

NMOCD

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OK  
10.29.07  
*[Signature]*

## PRELIMINARY SITE INVESTIGATION REPORT and REMEDIATION PLAN

**PLAINS MARKETING, L.P. (231735)**  
**Vacuum Sour 4-Inch Trap**  
**Lea County, New Mexico**  
**Plains SRS # 2007-233**  
**UNIT J (NW/SE), Section 33, Township 17 South, Range 35 East**  
**Latitude 32°, 47', 17.3" North, Longitude 103°, 27', 33.9" West**  
**NMOCD File Number: 1RP-1501**

Prepared For:

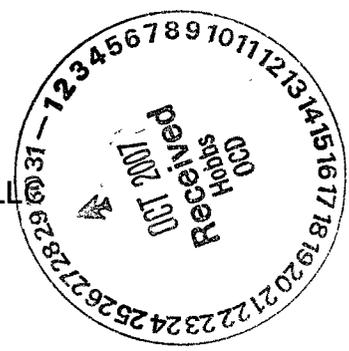


**PLAINS**  
Plains Marketing, L.P.  
333 Clay Street  
Suite 1600  
Houston, Texas 77002

Prepared By:

Basin Environmental Service Technologies, LLC

**03 October 2007**



*Ken Dutton*  
\_\_\_\_\_  
Ken Dutton

Basin Environmental Service Technologies, LLC

*RP#1501*

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## **INTRODUCTION**

Basin Environmental Service Technologies, LLC (Basin), responded to a crude oil release for Plains Marketing, L.P. (Plains), located at the idled Vacuum Sour 4-Inch Trap on 20 July 2007. The idled Vacuum Sour 4-Inch Trap crude oil release was contained by Plains operations personnel by cold cutting and capping the receiver trap line. Basin initiated excavation of the impacted soil which was stockpiled adjacent to the excavation on a 6-mil poly-liner. The idled Vacuum Sour 4-Inch Trap is located on land owned by the State of New Mexico.

This site is located in Unit J (NW¼/SE¼) Section 33, Township 17 South, Range 33 East, in Lea County, New Mexico (topographic Site Location Map is attached as Figure 1). The site latitude is 32°, 47', 17.3" North and site longitude is 103°, 27', 33.9" West. The site is characterized by a pipeline right-of-way in a pasture utilized for cattle grazing with numerous crude oil and natural gas producing facilities in the vicinity. The initial visible surface stained area includes the release point and flow path area covering an area approximately 80 feet long by 20 feet wide. A total of 30 barrels of crude oil were estimated to have been released from the crude oil receiver trap and 0 barrels were recovered.

An Emergency One-Call was initiated 20 July 2007 and all responding companies either cleared or marked their respective lines. Subsequent renewals of the one-call have been accomplished as required.

Ms. Pat Richards, New Mexico Oil Conservation Division (NMOCD), Hobbs, New Mexico District 1, was verbally notified of the release on 20 July 2007. A C-141 form, dated 26 July 2007 was completed by Plains and submitted to the NMOCD, Hobbs, New Mexico Office (see Appendix C, NMOCD C-141). A request for a Right-of-Entry permit was submitted and subsequently approved by the New Mexico State Land Office (SLO), Santa Fe Office to perform remediation and restoration activities on-site (see Appendix C, SLO ROE-1570, 05 September 2007).

## **SUMMARY OF FIELD ACTIVITIES**

On 20 July 2007, Basin mobilized to the idled Vacuum Sour 4-Inch Trap responding to a crude oil release for Plains. Plains operations personnel contained the crude oil release by cold cutting and capping the receiver trap line. A pipeline blind was installed at the tie-in valve to ensure there would be no further seepage into the idled Vacuum Sour 4-Inch Trap line. Upon arrival at the release site, Basin initiated excavation of the release point and flow path area with the impacted soil stockpiled on a 6-mil poly liner adjacent to the excavation for future remedial action. The final dimensions of the excavated area are approximately 140 feet long by 50 feet wide and approximately 15 feet below ground surface (bgs) (See Figure 2, Excavation Site Map). Approximately 3800 cubic yards of impacted soil has been stockpiled on-site commensurate remediation activities.

On 17 September 2007, five (5) confirmation soil samples were collected from the floor and walls of the excavation ranging in depth from approximately 5 to 15 feet bgs.

On 17 September 2007, one (1) soil boring was installed to evaluate the vertical extent of crude oil impact. The soil boring was installed on the excavation floor adjacent to the release point at approximately fifteen (15) feet bgs and soil samples were collected at five (5) feet intervals. The soil boring was installed to a true subsurface depth of approximately 65 feet bgs.

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

A search of the New Mexico State Engineers database revealed the depth to groundwater ranges from a minimum of 50 feet bgs to 90 feet bgs with an average of 63 feet bgs for that section, township and range. During the installation of Soil Boring 1 (SB-1) to a true subsurface depth of approximately 65 feet bgs, groundwater was not encountered. There are no surface water bodies or water wells within 1000 feet of the release site. Based on this data, the site has an NMOCD Ranking Score of >19, which sets the remediation levels at:

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

### **DISTRIBUTION OF HYDROCARBONS IN THE UNSATURATED ZONE**

The final dimensions of the excavation which includes the release point and flow path area are approximately 140 feet long by 50 feet wide and approximately 15 feet bgs. Approximately 3800 cubic yards of impacted soil has been stockpiled on-site commensurate with remediation activities conducted.

On 17 September 2007, five (5) confirmation soil samples were collected from the floor and walls of the excavation ranging in depth from approximately 5 to 15 feet bgs. Soil samples were analyzed for constituent concentrations of BTEX and TPH-GRO/DRO. Laboratory results indicated that constituent concentrations of BTEX were not detected above laboratory method detection limits for the north wall, south wall, west wall and east wall soil samples and the excavation floor soil sample reported BTEX concentrations below NMOCD regulatory standards. Laboratory results indicated that constituent concentrations of TPH-GRO/DRO were not detected above laboratory method detection limits for the north wall, south wall, west wall and east wall soil samples and the excavation floor soil sample reported TPH-GRO/DRO concentrations above NMOCD regulatory standards at 4673 mg/kg.

On 17 September 2007, one (1) soil boring was installed to evaluate the vertical extent of crude oil impact. The soil boring was installed on the excavation floor adjacent to the release point at approximately fifteen (15) feet bgs. Soil samples were collected at five (5) feet intervals and field screened with a Photoionization Detector (PID). The soil boring was installed to a true subsurface depth of approximately 65 feet bgs with no evidence of groundwater being exhibited. Soil samples collected at depths of 10, 20, 30, 35, 40, 45 and 50 feet below the base of the excavation were submitted for analysis. Laboratory results indicated that constituent concentrations of BTEX were reported below NMOCD regulatory standards for the 10, 20 and 30 feet bgs soil samples and were not detected above laboratory method detection limits for the 35, 40, 45 and 50 feet bgs soil samples. Laboratory results indicated that constituent concentrations of TPH-GRO/DRO were reported above NMOCD regulatory standards for the 10, 20, 30 and 35 feet soil samples at 4097 mg/kg, 7512 mg/kg and 4350 mg/kg and 267 mg/kg, respectively. Laboratory results indicated that constituent concentrations of TPH-GRO/DRO were not detected above laboratory method detection limits for the 40, 45 and 50 feet bgs soil samples. Based on the results of the laboratory data, soil impacts appear to be limited to a subsurface depth of less than 55 feet.

## **RECOMMENDATIONS FOR REMEDIATION**

Approximately 3800 cubic yards of impacted soil and caliche rock have been excavated and stockpiled on-site resulting from the emergency response and remediation activities. Approximately 65 to 75% of the excavated material consists of caliche rock. Due to the extremely high content of caliche rock and limited vertical subsurface crude oil impact, Plains proposes to mechanically screen the impacted stockpile material to separate the caliche rock and soil. Upon completion of the screening activities, the caliche rock will be utilized as partial backfill in accordance with standard NMOCD approved practices.

Due to the limited vertical crude oil impact derived from analytical results commensurate with excavation and drilling activities, Plains recommends that an impermeable barrier consisting of a 20-mil poly liner be permanently installed at the base of the excavation to inhibit vertical migration of contaminants in soil left in place below the cap (see Figure 5, Installation Diagram of 20-mil Poly Liner). The barrier will extend to a minimum of three (3) feet beyond the edges of soil impacted above NMOCD remedial thresholds. A 6-inch layer of fine sand will be installed beneath and above the 20-mil poly liner to prevent degrading the integrity of the poly liner. Installation of the 20-mil poly liner at a depth of approximately 15 feet bgs will protect the barrier from erosion and human intrusion for a term sufficient to allow natural attenuation of contaminants in the soil.

Once the installation of the 20-mil poly liner is completed, backfilling of the excavation will be initiated with the mechanically screened caliche rock. Soil samples will be collected from the mechanically screened soil at a rate of one sample per 500 cubic yards to verify constituent concentrations of BTEX and TPH-GRO/DRO are below

NMOCD thresholds of 500 mg/kg prior to the screened soil being utilized as backfill. If laboratory results report that a mechanically screened 500 cubic yard segment exceeds 500 mg/kg TPH-GRO/DRO concentrations, that 500 cubic yard segment will be transported to Lea Station Land Farm (LSLF) and clean backfill material will be transported to the site to be utilized as backfill material. Once backfilling has been completed, the backfilled excavation will be contoured to the original grade surrounding the site.

An approved right-of-entry permit was requested and received from the SLO, dated 05 September 2007. Reseeding activities will be accomplished as stipulated in the proposed SLO Restoration Plan, dated 03 October 2007.

Upon completion of backfilling the excavation, Basin on behalf of Plains, will submit a closure request for NMOCD approval. Basin on behalf of Plains, request approval from NMOCD, Hobbs District I, to implement these proposed final remediation and site closure activities based on the remediation activities conducted at the Vacuum Sour 4-Inch Trap crude oil release site.

## **QA/QC PROCEDURES**

### **Soil Sampling**

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

The soil samples were analyzed as follows:

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

### **Decontamination Of Equipment**

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

### **Laboratory Protocol**

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

## **LIMITATIONS**

Basin Environmental Service Technologies, LLC, has prepared this Preliminary Investigation Report and Remediation/Closure Plan to the best of its ability. No other warranty, expressed or implied, is made or intended.

Basin Environmental Service Technologies, LLC, has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin Environmental Service Technologies, LLC, has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Basin Environmental Service Technologies, LLC, has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental Service Technologies, LLC, also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Plains Marketing, L.P. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and Plains Marketing, L.P.

