

**Basin Environmental Service Technologies, LLC**

1RP-1156

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**PRELIMINARY SITE INVESTIGATION REPORT  
and  
REMEDIATION/CLOSURE PLAN**

**PLAINS MARKETING, L.P.  
Zia Grizzell 4-Inch Idled Line  
Lea County, New Mexico  
Plains EMS: 2005-00210  
NMOCD File Number: 1RP-1156  
UNIT P (SE/SE), Section 8, Township 22 South, Range 37 East  
Latitude, Longitude 32°, 24', 10.7" North, 103°, 10', 38.7" West**

Prepared For:

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

Plans APPROVED 1-4-07  
OCD [Signature]

Prepared By:

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

20 December 2006

  
Ken Dutton

Basin Environmental Service Technologies, LLC

application - pPAC06 35550219

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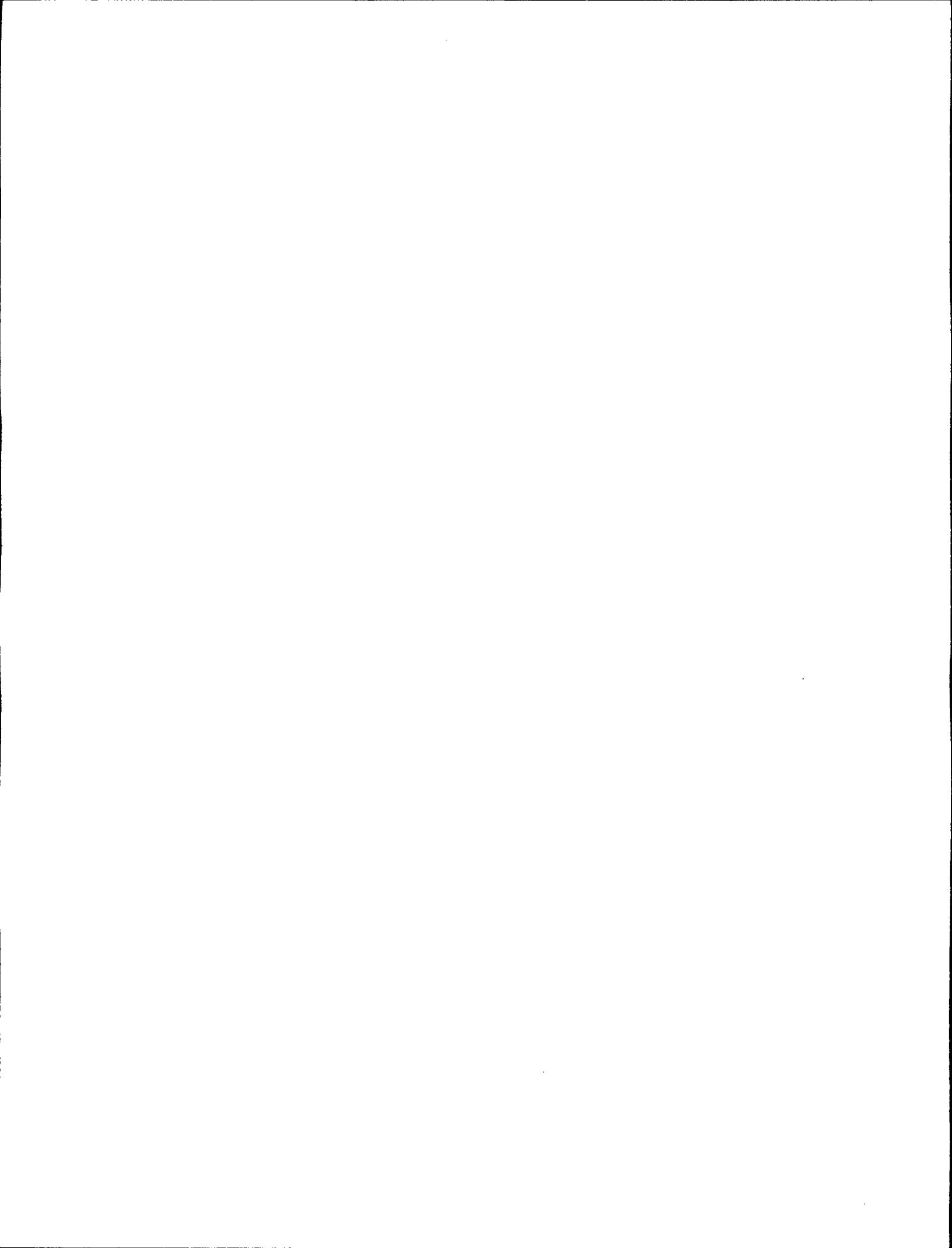
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## **INTRODUCTION**

Basin Environmental Service Technologies, LLC (Basin), responded to a pipeline release for Plains Marketing, L.P. (Plains), located on the Zia Grizzell 4-Inch Idled Pipeline, on 05 September 2005. The Zia Grizzell 4-Inch Idled Pipeline was initially clamped and later cold cut and capped, under the direction of Plains operations personnel, to allow unhindered excavation of the impacted soil. After containing the crude oil release, excavation was initiated and the impacted soil was stockpiled on a 6-mil poly-liner adjacent to the excavation until further investigation could be conducted. The Zia Grizzell 4-Inch Idled Pipeline is located on land owned by the Apache Corporation.

This site is located in Unit P (SE/SE), Section 8, Township 22 South, Range 37 East, in Lea County, New Mexico (topographic Site Location Map is attached as Figure 1) on land owned by the Apache Corporation. The site latitude is 32° 24' 10.7" North and the site longitude is 103° 10' 38.7" West. The site is characterized by a right-of-way for the pipeline in a pasture utilized for cattle grazing. The visible surface stained area includes the release point covering an area approximately 45 feet long by 25 feet wide. Approximately 40 barrels of crude oil were released from the pipeline and 30 barrels were recovered.

An Emergency One-Call was initiated 05 September 2005 and all responding companies either cleared or marked their respective lines. Subsequent renewals of the one-call have been accomplished as required.

Mr. Gary Wink, New Mexico Oil Conservation Division (NMOCD), Hobbs, New Mexico District I, was verbally notified of the release on 05 September 2005. A C-141 form, dated 09 September 2005, was completed by Plains and submitted to the NMOCD District 1 Office, Hobbs, New Mexico, (see Appendix D, NMOCD C-141).

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

A search of the New Mexico State Engineers database revealed no groundwater depth information for that section. However, Section 09 of the same Township and Range contains groundwater information revealing an average depth to groundwater of 90 feet bgs. There are no surface water bodies within 1000 feet of the release site; however, there are two (2) water wells to the east and northeast, within 1000 feet of the release site (approximately 462 and 522 feet, respectively). 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

## **SUMMARY OF FIELD ACTIVITIES**

On 05 September 2005, Basin arrived at the Zia Grizzell 4-Inch Idled Pipeline release to repair and contain the crude oil pipeline release under the direction of Plains operations personnel. After the crude oil release was contained utilizing a pipeline repair clamp, excavation of the impacted soil was initiated (see Figure 2, Excavation Site Map). The Zia Grizzell 4-Inch Idled pipeline was cold cut and capped, under the direction of Plains operations personnel, and the pipeline removed from the crude oil release area to allow excavation activities to proceed unhindered.

The release point and flow path areas were excavated to approximately 45 feet long by 24 feet wide and range in depth from 08 to 10 feet below ground surface (bgs) (see Figure 2, Excavation Site Map). The excavated soil was placed on a poly liner for future remedial action. On 13 September 2005, six (6) confirmation soil samples were collected and screened with a Photoionization Detector (PID), calibrated 13 September 2005 (see Figure 3, Soil Sampling Locations). 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). Laboratory results of the six (6) confirmation soil samples indicated that the excavation was below NMOCD regulatory standards (see Table 1, Soil Chemistry Table) for constituent concentrations of BTEX and exceeded NMOCD regulatory standards for TPH-GRO/DRO for five (5) of the six (6) soil samples.

On 23 November 2005, Basin installed one soil boring, utilizing Straub Corporation, Stanton, Texas, collecting soil samples every five (5) feet at the release point (excavation floor, approximately 6 to 7 feet bgs) in order to evaluate the vertical extent of crude oil impacted soil (see Figure 3). The soil boring was terminated at 45 feet bgs (Soil Boring Log attached as Appendix C). Each sample was field screened with a PID and selected soil samples were analyzed for BTEX and TPH-GRO/DRO. Laboratory results indicated that constituent concentrations of BTEX were below NMOCD regulatory standards for the 15 and 25 feet bgs soil samples and not detected above laboratory method detection limits for the 35 and 45 feet bgs soil samples. Laboratory results indicated that constituent concentrations of TPH-GRO/DRO exceeded NMOCD regulatory standards for 15, 25 and 35 feet bgs subsurface soil samples and the 45 feet bgs soil sample was below NMOCD regulatory standards.

