

AP - 37

STAGE 2 REPORTS

DATE:

7-30-07



**PLAINS
PIPELINE**

AP 037

RECEIVED

August 8, 2007

2007 AUG 13 PM 1 48

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

Re: Plains Pipeline, L.P. Soils Closure Report
Lovington Deep 6" Release Site
Section 6, Township 17 South, Range 36 East
Lea County, New Mexico
NMOCD Ref.# AP-037

Dear Mr. Price,

Plains Pipeline, L. P. is pleased to submit the attached Soils Closure Report, dated July 30, 2007, for the Lovington Deep 6" release site located in Section 6 of Township 17 South, and Range 36 East of Lea County, New Mexico. This document 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

Enclosure

AP037

**SOILS CLOSURE REPORT
LOVINGTON DEEP 6"
LEA COUNTY, NEW MEXICO
NMOCD REF. # AP-037
SRS # 2002-10312**

Section 6, Township 17 South, Range 36 East

Prepared for:

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

Prepared by:

Talon/LPE
Marc Stroope
318 E. Taylor St.
Hobbs, New Mexico 88240

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Copy 4 – NMOCD Hobbs
Copy 5 – Talon/LPE

July 30, 2007

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**Soils Closure Report
Lovington Deep 6"**

**Plains Pipeline, L.P.
Houston, Texas**

Talon/LPE PROJECT NO. PLAINS046SPL

Prepared by:



**Marc Stroope
Senior Project Manager**



**Kyle Waggoner, P. G.
Senior Project Manager**

**Talon/LPE
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July 2007

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NMOCD - New Mexico Oil Conservation Division

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Initial C-141 Report

Final C-141 Report

1.0 INTRODUCTION

1.1 Site Location

The Lovington Deep 6" release site is located approximately 5.8 miles southwest of Lovington in Lea County, New Mexico. The GPS coordinates for the site are 32°52'1.132"N latitude and 103°23'16.570"W longitude. The release occurred on property owned by Darr Angell and is utilized as pasture land. 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 release site. A topographic map is provided as Figure 1 in Appendix A.

1.2 Site Background

In December 2002, a release of approximately twenty-five (25) barrels of crude oil, of which ten (10) barrels were recovered, occurred at the site due to corrosion (internal and/or external) of the pipeline. The release occurred from a Link Energy pipeline at this location. Subsequently, Plains Pipeline, L.P. (Plains) purchased the assets of Link Energy on April 1, 2004. Approximately six thousand (6,000) square feet of surface area was impacted by the release. Initial work at the site was conducted by Environmental Plus, Inc. (EPI). Surficial soil impacted by the release was excavated and transported to a New Mexico Oil Conservation Division (NMOCD) approved land farm for treatment.

1.3 Regulatory Framework

The NMOCD has developed guidance for all federal, state, and fee lands in New Mexico for remediating contaminants resulting from leaks, spills, and releases of oilfield wastes or products. This guidance assigns ranking scores to sites based on depth to groundwater, distance from water supply sources, and distance to surface water bodies, and provides remediation/clean-up targets for benzene, Total BTEX (benzene, toluene, ethylbenzene, and xylenes), and total petroleum hydrocarbons (TPH). Based on site visits and a review of aerial photographs, the Lovington Deep 6" site is located in a rural area with no permanent residence or surface water within a 1,000 foot radius of the release point. According to information available from the New Mexico Office of the State Engineer, the nearest water well is greater than 1000 feet from the site. Based on groundwater elevation data, the approximate depth to water at the site is 50 feet below ground surface (bgs).

According to NMOCD guidance, and based on depth to groundwater, distance from water supply sources, and distance to surface water bodies, the ranking for this site is twenty (20). The ranking process is summarized below:

<u>Criteria:</u>	<u>Site Condition:</u>	<u>Ranking Score:</u>
Depth to Groundwater	50 feet	20
<1,000 Feet to Water Source?	No	0
<200 Feet to Private Domestic Water Source?	No	0
Distance to Surface Water Body	>1,000 feet	0
Total Score:		20

Based on the calculated rating, the applicable remediation guidelines for this site are as follows:

Benzene	10 ppm
Total BTEX	50 ppm
TPH	100 ppm

2.0 PROPOSED FIELD ACTIVITIES

2.1 Stage 1 and Stage 2 Abatement Plan

In August 2004, EPI, on behalf of Plains, submitted the Stage 1 and Stage 2 Abatement Plan (Abatement Plan) to the NMOCD for the continuing investigation and remediation of the Lovington Deep 6" site. According to the Abatement Plan, the highly contaminated/saturated soils near the surface of the release area had been successfully remediated by excavation and disposal or treatment. The Abatement Plan proposed additional soil boring, if deemed appropriate, to further delineate the extent of unsaturated soils. Because the groundwater at the release site was impacted, a total of five monitor wells were installed at the site. It was proposed in the Abatement Plan that quarterly groundwater monitoring be conducted until four consecutive quarters of monitor well data showed concentrations below groundwater regulatory limits. Based on information collected during the preliminary soil delineation phase of the project, the Abatement Plan proposed the isolation of the remaining crude oil source by installing an engineered and tested clay barrier.

2.2 November 2005 E-mail Correspondence

On November 17, 2005, Plains sent an e-mail communication to Ed Martin with the NMOCD, in which Plains requested changes to the Abatement Plan. These changes included the request to install a 20 mil synthetic liner in place of the clay barrier as proposed in the Abatement Plan. The e-mail communication also proposed the sectioning of the stockpiled soil into 1,000 cubic yard grids and the collection of a five point composite sample of each grid.

On November 22, 2005, Mr. Martin approved the request submitted by Plains (reference Appendix E). Subsequently, on March 30, 2006, Mr. Darr Angell, the landowner, approved the changes made to the Abatement Plan.

3.0 FIELD ACTIVITIES

The following sections present a summary of the investigation and remediation activities conducted at the Lovington Deep 6" site, in accordance with the NMOCD approved Abatement Plan and November 2005 e-mail correspondence. The focus of the investigation was the excavation and remediation of hydrocarbon impacted soils exceeding applicable NMOCD delineation/remediation limits.

3.1 Soil Investigation Activities

In 2003, EPI commenced excavating the impacted soil. EPI removed soil to approximately 3 feet bgs at the source area, generating approximately 1,102 cubic yards of material which was disposed of in the NMOCD approved and permitted South Monument Surface Waste Management Facility. Additional excavation removed approximately 10,500 cubic yards of soil

to a depth of approximately 3 feet bgs in the flow path and approximately 10 feet bgs near the leak origin. This soil was processed through a soil shredder to separate rocks from landfarmable soil and to promote natural attenuation by aeration and volatilization. Upon completion of excavation activities, a composite sample from the excavation bottom (BHC), a grab sample from the bottom hole point of release (BHPOR), and sidewall samples from the north (SELD612003NSW), south (SELD612003SSW), east (SELD612003ESW), and west (SELD612003WSW) sidewalls were collected on January 20, 2003. Based on these analytical results, additional excavation was performed on the sidewalls. After the completion of over-excavation activities, confirmation samples were collected from the north (SELD6030703NSW), south (SELD6030703SSW), east (SELD6030703ESW) and west (SELD6030703WSW) sidewalls on March 7, 2003 (reference Figure 2).

3.2 Analytical Procedures

The soil samples were placed in laboratory prepared glassware and sealed with custody tape. The samples were placed in coolers and relinquished to AnalySys Inc. in Austin, Texas for analysis. The soil samples were analyzed for BTEX using EPA method 8260B and TPH by EPA method 8015. The chain-of-custody forms and laboratory data sheets are provided in Appendix C.