## DISTRIBUTION

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                     Lovington, New Mexico 88260  
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- Copy 3:            Mr. Larry Johnson  
                     New Mexico Oil Conservation Division  
                     1625 N. French Drive  
                     Hobbs, New Mexico 88240  
                     [Larry.Johnson@state.nm.us](mailto:Larry.Johnson@state.nm.us)
- Copy 4:            Mr. Thaddeus Kostrubala  
                     New Mexico State Land Office  
                     310 Old Santa Fe Trail  
                     P. O. Box 1148  
                     Santa Fe, New Mexico 87504-1148  
                     [Thaddeus.kostrubala@slo.state.nm.us](mailto:Thaddeus.kostrubala@slo.state.nm.us)
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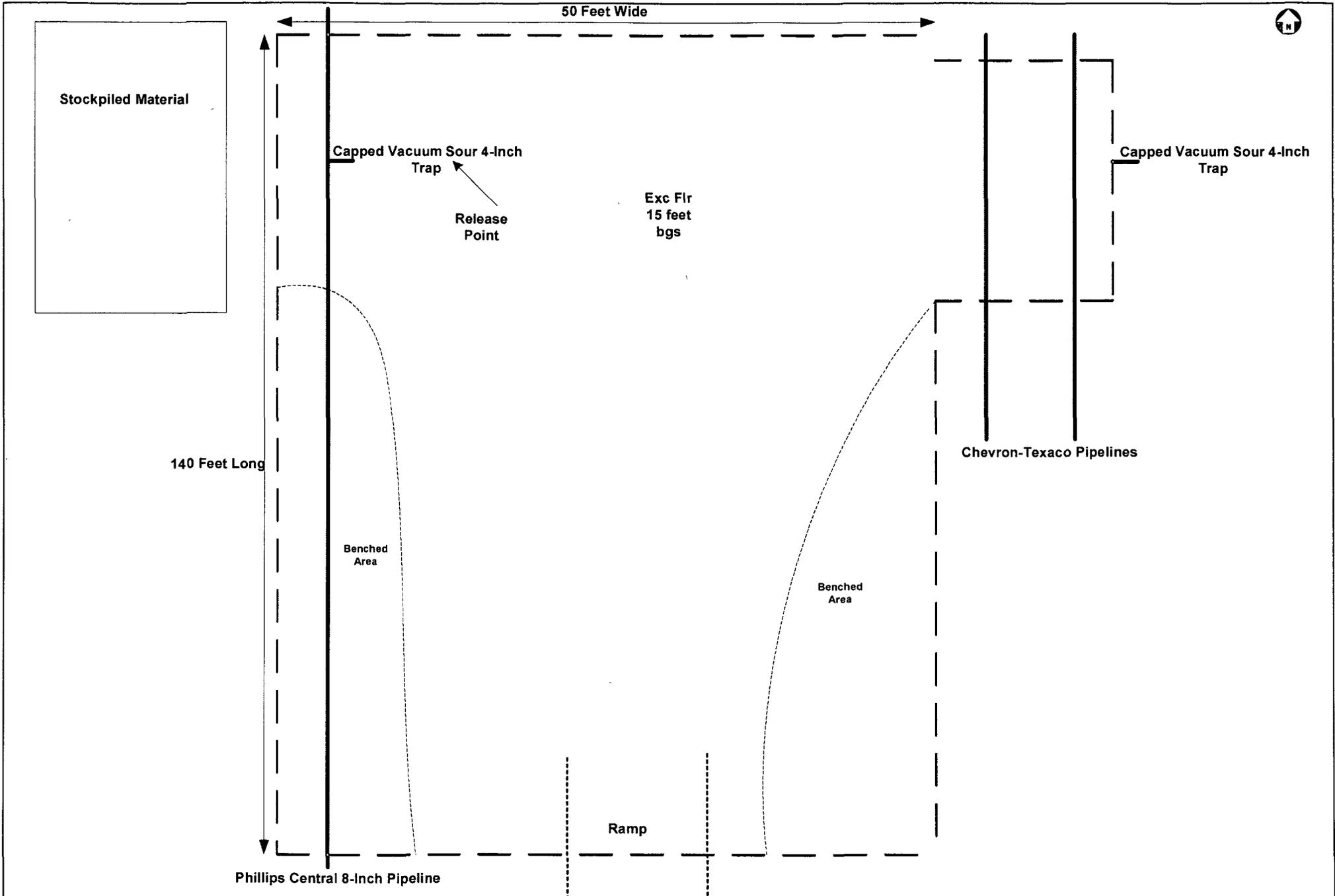
TABLE 1

## SOIL CHEMISTRY RESULTS

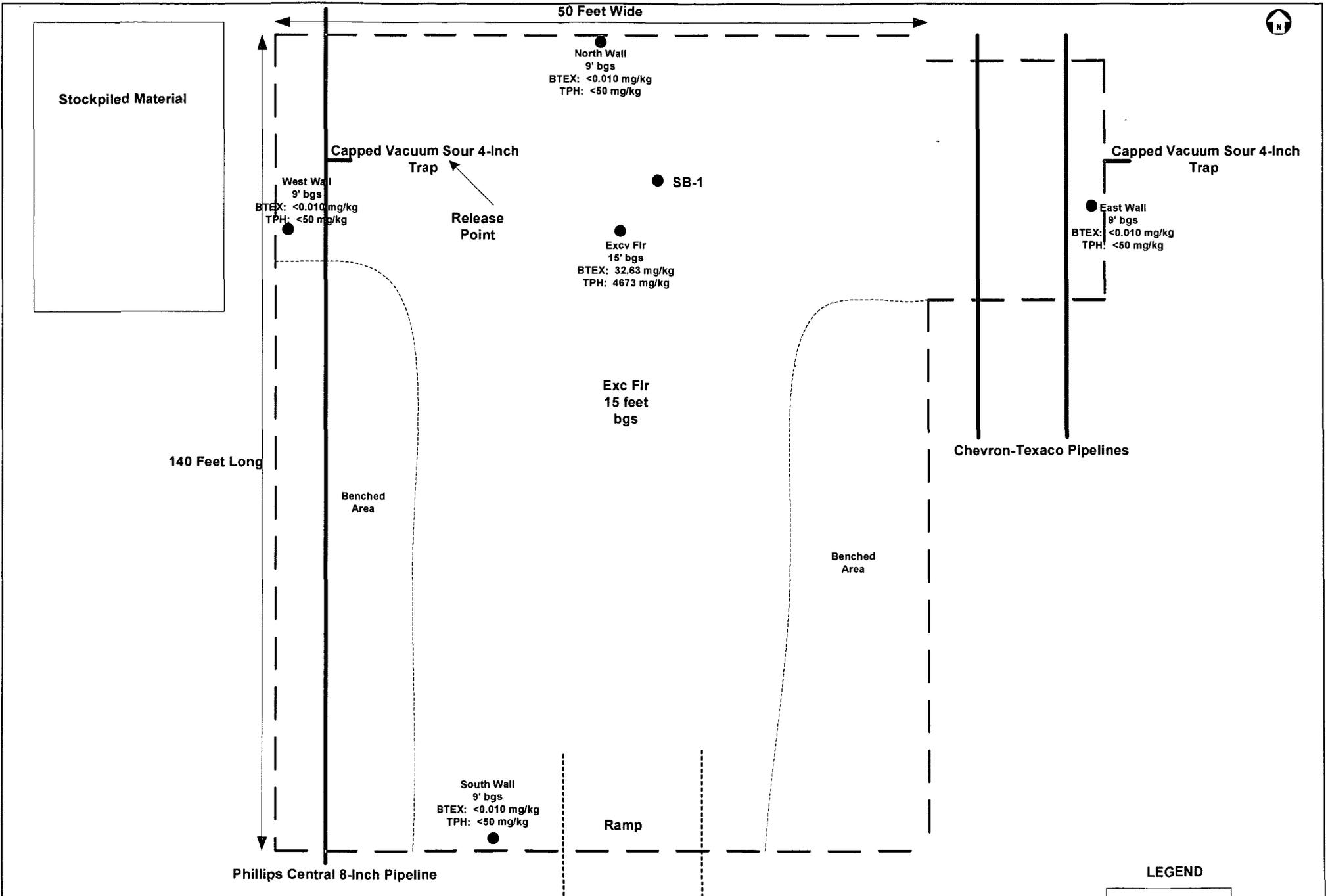
PLAINS MARKETING, L.P.  
 VACUUM SOUR 4-INCH TRAP  
 LEA COUNTY, NEW MEXICO  
 SRS: 2007-233

SAMPLE LOCATION	SAMPLE DEPTH (Below normal surface grade)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030				METHOD: 8015M		TOTAL TPH
				BENZENE	TOLUENE	ETHYL-BENZENE	XYLENE	GRO	DRO	
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SB-1 10'	15' bgs	09/17/07	In-Situ	<0.050	5.04	10.3	17.2	587	3510	4097
SB-1 20'	35' bgs	09/17/07	In-Situ	0.415	6.44	13.6	22.3	692	6820	7512
SB-1 30'	45' bgs	09/17/07	In-Situ	<0.050	2.20	6.21	11.1	510	3840	4350
SB-1 35'	50' bgs	09/17/07	In-Situ	<0.010	<0.010	<0.010	<0.010	16.2	251	267
SB-1 40'	55' bgs	09/17/07	In-Situ	<0.010	<0.010	<0.010	<0.010	<1	<50	<50
SB-1 45'	60' bgs	09/17/07	In-Situ	<0.010	<0.010	<0.010	<0.010	<1	<50	<50
SB-1 50'	65' bgs	09/17/07	In-Situ	<0.010	<0.010	<0.010	<0.010	<1	<50	<50
N/W 9'	9' bgs	09/17/07	In-Situ	<0.010	<0.010	<0.010	<0.010	<1	<50	<50
S/W 9'	9' bgs	09/17/07	In-Situ	<0.010	<0.010	<0.010	<0.010	<1	<50	<50
W/W 9'	9' bgs	09/17/07	In-Situ	<0.010	<0.010	<0.010	<0.010	<1	<50	<50
E/W 9'	9' bgs	09/17/07	In-Situ	<0.010	<0.010	<0.010	<0.010	<1	<50	<50
Excav Flr 15'	15' bgs	09/17/07	In-Situ	0.484	4.79	5.66	21.7	603	4070	4,673
S/P	N/A	09/17/07	Stockpile	0.338	4.23	6.42	29.1	503	778	1281
<b>NMOCDC Criteria</b>				<b>10</b>	<b>TOTAL BTEX 50</b>					<b>100</b>





TITLE	DESCRIPTION
Figure 2 Excavation Site Map  DRAWN BY Basin Environmental Services kad	Plains Marketing, L.P. Vacuum Sour 4-Inch Trap NW/SE S33, T17S, R35E Lea County, New Mexico SRS: 2007-233



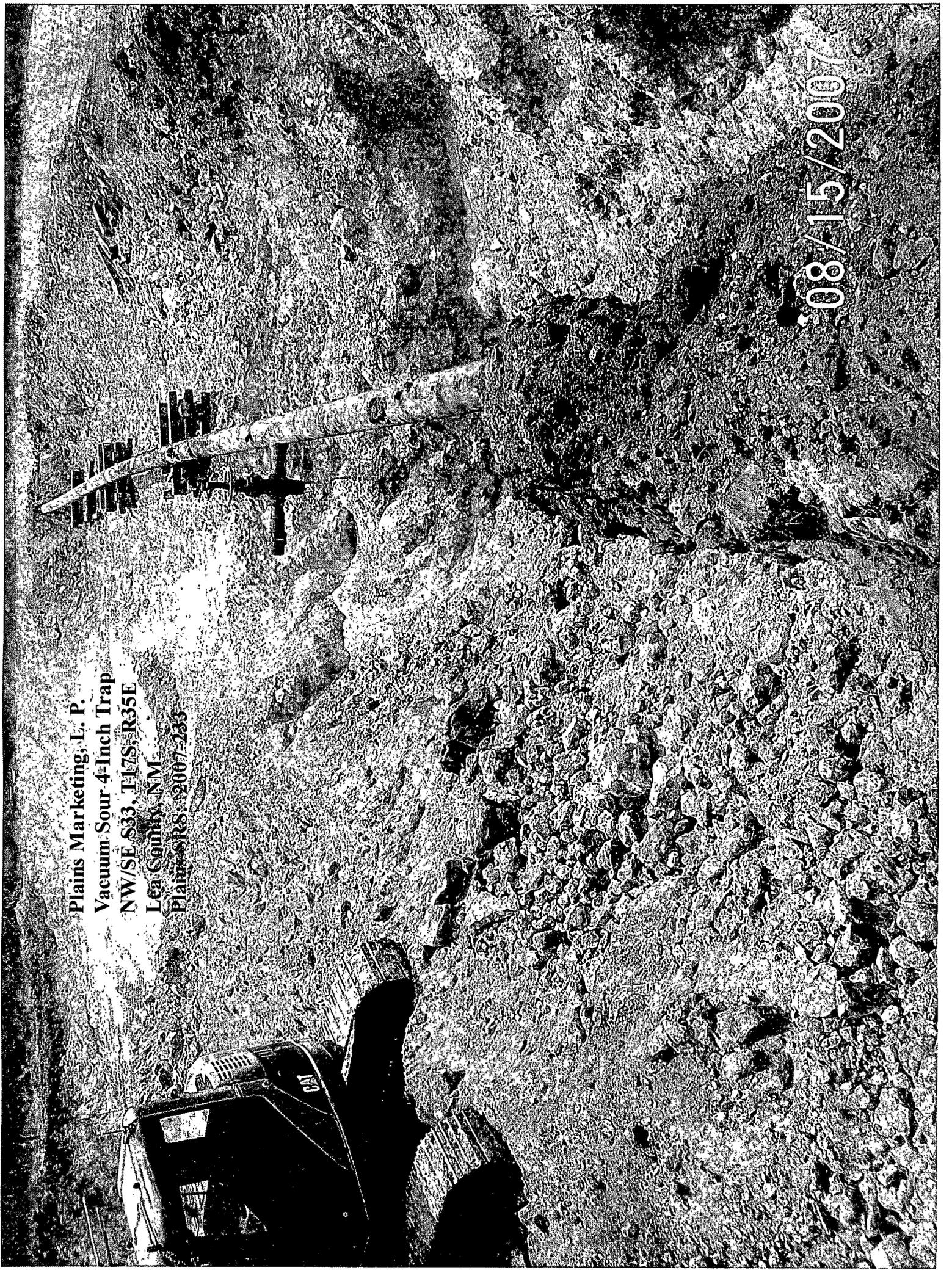
<p>TITLE</p> <p><b>Figure 3</b></p> <p><b>Excavation Site Map – Soil Sampling &amp; Soil Boring Locations</b></p>	<p>DESCRIPTION</p> <p>Plains Marketing, L.P.</p> <p>Vacuum Sour 4-Inch Trap</p> <p>NW/SE S33, T17S, R35E</p> <p>Lea County, New Mexico</p> <p>SRS: 2007-233</p>
<p>DRAWN BY</p> <p><b>Basin Environmental Services/kad</b></p>	

