1R – 470

REPORT

DATE:
MAY 2007

1R-470
Report
May 2007

PLAINS
PIPELINE, L.P.

August 13, 2007

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

Re: Plains Pipeline, L.P.
Document Submittal – Nine Soil Closure Reports
Clay Osborn - Rocky Top Ranch
Jal, Lea County, New Mexico

Dear Mr. Price:

Plains Pipeline, L.P. (Plains) is pleased to submit the attached Soil Closure Reports for the nine soil remediation project sites located on the Osborn's Rocky Top Ranch in Jal, Lea County, New Mexico. The soil remediation activities were conducted in accordance with the General Remediation Work Plan (dated April 2006) and the Site-Specific Remediation Work Plan (dated July 2006) prepared for each site and approved by the New Mexico Oil Conservation Division (NMOCD).

Based on the analytical laboratory results of confirmation soil samples and completion of the site-specific soil remediation and restoration activities as described in each Work Plan, remediation activities are complete and Plains requests that the NMOCD issue Plains a "no further action letter" and close these nine sites listed below.

Clay Osborn Jalmat #1	1R-0412
Clay Osborn Jalmat #2	1R-0466
Clay Osborn Jalmat #3	1R-0467
Clay Osborn Jalmat #22A	1R-0411
Clay Osborn Jalmat #22B	1R-0468
Clay Osborn East Shell North	1R-0083
Clay Osborn SH-0193-2	1R-0471
Clay Osborn SH-0184-1	1R-0472
Clay Osborn DT-27	1R-0470

Please note that site "Clay Osborn TM-245-2 (1R-0469)" was combined into site "Jalmat #22B" since the sites were immediately adjacent to each other. A separate report was not prepared for TM-245-2.

Should you have any questions or comments, please contact me at (713) 646-4657.

Sincerely,

Jeffrey P. Dann, P.G.
Sr. Environmental Specialist
Plains All American

Attachment: Nine Soil Closure Reports

File: n/jeff-files/Osborn-RockyTopRanch/DocumentClosureReptCovrLtr.doc

Site Closure Report

Clay Osborn Rocky Top Ranch
DT-27 Release Site

SE¼ SE¼, Section 12
T25S, R36E
Lea County, New Mexico

SRS No. ROCKY TOP 3
NMOCD No. 1R-0470

Prepared For

PLAINS PIPELINE, L.P.

333 Clay Street, Suite 1600
Houston, Texas 77002

Prepared By

SDG ENVIRONMENTAL SERVICES

May 2007

Table of Contents

1.0 Introduction

SDG Environmental Services was retained by Plains Pipeline, L.P. (Plains) to provide oversight of remediation activities and prepare a closure report for the Clay Osborn DT-27 release site located on the Clay Osborn Rocky Top Ranch. Plains Pipeline is the owner/operator of several pipelines present on the Clay Osborn Rocky Top Ranch in Lea County, New Mexico. Plains retained Basin Environmental Services to conduct the soil excavation/remediation activities.

The site is located in the SE ¼ of the SE ¼ of Section 12, Township 25 South, Range 36 East, approximately 1 mile northwest of Jal at Latitude 32°08′27″ North, and Longitude 103°12′37″ West. The site is characterized by a right-of-way for the pipeline in a pasture. The pipeline is currently not in operation. A site location map is provided as Figure 1.

The hydrocarbon impacted area was the result of a historical release. The date of the release as well as the volume of crude released and recovered is not known. The visibly stained area was approximately 100 ft^2.

Plains prepared and submitted a General Remediation Work Plan dated April 2006 to address the release sites located at the Rocky Top Ranch. The objective of the General Remediation Work Plan was to provide a framework for remediation of crude oil impacted sites consistent with the remediation/abatement goals and objectives provided in the New Mexico Oil Conservation Division (NMOCD) "NMOCD Guidelines for Remediation of Leaks, Spills, and Releases." The general Remediation Work Plan was conditionally approved by the NMOCD in a letter to Plains dated May 30, 2006.

An initial investigation that included installation of soil borings and collection of soil samples was conducted by SDG in May 2006. The soil analytical data and information obtained from the site investigation was used to develop a Site Investigation Report and Site-Specific Remediation Work Plan dated July 2006. The Site-Specific Remediation Work Plan provided for closure of the site under Closure Scenario 2. However, Closure Scenario 3 was allowed under the work plan should hydrocarbon impacted soils be found to extend to below 15 feet bgs.

Work Plan Scenario 2 (Total Excavation)

Areas where impacts greater than 100 mg/kg TPH were limited in vertical extent (i.e. 5 to 10 feet in depth) were recommended to be remediated under the Work Plan Scenario 2 involving the following procedures as outlined in the approved Work Plan including NMOCD conditions presented in the May 2006 NMOCD approval letter.

- Excavation of impacted soil to between 5 to 10 feet bgs or until site remediation standards are met;
- Collect and analyze soil sample from the walls and floor of the excavation to confirm that the remediation has met site guidelines;
- Relocation of excavated soil to the centralized soil treatment area for blending and aeration;

• Collect and analyze treated soil to confirm that the soil treatment activities have met site guidelines;
• Backfill the excavation with treated soil to 100 mg/kg and restore the area to as close as possible to pre-spill conditions.

Soils were excavated with a bulldozer and backhoe to 12 feet below ground surface (bgs) and soil samples were collected from the bottom of the excavation and at the side of impacted area defined by the highest PID reading and observed staining.

Work Plan Scenario 3 (Limited Excavation and Risk-based Closure)

At areas of the site where data indicated that soil impacts extended to below 15 feet bgs and excavation of all the impacted soil to below NMOCD guidelines is not practical, Work Plan Scenario 3 was implemented.

Scenario 3 included the permanent installation of an oversized 20-mil polyethylene liner at a minimum depth of 10 feet to inhibit vertical migration of contaminants in soil left in place below the cap. A 3-foot wide clean area buffer was established around the impacted soil in the floor of the excavation.

Clean overburden and impacted soils were blended and utilized as backfill. Soil samples were collected to verify constituent concentrations were below NMOCD site-specific guidelines. Once the excavation was confirmed to meet NMOCD standards and the installation of the 20-mil poly liner was completed, backfilling of the excavation was initiated with the blended soil. The backfilled excavation was contoured to the original grade surrounding the site and restored by seeding with approved grass seed.

2.0 Regulatory Framework

In New Mexico, the MNOCD oversees and regulates oil, gas and geothermal activities, including compliance with environmental regulations. The DT-27 Site was evaluated and remediated consistent with the characterization and remediation/abatement goals and objectives of the NMOCD approved Remediation Work Plan and the NMOCD guidelines defined in the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993). Primary contaminants, or constituents of concern (COCs), associated with crude oil releases include total petroleum hydrocarbons (TPH), benzene, toluene, ethyl benzene, and total xylenes (BTEX). Acceptable levels for these COCs are determined based on a site ranking system. The ranking system estimates the likelihood of exposures to the COCs. The more likely that human exposure will occur, the more stringent the cleanup levels. The site ranking system is set up on the three following parameters:

- Depth to groundwater
- Wellhead protection area
- Distance to surface water body

3.0 Regional and Site Characteristics

3.1 Geological Description

The site is located east of the caprock escarpment which defines the western margin of the high plains or Llano Estacado of southeastern New Mexico. The surface is comprised of rolling hills with sand dunes of Quaternary age deposits, eroded Ogallala Formation and windblown deposits.

3.2 Land Use

Land usage in the area is primarily livestock range land and oil field activities. Several gas driven electric power stations are located in the vicinity of the site and several major oil and gas transmission lines bisect the region. The area in the immediate vicinity of the site is sparsely populated.

3.3 Ground Water

The depth to groundwater at the site is approximately 50 feet below ground surface (bgs) based on measured depth to groundwater at monitor wells located at a nearby release site. The depth to groundwater is consistent with the information provided in the USGS Groundwater Report 6 and the New Mexico Office of the State Engineer database does not list any water wells in Range 36 East of Township 25.

4.0 NMOCD Site Ranking

The depth to water at the site is estimated to be approximately 50 feet bgs based on monitor wells located at a nearby release site. Based on the analytical results of soil samples, the hydrocarbon impacted soil extends from the surface to 10 feet bgs, therefore, less than 50 feet of non-impacted soil remains between the last known impacted soil depth and groundwater. The resulting Depth to Groundwater Ranking Score is 20.

