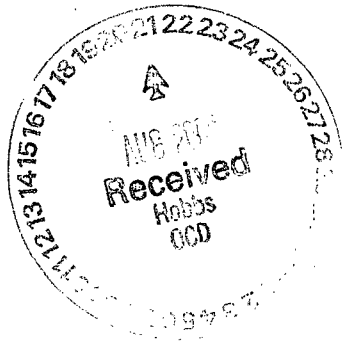
SOILS REMEDIATION WORKPLAN
VACUUM GATHERING 4"
LEA COUNTY, NEW MEXICO
SRS #2000-10833

Prepared for:

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



Prepared by:

Talon/LPE
Kyle J. Waggoner
#9 East Industrial Loop
Midland, Texas 79701

August 8, 2006

RP# 1058
application pAC0622539602

TALON LPE

AMARILLO
921 North Bivins
Amarillo, Texas 79107
Phone 806-467-0607
Fax 806-467-0622

AUSTIN
3003 Tom Gary Cove
Building C-100
Round Rock, Texas 78664
Phone 512-989-3428
Fax 512-989-3487

MIDLAND
#9 East Industrial Loop
Midland, Texas 79701
Phone 432-522-2133
Fax 432-522-2180

NEW BRAUNFELS
707 N. Walnut Ave.
Suite 208
New Braunfels, Texas 78130
Phone 210-579-0235
Fax 210-568-2191

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

Toll Free: 866-742-0742
www.talonlpe.com

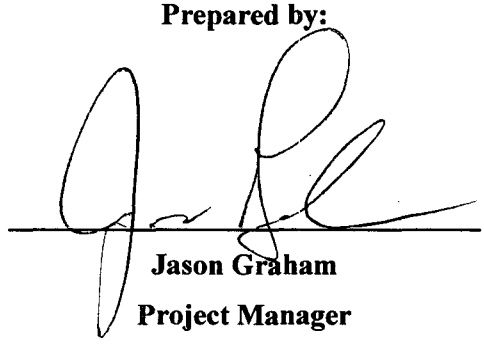
Soils Delineation Work Plan

Vacuum Gathering

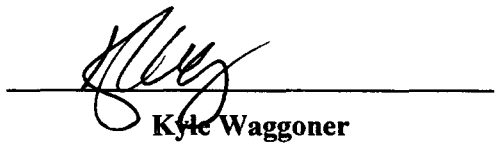
Plains Marketing, L.P.
Houston, Texas

Talon/LPE PROJECT NO. PLAINS006SPL

Prepared by:



Jason Graham
Project Manager



Kyle Waggoner
Senior Project Manager

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

August 2006

SOILS INVESTIGATION WORK PLAN

Introduction

The 4" Vacuum Gathering release site is located approximately 25 miles west of Hobbs in Lea County, New Mexico. The release occurred on property owned by Mr. Ken Smith and is utilized for cattle grazing. The site is located in a rural area in the Vacuum Oil Field, with no permanent residence or surface water within a 1,000-foot radius of the release point (Figure 1).

In December 2000, a release of approximately fifty (50) barrels of crude oil, of which eighteen (18) barrels were recovered, occurred at the site due to corrosion (internal and/or external) of the pipeline. Surficial soil saturated by the release was excavated and placed on a plastic liner.

In an effort to delineate the extent of impacted soil at the site, eighteen (18) soil borings were advanced, by Environmental Plus, Inc. (EPI), at the site to depths ranging from fifteen (15) to twenty (20) feet below ground surface (bgs) in December 2001 (Figure 2). Field analysis of soil samples collected at a depth ranging from 15 to 20 feet below ground surface (bgs) indicated organic vapor concentrations below 100 parts per million (ppm) (see Table 1).

Proposed Boring Activities

Due to the amount of time that has elapsed since the initial subsurface investigation and the presence of elevated organic vapor concentrations encountered at two (2) feet bgs in SB1 and SB9, at five (5) feet and less in SB8, and at ten (10) feet and less in SB3, it is recommended that confirmation borings be advanced adjacent to SB1, SB9, SB8, and SB3 (see Attachment 1). Each confirmation boring will be advanced to a minimal depth of 25 feet bgs with the total depth of each boring being dictated by field conditions. In addition, five (5) delineation borings will be advanced using the same techniques as above. It is recommended that the delineation borings be advanced as follows: one boring thirty (30) feet north of SB-8, one boring thirty (30) feet north and east of SB-10, one boring twenty (20) feet south of SB-9, one boring ten (10) feet north of SB-18 and the final boring centered between SB-6, SB-7 and SB-4. The delineation borings will be used to determine both horizontal and vertical migration. The total depth of each boring will be advanced ten (10) feet beyond the last measurable organic vapor photo-ionization-detector (PID) reading or to a depth at which groundwater is encountered as determined by a qualified Talon/LPE field geologist. Split spoon samples will then be taken at five (5) foot intervals to the total depth. All reusable drilling tools will be decontaminated prior to arrival onsite and between boreholes. LPE's field geologist will perform a physical inspection of the retrieved soil samples and log each sample interval using the Unified Soil Classification System (ASTM D2487-85).