Plains Marketing, L.P.  
Vacuum Sour 4 Inch Tap  
NW/SE S33 T4ZS R35E  
Tee County, NM  
Plains, MS 2007-233

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Plains Marketing, L. P.  
Vacuum Sour 4-Inch Trap  
NW/SE S33, T17S, R35E  
Lea County, NM  
Plains GRS: 2007-235

08/15/2007



Plains Marketing, L.P.  
Vacuum Sour 4-Inch Trap  
NW/SE S33, T17S, R35E  
Lea County, NM  
Plains SRS: 2007-233

08/15/2007

Plains Marketing, L. P.  
Vacuum Sour-4-Inch-Trap  
NW/SE S33, T17S, R35E  
Lea County, NM  
Plains SRS: 2007-233

08/15/2007

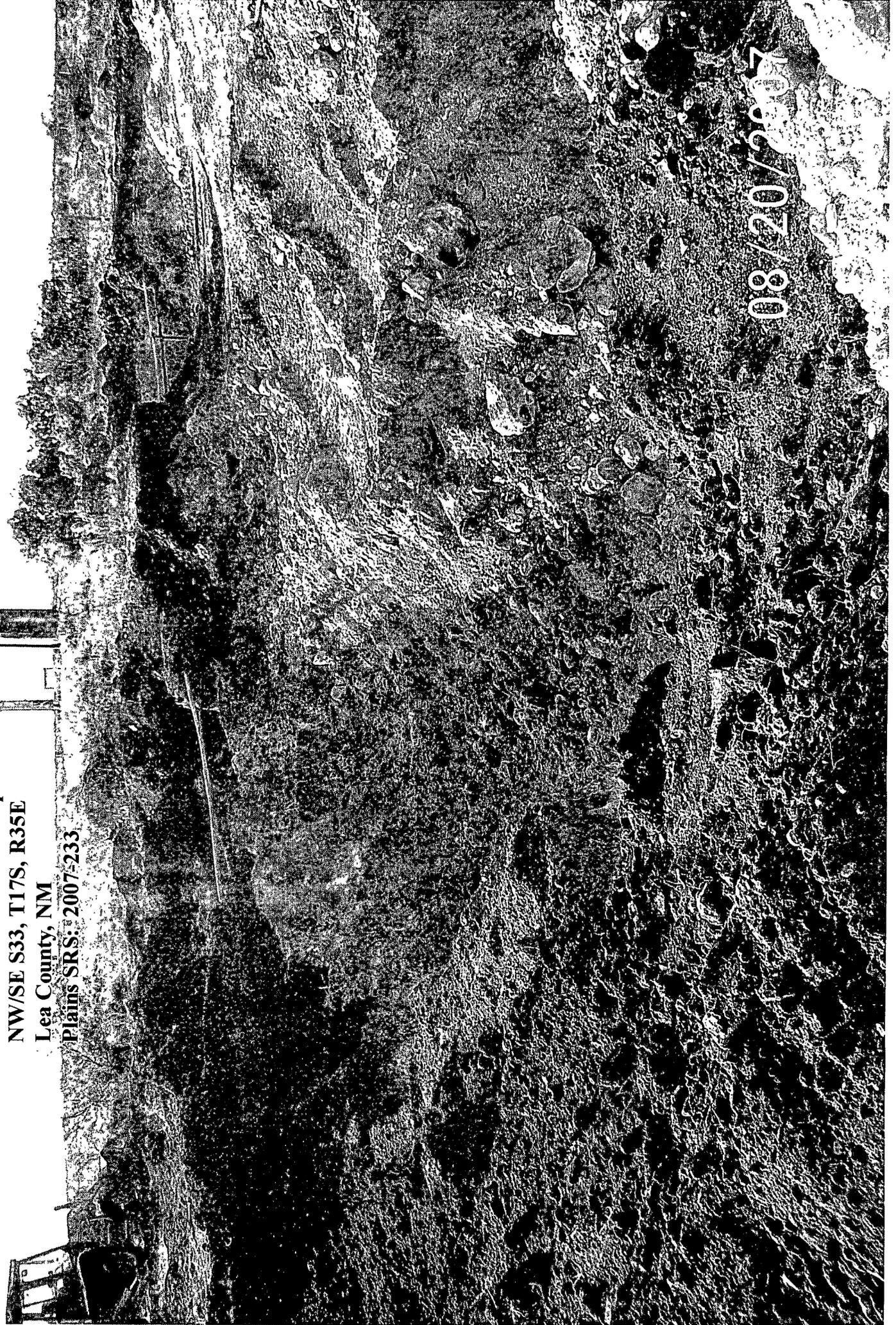
CATERPILLAR

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Plains Marketing, L. P.  
Vacuum Sour 4-Inch Trap  
NW/SE S33, T17S, R35E  
Lea County, NM  
Plains SRS: 2007-233



08/20/2007

Plains Marketing, L.P.