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

The final dimensions of the excavated release point and flow path areas are approximately 45 feet long by 24 feet wide ranging in depths from approximately 8 to 10 feet bgs with no visual evidence of crude oil impact evident on the excavation floor or walls. Approximately 400 cubic yards of impacted soil has been stockpiled adjacent to the excavation resulting from the emergency response and excavation activities.

On 13 September 2005, Basin collected six (6) confirmation soil samples from the excavation floor and walls, ranging in depth from 5 to 10 feet bgs; field screened with a PID and analyzed for constituent concentrations of BTEX and TPH-GRO/DRO. Laboratory data sheets and chain-of-custody forms are attached (Appendix C). Laboratory results indicated detectable BTEX constituent concentrations were below NMOCD regulatory standards for the six (6) confirmation soil samples at depths ranging from 3 to 10 feet bgs, respectively. Laboratory results indicated that TPH-GRO/DRO concentrations exceeded NMOCD regulatory standards for the soil samples collected from the west sidewall, east sidewall, north sidewall, floor south, and floor north at 5, 5, 5, 8 and 10 feet bgs, at 141 mg/kg, 156 mg/kg, 241 mg/kg, 1500 mg/kg and 8300 mg/kg, respectively. The south sidewall soil sample exhibited detectable constituent concentrations of TPH-GRO/DRO at 5 feet bgs at 75 mg/kg, which was below NMOCD regulatory standards.

On 23 November 2005, Basin installed one soil boring, utilizing Straub Corporation, Stanton, Texas, collecting soil samples every five (5) feet at the release point (excavation floor, approximately 6 to 7 feet bgs) in order to evaluate the vertical extent of crude oil impacted soil (see Figure 3). The soil boring was terminated at 45 feet bgs due to loss of air circulation (Soil Boring Log attached as Appendix C). Soil samples collected at 5 and 10 feet bgs were field screened with a PID, however; were not analyzed due to backfilling of the excavation floor required for access of the drilling rig. Each sample was field screened with a PID and selected soil samples were analyzed for BTEX and TPH-GRO/DRO. Laboratory results indicated that constituent concentrations of BTEX were below NMOCD regulatory standards for the subsurface soil samples collected at 15 and 25 feet bgs and not detected above laboratory method detection limits for the 35 and 45 feet bgs soil samples. Laboratory results indicated that constituent concentrations of TPH-GRO/DRO exceeded NMOCD regulatory standards for three (3) subsurface soil samples at 15, 25 and 35 feet bgs at 3090 mg/kg, 3380 mg/kg and 223 mg/kg, respectively. Laboratory results indicated that detectable concentrations of TPH-GRO/DRO were exhibited for the 45 feet bgs soil sample; however, the soil sample was below NMOCD regulatory standards at 34 mg/kg.

## **RECOMMENDATIONS FOR REMEDIATION/CLOSURE**

Approximately 400 cubic yards of impacted soil has been excavated and stockpiled on-site resulting from the emergency response and excavation of the release point and flow path. Based on the analytical results of the confirmation soil samples and the delineation soil boring, which indicates the crude oil impact is contained in a limited vertical subsurface area immediately around the release point, Plains proposes to excavate the release point and flow path area to approximately 15 feet bgs, collect floor and wall soil samples and install a 20-mil poly liner. Soil samples collected from the floor and walls will be analyzed for constituent concentrations of BTEX and TPH-GRO/DRO. The approximately 400 cubic yards of impacted soil stockpiled on-site and additional impacted soil resulting from the proposed

excavation activities will be transported to the Plains Lea Station Land Farm (LSLF) and clean soil will be transported to the Zia Grizzell release site and utilized as backfill. A permit (NMOCD C-138) will be obtained from the NMOCD for the transporting of the impacted soil to LSLF.

Due to the remote area of this location and distance to the water wells (462 feet and 522 feet, respectively) to the east and northeast, which are cross gradient to the localized groundwater gradient of south to southeast (see Figure 3, Water well locations), 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 4, 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 biodegrading of contaminants in the soil.

Once installation of the 20-mil poly liner completed, backfilling of the excavation will be initiated with the transported clean soil obtained from LSLF. The backfilled excavation will be contoured to the original rangeland grade surrounding the site and reseeded with landowner approved grass seed.

A request for closure will be submitted to the Hobbs District I office, upon completion of backfilling activities. Based on the results of the remediation activities conducted, Plains requests approval from the NMOCD to implement these proposed final remediation and site closure activities.

## **QA/QC PROCEDURES**

### **Soil Sampling**

Soil samples were delivered to Environmental Lab of Texas, Inc. in Odessa, Texas for BTEX, TPH 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 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.

**DISTRIBUTION**

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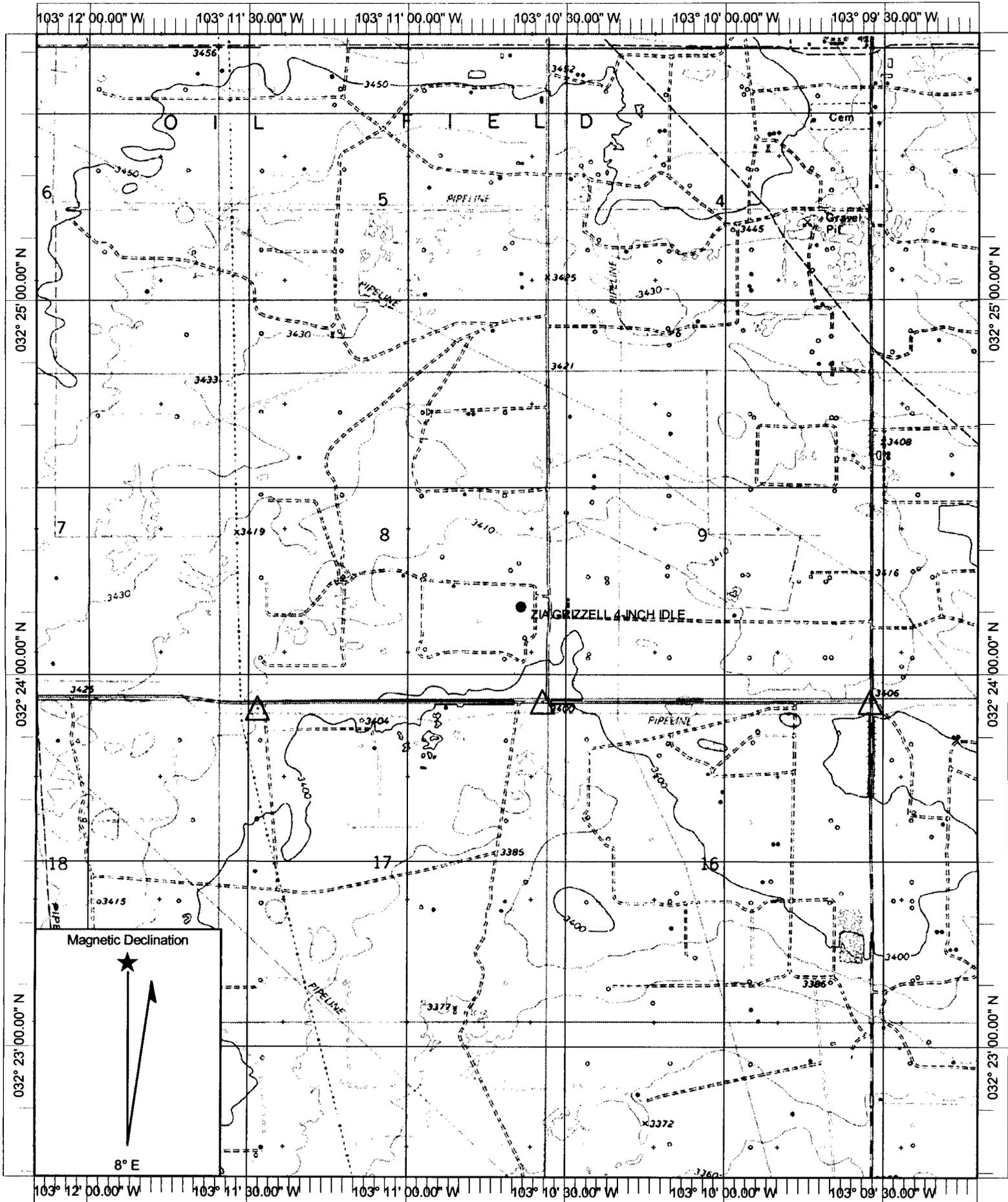
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TABLE 1