The site is greater than 1000 feet from any public water supply source and greater than 200 feet from any private domestic water supply well. The resulting Wellhead Protection Ranking Score is 0.

There are no water bodies located within 1000 feet of the site. The resulting Distance to Surface Water Body Ranking Score is 0.

Based on the individual ranking scores identified above, the site has an NMOCD Total Ranking Score of >19, which establish the following remediation levels as shown in the following table demonstrating the site ranking matrix:

Table 1 – Site Ranking Matrix

Depth to Groundwater	Wellhead Protection Area	Distance to Surface Water
<50 feet = 20	<1000 feet from a water source, or <200 feet from a domestic water source	<200 feet = 20
50 to 99 feet = 10	Yes = 20	200 to 1000 feet = 10
>100 feet = 0	No = 0	>1000 feet = 0
Groundwater Score = 20	Well Protection Score = 0	Surface Water Score = 0
Total Site Ranking Score = 20		
Parameter	**Score of >19 Maximum Concentrations**	
Benzene	10 ppm	
BTX	50 ppm	
TPH	100 ppm	

Based on this ranking system the site has a total score of 20 resulting in remediation goals of 10 ppm benzene, 50 ppm BTEX and 100 ppm TPH were observed.

5.0 Site Assessment

On 25 May 2006, initial subsurface horizontal and vertical delineation was conducted by SDG with the installation of soil borings at the site. Four (4) soil borings were installed to a depth of 20 feet bgs and soil samples were collected at depths of 2, 5, 10, 15, and 20 feet bgs, field screened with a PID, and analyzed for BTEX and TPH-GRO/DRO. Laboratory results indicated that constituent concentrations of BTEX were below NMOCD regulatory standards and not detected above laboratory method detection limits on the 20 soil samples. Laboratory results indicated that TPH-GRO/DRO concentrations exceeded 100 mg/kg TPH in 5 of the soil samples and the remaining 15 soil samples were either below NMCOD regulatory standards or were not detected above the laboratory method detection limits.

5.1 Distribution of Hydrocarbons in the Unsaturated Zone

The area of soils remediated was approximately 6,200 square feet. The vertical extent of soils impacted above the site-specific NMOCD cleanup guidelines was determined to extend to 15 feet bgs. No free phase hydrocarbons were observed during the excavation.

5.2 Distribution of Hydrocarbons in the Saturated Zone

No saturated conditions were reported in any of the borings or observed during later site remediation activities. A monitor wells installed at a nearby release site has recorded water levels of approximately 50 feet bgs. Therefore, there is no indication that hydrocarbons from the historical release have impacted the saturated zone.

6.0 Site Remediation

The final surface area remediated was approximately 6,200 square feet. The volume of excavated and blended soils totaled 1,225 cubic yards. The remediated area is shown in Figure 2.

Excavation continued to 12 feet bgs at which point the excavation was terminated. Final soil samples of the excavation floor and from 15 feet bgs indicated the soils to be above the site-specific guidelines for Closure Scenario 2. Therefore, the site was managed under Closure Scenario 3 of the approved Site-Specific Work Plan and a 20 mil liner was installed at 12 feet bgs.

Prior to liner installation, a 3-foot wide clean area buffer was established around the impacted soil in the floor of the excavation. The buffer extent was determined using a calibrated PID and confirmed by laboratory analysis of grab samples collected around the perimeter of the excavation at locations of heaviest staining or highest PID reading. The liner was cushioned with a 3 to 4-inch layer of blended sandy soils to protect it from puncture and tearing during the backfilling process. The soils used in liner placement were determined by laboratory analysis to be below the 1000 mg/kg concentration acceptable of soils left in place above the liner installation. Installation of the 20-mil polyethylene liner at a depth of 12 feet bgs will protect the barrier from erosion and human intrusion for a term sufficient to allow natural biodegrading of contaminates in the soil.

Soil samples of blended soils were collected to verify constituent concentrations of BTEX are below NMOCD guidelines and TPHGRO/DRO are below 100 mg/kg for direct backfill and below 1000 mg/kg as approved for backfill over liners. Once the excavation was confirmed to meet NMOCD standards and the installation of the 20-mil poly liner was completed, backfilling of the excavation was initiated with the blended soil.

After determining that the confirmation samples did not exceed the site-specific remediation standards, the excavated area was backfilled with blended soils meeting the cleanup guidelines for the closure scenario, contoured to the original grade surrounding the site, and reseeded with approved grass seed.

7.0 Confirmation Sampling and Comparison to Remediation Guideline Standards

Confirmation samples were collected from the walls and the bottom of the excavation and submitted to Environmental Lab of Texas for laboratory analyses of total petroleum hydrocarbons (TPH) by EPA Method 8015M (DRO, GRO), and for benzene, toluene, ethyl benzene, and total xylenes (BTEX) by EPA Method 8021B, a copy of the laboratory report is presented in Appendix C. A site detail map identifying soil sample locations is presented as Figure 2. Table 2 provides a summary of the analytical results.

Initial laboratory results of confirmation soil samples indicated TPH concentrations ranged from 1,370 mg/kg in the sample from the floor at 12 feet bgs to <10 mg/kg in soil sample from wall at approximately four feet bgs. Laboratory analyses of BTEX constituents from all samples were below the NMOCD cleanup guidelines or below the detection limit of 0.025 mg/kg, a summary of the analytical results is presented in Table 2.

Additional soil samples were collected from 15 feet bgs to determine if a liner placement was necessary. The results indicated soils at 15 feet bgs were above the 100 mg/kg cleanup guidelines. Therefore, the site was closed under Closure Scenario 3 and a 30-foot by 60-foot 20-mil polyethylene liner was installed at approximately 12 feet bgs. Final confirmation samples indicated concentrations of TPH in soils remaining in place below the liner ranged from 1500 mg/kg to <10 mg/kg. The soil samples from the perimeter of the liner installation did not exhibit TPH or BTEX concentrations above the 100 mg/kg cleanup guidelines.

Sample results were compared to the site-specific soil remediation guidelines. As indicated in Table 2 and the laboratory reports, all constituents for soils remaining in place are below the site-specific cleanup guidelines for the closure scenario implemented at the site. Therefore, remediation at this site is considered complete.

8.0 Conclusion

SDG Environmental Services as retained by Plains Pipeline, L.P. (Plains) to provide oversight of remediation activities and prepare a closure report for the Clay Osborn DT-27 release site located on the Clay Osborn Rocky Top Ranch. The site is located in the SE ¼ of the SE ¼ of Section 12, Township 25 South, Range 36 East, approximately 1 mile northwest of Jal at Latitude 32°08′27″ North, and Longitude 103°12′37″ West.

The hydrocarbon impacted area was the result of a historical release. The date of the release as well as the volume of crude released and recovered is not known. A Site-Specific Remediation Work Plan dated April 2006 provided for closure of the site under three closure scenarios which were implemented at the release site in December 2006 through March 2007.

Impacted soils were excavated and confirmation samples were collected and compared to the site-specific cleanup guidelines. Soil samples from the excavated areas confirm that the DT-27 release site was remediated per the NMOCD approved Site-Specific Work Plan. Therefore, remediation at this site has been completed and no further investigation is warranted. SDG recommends that Plains submit a copy of this report to the NMOCD and request that the NMOCD close this case and issue a "no further action letter" to Plains.

