2000 OK 1.30.00 Basin Environmental Service Technologies, LLC

P. O. Box 301 Lovington, New Mexico 88260 kdutton@basinenv.com Office: (505) 396-2378 Fax: (505) 396-1429

e PACO603 417986 - N PALOGO 3448023

on-ppAC0603448318

PRELIMINARY SITE INVESTIGATION REPORT and REMEDIATION/CLOSURE PLAN

PLAINS MARKETING, L.P. (231735) **Cotton Draw Gathering 6"** Lea County, New Mexico Plains EMS # 2005-00228 UNIT K (NE/SW), Section 16, Township 25 South, Range 32 East Latitude 32°, 07', 38.8" North, Longitude 103°, 40', 55.2" West

Prepared For:

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



with

رچ Effective Solutions

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

13 January 2006

Ken Dutton Basin Environmental Service Technologies, LLC - 231735 - 1: PACOG03447886

Table of Contents

Introduction	1
Summary of Field Activities	1
New Mexico Oil Conservation Division (NMOCD) Soil Classification	2
Distribution of Hydrocarbons in the Unsaturated Zone	2
Recommendations for Remediation/Closure	4
QA/QC Procedures Soil Sampling Decontamination of Equipment Laboratory Protocol	5 5 5 5
Limitations	6
Distribution	7
Tables	

Table 1:	Soil Chemistry Table
	oon onemoty rubic

Figures

- Figure 1: Site Location Map
- Figure 2:
- Excavation Site Map & Soil Boring Locations Excavation Confirmation Soil Sample Locations Figure 3:
- Digital Photos of Site Figure 4:

Appendices

Appendix A:	New Mexico Office of the State Engineer Water Well Database Report
Appendix B:	Environmental Laboratory of Texas Analytical Results
Appendix C:	Soil Boring Logs
Appendix D:	NMOCD C-141

INTRODUCTION

Basin Environmental Service Technologies, LLC, (Basin), responded to a crude oil pipeline release for Plains Marketing, L.P. (Plains), located on the Cotton Draw Gathering 6" Pipeline, on 04 October 2005. The Cotton Draw Gathering 6" Pipeline was clamped and excavation of the impacted soil was initiated and impacted soil was stockpiled on a 6-mil poly-liner adjacent to the excavation until further investigation could be conducted.

This site is located in Unit K (NE/SW), Section 16, Township 25 South, Range 32 East, in Lea County, New Mexico (topographic Site Location Map is attached as Figure 1). The site latitude is 32°, 07, 38.8 North, and site longitude is 103°, 40, 55.2 West. The site is characterized by a right-of-way for the pipeline in an undulating sand dune pasture utilized for cattle grazing. The visually stained area includes the release point and flow path, which covers an area approximately 85 feet long by 50 feet wide. It is estimated 8 barrels of crude oil were released from the Cotton Draw Gathering 6" Pipeline release and 0 barrels were recovered.

An emergency one-call was initiated 04 October 2005 and all responding companies either cleared or marked their respective lines. Subsequent renewals of the one-call have been accomplished as required.

Mr. Larry Johnson, New Mexico Oil Conservation Division (NMOCD), Hobbs, New Mexico District 1 was verbally notified of the release on 04 October 2005. A NMOCD C-141 was prepared and delivered to Mr. Larry Johnson, NMOCD, Hobbs, New Mexico District 1, on 10 October 2005 (see Appendix D, NMOCD C-141). A request for a Right-of-Entry permit (ROE #1178) was submitted and approved by the New Mexico State Land Office (NMSLO) to conduct remedial activities at the site on 03 November 2005.

SUMMARY OF FIELD ACTIVITIES

On 04 October 2005, Basin responded to a crude oil release on the Cotton Draw Gathering 6" Pipeline to repair and contain the crude oil pipeline release under the direction of Plains operations personnel. After the crude oil release had been contained utilizing a pipeline repair clamp, excavation of the impacted soil was initiated (see figure 2, Excavation Site Map & Soil Boring Locations). The visually stained area is approximately 85 feet long by 50 feet wide and is approximately 10 feet below ground surface (bgs) at the release point and flow path area. All excavated soil was placed on a 6-ml poly-liner for adjacent to the excavation for future remedial action.

On 14 November 2005, Basin initiated vertical and horizontal delineation of the crude oil impacted site, utilizing an air rotary drill rig operated by Straub Corporation, Stanton, Texas (see Excavation Site Map & Soil Boring Locations, Figure 2). Five

soil borings were installed (at the release point, up gradient, down gradient and cross gradient) to evaluate the full extent of crude oil impact. The five (5) soil borings ranged in depth from 20 feet bgs to 40 feet bgs. The selected soil boring 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 soil samples indicate vertical and horizontal delineation of the crude oil pipeline release was successfully accomplished and the hydrocarbon impacted area is limited to the release point. The 5 and 10 feet bgs soil samples collected from Soil Boring #1 reported results below NMOCD regulatory standards for constituent concentrations of BTEX and TPH-GRO/DRO and the remaining three (3) soil samples from Soil Boring #1 did not report concentrations above laboratory method detection limits. Soil Borings 2 through 5 selected soil boring soil samples were not detected above laboratory method detection limits for constituent concentrations of BTEX or TPH-GRO/DRO.

On 20 December 2005, Basin collected confirmation soil samples from the walls and floor of the excavation (see Figure 3, Confirmation Soil Sample Locations). The soil samples were field screened with a Photoionization Detector (PID), calibrated 20 December 2005. The five (5) soil samples were analyzed for concentrations of BTEX and TPH-GRO/DRO. Laboratory results indicate the walls and floor of the excavation are below NMOCD regulatory standards for constituent concentrations of BTEX and TPH-GRO/DRO.

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 32, in the same Township and Range contains groundwater information revealing an average depth to groundwater of 290 feet bgs. 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 0-9, which sets the remediation levels at:

Benzene: 10 ppm

BTEX: 50 ppm

TPH: 5000 ppm

Distribution of Hydrocarbons in the Unsaturated Zone

Basin excavated the release point and pooling area in October 2005 to approximately 85 feet long by 50 feet wide and a depth of approximately 10 feet bgs. Evidence of crude oil impact still exists on the floor at the release point. PID readings indicate elevated concentrations of VOC's remain in place. Approximately 1200 cubic yards of impacted soil and clean overburden were excavated and stockpiled on a 6-mil poly-liner adjacent to the excavation.

On 14 November 2005, Basin installed five (5) soil borings utilizing an air rotary drill rig operated by Straub Corporation, Stanton, Texas, to evaluate the extent of the vertical and horizontal crude oil impact at the release point, up gradient, down gradient and cross gradient of the excavation. The five (5) soil borings ranged in depth from 20 feet bgs to 40 feet bgs. Subsurface soil samples were collected at 5 feet 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 borings. 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 Excavation Site Map & Soil Boring Locations (Figure 3), was installed at the release point on the floor of the excavation at a depth of 10 feet bgs. Soil samples collected at 15, 20, 25, 30 and 40 feet bgs sample depths were submitted for analysis. Analytical results indicated that detectable BTEX constituent concentrations were below NMOCD regulatory standards for the 15 feet bgs sample. Analytical results indicated that BTEX constituent concentrations were not detected above laboratory method detection limits for the 20, 25, 30 and 40 feet bgs soil samples. Analytical results indicated that TPH-GRO/DRO constituent concentrations were below NMOCD regulatory standards for the 15 and 20 feet bgs samples. Analytical results indicated that TPH-GRO/DRO constituent concentrations were not detected above laboratory method detection limits for the 25, 30 and 40 feet bgs samples. Analytical results indicated that TPH-GRO/DRO constituent concentrations were not detected above laboratory method detection limits for the 25, 30 and 40 feet bgs samples. Analytical results indicated that TPH-GRO/DRO constituent concentrations were not detected above laboratory method detection limits for the 25, 30 and 40 feet bgs soil samples.

Soil Boring 2 was installed at the west cross gradient position. Soil samples collected at the 5, 10 and 20 feet bgs sample depths were submitted for analysis. Analytical results indicated that BTEX and TPH-GRO/DRO constituent concentrations were not detected above laboratory method detection limits on the three (3) soil samples.

Soil Boring 3 was installed at the north up gradient position. Soil samples collected at the 5, 10 and 20 feet bgs sample depths were submitted for analysis. Analytical results indicated that BTEX and TPH-GRO/DRO constituent concentrations were not detected above laboratory method detection limits on the three (3) soil samples.

Soil Boring 4 was installed at the east cross gradient position. Soil samples collected at the 5, 10 and 20 feet bgs sample depths were submitted for analysis. Analytical results indicated that BTEX and TPH-GRO/DRO constituent concentrations were not detected above laboratory method detection limits on the three (3) soil samples.

Soil Boring 5 was installed at the south down gradient position. Soil samples collected at the 5, 10 and 20 feet bgs sample depths were submitted for analysis. Analytical results indicated that BTEX and TPH-GRO/DRO constituent

concentrations were not detected above laboratory method detection limits on the three (3) soil samples.

On 20 December 2005, Basin collected confirmation soil samples from the walls and floor of the excavation (see Figure 3, Confirmation Soil Sample Locations). The soil samples were field screened with a PID, calibrated 20 December 2005. The five (5) soil samples were analyzed for constituent concentrations of BTEX and TPH-GRO/DRO. Laboratory results indicate the north sidewall and excavation floor release point soil samples, collected at a depth of approximately 5 and 10 feet bgs, respectively, are below NMOCD regulatory standards for constituent concentrations of BTEX and TPH-GRO/DRO or were not detected above laboratory method detection limits. Laboratory results indicate the east sidewall, west sidewall and south sidewall confirmation soil samples, collected at a depth of approximately 5 feet bgs were not detected above laboratory method detection limits for constituent concentrations of BTEX and TPH-GRO/DRO.

In summary, vertical and horizontal delineation of the Cotton Draw Gathering 6" pipeline release site has been successfully accomplished with the installation of the five (5) soil borings ranging in depth from 20 to 40 feet bas. As depicted on the Excavation Site Map & Soil Boring Locations (Figure 3), the up gradient, down gradient and cross gradient soil borings were installed as close to the excavation walls as possible and adhere to safe work practices. Analytical results of Soil Boring 1, installed on the excavation floor release point at approximately 10 feet bas. indicated BTEX and TPH-GRO/DRO constituent concentrations were below NMOCD regulatory standards or were not detected above laboratory method detection limits for the five (5) soil samples. Analytical results of Soil Borings 2, 3, 4 and 5, up gradient, down gradient and cross gradient, indicated BTEX and TPH-GRO/DRO constituent concentrations were not detected above laboratory method detection limits on the selected soil samples. Laboratory results indicate the confirmation soil samples on the walls and floor of the excavation are below NMOCD regulatory standards for constituent concentrations of BTEX and TPH-GRO/DRO

RECOMMENDATIONS FOR REMEDIATION/CLOSURE

Approximately 750 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. Approximately 450 cubic yards of clean overburden was segregated to allow for an area to stockpile the impacted soils and access to the up gradient, down gradient and cross gradient soil boring installation locations and safe excavation of the release point and flow path areas.