SOIL CHEMISTRY

PLAINS MARKETING, L.P.  
 ZIA GRIZZELL 4" IDLED LINE  
 LEA COUNTY, NEW MEXICO  
 EMS: 2005-00210

SAMPLE LOCATION	SAMPLE DEPTH (Below normal surface grade)	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030				METHOD: 8015M		TOTAL CHLORIDES (mg/kg)			
			BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	M,P-OXYLENES (mg/kg)	O-XYLENE (mg/kg)	GRO (mg/kg)		DRO (mg/kg)	TPH (mg/kg)	
West S/W	5' bgs	09/13/05	<0.025	0.213	0.140	0.386	0.105	18.7	122	141		
South S/W	5' bgs	09/13/05	<0.025	<0.025	<0.025	0.045	<0.025	<10	75.4	75.4		
East S/W	5' bgs	09/13/05	<0.025	<0.025	0.043	0.106	0.029	11.8	144	156		
North S/W	5' bgs	09/13/05	<0.025	<0.025	<0.025	0.026	<0.025	11.2	230	241		
FLR South	8' bgs	09/13/05	<0.025	0.054	0.203	0.447	0.165	143	1360	1500	38.2	
FLR North	10' bgs	09/13/05	<0.025	<0.025	0.050	0.165	0.043	604	7700	8300		
STCKPL	N/A	09/13/05	2.25	26.8	39.1	46.8	18.3	6580	18800	25,400		
SB-1 15'	21' bgs	11/23/05	0.105	0.776	0.639	2.44	0.580	558	2530	3090		
SB-1 25'	31' bgs	11/23/05	<0.025	0.248	0.427	1.57	0.438	371	3010	3380		
SB-1 35'	41' bgs	11/23/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	223	223		
SB-1 45'	51' bgs	11/23/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	34.1	34.1		
NMOCD Criteria			10	TOTAL BTEX 50							100	



Name: EUNICE  
 Date: 12/21/2006  
 Scale: 1 inch equals 2000 feet

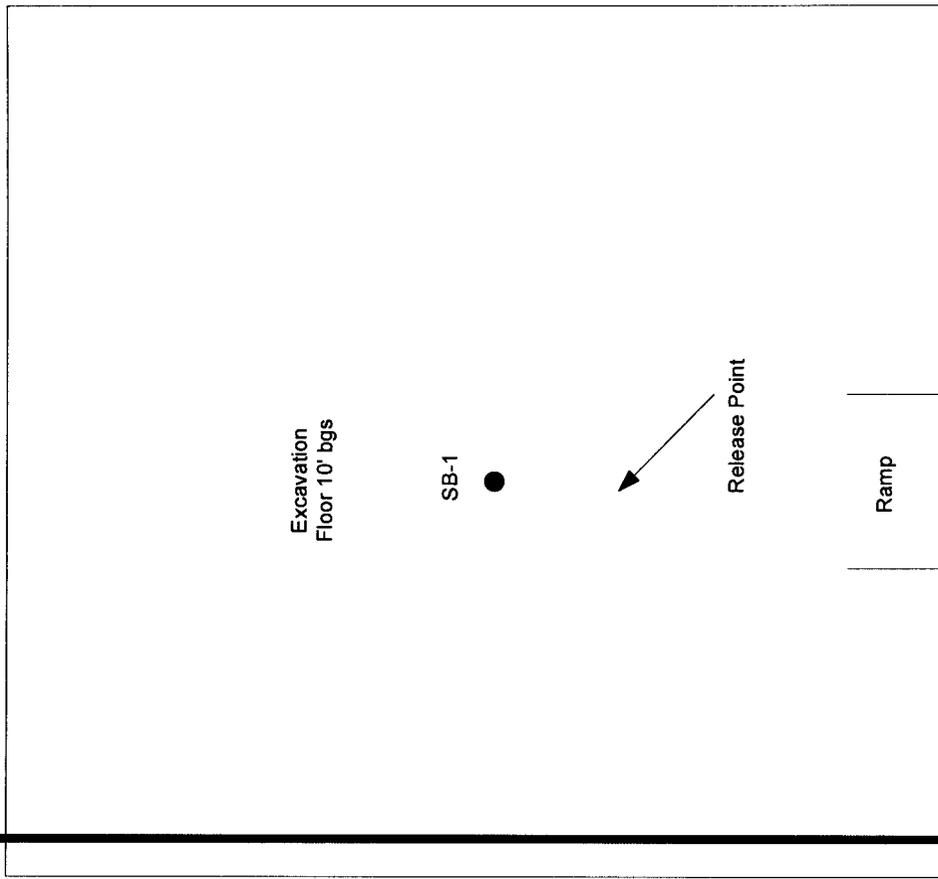
Location: 032° 24' 11.12" N 103° 10' 41.11" W NAD 27  
 Caption: Figure 1, Site Location Map  
 Plains Marketing, L. P.  
 Zia Grizzell 4-Inch Idle



Plains Marketing, L.P.  
 Zia Grizzell Idled 4-Inch  
 SE/SE S8, T22S, R37E  
 Lea County, NM  
 EMS: 2005-00210

