

1R - 457

# REPORTS

DATE:

2/2/2006

# *Basin Environmental Service Technologies, LLC*

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## **PRELIMINARY SITE INVESTIGATION REPORT and DELINEATION PLAN**

1R-2157

**PLAINS MARKETING, L.P. (231735)  
Frisco-Skelly # 1  
Lea County, New Mexico  
Plains EMS # 2004-00196**

**UNIT P (SE/SE), Section 36, Township 16 South, Range 36 East  
Latitude 32°, 52', 20.0" North, Longitude 103°, 18', 12.2" West**

Prepared For:

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

Prepared By:

Basin Environmental Service Technologies, LLC  
P. O. Box 301  
Lovington, New Mexico 88260

**02 February 2006**

  
Ken Dutton

Basin Environmental Service Technologies, LLC

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## **INTRODUCTION**

Basin Environmental Service Technologies, LLC (Basin), responded to a pipeline release for Plains Marketing, L.P. (Plains), located on the Frisco Skelly 4-inch Gathering Pipeline on 20 September 2004. The Frisco Skelly 4-inch Gathering Pipeline was clamped and the impacted soils were excavated and stockpiled on a 6-mil poly-liner adjacent to the excavation.

This site is located in Unit P (SE/SE), Section 36, Township 16 South, Range 36 East, in Lea County, New Mexico (topographic Site Location Map is attached as Figure 1). The site latitude is 32° 52' 20.0" North, and site longitude is 103° 18' 12.2" West. The site is characterized by a right-of-way for the pipeline in a pasture. The visually stained area includes the release point covering an area approximately 42 feet long by 44 feet wide. Approximately 25 barrels of crude oil were released from the Plains pipeline and 0 barrels were recovered.

An emergency one-call was initiated 20 September 2004 and all responding companies either cleared or marked their respective lines. Subsequent renewals of the one-call were accomplished as required.

Mr. Larry Johnson, New Mexico Oil Conservation Division (NMOCD), Hobbs, New Mexico District 1 was verbally notified of the release on 20 September 2004. The City of Lovington, New Mexico, is the landowner and was notified on 20 September 2004. In accordance with the City of Lovington Ordinance # 449, a permit application was submitted 23 September 2004.

## **SUMMARY OF FIELD ACTIVITIES**

On 20 September 2004, Basin mobilized to the Frisco Skelly 4" Gathering pipeline release to repair and contain the crude oil pipeline release under the direction of Plains operations personnel. After the release had been contained utilizing a pipeline repair clamp, excavation of the impacted soil was initiated. The impacted soil was placed on a 6-mil poly-liner adjacent to the release. The visually stained area is approximately 42 feet long by 44 feet wide.

On 21 September 2004, Basin began extended excavation at the release point area to an estimated depth of 14 feet below ground surface (bgs) attempting to delineate the vertical and horizontal extent of crude oil impacted soil at the release point (see Site Map, Figure 2). Photoionization Detector (PID) readings indicated elevated concentrations of Volatile Organic Compounds (VOC) remained in place. Further excavation of the site continued based on elevated PID readings to an estimated depth of 15 feet bgs. The Frisco Skelly 4" Gathering pipeline was de-oiled and rendered inactive in October 2004. Due to pipeline integrity and safety concerns, a Pure Resource high-pressure saltwater injection pipeline (1600-psi) was relocated to the south of the excavation and is adjacent to the south bench wall. A Pure

Resources 2-inch flow-line was also re-routed to the south of the excavation to allow benching requirements be met. A 10-inch Navajo high-pressure (300-psi) gas line remains in place adjacent to the east bench wall of the excavation (see Digital Photo of Site, Pipeline Locations, Figure 4). Excavation of the site continued and approximately 14, 566 cubic yards have been stockpiled on-site. Impacted soils have been placed on 6-mil poly-liner adjacent to the excavation. The non-impacted overburden excavated to adhere to benching requirements was segregated and stockpiled adjacent to the site. The excavation site is approximately 135 feet wide by 190 feet long and 18 feet deep.

On 01 November 2004, Basin installed a soil boring at the release point in order to evaluate the vertical extent of crude oil impacted soil. The soil boring was installed on the excavation floor (approximately 15 feet bgs) and advanced to a true subsurface depth of 55 feet bgs. The selected soil samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons – gasoline range organics/diesel range organics (TPH-GRO/DRO).

Basin researched and obtained the City of Lovington water well location data from the New Mexico Environmental Department, New Mexico Drinking Water Bureau annual drinking water report, conducted in October 2004. The physical locations and recorded depth to groundwater of the water wells were plotted on a topographical map utilizing global positioning system (gps) obtained from the New Mexico Drinking Water Bureau report depicting the Frisco Skelly release site and the City of Lovington water well locations (see City of Lovington Water Well Locations, Figure 5).

On 20 January 2005, Plains personnel met with Mr. Pat M<sup>c</sup>Mahon, legal counsel for the City of Lovington and Mr. Eddie Seay, Environmental Consultant for the City of Lovington, at Mr. M<sup>c</sup>Mahon's office. Plains proposed several remediation scenarios to the City of Lovington representatives. Mr. M<sup>c</sup>Mahon and Mr. Seay stated that they would consider the proposals; however, the City of Lovington board would be the final approval authority.

On 26 January 2006, Plains personnel met with Mr. Pat M<sup>c</sup>Mahon, legal counsel for the City of Lovington and Mr. Eddie Seay, Environmental Consultant for the City of Lovington and Mr. Ed Martin, NMOCD, Santa Fe, New Mexico, at Mr. M<sup>c</sup>Mahon's office. Various remediation proposals were discussed; however, it was agreed that Plains would submit a delineation plan for the site for consideration by Mr. M<sup>c</sup>Mahon, Mr. Seay and the City of Lovington board. Once the Plains Delineation Plan is approved by the City of Lovington and NMOCD, horizontal and vertical delineation of the site will be initiated. Once the delineation is completed, an amended Remediation Plan (Plains Preliminary Site Investigation Report and Remediation Plan, dated 28 June 2005) will be submitted.

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

A search of the New Mexico State Engineers database revealed water depth information for that section averaged 116 feet bgs; however, research of the City of Lovington water wells indicates that Water Well # 13, located approximately 3500 feet northwest, has a depth to groundwater of 90 feet bgs. Based on the soil boring analytical results, the indicated impacted soil was 40 feet bgs, therefore, 50 feet of non-impacted soil remains between the last known impacted soil depth and groundwater. 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

BTEX: 50 ppm

TPH: 100 ppm

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

The release point area has been excavated to a depth of approximately 18 feet (bgs) and evidence of crude oil impact still exists on the floor of the excavation. PID readings indicate elevated concentrations of VOC's remain in place. Approximately 14,566 cubic yards of impacted soil and segregated clean overburden are stockpiled on-site.

On 01 November 2004, Basin installed a soil boring utilizing an air rotary drill rig operated by Straub Corporation, Stanton, Texas; to evaluate the vertical extent of crude oil impacted soil at the release point (see Figure 2). The soil boring was installed on the excavation floor (approximately 15 feet bgs) and advanced to a true subsurface depth of 55 feet bgs. Subsurface soil samples were collected at 5 foot intervals and field screened with a PID. Soil Boring Logs are included in Appendix C. No visual observations of free phase hydrocarbons were encountered during the installation of the soil boring. The selected soil samples were analyzed for concentrations of BTEX and TPH-GRO/DRO. Laboratory data sheets and chain-of-custody forms are attached (Appendix B).

Soil Boring 1, as depicted on the Site Map (Figure 2), was installed at the excavation floor release point, which was approximately 15 feet bgs. The soil boring was installed to a total subsurface depth of 55 feet bgs. Samples collected at the 5, 10, 15, 20, 25, 30, 35 and 40 feet bgs sample depths were submitted for analysis. Analytical results indicated that BTEX constituent concentrations were below NMOCD regulatory standards on the 5, 10, 15, 20, and 25 feet bgs soil samples. Analytical results indicated BTEX constituent concentrations were not detected above laboratory method detection limits on the 30, 35 and 40 feet bgs soil samples. Analytical results indicated that TPH-GRO/DRO constituent concentrations exceeded

NMOCD regulatory standards at 5, 10, 15, 20, and 25 feet bgs sample depths at 5100 mg/kg, 5540 mg/kg, 6700 mg/kg, 3068 mg/kg, and 2610 mg/kg, respectively. Analytical results indicated that TPH-GRO/DRO constituent concentrations were below NMOCD regulatory standards at 30, 35 and 40 feet bgs sample depths at 78.1 mg/kg, 10.1 mg/kg and 16.9 mg/kg, respectively.

On 11 November 2005, confirmation soil samples were collected from the walls of the excavation. Analytical results indicate the excavation walls are below NMOCD regulatory standards for constituent concentrations of BTEX and TPH-GRO/DRO. BTEX constituent concentrations were not detected above laboratory method detection limits on the four wall soil samples. TPH-GRO/DRO constituent concentrations were not detected above laboratory method detection limits on the south and north sidewall soil samples. The TPH-GRO/DRO constituent concentrations for the east and west sidewall soil samples were 89.2 mg/kg and 55.1 mg/kg, respectively.