Based on the analytical results of the five (5) soil borings and confirmation soil samples from the walls and floor of the excavation, which indicates the crude oil impact is below NMOCD regulatory standards in the subsurface area, Plains proposes to blend the excavated soil with the clean overburden. Confirmation soil samples will be collected from the blended soil that will be divided into equal grids of

approximately 350 cubic yards to ensure TPH –GRO/DRO concentrations of less than 5,000 mg/kg.

Once confirmation soil sampling of the blended material has been confirmed through laboratory analysis to be below NMOCD regulatory standards for concentrations of BTEX and TPH-GRO/DRO, backfilling of the excavation will be initiated with the blended material. After the backfilling has occurred, the area will be contoured to the original rangeland surrounding the site and reseeded with approved NMSLO grass seed. A closure report will be submitted to NMOCD upon completion of all tasks with appropriate documentation. Additionally, a Site Restoration Plan will be submitted to NMSLO outlining the procedures for restoring vegetation to the site. Based on the results of the remediation activities conducted, Plains requests approval from the NMOCD and NMSLO to implement these proposed final remediation and site closure 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

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[®] 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

- Copy 1: Jeff Dann Plains All American 333 Clay Street Suite 1600 Houston, Texas 77002 jpdann@paalp.com
- Copy 2: Daniel Bryant Plains All American 3705 East Highway 158 Midland, Texas 79706 dmbryant@paalp.com
- Copy 3: Mr. Larry Johnson New Mexico Oil Conservation Division 1625 N. French Dr. Hobbs, New Mexico 88240 Larry.johnson@state.nm.us
- Copy 4: Mr. Cody Morrow New Mexico State Land Office P. O. Box 1148 Santa Fe, New Mexico 87404-1148 cody.morrow@slo.state.nm.us
- Copy 5: Basin Environmental Service Technologies LLC P. O. Box 301 Lovington, New Mexico 88260 <u>kdutton@basinenv.com</u>

Сору _____

TABLE 1

SOIL CHEMISTRY

PLAINS MARKETING, L.P. COTTON DRAW GATHERING 6" LEA COUNTY, NEW MEXICO EMS: 2005-00228

SAMPLE	SAMPLE	SAMPLE SAMPLE		METHOD: E	METHOD: EPA SW 846-8021B, 5030	8021B, 5030		METHOD: 8015M	8015M	TOTAL	TOTAL CHLORIDES
LOCATION	DEPTH	DATE	BENZENE	BENZENE TOLUENE	ЕТНҮL-	M,P-	O-XYLENE	GRO	DRO	НЧТ	
	(Below				BENZENE	BENZENE XYLENES					<u></u>
	normal										
	surface										
	grade)										
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
SB-1 5'	15' bgs	11/14/05	0.045	0.437	0.645	2.10	1.07	508	2410	2920	
SB-1 10'	20' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	78.0	919	997	
SB-1 15'	25' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-1 20'	30' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	80.3
SB-1 30'	40' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
				a same and a second							
SB-2 5'	5' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-2 10'	10' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-2 20'	20' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
			t								*
SB-3 5'	5' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-3 10'	10' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-3 20'	20' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
								2.25 B.22 - 25	الم من المراجع المراجع المراجع المراجع ا		
SB-4 5'	5' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-4 10'	10' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-4 20'	20' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
								and the Cal	2. **** *		
SB-5 5'	5' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
SB-5 10'	10' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	

TABLE 1 (cont)

SOIL CHEMISTRY

PLAINS MARKETING, L.P. COTTON DRAW GATHERING 6" LEA COUNTY, NEW MEXICO EMS: 2005-00228

LOCATION	DEPTH	DATE	BENZENE	BENZENE TOLUENE	ETHYL-	M,P-	O-XYLENE	GRO	DRO	ТРН	CHLORIDES
	(Below				BENZENE XYLENES	XYLENES					
	normal										
	surface										
	grade)		(ma/ka)	(ma/ka)	(ma/ka)	(ma/ka)	(ma/ka)	(ma/ka)	(ma/ka)	(ma/ka)	(mg/kg)
SB-5 20'	20' bgs	11/14/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
								2 - AA 			
East S/W 5'	5' bgs	12/20/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
West S/W 5'	5' bgs	12/20/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
North S/W 5'	5' bgs	12/20/05	<0.025	<0.025	<0.025	<0.025	<0.025	25.9	546	572	,
South S/W 5'	5' bgs	12/20/05	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0	
FLR RP 10'	10' bgs	12/20/05	0.099	1.370	1.02	3.64	1.89	783	3450	4230	
North Stkpl	N/A	12/20/05	<0.025	<0.025	<0.025	0.028	0.039	96.4	1150	1250	
South Stkpl	N/A	12/20/05	0.721	8.08	3.42	25.2	14.7	5050	17300	22400	
					4						
NMOCD CRITERIA			10		TOTAL	TOTAL BTEX 50				5000	
							ł				















New Mexico Office of the State Engineer POD Reports and Downloads
Township: 25S Range: 32E Sections: 16
NAD27 X: Y: Zone: Search Radius:
County: Basin: Number: Suffix:
Owner Name: (First) (Last) Owner Name: (First) (Last) Owner Name: (First)
POD / Surface Data Report Avg Depth to Water Report
Water Column Report
Clear Form

POD / SURFACE DATA REPORT 01/17/20

			(acre	ft	per	annu	m)
DB	File	Nbr	Use	Dive	ersi	on	Owner

POD Nu

No Records found, try again

New Mexico Office of the State Engineer Point of Diversion Summary

Back

		-	s are 1=NW s are bigge		
POD Number L 01656 APPRO	-	Sec q q 32 2 1		X	¥
Driller Licence: Driller Name: Drill Start Date: Log File Date: Pump Type: Casing Size: Depth Well:	ABBOTT, CLYDE 10/28/1952 11/13/1952 TURBIN 7	THERS C	Dri] PCW Pipe I	l Finish Received Discharge Stimated Y	
Water Bearing St Casing	290 Perforations:	Top Top	Bottom 310 Bottom 331	Desc i Other/U	ription nknown



Analytical Report

Prepared for:

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

Project: Cotton Draw Gathering 6 Inch Project Number: 2005-00228 Location: Lea County, NM

Lab Order Number: 5K19001

Report Date: 11/28/05

Plains All American EH & S 1301 S. County Road 1150 Midland TX, 79706-4476	Project: Cotton Drav Project Number: 2005-00228 Project Manager: Daniel Brya	i		Fax: (432) 687-4914 Reported: 11/28/05 10:09
	ANALYTICAL REPORT FOR SAN	1PLES		
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 5'	5K19001-01	Soil	11/14/05 10:35	11/19/05 15:15
SB-1 10'	5K19001-02	Soil	11/14/05 10:40	11/19/05 15:15
SB-1 15'	5K19001-03	Soil	11/14/05 10:44	11/19/05 15:15
SB-1 20'	5K19001-04	Soil	11/14/05 10:48	11/19/05 15:15
SB-1 30'	5K19001-05	Soil	11/14/05 11:14	11/19/05 15:15
SB-2 5'	5K19001-06	Soil	11/14/05 11:38	11/19/05 15:15
SB-2 10'	5K19001-07	Soil	11/14/05 11:43	11/19/05 15:15
SB-2 20'	5K19001-08	Soil	11/14/05 11:52	11/19/05 15:15
SB-3 5'	5K19001-09	Soil	11/14/05 12:54	11/19/05 15:15
SB-3 10	5K19001-10	Soil	11/14/05 12:57	11/19/05 15:15
SB-3 20'	5K19001-11	Soil	11/14/05 13:07	11/19/05 15:15
SB-4 5'	5K19001-12	Soil	11/14/05 13:32	11/19/05 15:15
SB-4 10'	5K19001-13	Soil	11/14/05 13:36	11/19/05 15:15
SB-4 20'	5K19001-14	Soil	11/14/05 13:47	11/19/05 15:15
SB-5 5'	5K19001-15	Soil	11/14/05 14:04	11/19/05 15:15
SB-5 10'	5K19001-16	Soil	11/14/05 14:07	11/19/05 15:15
SB-5 20'	5K19001-17	Soil	11/14/05 14:15	11/19/05 15:15

Plains All American EH & S	Project: C	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: 2	005-00228	Reported:
Midland TX, 79706-4476	Project Manager: D	Daniel Bryant	11/ 28/ 05 10:09

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
SB-1 5' (5K19001-01) Soil	·								
Benzene	0.0456	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	0.437	0.0250		"	"		*	"	
Ethylbenzene	0.645	0.0250	88	"	**	*		"	
Xylene (p/m)	2.10	0.0250			Ħ	**			
Xylene (o)	1.07	0.0250			n	н			
Surrogate: a,a,a-Trifluorotoluene		185 %	80-1	20	"	"	N	"	S-0
Surrogate: 4-Bromofluorobenzene		172 %	80-1	20	"	H	"	"	S-0
Gasoline Range Organics C6-C12	508	10.0		1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	2410	10.0			"	н	"		
Total Hydrocarbon C6-C35	2920	10.0	н		"	H	"	"	
Surrogate: 1-Chlorooctane		76.2 %	70-1	30	"	"	"	H	
Surrogate: 1-Chlorooctadecane		101 %	70-1	30	"	"	"	v	
SB-1 10' (5K19001-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	ND	0.0250	*		"	"	н		
Ethylbenzene	ND	0.0250	"			"			
Xylene (p/m)	ND	0.0250	*1	н		N		n	
Xylene (o)	ND	0.0250			P	"		"	
Surrogate: a,a,a-Trifluorotoluene		111 %	80-1	20	"	n	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	80-1	20	"	"	"	"	
Gasoline Range Organics C6-C12	78.0	10.0	"	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	919	10.0		н		"	н		
Total Hydrocarbon C6-C35	997	10.0	**		"			*	
Surrogate: 1-Chlorooctane		76.6 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		90.6 %	70-1	30	"	n	"	n	
SB-1 15' (5K19001-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	ND	0.0250	"	"		"	и	**	
Ethylbenzene	ND	0.0250	"		*	"	•	•	
Xylene (p/m)	ND	0.0250	"			*	н	•	
Xylene (o)	ND	0.0250	"	**	"	"	•	**	
Surrogate: a,a,a-Trifluorotoluene		104 %	80-1	20	n	"	"	#	
Surrogate: 4-Bromofluorobenzene		96.6 %	80-1	20	"	"	"	*	
Gasoline Range Organics C6-C12	ND	10.0	"	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	н	н	u	"	н	u	
Total Hydrocarbon C6-C35	ND	10.0	"	ч	u		"		

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 approach of Empiremental Laboratory.

with written approval of Environmental Lab of Texas.