24 feet wide

Plains Marketing, L. P.  
 Active Pipeline



Excavation  
 Floor 10' bgs

SB-1

Release Point

Ramp

45 feet long

Capped Zia Grizzell  
 Idled 4-Inch Pipeline

Stockpiled  
 Material

TITLE

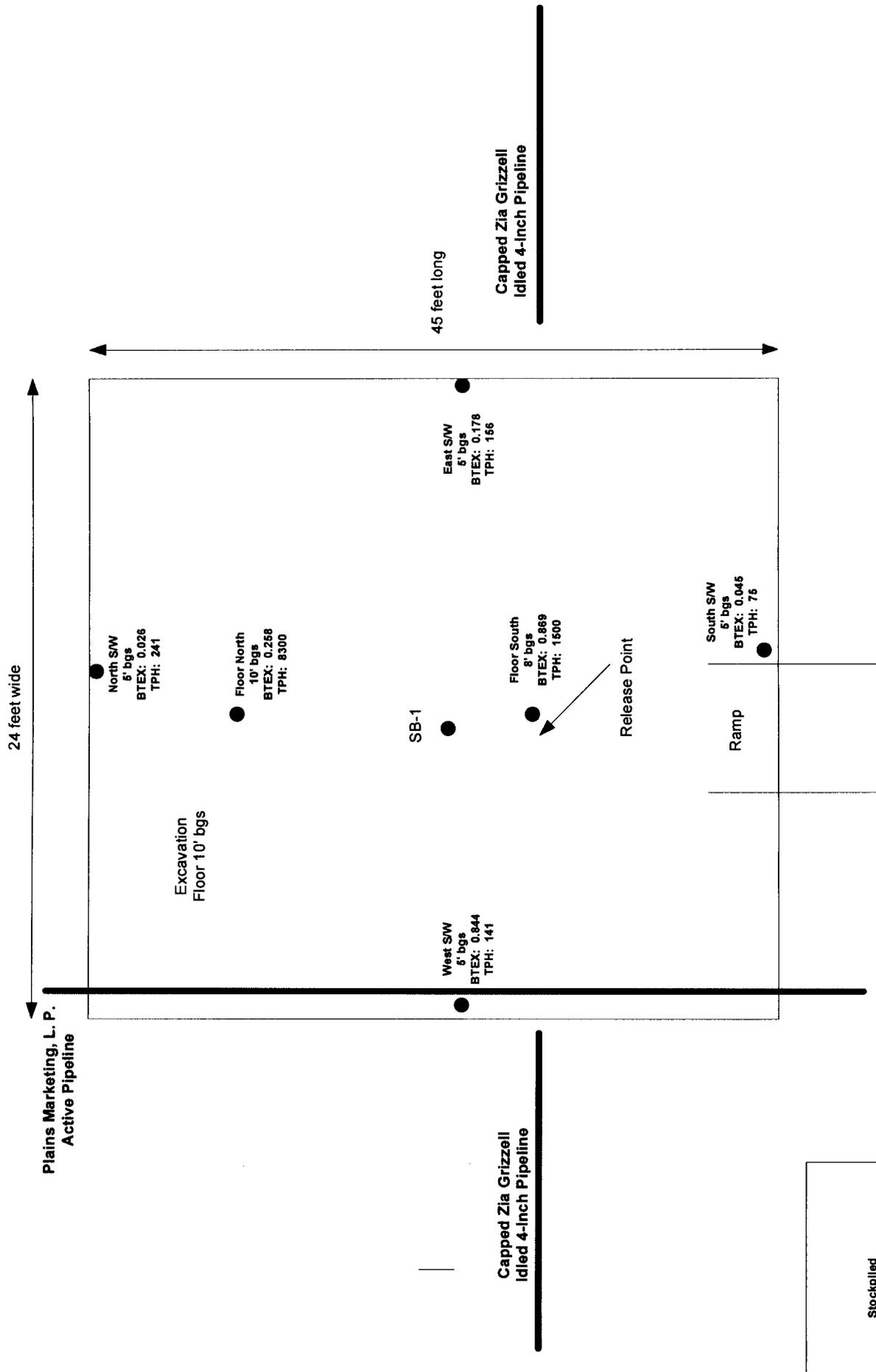
Figure 2, ExcavationSite  
 Map

DRAWN BY

Basin Environmental Svc.  
 kad



Plains Marketing, L.P.  
 Zia Grizzell Idled 4-Inch  
 SE/SE S8, T22S, R37E  
 Lea County, NM  
 EMS: 2005-00210



TITLE

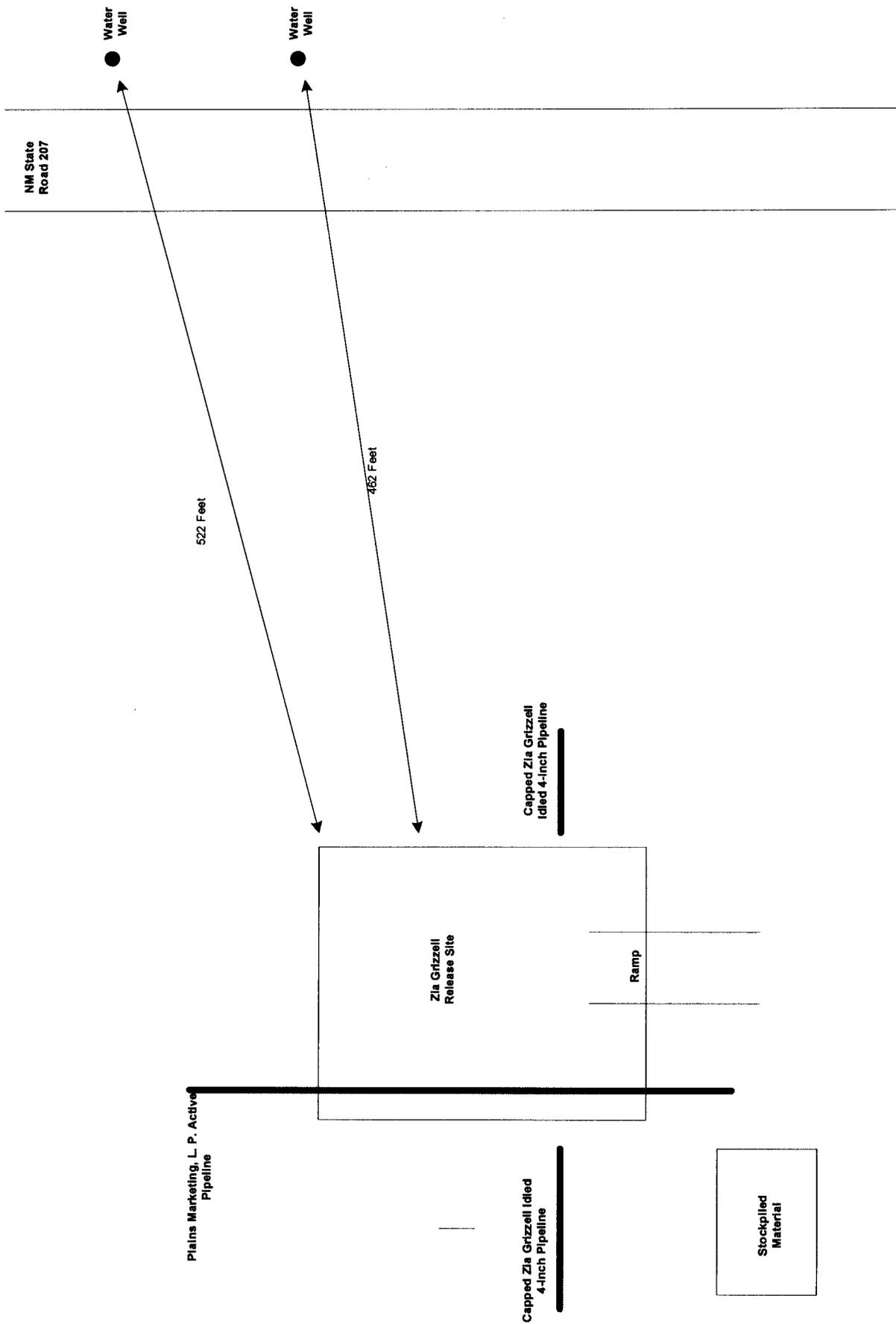
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Figure 3, Soil Sampling  
Locations

Basin Environmental Svc.  
kad



Plains Marketing, L.P.  
 Zia Grizzell Idled 4-inch  
 SE/SE S8, T22S, R37E  
 Lea County, NM  
 EMS: 2005-00210



TITLE

Figure 4, Water Well  
 Locations

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Basin Environmental Svc.  
 kad



Plains Marketing

718 Grizzell Lane

SE/SE S8, T22S, R37E

Lea County, NM

Plains SRS: 2005-00210







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3811 S. HOYLE  
Plains County, NM  
Plains SRS 2005-00210

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

Township: 22S Range: 37E Sections: 7,8,9,10,11,12

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

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

**AVERAGE DEPTH OF WATER REPORT 10/12/2006**

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
CP	22S	37E	09				2	85	94	90

Record Count: 2

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

Township: 22S Range: 37E Sections: 8

NAD27 X: Y: Zone: Search Radius:

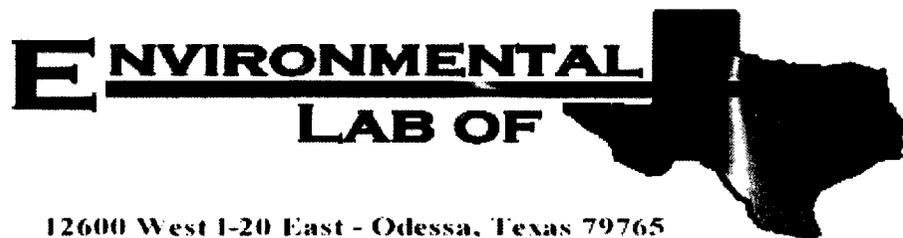
County: Basin: Number: Suffix:

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

POD / SURFACE DATA REPORT 10/12/2006

DB File Nbr	(acre ft per annum) Use	Diversion	Owner	POD Number	(qua
-------------	----------------------------	-----------	-------	------------	------

No Records found, try again



## Analytical Report

**Prepared for:**

Daniel Bryant

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Zia Grizzell 4" Idled Line

Project Number: EMS: 2005-00210

Location: Lea County, NM

Lab Order Number: 5K28002

Report Date: 12/01/05

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

Project: Zia Grizzell 4" Idled Line  
Project Number: EMS: 2005-00210  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

**Reported:**  
12/01/05 16:06

**ANALYTICAL REPORT FOR SAMPLES**

<b>Sample ID</b>	<b>Laboratory ID</b>	<b>Matrix</b>	<b>Date Sampled</b>	<b>Date Received</b>
SB-1 15'	5K28002-01	Soil	11/23/05 08:55	11/23/05 16:00
SB-1 25'	5K28002-02	Soil	11/23/05 09:04	11/23/05 16:00
SB-1 35'	5K28002-03	Soil	11/23/05 09:15	11/23/05 16:00
SB-1 45'	5K28002-04	Soil	11/23/05 09:27	11/23/05 16:00