### **PROPOSED DELINEATION ACTIVITIES**

In an effort to further delineate the extent of soil impacts and evaluate groundwater, Plains proposes to install four (4) soil borings consisting of one boring in each corner of the excavation floor utilizing an air rotary drill rig to delineate the horizontal and vertical hydrocarbon impact of the site (see Figure 3, proposed Soil Boring/Monitor Well locations). Soil boring soil samples will be collected at 5 feet intervals; field screened with a PID, and selected samples will be delivered to a certified laboratory for analysis. The soil samples will be analyzed for BTEX and TPH-GRO/DRO. The soil borings will be plugged with cement at total depth, filled with bentonite chips and hydrated to the excavation floor surface.

In the event that hydrocarbon impact is encountered during the installation of the four (4) soil borings, determined through field screening of the subsurface soil samples with a calibrated PID and visual observations, additional soil borings will be installed until field screening and visual observations determine delineation has been successfully completed.

Additionally, Plains proposes installation of three groundwater monitor wells consisting of one up gradient location and two down gradient locations outside the excavation (see Figure 3, proposed Soil Boring/Monitor Well locations). The actual monitor well locations will be determined after evaluating the field screening data obtained from the delineation soil borings. Soil samples will be collected during installation of the monitor wells at 5 feet intervals; field screened with a PID, and selected samples will be delivered to a certified laboratory for analysis. The samples will be analyzed for BTEX and TPH-GRO/DRO. The groundwater monitor wells will be sampled on a quarterly basis to evaluate the quality of groundwater. Groundwater samples will be delivered to a certified laboratory and analyzed for BTEX.

## **REPORT**

Following the completion of the soil borings and groundwater monitor wells, a final amended report (Plains Preliminary Site Investigation Report and Remediation Plan, dated 28 June 2005) will be submitted to NMOCD and the City of Lovington depicting the results of the delineation activities and laboratory results with proposed remediation activities.

## **QA/QC PROCEDURES**

### **Soil Sampling**

Soil samples will be delivered to Environmental Lab of Texas, Inc. in Odessa, Texas for BTEX, TPH analyses using the methods described below. Soil samples will be analyzed for BTEX, TPH-GRO/DRO within fourteen days following the collection date.

The soil samples will be analyzed as follows:

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

### **Groundwater Sampling**

The groundwater monitoring wells will be developed utilizing the Environmental Protection Agency (EPA) protocol of approximately nine well volumes of groundwater or until the monitoring wells are dry using an electrical pump. Within forty-eight hours of development, the monitoring wells will be measured and purged of approximately three well volumes utilizing an electrical pump. Groundwater samples will be collected using a disposable Telfon sampler and the groundwater samples will be stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water will be collected in a polystyrene tank and disposed of at a licensed New Mexico disposal facility. Groundwater samples will be delivered to Environmental Lab of Texas, Odessa, Texas for analysis of BTEX concentrations using the method described below. All samples will be analyzed within approved holding times following the collection date.

- BTEX concentrations in accordance with EPA Method 8021B/5030

### **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 Work 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.

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Copy 3

# TABLES

**TABLE 1**

**SOIL CHEMISTRY, SOIL BORING**

TABLE 1

## SOIL CHEMISTRY, SOIL BORING 1

PLAINS MARKETING, L. P.  
FRISCO-SKELLY # 1  
LEA COUNTY, NEW MEXICO  
PLAINS EMS NO: 2004-00196

SAMPLE LOCATION	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M		TOTAL
		BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL- BENZENE (mg/kg)	M,P- XYLENES (mg/kg)	O-XYLENE (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)
SB-1 5' bgs (20' bgs)	11/01/04	0.386	4.82	7.90	9.79	4.84	1270	3830	5100
SB-1 10' bgs (25' bgs)	11/01/04	0.192	2.04	3.70	4.70	2.38	1080	4460	5540
SB-1 15' bgs (30' bgs)	11/01/04	0.423	4.85	6.17	8.19	3.88	1360	5340	6700
SB-1 20' bgs (35' bgs)	11/01/04	<0.025	0.540	1.33	1.82	0.860	478	2590	3068
SB-1 25' bgs (40' bgs)	11/01/04	<0.025	0.141	0.409	0.594	0.379	360	2250	2610
SB-1 30' bgs (45' bgs)	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	78.1	78.1
SB-1 35' bgs (50' bgs)	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	10.1	10.1
SB-1 40' bgs (55' bgs)	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	16.9	16.9

NOTE: Soil boring installed on the floor of excavation, add 15 feet for bgs, bold letters indicate actual bgs

**TABLE 2**

**SOIL CHEMISTRY, SIDEWALLS**

## SOIL CHEMISTRY, SIDEWALLS

PLAINS MARKETING, L.P.  
FRISCO-SKELLY # 1  
LEA COUNTY, NEW MEXICO  
PLAINS EMS NO: 2004-00196

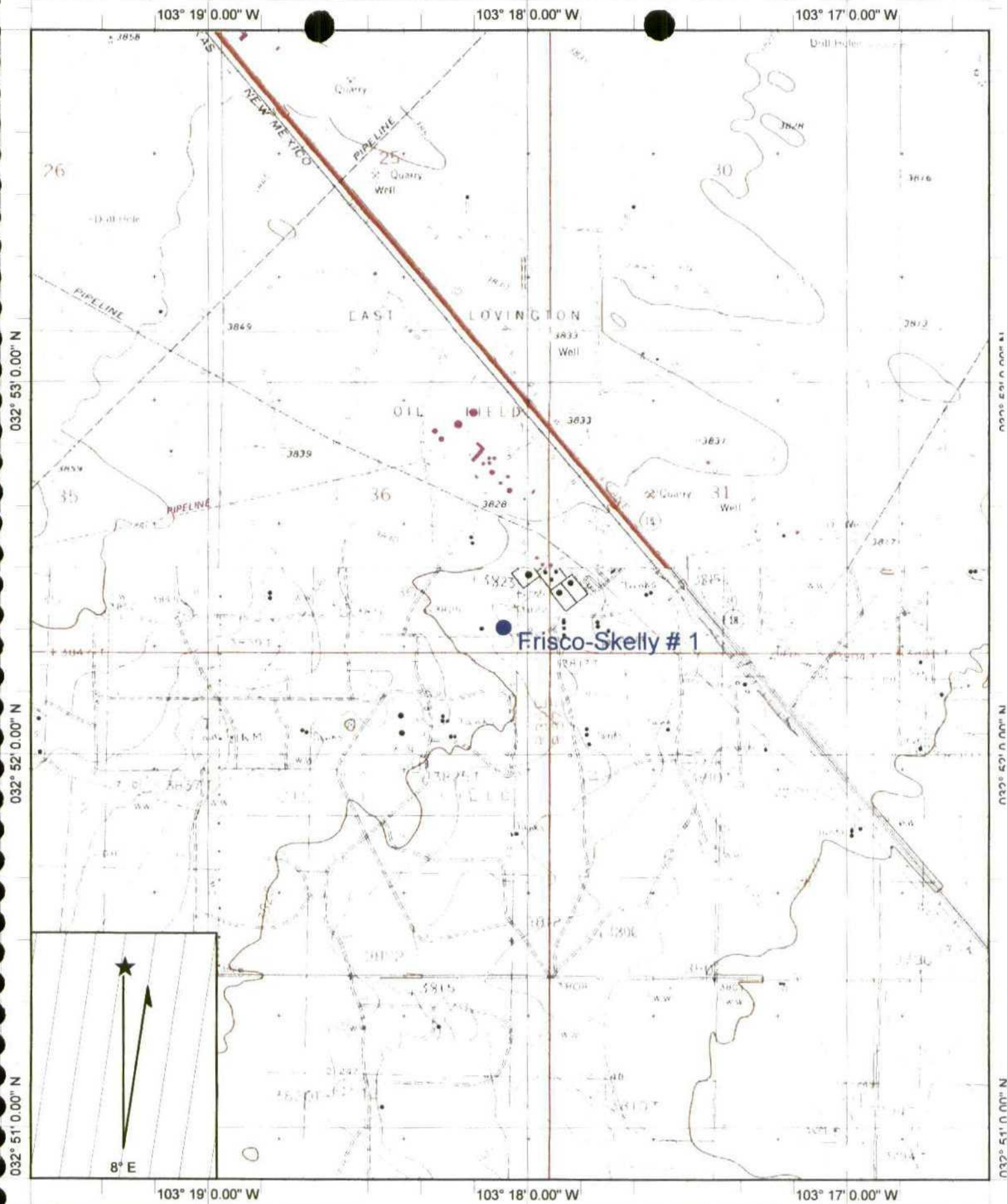
[illegible]