Sampling Activities

During the advancement of the borings, the LPE field geologist will obtain organic vapor headspace readings from soil samples retrieved from each sampling interval. The PID will be calibrated to a one hundred (100) parts per million (PPM) isobutylene standard prior to use. The resulting data will then be recorded on the soil boring logs. A maximum of three samples from each boring will be submitted for laboratory analysis. One (1) sample will be collected from the area that resulted in the interval exhibiting the highest laboratory analyzed concentration from the previous boring, one sample from the highest PID reading, and one sample from the bottom of hole.

All soil samples submitted to the laboratory will be analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) by SW-846 Method 8021, and total petroleum hydrocarbons (TPH) by SW-846 Method 8015. Each sample will be collected utilizing new disposable sampling equipment for each sample to prevent cross contamination. Any non-disposable sampling equipment that is used will be stainless steel, and will be decontaminated using a phosphate free surfactant and de-ionized water before the collection of each sample. Any changes requested by the NMOCD will be incorporated into the sampling activities of this work plan prior to implementation.

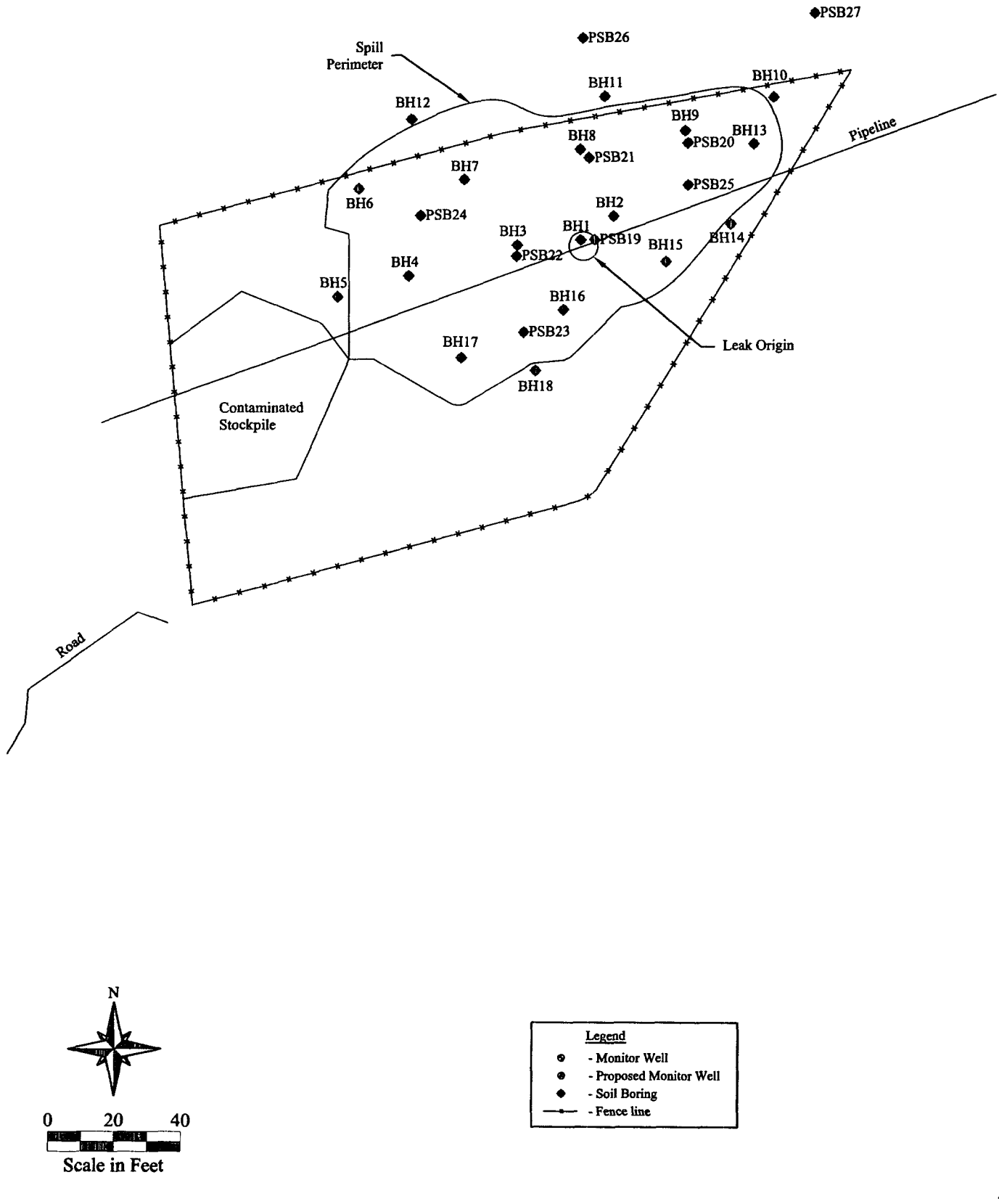
Reporting Activities

Upon completion of the proposed activities, the findings will be reported as part of a Remediation Workplan and submitted to the New Mexico Oil Conservation Division for approval.