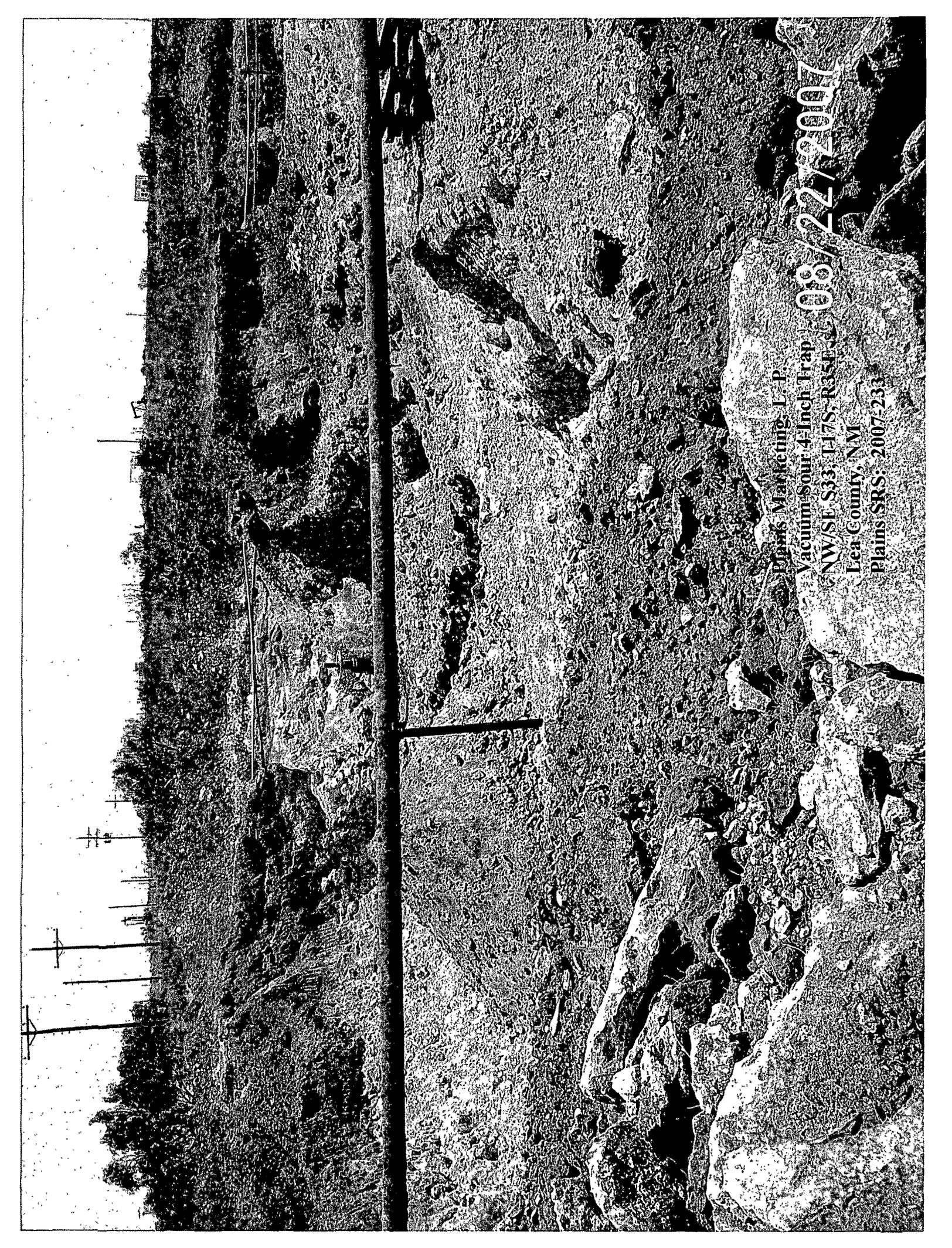
Vacuum Sour 4-Inch Trap

NW/SE S33, T17S, R35E

Lea County, NM

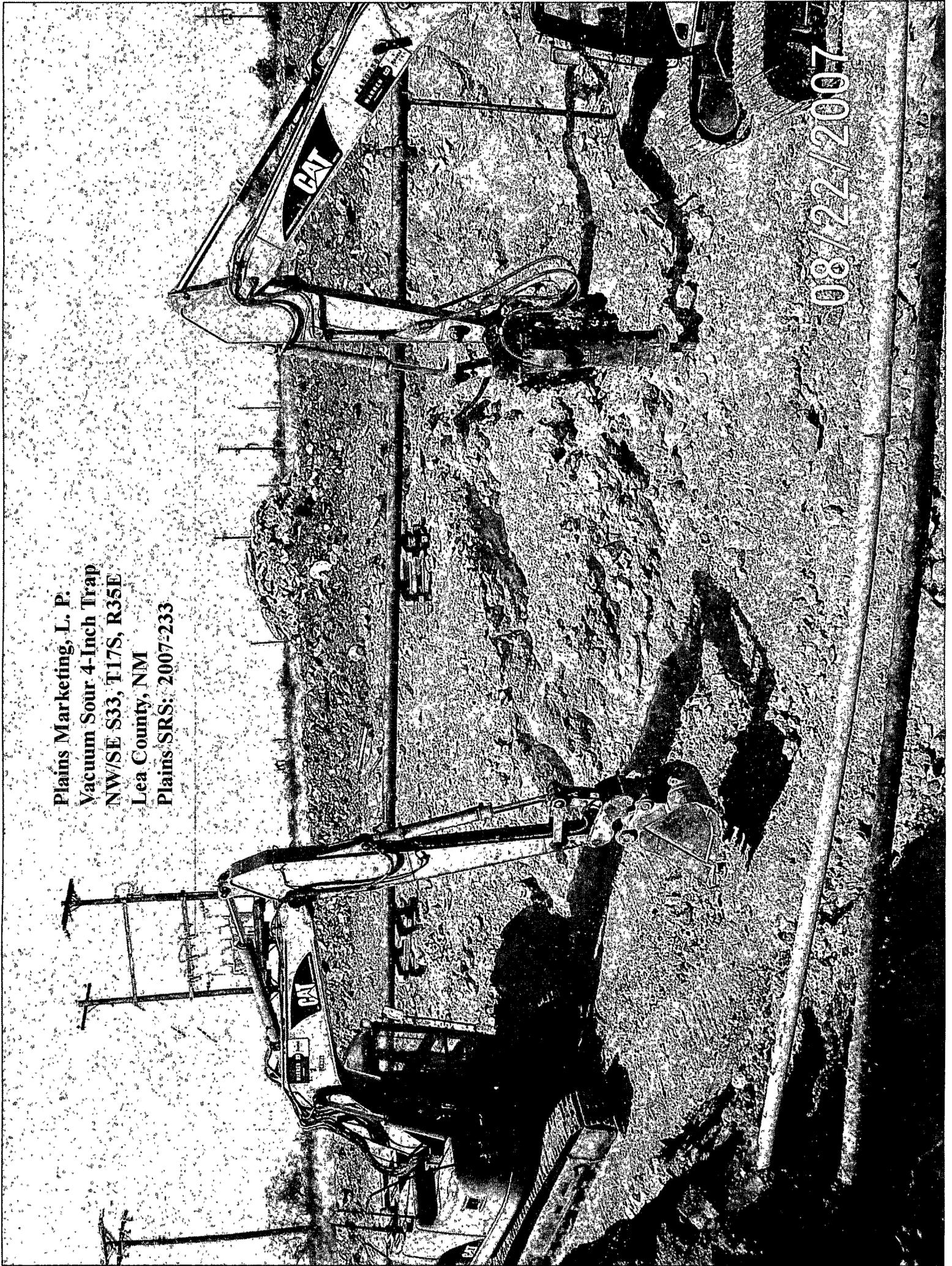
Plains SRS: 2007-233

08/22/2007



Plains Marketing, L. P.  
Vacuum Sour 4-Inch Trap  
NW/SE S33, T17S, R35E  
Lea County, NM  
Plains SRS: 2007-233

08/22/2007



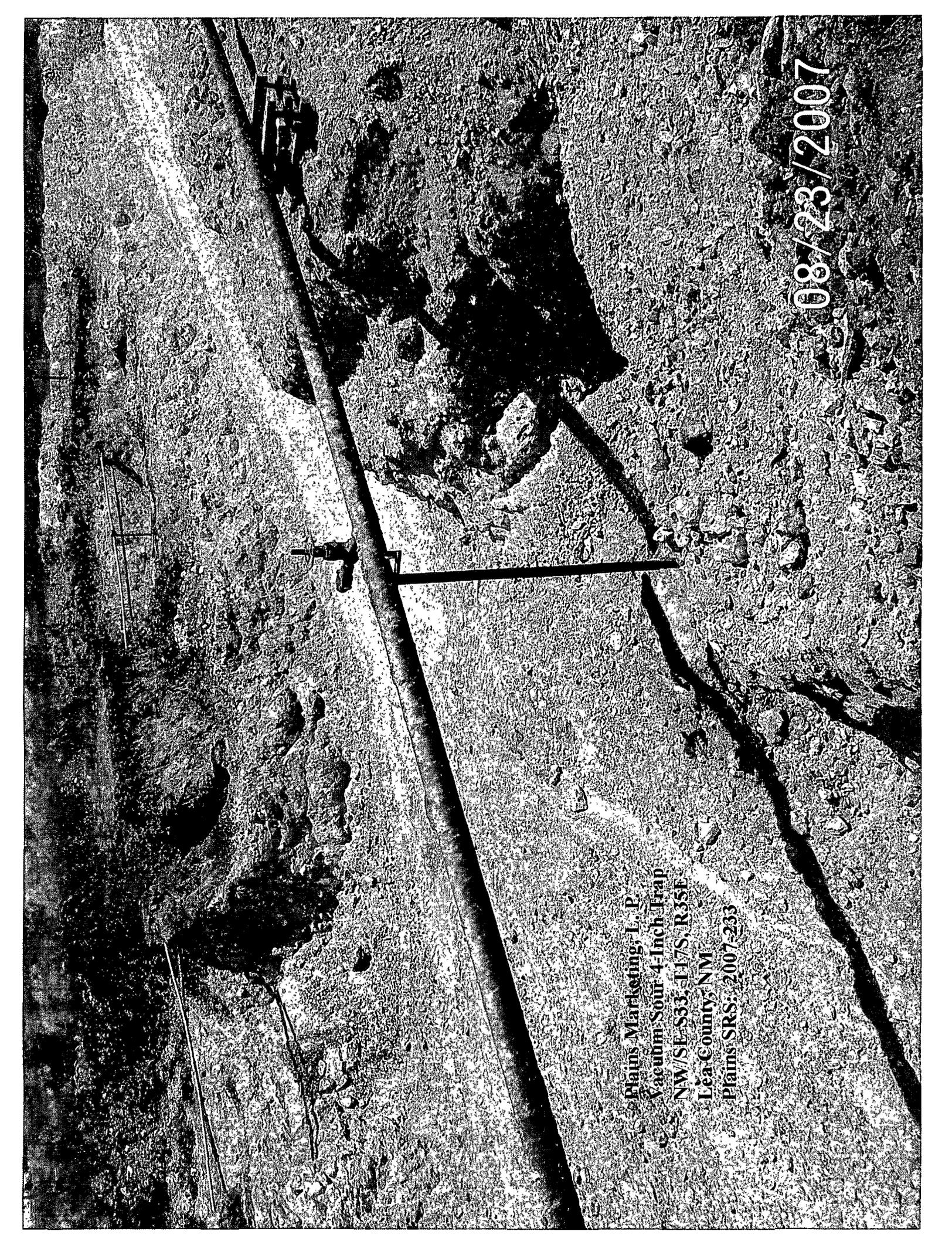


Plains Marketing, L. P.  
Vacuum Sout 4-Inch Trap  
NW/SE S33, T17S, R35E  
Lea County, NM  
Plains SRS- 2007-253

08/23/2007

Plains Marketing, L.P.  
Vacuum Sour 4-Inch Trap  
NW/SE S33, T17S, R35E  
Lea County, NM  
Plains SRS: 2007-233

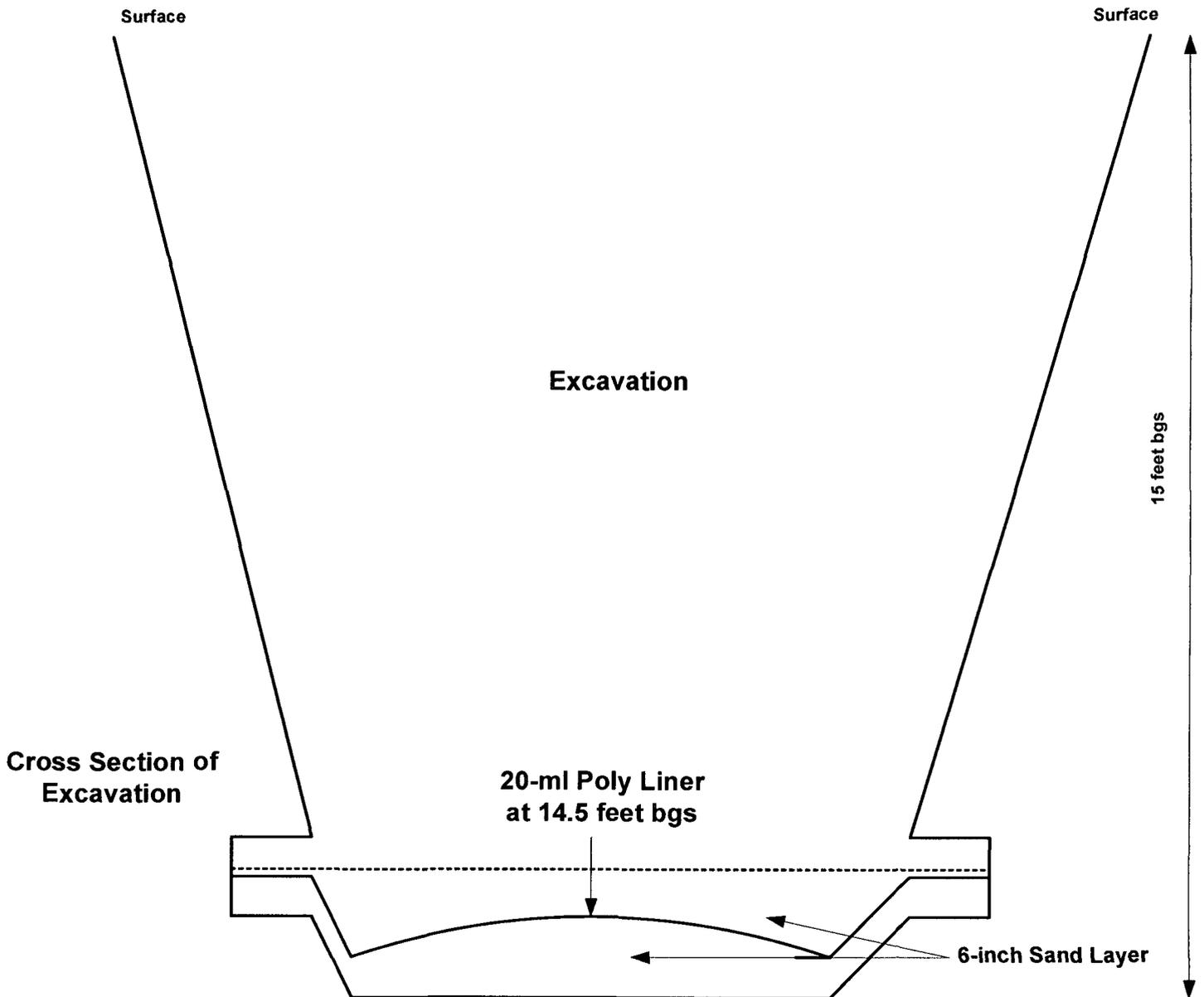
08/23/2007



Plains Marketing, L. P.  
Vacuum Sour 4-Inch Trap  
NW/SE-S33, T17S, R35E  
Lea County, NM  
Plains SRS: 2007-233

08/23/2007

**Vacuum Sour 4-Inch Trap  
20-ml Poly-Liner Installation**



**Cross Section of  
Excavation**

TITLE	<b>Figure 5 Vacuum Sour 4-Inch Trap</b>	DATE	<b>03 October 2007</b>
DRAWN BY	<b>Basin Environmental Services KAD</b>	LABEL	<b>Installation of 20 ml Poly Liner</b>

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

Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  Search Radius:

County:  Basin:  Number:  Suffix:

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

**AVERAGE DEPTH OF WATER REPORT 10/05/2007**

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
L	17S	35E	33				6	50	90	63

Record Count: 6



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1296  
200 East Sunset Road, Suite F El Paso, Texas 79922 688•688•3443 915•535•3443 FAX 915•585•4944  
5002 Basin Street, Suite A1 Midland, Texas 79703 432•669•6301 FAX 432•689•6313  
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•701•6760  
E-Mail: lab@traceanalysis.com

## Analytical and Quality Control Report

Ken Dutton  
Basin Environmental Service Tech LLC  
P.O. Box 301  
Lovington, NM, 88260

Report Date: September 25, 2007

Work Order: 7091819



Project Location: Lea County, NM  
Project Name: VACUUM SOUR. 4 INCH TRAP  
Project Number: SRS: 2007-233

