &gt;500 mcf Natural Gas)</small>			
<small>5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)</small>			
Leak, Spill, or Pit (LSP) Name: 8" Moore to Jal #2			
Source of contamination: 8" Steel Pipeline			
Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico			
LSP Dimensions ~160' x 40'			
LSP Area: 5,794 sqft ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32 49' 56.61"N			
Longitude: 103 15' 08.47"W			
Elevation above mean sea level:			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or ¼¼: NW¼ of the SE¼		Unit Letter: J	
Location- Section: 16			
Location- Township: T17S			
Location- Range: R37E			
Surface water body within 1000' radius of site: none			
Surface water body within 1000' radius of site:			
Domestic water wells within 1000' radius of site: none			
Domestic water wells within 1000' radius of site:			
Agricultural water wells within 1000' radius of site: none			
Agricultural water wells within 1000' radius of site:			
Public water supply wells within 1000' radius of site: none			
Public water supply wells within 1000' radius of site:			
Depth from land surface to ground water (DG) ~66' bgs			
Depth of contamination (DC) - ?			
Depth to ground water (DG - DC = DtGW) - 0			
<b>1. Ground Water</b>	<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>	
If Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points	
If Depth to GW 50 to 99 feet: 10 points		200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground water Score = 20	Wellhead Protection Area Score= 0	Surface Water Score= 0	
Site Rank (1+2+3) = 20			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	>19	10-19	0-9
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			