# FIGURES



**FIGURE 1**

**SITE LOCATION MAP**

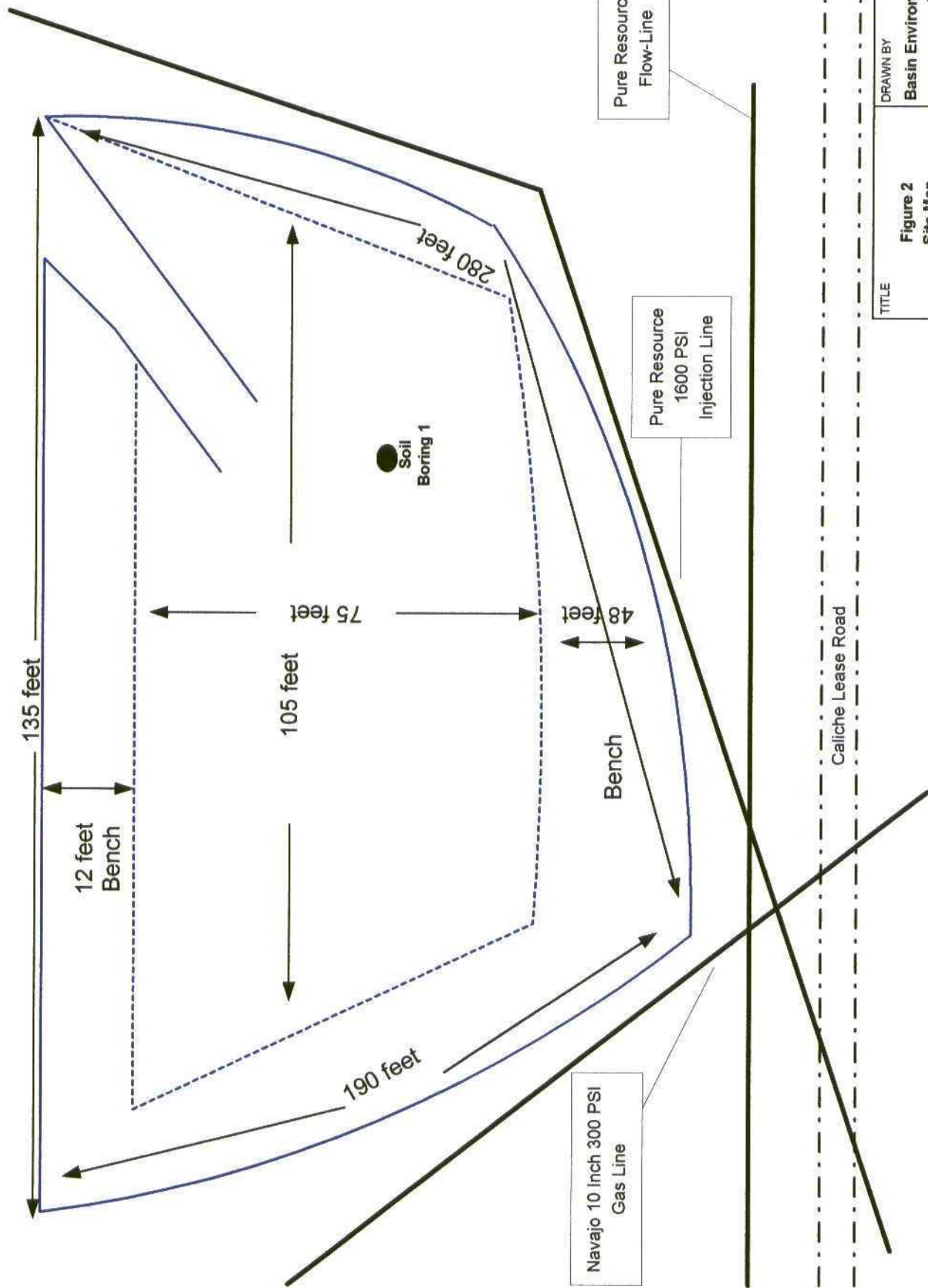
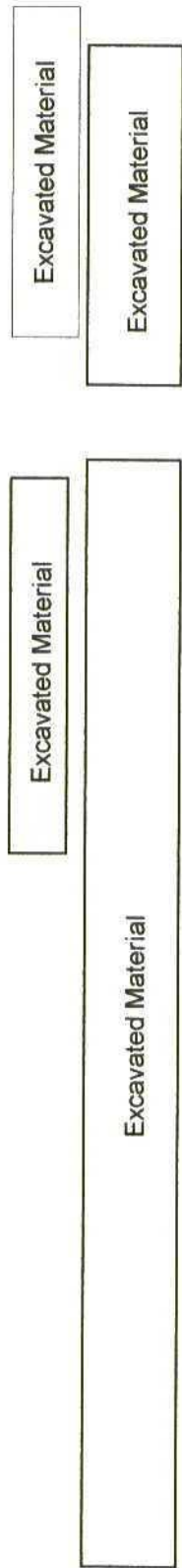


Name: LOVINGTON SE  
 Date: 7/28/2005  
 Scale: 1 inch equals 2000 feet

Location: 032° 52' 24.5" N 103° 18' 03.28" W  
 Caption: Figure 1, Site Location Map  
 Plains Marketing, L. P.  
 Frisco-Skelly # 1

**FIGURE 2**

**EXCAVATION SITE MAP**



TITLE	Figure 2 Site Map Frisco-Skelly # 1
DRAWN BY	Basin Environmental Services kad