TABLE 2

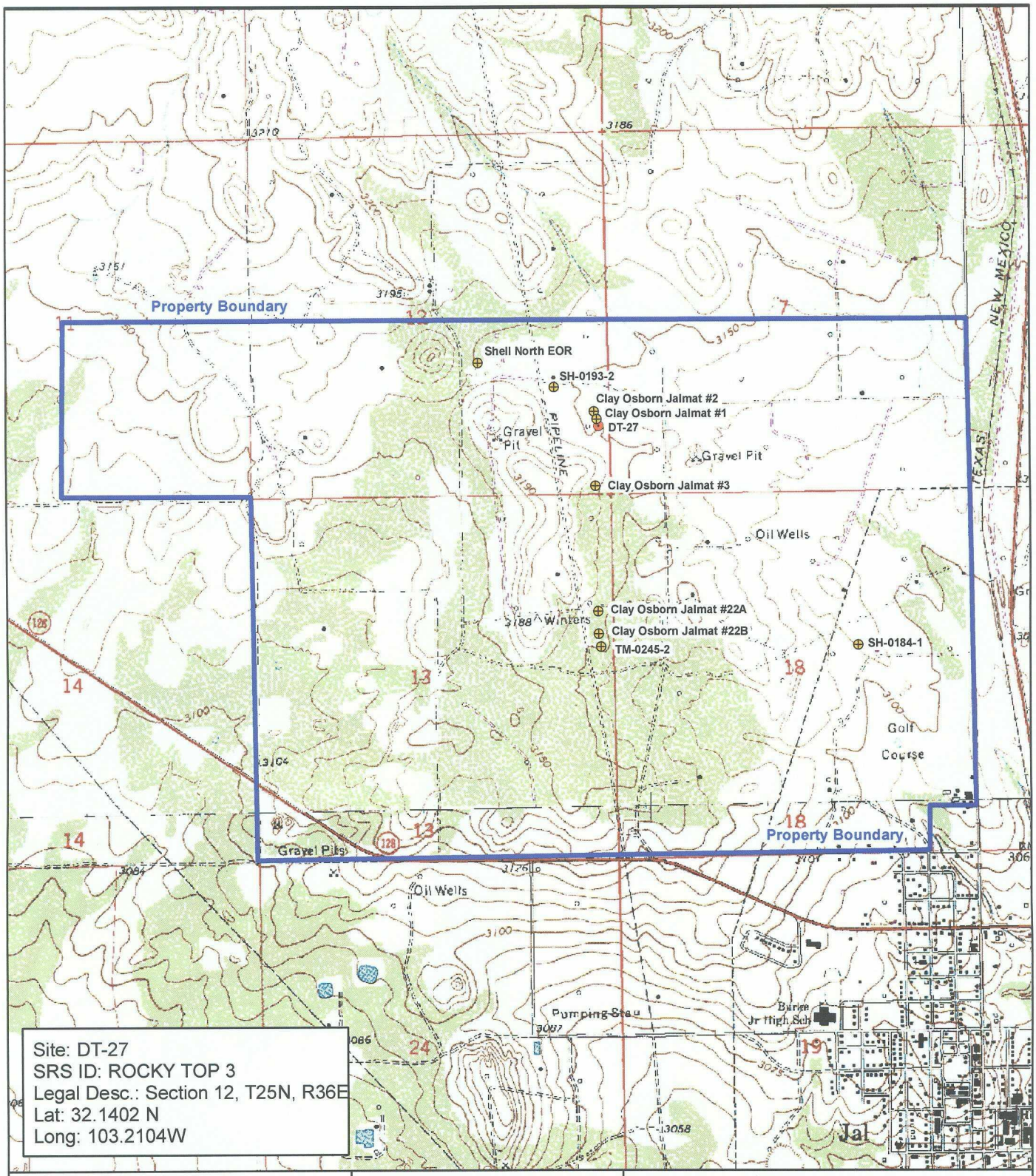
SOIL SAMPLE ANALYTICAL RESULTS SUMMARY

PLAINS PIPELINE, L.P.
DT-27 RELEASE SITE
LEA COUNTY, NEW MEXICO
PLAINS SRS ID: ROCKY TOP 3

SAMPLE LOCATION	DEPTH ft bgs	SAMPLE DATE	LABORATORY I.D.	METHOD: EPA 8021B					METHOD: EPA 8015M			TOTAL TPH
				BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	M,P-XYLENES (mg/kg)	O-XYLENE (mg/kg)	C6-C12 (mg/kg)	C12-C28 (mg/kg)	C28-C35 (mg/kg)	C6-C35 (mg/kg)
DT27-SFE	10	10/20/2006	6J23001-01	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	47.2	4.09 J	47.2
DT27-SPS	Stockpile	10/20/2006	6J23001-02	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	6.81 J	104	10.2	114
DT27-NFE	10	10/20/2006	6J23001-03	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	4.54 J	22.1	3.88 J	22.1
DT27-NWSP	Stockpile	10/24/2006	6J25011-01	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-NESP	Stockpile	10/24/2006	6J25011-02	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-ESP	Stockpile	10/24/2006	6J25011-03	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-NWW2	2	10/24/2006	6J25011-04	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-EW2	2	10/24/2006	6J25011-05	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-SW2	2	10/24/2006	6J25011-06	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-WWW5	5*	10/24/2006	6J25011-07	<0.0250	0.0156 J	<0.0250	0.0364	0.0183J	5.14	203	15.2	218
DT27-NWW10	10*	10/24/2006	6J25011-08	<0.0250	0.0162 J	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-NWW5	5*	10/24/2006	6J25011-09	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	7.28 J	123	11.9	135
DT27-WWN5	5*	10/24/2006	6J25011-10	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	6.20 J	180	43.8	224
DT27-EWN5	5	10/24/2006	6J25011-11	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-EWS10	10	10/24/2006	6J25011-12	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-EWS5	5	10/24/2006	6J25011-13	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-SWE5	5	10/24/2006	6J25011-14	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-SWE10	10	10/24/2006	6J25011-15	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-SWW5	5	10/24/2006	6J25011-16	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-EF	12	10/24/2006	6J25011-17	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
DT27-CF	12	10/24/2006	6J25011-18	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	31.7	596	64.3	692
DT27-WF	12	10/24/2006	6J25011-19	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	51	1190	127	1370
DT27-2WWN5	5	11/10/2006	6K10008-01	na	na	na	na	na	<10.0	<10.0	<10.0	<10.0
DT27-2NWW5	5	11/10/2006	6K10008-02	na	na	na	na	na	<10.0	<10.0	<10.0	<10.0
DT27-2WF15	15	11/10/2006	6K10008-03	na	na	na	na	na	97	1310	88.1	1500
DT27-2SWW15	15	11/10/2006	6K10008-04	na	na	na	na	na	<10.0	13.9	<10.0	13.9
DT27-2WWW15	15	11/10/2006	6K10008-05	na	na	na	na	na	<10.0	<10.0	<10.0	<10.0
DT27-2WWW10	10	11/10/2006	6K10008-06	na	na	na	na	na	<10.0	<10.0	<10.0	<10.0
DT27-2NW15	15	11/10/2006	6K10008-07	na	na	na	na	na	<10.0	9.60 J	<10.0	<10.0
DT27-NWSP	Stockpile	11/14/2006	6K14011-01	na	na	na	na	na	3.43 J	100	6.49 J	100
DT27-NESP	Stockpile	11/14/2006	6K14011-02	na	na	na	na	na	<10.0	36.8	<10.0	36.8
DT27-ESP	Stockpile	11/14/2006	6K14011-03	na	na	na	na	na	2.86 J	106	5.95 J	106

* Indicates an interim sample - soils represented by this sample were subsequently removed
< indicates the constituent was not detected
J indicates estimated value (detected below method reporting limit
na indicates not analyzed

Appendix A
Figures

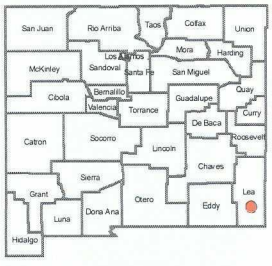


Map Source: USGS, Jal NW New Mexico Topographic Map, 1980.