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
136737	SB-1 10'	soil	2007-09-17	10:16	2007-09-18
136738	SB-1 20'	soil	2007-09-17	10:23	2007-09-18
136739	SB-1 30'	soil	2007-09-17	10:27	2007-09-18
136740	SB-1 35'	soil	2007-09-17	10:31	2007-09-18
136741	SB-1 40'	soil	2007-09-17	10:41	2007-09-18
136742	SB-1 45'	soil	2007-09-17	11:17	2007-09-18
136743	SB-1 50'	soil	2007-09-17	11:28	2007-09-18
136744	N/W 9'	soil	2007-09-17	12:05	2007-09-18
136745	S/W 9'	soil	2007-09-17	12:20	2007-09-18
136746	W/W 9'	soil	2007-09-17	12:50	2007-09-18
136747	E/W 9'	soil	2007-09-17	13:15	2007-09-18
136748	Excav Fir 15'	soil	2007-09-17	13:40	2007-09-18
136749	S/P	soil	2007-09-17	13:55	2007-09-18

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 28 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

*Michael Abel*

---

Dr. Blair Leftwich, Director

**Standard Flags**

**B** - The sample contains less than ten times the concentration found in the method blank.

## Analytical Report

### Sample: 136737 - SB-1 10'

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
QC Batch: 41283 Date Analyzed: 2007-09-19 Analyzed By:  
Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0500	mg/Kg	5	0.0100
Toluene		5.04	mg/Kg	5	0.0100
Ethylbenzene		10.3	mg/Kg	5	0.0100
Xylene		17.2	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3.07	mg/Kg	5	5.00	61	39.6 - 116
4-Bromofluorobenzene (4-BFB)		6.40	mg/Kg	5	5.00	128	47.3 - 144.2

### Sample: 136737 - SB-1 10'

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A  
QC Batch: 41432 Date Analyzed: 2007-09-24 Analyzed By: ER  
Prep Batch: 35802 Sample Preparation: 2007-09-24 Prepared By: ER

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		9.62	mg/Kg	5	1.00

### Sample: 136737 - SB-1 10'

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		3510	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	1	825	mg/Kg	1	150	550	17.3 - 169.6

### Sample: 136737 - SB-1 10'

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
QC Batch: 41290 Date Analyzed: 2007-09-19 Analyzed By:  
Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

<sup>1</sup>High surrogate recovery due to peak interference.

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<b>587</b>	mg/Kg	5	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3.40	mg/Kg	5	5.00	68	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		5.88	mg/Kg	5	5.00	118	50.8 - 131.6

**Sample: 136738 - SB-1 20'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41283 Date Analyzed: 2007-09-19 Analyzed By:  
 Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<b>0.415</b>	mg/Kg	5	0.0100
Toluene		<b>6.44</b>	mg/Kg	5	0.0100
Ethylbenzene		<b>13.6</b>	mg/Kg	5	0.0100
Xylene		<b>22.3</b>	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.97	mg/Kg	5	5.00	59	39.6 - 116
4-Bromofluorobenzene (4-BFB)	<sup>2</sup>	7.40	mg/Kg	5	5.00	148	47.3 - 144.2

**Sample: 136738 - SB-1 20'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41343 Date Analyzed: 2007-09-21 Analyzed By:  
 Prep Batch: 35724 Sample Preparation: 2007-09-21 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<b>6820</b>	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	<sup>3</sup>	706	mg/Kg	5	150	471	17.3 - 169.6

**Sample: 136738 - SB-1 20'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41290 Date Analyzed: 2007-09-19 Analyzed By:  
 Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<b>692</b>	mg/Kg	5	1.00

<sup>2</sup>High surrogate recovery due to peak interference.

<sup>3</sup>High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3.42	mg/Kg	5	5.00	68	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)	4	7.71	mg/Kg	5	5.00	154	50.8 - 131.6

**Sample: 136739 - SB-1 30'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41283 Date Analyzed: 2007-09-19 Analyzed By:  
 Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0500	mg/Kg	5	0.0100
Toluene		2.20	mg/Kg	5	0.0100
Ethylbenzene		6.21	mg/Kg	5	0.0100
Xylene		11.1	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3.01	mg/Kg	5	5.00	60	39.6 - 116
4-Bromofluorobenzene (4-BFB)		5.59	mg/Kg	5	5.00	112	47.3 - 144.2

**Sample: 136739 - SB-1 30'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		3840	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	5	724	mg/Kg	1	150	483	17.3 - 169.6

**Sample: 136739 - SB-1 30'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41290 Date Analyzed: 2007-09-19 Analyzed By:  
 Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		510	mg/Kg	5	1.00

<sup>4</sup>High surrogate recovery due to peak interference.

<sup>5</sup>High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3.80	mg/Kg	5	5.00	76	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		4.20	mg/Kg	5	5.00	84	50.8 - 131.6

**Sample: 136740 - SB-1 35'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41283 Date Analyzed: 2007-09-19 Analyzed By:  
 Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.642	mg/Kg	1	1.00	64	39.6 - 116
4-Bromofluorobenzene (4-BFB)		0.775	mg/Kg	1	1.00	78	47.3 - 144.2

**Sample: 136740 - SB-1 35'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		251	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		176	mg/Kg	1	150	117	17.3 - 169.6

**Sample: 136740 - SB-1 35'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41290 Date Analyzed: 2007-09-19 Analyzed By:  
 Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		16.2	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.694	mg/Kg	1	1.00	69	50.2 - 89.3

*continued ...*

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		1.09	mg/Kg	1	1.00	109	50.8 - 131.6

**Sample: 136741 - SB-1 40'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41283 Date Analyzed: 2007-09-19 Analyzed By:  
 Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.652	mg/Kg	1	1.00	65	39.6 - 116
4-Bromofluorobenzene (4-BFB)		0.778	mg/Kg	1	1.00	78	47.3 - 144.2

**Sample: 136741 - SB-1 40'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		135	mg/Kg	1	150	90	17.3 - 169.6

**Sample: 136741 - SB-1 40'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41290 Date Analyzed: 2007-09-19 Analyzed By:  
 Prep Batch: 35640 Sample Preparation: 2007-09-19 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.763	mg/Kg	1	1.00	76	50.2 - 89.3

continued ...

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		1.01	mg/Kg	1	1.00	101	50.8 - 131.6

**Sample: 136742 - SB-1 45'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41329 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.620	mg/Kg	1	1.00	62	39.6 - 116
4-Bromofluorobenzene (4-BFB)		0.716	mg/Kg	1	1.00	72	47.3 - 144.2

**Sample: 136742 - SB-1 45'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		140	mg/Kg	1	150	93	17.3 - 169.6

**Sample: 136742 - SB-1 45'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41330 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.746	mg/Kg	1	1.00	75	50.2 - 89.3

continued ...

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		1.03	mg/Kg	1	1.00	103	50.8 - 131.6

**Sample: 136743 - SB-1 50'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41329 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.591	mg/Kg	1	1.00	59	39.6 - 116
4-Bromofluorobenzene (4-BFB)		0.714	mg/Kg	1	1.00	71	47.3 - 144.2

**Sample: 136743 - SB-1 50'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		140	mg/Kg	1	150	93	17.3 - 169.6

**Sample: 136743 - SB-1 50'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41330 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.693	mg/Kg	1	1.00	69	50.2 - 89.3

continued ...



sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		1.00	mg/Kg	1	1.00	100	50.8 - 131.6

**Sample: 136745 - S/W 9'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41329 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.596	mg/Kg	1	1.00	60	39.6 - 116
4-Bromofluorobenzene (4-BFB)		0.718	mg/Kg	1	1.00	72	47.3 - 144.2

**Sample: 136745 - S/W 9'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		132	mg/Kg	1	150	88	17.3 - 169.6

**Sample: 136745 - S/W 9'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41330 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.750	mg/Kg	1	1.00	75	50.2 - 89.3

continued ...

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		1.00	mg/Kg	1	1.00	100	50.8 - 131.6

**Sample: 136746 - W/W 9'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41329 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.618	mg/Kg	1	1.00	62	39.6 - 116
4-Bromofluorobenzene (4-BFB)		0.726	mg/Kg	1	1.00	73	47.3 - 144.2

**Sample: 136746 - W/W 9'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		124	mg/Kg	1	150	83	17.3 - 169.6

**Sample: 136746 - W/W 9'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41330 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.762	mg/Kg	1	1.00	76	50.2 - 89.3

continued ...

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		1.02	mg/Kg	1	1.00	102	50.8 - 131.6

**Sample: 136747 - E/W 9'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41329 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.626	mg/Kg	1	1.00	63	39.6 - 116
4-Bromofluorobenzene (4-BFB)		0.731	mg/Kg	1	1.00	73	47.3 - 144.2

**Sample: 136747 - E/W 9'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		137	mg/Kg	1	150	91	17.3 - 169.6

**Sample: 136747 - E/W 9'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41330 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.785	mg/Kg	1	1.00	78	50.2 - 89.3

continued ...

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		1.01	mg/Kg	1	1.00	101	50.8 - 131.6

**Sample: 136748 - Excav Fir 15'**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41329 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.484	mg/Kg	5	0.0100
Toluene		4.79	mg/Kg	5	0.0100
Ethylbenzene		5.66	mg/Kg	5	0.0100
Xylene		21.7	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.68	mg/Kg	5	5.00	54	39.6 - 116
4-Bromofluorobenzene (4-BFB)		5.58	mg/Kg	5	5.00	112	47.3 - 144.2

**Sample: 136748 - Excav Fir 15'**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		4070	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	<sup>6</sup>	1020	mg/Kg	1	150	680	17.3 - 169.6

**Sample: 136748 - Excav Fir 15'**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41330 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		603	mg/Kg	5	1.00

<sup>6</sup>High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.91	mg/Kg	5	5.00	58	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		6.21	mg/Kg	5	5.00	124	50.8 - 131.6

**Sample: 136749 - S/P**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
 QC Batch: 41329 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<b>0.338</b>	mg/Kg	2	0.0100
Toluene		<b>4.23</b>	mg/Kg	2	0.0100
Ethylbenzene		<b>6.42</b>	mg/Kg	2	0.0100
Xylene	7	<b>29.1</b>	mg/Kg	2	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.941	mg/Kg	2	2.00	47	39.6 - 116
4-Bromofluorobenzene (4-BFB)	8	4.14	mg/Kg	2	2.00	207	47.3 - 144.2

**Sample: 136749 - S/P**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
 QC Batch: 41288 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35674 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<b>778</b>	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		194	mg/Kg	1	150	129	17.3 - 169.6

**Sample: 136749 - S/P**

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035  
 QC Batch: 41330 Date Analyzed: 2007-09-20 Analyzed By:  
 Prep Batch: 35712 Sample Preparation: 2007-09-20 Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<b>503</b>	mg/Kg	2	1.00

<sup>7</sup>Estimated concentration value greater than standard range.

<sup>8</sup>High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.39	mg/Kg	2	2.00	70	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)	<sup>9</sup>	12.7	mg/Kg	2	2.00	635	50.8 - 131.6

**Method Blank (1)**      QC Batch: 41245

QC Batch: 41245      Date Analyzed: 2007-09-19      Analyzed By:  
 Prep Batch: 35642      QC Preparation: 2007-09-19      Prepared By:

Parameter	Flag	MDL Result	Units	RL
DRO		<13.4	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		84.2	mg/Kg	1	150	56	32.9 - 156.1

**Method Blank (1)**      QC Batch: 41283

QC Batch: 41283      Date Analyzed: 2007-09-19      Analyzed By:  
 Prep Batch: 35640      QC Preparation: 2007-09-19      Prepared By:

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00110	mg/Kg	0.01
Toluene		<0.00150	mg/Kg	0.01
Ethylbenzene		<0.00160	mg/Kg	0.01
Xylene		<0.00410	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.674	mg/Kg	1	1.00	67	58.2 - 121.3
4-Bromofluorobenzene (4-BFB)		0.697	mg/Kg	1	1.00	70	53.1 - 111.6

**Method Blank (1)**      QC Batch: 41288

QC Batch: 41288      Date Analyzed: 2007-09-20      Analyzed By:  
 Prep Batch: 35674      QC Preparation: 2007-09-20      Prepared By:

Parameter	Flag	MDL Result	Units	RL
DRO		<13.4	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		116	mg/Kg	1	150	77	32.9 - 156.1

<sup>9</sup>High surrogate recovery due to peak interference.