3.3 Soil Sampling Results

The composite sample from the excavation bottom (BHC) collected on January 20, 2003 demonstrates that the bottom hole excavation area is below NMOCD remedial threshold limits for benzene, Total BTEX and TPH. The bottom hole point of release grab sample (BHPOR) collected on January 20, 2003 demonstrates that the bottom hole point of release area exceeds NMOCD remedial threshold limits for Total BTEX (257 mg/Kg) and TPH (8,380 mg/Kg) as referenced in Table 1. Similarly, the north (SELD612003NSW), south (SELD612003SSW), east (SELD612003ESW), and west (SELD612003WSW) sidewall samples collected on January 20, 2003 exhibited TPH concentrations exceeding NMOCD remedial threshold limits with concentrations of 1,490 mg/Kg, 4,745 mg/Kg, 370 mg/Kg, and 6,660 mg/Kg respectively (reference Table 1). The sidewall confirmation sample results from March 7, 2003 demonstrate that subsequent to over-excavation, all sidewall areas (SELD6030703NSW, SELD6030703SSW, SELD6030703ESW, and SELD6030703WSW) are below NMOCD remedial threshold limits for benzene, Total BTEX and TPH (reference Table 1).

3.4 Soil Remediation Activities

Once it was demonstrated that the sidewall areas were below NMOCD remedial threshold limits, per the NMOCD as approved in the November 22, 2005 e-mail communication, a 20 mil synthetic liner was installed at a depth of 9 feet bgs on the floor of the excavation area. A six inch protective layer of sand was placed above and below the synthetic liner to protect it from rips and tears. The 10,500 cubic yards of stockpiled soil which were previously processed through a shredder to separate rock from soil were tested in 1,000 cubic yard five point composite increments to ensure that the soil exhibited VOC headspace readings of <100.0 ppm. Based on VOC headspace readings of <100.0 ppm, the impacted soil was deemed acceptable under the NMOCD-approved revised Abatement Plan and was placed in the excavation area as

backfill (reference Table 2).

3.5 Site Restoration Activities

Subsequent to soil remediation, the excavation site was backfilled with the PID screened stockpile soil and rock which exhibited VOC headspace readings of <100.0 ppm. An additional 600 cubic yards of non-impacted topsoil was transported to the site to bring the site to natural grade. A backhoe, bulldozer and loader were utilized to restore the site to natural grade. The site will be revegetated with grasses acceptable to the landowner.

4.0 CONCLUSIONS

4.1 Recommendations

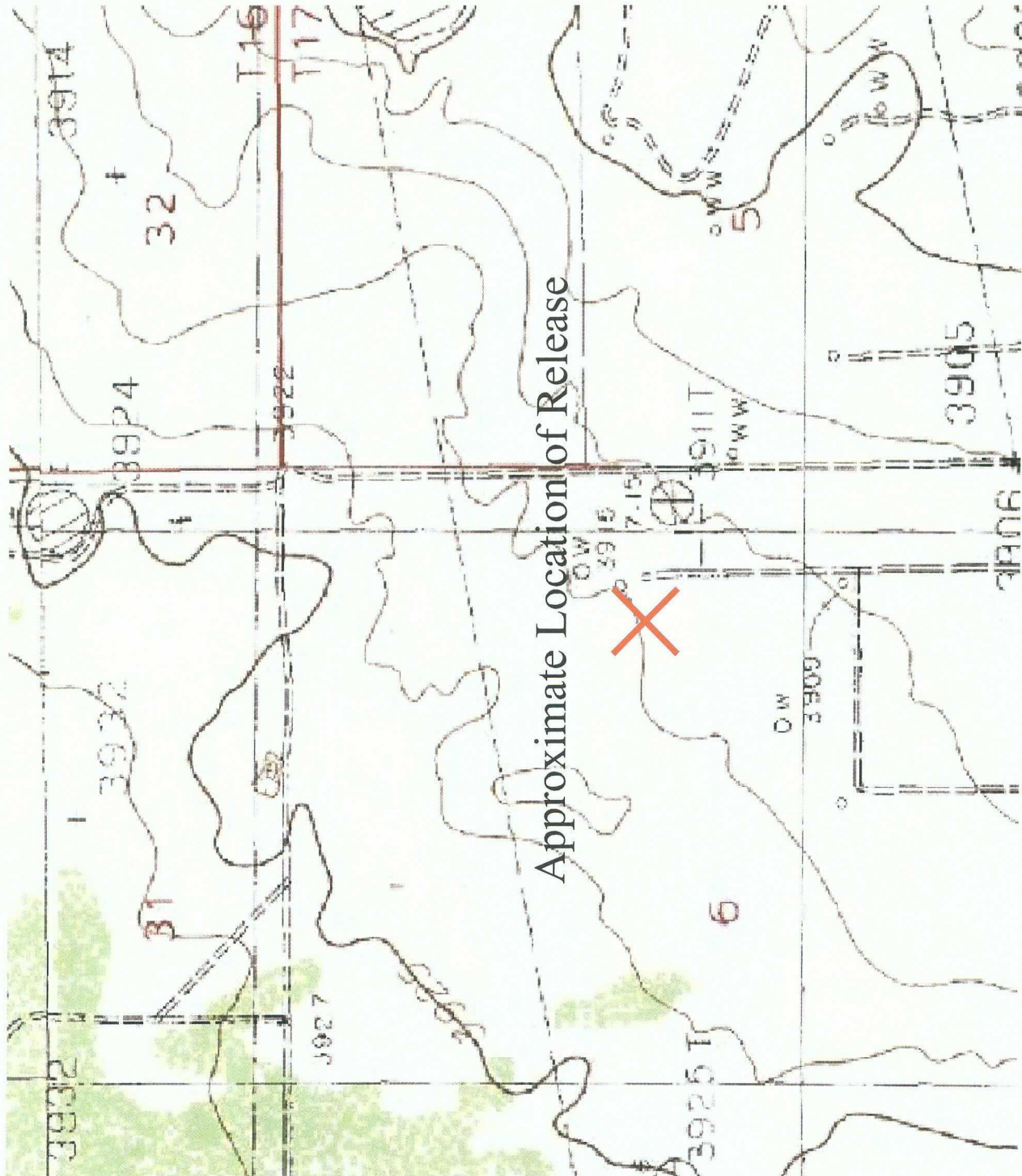
Based upon the findings of this investigation, Talon/LPE makes no further recommendations for future remediation activities in regard to the soil related to this release. Talon/LPE proposes that this report be the final action in regards to the soil investigation and remediation activities at the site and recommends that Plains submit a copy of this report to the NMOCD. Talon/LPE requests that this report be the final document and action in regard to soil activities related to this release and that the NMOCD issue a letter to Plains requiring no further action. In addition, Talon/LPE recommends that Plains continue with product recovery and groundwater monitoring efforts.

Appendix A

Drawings

Figure 1 – Topographic Map

Figure 2 – Site Map With Confirmation Sampling Locations



Approximate Location of Release



0 250 500
Scale in Feet

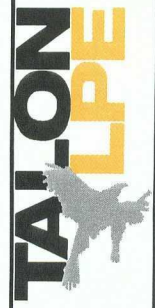
Lovington Deep 6" (#2002-10312)
SE 1/4 of the NE 1/4, Sec. 6, T17S, R36E
Lea County, New Mexico