**FIGURE 3**

**PROPOSED SOIL BORING/MONITOR  
WELL LOCATIONS**





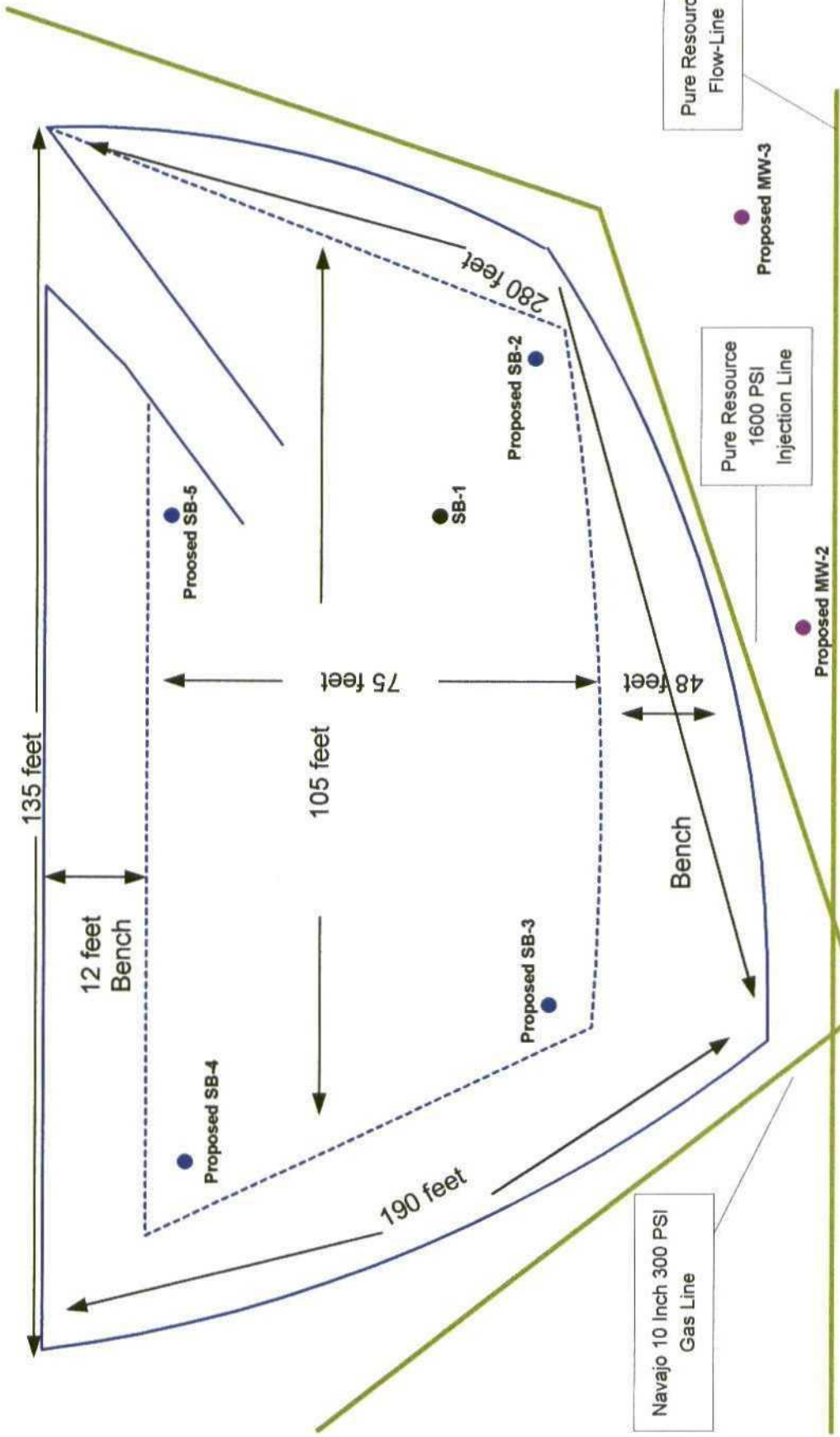
Excavated Material

Excavated Material

Excavated Material

Excavated Material

Proposed MW-1



Navajo 10 Inch 300 PSI  
Gas Line

Pure Resource  
1600 PSI  
Injection Line

Pure Resource  
Flow-Line

Proposed MW-3

Proposed MW-2

Proposed SB-2

SB-1

Proposed SB-3

Proposed SB-5

Proposed SB-4

Caliche Lease Road

Legend

- Proposed Soil Borings
- Proposed Monitor Wells

TITLE Figure 3  
Proposed Soil Boring/  
Monitor Well Locations

DRAWN BY  
Basin Environmental Services  
kad

**FIGURE 4**

**DIGITAL PHOTOS OF SITE  
(PIPELINE LOCATIONS)**



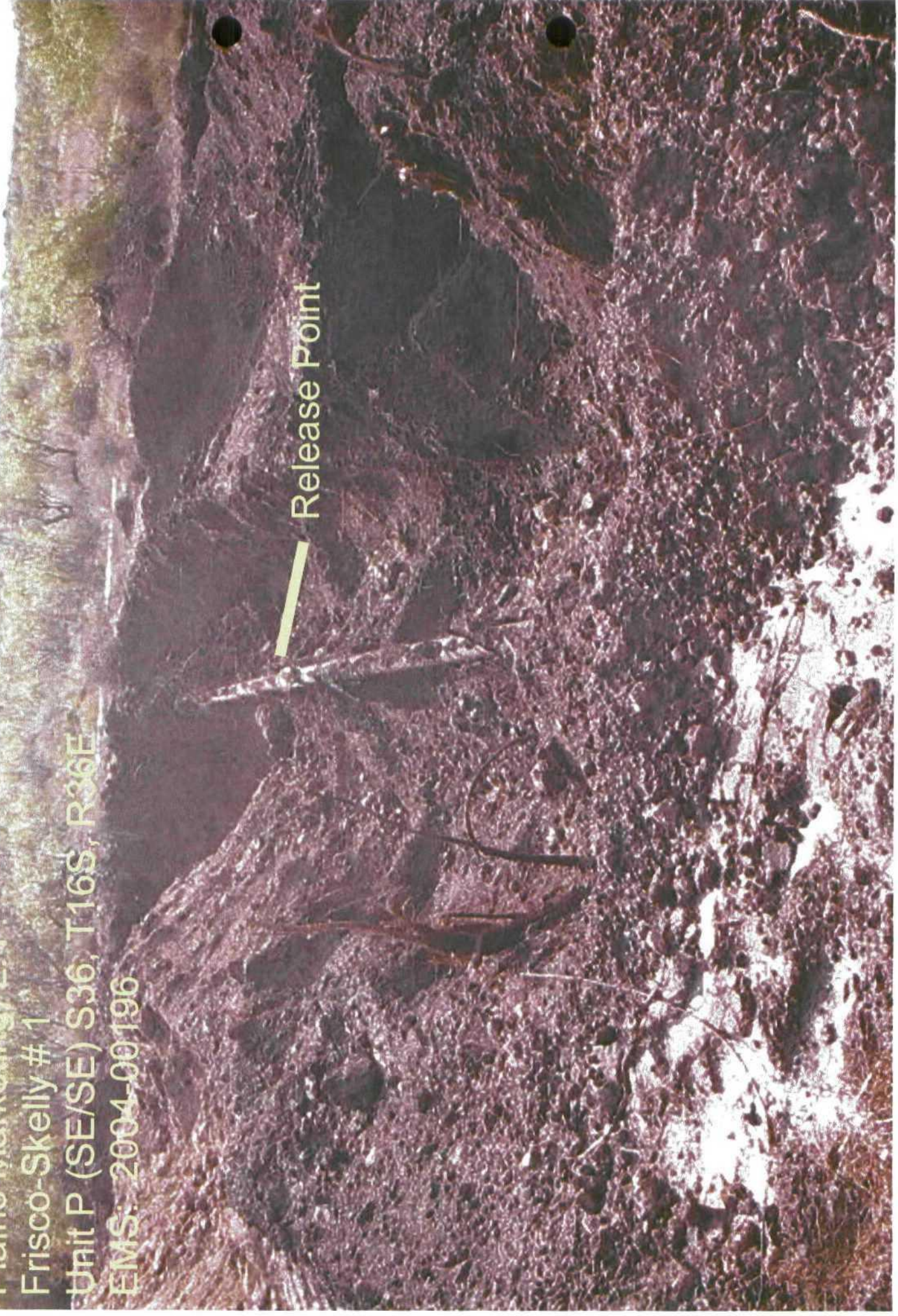
Plains Marketing, L.P.

Frisco-Skelly # 1

Unit P (SE/SE) S36, T16S, R36E

EMS: 2004-00196

Release Point





Plains Marketing L.P.

Frisco-Skelly #1

Unit P (SE/SE) S36 T16S R10E

EMS 2004-08

Pure Resource 1600 PSI Injection

Edge of Excavation

Pure Resource Flow-Line

Navajo 300 PSI Gas Line





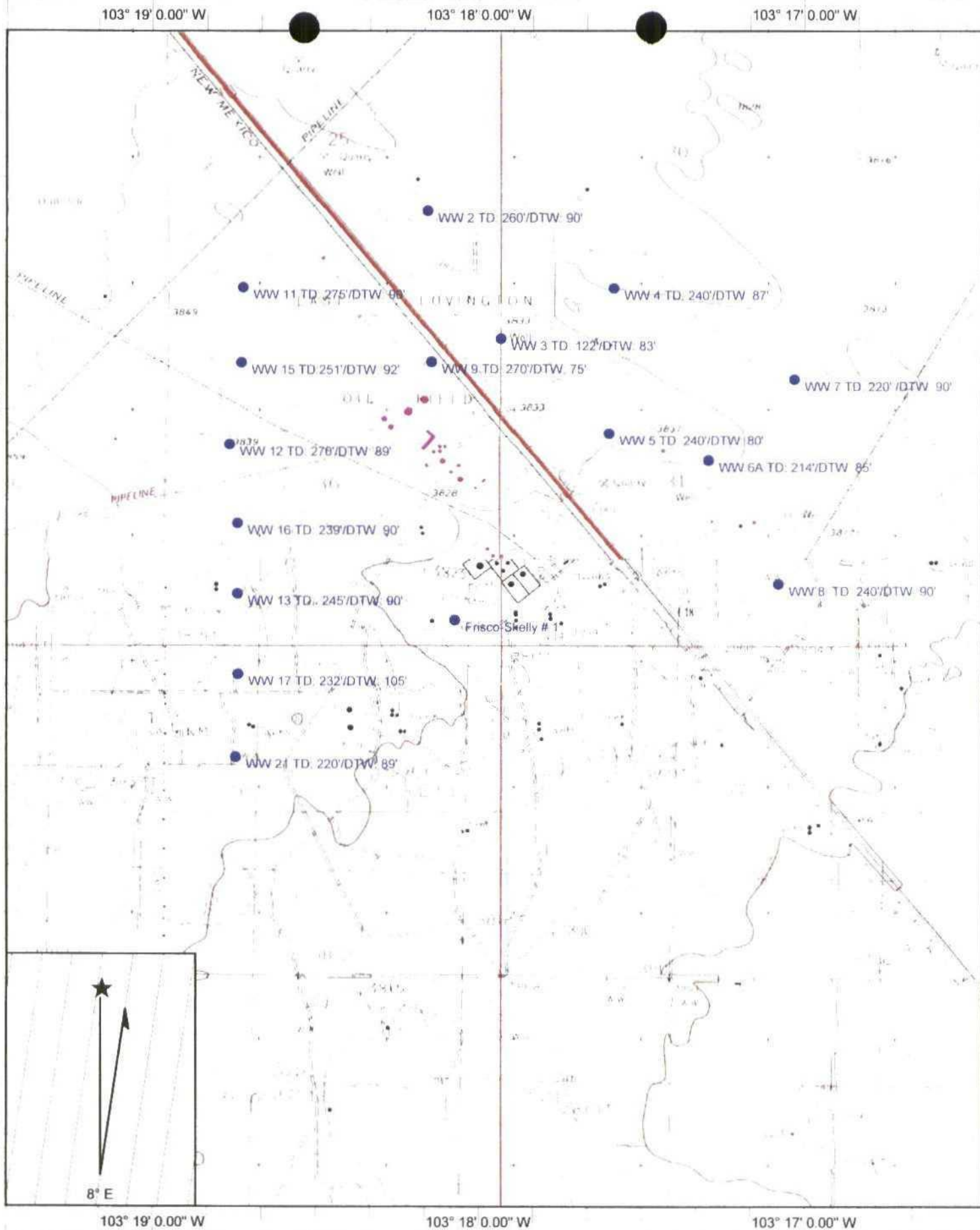


Plains Marketing, L. P.  
Frisco-Skelly # 1  
Unit P (SE/SE) S36, T16S, R36E  
EMS: 2004-00196



**FIGURE 5**

**CITY OF LOVINGTN WATER WELL  
LOCATIONS**



Name: LOVINGTON SE  
 Date: 7/20/2005  
 Scale: 1 inch equals 2000 feet

Location: 032° 52' 20.59" N 103° 17' 56.98" W  
 Caption: Figure 5  
 City of Lovington Water Well Locations

# APPENDICES

## **APPENDIX A**

# **NEW MEXICO OFFICE OF THE STATE ENGINEER WATER WELL DATABASE REPORT**

*New Mexico Office of the State Engineer*  
**Well 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 12/16/2004**

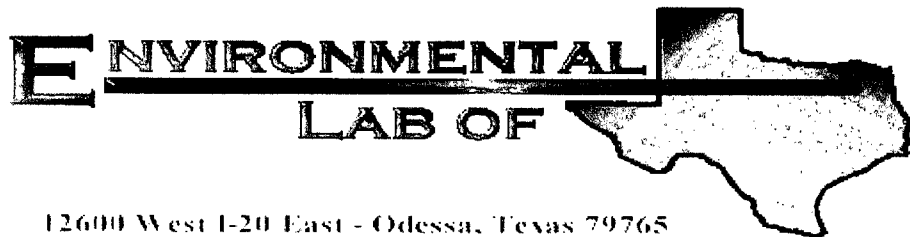
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
L	16S	36E	36				6	40	257	116