**Method Blank (1)**      QC Batch: 41290

QC Batch: 41290  
Prep Batch: 35640

Date Analyzed: 2007-09-19  
QC Preparation: 2007-09-19

Analyzed By:  
Prepared By:

Parameter	Flag	MDL Result	Units	RL
GRO		<0.739	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.01	mg/Kg	1	1.00	101	67.8 - 103
4-Bromofluorobenzene (4-BFB)		0.924	mg/Kg	1	1.00	92	55.4 - 111.8

**Method Blank (1)**      QC Batch: 41329

QC Batch: 41329  
Prep Batch: 35712

Date Analyzed: 2007-09-20  
QC Preparation: 2007-09-20

Analyzed By:  
Prepared By:

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00110	mg/Kg	0.01
Toluene		<0.00150	mg/Kg	0.01
Ethylbenzene		<0.00160	mg/Kg	0.01
Xylene		<0.00410	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.628	mg/Kg	1	1.00	63	58.2 - 121.3
4-Bromofluorobenzene (4-BFB)		0.656	mg/Kg	1	1.00	66	53.1 - 111.6

**Method Blank (1)**      QC Batch: 41330

QC Batch: 41330  
Prep Batch: 35712

Date Analyzed: 2007-09-20  
QC Preparation: 2007-09-20

Analyzed By:  
Prepared By:

Parameter	Flag	MDL Result	Units	RL
GRO		<0.739	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.00	mg/Kg	1	1.00	100	67.8 - 103
4-Bromofluorobenzene (4-BFB)		0.918	mg/Kg	1	1.00	92	55.4 - 111.8

**Method Blank (1)**      QC Batch: 41343

QC Batch: 41343  
Prep Batch: 35724

Date Analyzed: 2007-09-21  
QC Preparation: 2007-09-21

Analyzed By:  
Prepared By:

Parameter	Flag	MDL Result	Units	RL
DRO		22.4	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		99.2	mg/Kg	1	150	66	32.9 - 156.1

**Method Blank (1)**      QC Batch: 41432

QC Batch: 41432      Date Analyzed: 2007-09-24      Analyzed By: ER  
 Prep Batch: 35802      QC Preparation: 2007-09-24      Prepared By: ER

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.140	mg/Kg	1

**Laboratory Control Spike (LCS-1)**

QC Batch: 41245      Date Analyzed: 2007-09-19      Analyzed By:  
 Prep Batch: 35642      QC Preparation: 2007-09-19      Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	255	mg/Kg	1	250	<13.4	102	49.1 - 142.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	249	mg/Kg	1	250	<13.4	100	49.1 - 142.3	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
n-Triacontane	86.0	97.4	mg/Kg	1	150	57	65	49 - 133.2

**Laboratory Control Spike (LCS-1)**

QC Batch: 41283      Date Analyzed: 2007-09-19      Analyzed By:  
 Prep Batch: 35640      QC Preparation: 2007-09-19      Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.908	mg/Kg	1	1.00	<0.00110	91	71.2 - 119
Toluene	0.972	mg/Kg	1	1.00	<0.00150	97	76.3 - 116.5
Ethylbenzene	0.951	mg/Kg	1	1.00	<0.00160	95	77.6 - 114
Xylene	2.89	mg/Kg	1	3.00	<0.00410	96	78.8 - 113.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.865	mg/Kg	1	1.00	<0.00110	86	71.2 - 119	5	20
Toluene	0.952	mg/Kg	1	1.00	<0.00150	95	76.3 - 116.5	2	20
Ethylbenzene	0.911	mg/Kg	1	1.00	<0.00160	91	77.6 - 114	4	20
Xylene	2.77	mg/Kg	1	3.00	<0.00410	92	78.8 - 113.9	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.605	0.600	mg/Kg	1	1.00	60	60	56.1 - 107.8
4-Bromofluorobenzene (4-BFB)	0.640	0.643	mg/Kg	1	1.00	64	64	56.2 - 118.8

**Laboratory Control Spike (LCS-1)**

QC Batch: 41288  
 Prep Batch: 35674

Date Analyzed: 2007-09-20  
 QC Preparation: 2007-09-20

Analyzed By:  
 Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	270	mg/Kg	1	250	<13.4	108	49.1 - 142.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	278	mg/Kg	1	250	<13.4	111	49.1 - 142.3	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
n-Triacontane	92.7	85.2	mg/Kg	1	150	62	57	49 - 133.2

**Laboratory Control Spike (LCS-1)**

QC Batch: 41290  
 Prep Batch: 35640

Date Analyzed: 2007-09-19  
 QC Preparation: 2007-09-19

Analyzed By:  
 Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	8.08	mg/Kg	1	10.0	<0.739	81	56 - 105.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	8.15	mg/Kg	1	10.0	<0.739	82	56 - 105.2	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.958	0.959	mg/Kg	1	1.00	96	96	61.1 - 148.1

continued ...

control spikes continued . . .

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
4-Bromofluorobenzene (4-BFB)	0.958	0.960	mg/Kg	1	1.00	96	96	67.2 - 119.2

**Laboratory Control Spike (LCS-1)**

QC Batch: 41329  
 Prep Batch: 35712

Date Analyzed: 2007-09-20  
 QC Preparation: 2007-09-20

Analyzed By:  
 Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.873	mg/Kg	1	1.00	<0.00110	87	71.2 - 119
Toluene	0.938	mg/Kg	1	1.00	<0.00150	94	76.3 - 116.5
Ethylbenzene	0.921	mg/Kg	1	1.00	<0.00160	92	77.6 - 114
Xylene	2.82	mg/Kg	1	3.00	<0.00410	94	78.8 - 113.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.874	mg/Kg	1	1.00	<0.00110	87	71.2 - 119	0	20
Toluene	0.917	mg/Kg	1	1.00	<0.00150	92	76.3 - 116.5	2	20
Ethylbenzene	0.895	mg/Kg	1	1.00	<0.00160	90	77.6 - 114	3	20
Xylene	2.76	mg/Kg	1	3.00	<0.00410	92	78.8 - 113.9	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.577	0.571	mg/Kg	1	1.00	58	57	56.1 - 107.8
4-Bromofluorobenzene (4-BFB)	0.609	0.606	mg/Kg	1	1.00	61	61	56.2 - 118.8

**Laboratory Control Spike (LCS-1)**

QC Batch: 41330  
 Prep Batch: 35712

Date Analyzed: 2007-09-20  
 QC Preparation: 2007-09-20

Analyzed By:  
 Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	8.09	mg/Kg	1	10.0	<0.739	81	56 - 105.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	8.34	mg/Kg	1	10.0	<0.739	83	56 - 105.2	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.961	0.960	mg/Kg	1	1.00	96	96	61.1 - 148.1
4-Bromofluorobenzene (4-BFB)	0.938	0.940	mg/Kg	1	1.00	94	94	67.2 - 119.2

**Laboratory Control Spike (LCS-1)**

QC Batch: 41343  
 Prep Batch: 35724

Date Analyzed: 2007-09-21  
 QC Preparation: 2007-09-21

Analyzed By:  
 Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	167	mg/Kg	1	250	<13.4	67	49.1 - 142.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	170	mg/Kg	1	250	<13.4	68	49.1 - 142.3	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	146	139	mg/Kg	1	150	97	93	49 - 133.2

**Laboratory Control Spike (LCS-1)**

QC Batch: 41432  
 Prep Batch: 35802

Date Analyzed: 2007-09-24  
 QC Preparation: 2007-09-24

Analyzed By: ER  
 Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	12.0	mg/Kg	1	12.5	<0.140	96	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	12.4	mg/Kg	1	12.5	<0.140	99	90 - 110	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1) Spiked Sample: 136744**

QC Batch: 41245  
 Prep Batch: 35642

Date Analyzed: 2007-09-19  
 QC Preparation: 2007-09-19

Analyzed By:  
 Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	358	mg/Kg	1	250	<13.4	143	30.2 - 201.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	352	mg/Kg	1	250	<13.4	141	30.2 - 201.4	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	134	137	mg/Kg	1	150	89	91	10 - 194

**Matrix Spike (MS-1)** Spiked Sample: 136741

QC Batch: 41283  
 Prep Batch: 35640

Date Analyzed: 2007-09-19  
 QC Preparation: 2007-09-19

Analyzed By:  
 Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.04	mg/Kg	1	1.00	<0.00110	104	65.7 - 119.1
Toluene	1.15	mg/Kg	1	1.00	<0.00150	115	47.7 - 153.8
Ethylbenzene	1.15	mg/Kg	1	1.00	<0.00160	115	73.5 - 126.3
Xylene	3.50	mg/Kg	1	3.00	<0.00410	117	73.6 - 125.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.948	mg/Kg	1	1.00	<0.00110	95	65.7 - 119.1	9	20
Toluene	1.01	mg/Kg	1	1.00	<0.00150	101	47.7 - 153.8	13	20
Ethylbenzene	1.02	mg/Kg	1	1.00	<0.00160	102	73.5 - 126.3	12	20
Xylene	3.07	mg/Kg	1	3.00	<0.00410	102	73.6 - 125.9	13	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.571	0.621	mg/Kg	1	1	57	62	51 - 109.6
4-Bromofluorobenzene (4-BFB)	0.699	0.710	mg/Kg	1	1	70	71	60.3 - 124.3

**Matrix Spike (MS-1)** Spiked Sample: 136747

QC Batch: 41288  
 Prep Batch: 35674

Date Analyzed: 2007-09-20  
 QC Preparation: 2007-09-20

Analyzed By:  
 Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	376	mg/Kg	1	250	<13.4	150	30.2 - 201.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	356	mg/Kg	1	250	<13.4	142	30.2 - 201.4	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	145	143	mg/Kg	1	150	97	95	10 - 194

**Matrix Spike (MS-1)** Spiked Sample: 136741

QC Batch: 41290  
 Prep Batch: 35640

Date Analyzed: 2007-09-19  
 QC Preparation: 2007-09-19

Analyzed By:  
 Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	8.45	mg/Kg	1	10.0	<0.739	84	10 - 102.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	9.14	mg/Kg	1	10.0	<0.739	91	10 - 102.2	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.683	0.721	mg/Kg	1	1	68	72	47.2 - 84.2
4-Bromofluorobenzene (4-BFB)	1.06	1.05	mg/Kg	1	1	106	105	58 - 162.6

**Matrix Spike (MS-1)** Spiked Sample: 136746

QC Batch: 41329  
 Prep Batch: 35712

Date Analyzed: 2007-09-20  
 QC Preparation: 2007-09-20

Analyzed By:  
 Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.05	mg/Kg	1	1.00	<0.00110	105	65.7 - 119.1
Toluene	1.13	mg/Kg	1	1.00	<0.00150	113	47.7 - 153.8
Ethylbenzene	1.14	mg/Kg	1	1.00	<0.00160	114	73.5 - 126.3
Xylene	3.52	mg/Kg	1	3.00	<0.00410	117	73.6 - 125.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.918	mg/Kg	1	1.00	<0.00110	92	65.7 - 119.1	13	20
Toluene	1.01	mg/Kg	1	1.00	<0.00150	101	47.7 - 153.8	11	20
Ethylbenzene	1.04	mg/Kg	1	1.00	<0.00160	104	73.5 - 126.3	9	20
Xylene	3.19	mg/Kg	1	3.00	<0.00410	106	73.6 - 125.9	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.518	0.533	mg/Kg	1	1	52	53	51 - 109.6
4-Bromofluorobenzene (4-BFB)	0.650	0.660	mg/Kg	1	1	65	66	60.3 - 124.3

**Matrix Spike (MS-1)** Spiked Sample: 136746

QC Batch: 41330  
 Prep Batch: 35712

Date Analyzed: 2007-09-20  
 QC Preparation: 2007-09-20

Analyzed By:  
 Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	8.17	mg/Kg	1	10.0	<0.739	82	10 - 102.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	8.50	mg/Kg	1	10.0	<0.739	85	10 - 102.2	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.669	0.679	mg/Kg	1	1	67	68	47.2 - 84.2
4-Bromofluorobenzene (4-BFB)	1.02	1.03	mg/Kg	1	1	102	103	58 - 162.6

**Matrix Spike (MS-1)** Spiked Sample: 137014

QC Batch: 41343 Date Analyzed: 2007-09-21 Analyzed By:  
 Prep Batch: 35724 QC Preparation: 2007-09-21 Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	<sup>10</sup> 735	mg/Kg	1	250	689	18	30.2 - 201.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	<sup>11</sup> 691	mg/Kg	1	250	689	1	30.2 - 201.4	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	202	249	mg/Kg	1	150	135	166	10 - 194

**Matrix Spike (MS-1)** Spiked Sample: 136328

QC Batch: 41432 Date Analyzed: 2007-09-24 Analyzed By: ER  
 Prep Batch: 35802 QC Preparation: 2007-09-24 Prepared By: ER

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	104	mg/Kg	5	62.5	35.896	109	75.6 - 117

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	<sup>12</sup> 111	mg/Kg	5	62.5	35.896	120	75.6 - 117	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

<sup>10</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>11</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>12</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.