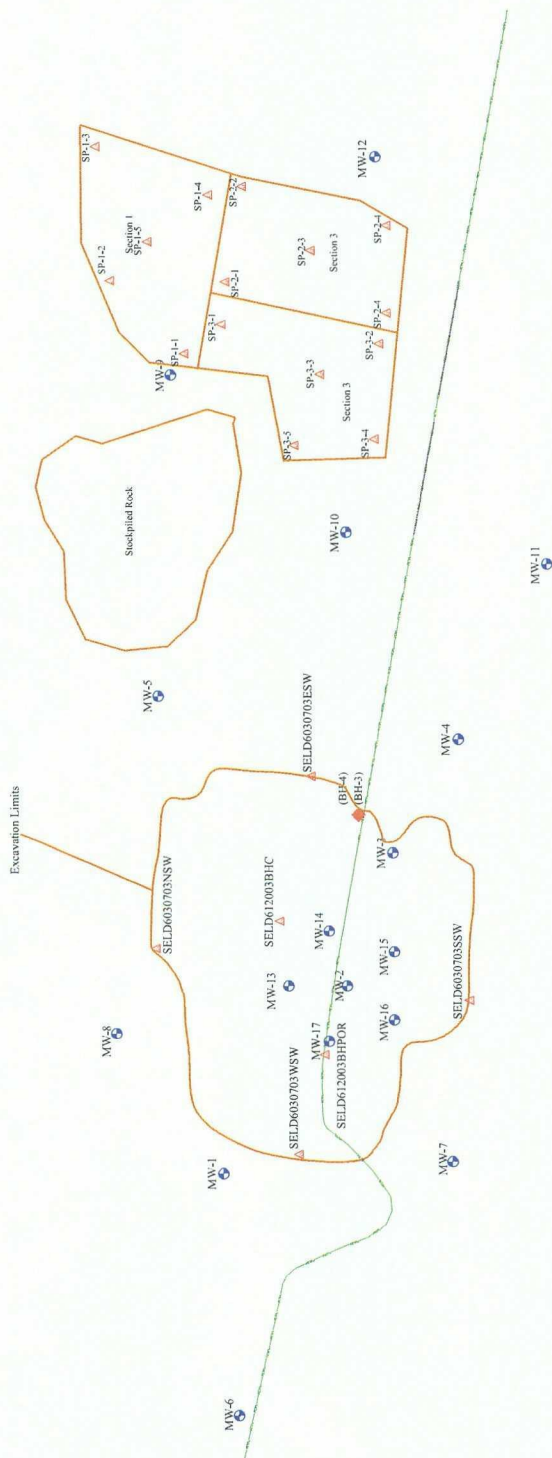
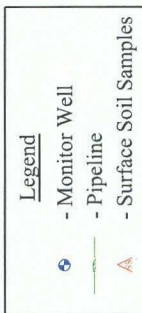
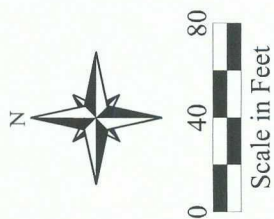
Figure 1 - Topographic Map - Lovington SW - 1985

Date: 05/07/2007

Scale: 1" = 500'

Drawn By: WDR





Date: 06/05/2007

Scale: 1" = 80'

Drawn By: WDR

Lovington Deep 6" (#2002-10312)
SE 1/4 of the NE 1/4, Sec. 6, T17S, R36E
Lea County, New Mexico

Figure 2 - Site Map with Confirmation Sampling Locations

APPENDIX B

Tables

Table 1 – Summary of Soil Analytical Data

Table 2 – Summary of Stockpile PID Readings

Table 1
Summary of Soil Analytical Data
Plains Pipeline, L.P.
Lovington Deep 6"
Lea County, NM SRS# 2002-10312
Talon/LPE Project Number PLAINS046SPL

Sample Designation	Date Sampled	Concentration					
		mg/Kg	mg/Kg				
		Total TPH	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX
SELD612003WSW	01/20/03	6,660	0.0752	1.210	1.010	6.120	8.4152
SELD612003ESW	01/20/03	370	<0.020	<0.020	<0.020	0.0388	0.0388
SELD612003NSW	01/20/03	1,490	<0.020	0.145	0.162	0.703	1.010
SELD612003SSW	01/20/03	4,745	<0.020	<0.020	<0.020	0.0805	0.0805
SELD612003BHC	01/20/03	19.6	<0.020	<0.020	<0.020	<0.020	<0.020
SELD612003BHPOR	01/20/03	8,380	2.690	69.600	39.700	145	257
SELD6030703WSW	03/07/03	<5	<0.020	0.0241	<0.020	<0.020	0.0241
SELD6030703ESW	03/07/03	<5	<0.020	<0.020	<0.020	<0.020	<0.020
SELD6030703NSW	03/07/03	<5	<0.020	<0.020	<0.020	<0.020	<0.020
SELD6030703SSW	03/07/03	<5	<0.020	<0.020	<0.020	<0.020	<0.020
NMOCD Remediation Guildelines		100	10				50

Bolded values are in excess of the NMOCD Remediation Thresholds

Table 2
Summary of Stockpile PID Readings
Plains Pipeline, L.P.
Lovington Deep 6"
Lea County, NM SRS# 2002-10312
Talon/LPE Project Number PLAINS046SPL

Sample Point	Date Sampled	Sampling Interval (ft bgs)	PID Readings (ppm)
SP-1-1	3/28/2006	1	1.5
		2	24.5
		3	18.9
		4	11.6
		5	0.9
SP-1-2	3/28/2006	1	0.0
		2	0.0
		3	0.0
		4	1.4
		5	0.2
SP-1-3	3/28/2006	1	15.3
		2	9.0
		3	6.4
		4	10.9
		5	1.3
SP-1-4	3/28/2006	1	7.9
		2	0.9
		3	0.6
		4	0.5
		5	0.3
SP-1-5	3/28/2006	1	14.3
		2	11.3
		3	4.0
		4	2.3
		5	0.8
SP-2-1	3/28/2006	1	1.8
		2	0.8
		3	0.6
		4	0.5
		5	2.7

Table 2
Summary of Stockpile PID Readings
Plains Pipeline, L.P.
Lovington Deep 6"
Lea County, NM SRS# 2002-10312
Talon/LPE Project Number PLAINS046SPL

Sample Point	Date Sampled	Sampling Interval (ft bgs)	PID Readings (ppm)
SP-2-2	3/28/2006	1	33.8
		2	17.1
		3	2.7
		4	2.1
		5	0.8
SP-2-3	3/28/2006	1	13.2
		2	2.2
		3	1.5
		4	0.6
		5	0.4
SP-2-4	3/28/2006	1	12.6
		2	12.4
		3	7.3
		4	13.5
		5	3.0
SP-2-5	3/28/2006	1	36.7
		2	19.0
		3	14.0
		4	21.8
		5	2.4
SP-3-1	3/28/2006	1	21.4
		2	2.3
		3	0.8
		4	0.5
		5	0.5
SP-3-2	3/28/2006	1	12.0
		2	2.2
		3	3.7
		4	1.3
		5	0.6

Table 2
Summary of Stockpile PID Readings
Plains Pipeline, L.P.
Lovington Deep 6"
Lea County, NM SRS# 2002-10312
Talon/LPE Project Number PLAINS046SPL

Sample Point	Date Sampled	Sampling Interval (ft bgs)	PID Readings (ppm)
SP-3-3	3/28/2006	1	6.0
		2	11.2
		3	6.5
		4	3.3
		5	1.6
SP-3-4	3/28/2006	1	5.2
		2	1.1
		3	2.9
		4	0.3
		5	0.5
SP-3-5	3/28/2006	1	13.3
		2	7.4
		3	4.6
		4	8.1
		5	9.4
NMOCD Remediation Guildelines			100

APPENDIX C

Laboratory Analytical Data Sheets and Chain of Custody Documentation



3512 Montopolis Drive, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.

Attn: Pat McCasland

Address: 2100 Ave. O

Euinee

NM 88231

Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 138509 **Report Date:** 01/27/03

Project ID: 2002-10384 Lovington Deep 6"