Record Count: 6

## **APPENDIX B**

# **ENVIRONMENTAL LABORATORY OF TEXAS ANALYTICAL RESULTS (SOIL BORING & EXCAVATION SIDEWALLS)**





12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Ken Dutton

Basin Environmental Services

P.O. Box 301

Lovington, NM 88260

Project: Friscoe Skelly #1

Project Number: EMS: 2004-00196

Location: Lea County, NM

Lab Order Number: 4K05014

Report Date: 11/11/04

Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/11/04 10:21

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 5'	4K05014-01	Soil	11/01/04 13:48	11/05/04 15:27
SB-1 10'	4K05014-02	Soil	11/01/04 13:53	11/05/04 15:27
SB-1 15'	4K05014-03	Soil	11/01/04 13:57	11/05/04 15:27
SB-1 20'	4K05014-04	Soil	11/01/04 14:04	11/05/04 15:27
SB-1 25'	4K05014-05	Soil	11/01/04 14:08	11/05/04 15:27
SB-1 30'	4K05014-06	Soil	11/01/04 14:11	11/05/04 15:27
SB-1 35'	4K05014-07	Soil	11/01/04 14:17	11/05/04 15:27
SB-1 40'	4K05014-08	Soil	11/01/04 14:26	11/05/04 15:27

Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 5' (4K05014-01) Soil</b>									
Benzene	0.387	0.0250	mg/kg dry	25	EK41002	11/05/04	11/08/04	EPA 8021B	
Toluene	4.82	0.0250	"	"	"	"	"	"	
Ethylbenzene	7.90	0.0250	"	"	"	"	"	"	
Xylene (p/m)	9.79	0.0250	"	"	"	"	"	"	
Xylene (o)	4.84	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		361 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		129 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	1270	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	3830	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	5100	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		120 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		97.0 %	70-130		"	"	"	"	
<b>SB-1 10' (4K05014-02) Soil</b>									
Benzene	0.192	0.0250	mg/kg dry	25	EK41002	11/05/04	11/08/04	EPA 8021B	
Toluene	2.04	0.0250	"	"	"	"	"	"	
Ethylbenzene	3.70	0.0250	"	"	"	"	"	"	
Xylene (p/m)	4.70	0.0250	"	"	"	"	"	"	
Xylene (o)	2.38	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		236 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		116 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	1080	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	4460	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	5540	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		116 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		92.0 %	70-130		"	"	"	"	
<b>SB-1 15' (4K05014-03) Soil</b>									
Benzene	0.423	0.0250	mg/kg dry	25	EK41003	11/09/04	11/09/04	EPA 8021B	
Toluene	4.85	0.0250	"	"	"	"	"	"	
Ethylbenzene	6.17	0.0250	"	"	"	"	"	"	
Xylene (p/m)	8.19	0.0250	"	"	"	"	"	"	
Xylene (o)	3.88	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		133 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		113 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	1360	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	5340	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	6700	10.0	"	"	"	"	"	"	

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 15' (4K05014-03) Soil</b>									
Surrogate: 1-Chlorooctane		120 %	70-130		EK40508	11/05/04	11/06/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		98.4 %	70-130		"	"	"	"	
<b>SB-1 20' (4K05014-04) Soil</b>									
Benzene	J [0.0207]	0.0250	mg/kg dry	25	EK41003	11/09/04	11/09/04	EPA 8021B	J
Toluene	0.540	0.0250	"	"	"	"	"	"	
Ethylbenzene	1.33	0.0250	"	"	"	"	"	"	
Xylene (p/m)	1.82	0.0250	"	"	"	"	"	"	
Xylene (o)	0.860	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		129 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		103 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	478	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	2590	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	3070	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		112 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		90.2 %	70-130		"	"	"	"	
<b>SB-1 25' (4K05014-05) Soil</b>									
Benzene	J [0.0156]	0.0250	mg/kg dry	25	EK41003	11/09/04	11/09/04	EPA 8021B	J
Toluene	0.141	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.409	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.594	0.0250	"	"	"	"	"	"	
Xylene (o)	0.379	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		115 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	360	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	2250	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2610	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		111 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		102 %	70-130		"	"	"	"	

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 30' (4K05014-06) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41003	11/09/04	11/09/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		92.1 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>78.1</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>78.1</b>	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		106 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		118 %	70-130		"	"	"	"	
<b>SB-1 35' (4K05014-07) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41003	11/09/04	11/09/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>10.1</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>10.1</b>	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		101 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		113 %	70-130		"	"	"	"	
<b>SB-1 40' (4K05014-08) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41003	11/09/04	11/09/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		86.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.5 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>16.9</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>16.9</b>	10.0	"	"	"	"	"	"	

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 40' (4K05014-08) Soil</b>									
Surrogate: 1-Chlorooctane		106 %	70-130		EK40508	11/05/04	11/06/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		115 %	70-130		"	"	"	"	

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**Reported:**  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 5' (4K05014-01) Soil</b>									
% Moisture	4.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>SB-1 10' (4K05014-02) Soil</b>									
% Moisture	4.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>SB-1 15' (4K05014-03) Soil</b>									
% Moisture	4.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>SB-1 20' (4K05014-04) Soil</b>									
% Moisture	5.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>SB-1 25' (4K05014-05) Soil</b>									
% Moisture	6.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>SB-1 30' (4K05014-06) Soil</b>									
% Moisture	4.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>SB-1 35' (4K05014-07) Soil</b>									
% Moisture	5.0		%	1	EK40804	11/08/04	11/08/04	% calculation	
<b>SB-1 40' (4K05014-08) Soil</b>									
% Moisture	6.0		%	1	EK40804	11/08/04	11/08/04	% calculation	

Environmental Lab of Texas

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P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EK40508 - Solvent Extraction (GC)</b>									
<b>Blank (EK40508-BLK1)</b>				Prepared & Analyzed: 11/05/04					
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet						
Diesel Range Organics >C12-C35	ND	10.0	"						
Total Hydrocarbon C6-C35	ND	10.0	"						
Surrogate: 1-Chlorooctane	42.8		mg/kg	50.0		85.6	70-130		
Surrogate: 1-Chlorooctadecane	52.7		"	50.0		105	70-130		
<b>Blank (EK40508-BLK2)</b>				Prepared: 11/05/04 Analyzed: 11/06/04					
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet						
Diesel Range Organics >C12-C35	ND	10.0	"						
Total Hydrocarbon C6-C35	ND	10.0	"						
Surrogate: 1-Chlorooctane	44.9		mg/kg	50.0		89.8	70-130		
Surrogate: 1-Chlorooctadecane	52.4		"	50.0		105	70-130		
<b>LCS (EK40508-BS1)</b>				Prepared & Analyzed: 11/05/04					
Gasoline Range Organics C6-C12	446	10.0	mg/kg wet	500		89.2	75-125		
Diesel Range Organics >C12-C35	477	10.0	"	500		95.4	75-125		
Total Hydrocarbon C6-C35	923	10.0	"	1000		92.3	75-125		
Surrogate: 1-Chlorooctane	52.2		mg/kg	50.0		104	70-130		
Surrogate: 1-Chlorooctadecane	50.9		"	50.0		102	70-130		
<b>LCS (EK40508-BS2)</b>				Prepared: 11/05/04 Analyzed: 11/06/04					
Gasoline Range Organics C6-C12	430	10.0	mg/kg wet	500		86.0	75-125		
Diesel Range Organics >C12-C35	502	10.0	"	500		100	75-125		
Total Hydrocarbon C6-C35	932	10.0	"	1000		93.2	75-125		
Surrogate: 1-Chlorooctane	53.0		mg/kg	50.0		106	70-130		
Surrogate: 1-Chlorooctadecane	45.7		"	50.0		91.4	70-130		
<b>LCS Dup (EK40508-BSD1)</b>				Prepared & Analyzed: 11/05/04					
Gasoline Range Organics C6-C12	437	10.0	mg/kg wet	500		87.4	75-125	2.04	20
Diesel Range Organics >C12-C35	477	10.0	"	500		95.4	75-125	0.00	20
Total Hydrocarbon C6-C35	914	10.0	"	1000		91.4	75-125	0.980	20
Surrogate: 1-Chlorooctane	50.1		mg/kg	50.0		100	70-130		
Surrogate: 1-Chlorooctadecane	53.3		"	50.0		107	70-130		

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Project Number: EMS: 2004-00196  
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Fax: (505) 396-1429

Reported:  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EK40508 - Solvent Extraction (GC)**

**Calibration Check (EK40508-CCV1)**

Prepared & Analyzed: 11/05/04

Gasoline Range Organics C6-C12	503		mg/kg	500		101	80-120			
Diesel Range Organics >C12-C35	551		"	500		110	80-120			
Total Hydrocarbon C6-C35	1050		"	1000		105	80-120			
Surrogate: 1-Chlorooctane	55.5		"	50.0		111	70-130			
Surrogate: 1-Chlorooctadecane	53.2		"	50.0		106	70-130			