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Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.0	96	90 - 110	2007-09-24

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**Standard (CCV-1)**

QC Batch: 41432

Date Analyzed: 2007-09-24

Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.1	97	90 - 110	2007-09-24







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COMMISSIONER'S OFFICE

Phone (505) 827-5760

Fax (505) 827-5766

www.nmstatelands.org

September 5, 2007

RECEIVED SEP 11 2007

Plains Pipeline, LP  
333 clay Street, Suite 1600  
Houston, TX 77210-4648

Attn: Camille Reynolds

Re: Right-of-Entry Permit No. ROE-1570

Dear Ms. Reynolds,

Enclosed is an approved copy of the captioned right-of-entry permit. If any corrections are necessary, please let us know and we will retype or amend this permit as necessary.

**Also enclosed is a Right of Entry for remediation. We are in need of more information. Fill out the sections only with the checks marks next to them.**

If you have any questions, please feel free to contact this office at the address above or for myself, Melissa Armijo at (505) 827-5710.

Sincerely,

Melissa Armijo, Management Analyst  
Right of Way Section  
Surface Resources Management Division

**-State Land Office Beneficiaries -**

Carrie Tingley Hospital • Charitable Penal & Reform • Common Schools • Eastern NM University • Rio Grande Improvement • Miners' Hospital of NM • NM Boys School • NM Highlands University • NM Institute of Mining & Technology • New Mexico Military Institute • NM School for the Deaf • NM School for the Visually Handicapped • NM State Hospital • New Mexico State University • Northern NM Community College • Penitentiary of New Mexico • Public Buildings at Capital • State Park Commission • University of New Mexico • UNM Saline Lands • Water Reservoirs • Western New Mexico University

2007-233  
Vacuum Sout 4"

**NEW MEXICO STATE LAND OFFICE**  
**Patrick H. Lyons, Commissioner of Public Lands**  
**New Mexico State Land Office Building**  
**P.O. Box 1148, Santa Fe, NM 87504-1148**

**RIGHT OF ENTRY PERMIT**  
**CONTRACT NO. ROE-1570**

**1. RIGHT OF ENTRY PERMIT**

This permit is issued under the authority of NMSA 1978, Section 19-1-2. In consideration of and subject to the terms, covenants, conditions, agreements, obligations and reservations contained in the permit and all other existing rights and regulations, the Commissioner of Public Lands, New Mexico State Land Office, State of New Mexico, hereinafter called "COMMISSIONER," grants to Plains Pipeline, LP State of Incorporation (if applicable), whose address is 333 Clay Street, Suite 1600, Houston, TX 77210-4648, hereinafter called "PERMITTEE," permission to enter upon the specific tract(s) of State Trust Land described in this permit only for the term, and only for the permitted use, described in this permit.

**2. TERM AND LAND DESCRIPTION**

Right of entry is granted for a term of 180 days, commencing July 30, 2007 and ending January 30, 2008 to the following State Trust Lands.

Section 33, Township 17 South, Range 35 East  
Lea County

**3. APPLICATION and PROCESSING FEE**

\$ 530.00 (Five Hundred and Thirty Dollars)

**4. PERMITTED USE, PERSONNEL, EQUIPMENT AND MATERIALS**

Permitted use is for the purpose of: Environmental site investigation. If necessary, subsurface delineation of contaminants will be performed in order to determine extent of contaminants in soil and possible impact to groundwater. Investigation activities may include: soil borings, placement of trenches, and monitor wells. If monitor wells are placed upon the subject property, Permittee will file an Application for Water Development Easement for the placement of the monitor wells as soon as possible. Additional activities that may be conducted include soil excavation, shredding, and/or hauling. To minimize disturbance, shredding is only allowed in existing disturbed areas. No landfarming or landspread allowed.

2007 AUG 21 AM 9 31  
STATE LAND OFFICE  
SANTA FE, N.M.

2007 AUG 21 AM 9 31  
STATE LAND OFFICE  
SANTA FE, N.M.

The granting of this permit does not allow access across private lands.

## 5. IMPROVEMENTS

No improvements shall be placed on the premises without the prior written consent of the Commissioner.

## 6. RESERVATIONS

Commissioner reserves the right to execute leases, rights of way, easements, permits, exchange agreements, sale agreements, permits and other lawful rights on or across the land covered by this permit, including but not limited to any such rights for mining purposes and for the extraction of oil, gas, salt, geothermal resources, and other mineral deposits there from and the right to go upon, explore for, mine, remove and sell same.

## 7. COMPLIANCE WITH LAWS

Permittee shall at its own expense comply fully with and be subject to all applicable regulations, rules, ordinances, and requirements of law or of the Commissioner, including but not limited to the regulations of the State Land Office; Chapter 19 NMSA governing State Trust Lands; federal and state environmental laws and regulations; and the New Mexico Cultural Properties Act, NMSA 1978 Sections 18-6-1 through 18-6-23. It is illegal for any person or his agent to appropriate, excavate, injure, or destroy any historic, or prehistoric ruin or monument, or any object of historical, archaeological, architectural, or scientific value situated on lands owned or controlled by the State Land Office without a valid permit issued by the Cultural Properties Review Committee and approved by the Commissioner of Public Lands.

## 8. HOLD HARMLESS AND INDEMNIFICATION

Permittee shall save, hold harmless, indemnify and defend Commissioner, the State Land Office, the State of New Mexico, and any of their officers, employees or agents, in their official and individual capacities, of and from any and all liability, claims, losses, damages, costs, and fees arising out of or alleged to arise out of, or directly or indirectly connected with, the operations of Permittee under this permit on or off State Trust Lands or arising out of the presence on State Trust Lands of any equipment, material, agent, invitee, contractor or subcontractor of Permittee. This Hold Harmless and Indemnification clause covers any claim, including any brought in any court or before any administrative agency, of any loss or alleged loss, and any damages or alleged damages asserted with respect to any violation or alleged violation of any state, federal or local law or regulation, including but not limited to any environmental law or regulation, any cultural properties law (including the New Mexico Cultural Properties Act, cited above) or regulation, and any alleged damage to the property, rights or interests of any State Land Office lessee, right-of-way holder, or other permittee.

2007 AUG 21 PM 9 31

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**9. AMENDMENT**

This permit shall not be altered, changed, or amended except by an instrument in writing executed by Commissioner and Permittee.

**10. WITHDRAWAL**

Commissioner reserves the right to withdraw any or all of the land authorized for use under this permit. If applicable, Permittee shall vacate the acreage specified within 30 days after receipt of written notification of withdrawal from the Commissioner.

**11. CANCELLATION**

The violation by Permittee of any of the terms, conditions, or covenants of this permit or the nonpayment by Permittee of the fees due under this permit shall at the option of the Commissioner be considered a default and shall cause the cancellation of this permit 30 days after Permittee has been sent written notice of such.

**12. PRESERVE AND PROTECT**

The Permittee agrees to preserve and protect the natural environmental conditions of the land encompassed in this permit, and to take those reclamation or corrective actions that are accepted soil and water conservation practices and that are deemed necessary by the Commissioner to protect the land from pollution, erosion, or other environmental degradation. The Permittee further agrees not to injure the property of, or interfere with the operations or rights of, any State Land Office lessee, right-of-way holder, easement holder or other permittee who has rights to use the State Trust Land subject to this permit.

**13. RECLAMATION, REMOVAL OF EQUIPMENT, MATERIALS, AND WASTE**

The Permittee agrees to reclaim those areas that may be damaged by activities conducted thereon.

The Permittee agrees to remove from the State Trust Lands, no later than the end of the term of this permit, all equipment, and materials it has placed or brought upon the land and to clean up and remove from the land any trash, waste, effluent, or other products used or brought upon the land in connection with this permit.

**14. SPECIAL INSTRUCTIONS AND/OR RESTRICTIONS**

- 1. No off road traffic allowed.
- 2. No wood collection or tree cutting allowed.
- 3. Disturbing, dislodging, damaging, defacing, destroying or removing historical archaeological, paleontological or cultural sites or artifacts is prohibited.
- 4. Disturbing, dislodging, damaging, defacing, destroying any improvement, fixture, item, object or thing placed or located in, under or upon the land is prohibited.

STATE AND FOREST SERVICE  
SANTA FE N.M.  
JUN 9 9 31 AM '07

2007 JUN 21 PM 9 28  
STATE LAND OFFICE  
SANTA FE N.M.

5. This permit does not grant a right to enter State Trust Lands to which there is no public access.

6. Any uses or activities not within the scope of this permit are not allowed unless prior written approval from the Commissioner of Public Lands is granted.

7. OTHER:

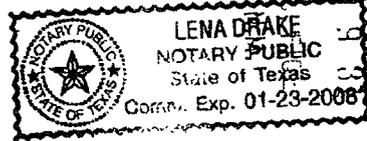
WITNESS the hands and seals of PERMITTEE and COMMISSIONER on the day(s) and year entered below.

R Espinoza, Plains Pipeline Telephone: 713-646-4625  
PERMITTEE

ACKNOWLEDGMENT

STATE OF Texas )

COUNTY OF Harris )



2007 AUG 21 AM 9:30  
STATE LANDS  
SANTA FE

The foregoing instrument was acknowledged before me this 17th day of August, 2007.