Sample Name: SELD612003WSW

Sample Matrix: soil

Date Received: 01/21/2003 **Time:** 09:50

Date Sampled: 01/20/2003 **Time:** 08:10

REPORT OF ANALYSIS

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	5920	mg/Kg	50	<50	01/23/03	8015 mod.	---	19	123.3	95.6	95
TPH by GC (as diesel-ext)	---	---	---	---	01/22/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	740	mg/Kg	50	<50	01/23/03	8015 mod.	---	15.3	122.8	88.5	109.8
Volatile organics-8260b/BTEX	---	---	---	---	01/23/03	8260b	---	---	---	---	---
Benzene	75.2	µg/Kg	20	<20	01/23/03	8260b	---	1.3	91.5	82.5	89
Ethylbenzene	1010	µg/Kg	20	<20	01/23/03	8260b	---	0.7	95	99.3	97.3
m,p-Xylenes	4270	µg/Kg	20	<20	01/23/03	8260b	---	0.7	95.5	98.4	98.1
o-Xylene	1850	µg/Kg	20	<20	01/23/03	8260b	---	1.1	95.6	97.5	99.7
Toluene	1210	µg/Kg	20	<20	01/23/03	8260b	---	1.5	95.1	80.8	91.4

QUALITY ASSURANCE DATA¹

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

Richard Laster

Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than (" $<$ ") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 = MS and/or MSD recovery exceed advisory limits. S2 = Post digestion spike (PDS) recovery exceeds advisory limit. S3 = MS and/or MSD and PDS recoveries exceed advisory limits. P = Precision higher than advisory limit. M = Matrix interference.



3512 Montopolis Drive, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10384 Lovington Deep 6"
Sample Name: SELD612003WSW

Report#/Lab ID#: 138509
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5	8015 mod.	none/diluted	diluted @ 5X	D
p-Terphenyl	8015 mod.	none/diluted	diluted @ 5X	D
1,2-Dichloroethane-d4	8260b	93.9	65-115	---
Toluene-d8	8260b	108	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Exceptions Report:

Report #/Lab ID#: 138509	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2002-10384 Lovington Deep 6"		
Sample Name: SELD612003WSW		

Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

Sample Bottles & Preservation

- ☒ Sample received in appropriate container(s) and appear to be appropriately preserved.
- ☐ Sample received in appropriate container(s). State of sample preservation unknown.
- ☐ Sample received in inappropriate container(s) and/or with unknown state of preservation.

J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Nitrobenzene-d5	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Nitrobenzene-d5	D	
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	

Notes:



3512 Montopolis Drive, Austin, TX 78744 &
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Client: Environmental Plus, Inc.

Attn: Pat McCasland

Address: 2100 Ave. O

Eunice

NM 88231

Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 138510 **Report Date:** 01/27/03

Project ID: 2002-10384 Lovington Deep 6"

Sample Name: SELD612003ESW

Sample Matrix: soil

Date Received: 01/21/2003 **Time:** 09:50

Date Sampled: 01/20/2003 **Time:** 08:30

REPORT OF ANALYSIS

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	364	mg/Kg	5	<5	01/22/03	8015 mod.	---	19	123.3	95.6	95
TPH by GC (as diesel-ext)	---	---	---	---	01/22/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	6.47	mg/Kg	5	<5	01/22/03	8015 mod.	---	15.3	122.8	88.5	109.8
Volatile organics-8260b/BTEX	---	---	---	---	01/24/03	8260b	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	01/24/03	8260b	J	0.1	96.8	104.5	103
Ethylbenzene	<20	µg/Kg	20	<20	01/24/03	8260b	J	1.3	121.8	115.2	125.6
m,p-Xylenes	38.8	µg/Kg	20	<20	01/24/03	8260b	---	0.8	119.2	112.7	119
o-Xylene	<20	µg/Kg	20	<20	01/24/03	8260b	J	0.2	117.9	117	121
Toluene	<20	µg/Kg	20	<20	01/24/03	8260b	J	1.3	106.1	110.7	109.6

QUALITY ASSURANCE DATA¹

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

Richard Laster

Richard Laster

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3512 Montopolis Drive, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10384 Lovington Deep 6"
Sample Name: SELD612003ESW

Report#/Lab ID#: 138510
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5 p-Terphenyl	8015 mod.	62.1	50-150	---
	8015 mod.	71.2	50-150	---
1,2-Dichloroethane-d4 Toluene-d8	8260b	91.9	65-115	---
	8260b	110	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Exceptions Report:

Report #/Lab ID#: 138510	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2002-10384	Lovington Deep 6"	
Sample Name: SELD612003ESW		

Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

Sample Bottles & Preservation

- ☒ Sample received in appropriate container(s) and appear to be appropriately preserved.
- ☐ Sample received in appropriate container(s). State of sample preservation unknown.
- ☐ Sample received in inappropriate container(s) and/or with unknown state of preservation.

J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Benzene	J	See J-flag discussion above.
Ethylbenzene	J	See J-flag discussion above.
o-Xylene	J	See J-flag discussion above.
Toluene	J	See J-flag discussion above.

Notes:



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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.

Attn: Pat McCasland

Address: 2100 Ave. O

Eunice

NM 88231

Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 138511 **Report Date:** 01/27/03

Project ID: 2002-10384 Lovington Deep 6"

Sample Name: SELD612003NSW

Sample Matrix: soil

Date Received: 01/21/2003 **Time:** 09:50

Date Sampled: 01/20/2003 **Time:** 09:00

REPORT OF ANALYSIS

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	1090	mg/Kg	5	<5	01/22/03	8015 mod.	---	19	123.3	95.6	95
TPH by GC (as diesel-ext)	---	---	---	---	01/22/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	400	mg/Kg	5	<5	01/22/03	8015 mod.	---	15.3	122.8	88.5	109.8
Volatile organics-8260b/BTEX	---	---	---	---	01/23/03	8260b	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	01/23/03	8260b	J	1.3	91.5	82.5	89
Ethylbenzene	162	µg/Kg	20	<20	01/23/03	8260b	---	0.7	95	99.3	97.3
m,p-Xylenes	447	µg/Kg	20	<20	01/23/03	8260b	---	0.7	95.5	98.4	98.1
o-Xylene	256	µg/Kg	20	<20	01/23/03	8260b	---	1.1	95.6	97.5	99.7
Toluene	145	µg/Kg	20	<20	01/23/03	8260b	---	1.5	95.1	80.8	91.4

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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10384 Lovington Deep 6"
Sample Name: SELD612003NSW

Report#/Lab ID#: 138511
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5 p-Terphenyl	8015 mod.	85	50-150	---
	8015 mod.	51.7	50-150	---
1,2-Dichloroethane-d4 Toluene-d8	8260b	89	65-115	---
	8260b	103	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Exceptions Report:

Report #/Lab ID#: 138511 Matrix: soil
Client: Environmental Plus, Inc. Attn: Pat McCasland
Project ID: 2002-10384 Lovington Deep 6"
Sample Name: SELD612003NSW

Sample Temperature/Condition <=6°C

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Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Benzene	J	See J-flag discussion above.

Notes:



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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.

Attn: Pat McCasland

Address: 2100 Ave. O

Eunice

NM 88231

Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 138512 **Report Date:** 01/27/03

Project ID: 2002-10384 Lovington Deep 6"

Sample Name: SELD612003SSW

Sample Matrix: soil

Date Received: 01/21/2003 **Time:** 09:50

Date Sampled: 01/20/2003 **Time:** 09:30

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA¹

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	4310	mg/Kg	50	<50	01/23/03	8015 mod.	---	19	123.3	95.6	95
TPH by GC (as diesel-ext)	---	---	---	---	01/22/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	435	mg/Kg	5	<5	01/22/03	8015 mod.	---	15.3	122.8	88.5	109.8
Volatile organics-8260b/BTEX	---	---	---	---	01/22/03	8260b	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	01/22/03	8260b	---	1.3	91.5	82.5	89
Ethylbenzene	<20	µg/Kg	20	<20	01/22/03	8260b	---	0.7	95	99.3	97.3
m,p-Xylenes	42.7	µg/Kg	20	<20	01/22/03	8260b	---	0.7	95.5	98.4	98.1
o-Xylene	37.8	µg/Kg	20	<20	01/22/03	8260b	---	1.1	95.6	97.5	99.7
Toluene	<20	µg/Kg	20	<20	01/22/03	8260b	J	1.5	95.1	80.8	91.4

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Respectfully Submitted,

Richard Laster

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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10384 Lovington Deep 6"
Sample Name: SELD612003SSW

Report#/Lab ID#: 138512
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5 p-Terphenyl	8015 mod.	51.3	50-150	---
	8015 mod.	none/diluted	diluted @ 5X	D
1,2-Dichloroethane-d4 Toluene-d8	8260b	88.9	65-115	---
	8260b	103	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Exceptions Report:

Report #/Lab ID#: 138512	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2002-10384	Lovington Deep 6"	
Sample Name: SELD612003SSW		

Sample Temperature/Condition <=6°C

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Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Toluene	J	See J-flag discussion above.
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic
p-Terphenyl	D	levels). Surrogate recoveries not accurately quantifiable.