**Calibration Check (EK40508-CCV2)**

Prepared: 11/05/04 Analyzed: 11/06/04

Gasoline Range Organics C6-C12	493		mg/kg	500		98.6	80-120			
Diesel Range Organics >C12-C35	567		"	500		113	80-120			
Total Hydrocarbon C6-C35	1060		"	1000		106	80-120			
Surrogate: 1-Chlorooctane	55.6		"	50.0		111	70-130			
Surrogate: 1-Chlorooctadecane	54.5		"	50.0		109	70-130			

**Matrix Spike (EK40508-MS2)**

Source: 4K05013-14

Prepared: 11/05/04 Analyzed: 11/06/04

Gasoline Range Organics C6-C12	567	10.0	mg/kg dry	521	ND	109	75-125			
Diesel Range Organics >C12-C35	593	10.0	"	521	ND	114	75-125			
Total Hydrocarbon C6-C35	1160	10.0	"	1040	ND	112	75-125			
Surrogate: 1-Chlorooctane	58.8		mg/kg	50.0		118	70-130			
Surrogate: 1-Chlorooctadecane	56.0		"	50.0		112	70-130			

**Matrix Spike Dup (EK40508-MSD2)**

Source: 4K05013-14

Prepared: 11/05/04 Analyzed: 11/06/04

Gasoline Range Organics C6-C12	594	10.0	mg/kg dry	521	ND	114	75-125	4.65	20	
Diesel Range Organics >C12-C35	604	10.0	"	521	ND	116	75-125	1.84	20	
Total Hydrocarbon C6-C35	1200	10.0	"	1040	ND	115	75-125	3.39	20	
Surrogate: 1-Chlorooctane	59.4		mg/kg	50.0		119	70-130			
Surrogate: 1-Chlorooctadecane	53.1		"	50.0		106	70-130			

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Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EK41002 - EPA 5030C (GC)**

**Blank (EK41002-BLK1)**

Prepared & Analyzed: 11/05/04

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	92.0		ug/kg	100		92.0	80-120			
Surrogate: 4-Bromofluorobenzene	90.4		"	100		90.4	80-120			

**LCS (EK41002-BS1)**

Prepared & Analyzed: 11/05/04

Benzene	89.9		ug/kg	100		89.9	80-120			
Toluene	93.9		"	100		93.9	80-120			
Ethylbenzene	96.3		"	100		96.3	80-120			
Xylene (p/m)	213		"	200		106	80-120			
Xylene (o)	101		"	100		101	80-120			
Surrogate: a,a,a-Trifluorotoluene	102		"	100		102	80-120			
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120			

**Calibration Check (EK41002-CCV1)**

Prepared: 11/05/04 Analyzed: 11/09/04

Benzene	92.5		ug/kg	100		92.5	80-120			
Toluene	102		"	100		102	80-120			
Ethylbenzene	100		"	100		100	80-120			
Xylene (p/m)	220		"	200		110	80-120			
Xylene (o)	103		"	100		103	80-120			
Surrogate: a,a,a-Trifluorotoluene	106		"	100		106	80-120			
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120			

**Matrix Spike (EK41002-MS1)**

Source: 4K05013-12

Prepared: 11/05/04 Analyzed: 11/08/04

Benzene	98.5		ug/kg	100	ND	98.5	80-120			
Toluene	108		"	100	ND	108	80-120			
Ethylbenzene	107		"	100	ND	107	80-120			
Xylene (p/m)	235		"	200	ND	118	80-120			
Xylene (o)	111		"	100	ND	111	80-120			
Surrogate: a,a,a-Trifluorotoluene	115		"	100		115	80-120			
Surrogate: 4-Bromofluorobenzene	118		"	100		118	80-120			

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Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EK41002 - EPA 5030C (GC)**

**Matrix Spike Dup (EK41002-MSD1)**

Source: 4K05013-12

Prepared: 11/05/04 Analyzed: 11/08/04

Benzene	94.9		ug/kg	100	ND	94.9	80-120	3.72	20	
Toluene	103		"	100	ND	103	80-120	4.74	20	
Ethylbenzene	103		"	100	ND	103	80-120	3.81	20	
Xylene (p/m)	225		"	200	ND	112	80-120	5.22	20	
Xylene (o)	104		"	100	ND	104	80-120	6.51	20	
Surrogate: a,a,a-Trifluorotoluene	103		"	100		103	80-120			
Surrogate: 4-Bromofluorobenzene	116		"	100		116	80-120			

**Batch EK41003 - EPA 5030C (GC)**

**Blank (EK41003-BLK1)**

Prepared & Analyzed: 11/09/04

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	88.3		ug/kg	100		88.3	80-120			
Surrogate: 4-Bromofluorobenzene	102		"	100		102	80-120			

**LCS (EK41003-BS1)**

Prepared & Analyzed: 11/09/04

Benzene	88.8		ug/kg	100		88.8	80-120			
Toluene	98.0		"	100		98.0	80-120			
Ethylbenzene	98.8		"	100		98.8	80-120			
Xylene (p/m)	220		"	200		110	80-120			
Xylene (o)	102		"	100		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	102		"	100		102	80-120			
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120			

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/11/04 10:21

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

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

**Batch EK41003 - EPA 5030C (GC)**

**Calibration Check (EK41003-CCV1)**

Prepared: 11/09/04 Analyzed: 11/10/04

Benzene	88.4		ug/kg	100		88.4	80-120			
Toluene	98.0		"	100		98.0	80-120			
Ethylbenzene	92.2		"	100		92.2	80-120			
Xylene (p/m)	199		"	200		99.5	80-120			
Xylene (o)	95.5		"	100		95.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	105		"	100		105	80-120			
Surrogate: 4-Bromofluorobenzene	102		"	100		102	80-120			

**Matrix Spike (EK41003-MS1)**

Source: 4K08003-01

Prepared: 11/09/04 Analyzed: 11/10/04

Benzene	87.9		ug/kg	100	ND	87.9	80-120			
Toluene	98.0		"	100	ND	98.0	80-120			
Ethylbenzene	103		"	100	ND	103	80-120			
Xylene (p/m)	225		"	200	ND	112	80-120			
Xylene (o)	106		"	100	ND	106	80-120			
Surrogate: a,a,a-Trifluorotoluene	106		"	100		106	80-120			
Surrogate: 4-Bromofluorobenzene	115		"	100		115	80-120			

**Matrix Spike Dup (EK41003-MSD1)**

Source: 4K08003-01

Prepared: 11/09/04 Analyzed: 11/10/04

Benzene	90.9		ug/kg	100	ND	90.9	80-120	3.36	20	
Toluene	103		"	100	ND	103	80-120	4.98	20	
Ethylbenzene	106		"	100	ND	106	80-120	2.87	20	
Xylene (p/m)	235		"	200	ND	118	80-120	5.22	20	
Xylene (o)	110		"	100	ND	110	80-120	3.70	20	
Surrogate: a,a,a-Trifluorotoluene	110		"	100		110	80-120			
Surrogate: 4-Bromofluorobenzene	116		"	100		116	80-120			

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/11/04 10:21

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EK40804 - General Preparation (Prep)**

**Blank (EK40804-BLK1)**

Prepared & Analyzed: 11/08/04

% Moisture	0.0	%
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**Duplicate (EK40804-DUP1)**

Source: 4K05006-01

Prepared & Analyzed: 11/08/04

% Moisture	20.0	%	20.0	0.00	20
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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/11/04 10:21

### Notes and Definitions

S-04      The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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

DET       Analyte DETECTED

ND       Analyte NOT DETECTED at or above the reporting limit

NR       Not Reported

dry       Sample results reported on a dry weight basis

RPD       Relative Percent Difference

LCS       Laboratory Control Spike

MS       Matrix Spike

Dup       Duplicate

Report Approved By: \_\_\_\_\_

*Raland K. Tuttle*

Date: 11/11/2004

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

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

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

Environmental Lab of Texas

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# Environmental Lab of Texas

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

Client: Fort Worth Tarrant County

Date/Time: 11/11/2011 10:00

Order #: 11-0750-14

Initials: SMAN

### Sample Receipt Checklist

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

Other observations:

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### Variance Documentation:

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

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Corrective Action Taken:

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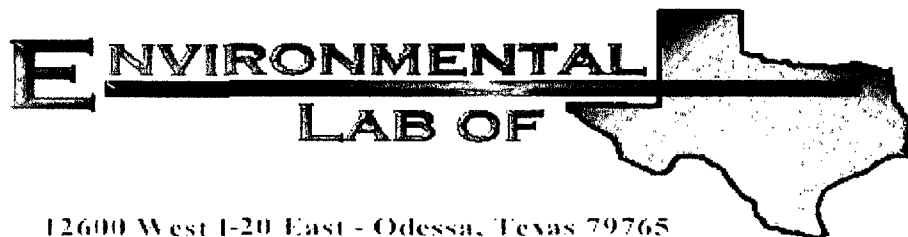


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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Ken Dutton

Basin Environmental Services

P.O. Box 301

Lovington, NM 88260

Project: Friscoe Skelly #1

Project Number: EMS: 2004-00196

Location: Lea County, NM

Lab Order Number: 4K12006

Report Date: 11/22/04

Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/22/04 08:02

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
South Wall @ 12'	4K12006-01	Soil	11/11/04 15:45	11/12/04 12:45
North Wall @ 15.5'	4K12006-02	Soil	11/11/04 15:45	11/12/04 12:45
East Wall @ 12'	4K12006-03	Soil	11/11/04 15:45	11/12/04 12:45
West Wall @ 12'	4K12006-04	Soil	11/11/04 15:45	11/12/04 12:45

Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/22/04 08:02

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>South Wall @ 12' (4K12006-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41813	11/12/04	11/15/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		86.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK41204	11/12/04	11/12/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		108 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		124 %	70-130		"	"	"	"	
<b>North Wall @ 15.5' (4K12006-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41813	11/12/04	11/18/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		91.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK41204	11/12/04	11/12/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		111 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		129 %	70-130		"	"	"	"	
<b>East Wall @ 12' (4K12006-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41813	11/12/04	11/15/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	16.5	10.0	mg/kg dry	1	EK41204	11/12/04	11/12/04	EPA 8015M	
Diesel Range Organics >C12-C35	72.7	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	89.2	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/22/04 08:02

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>East Wall @ 12' (4K12006-03) Soil</b>									
Surrogate: 1-Chlorooctane		102 %	70-130		EK41204	11/12/04	11/12/04	EPA 8015M	
Surrogate: 1-Chlorooctadecane		117 %	70-130		"	"	"	"	
<b>West Wall @ 12' (4K12006-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK41813	11/12/04	11/15/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		92.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK41507	11/12/04	11/12/04	EPA 8015M	
Diesel Range Organics >C12-C35	55.1	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	55.1	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		89.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.2 %	70-130		"	"	"	"	

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/22/04 08:02

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>South Wall @ 12' (4K12006-01) Soil</b>									
% Moisture	14.0		%	1	EK41504	11/12/04	11/15/04	% calculation	
<b>North Wall @ 15.5' (4K12006-02) Soil</b>									
% Moisture	15.0		%	1	EK41504	11/12/04	11/15/04	% calculation	
<b>East Wall @ 12' (4K12006-03) Soil</b>									
% Moisture	14.0		%	1	EK41504	11/12/04	11/15/04	% calculation	
<b>West Wall @ 12' (4K12006-04) Soil</b>									
% Moisture	15.0		%	1	EK41504	11/12/04	11/15/04	% calculation	

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/22/04 08:02

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

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

**Batch EK41204 - Solvent Extraction (GC)**

**Blank (EK41204-BLK1)**

Prepared & Analyzed: 11/12/04

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	43.2		mg/kg	50.0		86.4	70-130			
Surrogate: 1-Chlorooctadecane	49.4		"	50.0		98.8	70-130			

**LCS (EK41204-BS1)**

Prepared & Analyzed: 11/12/04

Gasoline Range Organics C6-C12	452	10.0	mg/kg wet	500		90.4	75-125			
Diesel Range Organics >C12-C35	518	10.0	"	500		104	75-125			
Total Hydrocarbon C6-C35	970	10.0	"	1000		97.0	75-125			
Surrogate: 1-Chlorooctane	51.2		mg/kg	50.0		102	70-130			
Surrogate: 1-Chlorooctadecane	50.8		"	50.0		102	70-130			

**Calibration Check (EK41204-CCV1)**

Prepared & Analyzed: 11/12/04

Gasoline Range Organics C6-C12	518		mg/kg	500		104	80-120			
Diesel Range Organics >C12-C35	571		"	500		114	80-120			
Total Hydrocarbon C6-C35	1090		"	1000		109	80-120			
Surrogate: 1-Chlorooctane	58.7		"	50.0		117	70-130			
Surrogate: 1-Chlorooctadecane	64.9		"	50.0		130	70-130			

**Matrix Spike (EK41204-MS1)**

Source: 4K11014-06

Prepared & Analyzed: 11/12/04

Gasoline Range Organics C6-C12	647	10.0	mg/kg dry	633	ND	102	75-125			
Diesel Range Organics >C12-C35	725	10.0	"	633	50.8	107	75-125			
Total Hydrocarbon C6-C35	1370	10.0	"	1270	50.8	104	75-125			
Surrogate: 1-Chlorooctane	54.0		mg/kg	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	55.3		"	50.0		111	70-130			

**Matrix Spike Dup (EK41204-MSD1)**

Source: 4K11014-06

Prepared & Analyzed: 11/12/04

Gasoline Range Organics C6-C12	666	10.0	mg/kg dry	633	ND	105	75-125	2.89	20	
Diesel Range Organics >C12-C35	734	10.0	"	633	50.8	108	75-125	1.23	20	
Total Hydrocarbon C6-C35	1400	10.0	"	1270	50.8	106	75-125	2.17	20	
Surrogate: 1-Chlorooctane	54.1		mg/kg	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	56.1		"	50.0		112	70-130			

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Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/22/04 08:02

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

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

**Batch EK41507 - Solvent Extraction (GC)**

**Blank (EK41507-BLK1)**

Prepared & Analyzed: 11/15/04

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	35.3		mg/kg	50.0		70.6	70-130			
Surrogate: 1-Chlorooctadecane	40.2		"	50.0		80.4	70-130			

**Blank (EK41507-BLK2)**

Prepared: 11/15/04 Analyzed: 11/16/04

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	35.7		mg/kg	50.0		71.4	70-130			
Surrogate: 1-Chlorooctadecane	40.8		"	50.0		81.6	70-130			

**LCS (EK41507-BS1)**

Prepared & Analyzed: 11/15/04

Gasoline Range Organics C6-C12	427	10.0	mg/kg wet	500		85.4	75-125			
Diesel Range Organics >C12-C35	592	10.0	"	500		118	75-125			
Total Hydrocarbon C6-C35	1020	10.0	"	1000		102	75-125			
Surrogate: 1-Chlorooctane	45.1		mg/kg	50.0		90.2	70-130			
Surrogate: 1-Chlorooctadecane	41.1		"	50.0		82.2	70-130			

**LCS (EK41507-BS2)**

Prepared: 11/15/04 Analyzed: 11/16/04

Gasoline Range Organics C6-C12	536	10.0	mg/kg wet	500		107	75-125			
Diesel Range Organics >C12-C35	624	10.0	"	500		125	75-125			
Total Hydrocarbon C6-C35	1160	10.0	"	1000		116	75-125			
Surrogate: 1-Chlorooctane	54.8		mg/kg	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	52.1		"	50.0		104	70-130			

**LCS Dup (EK41507-BSD1)**

Prepared & Analyzed: 11/15/04

Gasoline Range Organics C6-C12	445	10.0	mg/kg wet	500		89.0	75-125	4.13	20	
Diesel Range Organics >C12-C35	553	10.0	"	500		111	75-125	6.81	20	
Total Hydrocarbon C6-C35	998	10.0	"	1000		99.8	75-125	2.18	20	
Surrogate: 1-Chlorooctane	44.6		mg/kg	50.0		89.2	70-130			
Surrogate: 1-Chlorooctadecane	40.5		"	50.0		81.0	70-130			

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/22/04 08:02

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

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

**Batch EK41507 - Solvent Extraction (GC)**

**LCS Dup (EK41507-BSD2)**

Prepared: 11/15/04 Analyzed: 11/16/04

Gasoline Range Organics C6-C12	463	10.0	mg/kg wet	500		92.6	75-125	14.6	20	
Diesel Range Organics >C12-C35	621	10.0	"	500		124	75-125	0.482	20	
Total Hydrocarbon C6-C35	1080	10.0	"	1000		108	75-125	7.14	20	
Surrogate: 1-Chlorooctane	49.6		mg/kg	50.0		99.2	70-130			
Surrogate: 1-Chlorooctadecane	47.2		"	50.0		94.4	70-130			

**Calibration Check (EK41507-CCV1)**

Prepared & Analyzed: 11/15/04

Gasoline Range Organics C6-C12	433		mg/kg	500		86.6	80-120			
Diesel Range Organics >C12-C35	574		"	500		115	80-120			
Total Hydrocarbon C6-C35	1010		"	1000		101	80-120			
Surrogate: 1-Chlorooctane	42.0		"	50.0		84.0	70-130			
Surrogate: 1-Chlorooctadecane	46.5		"	50.0		93.0	70-130			

**Calibration Check (EK41507-CCV2)**

Prepared: 11/15/04 Analyzed: 11/16/04

Gasoline Range Organics C6-C12	465		mg/kg	500		93.0	80-120			
Diesel Range Organics >C12-C35	601		"	500		120	80-120			
Total Hydrocarbon C6-C35	1070		"	1000		107	80-120			
Surrogate: 1-Chlorooctane	53.8		"	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	53.9		"	50.0		108	70-130			

**Matrix Spike (EK41507-MS1)**

Source: 4K12029-01

Prepared: 11/15/04 Analyzed: 11/19/04

Gasoline Range Organics C6-C12	482	10.0	mg/kg dry	543	ND	88.8	75-125			
Diesel Range Organics >C12-C35	610	10.0	"	543	21.9	108	75-125			
Total Hydrocarbon C6-C35	1090	10.0	"	1090	21.9	98.0	75-125			
Surrogate: 1-Chlorooctane	50.9		mg/kg	50.0		102	70-130			
Surrogate: 1-Chlorooctadecane	48.7		"	50.0		97.4	70-130			