0 1,000 2,000

Feet

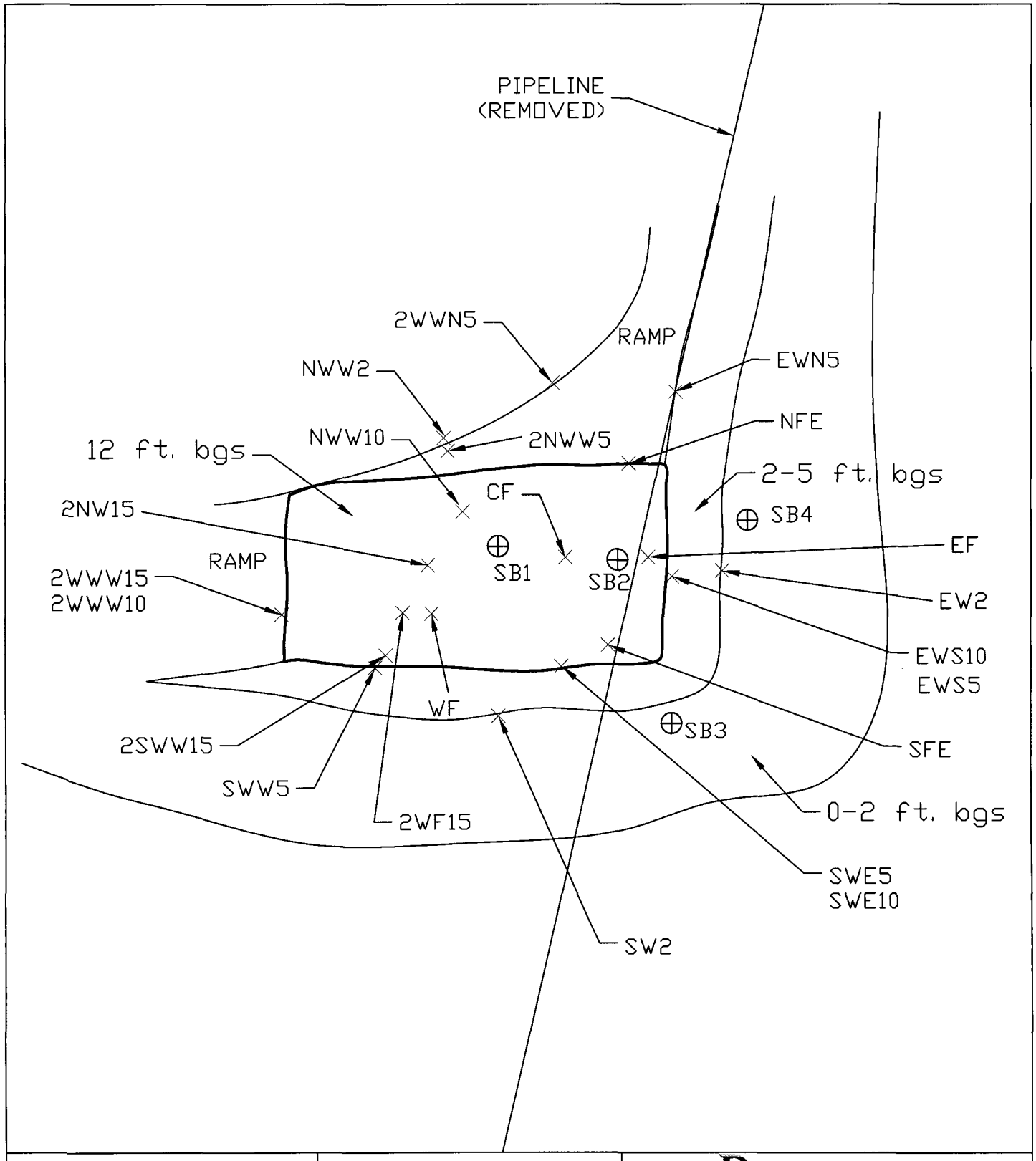
N

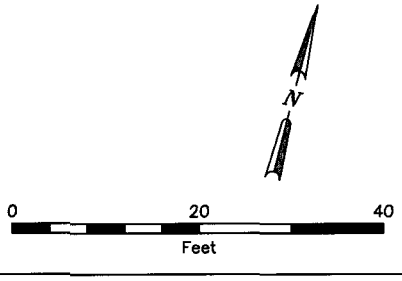


SDG ENVIRONMENTAL SERVICES

DT-27
SRS ID: ROCKY TOP 3
Plains Marketing L.P.
Lea County, New Mexico

Figure 1: Site Location Map





LEGEND:

- ⊕ Soil Boring Locations
- × Soil Sample Locations
- — Final Excavation Boundary
- — Installed Liner

SDG ENVIRONMENTAL SERVICES

Rocky Top Ranch
Clay Osborn DT-27
SRS ID: Rocky Top 3
Lea County, New Mexico

Figure 2: Excavation Detail

Appendix B
Site Photographs

DT-27 – Excavation Floor Perimeter Sample locations

DT-27 – Prepared for Liner Installation

DT-27 – Liner Installed

DT-27 – Liner Overlay

DT-27 – Backfill Over Liner

DT-27 – Final Backfill and Cover

Appendix C
Analytical Reports

ENVIRONMENTAL 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: DT-27

Project Number: Rocky Top 3

Location: None Given

Lab Order Number: 6J23001

Report Date: 10/31/06

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DT27-SFE	6J23001-01	Soil	10/20/06 15:20	10-20-2006 19:05
DT27-SPS	6J23001-02	Soil	10/20/06 15:50	10-20-2006 19:05
DT27-NFE	6J23001-03	Soil	10/20/06 16:20	10-20-2006 19:05

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-SFE (6J23001-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62007	10/23/06	10/23/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*81.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*80.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62302	10/23/06	10/23/06	EPA 8015M	
Carbon Ranges C12-C28	**47.2**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**J [4.09]**	10.0	"	"	"	"	"	"	J
Total Hydrocarbons	**47.2**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*92.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*84.2 %*	*70-130*		"	"	"	"	
DT27-SPS (6J23001-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62007	10/23/06	10/23/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*85.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*87.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**J [6.81]**	10.0	mg/kg dry	1	EJ62302	10/23/06	10/23/06	EPA 8015M	J
Carbon Ranges C12-C28	**104**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**10.2**	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**114**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*92.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*81.0 %*	*70-130*		"	"	"	"	
DT27-NFE (6J23001-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62007	10/23/06	10/23/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*83.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**J [4.54]**	10.0	mg/kg dry	1	EJ62302	10/23/06	10/23/06	EPA 8015M	J

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-NFE (6J23001-03) Soil									
Carbon Ranges C12-C28	**22.1**	10.0	mg/kg dry	1	EJ62302	10/23/06	10/23/06	EPA 8015M	
Carbon Ranges C28-C35	**J [3.88]**	10.0	"	"	"	"	"	"	J
Total Hydrocarbons	**22.1**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*88.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*78.2 %*	*70-130*		"	"	"	"	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-SFE (6J23001-01) Soil									
% Moisture	**8.1**	0.1	%	1	EJ62402	10/23/06	10/24/06	% calculation	
DT27-SPS (6J23001-02) Soil									
% Moisture	**4.7**	0.1	%	1	EJ62402	10/23/06	10/24/06	% calculation	
DT27-NFE (6J23001-03) Soil									
% Moisture	**2.2**	0.1	%	1	EJ62402	10/23/06	10/24/06	% calculation	