Notes:



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Client: Environmental Plus, Inc.

Attn: Pat McCasland

Address: 2100 Ave. O

Eunice

NM 88231

Phone: (505) 394-3481

FAX: (505) 394-2601

Report#/Lab ID#: 138513

Report Date: 01/27/03

Project ID: 2002-10384 Lovington Deep 6"

Sample Name: SELD612003BHC

Sample Matrix: soil

Date Received: 01/21/2003

Time: 09:50

Date Sampled: 01/20/2003

Time: 10:00

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA¹

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	19.6	mg/Kg	5	<5	01/23/03	8015 mod.	---	19	123.3	95.6	95
TPH by GC (as diesel-ext)	---	---	---	---	01/22/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	01/23/03	8015 mod.	---	15.3	122.8	88.5	109.8
Volatile organics-8260b/BTEX	---	---	---	---	01/22/03	8260b	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	01/22/03	8260b	---	1.3	91.5	82.5	89
Ethylbenzene	<20	µg/Kg	20	<20	01/22/03	8260b	---	0.7	95	99.3	97.3
m,p-Xylenes	<20	µg/Kg	20	<20	01/22/03	8260b	---	0.7	95.5	98.4	98.1
o-Xylene	<20	µg/Kg	20	<20	01/22/03	8260b	---	1.1	95.6	97.5	99.7
Toluene	<20	µg/Kg	20	<20	01/22/03	8260b	---	1.5	95.1	80.8	91.4

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Respectfully Submitted,

Richard Laster

Richard Laster

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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10384 Lovington Deep 6"
Sample Name: SELD612003BHC

Report#/Lab ID#: 138513
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5 p-Terphenyl	8015 mod.	68.2	50-150	---
	8015 mod.	68.6	50-150	---
1,2-Dichloroethane-d4 Toluene-d8	8260b	92.3	65-115	---
	8260b	105	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.



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Address: 2100 Ave. O

Eunice

NM 88231

Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 138514 **Report Date:** 01/27/03

Project ID: 2002-10384 Lovington Deep 6"

Sample Name: SELD612003BHPOR

Sample Matrix: soil

Date Received: 01/21/2003 **Time:** 09:50

Date Sampled: 01/20/2003 **Time:** 10:30

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA¹

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	4310	mg/Kg	50	<50	01/23/03	8015 mod.	---	19	123.3	95.6	95
TPH by GC (as diesel-ext)	---	---	---	---	01/22/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	4070	mg/Kg	50	<50	01/23/03	8015 mod.	---	15.3	122.8	88.5	109.8
Volatile organics-8260b/BTEX	---	---	---	---	01/22/03	8260b	---	---	---	---	---
Benzene	2690	µg/Kg	100	<100	01/23/03	8260b	---	1.3	91.5	82.5	89
Ethylbenzene	39700	µg/Kg	5000	<5000	01/22/03	8260b	---	0.7	95	99.3	97.3
m,p-Xylenes	105000	µg/Kg	5000	<5000	01/22/03	8260b	---	0.7	95.5	98.4	98.1
o-Xylene	40000	µg/Kg	5000	<5000	01/22/03	8260b	---	1.1	95.6	97.5	99.7
Toluene	69600	µg/Kg	5000	<5000	01/22/03	8260b	---	1.5	95.1	80.8	91.4

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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10384 Lovington Deep 6"
Sample Name: SELD612003BHPOR

Report#/Lab ID#: 138514
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
Nitrobenzene-d5 p-Terphenyl	8015 mod.	none/diluted	diluted @ 5X	D
	8015 mod.	none/diluted	diluted @ 5X	D
1,2-Dichloroethane-d4 Toluene-d8	8260b	105	65-115	---
	8260b	105	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Exceptions Report:

Report #/Lab ID#: 138514 **Matrix:** soil
Client: Environmental Plus, Inc. **Attn:** Pat McCasland
Project ID: 2002-10384 Lovington Deep 6"
Sample Name: SELD612003BHIPOR

Sample Temperature/Condition <=6°C

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Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Nitrobenzene-d5	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
Nitrobenzene-d5	D	
p-Terphenyl	D	Sample diluted to assure quantitation within calibration range or due to Matrix interferences or other matrix effects (eg. high non-target organic levels). Surrogate recoveries not accurately quantifiable.
p-Terphenyl	D	

Notes:

[Tendering of above described samples to AnalySys, Inc. for analytical testing constitutes agreement by buyer/sampler to AnalySys, Inc.'s standard terms.]



3512 Montopolis Drive, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland
Address: 2100 Ave. O
Eunice NM 88231

Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 140347 **Report Date:** 03/25/03
Project ID: 2002-10312
Sample Name: SELD6030703WSW
Sample Matrix: soil
Date Received: 03/12/2003 **Time:** 09:00
Date Sampled: 03/07/2003 **Time:** 11:35

REPORT OF ANALYSIS

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	<5	mg/Kg	5	<5	03/21/03	8015 mod.	J	4	122.4	121.2	107.6
TPH by GC (as diesel-ext)	---	---	---	---	03/21/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	03/21/03	8015 mod.	---	8.9	91.3	97.6	84.3
Volatile organics-8260b/BTEX	---	---	---	---	03/15/03	8260b	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	03/15/03	8260b	---	5.2	97	95.9	100.4
Ethylbenzene	<20	µg/Kg	20	<20	03/15/03	8260b	J	1.9	100.6	100.1	101.3
m,p-Xylenes	<20	µg/Kg	20	<20	03/15/03	8260b	J	4.3	95.3	91.9	95.7
o-Xylene	<20	µg/Kg	20	<20	03/15/03	8260b	---	4.1	101.1	98.3	101.2
Toluene	24.1	µg/Kg	20	<20	03/15/03	8260b	---	0.4	86.2	89.6	93.2

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

Richard Laster

Richard Laster

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3512 Montopolis Drive, Austin, TX 78744 &
2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10312

Sample Name: SELD6030703W/SW

Report#/Lab ID#: 140347
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-chlorooctane p-Terphenyl	8015 mod.	111	50-150	---
	8015 mod.	65.8	50-150	---
1,2-Dichloroethane-d4 Toluene-d8	8260b	106	65-115	---
	8260b	119	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Exceptions Report:

Report #/Lab ID#: 140347	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2002-10312		
Sample Name: SELD6030703WSW		

Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

Sample Bottles & Preservation

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☐ Sample received in appropriate container(s). State of sample preservation unknown.
☐ Sample received in inappropriate container(s) and/or with unknown state of preservation.

J flag Discussion

A J flag data qualifier indicates (as required under TCEQ-TRRP reporting requirements) that the raw calculated analyte concentration in the sample (uncorrected for background levels/blanks and other potential sources of sampling and analytical contamination), though less than the Reported Quantitation Limit (RQL) is greater than the Detection Limit. Because the reported result is below the quantitation limit for this project/sample (or test procedure), GC/MS organics results may or MAY NOT have been verified as to the presence and relative ratio of target ions (eg. the material causing the J flag "hit" in such situations may be nothing more than background ion-fragment noise.)

Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
TPH by GC (as diesel)	J	See J-flag discussion above.
Ethyl/benzene	J	See J-flag discussion above.
m,p-Xylenes	J	See J-flag discussion above.

Notes:



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Client: Environmental Plus, Inc.
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Address: 2100 Ave. O
Eunice NM 88231

Phone: (505) 394-3481 **FAX:** (505) 394-2601

Report#/Lab ID#: 140348 **Report Date:** 03/25/03
Project ID: 2002-10312
Sample Name: SELD6030703ESW
Sample Matrix: soil
Date Received: 03/12/2003 **Time:** 09:00
Date Sampled: 03/07/2003 **Time:** 11:40

REPORT OF ANALYSIS

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	<5	mg/Kg	5	<5	03/21/03	8015 mod.	---	4	122.4	121.2	107.6
TPH by GC (as diesel-ext)	---	---	---	---	03/21/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	03/21/03	8015 mod.	---	8.9	91.3	97.6	84.3
Volatile organics-8260b/BTEX	---	---	---	---	03/13/03	8260b	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	03/13/03	8260b	---	7.7	117.5	94	113.5
Ethylbenzene	<20	µg/Kg	20	<20	03/13/03	8260b	J	0.8	116.5	113	126.4
m,p-Xylenes	<20	µg/Kg	20	<20	03/13/03	8260b	---	0.4	119.5	118.6	127.2
o-Xylene	<20	µg/Kg	20	<20	03/13/03	8260b	---	7.7	109.8	116.6	128.5
Toluene	<20	µg/Kg	20	<20	03/13/03	8260b	---	8.9	125.1	103.3	118.7

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Respectfully Submitted,

Richard Laster

Richard Laster

QUALITY ASSURANCE DATA¹

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 = MS and/or MSD recovery exceed advisory limits. S2 = Post digestion spike (PDS) recovery exceeds advisory limit. S3 = MS and/or MSD and PDS recoveries exceed advisory limits. P = Precision higher than advisory limit. M = Matrix interference.



3512 Montopolis Drive, Austin, TX 78744 &
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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10312

Sample Name: SELD6030703ESW

Report#/Lab ID#: 140348
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-chlorooctane	8015 mod.	77	50-150	---
p-Terphenyl	8015 mod.	72.9	50-150	---
1,2-Dichloroethane-d4	8260b	103	65-115	---
Toluene-d8	8260b	111	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Exceptions Report:

Report #/Lab ID#: 140348	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2002-10312		
Sample Name: SELD6030703ESW		

Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GF AA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Ethylbenzene	J	See J-flag discussion above.

Notes:



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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.

Attn: Pat McCasland

Address: 2100 Ave. O

Eunice

NM 88231

Phone: (505) 394-3481

FAX: (505) 394-2601

Report#/Lab ID#: 140349

Report Date: 03/25/03

Project ID: 2002-10312

Sample Name: SELD6030703NSW

Sample Matrix: soil

Date Received: 03/12/2003

Time: 09:00

Date Sampled: 03/07/2003

Time: 11:45

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA¹

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	<5	mg/Kg	5	<5	03/21/03	8015 mod.	---	4	122.4	121.2	107.6
TPH by GC (as diesel-ext)	---	---	---	---	03/21/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	03/21/03	8015 mod.	---	8.9	91.3	97.6	84.3
Volatile organics-8260b/BTEX	---	---	---	---	03/13/03	8260b	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	03/13/03	8260b	---	7.7	117.5	94	113.5
Ethylbenzene	<20	µg/Kg	20	<20	03/13/03	8260b	J	0.8	116.5	113	126.4
m,p-Xylenes	<20	µg/Kg	20	<20	03/13/03	8260b	---	0.4	119.5	118.6	127.2
o-Xylene	<20	µg/Kg	20	<20	03/13/03	8260b	---	7.7	109.8	116.6	128.5
Toluene	<20	µg/Kg	20	<20	03/13/03	8260b	---	8.9	125.1	103.3	118.7

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Richard Laster

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2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10312
Sample Name: SELD6030703NSW

Report#/Lab ID#: 140349
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-chlorooctane p-Terphenyl	8015 mod.	90.4	50-150	---
	8015 mod.	76.4	50-150	---
1,2-Dichloroethane-d4 Toluene-d8	8260b	109	65-115	---
	8260b	117	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Exceptions Report:

Report #/Lab ID#: 140349	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2002-I0312		
Sample Name: SELD6030703NSW		

Sample Temperature/Condition <=6°C

The typical sample temperature criteria (except for metals by ICP, GFAA and AA and a very few other tests) is <= 6°C. Possible exceptions include samples submitted to laboratory within such a short time after sampling that cooling measures used in the field and during transport had insufficient time to achieve desired temperatures in the samples (see sample collection and sample receipt times) and samples where the temperature could not be measured due to sample submission in a manner precluding temperature measurement without impacting sample integrity (ex. in a bottle with no cooler).

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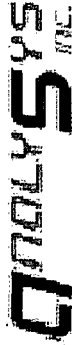
J flag Discussion

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Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Ethylbenzene	J	See J-flag discussion above.

Notes:



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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.

Attn: Pat McCasland

Address: 2100 Ave. O

Eunice

NM 88231

Phone: (505) 394-3481

FAX: (505) 394-2601

Report#/Lab ID#: 140350

Report Date: 03/26/03

Project ID: 2002-10312

Sample Name: SELD6030703SSW

Sample Matrix: soil

Date Received: 03/12/2003

Time: 09:00

Date Sampled: 03/07/2003

Time: 11:50

REPORT OF ANALYSIS

QUALITY ASSURANCE DATA¹

Parameter	Result	Units	RQL ⁵	Blank	Date	Method ⁶	Data Qual ⁷	Prec. ²	Recov. ³	CCV ⁴	LCS ⁴
TPH by GC (as diesel)	<5	mg/Kg	5	<5	03/21/03	8015 mod.	---	4	122.4	121.2	107.6
TPH by GC (as diesel-ext)	---	---	---	---	03/21/03	3540	---	---	---	---	---
TPH by GC (as gasoline)	<5	mg/Kg	5	<5	03/21/03	8015 mod.	---	8.9	91.3	97.6	84.3
Volatile organics-8260b/BTEX	---	---	---	---	03/13/03	8260b	---	---	---	---	---
Benzene	<20	µg/Kg	20	<20	03/13/03	8260b	---	7.7	117.5	94	113.5
Ethylbenzene	<20	µg/Kg	20	<20	03/13/03	8260b	J	0.8	116.5	113	126.4
m,p-Xylenes	<20	µg/Kg	20	<20	03/13/03	8260b	---	0.4	119.5	118.6	127.2
o-Xylene	<20	µg/Kg	20	<20	03/13/03	8260b	---	7.7	109.8	116.6	128.5
Toluene	<20	µg/Kg	20	<20	03/13/03	8260b	---	8.9	125.1	103.3	118.7

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2209 N. Padre Island Dr., Corpus Christi, TX 78408
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.
Attn: Pat McCasland

Project ID: 2002-10312
Sample Name: SELD6030703SSW

Report#/Lab ID#: 140350
Sample Matrix: soil

REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-chlorooctane p-Terphenyl	8015 mod.	111	50-150	---
	8015 mod.	101	50-150	---
1,2-Dichloroethane-d4 Toluene-d8	8260b	102	65-115	---
	8260b	109	50-120	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

Exceptions Report:

Report #/Lab ID#: 140350	Matrix: soil	Attn: Pat McCasland
Client: Environmental Plus, Inc.		
Project ID: 2002-10312		
Sample Name: SELD6030703SSW		

Sample Temperature/Condition <=6°C

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J flag Discussion

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Comments pertaining to Data Qualifiers and QC data:

Parameter	Qualif	Comment
Ethylbenzene	J	See J-flag discussion above.