Plains All American EH & S		:	Project: Cot	ton Draw (Gathering 61	Inch		Fax: (432)	587-4914
1301 S. County Road 1150 Midland TX, 79706-4476								Repor 11/28/05	
		O	rganics b	y GC					
		Environ	mental L	ab of To	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
SB-1 15' (SK19001-03) Soil									
Surrogate: 1-Chlorooctane		80.4 %	70-1	30	EK52101	11/21/05	11/22/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		70.0 %	70-1	30	"	n	"	n	
SB-1 20' (5K19001-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	ND	0.0250	n	"		"	"		
Ethylbenzene	ND	0.0250	"	**	**	"		"	
Xylene (p/m)	ND	0.0250	"	۳	*	"	*	"	
Xylene (o)	ND	0.0250		•	•		"		
Surrogate: a,a,a-Trifluorotoluene		107 %	80-1	20	н	"	"	ıı	
Surrogate: 4-Bromofluorobenzene		101 %	80-1	20	"	H	"	"	
Gasoline Range Organics C6-C12	ND	10.0	"	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	н	"	"	•	"	
Total Hydrocarbon C6-C35	ND	10.0	"	н	**	"	**	n	
Surrogate: 1-Chlorooctane		84.6 %	70-1	30	"	"	"	и	
Surrogate: 1-Chlorooctadecane		70.0 %	70-1	30	"	"	"	"	
SB-1 30' (5K19001-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	ND	0.0250	"	"		"	*	**	
Ethylbenzene	ND	0.0250	n	*		н	н	11	
Xylene (p/m)	ND	0.0250	*1	"	"	н		n	
Xylene (o)	ND	0.0250	11		n	"	19	n	
Surrogate: a,a,a-Trifluorotoluene		109 %	80-1	20	N	#	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %	80-1	20	"	"	"	н	
Gasoline Range Organics C6-C12	ND	10.0	н	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	N		"		"	*	
Total Hydrocarbon C6-C35	ND	10.0	u	"		**		н	
Surrogate: 1-Chlorooctane		80.6 %	70-1	130	H	"	"	"	

Surrogate: 1-Chlorooctadecane

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.

70-130

72.0 %

Plains All American EH & S	Project: Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: 2005-00228	Reported:
Midland TX, 79706-4476	Project Manager: Daniel Bryant	11/28/05 10:09

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
SB-2 5' (5K19001-06) Soil		<u>.</u>							
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	ND	0.0250	м	"	*		"		
Ethylbenzene	ND	0.0250	"	"	**	"	"	**	
Xylene (p/m)	ND	0.0250	"	"	**	"	"	"	
Xylene (o)	ND	0.0250	"	n	"	"	u	17	
Surrogate: a,a,a-Trifluorotoluene		105 %	80	120	"	н	"	"	
Surrogate: 4-Bromofluorobenzene		95.3 %	80	120	"	и	"	"	
Gasoline Range Organics C6-C12	ND	10.0	"	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"		"	"	**	
Total Hydrocarbon C6-C35	ND	10.0	u	n	n	"	4	**	
Surrogate: 1-Chlorooctane		85.4 %	70	130	"	"	n	"	
Surrogate: 1-Chlorooctadecane		70.4 %	70	130	"	"	"	n	
SB-2 10' (5K19001-07) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	ND	0.0250		**	"	*	"	8	
Ethylbenzene	ND	0.0250	н	"	*	"		*	
Xylene (p/m)	ND	0.0250	"	"		"			
Xylene (o)	ND	0.0250		*	*	"		**	
Surrogate: a,a,a-Trifluorotoluene		109 %	80	120	n	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	80	120	n	"	N	"	
Gasoline Range Organics C6-C12	ND	10.0	н	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	*		"	"	u	
Total Hydrocarbon C6-C35	ND	10.0	"	"	•	"	"		
Surrogate: 1-Chlorooctane	· · · · · · · · · · · · · · · · · · ·	79.6 %	70	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		70.0 %	70	130	"	"	"	. u	
SB-2 20' (5K19001-08) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	ND	0.0250				"	"		
Ethylbenzene	ND	0.0250		"	13		"	11	
Xylene (p/m)	ND	0.0250	*	"	11	"	"	19	
Xylene (o)	ND	0.0250	"	n		H	"	19	
Surrogate: a,a,a-Trifluorotoluene		104 %	80-	120	"	н	"	"	
Surrogate: 4-Bromofluorobenzene		95.9 %	80-	120	"	"	"	н	
Gasoline Range Organics C6-C12	ND	10.0		I	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	•	"	"	"	*	
Total Hydrocarbon C6-C35	ND	10.0	"		"	н		*	

Environmental Lab of Texas

Plains All American EH & S Project: Cotton Draw Gathering 6 Inch								Fax: (432) 687-4914		
1301 S. County Road 1150		Reported:								
Midland TX, 79706-4476			umber: 200 anager: Dar					11/28/05	10:09	
		 Oı	ganics b	y GC						
		Environ	mental L	ab of Te	exas					
Analyte	Result	Reporting Limit	Units							
-				Dilution	Batch	Prepared	Analyzed	Method	Note	
SB-2 20' (5K19001-08) Soil										
Surrogate: 1-Chlorooctane		77.4 %	70-1	30	EK52101	11/21/05	11/22/05	EPA 8015M		
Surrogate: 1-Chlorooctadecane		102 %	70-1	30	"	"	#	"		
SB-3 5' (5K19001-09) Soil										
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B		
Toluene	ND	0.0250					"	u		
Ethylbenzene	ND	0.0250	"	н		11	"	н		
Xylene (p/m)	ND	0.0250	"	"		"	"	н		
Xylene (o)	ND	0.0250	14	"	*	и	"	м		
Surrogate: a,a,a-Trifluorotoluene		103 %	80-1	20	"	"	n	"		
Surrogate: 4-Bromofluorobenzene		99.3 %	80-1	20	"	"	"	"		
Gasoline Range Organics C6-C12	ND	10.0	**	1	EK52101	11/21/05	11/22/05	EPA 8015M		
Diesel Range Organics >C12-C35	ND	10.0	**	"	н	"	"	"		
Total Hydrocarbon C6-C35	ND	10.0	n	"		+•	"			
Surrogate: 1-Chlorooctane		80.8 %	70-1	30	"	"	"	"		
Surrogate: 1-Chlorooctadecane		71.2 %	70-1	30	"	"	"	"		
SB-3 10' (5K19001-10) Soil										
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B		
Toluene	ND	0.0250	п	"	**	"	"	"		
Ethylbenzene	ND	0.0250	n	"	**	м	"			
Xylene (p/m)	ND	0.0250	"	"	*	"	"	"		
Xylene (o)	ND	0.0250	**	"		11	"	"		
Surrogate: a,a,a-Trifluorotoluene		103 %	80-1	20	"	n	"	"		
Surrogate: 4-Bromofluorobenzene		95.9 %	80-1	20	"	"	"	"		
Gasoline Range Organics C6-C12	ND	10.0	м	1	EK52101	11/21/05	11/22/05	EPA 8015M		
Diesel Range Organics >C12-C35	ND	10.0	n	"		"	"	"		
Total Hydrocarbon C6-C35	ND	10.0	"	H	н	n	**	H		
Surrogate: 1-Chlorooctane		78.0 %	70-1	30	H	"	"	"		
Surrogate: 1-Chlorooctadecane		106 %	70-1	30	"	"	"	"		

ſ	Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
	1301 S. County Road 1150	Project Number:	2005-00228	Reported:
	Midland TX, 79706-4476	Project Manager:	Daniel Bryant	11/28/05 10:09

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	No
SB-3 20' (5K19001-11) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	_
Toluene	ND	0.0250	"	"	"	"		"	
Ethylbenzene	ND	0.0250	"	"		*	"	"	
Xylene (p/m)	ND	0.0250	"		"	"	н	"	
Xylene (o)	ND	0.0250	*		"	#	н	"	
Surrogate: a,a,a-Trifluorotoluene		106 %	80-1	20	н	"	n	"	
Surrogate: 4-Bromofluorobenzene		104 %	80-1	20	n	н	"	"	
Gasoline Range Organics C6-C12	ND	10.0	"	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"		*	H	*	*1	
Total Hydrocarbon C6-C35	ND	10.0	"	**	"	"	"	*1	
Surrogate: 1-Chlorooctane		75.0 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		104 %	70-1	30	"	w	"	"	
5 B-4 5' (5K19001-12) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
foluene	ND	0.0250	"	"	11	"		н	
Ethylbenzene	ND	0.0250	"		н	"	**	н	
Xylene (p/m)	ND	0.0250	99	n	"	"	•	*	
Xylene (o)	ND	0.0250		"		"			
Surrogate: a,a,a-Trifluorotoluene		97.0 %	80-1	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.4 %	80-1	20	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	"	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"			u	и		
Total Hydrocarbon C6-C35	ND	10.0	n		"	"	n		
Surrogate: 1-Chlorooctane		76.4 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.2 %	70-1	30	n	"	"	"	
SB-4 10' (5K19001-13) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Foluene	ND	0.0250	"	"				**	
Ethylbenzene	ND	0.0250	•	•			н	"	
Kylene (p/m)	ND	0.0250	**					**	
Xylene (o)	ND	0.0250	n				н		
Surrogate: a,a,a-Trifluorotoluene		103 %	80-1	20	"	"	"	n	
Surrogate: 4-Bromofluorobenzene		95.6 %	80-1	20	H	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	•	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"			•	u	**	
Total Hydrocarbon C6-C35	ND	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,

Plains All American EH & S	Project: Cotton Draw Gathering 6 Inch							Fax: (432) 687-4914		
1301 S. County Road 1150	Project Number: 2005-00228								Reported:	
Midland TX, 79706-4476		Project M	anager: Dar	niel Bryant				11/28/05	10:09	
		O	rganics b	y GC						
		Environ	mental L	ab of To	exas					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
SB-4 10' (5K19001-13) Soil										
Surrogate: 1-Chlorooctane		77.6 %	70-1	130	EK52101	11/21/05	11/22/05	EPA 8015M		
Surrogate: 1-Chlorooctadecane		108 %	70-1	130	"	п	"	"		
SB-4 20' (5K19001-14) Soil										
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B		
Toluene	ND	0.0250		"	•	"				
Ethylbenzene	ND	0.0250	"	"	*	"	۳			
Xylene (p/m)	ND	0.0250	**		*	**	н	••		
Xylene (o)	ND	0.0250	"	м	"	*	"			
Surrogate: a,a,a-Trifluorotoluene		100 %	80-1	120	"	"	"	"		
Surrogate: 4-Bromofluorobenzene		94.0 %	80-1	120	"	"	"	"		
Gasoline Range Organics C6-C12	ND	10.0	n	1	EK52101	11/21/05	11/22/05	EPA 8015M		
Diesel Range Organics >C12-C35	ND	10.0	п	۳			*	н		
Total Hydrocarbon C6-C35	ND	10.0	n	"		м	"	"		
Surrogate: 1-Chlorooctane		78.4 %	70-1	130	"	"	"	"		
Surrogate: 1-Chlorooctadecane		109 %	70-1	130	"	"	"	"		
SB-5 5' (5K19001-15) Soil										
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B		
Toluene	ND	0.0250		"	"	"	**			
Ethylbenzene	ND	0.0250		"	"	u	++	••		
Xylene (p/m)	ND	0.0250	"	"	"	"	*			
Xylene (o)	ND	0.0250	**	"	"	11	"	11		
Surrogate: a,a,a-Trifluorotoluene		103 %	80-1	120	"	"	"	"		
Surrogate: 4-Bromofluorobenzene		98.6 %	80-1	120	"	"	"	"		
Gasoline Range Organics C6-C12	ND	10.0	n	1	EK52101	11/21/05	11/22/05	EPA 8015M		
Diesel Range Organics >C12-C35	ND	10.0	"		"	n	"	"		
Total Hydrocarbon C6-C35	ND	10.0	"	n 	"	"	*	"		
Surrogate: 1-Chlorooctane		93.0 %	70-1	130	"	H	"	H		
Surrogate: 1-Chlorooctadecane		75.8 %	70-1	30	н	"	"	"		