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ62007 - EPA 5030C (GC)										
Blank (EJ62007-BLK1)				Prepared & Analyzed: 10/20/06						
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	*34.4*		*ug/kg*	*40.0*		*86.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*34.3*		"	*40.0*		*85.8*	*80-120*			
LCS (EJ62007-BS1)				Prepared & Analyzed: 10/20/06						
Benzene	1.21	0.0250	mg/kg wet	1.25		96.8	80-120			
Toluene	1.11	0.0250	"	1.25		88.8	80-120			
Ethylbenzene	1.33	0.0250	"	1.25		106	80-120			
Xylene (p/m)	2.04	0.0250	"	2.50		81.6	80-120			
Xylene (o)	1.01	0.0250	"	1.25		80.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*33.5*		*ug/kg*	*40.0*		*83.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*38.9*		"	*40.0*		*97.2*	*80-120*			
Calibration Check (EJ62007-CCV1)				Prepared & Analyzed: 10/20/06						
Benzene	50.5		ug/kg	50.0		101	80-120			
Toluene	44.3		"	50.0		88.6	80-120			
Ethylbenzene	41.0		"	50.0		82.0	80-120			
Xylene (p/m)	81.2		"	100		81.2	80-120			
Xylene (o)	40.5		"	50.0		81.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	*38.1*		"	*40.0*		*95.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*35.6*		"	*40.0*		*89.0*	*80-120*			
Matrix Spike (EJ62007-MS1)	**Source: 6J18017-01**			Prepared & Analyzed: 10/20/06						
Benzene	1.31	0.0250	mg/kg dry	1.46	ND	89.7	80-120			
Toluene	1.20	0.0250	"	1.46	ND	82.2	80-120			
Ethylbenzene	1.40	0.0250	"	1.46	ND	95.9	80-120			
Xylene (p/m)	2.42	0.0250	"	2.93	ND	82.6	80-120			
Xylene (o)	1.21	0.0250	"	1.46	ND	82.9	80-120			
Surrogate: a,a,a-Trifluorotoluene	*32.9*		*ug/kg*	*40.0*		*82.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*36.6*		"	*40.0*		*91.5*	*80-120*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ62007 - EPA 5030C (GC)										
Matrix Spike Dup (EJ62007-MSD1)	**Source: 6J18017-01**			Prepared & Analyzed: 10/20/06						
Benzene	1.44	0.0250	mg/kg dry	1.46	ND	98.6	80-120	9.45	20	
Toluene	1.35	0.0250	"	1.46	ND	92.5	80-120	11.8	20	
Ethylbenzene	1.61	0.0250	"	1.46	ND	110	80-120	13.7	20	
Xylene (p/m)	2.82	0.0250	"	2.93	ND	96.2	80-120	15.2	20	
Xylene (o)	1.26	0.0250	"	1.46	ND	86.3	80-120	4.02	20	
Surrogate: a,a,a-Trifluorotoluene	*32.4*		*ug/kg*	*40.0*		*81.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.4*		*"*	*40.0*		*98.5*	*80-120*			
Batch EJ62302 - Solvent Extraction (GC)										
Blank (EJ62302-BLK1)				Prepared & Analyzed: 10/23/06						
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	*46.7*		*mg/kg*	*50.0*		*93.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.6*		*"*	*50.0*		*77.2*	*70-130*			
LCS (EJ62302-BS1)				Prepared & Analyzed: 10/23/06						
Carbon Ranges C6-C12	445	10.0	mg/kg wet	500		89.0	75-125			
Carbon Ranges C12-C28	435	10.0	"	500		87.0	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	880	10.0	"	1000		88.0	75-125			
Surrogate: 1-Chlorooctane	*55.7*		*mg/kg*	*50.0*		*111*	*70-130*			
Surrogate: 1-Chlorooctadecane	*37.5*		*"*	*50.0*		*75.0*	*70-130*			
Calibration Check (EJ62302-CCV1)				Prepared & Analyzed: 10/23/06						
Carbon Ranges C6-C12	208		mg/kg	250		83.2	80-120			
Carbon Ranges C12-C28	252		"	250		101	80-120			
Total Hydrocarbons	460		"	500		92.0	80-120			
Surrogate: 1-Chlorooctane	*56.3*		*"*	*50.0*		*113*	*70-130*			
Surrogate: 1-Chlorooctadecane	*45.6*		*"*	*50.0*		*91.2*	*70-130*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ62302 - Solvent Extraction (GC)										
Matrix Spike (EJ62302-MS1)	**Source: 6J20001-01**			Prepared & Analyzed: 10/23/06						
Carbon Ranges C6-C12	549	10.0	mg/kg dry	606	ND	90.6	75-125			
Carbon Ranges C12-C28	551	10.0	"	606	ND	90.9	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1100	10.0	"	1210	ND	90.9	75-125			
Surrogate: 1-Chlorooctane	*57.6*		*mg/kg*	*50.0*		*115*	*70-130*			
Surrogate: 1-Chlorooctadecane	*43.0*		"	*50.0*		*86.0*	*70-130*			
Matrix Spike Dup (EJ62302-MSD1)	**Source: 6J20001-01**			Prepared & Analyzed: 10/23/06						
Carbon Ranges C6-C12	584	10.0	mg/kg dry	606	ND	96.4	75-125	6.18	20	
Carbon Ranges C12-C28	601	10.0	"	606	ND	99.2	75-125	8.68	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1180	10.0	"	1210	ND	97.5	75-125	7.02	20	
Surrogate: 1-Chlorooctane	*61.3*		*mg/kg*	*50.0*		*123*	*70-130*			
Surrogate: 1-Chlorooctadecane	*44.9*		"	*50.0*		*89.8*	*70-130*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ62402 - General Preparation (Prep)										
Blank (EJ62402-BLK1)				Prepared: 10/23/06 Analyzed: 10/24/06						
% Solids	100		%							
Duplicate (EJ62402-DUP1)		**Source: 6J23001-01**		Prepared: 10/23/06 Analyzed: 10/24/06						
% Solids	92.4		%		91.9			0.543	20	

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 10/31/2006

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.

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Reynolds

Company Name:

Company Address:

City/State/Zip:

Telephone No:

Fax No:

Sampler Signature:

e-mail: lucky@sdgen.com

Project Name: DT-27

Project #: Rocky Top 3

Project Loc:

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 057300

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	No. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge / GW=Groundwater S=Soil/Solid / NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 / 8015M / 1005 / 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24 48 72 hrs	Standard TAT
						4oz-jars										TCLP: / TOTAL:											
1	DT27-SFE			10/20/06	1520	1	X								Soil	X							X			X	
2	DT27-SPS			10/20/06	1550	1	X								↓	X							X			X	
3	DT27-NFE			10/20/06	1620	1	X								↓	X							X			X	

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/20/06	1905			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: [signature]	10-20-06	1905

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep.?	Y	N

by Courier? UPS DHL FedEx Lone Star

w/labels

Temperature Upon Receipt: 0.5 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains

Date/ Time: 10/20/16 19:05

Lab ID #: 16523001

Initials: CK

Sample Receipt Checklist

					Client Initials
	Temperature of container/ cooler?	Yes	No	0.5 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

ENVIRONMENTAL 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: DT-27

Project Number: Rocky Top 3

Location: Clay Osborn Ranch DT-27

Lab Order Number: 6J25011

Report Date: 11/01/06

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DT27-NWW2	6J25011-01	Soil	10/24/06 10:55	10-25-2006 16:30
DT27-EW2	6J25011-02	Soil	10/24/06 11:00	10-25-2006 16:30
DT27-SW2	6J25011-03	Soil	10/24/06 11:05	10-25-2006 16:30
DT27-WWW5	6J25011-04	Soil	10/24/06 11:15	10-25-2006 16:30
DT27-NWW10	6J25011-05	Soil	10/24/06 11:25	10-25-2006 16:30
DT27-NWW5	6J25011-06	Soil	10/24/06 11:27	10-25-2006 16:30
DT27-WWN5	6J25011-07	Soil	10/24/06 11:30	10-25-2006 16:30
DT27-EWN5	6J25011-08	Soil	10/24/06 11:35	10-25-2006 16:30
DT27-EWS10	6J25011-09	Soil	10/24/06 11:40	10-25-2006 16:30
DT27-EWS5	6J25011-10	Soil	10/24/06 11:42	10-25-2006 16:30
DT27-SWE5	6J25011-11	Soil	10/24/06 11:50	10-25-2006 16:30
DT27-SWE10	6J25011-12	Soil	10/24/06 11:54	10-25-2006 16:30
DT27-SWW5	6J25011-13	Soil	10/24/06 12:00	10-25-2006 16:30
DT27-EF	6J25011-14	Soil	10/24/06 12:05	10-25-2006 16:30
DT27-CF	6J25011-15	Soil	10/24/06 12:09	10-25-2006 16:30
DT27-WF	6J25011-16	Soil	10/24/06 12:15	10-25-2006 16:30

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-NWW2 (6J25011-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62607	10/25/06	10/26/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*86.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*80.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*129 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*113 %*	*70-130*		"	"	"	"	
DT27-EW2 (6J25011-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/26/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*82.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*129 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*123 %*	*70-130*		"	"	"	"	
DT27-SW2 (6J25011-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/26/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*82.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-SW2 (6J25011-03) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*129 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*109 %*	*70-130*		"	"	"	"	
DT27-WWW5 (6J25011-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/27/06	EPA 8021B	
Toluene	**J [0.0156]**	0.0250	"	"	"	"	"	"	J
Ethylbenzene	**ND**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**0.0364**	0.0250	"	"	"	"	"	"	
Xylene (o)	**J [0.0183]**	0.0250	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		*84.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**J [5.14]**	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	J
Carbon Ranges C12-C28	**203**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**15.2**	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**218**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*128 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*111 %*	*70-130*		"	"	"	"	
DT27-NWW10 (6J25011-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/27/06	EPA 8021B	
Toluene	**J [0.0162]**	0.0250	"	"	"	"	"	"	J
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**ND**	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*86.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*129 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*108 %*	*70-130*		"	"	"	"	