Conclusion

Prior to any delineation activities TalonLPE recommends that Plains submit this soil delineation work plan to the NMOCD for their approval.

Attachment 1



TALON LPE

Date: 07/17/2006

Scale: 1" = 40'

Drawn By: TJS

Vacuum Gathering #2000-10833

25 Miles West of Hobbs, Lea County, NM

Plains Marketing, L.P.

Table 1

TALONLPE *Talon/LPE*

Summary of Soil Analytical Data
Vacuum Gathering 4", Lea County, New Mexico
LPE Project ID. PLAINS006SPL

Sample Designation	Date Sampled	Concentration							
		mg/Kg			µg/Kg				
		GRO	DRO	Total TPH	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX
SB1-2'	12/14/01	717	1410	2127	1120.0	14300.0	13600.0	23310.0	52330.0
SB1-5'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB1-10'	12/14/01	149	297	446	28.0	2450.0	2170.0	3670.0	8318.0
SB1-15'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB2-2'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB2-5'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB2-10'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB2-15'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB3-2'	12/14/01	681	551	1232	25.5	141.0	21.1	161.0	348.6
SB3-5'	12/14/01	2340	1800	4140	31900.0	37600.0	63300.0	114000.0	246800.0
SB3-10'	12/14/01	1660	1620	3280	2080.0	14900.0	24400.0	47900.0	89280.0
SB3-15'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB3-20'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB4-2'	12/14/01	5	18.4	23.4	20.0	20.0	20.0	40.0	100.0
SB4-5'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB4-10'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB4-15'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB5-2'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB5-5'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB5-10'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB5-15'	12/14/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB6-2'	12/17/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB6-5'	12/17/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB6-10'	12/17/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB6-15'	12/17/01	5	5	10	20.0	20.0	20.0	40.0	100.0

TALONLPE *Talon/LPE*

Summary of Soil Analytical Data
Vacuum Gathering 4", Lea County, New Mexico
LPE Project ID. PLAINS006SPL

Sample Designation	Date Sampled	Concentration							
		mg/Kg			µg/Kg				
		GRO	DRO	Total TPH	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX
SB7-2'	12/17/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB7-5'	12/17/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB7-10'	12/17/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB7-15'	12/17/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB8-2'	12/17/01	2240	6610	8850	20.0	2280.0	666.0	3252.0	6218.0
SB8-5'	12/17/01	891	1770	2661	33.6	7750.0	5170.0	19950.0	32903.6
SB8-10'	12/17/01	5	22.3	27.3	20.0	20.0	20.0	40.0	100.0
SB8-15'	12/17/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB9-2'	12/18/01	1220	10800	12020	20.0	1010.0	156.0	1709.0	2895.0
SB9-5'	12/18/01	395	507	902	20.0	1970.0	20.0	2130.0	4140.0
SB9-10'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB9-15'	12/18/01	6.03	25.7	31.73	20.0	20.0	20.0	40.0	100.0
SB10-2'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB10-5'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB10-10'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB10-15'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB11-2'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB11-5'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB11-10'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB11-15'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB12-2'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB12-5'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB12-10'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB12-15'	12/18/01	5	5	10	20.0	20.0	20.0	40.0	100.0

TALON LPE — Talon/LPE

Summary of Soil Analytical Data
Vacuum Gathering 4", Lea County, New Mexico
LPE Project ID. PLAINS006SPL

Sample Designation	Date Sampled	Concentration							
		mg/Kg			µg/Kg				
		GRO	DRO	Total TPH	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX
SB13-2'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB13-5'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB13-10'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB13-15'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB14-2'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB14-5'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB14-10'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB14-15'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB15-2'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB15-5'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB15-10'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB15-15'	12/19/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB16-2'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB16-5'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB16-10'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB16-15'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB17-2'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB17-5'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB17-10'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB17-15'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB18-2'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB18-5'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB18-10'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0
SB18-15'	12/20/01	5	5	10	20.0	20.0	20.0	40.0	100.0

GRO = Gasoline Range Organics
DRO = Diesel Range Organics
Total TPH = GRO + DRO