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 15' (5K28002-01) Soil</b>									
<b>Benzene</b>	<b>0.105</b>	0.0250	mg/kg dry	25	EK52901	11/29/05	11/29/05	EPA 8021B	
<b>Toluene</b>	<b>0.776</b>	0.0250	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.639</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>2.44</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>0.580</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		166 %	80-120		"	"	"	"	S-04
<i>Surrogate: 4-Bromofluorobenzene</i>		189 %	80-120		"	"	"	"	S-04
<b>Gasoline Range Organics C6-C12</b>	<b>558</b>	10.0	mg/kg dry	1	EK52804	11/28/05	12/01/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>2530</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>3090</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		112 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		121 %	70-130		"	"	"	"	
<b>SB-1 25' (5K28002-02) Soil</b>									
<b>Benzene</b>	<b>J [0.0115]</b>	0.0250	mg/kg dry	25	EK52901	11/29/05	11/29/05	EPA 8021B	J
<b>Toluene</b>	<b>0.248</b>	0.0250	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.427</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>1.57</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>0.438</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		108 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		173 %	80-120		"	"	"	"	S-04
<b>Gasoline Range Organics C6-C12</b>	<b>371</b>	10.0	mg/kg dry	1	EK52804	11/28/05	12/01/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>3010</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>3380</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		119 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		130 %	70-130		"	"	"	"	
<b>SB-1 35' (5K28002-03) Soil</b>									
<b>Benzene</b>	ND	0.0250	mg/kg dry	25	EK52901	11/29/05	11/29/05	EPA 8021B	
<b>Toluene</b>	ND	0.0250	"	"	"	"	"	"	
<b>Ethylbenzene</b>	ND	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	ND	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		100 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.8 %	80-120		"	"	"	"	
<b>Gasoline Range Organics C6-C12</b>	<b>J [5.54]</b>	10.0	mg/kg dry	1	EK52804	11/28/05	12/01/05	EPA 8015M	J
<b>Diesel Range Organics &gt;C12-C35</b>	<b>223</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>223</b>	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

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

Project: Zia Grizzell 4" Idled Line  
 Project Number: EMS: 2005-00210  
 Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
 12/01/05 16:06

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SB-1 35' (5K28002-03) Soil</b>									
<i>Surrogate: 1-Chlorooctane</i>		105 %	70-130		EK52804	11/28/05	12/01/05	EPA 8015M	
<i>Surrogate: 1-Chlorooctadecane</i>		105 %	70-130		"	"	"	"	
<b>SB-1 45' (5K28002-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EK52901	11/29/05	11/29/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		96.5 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	80-120		"	"	"	"	
<b>Gasoline Range Organics C6-C12</b>	<b>ND</b>	10.0	mg/kg dry	1	EK52804	11/28/05	12/01/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>34.1</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>34.1</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		112 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		114 %	70-130		"	"	"	"	

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

Project: Zia Grizzell 4" Idled Line  
Project Number: EMS: 2005-00210  
Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
12/01/05 16:06

**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 15' (5K28002-01) Soil</b>									
% Moisture	4.2	0.1	%	1	EK52902	11/28/05	11/29/05	% calculation	
<b>SB-1 25' (5K28002-02) Soil</b>									
% Moisture	6.1	0.1	%	1	EK52902	11/28/05	11/29/05	% calculation	
<b>SB-1 35' (5K28002-03) Soil</b>									
% Moisture	6.6	0.1	%	1	EK52902	11/28/05	11/29/05	% calculation	
<b>SB-1 45' (5K28002-04) Soil</b>									
% Moisture	2.6	0.1	%	1	EK52902	11/28/05	11/29/05	% calculation	

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Reported:  
12/01/05 16:06

**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 EK52804 - Solvent Extraction (GC)**

**Blank (EK52804-BLK1)**

Prepared: 11/28/05 Analyzed: 12/01/05

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	38.6		mg/kg	50.0		77.2	70-130			
Surrogate: 1-Chlorooctadecane	35.0		"	50.0		70.0	70-130			

**LCS (EK52804-BS1)**

Prepared: 11/28/05 Analyzed: 12/01/05

Gasoline Range Organics C6-C12	516	10.0	mg/kg wet	500		103	75-125			
Diesel Range Organics >C12-C35	591	10.0	"	500		118	75-125			
Total Hydrocarbon C6-C35	1110	10.0	"	1000		111	75-125			
Surrogate: 1-Chlorooctane	62.5		mg/kg	50.0		125	70-130			
Surrogate: 1-Chlorooctadecane	51.2		"	50.0		102	70-130			

**Calibration Check (EK52804-CCV1)**

Prepared: 11/28/05 Analyzed: 12/01/05

Gasoline Range Organics C6-C12	410		mg/kg	500		82.0	80-120			
Diesel Range Organics >C12-C35	556		"	500		111	80-120			
Total Hydrocarbon C6-C35	966		"	1000		96.6	80-120			
Surrogate: 1-Chlorooctane	56.8		"	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	55.8		"	50.0		112	70-130			

**Matrix Spike (EK52804-MS1)**

Source: 5K28003-11

Prepared: 11/28/05 Analyzed: 12/01/05

Gasoline Range Organics C6-C12	504	10.0	mg/kg dry	510	ND	98.8	75-125			
Diesel Range Organics >C12-C35	608	10.0	"	510	ND	119	75-125			
Total Hydrocarbon C6-C35	1110	10.0	"	1020	ND	109	75-125			
Surrogate: 1-Chlorooctane	62.8		mg/kg	50.0		126	70-130			
Surrogate: 1-Chlorooctadecane	58.3		"	50.0		117	70-130			

**Matrix Spike Dup (EK52804-MSD1)**

Source: 5K28003-11

Prepared: 11/28/05 Analyzed: 12/01/05

Gasoline Range Organics C6-C12	535	10.0	mg/kg dry	510	ND	105	75-125	5.97	20	
Diesel Range Organics >C12-C35	619	10.0	"	510	ND	121	75-125	1.79	20	
Total Hydrocarbon C6-C35	1150	10.0	"	1020	ND	113	75-125	3.54	20	
Surrogate: 1-Chlorooctane	59.9		mg/kg	50.0		120	70-130			
Surrogate: 1-Chlorooctadecane	59.8		"	50.0		120	70-130			

Environmental Lab of Texas

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Page 5 of 9

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

Project: Zia Grizzell 4" Idled Line  
 Project Number: EMS: 2005-00210  
 Project Manager: Daniel Bryant

Fax: (432) 687-4914  
 Reported:  
 12/01/05 16:06

**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 EK52901 - EPA 5030C (GC)**

**Blank (EK52901-BLK1)**

Prepared & Analyzed: 11/29/05

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	41.8		ug/kg	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	35.6		"	40.0		89.0	80-120			

**LCS (EK52901-BS1)**

Prepared & Analyzed: 11/29/05

Benzene	0.0435	0.00100	mg/kg wet	0.0500		87.0	80-120			
Toluene	0.0526	0.00100	"	0.0500		105	80-120			
Ethylbenzene	0.0550	0.00100	"	0.0500		110	80-120			
Xylene (p/m)	0.103	0.00100	"	0.100		103	80-120			
Xylene (o)	0.0545	0.00100	"	0.0500		109	80-120			
Surrogate: a,a,a-Trifluorotoluene	45.5		ug/kg	40.0		114	80-120			
Surrogate: 4-Bromofluorobenzene	42.4		"	40.0		106	80-120			

**Calibration Check (EK52901-CCV1)**

Prepared & Analyzed: 11/29/05

Benzene	42.7		ug/kg	50.0		85.4	80-120			
Toluene	50.3		"	50.0		101	80-120			
Ethylbenzene	49.7		"	50.0		99.4	80-120			
Xylene (p/m)	93.8		"	100		93.8	80-120			
Xylene (o)	49.4		"	50.0		98.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	44.2		"	40.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	32.9		"	40.0		82.2	80-120			

**Matrix Spike (EK52901-MS1)**

Source: 5K28011-01

Prepared & Analyzed: 11/29/05

Benzene	0.0458	0.00100	mg/kg dry	0.0526	ND	87.1	80-120			
Toluene	0.0559	0.00100	"	0.0526	ND	106	80-120			
Ethylbenzene	0.0593	0.00100	"	0.0526	ND	113	80-120			
Xylene (p/m)	0.111	0.00100	"	0.105	ND	106	80-120			
Xylene (o)	0.0589	0.00100	"	0.0526	ND	112	80-120			
Surrogate: a,a,a-Trifluorotoluene	47.7		ug/kg	40.0		119	80-120			
Surrogate: 4-Bromofluorobenzene	46.7		"	40.0		117	80-120			