Notes:

SHYBUL
SINCE 1974

Bill to (if differ):

Company Name Eo#
Address _____

City _____ State _____ Zip _____

ATTN:

Phone	Fax

Rush Status (must be confirmed with lab mgr.):

Project Name/PO#: 2002-103/Z Sampler: CONRAD FALCON

Analyses Requested (1)

(j) Unless specifically requested otherwise on this Chain-of-custody and/or attached documentation, all analyses will be conducted using ASI's method of choice and all data will be reported to ASI's normal reporting limits (MDL/PQL). For GC/MS volatiles and extractables, unless specific analytical parameter lists are specified on this chain-of-custody or attached to this chain-of-custody, ASI will default to Priority Pollutants on ASI's HSL list at ASI's option. Specific compound lists must be supplied for all GC procedures.

155-1

Sample Relinquished By			Sample Received By			
Name	Affiliation	Date	Name	Affiliation	Date	Time
Gwend Tolson EPI		3-10-03	Melanie Thompson	ASI	3/12/03	0900

(Tendering of above described samples to AnalySys, Inc. for analytical testing constitutes agreement by buyer/sampler to AnalySys, Inc.'s standard terms.

APPENDIX D

Photograph Documentation

TALON/LPE

Client: Plains All American
Location: Lovington Deep 6"
Lea County, New Mexico

Photographic Documentation

Prepared by: Marc Stroope
Photographer: EPI/Marc Stroope
Project Number: PLAINS046SPL

Photograph No. 1

Direction: North

Description: View of
release point.



Photograph No. 2

Direction: West

Description: View of
excavation.



TALON/LPE

Client: Plains All American
Location: Lovington Deep 6"
Lea County, New Mexico

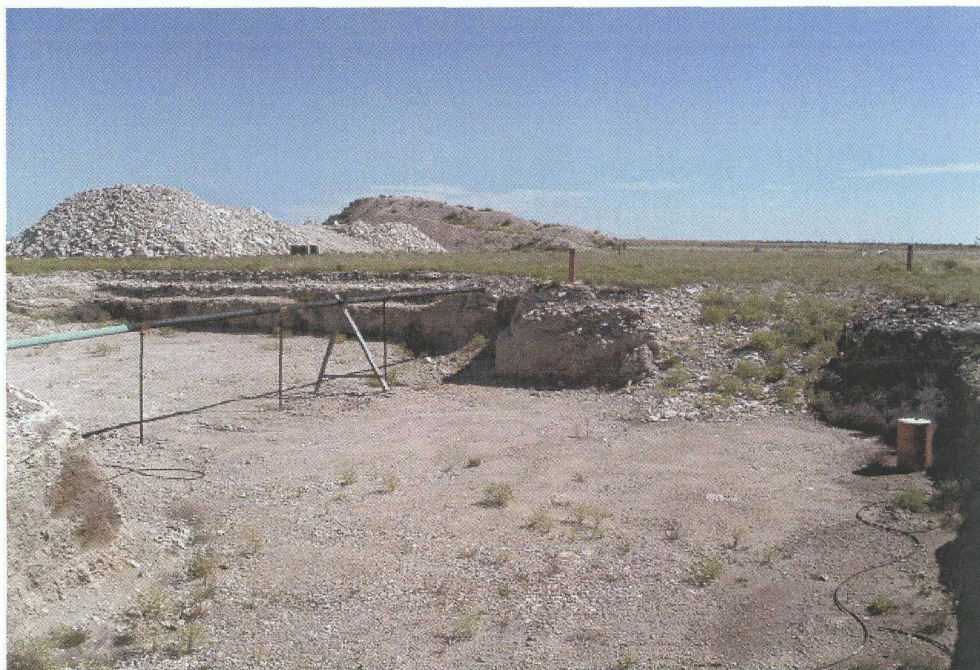
Photographic Documentation

Prepared by: Marc Stroope
Photographer: EPI/Marc Stroope
Project Number: PLAINS046SPL

Photograph No. 3

Direction: Northeast

Description: View of excavation.



Photograph No. 4

Direction: Southeast

Description:
View of excavation.



TALON/LPE

Client: Plains All American
Location: Lovington Deep 6"
Lea County, New Mexico

Photographic Documentation

Prepared by: Marc Stroope
Photographer: EPI/Marc Stroope
Project Number: PLAINS046SPL

Photograph No. 5

Direction: Northeast

Description: View of
backfill and site
restoration.



Photograph No. 6

Direction: Southeast

Description:
View of backfill and
site restoration.



TALON/LPE

Client: Plains All American
Location: Lovington Deep 6"
Lea County, New Mexico

Photographic Documentation

Prepared by: Marc Stroope
Photographer: EPI/Marc Stroope
Project Number: PLAINS046SPL

Photograph No. 7

Direction: Northwest

Description: View of
backfill and site
restoration.



Photograph No. 8

Direction: Southwest

Description:
View of backfill and
site restoration.





APPENDIX E

November 2005 E-mail Correspondence

Camille J Reynolds

From: Martin, Ed, EMNRD [ed.martin@state.nm.us]
Sent: Tuesday, November 22, 2005 4:05 PM
To: Camille J Reynolds
Subject: RE: Lovington Deep 6 Inch Release Site

The request outlined below is approved.

New Mexico Oil Conservation Division approval does not relieve Plains of liability should its operations at this site prove to have been harmful to public health or the environment. Nor does it relieve Plains of its responsibility to comply with the rules and regulations of any other local, state, or federal governmental agency.

Ed Martin
New Mexico Oil Conservation Division
Environmental Bureau
1220 S. St. Francis
Santa Fe, NM 87505
Phone: 505-476-3492
Fax: 505-476-3462
email: ed.martin@state.nm.us

-----Original Message-----

From: Camille J Reynolds [mailto:cjreynolds@paalp.com]
Sent: Thursday, November 17, 2005 7:31 AM
To: Martin, Ed, EMNRD
Subject: Lovington Deep 6 Inch Release Site

Mr. Martin:

This e-mail is a follow-up to our phone conversation concerning remediation activities to be conducted at the Plains release site known as Lovington Deep 6 located in Sec. 6, T17S, R36E, NMOCD reference # AP-037.

In the Stage 1 and 2 Abatement Plan and the Soil Closure Plan submitted by EPI on behalf of Plains, it is recommended that a clay barrier be installed in the floor of the excavation and another clay barrier be installed at approximately 2-4 feet bgs if necessary based on SPLP analytical results.

With your approval, Plains is requesting that the barrier installed in the floor of the excavation be modified to a 20 mil synthetic liner as opposed to the clay barrier initially proposed.

The Abatement plan also states that the excavated, stockpiled soil will be spread out in 6 inch lifts and sampled prior to backfilling. Due to time constraints and limitations on the available working area, Plains is proposing to grid the stockpiled soil in 1,000 cubic yard grids and collect a 5 point composite sample of each grid.

Thank you for time and consideration in this matter. If you have any questions or concerns please contact me at 505-441-0965.

Sincerely,

Camille Reynolds
Remediation Coordinator
Plains All American

office: 505/396-3341

fax: 505/396-2754
cellular: 505/441-0965

#####

Attention:

The information contained in this message and/or attachments is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. If you received this in error, please contact the Plains Service Desk at 713-646-4444 and delete the material from any system and destroy any copies.

This footnote also confirms that this email message has been scanned for Viruses and Content and cleared.