Plain	s All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301	S. County Road 1150	Project Number:	2005-00228	Reported:
Midla	and TX, 79706-4476	Project Manager:	Daniel Bryant	11/28/05 10:09

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilati	D (1	Durant		16.4.1	XT :
SB-5 10' (5K19001-16) Soil			Ullits	Dilution	Batch	Prepared	Analyzed	Method	Note
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	ND	0.0250	11	**	**	"	-	**	
Ethylbenzene	ND	0.0250	"	"	*		"	••	
Xylene (p/m)	ND	0.0250	"			"	•	**	
Xylene (o)	ND	0.0250			"	"	"	•	
Surrogate: a,a,a-Trifluorotoluene		106 %	80-1	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	80-1	20	"	и	"	"	
Gasoline Range Organics C6-C12	ND	10.0	"	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	n	**	H	If	n	*1	
Total Hydrocarbon C6-C35	ND	10.0	n	"	•	II	"	**	
Surrogate: 1-Chlorooctane	in the second	85.4 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		70.8 %	70-1	30	"	"	"	"	
SB-5 20' (5K19001-17) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK52102	11/21/05	11/22/05	EPA 8021B	
Toluene	ND	0.0250	н	"	n		n	••	
Ethylbenzene	ND	0.0250	"	"	•	"		*	
Xylene (p/m)	ND	0.0250	n	*				11	
Xylene (o)	ND	0.0250	"	"		"	*	"	
Surrogate: a,a,a-Trifluorotoluene		101 %	80-1	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %	80-1	20	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	**	1	EK52101	11/21/05	11/22/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	11			19			
Total Hydrocarbon C6-C35	ND	10.0	н				н	H	
Surrogate: 1-Chlorooctane	······································	81.4 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		70.8 %	70-1	30	"	"	n	#	

Environmental Lab of Texas

Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914	
1301 S. County Road 1150	Project Number:	2005-00228	Reported:	
Midland TX, 79706-4476	Project Manager:	Daniel Bryant	11/28/05 10:09	l

General Chemistry Parameters by EPA / Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
SB-1 5' (5K19001-01) Soil									
% Moisture	7.2	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-1 10' (5K19001-02) Soil									
% Moisture	4.0	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-1 15' (5K19001-03) Soil									
% Moisture	2.6	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-1 20' (5K19001-04) Soil									
Chloride	80.3	5.00	mg/kg	10	EK52314	11/22/05	11/23/05	EPA 300.0	
% Moisture	1.8	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-1 30' (5K19001-05) Soil									
% Moisture	1.3	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-2 5' (5K19001-06) Soil									
% Moisture	6.7	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-2 10' (5K19001-07) Soil									
% Moisture	5.1	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-2 20' (5K19001-08) Soil									
% Moisture	4.0	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	- <u></u>
SB-3 5' (5K19001-09) Soil									
% Moisture	5.6	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-3 10' (5K19001-10) Soil									
% Moisture	4.1	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	

Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number:	2005-00228	Reported:
Midland TX, 79706-4476	Project Manager:	Daniel Bryant	11/28/05 10:09

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

								·	
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
SB-3 20' (5K19001-11) Soil									
% Moisture	2.1	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-4 5' (5K19001-12) Soil		<u> </u>							
% Moisture	8.3	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-4 10' (5K19001-13) Soil									
% Moisture	11.2	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-4_20' (5K19001-14) Soil									
% Moisture	4.2	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-5_5' (5K19001-15) Soil									
% Moisture	5.0	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-5_10' (5K19001-16) Soil									
% Moisture	3.4	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	
SB-5 20' (5K19001-17) Soil									
% Moisture	2.7	0.1	%	1	EK52205	11/21/05	11/22/05	% calculation	

Environmental Lab of Texas

Pl	ains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
13	301 S. County Road 1150	Project Number:	2005-00228	Reported:
М	lidland TX, 79706-4476	Project Manager:	Daniel Bryant	11/28/05 10:09

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 EK52101 - Solvent Extraction (GC)										
Blank (EK52101-BLK1)			_	Prepared: 1	1/21/05 A	nalyzed: 11	/22/05			
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	38.7		mg/kg	50.0		77.4	70-130			
Surrogate: 1-Chlorooctadecane	35.4		"	50.0		70.8	70-130			
Calibration Check (EK52101-CCV1)				Prepared:	1/21/05 A	nalyzed: 11	/22/05			
Gasoline Range Organics C6-C12	423		mg/kg	500		84.6	80-120			
Diesel Range Organics >C12-C35	587		"	500		117	80-120			
Total Hydrocarbon C6-C35	1010			1000		101	80-120			
Surrogate: 1-Chlorooctane	56.8		n	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	52.6		"	50.0		105	70-130			
Matrix Spike (EK52101-MS1)	Sou	rce: 5K19001	-01	Prepared:	1/21/05 A	nalyzed: 11	/22/05			
Gasoline Range Organics C6-C12	1010	10.0	mg/kg dry	539	508	93.1	75-125			
Diesel Range Organics >C12-C35	3000	10.0		539	2410	109	75-125			
Total Hydrocarbon C6-C35	4010	10.0	"	1080	2920	101	75-125			
Surrogate: 1-Chlorooctane	47.4		mg/kg	50.0		94.8	70-130			
Surrogate: 1-Chlorooctadecane	61.7		"	50.0		123	70-130			
Matrix Spike Dup (EK52101-MSD1)	Sou	rce: 5K19001	-01	Prepared: 1	11/21/05 A	nalyzed: 11	/22/05			
Gasoline Range Organics C6-C12	994	10.0	mg/kg dry	539	508	90.2	75-125	1.60	20	
Diesel Range Organics >C12-C35	2970	10.0		539	2410	104	75-125	1.01	20	
Total Hydrocarbon C6-C35	3960	10.0	"	1080	2920	96.3	75-125	1.25	20	
Surrogate: 1-Chlorooctane	46.5		mg/kg	50.0		93.0	70-130			
Surrogate: 1-Chlorooctadecane	60.9		"	50.0		122	70-130			

Environmental Lab of Texas

Plains All American EH & S 1301 S. County Road 1150			roject: Cot umber: 200	ton Draw Ga 5-00228	thering 6 Ii	nch			Fax: (432) Repo	
Midland TX, 79706-4476			mager: Dar						11/28/0	
	0	rganics by	/ GC - Q	uality Co	ontrol					
······································		Environ	nental L	ab of Te	(AS					
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK52102 - EPA 5030C (GC)										
Blank (EK52102-BLK1)				Prepared: 1	1/21/05 A	nalyzed: 11	/22/05			
Benzene	ND	0.0250	mg/kg wet							
oluene	ND	0.0250	"							
thylbenzene	ND	0.0250	**							
Zylene (p/m)	ND	0.0250	*1							
(ylene (o)	ND	0.0250	n							
urrogate: a,a,a-Trifluorotoluene	0.0381		"	0.0400		95.2	80-120			
urrogate: 4-Bromofluorobenzene	0.0320		"	0.0400		80.0	80-120			
.CS (EK52102-BS1)										
enzene	0.0530	0.00100	mg/kg wet	0.0500		106	80-120			
oluene	0.0581	0.00100	u	0.0500		116	80-120			
thylbenzene	0.0562	0.00100	н	0.0500		112	80-120			
(ylene (p/m)	0.103	0.00100	"	0.100		103	80-120			
(ylene (o)	0.0553	0.00100		0.0500		111	80-120			
urrogate: a,a,a-Trifluorotoluene	0.0438		"	0.0400		110	80-120			
urrogate: 4-Bromofluorobenzene	0.0328		"	0.0400		82.0	80-120			
Calibration Check (EK52102-CCV1)				Prepared: 1	1/21/05 A	nalyzed: 11	/22/05			
Jenzene	51.6		ug/kg	50.0		103	80-120			
Toluene	55.5		"	50.0		111	80-120			
Cthylbenzene	52.2		11	50.0		104	80-120			
(ylene (p/m)	95.4		17	100		95.4	80-120			
(ylene (o)	51.4		"	50.0		103	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0447		mg/kg wet	0.0400		112	80-120			
urrogate: 4-Bromofluorobenzene	0.0345		"	0.0400		86.2	80-120			
Matrix Spike (EK52102-MS1)		rce: 5K1900		Prepared: 1	1/21/05 A	nalyzed: 11	/22/05			
Benzene	1.39	0.0250	mg/kg dry	1.29	ND	108	80-120			
Toluene	1.55	0.0250	*	1.29	ND	120	80-120			
Ethylbenzene	1.54	0.0250	"	1.29	ND	119	80-120			
Kylene (p/m)	2.91	0.0250	"	2.59	ND	112	80-120			
(ylene (o)	1.53	0.0250	"	1.29	ND	119	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0448		II.	0.0414		108	80-120			
Surrogate: 4-Bromofluorobenzene	0.0446		"	0.0414		108	80-120			

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	Project: Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: 2005-00228	Reported:
Midland TX, 79706-4476	Project Manager: Daniel Bryant	11/28/05 10:09

Organics by GC - Quality Control

Environmental Lab of Texas

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

Batch EK52102 - EPA 5030C (GC)

Matrix Spike Dup (EK52102-MSD1)	Sour	ce: 5K19001	1-16	Prepared: 1	1/21/05	Analyzed: 1	1/22/05		
Benzene	1.38	0.0250	mg/kg dry	1.29	ND	107	80-120	0.930	20
Toluene	1.54	0.0250	n	1.29	ND	119	80-120	0.837	20
Ethylbenzene	1.55	0.0250		1.29	ND	120	80-120	0.837	20
Xylene (p/m)	2.82	0.0250	"	2.59	ND	109	80-120	2.71	20
Xylene (o)	1.53	0.0250	"	1.29	ND	119	80-120	0.00	20
Surrogate: a,a,a-Trifluorotoluene	0.0468		"	0.0414		113	80-120		
Surrogate: 4-Bromofluorobenzene	0.0475		n	0.0414		115	80-120		