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Project: Zia Grizzell 4" Idled Line  
 Project Number: EMS: 2005-00210  
 Project Manager: Daniel Bryant

Fax: (432) 687-4914

Reported:  
 12/01/05 16:06

**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 EK52901 - EPA 5030C (GC)**

<b>Matrix Spike Dup (EK52901-MSD1)</b>	<b>Source: 5K28011-01</b>			<b>Prepared &amp; Analyzed: 11/29/05</b>						
Benzene	0.0463	0.00100	mg/kg dry	0.0526	ND	88.0	80-120	1.03	20	
Toluene	0.0559	0.00100	"	0.0526	ND	106	80-120	0.00	20	
Ethylbenzene	0.0587	0.00100	"	0.0526	ND	112	80-120	0.889	20	
Xylene (p/m)	0.110	0.00100	"	0.105	ND	105	80-120	0.948	20	
Xylene (o)	0.0583	0.00100	"	0.0526	ND	111	80-120	0.897	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	<i>46.3</i>		<i>ug/kg</i>	<i>40.0</i>		<i>116</i>	<i>80-120</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>42.3</i>		<i>"</i>	<i>40.0</i>		<i>106</i>	<i>80-120</i>			

Plains All American EH & S 1301 S. County Road 1150 Midland TX, 79706-4476	Project: Zia Grizzell 4" Idled Line Project Number: EMS: 2005-00210 Project Manager: Daniel Bryant	Fax: (432) 687-4914  <b>Reported:</b> 12/01/05 16:06
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**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 EK52902 - General Preparation (Prep)**

<b>Blank (EK52902-BLK1)</b>	Prepared: 11/28/05 Analyzed: 11/29/05									
% Solids	100		%							

<b>Duplicate (EK52902-DUP1)</b>	Source: 5K28001-01 Prepared: 11/28/05 Analyzed: 11/29/05									
% Solids	97.2		%		96.7			0.516	20	





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

Client: Plains

Date/Time: 11/23/05 1600

Order #: 5K28002

Initials: OK

**Sample Receipt Checklist**

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

Other observations:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Variance Documentation:**

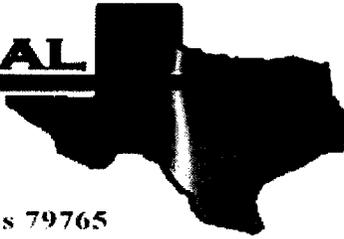
Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
 Regarding: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

Corrective Action Taken:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**E** NVIRONMENTAL  
LAB OF



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Camille Reynolds

Plains All American EH & S

1301 S. County Road 1150

Midland, TX 79706-4476

Project: Zia Grizzell 4" Idled Line

Project Number: EMS: 2005-00210

Location: Lea County, NM

Lab Order Number: 5I16013

Report Date: 09/22/05

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

Project: Zia Grizzell 4" Idled Line  
Project Number: EMS: 2005-00210  
Project Manager: Camille Reynolds

Fax: (432) 687-4914  
**Reported:**  
09/22/05 08:30

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
West S/W	5116013-01	Soil	09/13/05 14:30	09/16/05 13:50
South S/W	5116013-02	Soil	09/13/05 14:45	09/16/05 13:50
East S/W	5116013-03	Soil	09/13/05 14:55	09/16/05 13:50
North S/W	5116013-04	Soil	09/13/05 15:15	09/16/05 13:50
FLR South	5116013-05	Soil	09/13/05 15:30	09/16/05 13:50
FLR North	5116013-06	Soil	09/13/05 15:45	09/16/05 13:50
STCKPL	5116013-07	Soil	09/13/05 16:00	09/16/05 13:50

Plains All American EH & S  
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 Project Manager: Camille Reynolds

Fax: (432) 687-4914  
 Reported:  
 09/22/05 08:30

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>West S/W (5I16013-01) Soil</b>									
<b>Benzene</b>	<b>J [0.0219]</b>	0.0250	mg/kg dry	25	EI51903	09/19/05	09/19/05	EPA 8021B	J
<b>Toluene</b>	<b>0.213</b>	0.0250	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.140</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>0.386</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>0.105</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		81.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.8 %	80-120		"	"	"	"	
<b>Gasoline Range Organics C6-C12</b>	<b>18.7</b>	10.0	mg/kg dry	1	EI51901	09/19/05	09/20/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>122</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>141</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		103 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		102 %	70-130		"	"	"	"	
<b>South S/W (5I16013-02) Soil</b>									
<b>Benzene</b>	<b>ND</b>	0.0250	mg/kg dry	25	EI51903	09/19/05	09/19/05	EPA 8021B	
<b>Toluene</b>	<b>J [0.0222]</b>	0.0250	"	"	"	"	"	"	J
<b>Ethylbenzene</b>	<b>ND</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>0.0457</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>ND</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		82.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.7 %	80-120		"	"	"	"	
<b>Gasoline Range Organics C6-C12</b>	<b>ND</b>	10.0	mg/kg dry	1	EI51901	09/19/05	09/20/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>75.4</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>75.4</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		102 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		111 %	70-130		"	"	"	"	
<b>East S/W (5I16013-03) Soil</b>									
<b>Benzene</b>	<b>ND</b>	0.0250	mg/kg dry	25	EI51903	09/19/05	09/19/05	EPA 8021B	
<b>Toluene</b>	<b>J [0.0228]</b>	0.0250	"	"	"	"	"	"	J
<b>Ethylbenzene</b>	<b>0.0431</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>0.106</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>0.0295</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		93.0 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.2 %	80-120		"	"	"	"	
<b>Gasoline Range Organics C6-C12</b>	<b>11.8</b>	10.0	mg/kg dry	1	EI51901	09/19/05	09/20/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>144</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>156</b>	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

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

Project: Zia Grizzell 4" Idled Line  
 Project Number: EMS: 2005-00210  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
 09/22/05 08:30

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>East S/W (5116013-03) Soil</b>									
Surrogate: 1-Chlorooctane		96.2 %	70-130		E151901	09/19/05	09/20/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		106 %	70-130		"	"	"	"	
<b>North S/W (5116013-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	E151903	09/19/05	09/19/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	<b>0.0268</b>	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		82.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	<b>11.2</b>	10.0	mg/kg dry	1	E151901	09/19/05	09/20/05	EPA 8015M	
Diesel Range Organics >C12-C35	<b>230</b>	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	<b>241</b>	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		99.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		110 %	70-130		"	"	"	"	
<b>FLR South (5116013-05) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	E151903	09/19/05	09/19/05	EPA 8021B	
Toluene	<b>0.0540</b>	0.0250	"	"	"	"	"	"	
Ethylbenzene	<b>0.203</b>	0.0250	"	"	"	"	"	"	
Xylene (p/m)	<b>0.447</b>	0.0250	"	"	"	"	"	"	
Xylene (o)	<b>0.165</b>	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		86.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	<b>143</b>	50.0	mg/kg dry	5	E151901	09/19/05	09/20/05	EPA 8015M	
Diesel Range Organics >C12-C35	<b>1360</b>	50.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	<b>1500</b>	50.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		16.0 %	70-130		"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		20.4 %	70-130		"	"	"	"	S-06

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>FLR North (5116013-06) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	E151903	09/19/05	09/20/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	<b>0.0507</b>	0.0250	"	"	"	"	"	"	
Xylene (p/m)	<b>0.165</b>	0.0250	"	"	"	"	"	"	
Xylene (o)	<b>0.0435</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.3 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		80.3 %	80-120		"	"	"	"	
<b>Gasoline Range Organics C6-C12</b>	<b>604</b>	50.0	mg/kg dry	5	E151901	09/19/05	09/20/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>7700</b>	50.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>8300</b>	50.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		21.8 %	70-130		"	"	"	"	S-06
<i>Surrogate: 1-Chlorooctadecane</i>		27.6 %	70-130		"	"	"	"	S-06
<b>STCKPL (5116013-07) Soil</b>									
<b>Benzene</b>	<b>2.25</b>	0.200	mg/kg dry	200	E152006	09/20/05	09/20/05	EPA 8021B	
<b>Toluene</b>	<b>26.8</b>	0.200	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>39.1</b>	0.200	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>46.8</b>	0.200	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>18.3</b>	0.200	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		157 %	80-120		"	"	"	"	S-04
<i>Surrogate: 4-Bromofluorobenzene</i>		89.6 %	80-120		"	"	"	"	
<b>Gasoline Range Organics C6-C12</b>	<b>6580</b>	100	mg/kg dry	10	E151901	09/19/05	09/20/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>18800</b>	100	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>25400</b>	100	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		23.8 %	70-130		"	"	"	"	S-06
<i>Surrogate: 1-Chlorooctadecane</i>		13.4 %	70-130		"	"	"	"	S-06