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Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

APPENDIX F

NMOCD C-141 Reports

Initial C-141 Report
Final C-141 Report

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 March 17, 1999

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

Release Notification and Corrective Action ☒ Initial Report ☐ Final Report

Name of Company: EOTT Energy Pipeline	Contact: Frank Hernandez
Address: P.O. Box 1660, Midland, TX 79703	Telephone No.: 915.638.3799
Facility Name: Lovington Deep 6"	Facility Type: Crude Oil Pipeline

Surface Owner: Darr Angell	Mineral Owner:	Lease No.:
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LOCATION OF RELEASE

Unit Letter H	Section 6	Township 17S	Range 36E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat.: 32°52'1.132"N Lon: 103°23'16.570"W
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NATURE OF RELEASE

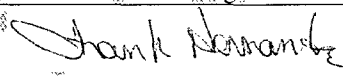
Type of Release: Crude Oil	Volume of Release: 25 bbls	Volume Recovered: 10 bbls
Source of Release: 6" steel pipeline	Date and Hour of Occurrence: 12-12-02 8:00 AM	Date and Hour of Discovery: 12-12-02 10:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Paul Sheeley and Sylvia Dickie, Hobbs NMOCD (left messages) Confirmed with Sylvia Dickie at 11:45 AM 12-12-02	
By Whom? Pat McCasland (Environmental Plus, Inc.)	Date and Hour: NMOCD notified on 12-12-02 10:30 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.* NA

Describe Cause of Problem and Remedial Action Taken.* The cause of the leak was internal/external corrosion. The contaminated soil was stockpiled on a plastic barrier. Disposing at South Monument SWF

Describe Area Affected and Cleanup Action Taken.* Spill Area = ~6,000 ft² Near surface soil will be characterized in accordance with 40 CFR 261 and with NMOCD approval, disposed of in a NMOCD approved facility. The site will be delineated and remediated.

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: 	OIL CONSERVATION DIVISION	
Printed Name: Frank Hernandez	Approved by District Supervisor:	
Title: District Environmental Supervisor	Approval Date:	Expiration Date:
Date: December 12, 2002 Phone: 915.638.3799	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary

EOTT Energy Pipeline
Site Information and Metrics

Incident Date and NMOCD Notified?:

Discovered 12-12-02 NMOCD verbally notified on 12-12-02

SITE: Lovington Deep 6"		Assigned Site Reference #: 2002-10312	
Company: EOTT Energy Pipeline			
Street Address: 5805 East Highway 80			
Mailing Address: P.O. Box 1660			
City, State, Zip: Midland, Texas 79703			
Representative: Frank Hernandez, District Environmental Supervisor			
Representative Telephone: 915.638.3799			
Telephone:			
Fluid volume released (bbls): 25 bbls		Recovered (bbls): 10	
>25 bbls : Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas) 5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Lovington Deep 6"			
Source of contamination: 6" Steel Crude Oil Pipeline			
Land Owner, i.e., BLM, ST, Fee, Other: Darr Angell			
LSP Dimensions: 140' X 75'			
LSP Area: Spill Area ~6,000 ft ²			
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude: 32° 52' 1.132"N			
Longitude: 103° 23' 16.570"W			
Elevation above mean sea level: ~3,918 'amsl			
Feet from South Section Line:			
Feet from West Section Line:			
Location- Unit or ¼: UL-H SE ¼ of the NE ¼			
Location- Section: 6			
Location- Township: 17S			
Location- Range: 36E			
Surface water body within 1000' radius of site: None			
Domestic water wells within 1000' radius of site: None			
Agricultural water wells within 1000' radius of site: None			
Public water supply wells within 1000' radius of site: None			
Depth from land surface to ground water (DG): ~50.0 feet			
Depth of contamination (DC): ?			
Depth to ground water (DG - DC = DtGW): <50 feet			
1. Ground Water		2. Wellhead Protection Area	
If Depth to GW <50 feet: <i>20 points</i>		If <1000' from water source, or; <200' from private domestic water source: <i>20 points</i>	
If Depth to GW 50 to 99 feet: <i>10 points</i>		If >1000' from water source, or; >200' from private domestic water source: <i>0 points</i>	
If Depth to GW >100 feet: <i>0 points</i>			
Ground water Score = 20		Wellhead Protection Area Score = 0	
Site Rank (1+2+3) = 20		3. Distance to Surface Water Body	
		<200 horizontal feet: <i>20 points</i>	
		200-100 horizontal feet: <i>10 points</i>	
		>1000 horizontal feet: <i>0 points</i>	
		Surface Water Score = 0	
Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19 (Surface to 50.0' bgs)	10-19	0-9
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

¹100 ppm field VOC headspace measurement may be substituted for lab analysis

District I
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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 March 17, 1999

Submit 2 Copies to appropriate
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with Rule 116 on back
side of form

Release Notification and Corrective Action ☐ Initial Report ☒ Final Report
RP-1274

Name of Company: Plains All American Pipeline, L.P. (formerly Link Energy and EOTT)	Contact: Camille Reynolds
Address: 3112 W. US Hwy 82, Lovington, NM 88260	Telephone No.: 505.441.0965
Facility Name: Lovington Deep 6"	Facility Type: Crude Oil Pipeline

Surface Owner: Darr Angell	Mineral Owner:	Lease No.:
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LOCATION OF RELEASE

Unit Letter H	Section 6	Township 17S	Range 36E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat.: 32°52'1.132"N Lon: 103°23'16.570"W
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NATURE OF RELEASE

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Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Paul Sheeley and Sylvia Dickie, Hobbs NMOCD (left messages) Confirmed with Sylvia Dickie at 11:45 AM 12-12-02	
By Whom? Pat McCasland (Environmental Plus, Inc.)	Date and Hour: NMOCD notified on 12-12-02 10:30 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.* NA

Describe Cause of Problem and Remedial Action Taken.* The cause of the leak was internal/external corrosion. The contaminated soil was stockpiled on a plastic barrier. Disposing at South Monument SWF

Describe Area Affected and Cleanup Action Taken.* The crude oil release was excavated; impacted soil was placed adjacent to the excavation, confirmation soil samples were collected from the floor & walls of the excavation. Once confirmation samples were below NMOCD regulatory standards, a 20 mil synthetic liner was installed on the floor of the excavation area, 10,500 cubic yards of stockpiled soil previously processed through a shredder was placed in the excavation area once the impacted soil was deemed acceptable under the NMOCD-approved VOC readings of <100.0 ppm, the site was restored to natural grade.

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:	OIL CONSERVATION DIVISION	
Printed Name: Camille Reynolds	Approved by District Supervisor:	
Title: Remediation Coordinator	Approval Date:	Expiration Date:
Date: July 30, 2007 Phone: 505.441.0965	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary

EOTT Energy Pipeline
Site Information and Metrics

Incident Date and NMOCD Notified?:

Discovered 12-12-02 NMOCD verbally notified on 12-12-02

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Representative: Frank Hernandez, District Environmental Supervisor			
Representative Telephone: 915.638.3799			
Telephone:			
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Leak, Spill, or Pit (LSP) Name: Lovington Deep 6"			
Source of contamination: 6" Steel Crude Oil Pipeline			
Land Owner, i.e., BLM, ST, Fee, Other: Darr Angell			
LSP Dimensions: 140' X 75'			
LSP Area: Spill Area ~6,000 ft ²			
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude: 32° 52' 1.132"N			
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Elevation above mean sea level: ~3,918 'amsl			
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Location- Unit or ¼: UL-H SE ¼ of the NE ¼			
Location- Section: 6			
Location- Township: 17S			
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Depth of contamination (DC): ?			
Depth to ground water (DG - DC = DtGW): <50 feet			
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Ground water Score = 20		Wellhead Protection Area Score= 0	
Site Rank (1+2+3) = 20		Surface Water Score= 0	
Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19 (Surface to 50.0' bgs)	10-19	0-9
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
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¹100 ppm field VOC headspace measurement may be substituted for lab analysis