Plains All American EH & S			3	otton Draw Ga	athering 6	Inch			Fax: (432)	687-4914		
1301 S. County Road 1150		Project Nu							Reported:			
Midland TX, 79706-4476		Project Mar	nager: Da	aniel Bryant					11/28/0	5 10:09		
General	Chemistry Para	ameters by	EPA /	Standard	Metho	ds - Qua	lity Con	trol				
Environmental Lab of Texas												
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes		
Batch EK52205 - General Preparatio	on (Prep)			-								
Blank (EK52205-BLK1)				Prepared: 1	1/21/05	Analyzed: 1	1/22/05					
% Solids	100		%									
Duplicate (EK52205-DUP1)	Sou	rce: 5K19001-	-01	Prepared: 1	1/21/05	Analyzed: 1	1/22/05					
% Solids	92.6		%	•	92.8			0.216	20			
Batch EK52314 - Water Extraction												
			•									
Blank (EK52314-BLK1) Chloride	ND	0.500	mg/kg	Prepared:	11/22/05 7	Analyzed: 1	1/23/05					
	ND	0.500	mg/kg									
Blank (EK52314-BLK2)				Prepared: 1	1/22/05	Analyzed: 1	1/23/05					
Chloride	ND	0.500	mg/kg									
LCS (EK52314-BS1)				Prepared: 1	1/22/05	Analyzed: 1	1/23/05					
Chloride	8.78		mg/L	10.0		87.8	80-120					
LCS (EK52314-BS2)				Prepared: 1	11/22/05	Analyzed: 1	1/23/05					
Chloride	8.58		mg/L	10.0		85.8	80-120					
Calibration Check (EK52314-CCV1)				Dranarad.	11/22/05	Analyzed: 1	1/22/05					
Chloride	8.47		mg/L	10.0	11/22/05 7	84.7	80-120					
			0									
Calibration Check (EK52314-CCV2) Chloride	8.59				11/22/05	Analyzed: 1						
AUGUOS	5.39		mg/L	10.0		85.9	80-120					
Duplicate (EK52314-DUP1)	Sou	rce: 5K17001-	-21	Prepared: 1	1/22/05	Analyzed: 1	1/23/05					
Chloride	30.0	10.0	mg/kg		32.3			7.38	20			

Page 14 of 16

Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number:	2005-00228	Reported:
Midland TX, 79706-4476	Project Manager:	Daniel Bryant	11/28/05 10:09

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
Batch EK52314 - Water Extraction										
Duplicate (EK52314-DUP2)	Source: 5K21009-13 H			Prepared: 11/22/05 Analyzed: 11/23/05						
Chloride	74.1	10.0	mg/kg		74.3			0.270	20	

Environmental Lab of Texas
Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number:	2005-00228	Reported:
Midland TX, 79706-4476	Project Manager:	Daniel Bryant	11/28/05 10:09

Notes and Definitions

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

Raland K. Just 11/28/2005 Report Approved By: Date:

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.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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

Environmental Lab of Texas

	ANAL YSIS REQUEST	INC 6"	2005-00228	POUNTY NM	D. BRYANT			Analyze For.	(† 			0605/81208	BTEX RCI N.O.R Total C C.H.L C.H.L	X			x						_	intacr (Y) N Receipt 2.52 Ments:		
	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST	COTTDN DEALD Project Name: <u>GRTHERTNU & ''</u>	Project # EMS	Project Loc: 269	N			Analy TCIPII	TOTAL		а, нооз) , Ю	418.1 ¹ (6016M) ar (Ce, Mg, Na 5 (Cl, SO4, CC E3P / CEC 0181168 65 0181168	Cetion Aniona Meters Votetus	X										Sample Contrainels Intac? Temperature Upon Receipt Laboratory Comments:	Time Hoze Glass	Time (S/S
•	CHAIN OF	ord		Q.		29				Matrix		r (Specify)	ilos Spnis Maran	X											Date	Date 11-19-05 15
						Far No (5 \$5) 369-1429				Preservative		•	H ² 20 M ² 04 HCI HCI IC9													
•						Fax No 2					478	belgms2 e		V 12035 1	1040	1044	1048	4114	1138	1143	1152	1254	1257 4		2	relot.
as I, Ltd	800 713		s ve.	51	4 8826 Ø		2		·		2000	bekmed e	Date	14NOV									>		Time Received by:	Time Received by ELOT
ab of lex	Phone: 915-563-1800 Fax: 915-563-1713	KEN DUTTON	BASTN ENV. SYC	BUX 3#1	CitylstatesZip: LOVING TON, NH	441-2124	n dilla)					FIELD CODE	,	۶,		, A	\$	、	×,	Ø,	`	۶ /			Cate
nentai Li	4 12		company Name_BRS	Address: P. D.	tatesZip: <u>KOVT</u>	Telephone No: (505) 44 1= 2124	anture:					2000-00-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0		58-1 5	88-1 10	58-1 15'	<u> 38 - 1</u>	58-1 30'	58-2. 5	SB.2. 10	SB-2.	88-3 S'	SB-3 10'		itto :	
Environmental Lab of Texas	12600 West I-20 East Odessa, Texas 79763	Project M	Compan	Company Address:	CINA	Teleph	Sampler Signature:					2016/75	LAB # (Jab use only)	-or	100 - CO	Sec. 20	ho-	Ś	- 0:	10-	-08	52	1.1.1	Special Instructions:	Reinquistred by.	Relifiquished by:

.

× 107

TAT brebnet2 etubario2-erg) TAT HBUR Project #: 1.115', 2005 - 00238 D. BEYANT CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST Project LOS: LI A POUNTY NH Project Name: Certon DRAW " Sample Containers Intact? (γ Temperature Upon Receipt $2,5^{\circ}$ arrensed iedo M.A.O.I 102 Anatyze For aboratory Comments. BTEX 80216/5030 X selfelovimes How glass POR PAH 8 6 (LEI O Metals: As Ag Ba Cd Cr Pb Hg Se 10 TOTAL: SAR / EEP / CEC Intons (CI, SO4, CO3, HCO3) (X 'W '8N '8O) sugge 15.15 Time 11me 101 WEI 0801817 1002 1008 (Apeds) Jerito Matrix 103 50-61-11 adpnig Date 0 0 0 0 1016/14 FEX No (505) 369-1429 (Apedg.) Jeupo euon Preservative *09⁴H HOWN (OH Star menuwy [®]ONH 80 No. of Containers 1307 1407 1404 1336 1347 **ZLHI** 133 beigme8 emiT Received by ELOT: 14 NOV CityIstates IN. LOVINGTON, NM 8836D Received by ZDES beigme2 efeQ Company Name BASTN ENV SVC i i i company Address: P.O. BOX 301 Ë Phone: 915-563-1800 Fax: 915-663-1713 WILLAR Telephone No: (505) 444-2124 NUNC Defe FIELD CODE 30 Project Manager: KEN 7 200 <u>بر</u> 20 ហ S 58-4 58.5 58-3 58-4 2 8-H 58-5 - 12 12 -S Sampler Signature: 12600 Vilest I-20 East Odessa, Texas 79763 -13 1 -11 2-12 Special Instructions: 2 AB # (lab use only П, (Skladol Relinquished bys A peusinguite

đ

010

Environmental Lab of Texas I, Ltd.

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

Client: Plains P/L

Date/Time: 11-19-05@1515

Order #: _ 5K19001

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Yes)	No	2.5 (
Shipping container/cooler in good condition?	(CED)	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	(Ces)	No	Not present
Chain of custody present?	NED	No	
Sample Instructions complete on Chain of Custody?	(es)	No	
Chain of Custody signed when relinquished and received?	(Ver)	No	
Chain of custody agrees with sample label(s)	Kes	No	
Container labels legible and intact?	Tes	No	
Sample Matrix and properties same as on chain of custody?	(Yes)	No	
Samples in procer container/bottle?	Kes	No	
Samples properly preserved?	(Ree)	No	
Sample bottles intact?	(TES)	No	
Preservations documented on Chain of Custody?	Ces 1	No	
Containers documented on Chain of Custody?	(es)	No	
Sufficient sample amount for indicated test?	(শিক্ত	No	
All samples received within sufficient hold time?	Kes	No	
VOC samples have zero headspace?	Yes	No	Nct Apolicable

Other observations:

Contact Person: Regarding:	Variance Document Date/Time:	
Corrective Action Taken:		



Analytical Report

Prepared for:

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

Project: Cotton Draw Gathering 6 Inch Project Number: 2005-00228 Location: Lea Co.

Lab Order Number: 5L20008

Report Date: 12/27/05

Plains All American EH & S	Project: Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: 2005-00228	Reported:
Midland TX, 79706-4476	Project Manager: Daniel Bryant	12/27/05 13:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
East S/W 5'	5L20008-01	Soil	12/19/05 10:10	12/20/05 12:15
West S/W 5'	5L20008-02	Soil	12/19/05 10:15	12/20/05 12:15
North S/W 5'	5L20008-03	Soil	12/19/05 10:20	12/20/05 12:15
South S/W 5'	5L20008-04	Soil	12/19/05 10:23	12/20/05 12:15
FLR RP 10'	5L20008-05	Soil	12/19/05 10:27	12/20/05 12:15
North StkP1	5L20008-06	Soil	12/19/05 10:53	12/20/05 12:15
South StkP1	5L20008-07	Soil	12/19/05 10:59	12/20/05 12:15

Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number:	2005-00228	Reported:
Midland TX, 79706-4476	Project Manager:	Daniel Bryant	12/27/05 13:42

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
East S/W 5' (5L20008-01) Soil								·····	
Benzene	ND	0.0250	mg/kg dry	25	EL52209	12/22/05	12/22/05	EPA 8021B	
Toluene	ND	0.0250	"	"	н		"	R	
Ethylbenzene	ND	0.0250	"	"	n	"	"	н	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"		"	**	"	"	
Surrogate: a,a,a-Trifluorotoluene	···· · · · · ·	80.5 %	80-1	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.2 %	80-1	20	"	"	"	11	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL52004	12/20/05	12/21/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	11	"	"	11	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	*	**	"	
Surrogate: 1-Chlorooctane		96.4 %	70-1	30	H	"	"	#	
Surrogate: 1-Chlorooctadecane		81.2 %	70-1	30	"	"	и	"	
West S/W 5' (5L20008-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EL.52209	12/22/05	12/22/05	EPA 8021B	
Toluene	ND	0.0250	"	"		*	*1	"	
Ethylbenzene	ND	0.0250			н	n	"	n	
Xylene (p/m)	ND	0.0250	u		"	14	n	u	
Xylene (o)	ND	0.0250	"	"		17	"		
Surrogate: a,a,a-Trifluorotoluene		84.0 %	80-1	20	"	"	"	H	n
Surrogate: 4-Bromofluorobenzene		89.5 %	80-1	20	"	"	n	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL52004	12/20/05	12/21/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0			"	11	n	"	
Total Hydrocarbon C6-C35	ND	10.0	n	"	"	14	"		
Surrogate: 1-Chlorooctane		94.8 %	70-1	30	"	#	H	"	
Surrogate: 1-Chlorooctadecane		79.8 %	70-1	30	"	н	"	"	
North S/W 5' (5L20008-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EL52209	12/22/05	12/22/05	EPA 8021B	
Toluene	ND	0.0250		"	"	**	U	"	
Ethylbenzene	ND	0.0250	**	•	*	**	"	"	
Xylene (p/m)	ND	0.0250	*			•	11		
Xylene (o)	ND	0.0250	•			*	"		
Surrogate: a,a,a-Trifluorotoluene		80.0 %	80-1	20	"	"	n	"	
Surrogate: 4-Bromofluorobenzene		99 .8 %	80-1	20	"	н	"	"	
Gasoline Range Organics C6-C12	25.9	10.0	mg/kg dry	1	EL52004	12/20/05	12/21/05	EPA 8015M	
Diesel Range Organics >C12-C35	546	10.0	**					н	
Total Hydrocarbon C6-C35	572	10.0		н	н			"	