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

Project: Zia Grizzell 4" Idled Line  
 Project Number: EMS: 2005-00210  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
 09/22/05 08:30

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>West S/W (5I16013-01) Soil</b>									
% Moisture	2.5	0.1	%	1	E152002	09/20/05	09/20/05	% calculation	
<b>South S/W (5I16013-02) Soil</b>									
% Moisture	1.7	0.1	%	1	E152002	09/20/05	09/20/05	% calculation	
<b>East S/W (5I16013-03) Soil</b>									
% Moisture	2.8	0.1	%	1	E152002	09/20/05	09/20/05	% calculation	
<b>North S/W (5I16013-04) Soil</b>									
% Moisture	6.2	0.1	%	1	E152002	09/20/05	09/20/05	% calculation	
<b>FLR South (5I16013-05) Soil</b>									
Chloride	38.2	5.00	mg/kg	10	E152102	09/19/05	09/21/05	EPA 300.0	
% Moisture	1.4	0.1	%	1	E152002	09/20/05	09/20/05	% calculation	
<b>FLR North (5I16013-06) Soil</b>									
% Moisture	3.3	0.1	%	1	E152002	09/20/05	09/20/05	% calculation	
<b>STCKPL (5I16013-07) Soil</b>									
% Moisture	5.3	0.1	%	1	E152002	09/20/05	09/20/05	% calculation	

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Fax: (432) 687-4914  
 Reported:  
 09/22/05 08:30

**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 EI51901 - Solvent Extraction (GC)**

**Blank (EI51901-BLK1)**

Prepared: 09/19/05 Analyzed: 09/20/05

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	41.1		mg/kg	50.0		82.2	70-130			
Surrogate: 1-Chlorooctadecane	37.9		"	50.0		75.8	70-130			

**LCS (EI51901-BS1)**

Prepared: 09/19/05 Analyzed: 09/20/05

Gasoline Range Organics C6-C12	452	10.0	mg/kg wet	500		90.4	75-125			
Diesel Range Organics >C12-C35	440	10.0	"	500		88.0	75-125			
Total Hydrocarbon C6-C35	892	10.0	"	1000		89.2	75-125			
Surrogate: 1-Chlorooctane	52.1		mg/kg	50.0		104	70-130			
Surrogate: 1-Chlorooctadecane	45.1		"	50.0		90.2	70-130			

**Calibration Check (EI51901-CCV1)**

Prepared: 09/19/05 Analyzed: 09/20/05

Gasoline Range Organics C6-C12	433		mg/kg	500		86.6	80-120			
Diesel Range Organics >C12-C35	422		"	500		84.4	80-120			
Total Hydrocarbon C6-C35	855		"	1000		85.5	80-120			
Surrogate: 1-Chlorooctane	54.6		"	50.0		109	0-200			
Surrogate: 1-Chlorooctadecane	47.8		"	50.0		95.6	0-200			

**Matrix Spike (EI51901-MS1)**

Source: 5116012-01

Prepared: 09/19/05 Analyzed: 09/20/05

Gasoline Range Organics C6-C12	448	10.0	mg/kg dry	513	42.6	79.0	75-125			
Diesel Range Organics >C12-C35	1200	10.0	"	513	607	116	75-125			
Total Hydrocarbon C6-C35	1650	10.0	"	1030	650	97.1	75-125			
Surrogate: 1-Chlorooctane	59.2		mg/kg	50.0		118	70-130			
Surrogate: 1-Chlorooctadecane	61.2		"	50.0		122	70-130			

**Matrix Spike Dup (EI51901-MSD1)**

Source: 5116012-01

Prepared: 09/19/05 Analyzed: 09/20/05

Gasoline Range Organics C6-C12	510	10.0	mg/kg dry	513	42.6	91.1	75-125	12.9	20	
Diesel Range Organics >C12-C35	1180	10.0	"	513	607	112	75-125	1.68	20	
Total Hydrocarbon C6-C35	1690	10.0	"	1030	650	101	75-125	2.40	20	
Surrogate: 1-Chlorooctane	59.4		mg/kg	50.0		119	70-130			
Surrogate: 1-Chlorooctadecane	61.2		"	50.0		122	70-130			

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Project: Zia Grizzell 4" Idled Line  
 Project Number: EMS: 2005-00210  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
 09/22/05 08:30

**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 EI51903 - EPA 5030C (GC)**

**Blank (EI51903-BLK1)**

Prepared & Analyzed: 09/19/05

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	80.8		ug/kg	100		80.8	80-120			
Surrogate: 4-Bromofluorobenzene	86.9		"	100		86.9	80-120			

**LCS (EI51903-BS1)**

Prepared & Analyzed: 09/19/05

Benzene	83.8		ug/kg	100		83.8	80-120			
Toluene	91.1		"	100		91.1	80-120			
Ethylbenzene	105		"	100		105	80-120			
Xylene (p/m)	199		"	200		99.5	80-120			
Xylene (o)	104		"	100		104	80-120			
Surrogate: a,a,a-Trifluorotoluene	92.1		"	100		92.1	80-120			
Surrogate: 4-Bromofluorobenzene	99.4		"	100		99.4	80-120			

**Calibration Check (EI51903-CCV1)**

Prepared: 09/19/05 Analyzed: 09/20/05

Benzene	100		ug/kg	100		100	80-120			
Toluene	101		"	100		101	80-120			
Ethylbenzene	103		"	100		103	80-120			
Xylene (p/m)	209		"	200		104	80-120			
Xylene (o)	107		"	100		107	80-120			
Surrogate: a,a,a-Trifluorotoluene	95.3		"	100		95.3	0-200			
Surrogate: 4-Bromofluorobenzene	116		"	100		116	0-200			

**Matrix Spike (EI51903-MS1)**

Source: 5115013-04

Prepared: 09/19/05 Analyzed: 09/20/05

Benzene	89.4		ug/kg	100	ND	89.4	80-120			
Toluene	92.2		"	100	ND	92.2	80-120			
Ethylbenzene	95.1		"	100	ND	95.1	80-120			
Xylene (p/m)	189		"	200	ND	94.5	80-120			
Xylene (o)	88.7		"	100	ND	88.7	80-120			
Surrogate: a,a,a-Trifluorotoluene	91.4		"	100		91.4	80-120			
Surrogate: 4-Bromofluorobenzene	119		"	100		119	80-120			

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Plains All American EH & S  
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Project: Zia Grizzell 4" Idled Line  
 Project Number: EMS: 2005-00210  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
 09/22/05 08:30

**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 EI51903 - EPA 5030C (GC)**

**Matrix Spike Dup (EI51903-MSD1)**

Source: 5115013-04

Prepared: 09/19/05 Analyzed: 09/20/05

Benzene	96.0		ug/kg	100	ND	96.0	80-120	7.12	20	
Toluene	98.0		"	100	ND	98.0	80-120	6.10	20	
Ethylbenzene	86.0		"	100	ND	86.0	80-120	10.0	20	
Xylene (p/m)	166		"	200	ND	83.0	80-120	13.0	20	
Xylene (o)	81.8		"	100	ND	81.8	80-120	8.09	20	
Surrogate: a,a,a-Trifluorotoluene	101		"	100		101	80-120			
Surrogate: 4-Bromofluorobenzene	89.2		"	100		89.2	80-120			

**Batch EI52006 - EPA 5030C (GC)**

**Blank (EI52006-BLK1)**

Prepared & Analyzed: 09/20/05

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	94.2		ug/kg	100		94.2	80-120			
Surrogate: 4-Bromofluorobenzene	95.6		"	100		95.6	80-120			

**LCS (EI52006-BS1)**

Prepared & Analyzed: 09/20/05

Benzene	102		ug/kg	100		102	80-120			
Toluene	103		"	100		103	80-120			
Ethylbenzene	94.7		"	100		94.7	80-120			
Xylene (p/m)	187		"	200		93.5	80-120			
Xylene (o)	83.7		"	100		83.7	80-120			
Surrogate: a,a,a-Trifluorotoluene	102		"	100		102	80-120			
Surrogate: 4-Bromofluorobenzene	106		"	100		106	80-120			