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-NWW5 (6J25011-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/27/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*83.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**J [7.28]**	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	J
Carbon Ranges C12-C28	**123**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**11.9**	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**135**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*130 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*112 %*	*70-130*		"	"	"	"	
DT27-WWN5 (6J25011-07) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/27/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*80.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*85.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**J [6.20]**	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	J
Carbon Ranges C12-C28	**180**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**43.8**	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**224**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*130 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*113 %*	*70-130*		"	"	"	"	
DT27-EWN5 (6J25011-08) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/27/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*83.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-EWN5 (6J25011-08) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*130 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*111 %*	*70-130*		"	"	"	"	
DT27-EWS10 (6J25011-09) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/27/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*86.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/26/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*129 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*109 %*	*70-130*		"	"	"	"	
DT27-EWS5 (6J25011-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/27/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*86.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/27/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*128 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*107 %*	*70-130*		"	"	"	"	

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-SWE5 (6J25011-11) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/27/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*81.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62610	10/26/06	10/27/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*129 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*109 %*	*70-130*		"	"	"	"	
DT27-SWE10 (6J25011-12) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ62617	10/26/06	10/27/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*80.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62704	10/26/06	10/27/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*122 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*107 %*	*70-130*		"	"	"	"	
DT27-SWW5 (6J25011-13) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ63011	10/30/06	10/30/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*101 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*124 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62704	10/26/06	10/27/06	EPA 8015M	

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-SWW5 (6J25011-13) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EJ62704	10/26/06	10/27/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*129 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*109 %*	*70-130*		"	"	"	"	
DT27-EF (6J25011-14) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ63011	10/30/06	10/30/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*116 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EJ62704	10/26/06	10/27/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*129 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*107 %*	*70-130*		"	"	"	"	
DT27-CF (6J25011-15) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ63011	10/30/06	10/30/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*98.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**31.7**	10.0	mg/kg dry	1	EJ62704	10/26/06	10/27/06	EPA 8015M	
Carbon Ranges C12-C28	**596**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**64.3**	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**692**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*130 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*110 %*	*70-130*		"	"	"	"	

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-WF (6J25011-16) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ63011	10/30/06	10/30/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*93.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*215 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	**51.0**	10.0	mg/kg dry	"	EJ62704	10/26/06	10/27/06	EPA 8015M	
Carbon Ranges C12-C28	**1190**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**127**	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**1370**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*130 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*112 %*	*70-130*		"	"	"	"	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-NWW2 (6J25011-01) Soil									
% Moisture	**6.8**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-EW2 (6J25011-02) Soil									
% Moisture	**8.0**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-SW2 (6J25011-03) Soil									
% Moisture	**10.2**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-WWW5 (6J25011-04) Soil									
% Moisture	**3.7**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-NWW10 (6J25011-05) Soil									
% Moisture	**2.5**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-NWW5 (6J25011-06) Soil									
% Moisture	**6.6**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-WWN5 (6J25011-07) Soil									
% Moisture	**4.9**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-EWN5 (6J25011-08) Soil									
% Moisture	**2.7**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-EWS10 (6J25011-09) Soil									
% Moisture	**1.3**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-EWS5 (6J25011-10) Soil									
% Moisture	**4.9**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-SWE5 (6J25011-11) Soil									
% Moisture	**4.4**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-SWE10 (6J25011-12) Soil									
% Moisture	**2.8**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-SWW5 (6J25011-13) Soil									
% Moisture	**4.9**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-EF (6J25011-14) Soil									
% Moisture	**6.8**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-CF (6J25011-15) Soil									
% Moisture	**4.9**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	
DT27-WF (6J25011-16) Soil									
% Moisture	**9.6**	0.1	%	1	EJ62706	10/26/06	10/27/06	% calculation	

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 EJ62607 - EPA 5030C (GC)										
Blank (EJ62607-BLK1)				Prepared & Analyzed: 10/25/06						
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	*41.1*		*ug/kg*	*40.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.1*		"	*40.0*		*97.8*	*80-120*			
LCS (EJ62607-BS1)				Prepared: 10/25/06 Analyzed: 10/26/06						
Benzene	1.15	0.0250	mg/kg wet	1.25		92.0	80-120			
Toluene	1.23	0.0250	"	1.25		98.4	80-120			
Ethylbenzene	1.38	0.0250	"	1.25		110	80-120			
Xylene (p/m)	2.46	0.0250	"	2.50		98.4	80-120			
Xylene (o)	1.26	0.0250	"	1.25		101	80-120			
Surrogate: a,a,a-Trifluorotoluene	*32.9*		*ug/kg*	*40.0*		*82.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*37.9*		"	*40.0*		*94.8*	*80-120*			
Calibration Check (EJ62607-CCV1)				Prepared: 10/25/06 Analyzed: 10/26/06						
Benzene	46.9		ug/kg	50.0		93.8	80-120			
Toluene	46.5		"	50.0		93.0	80-120			
Ethylbenzene	49.9		"	50.0		99.8	80-120			
Xylene (p/m)	87.1		"	100		87.1	80-120			
Xylene (o)	45.5		"	50.0		91.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	*35.3*		"	*40.0*		*88.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*38.6*		"	*40.0*		*96.5*	*80-120*			
Matrix Spike (EJ62607-MS1)	**Source: 6J25001-04**			Prepared: 10/25/06 Analyzed: 10/26/06						
Benzene	1.23	0.0250	mg/kg dry	1.35	ND	91.1	80-120			
Toluene	1.27	0.0250	"	1.35	ND	94.1	80-120			
Ethylbenzene	1.30	0.0250	"	1.35	ND	96.3	80-120			
Xylene (p/m)	2.44	0.0250	"	2.70	ND	90.4	80-120			
Xylene (o)	1.23	0.0250	"	1.35	ND	91.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	*33.9*		*ug/kg*	*40.0*		*84.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*42.0*		"	*40.0*		*105*	*80-120*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ62607 - EPA 5030C (GC)										
Matrix Spike Dup (EJ62607-MSD1)	**Source: 6J25001-04**			Prepared: 10/25/06 Analyzed: 10/26/06						
Benzene	1.23	0.0250	mg/kg dry	1.35	ND	91.1	80-120	0.00	20	
Toluene	1.25	0.0250	"	1.35	ND	92.6	80-120	1.61	20	
Ethylbenzene	1.37	0.0250	"	1.35	ND	101	80-120	4.76	20	
Xylene (p/m)	2.45	0.0250	"	2.70	ND	90.7	80-120	0.331	20	
Xylene (o)	1.24	0.0250	"	1.35	ND	91.9	80-120	0.874	20	
Surrogate: a,a,a-Trifluorotoluene	*33.3*		*ug/kg*	*40.0*		*83.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*33.5*		*"*	*40.0*		*83.8*	*80-120*			
Batch EJ62610 - Solvent Extraction (GC)										
Blank (EJ62610-BLK1)				Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	*49.1*		*mg/kg*	*50.0*		*98.2*	*70-130*			
Surrogate: 1-Chlorooctadecane	*42.1*		*"*	*50.0*		*84.2*	*70-130*			
LCS (EJ62610-BS1)				Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	445	10.0	mg/kg wet	500		89.0	75-125			
Carbon Ranges C12-C28	426	10.0	"	500		85.2	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	871	10.0	"	1000		87.1	75-125			
Surrogate: 1-Chlorooctane	*49.4*		*mg/kg*	*50.0*		*98.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*35.3*		*"*	*50.0*		*70.6*	*70-130*			
Calibration Check (EJ62610-CCV1)				Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	203		mg/kg	250		81.2	80-120			
Carbon Ranges C12-C28	248		"	250		99.2	80-120			
Total Hydrocarbons	451		"	500		90.2	80-120			
Surrogate: 1-Chlorooctane	*54.0*		*"*	*50.0*		*108*	*70-130*			
Surrogate: 1-Chlorooctadecane	*41.2*		*"*	*50.0*		*82.4*	*70-130*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ62610 - Solvent Extraction (GC)										
Matrix Spike (EJ62610-MS1)	**Source: 6J25011-09**			Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	588	10.0	mg/kg dry	507	ND	116	75-125			
Carbon Ranges C12-C28	579	10.0	"	507	ND	114	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1170	10.0	"	1010	ND	116	75-125			
Surrogate: 1-Chlorooctane	*49.2*		*mg/kg*	*50.0*		*98.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*35.2*		*"*	*50.0*		*70.4*	*70-130*			
Matrix Spike Dup (EJ62610-MSD1)	**Source: 6J25011-09**			Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	557	10.0	mg/kg dry	507	ND	110	75-125	5.41	20	
Carbon Ranges C12-C28	556	10.0	"	507	ND	110	75-125	4.05	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1110	10.0	"	1010	ND	110	75-125	5.26	20	
Surrogate: 1-Chlorooctane	*47.7*		*mg/kg*	*50.0*		*95.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*35.2*		*"*	*50.0*		*70.4*	*70-130*			
Batch EJ62617 - EPA 5030C (GC)										
Blank (EJ62617-BLK1)				Prepared & Analyzed: 10/26/06						
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	*32.5*		*ug/kg*	*40.0*		*81.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*37.5*		*"*	*40.0*		*93.8*	*80-120*			
LCS (EJ62617-BS1)				Prepared & Analyzed: 10/26/06						
Benzene	1.12	0.0250	mg/kg wet	1.25		89.6	80-120			
Toluene	1.17	0.0250	"	1.25		93.6	80-120			
Ethylbenzene	1.17	0.0250	"	1.25		93.6	80-120			
Xylene (p/m)	2.29	0.0250	"	2.50		91.6	80-120			
Xylene (o)	1.16	0.0250	"	1.25		92.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*33.0*		*ug/kg*	*40.0*		*82.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.6*		*"*	*40.0*		*99.0*	*80-120*			