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]	Project: Cot	ton Draw (Gathering 61	Inch		Fax: (432) 687-4914		
1301 S. County Road 1150		-	umber: 200					Report		
Midland TX, 79706-4476		Project M	anager: Dar	niel Bryant				12/27/05	13:42	
		O	rganics b	y GC						
		Environ	mental L	ab of To	exas					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
North S/W 5' (5L20008-03) Soil									··	
Surrogate: 1-Chlorooctane		97.6 %	70-1	30	EL52004	12/20/05	12/21/05	EPA 8015M		
Surrogate: 1-Chlorooctadecane		111 %	70-1	30	"	"	"	"		
South S/W 5' (5L20008-04) Soil										
Benzene	ND	0.0250	mg/kg dry	25	EL52209	12/22/05	12/22/05	EPA 8021B		
Toluene	ND	0.0250	"		"	"	"	"		
Ethylbenzene	ND	0.0250	н	"		"	**	"		
Xylene (p/m)	ND	0.0250	"	"	*	"		*1		
Xylene (0)	ND	0.0250	"	н	"	"	"	"		
Surrogate: a,a,a-Trifluorotoluene		84.0 %	80-1	20	"	"	н	"		
Surrogate: 4-Bromofluorobenzene		98.2 %	80-1	20	"	"	"	"		
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EL52004	12/20/05	12/21/05	EPA 8015M		
Diesel Range Organics >C12-C35	ND	10.0	"	н		n		"		
Total Hydrocarbon C6-C35	ND	10.0	*	"	•	"	n	"		
Surrogate: 1-Chlorooctane		93.2 %	70-1	130	"	"	"	"		
Surrogate: 1-Chlorooctadecane		77.0 %	70-1	130	"	H	n	n		
FLR RP 10' (5L20008-05) Soil										
Benzene	0.0998	0.0250	mg/kg dry	25	EL52209	12/22/05	12/22/05	EPA 8021B		
Toluene	1.37	0.0250	"	н	*	н	H	"		
Ethylbenzene	1.02	0.0250	н	н	•	n		**		
Xylene (p/m)	3.64	0.0250	"	**		*	u	IT		
Xylene (0)	1.89	0.0250			**	"	"			
Surrogate: a,a,a-Trifluorotoluene		204 %	80-1	20	"	"	"	"	S-0-	
Surrogate: 4-Bromofluorobenzene		138 %	80-1	20	"	н	н	"	S-0-	
Gasoline Range Organics C6-C12	783	10.0	mg/kg dry	1	EL52115	12/21/05	12/23/05	EPA 8015M		
Diesel Range Organics >C12-C35	3450	10.0	"	н	"	n	"	"		
Totai Hydrocarbon C6-C35	4230	10.0	"	"	"	n 	μ			
Surrogate: 1-Chlorooctane		128 %	70-1	130	u	H	n	"		
Surrogate: 1-Chlorooctadecane		188 %	70-1	130	n	"	"	"	S-0	

Environmental Lab of Texas

Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number:	2005-00228	Reported:
Midland TX, 79706-4476	Project Manager:	Daniel Bryant	12/27/05 13:42

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
North StkP1 (5L20008-06) Soil				Dilution	Daton	Frepared	Analyzed	Memor	Notes
Benzene	ND	0.0250	mg/kg dry	25	EL52209	12/22/05	12/22/05	EPA 8021B	
Toluene	ND	0.0250	"		"		н	a	
Ethylbenzene	J [0.0164]	0.0250	"						
Xylene (p/m)	0.0285	0.0250					н	u	
Xylene (0)	0.0397	0.0250			"	*	u	н	
Surrogate: a,a,a-Trifluorotoluene		80.8 %	80-1	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.8 %	80-1	20	"	"	"	"	
Gasoline Range Organics C6-C12	96.4	10.0	mg/kg dry	1	EL52115	12/21/05	12/23/05	EPA 8015M	
Diesel Range Organics >C12-C35	1150	10.0	14		"		"		
Total Hydrocarbon C6-C35	1250	10.0	"	"	۲			и	
Surrogate: 1-Chlorooctane		97.8 %	70-1	30	'n	n	17		
Surrogate: 1-Chlorooctadecane		128 %	70-1	30	"	"	"	"	
South StkP1 (5L20008-07) Soil									
Benzene	0.721	0.100	mg/kg dry	100	EL52209	12/22/05	12/23/05	EPA 8021B	
Toluene	8.08	0.100	4	•	"	*	**	11	
Ethylbenzene	3.42	0.100	n		"	**	PC		
Xylene (p/m)	25.2	0.100	"		"			"	
Xylene (0)	14.7	0.100	*	••	"		"	"	
Surrogate: a,a,a-Trifluorotoluene		322 %	80-1	20	W	"	"	H	S-04
Surrogate: 4-Bromofluorobenzene		114 %	80-1	20	"	"	"		
Gasoline Range Organics C6-C12	5050	100	mg/kg dry	10	EL52115	12/21/05	12/23/05	EPA 8015M	
Diesel Range Organics >C12-C35	17300	100	н		"		"		
Total Hydrocarbon C6-C35	22400	100	"	"		"	•		
Surrogate: 1-Chlorooctane	· · · · · · · · · · · · · · · · · · ·	20.6 %	70-1	30	"	"	"	#	S-00
Surrogate: 1-Chlorooctadecane		42.2 %	70-1	30	"	"	"	"	S-00

Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914	
1301 S. County Road 1150	Project Number:	2005-00228	Reported:	ĺ
Midland TX, 79706-4476	Project Manager:	Daniel Bryant	12/27/05 13:42	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

								·······	_
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
East S/W 5' (5L20008-01) Soil									
% Moisture	3.9	0.1	%	1	EL52104	12/20/05	12/21/05	% calculation	
West S/W 5' (5L20008-02) Soil									
% Moisture	1.1	0.1	%	1	EL52104	12/20/05	12/21/05	% calculation	
North S/W 5' (5L20008-03) Soil									
% Moisture	1.5	0.1	%	1	EL52104	12/20/05	12/21/05	% calculation	
South S/W 5' (5L20008-04) Soil									
% Moisture	1.6	0.1	%	1	EL52104	12/20/05	12/21/05	% calculation	
FLR RP 10' (5L20008-05) Soil									
% Moisture	6.7	0.1	%	1	EL52104	12/20/05	12/21/05	% calculation	_
North StkP1 (5L20008-06) Soil									
% <u>M</u> oisture	1.9	0.1	%	1	EL52104	12/20/05	12/21/05	% calculation	
South StkP1 (5L20008-07) Soil									
% Moisture	2.6	0.1	%	1	EL52104	12/20/05	12/21/05	% calculation	

Environmental Lab of Texas

Plains All American EH & S	Project: Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: 2005-00228	Reported:
Midland TX, 79706-4476	Project Manager: Daniel Bryant	12/27/05 13:42

Organics by GC - Quality Control

Environmental Lab of Texas

	. .	Reporting	·· ·	Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EL52004 - Solvent Extraction (GC)										
Blank (EL52004-BLK1)				Prepared &	. Analyzed:	12/20/05				
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	49.0		mg/kg	50.0		98.0	70-130			
Surrogate: 1-Chlorooctadecane	40.4		"	50.0		80.8	70-130			
LCS (EL52004-BS1)				Prepared &	Analyzed:	12/20/05				
Gasoline Range Organics C6-C12	436	10.0	mg/kg wet	500		87.2	75-125			
Diesel Range Organics >C12-C35	506	10.0	"	500		101	75-125			
Total Hydrocarbon C6-C35	942	10.0	*	1000		94.2	75-125			
Surrogate: 1-Chlorooctane	54,4		mg/kg	50.0		109	70-130			
Surrogate: 1-Chlorooctadecane	42.3		"	50.0		84.6	70-130			
Calibration Check (EL52004-CCV1)				Prepared: 1	12/20/05 Ai	nalyzed: 12	/21/05			
Gasoline Range Organics C6-C12	431		mg/kg	500		86.2	80-120			
Diesel Range Organics >C12-C35	585		*	500		117	80-120			
Total Hydrocarbon C6-C35	1020		"	1000		102	80-120			
Surrogate: 1-Chlorooctane	57.5		"	50.0		115	70-130			
Surrogate: 1-Chlorooctadecane	47.4		"	50.0		94.8	70-130			
Matrix Spike (EL52004-MS1)	Sou	rce: 5L19001	-03	Prepared &	Analyzed:	12/20/05				
Gasoline Range Organics C6-C12	603	10.0	mg/kg dry	672	28.6	85.5	75-125			
Diesel Range Organics >C12-C35	758	10.0	"	672	183	85.6	75-125			
Total Hydrocarbon C6-C35	1360	10.0		1340	212	85.7	75-125			
Surrogate: 1-Chlorooctane	47.5		mg/kg	50.0		95.0	70-130			
Surrogate: 1-Chlorooctadecane	42.5		"	50.0		85.0	70-130			
Matrix Spike Dup (EL52004-MSD1)	Sou	rce: 5L19001	I -03	Prepared: 1	12/20/05 Ai	nalyzed: 12	/21/05			
Gasoline Range Organics C6-C12	597	10.0	mg/kg dry	672	28.6	84.6	75-125	1.00	20	
Diesel Range Organics >C12-C35	754	10.0		672	183	85.0	75-125	0.529	20	
Total Hydrocarbon C6-C35	1350	10.0		1340	212	84.9	75-125	0.738	20	
Surrogate: 1-Chlorooctane	47.9		mg/kg	50.0		95.8	70-130			
Surrogate: 1-Chlorooctadecane	49.8		"	50.0		99.6	70-130			