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Project: Zia Grizzell 4" Idled Line  
 Project Number: EMS: 2005-00210  
 Project Manager: Camille Reynolds

Fax: (432) 687-4914  
 Reported:  
 09/22/05 08:30

**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 EI52006 - EPA 5030C (GC)**

**Calibration Check (EI52006-CCV1)**

Prepared & Analyzed: 09/20/05

Benzene	100		ug/kg	100		100	80-120			
Toluene	101		"	100		101	80-120			
Ethylbenzene	103		"	100		103	80-120			
Xylene (p/m)	209		"	200		104	80-120			
Xylene (o)	107		"	100		107	80-120			
Surrogate: a,a,a-Trifluorotoluene	95.3		"	100		95.3	0-200			
Surrogate: 4-Bromofluorobenzene	116		"	100		116	0-200			

**Matrix Spike (EI52006-MS1)**

Source: 5119028-02

Prepared & Analyzed: 09/20/05

Benzene	2.36	0.0250	mg/kg dry	2.52	ND	93.7	80-120			
Toluene	2.43	0.0250	"	2.52	0.0243	95.5	80-120			
Ethylbenzene	2.27	0.0250	"	2.52	ND	90.1	80-120			
Xylene (p/m)	4.40	0.0250	"	5.04	0.0440	86.4	80-120			
Xylene (o)	2.08	0.0250	"	2.52	ND	82.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	94.5		ug/kg	100		94.5	80-120			
Surrogate: 4-Bromofluorobenzene	95.8		"	100		95.8	80-120			

**Matrix Spike Dup (EI52006-MSD1)**

Source: 5119028-02

Prepared & Analyzed: 09/20/05

Benzene	2.43	0.0250	mg/kg dry	2.52	ND	96.4	80-120	2.84	20	
Toluene	2.49	0.0250	"	2.52	0.0243	97.8	80-120	2.38	20	
Ethylbenzene	2.33	0.0250	"	2.52	ND	92.5	80-120	2.63	20	
Xylene (p/m)	4.51	0.0250	"	5.04	0.0440	88.6	80-120	2.51	20	
Xylene (o)	2.12	0.0250	"	2.52	ND	84.1	80-120	1.92	20	
Surrogate: a,a,a-Trifluorotoluene	95.5		ug/kg	100		95.5	80-120			
Surrogate: 4-Bromofluorobenzene	97.6		"	100		97.6	80-120			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EI52002 - General Preparation (Prep)</b>										
<b>Blank (EI52002-BLK1)</b> Prepared & Analyzed: 09/20/05										
% Solids	100		%							
<b>Duplicate (EI52002-DUP1)</b> Source: 5I16003-01 Prepared & Analyzed: 09/20/05										
% Solids	96.4		%		96.8			0.414	20	
<b>Duplicate (EI52002-DUP2)</b> Source: 5I16011-02 Prepared & Analyzed: 09/20/05										
% Solids	99.1		%		98.8			0.303	20	
<b>Duplicate (EI52002-DUP3)</b> Source: 5I16015-11 Prepared & Analyzed: 09/20/05										
% Solids	98.7		%		98.6			0.101	20	
<b>Batch EI52102 - Water Extraction</b>										
<b>Blank (EI52102-BLK1)</b> Prepared: 09/19/05 Analyzed: 09/21/05										
Chloride	ND	0.500	mg/kg							
<b>LCS (EI52102-BS1)</b> Prepared: 09/19/05 Analyzed: 09/21/05										
Chloride	8.74		mg/L	10.0		87.4	80-120			
<b>Calibration Check (EI52102-CCV1)</b> Prepared: 09/19/05 Analyzed: 09/21/05										
Chloride	8.44		mg/L	10.0		84.4	80-120			
<b>Duplicate (EI52102-DUP1)</b> Source: 5I16013-05 Prepared: 09/19/05 Analyzed: 09/21/05										
Chloride	38.9	5.00	mg/kg		38.2			1.82	20	

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1301 S. County Road 1150  
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Project: Zia Grizzell 4" Idled Line  
Project Number: EMS: 2005-00210  
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Reported:  
09/22/05 08:30

### Notes and Definitions

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.

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

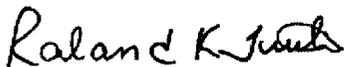
RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

9/22/2005

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

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

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

Client: Plains

Date/Time: 9/16/05 1:45

Order #: SI16013

Initials: ck

### Sample Receipt Checklist

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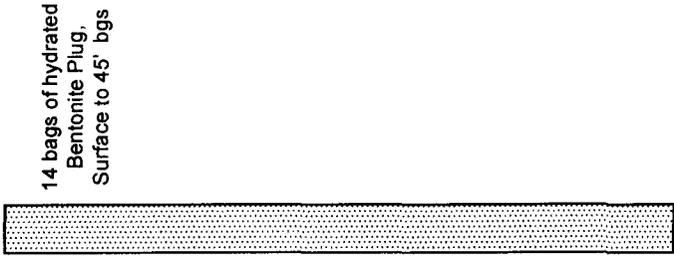


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**Plains Marketing, L. P.**  
**Zia Grizzell 4-Inch Idled Line**  
**Lea County, New Mexico**  
**SE/SE S8, T22S, R37E**  
**SRS: 2005-00210**

**Soil Boring Completion Data**  
 TD: 45 Feet bgs  
 Installed 23 November 2005  
 Basin Environmental  
 Service Technologies  
 Samples selected  
 for analysis

**Soil Boring Completion Data**



Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
5		1310 ppm	Heavy	Heavy	Backfill, Dry
10		1127 ppm	Heavy	Heavy	Caliche Layer, Dry
15		364 ppm	Heavy	Moderate	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, imbedded w/ caliche, Dry
20		163 ppm	Heavy	Heavy	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, Dry
25		137 ppm	Heavy	Heavy	
30		84.4 ppm	Heavy	Heavy	
35		18.7 ppm	Moderate	Moderate	
40		10.5 ppm	Moderate	Moderate	
45 TD		10.1 ppm	Moderate	Moderate	

<b>TITLE</b> Appendix C Zia Grizzell 4-Inch Idled Line	<b>DESCRIPTION</b> Soil Boring 1
<b>DRAWN BY</b> KAD	<b>DATE</b> 20 December 2006

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company	Plains Pipeline, LP	Contact	Daniel Bryant
Address	P.O. Box 3119 - Midland, Tx 79702	Telephone No.	(432) 557-5865
Facility Name	Zia Grizzell 4" Idled Line	Facility Type	Pipeline
Surface Owner	Apache Corporation	Mineral Owner	
		Lease No.	

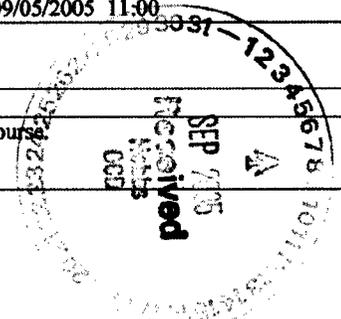
**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	8	22S	37E					Lea

Latitude N 32° 24' 10.7" Longitude W 103° 10' 38.7"

**NATURE OF RELEASE**

Type of Release	Sour Crude Oil	Volume of Release	40 bbls	Volume Recovered	30 bbls
Source of Release	4" steel idled line	Date and Hour of Occurrence	09/05/2005 10:30	Date and Hour of Discovery	09/05/2005 11:00
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Gary Wink		
By Whom?	Camille Reynolds	Date and Hour	09/05/2005 14:50		
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.\*  
Recent pipeline work caused a collar to break on the idled Zia Grizzell 4" steel pipeline. Line was cut and capped to mitigate the release. Due to the line being idled at time of release, the pressure of the line was 0 lbs and had no throughput on the pipeline. The gravity of the crude oil is 37.1 @ 65°. H<sub>2</sub>S content is <10 ppm. Line depth is approximately 2.5' at the release source.

Describe Area Affected and Cleanup Action Taken.\*  
Visible staining from the pipeline release measured 45' X 24' yielding 1,080 ft<sup>2</sup>. Impacted soil will be remediated per NMOCD guidelines.

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>Daniel Bryant</i>	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: Daniel Bryant	Approved by District Supervisor:		
Title: Environmental R/C Specialist	Approval Date:	Expiration Date:	
E-mail Address: dmbryant@paalp.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 9/9/05	Phone: (432) 557-5865		

\* Attach Additional Sheets If Necessary