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 EJ62617 - EPA 5030C (GC)										
Calibration Check (EJ62617-CCV1)				Prepared: 10/26/06 Analyzed: 10/27/06						
Benzene	45.0		ug/kg	50.0		90.0	80-120			
Toluene	43.8		"	50.0		87.6	80-120			
Ethylbenzene	45.1		"	50.0		90.2	80-120			
Xylene (p/m)	82.5		"	100		82.5	80-120			
Xylene (o)	42.4		"	50.0		84.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*36.2*		"	*40.0*		*90.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*34.7*		"	*40.0*		*86.8*	*80-120*			
Matrix Spike (EJ62617-MS1)		**Source: 6J25011-02**		Prepared: 10/26/06 Analyzed: 10/27/06						
Benzene	1.16	0.0250	mg/kg dry	1.36	ND	85.3	80-120			
Toluene	1.19	0.0250	"	1.36	ND	87.5	80-120			
Ethylbenzene	1.24	0.0250	"	1.36	ND	91.2	80-120			
Xylene (p/m)	2.34	0.0250	"	2.72	ND	86.0	80-120			
Xylene (o)	1.13	0.0250	"	1.36	ND	83.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	*33.8*		*ug/kg*	*40.0*		*84.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*34.0*		"	*40.0*		*85.0*	*80-120*			
Matrix Spike Dup (EJ62617-MSD1)		**Source: 6J25011-02**		Prepared: 10/26/06 Analyzed: 10/27/06						
Benzene	1.19	0.0250	mg/kg dry	1.36	ND	87.5	80-120	2.55	20	
Toluene	1.20	0.0250	"	1.36	ND	88.2	80-120	0.797	20	
Ethylbenzene	1.22	0.0250	"	1.36	ND	89.7	80-120	1.66	20	
Xylene (p/m)	2.29	0.0250	"	2.72	ND	84.2	80-120	2.12	20	
Xylene (o)	1.11	0.0250	"	1.36	ND	81.6	80-120	1.82	20	
Surrogate: a,a,a-Trifluorotoluene	*35.6*		*ug/kg*	*40.0*		*89.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*34.0*		"	*40.0*		*85.0*	*80-120*			
Batch EJ62704 - Solvent Extraction (GC)										
Blank (EJ62704-BLK1)				Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	*49.2*		*mg/kg*	*50.0*		*98.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*41.6*		"	*50.0*		*83.2*	*70-130*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ62704 - Solvent Extraction (GC)										
LCS (EJ62704-BS1)				Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	450	10.0	mg/kg wet	500		90.0	75-125			
Carbon Ranges C12-C28	418	10.0	"	500		83.6	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	868	10.0	"	1000		86.8	75-125			
Surrogate: 1-Chlorooctane	*49.9*		*mg/kg*	*50.0*		*99.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*35.0*		*"*	*50.0*		*70.0*	*70-130*			
Calibration Check (EJ62704-CCV1)				Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	202		mg/kg	250		80.8	80-120			
Carbon Ranges C12-C28	249		"	250		99.6	80-120			
Total Hydrocarbons	452		"	500		90.4	80-120			
Surrogate: 1-Chlorooctane	*54.2*		*"*	*50.0*		*108*	*70-130*			
Surrogate: 1-Chlorooctadecane	*39.6*		*"*	*50.0*		*79.2*	*70-130*			
Matrix Spike (EJ62704-MS1)	**Source: 6J25011-12**			Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	480	10.0	mg/kg dry	514	ND	93.4	75-125			
Carbon Ranges C12-C28	462	10.0	"	514	ND	89.9	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	942	10.0	"	1030	ND	91.5	75-125			
Surrogate: 1-Chlorooctane	*54.0*		*mg/kg*	*50.0*		*108*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.3*		*"*	*50.0*		*76.6*	*70-130*			
Matrix Spike Dup (EJ62704-MSD1)	**Source: 6J25011-12**			Prepared: 10/26/06 Analyzed: 10/27/06						
Carbon Ranges C6-C12	459	10.0	mg/kg dry	514	ND	89.3	75-125	4.47	20	
Carbon Ranges C12-C28	447	10.0	"	514	ND	87.0	75-125	3.30	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	906	10.0	"	1030	ND	88.0	75-125	3.90	20	
Surrogate: 1-Chlorooctane	*50.4*		*mg/kg*	*50.0*		*101*	*70-130*			
Surrogate: 1-Chlorooctadecane	*35.8*		*"*	*50.0*		*71.6*	*70-130*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ63011 - EPA 5030C (GC)										
Blank (EJ63011-BLK1)				Prepared & Analyzed: 10/30/06						
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	*41.1*		*ug/kg*	*40.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*35.1*		"	*40.0*		*87.8*	*80-120*			
LCS (EJ63011-BS1)				Prepared & Analyzed: 10/30/06						
Benzene	55.4		ug/kg	50.0		111	80-120			
Toluene	51.8		"	50.0		104	80-120			
Ethylbenzene	49.2		"	50.0		98.4	80-120			
Xylene (p/m)	108		"	100		108	80-120			
Xylene (o)	43.9		"	50.0		87.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*41.3*		"	*40.0*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*44.1*		"	*40.0*		*110*	*80-120*			
Calibration Check (EJ63011-CCV1)				Prepared & Analyzed: 10/30/06						
Benzene	57.3		ug/kg	50.0		115	80-120			
Toluene	54.1		"	50.0		108	80-120			
Ethylbenzene	55.8		"	50.0		112	80-120			
Xylene (p/m)	113		"	100		113	80-120			
Xylene (o)	53.2		"	50.0		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	*38.7*		"	*40.0*		*96.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*42.2*		"	*40.0*		*106*	*80-120*			
Matrix Spike (EJ63011-MS1)	**Source: 6J27006-04**			Prepared & Analyzed: 10/30/06						
Benzene	1400		ug/kg	1250	ND	112	80-120			
Toluene	1370		"	1250	ND	110	80-120			
Ethylbenzene	1270		"	1250	ND	102	80-120			
Xylene (p/m)	2980		"	2500	ND	119	80-120			
Xylene (o)	1200		"	1250	ND	96.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	*39.1*		"	*40.0*		*97.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*46.0*		"	*40.0*		*115*	*80-120*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ63011 - EPA 5030C (GC)										
Matrix Spike Dup (EJ63011-MSD1)	**Source: 6J27006-04**			Prepared & Analyzed: 10/30/06						
Benzene	1280		ug/kg	1250	ND	102	80-120	9.35	20	
Toluene	1420		"	1250	ND	114	80-120	3.57	20	
Ethylbenzene	1380		"	1250	ND	110	80-120	7.55	20	
Xylene (p/m)	2960		"	2500	ND	118	80-120	0.844	20	
Xylene (o)	1250		"	1250	ND	100	80-120	4.08	20	
Surrogate: a,a,a-Trifluorotoluene	*39.7*		*"*	*40.0*		*99.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*42.5*		*"*	*40.0*		*106*	*80-120*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EJ62706 - General Preparation (Prep)										
Blank (EJ62706-BLK1)				Prepared: 10/26/06 Analyzed: 10/27/06						
% Solids	100		%							
Duplicate (EJ62706-DUP1)		**Source: 6J25011-01**		Prepared: 10/26/06 Analyzed: 10/27/06						
% Solids	93.1		%		93.2			0.107	20	
Duplicate (EJ62706-DUP2)		**Source: 6J25014-05**		Prepared: 10/26/06 Analyzed: 10/27/06						
% Solids	90.9		%		91.3			0.439	20	
Duplicate (EJ62706-DUP3)		**Source: 6J26005-08**		Prepared: 10/26/06 Analyzed: 10/27/06						
% Solids	91.0		%		89.6			1.55	20	

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 11/1/2006

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.