Environmental Lab of Texas

Plains All American EH & S 1301 S. County Road 1150 Midland TX, 79706-4476		Project: Cotton Draw Gathering 6 Inch Project Number: 2005-00228 Project Manager: Daniel Bryant											
	0	rganics by	GC - Q	uality Co	ontrol								
		Environ	nental L	ab of Te	xas								
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes			
Batch EL52115 - Solvent Extraction (GC	C)												
Blank (EL52115-BLK1)				Prepared:	12/21/05 A	nalyzed: 12	2/23/05						
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	48.0		mg/kg	50.0		96.0	70-130						
Surrogate: 1-Chlorooctadecane	38.3		"	50.0		76.6	70-130						
LCS (EL52115-BS1)				Prepared:	12/21/05 A	nalyzed: 12	2/23/05						
Gasoline Range Organics C6-C12	454	10.0	mg/kg wet	500		90.8	75-125						
Diesel Range Organics >C12-C35	523	10.0		500		105	75-125						
Total Hydrocarbon C6-C35	977	10.0	"	1000		97.7	75-125						
Surrogate: 1-Chlorooctane	49.6		mg/kg	50.0	• • • • • •	99.2	70-130						
Surrogate: 1-Chlorooctadecane	51.3		"	50.0		103	70-130						
Calibration Check (EL52115-CCV1)				Prepared:	12/21/05 A	nalyzed: 12	2/23/05						
Gasoline Range Organics C6-C12	451		mg/kg	500		90.2	80-120						
Diesel Range Organics >C12-C35	536		"	500		107	80-120						
Total Hydrocarbon C6-C35	987		"	1000		98.7	80-120						
Surrogate: 1-Chlorooctane	49.9		и	50.0		99.8	70-130	··· ·	·····				
Surrogate: 1-Chlorooctadecane	64.5		n	50.0		129	70-130						
Matrix Spike (EL52115-MS1)	Sou	rce: 5L21005	5-21	Prepared:	12/21/05 A	nalyzed: 12	2/23/05						
Gasoline Range Organics C6-C12	559	10.0	mg/kg dry	511	93.0	91.2	75-125						
Diesel Range Organics >C12-C35	2020	10.0	*	511	1420	117	75-125						
Total Hydrocarbon C6-C35	2580	10.0	*	1020	1510	105	75-125						
Surrogate: 1-Chlorooctane	52.7		mg/kg	50.0		105	70-130						
Surrogate: 1-Chlorooctadecane	90.2		"	50.0		180	70-130			S-04			
Matrix Spike Dup (EL52115-MSD1)	Sou	rce: 5L21005	5-21	Prepared:	12/21/05 A	nalyzed: 12	2/23/05						
Gasoline Range Organics C6-C12	558	10.0	mg/kg dry	511	93.0	91.0	75-125	0.179	20				
Diesel Range Organics >C12-C35	1980	10.0		511	1420	110	75-125	2.00	20				
Total Hydrocarbon C6-C35	2540	10.0	"	1020	1510	101	75-125	1.56	20				
Surrogate: 1-Chlorooctane	53.0		mg/kg	50.0		106	70-130			······			
Surrogate: 1-Chlorooctadecane	88.5		"	50.0		177	70-130			S-04			

Environmental Lab of Texas

	F	roject: Cot	ton Draw Ga	athering (5 Inch			Fax: (432)	687-4914
								-	rted:
	Project Ma	anager: Dar	iel Bryant					12/27/0	5 13:42
0			-						
<u></u>	Environr	nental La	ab of Te	KAS				*	
Result	Reporting Limit	Units	Spike Level			%REC Limits	RPD	RPD Limit	Notes
			Prepared:	2/22/05	Analyzed: 1	2/23/05			
ND	0.0250	mg/kg wet	•					•	
ND	0.0250								
ND	0.0250	"							
ND	0.0250								
ND	0.0250	*							
36.8	<u></u>	ug/kg	40.0		92.0	80-120			
35.2		"	40.0		88.0	80-120			
			Prepared:	2/22/05	Analyzed:	2/23/05			
1.06	0.0250	mg/kg wet	1.25		84.8	80-120			
1.31	0.0250	Ħ	1.25		105	80-120			
1.46	0.0250	"	1.25		117	80-120			
2.99	0.0250		2.50		120	80-120			
1.49	0.0250	"	1.25		119	80-120			
34.2		ug/kg	40.0		85.5	80-120			
45.3		"	40.0		113	80-120			
			Prepared:	12/22/05	Analyzed:	2/23/05			
50.0		ug/kg	50.0		100	80-120			
55.5		"	50.0		111	80-120			
		87	50.0						
		**							
33.8		"	40.0		84.5	80-120			
		mg/kg dry	1.30	ND	84.6	80-120			
	0.0250			ND					
38.6 42.9		ug/kg			96.5	80-120			
	Result ND ND ND ND ND ND 36.8 35.2 1.06 1.31 1.46 2.99 1.49 34.2 45.3 50.0 55.5 49.1 99.4 47.7 38.7 33.8 Sout 1.10 1.37 1.48 3.03 1.52 38.6	Project N Project N Organics by Environs Reporting Result Limit ND 0.0250 36.8 35.2 1.06 0.0250 1.31 0.0250 1.46 0.0250 1.49 0.0250 34.2 45.3 50.0 55.5 49.1 99.4 47.7 38.7 33.8 Source: 5L20004 1.10 0.0250 1.37 0.0250 1.38 0.0250 1.37 0.0250 1.48 0.0250 3.03 0.0250 3.03 0.0250 38.6 38.6	Project Number: 200 Project Manager: Dar Organics by GC - Q Environmental La Result Limit Units ND 0.0250 mg/kg wet ND 0.0250 " 1.06 0.0250 " 1.10 0.0250 " 1.46 0.0250 " 1.49 0.0250 " 34.2 ug/kg 45.3 49.1 " " 99.4 " " 49.1 " " 99.4 " " 38.7 " " 38.7 " " 3.3.8 " "	Project Number: 2005-00228 Project Manager: Daniel Bryant Organics by CC - Quality Cole Environmental Lab of Tex Result Limit Units Spike Result Limit Units Level ND 0.0250 mg/kg wet ND ND 0.0250 " Prepared: 1 ND 0.0250 " 100 ND 0.0250 " 100 ND 0.0250 " 100 ND 0.0250 " 100 36.8 ug/kg 40.0 125 1.06 0.0250 mg/kg wet 1.25 1.31 0.0250 " 1.25 1.46 0.0250 " 1.25 1.46 0.0250 " 1.25 3.4.2 ug/kg 40.0 1.25 3.4.2 ug/kg 50.0 1.25 3.4.2 ug/kg 50.0 1.25 50.0 ug/kg 50.0 1.25 3.4.2 ug/kg <td>Project Number: 2005-00228 Project Manager: Daniel Bryant Organics by GC - Quality Control Environmental Lab of Texas Result Reporting Spike Source Result Limit Units Spike Source Result Limit Units Level Result ND 0.0250 " Prepared: 12/22/05 ND 0.0250 " ND 0.0250 ND 0.0250 " Prepared: 12/22/05 ND 0.0250 " 40.0 36.8 ug/kg 40.0 40.0 35.2 " 40.0 125 1.31 0.0250 " 1.25 1.31 0.0250 " 1.25 1.46 0.0250 " 1.25 3.4.2 ug/kg 40.0 40.0 45.3 " 40.0 40.0 45.3 " 40.0 55.5 50.0 50.5 " 50.0 1.25 1.00 49.1</td> <td>Project Manager: Daniel Bryant Grganics by GC - Quality Control Environmental Lab of Texas Result Reporting Limit Spike Units Source Result Source Result Spike %REC ND 0.0250 mg/kg wet ND 0.0250 nu ND 0.0250 m ND 0.0250 nu 36.8 ug/kg 40.0 88.0 0 Diolo 0.0250 m 1.25 84.8 1.31 0.0250 m 1.25 105 1.46 0.0250 m 1.25 117 2.99 0.0250 m 2.50 120 1.49 0.0250 m 2.50 120</td> <td>Project Number: 2005-00228 Project Manager: Daniel Bryant Organics by GC - Quality Control Environm=tral Lab of Texas Result %REC Limit One Spike Source %REC Prepared: 12/22/05 %REC Limits Prepared: 12/22/05 Malyzed: 12/23/05 ND 0.0250 " ND 0.0250 " 0.02 80-120 36.8 # # # ND 0.0250 1 12/2/05 Rail % 0.120 36.8 #</td> <td>Project Number: 2005-00228 Project Manager: Daniel Bryant Organics by GC - Quality Control Environmental Lab of Texas Result Reporting Limit Spike Source %REC Limits RPD Project Manager: 12/23/05 ND 0.0250 mg/kg wet ND 12/23/05 RPD ND 0.0250 " 12/23/05 80.720 80.720 ND 0.0250 " 100 88.0 80.720 ND 0.0250 " 100 88.0 80.720 36.8 ug/kg 40.0 92.0 80.720 100 35.2 " 40.0 88.0 80.720 100 1.06 0.0250 " 1.25 101 80.120 101 1.13 0.0250 " 1.25 117 80.120 100 102 2.99 0.0250 " 1.25 119 80.120 101 144 0.0250 127 117 80.120 111 102 111</td> <td>Inglett Inglett Reporting Dariel Bryant 12/27/0 Organics by GC - Quality Control Environmental Lab of Texas Reporting Spike Source %REC Limit RPD Limit Project Manage: Spike Source %REC Limit RPD Limit Project Manage: Spike Source %REC Limit RPD Limit Project Manage: 12/23/05 Project Manage: 12/23/05 Project Manage: RPD Limit Project Manage: 12/23/05 ND 0.0250 " 12/2 ND 0.0250 " 12/2 ND 8.0 80-120 12/2 13/3 0.0250 " 1.25 105 ND 10/2</td>	Project Number: 2005-00228 Project Manager: Daniel Bryant Organics by GC - Quality Control Environmental Lab of Texas Result Reporting Spike Source Result Limit Units Spike Source Result Limit Units Level Result ND 0.0250 " Prepared: 12/22/05 ND 0.0250 " ND 0.0250 ND 0.0250 " Prepared: 12/22/05 ND 0.0250 " 40.0 36.8 ug/kg 40.0 40.0 35.2 " 40.0 125 1.31 0.0250 " 1.25 1.31 0.0250 " 1.25 1.46 0.0250 " 1.25 3.4.2 ug/kg 40.0 40.0 45.3 " 40.0 40.0 45.3 " 40.0 55.5 50.0 50.5 " 50.0 1.25 1.00 49.1	Project Manager: Daniel Bryant Grganics by GC - Quality Control Environmental Lab of Texas Result Reporting Limit Spike Units Source Result Source Result Spike %REC ND 0.0250 mg/kg wet ND 0.0250 nu ND 0.0250 m ND 0.0250 nu 36.8 ug/kg 40.0 88.0 0 Diolo 0.0250 m 1.25 84.8 1.31 0.0250 m 1.25 105 1.46 0.0250 m 1.25 117 2.99 0.0250 m 2.50 120 1.49 0.0250 m 2.50 120	Project Number: 2005-00228 Project Manager: Daniel Bryant Organics by GC - Quality Control Environm=tral Lab of Texas Result %REC Limit One Spike Source %REC Prepared: 12/22/05 %REC Limits Prepared: 12/22/05 Malyzed: 12/23/05 ND 0.0250 " ND 0.0250 " 0.02 80-120 36.8 # # # ND 0.0250 1 12/2/05 Rail % 0.120 36.8 #	Project Number: 2005-00228 Project Manager: Daniel Bryant Organics by GC - Quality Control Environmental Lab of Texas Result Reporting Limit Spike Source %REC Limits RPD Project Manager: 12/23/05 ND 0.0250 mg/kg wet ND 12/23/05 RPD ND 0.0250 " 12/23/05 80.720 80.720 ND 0.0250 " 100 88.0 80.720 ND 0.0250 " 100 88.0 80.720 36.8 ug/kg 40.0 92.0 80.720 100 35.2 " 40.0 88.0 80.720 100 1.06 0.0250 " 1.25 101 80.120 101 1.13 0.0250 " 1.25 117 80.120 100 102 2.99 0.0250 " 1.25 119 80.120 101 144 0.0250 127 117 80.120 111 102 111	Inglett Inglett Reporting Dariel Bryant 12/27/0 Organics by GC - Quality Control Environmental Lab of Texas Reporting Spike Source %REC Limit RPD Limit Project Manage: Spike Source %REC Limit RPD Limit Project Manage: Spike Source %REC Limit RPD Limit Project Manage: 12/23/05 Project Manage: 12/23/05 Project Manage: RPD Limit Project Manage: 12/23/05 ND 0.0250 " 12/2 ND 0.0250 " 12/2 ND 8.0 80-120 12/2 13/3 0.0250 " 1.25 105 ND 10/2

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.