**Matrix Spike (EK41507-MS2)**

Source: 4K12029-08

Prepared: 11/15/04 Analyzed: 11/19/04

Gasoline Range Organics C6-C12	498	10.0	mg/kg dry	543	ND	91.7	75-125			
Diesel Range Organics >C12-C35	617	10.0	"	543	ND	114	75-125			
Total Hydrocarbon C6-C35	1120	10.0	"	1090	ND	103	75-125			
Surrogate: 1-Chlorooctane	51.9		mg/kg	50.0		104	70-130			
Surrogate: 1-Chlorooctadecane	50.1		"	50.0		100	70-130			

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/22/04 08:02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EK41507 - Solvent Extraction (GC)**

**Matrix Spike Dup (EK41507-MSD1)**

Source: 4K12029-01

Prepared: 11/15/04 Analyzed: 11/19/04

Gasoline Range Organics C6-C12	468	10.0	mg/kg dry	543	ND	86.2	75-125	2.95	20	
Diesel Range Organics >C12-C35	594	10.0	"	543	21.9	105	75-125	2.66	20	
Total Hydrocarbon C6-C35	1060	10.0	"	1090	21.9	95.2	75-125	2.79	20	
Surrogate: 1-Chlorooctane	50.0		mg/kg	50.0		100	70-130			
Surrogate: 1-Chlorooctadecane	48.0		"	50.0		96.0	70-130			

**Matrix Spike Dup (EK41507-MSD2)**

Source: 4K12029-08

Prepared: 11/15/04 Analyzed: 11/19/04

Gasoline Range Organics C6-C12	480	10.0	mg/kg dry	543	ND	88.4	75-125	3.68	20	
Diesel Range Organics >C12-C35	601	10.0	"	543	ND	111	75-125	2.63	20	
Total Hydrocarbon C6-C35	1080	10.0	"	1090	ND	99.1	75-125	3.64	20	
Surrogate: 1-Chlorooctane	49.9		mg/kg	50.0		99.8	70-130			
Surrogate: 1-Chlorooctadecane	47.4		"	50.0		94.8	70-130			

**Batch EK41813 - EPA 5035**

**Blank (EK41813-BLK1)**

Prepared: 11/15/04 Analyzed: 11/19/04

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	94.1		ug/kg	100		94.1	80-120			
Surrogate: 4-Bromofluorobenzene	103		"	100		103	80-120			

**LCS (EK41813-BS1)**

Prepared: 11/15/04 Analyzed: 11/19/04

Benzene	98.1		ug/kg	100		98.1	80-120			
Toluene	104		"	100		104	80-120			
Ethylbenzene	108		"	100		108	80-120			
Xylene (p/m)	239		"	200		120	80-120			
Xylene (o)	118		"	100		118	80-120			
Surrogate: a,a,a-Trifluorotoluene	106		"	100		106	80-120			
Surrogate: 4-Bromofluorobenzene	118		"	100		118	80-120			

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/22/04 08:02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EK41813 - EPA 5035**

**Calibration Check (EK41813-CCV1)**

Prepared: 11/15/04 Analyzed: 11/16/04

Benzene	104		ug/kg	100		104	80-120			
Toluene	96.3		"	100		96.3	80-120			
Ethylbenzene	89.6		"	100		89.6	80-120			
Xylene (p/m)	195		"	200		97.5	80-120			
Xylene (o)	91.2		"	100		91.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	106		"	100		106	80-120			
Surrogate: 4-Bromofluorobenzene	102		"	100		102	80-120			

**Matrix Spike (EK41813-MS1)**

Source: 4K12001-08

Prepared & Analyzed: 11/15/04

Benzene	2540		ug/kg	2500	ND	102	80-120			
Toluene	2580		"	2500	29.2	102	80-120			
Ethylbenzene	2710		"	2500	18.0	108	80-120			
Xylene (p/m)	6040		"	5000	58.9	120	80-120			
Xylene (o)	2940		"	2500	45.2	116	80-120			
Surrogate: a,a,a-Trifluorotoluene	102		"	100		102	80-120			
Surrogate: 4-Bromofluorobenzene	113		"	100		113	80-120			

**Matrix Spike Dup (EK41813-MSD1)**

Source: 4K12001-08

Prepared & Analyzed: 11/15/04

Benzene	2690		ug/kg	2500	ND	108	80-120	5.71	20	
Toluene	2600		"	2500	29.2	103	80-120	0.976	20	
Ethylbenzene	2770		"	2500	18.0	110	80-120	1.83	20	
Xylene (p/m)	6060		"	5000	58.9	120	80-120	0.00	20	
Xylene (o)	3020		"	2500	45.2	119	80-120	2.55	20	
Surrogate: a,a,a-Trifluorotoluene	110		"	100		110	80-120			
Surrogate: 4-Bromofluorobenzene	115		"	100		115	80-120			

Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

**Reported:**  
11/22/04 08:02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EK41504 - General Preparation (Prep)**

**Blank (EK41504-BLK1)**

Prepared: 11/12/04 Analyzed: 11/15/04

% Moisture	0.0	%
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**Duplicate (EK41504-DUP1)**

Source: 4K11014-01

Prepared: 11/12/04 Analyzed: 11/15/04

% Moisture	11.0	%	11.0	0.00	20
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Environmental Lab of Texas

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Basin Environmental Services  
P.O. Box 301  
Lovington NM, 88260

Project: Friscoe Skelly #1  
Project Number: EMS: 2004-00196  
Project Manager: Ken Dutton

Fax: (505) 396-1429

Reported:  
11/22/04 08:02

### Notes and Definitions

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

Report Approved By:

*Raland K. Tuttle*

Date:

11/22/2004

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

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

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

Environmental Lab of Texas

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# Environmental Lab of Texas

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

Client: Basin Env.

Date/Time: 11-12-04 @ 1315

Order #: 4K12006

Initials: JMM

### Sample Receipt Checklist

Temperature of container/cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	-1.0 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Custody Seals intact on shipping container/cooler?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not present</del>
Custody Seals intact on sample bottles?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Not present
Chain of custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable

Other observations:

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### Variance Documentation:

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

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Corrective Action Taken:

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**APPENDIX C**

**SOIL BORING LOG**



Plains Marketing, L. P.  
 Frisco-Skelly # 1  
 Soil Boring 1  
 Unit P (SE/SE) S36, T16S, R36E  
 Lea County, NM  
 EMS: 2004-00196

Depth  
 Soil Column

Excavation Floor  
 15 feet bgs

5

10

15

20

25

30

35

40 TD

PID  
 Reading

1218 ppm

923 ppm

616 ppm

626 ppm

519 ppm

28.2 ppm

10.3 ppm

7.1 ppm

Petroleum  
 Odor

Moderate

Moderate

Moderate

Moderate

Slight

Slight

None

None

Petroleum  
 Stain

None

None

None

None

None

None

None

None

Soil  
 Description

Sand (SP) Tan, Very Fine  
 Grained, Well Sorted, Dry,  
 Imbedded w/caliche nodules

Sand (SP) Red-Brown, Very  
 Fine Grained, Well Sorted, Dry,  
 Imbedded w/sandstone nodules

Sand (SP) Red-Brown, Very  
 Fine Grained, Well Sorted, Dry,  
 Imbedded w/sandstone nodules

Sand (SP) Tan-Brown, Very  
 Fine Grained, Well Sorted, Dry  
 (Sugar Sand)

Installed: 01 Nov 04, Basin  
 Environmental Services, LLC

TD: 40 feet bgs

Soil Boring plugged with 7 bags  
 of Bentonite

☐ Samples selected for analysis

TITLE	DESCRIPTION
Frisco-Skelly # 1 Appendix C	Soil Boring 1
DRAWN BY KAD	DATE 15 Nov 04

# **APPENDIX D**

**NMOCD C-141**

District I  
25 N. French Dr., Hobbs, NM 88240  
District II  
801 W. Grand Avenue, Artesia, NM 88210  
District III  
000 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

x Initial Report ☐ Final Report

Name of Company Plains Marketing, LP  
Address 5805 East Hwy. 80, Midland, TX 79706  
Facility Name Frisco Skelly #1  
Contact Camille Reynolds  
Telephone No. 505-441-0965  
Facility Type 4" Steel Pipeline

Surface Owner City of Lovington

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
P	36	16S	36E					Lca

Latitude 32° 52' 20.0"

Longitude 103° 18' 12.2"

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Crude Oil	25 barrels	0 barrels
Source of Release 4" Steel Pipeline	Date and Hour of Occurrence 9-20-04 @ 08:45	Date and Hour of Discovery 9-20-04 @ 9:00
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Larry Johnson	
By Whom? Camille Reynolds	Date and Hour 9-20-04 @ 15:10	
Was a Watercourse Reached? <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.\* External corrosion of the 4" steel pipeline. A line clamp was installed to mitigate the release. The line is a 4 inch steel transmission pipeline that produces approximately 20 to 30 barrels of crude oil per day. The pressure on the line is 28 psi and the gravity of the sweet crude oil is 39. The sweet crude has an H<sub>2</sub>S content of <10 ppm

Describe Area Affected and Cleanup Action Taken.\* The impacted soil was excavated and stockpiled on plastic. Aerial extent of surface impact was 1,848 ft<sup>2</sup>.

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>		OIL CONSERVATION DIVISION	
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: 9-22-04	Phone: 505-441-0965		

Attach Additional Sheets if Necessary