My Commission Expires: 1-23-08 Lena Drake  
NOTARY PUBLIC

Patricia H. Lyons  
COMMISSIONER OF PUBLIC LANDS

DATE: 8/29/07

**Camille J Reynolds**

---

**From:** Rebecca E Esparza  
**Sent:** Monday, August 06, 2007 10:32 AM  
**To:** Camille J Reynolds  
**Subject:** Vacuum Sour 4" Trap ROE

This ROE was received from NMSLO today - effective 7/30/07 to 1/30/08. As soon as it is signed, paid, and sent to the State I will send you a copy.

~~~~~  
Rebecca E. Esparza  
Environmental & Regulatory Compliance Specialist Plains All American

Ph. 713.646.4625  
Fax 713.646.4310  
Cell 713.302.8486

Vacuum Sour 4" Trap  
2007-

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised October 10, 2003

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

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

|                                                |                                 |           |
|------------------------------------------------|---------------------------------|-----------|
| Name of Company Plains Pipeline                | Contact Camille Reynolds        |           |
| Address 3112 W. US Hwy 82, Lovington, NM 88260 | Telephone No. 505-441-0965      |           |
| Facility Name Vacuum Sour 4 Inch Trap          | Facility Type 4" Steel Pipeline |           |
| Surface Owner SLO                              | Mineral Owner                   | Lease No. |

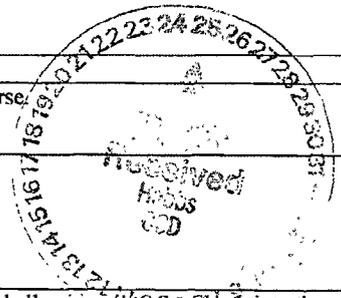
**LOCATION OF RELEASE**

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| J           | 33      | 17S      | 35E   |               |                  |               |                | Lea    |

Latitude 32° 47' 17.3" Longitude 103° 27' 33.9"

**NATURE OF RELEASE**

|                                                                                                                                                                                                                                                                                                                                                              |                                                   |                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|
| Type of Release Crude Oil                                                                                                                                                                                                                                                                                                                                    | Volume of Release 30 barrels                      | Volume Recovered 0 barrels                       |
| Source of Release 4" Steel Pipeline                                                                                                                                                                                                                                                                                                                          | Date and Hour of Occurrence<br>07/20/2007 @ 13:00 | Date and Hour of Discovery<br>07/20/2007 @ 13:30 |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required                                                                                                                                                                                                                     | If YES, To Whom?<br>Pat Richards                  |                                                  |
| By Whom? Camille Reynolds                                                                                                                                                                                                                                                                                                                                    | Date and Hour 07/20/2007 @ 15:45                  |                                                  |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                            | If YES, Volume Impacting the Watercourse:         |                                                  |
| If a Watercourse was Impacted, Describe Fully.*                                                                                                                                                                                                                                                                                                              |                                                   |                                                  |
| Describe Cause of Problem and Remedial Action Taken: Tie in valve on the Phillips Central 8 inch line malfunctioned allowing oil to flow back into the idled 4 inch receiver trap. Internal corrosion on the idled 4 inch line resulted in the crude oil release. The line was cut and capped. Line idled, therefore, pressure and volume is not applicable. |                                                   |                                                  |
| Describe Area Affected and Cleanup Action Taken.* The initial visual impacted area was approximately 80 feet long by 20 feet wide. The impacted soil is being stockpiled on site on a 6-mil poly liner.                                                                                                                                                      |                                                   |                                                  |



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: <i>Camille Reynolds</i>   | <b>OIL CONSERVATION DIVISION</b> |                                   |
| Printed Name: Camille Reynolds       | Approved by District Supervisor: |                                   |
| Title: Remediation Coordinator       | Approval Date:                   | Expiration Date:                  |
| E-mail Address: cgreynolds@paalp.com | Conditions of Approval:          | Attached <input type="checkbox"/> |
| Date: 07/26/2007                     | Phone: 505-441-0965              |                                   |

\* Attach Additional Sheets If Necessary

# Plains Oil Spill Report Form (SRS Data collection)

**Southern & Southwestern Divisions Environmental & Regulatory Compliance**

**Company:** Plains Pipeline (002)

**Division:** Southwestern Pipeline **District:** Permian Pipeline North **County:** Lea **State:** New Mexico

**Regulatory Jurisdiction:** Inter/Intra  TK/PL   Non-regulated gathering  TRRC  DOT/OPS

**Facility or pipeline name:** vacuum sour 4 inch trap **Pipeline Segment:** vacuum sour

**Date discovered:(mm/dd/yyyy):** 7/20/2007 **Location/GL Code:** 74765

**Discovered By:** air patrol (Eric) **Time Discovered: (00:00)** 13:30 pm

**Reported To:** Virgil A. Gibbs **Time Reported: (00:00)** 13:40 pm

**Reported By:** Virgil A. Gibbs **Time Reported: (00:00)** 13:40 pm

**Person Making Report:** Virgil A. Gibbs **Date and Time Reported to EH&S:** 13:45 pm

| Lat/Lon:       | Degrees | Minutes    | Seconds | Lat/Lon:      | Decimal Degrees |
|----------------|---------|------------|---------|---------------|-----------------|
| N              | 32      | 47         | 17.3    | N             |                 |
| W              | 103     | 27         | 33.9    | W             |                 |
| <b>Section</b> | 33      | <b>TWP</b> | 17s     | <b>Range</b>  | 35e             |
|                |         |            |         | <b>Block</b>  |                 |
|                |         |            |         | <b>Survey</b> |                 |
|                |         |            |         | <b>Other</b>  |                 |

**General Location and Driving Directions: (include name of nearest town)**  
east of buckeye nm about 5 miles and south about .75 of a mile.

**Landowner:** state of new mexico **Telephone Number:** na

**Quantity Released (Barrels):** 30 **Quantity Recovered (Barrels):** 0 **Fire, Explosion, or Injury?** No

**Did spill reach water?** No **If Yes, Identify Water Impacted:**

**Dimensions of Spill Site:** Yes **Depth of contamination:** na

**Cause of Spill: Check All That Apply**

|                                                        |                                                       |                                                 |
|--------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------|
| <input checked="" type="checkbox"/> Pipeline           | <input type="checkbox"/> External Corrosion           | <input type="checkbox"/> Control Center Failure |
| <input type="checkbox"/> Trucking                      | <input checked="" type="checkbox"/> Equipment Failure | <input type="checkbox"/> Third Party            |
| <input checked="" type="checkbox"/> Internal Corrosion | <input type="checkbox"/> Operator Error               | <input type="checkbox"/> Other (explain)        |
| <b>Truck Number:</b>                                   | <b>Drivers Name:</b>                                  |                                                 |

**Third Party Damage:**

**One Call System Used?** **Was Line Located?** **Were P/L markers visible?**

**Was P/L Properly Flagged?** **Company Personnel Present?** **Name of Employee:**

**Name of Third Party (Company or Individual):** **Explain Below If needed:**

**Brief description of incident (indicate failure mode and source of release, pipeline, tank, truck, etc.):**

pipeline release on 4 inch idle line. this line showed to be purged in eott days but they did not disconnect from the active line the valve and the check did not hold forever

**Weather Conditions:**  
 Sunny  Cloudy  Raining **Temperature:** 88 **Wind Speed:** 10 **Wind direction:** sw

**Pipeline Information:**

**Size of Pipe:** 4" **Wall thickness:** 0.188 **Grade:** Grade B **Coating:** Cold Tar **C/P:** na **Impressed Current**

**MOP:** 0 **Normal Operating Pressure:** 0 **Year Installed:** na

**Cleaning Pigs Run on Segment:** Yes **If Yes, Frequency:** Monthly **Chemical injected into Segment:** No

Please E-mail to your Environmental Representative as soon after spill is found as possible (no more than 48 hours) so this information can be entered into the SRS reporting system. Also copy Brad Fivecoat on any pipeline spills so additional information can be entered into SRS for our annual reporting.

**Email:** <mailto:weroberts@paalp.com> **Email:** <mailto:blfivecoat@paalp.com> **Email:** <mailto:jlbryant@paalp.com>

**Email:** <mailto:cireynolds@paalp.com> **Email:** <mailto:dmbryant@paalp.com>

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
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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** x Initial Report  Final Report

|                                                |                                |
|------------------------------------------------|--------------------------------|
| Name of Company Plains Pipeline                | Contact Camille Reynolds       |
| Address 3112 W. US Hwy 82, Lovington, NM 88260 | Telephone No. 505-441-0965     |
| Facility Name Vacuum Sour 4 Inch Trap          | Facility Type 4"Steel Pipeline |

|                   |               |           |
|-------------------|---------------|-----------|
| Surface Owner SLO | Mineral Owner | Lease No. |
|-------------------|---------------|-----------|

**LOCATION OF RELEASE**

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| J           | 33      | 17S      | 35E   |               |                  |               |                | Lea    |

Latitude 32° 47' 17.3" Longitude 103° 27' 33.9"

**NATURE OF RELEASE**

|                                                                                                        |                                                   |                                                  |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|
| Type of Release Crude Oil                                                                              | Volume of Release 30 barrels                      | Volume Recovered 0 barrels                       |
| Source of Release 4" Steel Pipeline                                                                    | Date and Hour of Occurrence<br>07/20/2007 @ 13:00 | Date and Hour of Discovery<br>07/20/2007 @ 13:30 |
| Was Immediate Notice Given?<br>X Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?<br>Pat Richards                  |                                                  |
| By Whom? Camille Reynolds                                                                              | Date and Hour 07/20/2007 @ 15:45                  |                                                  |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No      | If YES, Volume Impacting the Watercourse:         |                                                  |

If a Watercourse was Impacted, Describe Fully.\*

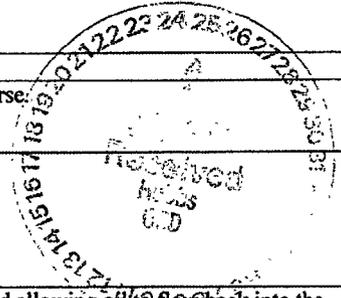
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Describe Area Affected and Cleanup Action Taken.\* The initial visual impacted area was approximately 80 feet long by 20 feet wide. The impacted soil is being stockpiled on site on a 6-mil poly liner.

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|                                      |                                  |                                   |
|--------------------------------------|----------------------------------|-----------------------------------|
| Signature: <i>Camille Reynolds</i>   | <b>OIL CONSERVATION DIVISION</b> |                                   |
| Printed Name: Camille Reynolds       | Approved by District Supervisor: |                                   |
| Title: Remediation Coordinator       | Approval Date:                   | Expiration Date:                  |
| E-mail Address: cjreynolds@paalp.com | Conditions of Approval:          | Attached <input type="checkbox"/> |
| Date: 07/26/2007                     | Phone: 505-441-0965              |                                   |

\* Attach Additional Sheets If Necessary



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Form C-141  
Revised October 10, 2003

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side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

|                                                |                                 |
|------------------------------------------------|---------------------------------|
| Name of Company Plains Pipeline                | Contact Camille Reynolds        |
| Address 3112 W. US Hwy 82, Lovington, NM 88260 | Telephone No. 505-441-0965      |
| Facility Name Vacuum Sour 4 Inch Trap          | Facility Type 4" Steel Pipeline |

|                   |               |           |
|-------------------|---------------|-----------|
| Surface Owner SLO | Mineral Owner | Lease No. |
|-------------------|---------------|-----------|

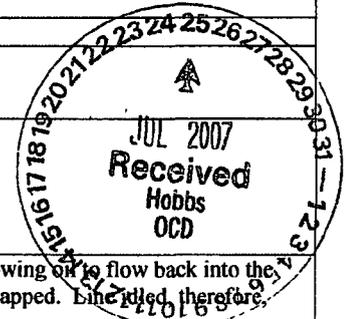
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Latitude 32° 47' 17.3" Longitude 103° 27' 33.9"

**NATURE OF RELEASE**

|                                                                                                        |                                                   |                                                  |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|
| Type of Release Crude Oil                                                                              | Volume of Release 30 barrels                      | Volume Recovered 0 barrels                       |
| Source of Release 4" Steel Pipeline                                                                    | Date and Hour of Occurrence<br>07/20/2007 @ 13:00 | Date and Hour of Discovery<br>07/20/2007 @ 13:30 |
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| By Whom? Camille Reynolds                                                                              | Date and Hour 07/20/2007 @ 15:45                  |                                                  |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No      | If YES, Volume Impacting the Watercourse.         |                                                  |



If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken: Tie in valve on the Phillips Central 8 inch line malfunctioned allowing oil to flow back into the idled 4 inch receiver trap. Internal corrosion on the idled 4 inch line resulted in the crude oil release. The line was cut and capped. Line idled, therefore, pressure and volume is not applicable.

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|                                      |                                                     |                                   |
|--------------------------------------|-----------------------------------------------------|-----------------------------------|
| Signature: <i>Camille Reynolds</i>   | <b>OIL CONSERVATION DIVISION</b>                    |                                   |
| Printed Name: Camille Reynolds       | Approved by District Supervisor: <i>[Signature]</i> |                                   |
| Title: Remediation Coordinator       | Approval Date: 7.26.07                              | Expiration Date: 9.28.07          |
| E-mail Address: cjreynolds@paalp.com | Conditions of Approval:<br>SUBMIT FINAL C-141       | Attached <input type="checkbox"/> |
| Date: 07/26/2007                     | Phone: 505-441-0965                                 |                                   |

\* Attach Additional Sheets If Necessary

W/ ATTACHMENTS BY

RPT# 1501