I	Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1	301 S. County Road 1150	Project Number:	2005-00228	Reported:
1	Midland TX, 79706-4476	Project Manager:	Daniel Bryant	12/27/05 13:42

Organics by GC - Quality Control

Environmental Lab of Texas

										1
		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch EL52209 - EPA 5030C (GC)

Matrix Spike Dup (EL52209-MSD1)	Sour	ce: 5L20008	i-0 1	Prepared: 1	2/22/05	Analyzed: 12	2/23/05		
Benzene	1.05	0.0250	mg/kg dry	1.30	ND	80.8	80-120	4.59	20
Toluene	1.30	0.0250	**	1.30	ND	100	80-120	4.88	20
Ethylbenzene	1.40	0.0250	"	1.30	ND	108	80-120	5.41	20
Xylene (p/m)	2.92	0.0250	"	2.60	ND	112	80-120	4.37	20
Xylene (o)	1.44	0.0250	н	1.30	ND	111	80-120	5.26	20
Surrogate: a,a,a-Trifluorotoluene	34.3		ug/kg	40.0		85.8	80-120	<i>_</i>	
Surrogate: 4-Bromofluorobenzene	38.1		"	40.0		95.2	80-120		

Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number:	2005-00228	Reported:
Midland TX, 79706-4476	Project Manager:	Daniel Bryant	12/27/05 13:42

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
Batch EL52104 - General Preparation (Prep)										
Blank (EL52104-BLK1)				Prepared: 1	12/20/05 A	nalyzed: 12	/21/05			
% Moisture	ND	0.1	%							
Duplicate (EL52104-DUP1)	Sou	rce: 5L20004-	01	Prepared:	12/20/05 A	nalyzed: 12	/21/05			
% Moisture	4.3	0.1	%		4.3			0.00	20	-

Environmental Lab of Texas

I	Plains All American EH & S	Project:	Cotton Draw Gathering 6 Inch	Fax: (432) 687-4914
1	301 S. County Road 1150	Project Number:	2005-00228	Reported:
1	Midland TX, 79706-4476	Project Manager:	Daniel Bryant	12/27/05 13:42

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:

Raland K Jut

12/27/2005

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.

Date:

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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

Environmental Lab of Texas

has a constant of the second sec	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST	Project Name: Lotton Draw Gathering 6"	Project #: 2M5#2005-00228	Project Lace Let Care A	PON PON DAY ON DAY and	396-1429		Areiyza For:		93	1 (616-301900019 18 896030 898030 10 EC 204 CO3 HOO3 1002 HOO3 1002 10 1002 10 1000 1002 10 1000 1002 10 1002 10 1002 10 10	10cral Genum Procession Processio									Sample Confainers Intract? N Temperature Upon Receipt Or C Laboratory Continentia:	Cate Time	5		12:20 6 145
			ta /			Fax No: 505.3				Press		Time San No. of Co HNO	1) 1 mool: 01	10:15am 1	10:20 and []]	10:234m 1	10:27an 1	10:53 1 1	10159 i 1			1111	B. Mallagra (ern manung
exas I, Ltd.	3-1800	Dutton	En VI COM MEN.	30 /	N N	24	Y				ρejdu	neč ete Sar	50/64/21	11	~ //	11)	0			Time Received by:	2	Time Rebeived by ELO	11.15 See
Environmental Lab of Texas	Phone: 915-583-1800	agor: Kenneth L	Basin	P.D. 80	Map: LOVING FOM	Telephone No. 505-441-2124	A Second		N			Field Code	East 5/ 5'	West 3/4 5'	North 3/4 5'	South Stu. 5'	TR RP 10'	North StkPl	South SAR PI			Date	55 12/Abr	/ Dete	12/20/04
Environm	12600 West 1-20 East	Ucteesse, 16X88 /#/63 Project Manager:	Company Name	Company Address:	C ky/State/Zip:	Telephon	Samular Slamatura.				<i>fo</i> oo	¢∱ LatB≢tlažuse only)	$\tilde{\varphi}$	1	N -90-		100	1 00	200		Special Instructions:	Relinquished by:		Reinquished by:	K. Burn

/ **\$** \$ \$ \$

e

i

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

Client:	Plains 1Bo	<u>isin</u>
Date/Time:	12/20/05	12:15
Order #:	5120008	۰. مار می در
Initials:	CK	

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	0,5	С
Shipping container/cooler in good condition?	(Es)	No		
Custody Seals intact on shipping container/cooler?	ties	No	Not present	:
Custody Seals intact on sample bottles?	Mag	No	Not presen	
Chain of custody present?	YES	No		
Sample Instructions complete on Chain of Custody?	YE	No		i
Chain of Custody signed when relinquished and received?	Yes	No		
Chain of custody agrees with sample label(s)	Y95	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?	Kes I	No		•
Samples properly preserved?	Yes	No		
Sample bottles intact?	Kang	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?	1 Vēs	No		
VOC samples have zero headspace?	Yes	No	Not Applicat	le

Other observations:

Contact Person: Regarding:	Variance Documentation: Date/Time:	Contacted by:
Corrective Action Taken:		

Plains Marketing, L. P. Cotton Draw Gathering 6" Lea County, New Mexico NE/SW S16, T25S, R32E EMS: 2005-00228	Soil Boring Completion Data TD: 30 Feet bgs	Installed 14 November 2005 Basin Environmental Service Technologies Samples selected for analysis	Soil Boring Completion Data 8 bags of hydrated Bentonite Plug Surface to 30' bgs				DESCRIPTION	Soil Boring 1	DATE 28 December 2005
Pla Cotto NE/s	Soil Bo		Soil Boring C				TITLE	Appendix C Cotton Draw Gathering 6"	DRAWN BY KAD
Soil Description	Caliche Layer, Imbeeded w/Sandstone, Dry	Sand (SP) White-Brown, Very Fine Grained, Well Sorted, Dry		Sand (SP) Red-Brown, Very Fine Grained, Well Sorted,					
Petroleum Stain	Moderate	None	None	None	None	None			
Petroleum Odor	Неачу	Moderate	None	None	None	None			
PID Reading	1070 ppm	327 ppm	60.4 ppm	46.2 ppm	25.3 ppm	10.2 ppm			
Soil Column									
Depth So Excavation Floor (10' bgs)	ى ا	1	μ μ	50		1 30	[









State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back

1220 S. St. Fran	ncis Dr., Sant	a Fe, NM 87505	i	Sa	inta F	e, NM 875	05				side of form	
e anders gestioner and a second second second			Rela	ease Notific	atio	n and Co	prrective A	ction	7-4 - 54 - 64 - 64 - 64 - 64 - 64 - 64 -			
						OPERA	FOR	🖾 In	itial Report	П	Final Report	
						Contact Daniel Bryant						
Address				dland, Tx 79702	2		No. (432) 557-5	5865				
Facility Na	me	Cotton Drav	v Gatheri	ng 6"		Facility Typ	e Pipeline	<u></u>				
Surface Ow	mer NM St	ate Land Office		Mineral C)wner			Leas	e No.			
LOCATION OF RELEASE												
Unit Letter						h/South Line	East/West Lin	ast/West Line County				
К	16	258	32E						Lea			
L	J))	<u>ـــــ</u>	Latitude N 32°	07 64	0?? T and dud	W 102º 40 00	<u>)</u>				
	295		1]7				
				NAT	URI	COF REL						
Type of Rele Source of Re		steel transmis	sion line							Recovered 0 bbls Hour of Discovery		
						10/04/2003	5 07:30		2005 08:00		,	
Was Immedi	iate Notice		Vec [] No 🖾 Not R	emira	If YES, To I Larry John						
By Whom?	Daniel Bra		103 <u></u>					5 10.45			en e	
Was a Water		ched?				Date and Hour 10/06/2005 10:45 If YES, Volume Impacting the Watercourse.						
		C	Yes 🛛	No								
If a Waterco	urse was Im	pacted, Descr	ibe Fully.	*		•						
Describe Ca	use of Prohl	em and Reme	dial Actio	n Taken *				·····		·		
Internal Corr	rosion cause	d a release of	8 bbls sw	eet crude oil on a	6" gatl	nering line. Li	ne was clamped t	o mitigate the re	lease until a p	oipeline	replacement	
				s and throughput proximately 1.5'			roximately 1,250	bbls per month.	The gravity	of the c	rude oil is	
57.4. 1125 0		o ppin. Line	ucpui is aj	proximately 1.5	at uic i	icicase source.						
Describe Are	ca Affected	and Cleanup	Action Tal	ken.* .								
	Visible staining from the pipeline release measured 50' X 10' yielding 500 ft ² .											
Impacted sol	Impacted soil will be remediated per NMOCD guidelines.											
I hereby cert	ify that the	information g	iven above	e is true and comp	lete to	the best of my	knowledge and u	inderstand that r	ursuant to N	MOCD	rules and	
regulations a	dl operators	are required t	o report a	nd/or file certain r	elease	notifications a	nd perform correct	ctive actions for	releases whic	h may e	endanger	
should their	onerations h	ronment. The	acceptant adequately	ce of a C-141 repo investigate and r	ort by t emedia	he NMOCD m te contaminati	arked as "Final R	Report" does not reat to ground w	relieve the op	erator o	of liability uman health	
or the enviro	nment. In a	ddition, NMC	OCD accept	stance of a C-141	report	does not reliev	e the operator of	responsibility for	r compliance	with an	iy other	
federal, state	, or local la	ws and/or regi	lations.	······································		· · · · · · · · · · · · · · · · · · ·				011		
							OIL CONSERVATION DIVISION					
Signature: Day the												
Printed Name: Daniel Bryant						Approved by District Supervisor:						
Title Faui	conmental D	/C Specialist		Approval Date: Expiration Date:						<u> </u>		
	ouncilia K	/C opecialist	<u></u>			Approval Da	ю.	Expirati			,_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
E-mail Addr	ess: dmbry	ant@paalp.co	m			Conditions of Approval: Attached						
Date: 10	10/05		Phone	: (432) 557-5865								

* Attach Additional Sheets If Necessary