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Reynolds
Company Name: Plains Pipeline L.P.
Company Address:
City/State/Zip:
Telephone No: Fax No:
Sampler Signature: K Cody
e-mail: kcody@sdgenv.com

Project Name: DT-27
SRS Project #: Rocky Top 3
Project Loc: Clay Osborn Ranch DT-27
PO #:
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 6J25011

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled (M)	No. of Containers 4oz Glass	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 (8015) 1005 1006	TOTAL: TPH: 418.1 (8015) 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
-01	DT27 - NWW2			10/24/06	1055	1	✓								S	X							X					
-02	- EW2				1100	1	✓								S	X							X					
-03	- SW2				1105	1	✓								S	X							X					
-04	- WWW5				1115	1	✓								S	X							X					
-05	- NWW10				1125	1	✓								S	X							X					
-06	- NWW5				1127	1	✓								S	X							X					
-07	- [redacted] WWN5				1130	1	✓								S	X							X					
-08	- EWN5				1135	1	✓								S	X							X					
-09	- EWS10				1140	1	✓								S	X							X					
-10	- EWS5				1142	1	✓								S	X							X					

Special Instructions:
Report TPH-GRO / DRO 8015 B M as per D. Bryan

Relinquished by:	Date	Time	Received by:	Date	Time
K Cody	10/25/06	1630			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Sandra Sanchez	10/25/06	1630

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? Y N
Custody seals on container(s) Y (N)
Custody seals on cooler(s) Y (N)
Sample Hand Delivered X N
by Sampler/Client Rep. ? (Y) N
by Courier? UPS DHL FedEx Lone Star
w/labels
Temperature Upon Receipt: 0.0°C °C

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Reynolds
Company Name: Plains Pipeline L.P.
Company Address:
City/State/Zip:
Telephone No:
Fax No:
Sampler Signature:

Project Name: DT-27
SRS Project #: Rocky Top 3
Project Loc: Clay Osborn Ranch DT-27
PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES
e-mail: kcody@sdgenv.com

(lab use only)
ORDER #: 6J25011

Analyze For:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled (M)	No. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 / 8015 / 1005 / 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
-11	DT27 - SWE5			10/24/06	1150	1	✓								S	X						X					
-12	DT27 - SWE10			10/24/06	1154	1	✓								S	X						X					
-13	DT27 - SWW5			10/24/06	1200	1	✓								S	X						X					
-14	DT27 - EF			10/24/06	1205	1	✓								S	X						X					
-15	DT27 - CF			10/24/06	1209	1	✓								S	X						X					
-16	DT27 - WF			10/24/06	1215	1	✓								S	X						X					
	~~DT27~~																										

Special Instructions:
TPH - GRO / DRO 8015 M as per D. Bryant

Relinquished by:	Date	Time	Received by:	Date	Time
	10/27/06	1630			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Sandra Adcock	10/25/06	1630

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? Y N
Custody seals on container(s) Y (N)
Custody seals on cooler(s) (Y) N
Sample Hand Delivered by Sampler/Client Rep. ? Y N
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 0°C °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains P/L

Date/ Time: 10-25-06 @ 1630

Lab ID # : 6J25011

Initials: JMM

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	0.0 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

ENVIRONMENTAL 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: DT-27

Project Number: Rocky Top 3

Location: Clay Osborn Ranch

Lab Order Number: 6K10008

Report Date: 11/13/06

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DT27-2WWN5	6K10008-01	Soil	11/10/06 10:00	11-10-2006 16:30
DT27-2NWW5	6K10008-02	Soil	11/10/06 10:35	11-10-2006 16:30
DT27-2WF15	6K10008-03	Soil	11/10/06 13:31	11-10-2006 16:30
DT27-2SWW15	6K10008-04	Soil	11/10/06 13:45	11-10-2006 16:30
DT27-2WWW15	6K10008-05	Soil	11/10/06 13:50	11-10-2006 16:30
DT27-2WWW10	6K10008-06	Soil	11/10/06 13:15	11-10-2006 16:30
DT27-2NW15	6K10008-07	Soil	11/10/06 13:25	11-10-2006 16:30

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-2WWN5 (6K10008-01) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EK61102	11/11/06	11/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*94.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*114 %*	*70-130*		"	"	"	"	
DT27-2NWW5 (6K10008-02) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EK61102	11/11/06	11/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*91.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*110 %*	*70-130*		"	"	"	"	
DT27-2WF15 (6K10008-03) Soil									
Carbon Ranges C6-C12	**97.0**	10.0	mg/kg dry	1	EK61102	11/11/06	11/11/06	EPA 8015M	
Carbon Ranges C12-C28	**1310**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**88.1**	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**1500**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*97.2 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*127 %*	*70-130*		"	"	"	"	
DT27-2SWW15 (6K10008-04) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EK61102	11/11/06	11/11/06	EPA 8015M	
Carbon Ranges C12-C28	**13.9**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**13.9**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*95.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*116 %*	*70-130*		"	"	"	"	

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-2WWW15 (6K10008-05) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EK61102	11/11/06	11/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*90.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*107 %*	*70-130*		"	"	"	"	
DT27-2WWW10 (6K10008-06) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EK61102	11/11/06	11/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*109 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*130 %*	*70-130*		"	"	"	"	
DT27-2NW15 (6K10008-07) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EK61102	11/11/06	11/11/06	EPA 8015M	
Carbon Ranges C12-C28	**J [9.60]**	10.0	"	"	"	"	"	"	J
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*107 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*129 %*	*70-130*		"	"	"	"	

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27-2WWN5 (6K10008-01) Soil									
% Moisture	**3.5**	0.1	%	1	EK61305	11/10/06	11/13/06	% calculation	
DT27-2NWW5 (6K10008-02) Soil									
% Moisture	**16.6**	0.1	%	1	EK61305	11/10/06	11/13/06	% calculation	
DT27-2WF15 (6K10008-03) Soil									
% Moisture	**2.1**	0.1	%	1	EK61305	11/10/06	11/13/06	% calculation	
DT27-2SWW15 (6K10008-04) Soil									
% Moisture	**12.0**	0.1	%	1	EK61305	11/10/06	11/13/06	% calculation	
DT27-2WWW15 (6K10008-05) Soil									
% Moisture	**18.3**	0.1	%	1	EK61305	11/10/06	11/13/06	% calculation	
DT27-2WWW10 (6K10008-06) Soil									
% Moisture	**3.3**	0.1	%	1	EK61305	11/10/06	11/13/06	% calculation	
DT27-2NW15 (6K10008-07) Soil									
% Moisture	**1.2**	0.1	%	1	EK61305	11/10/06	11/13/06	% calculation	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EK61102 - Solvent Extraction (GC)										
Blank (EK61102-BLK1)				Prepared & Analyzed: 11/11/06						
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	*45.8*		*mg/kg*	*50.0*		*91.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*57.7*		*"*	*50.0*		*115*	*70-130*			
LCS (EK61102-BS1)				Prepared & Analyzed: 11/11/06						
Carbon Ranges C6-C12	453	10.0	mg/kg wet	500		90.6	75-125			
Carbon Ranges C12-C28	431	10.0	"	500		86.2	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	884	10.0	"	1000		88.4	75-125			
Surrogate: 1-Chlorooctane	*55.0*		*mg/kg*	*50.0*		*110*	*70-130*			
Surrogate: 1-Chlorooctadecane	*56.5*		*"*	*50.0*		*113*	*70-130*			
Calibration Check (EK61102-CCV1)				Prepared & Analyzed: 11/11/06						
Carbon Ranges C6-C12	202		mg/kg	250		80.8	80-120			
Carbon Ranges C12-C28	260		"	250		104	80-120			
Total Hydrocarbons	462		"	500		92.4	80-120			
Surrogate: 1-Chlorooctane	*51.2*		*"*	*50.0*		*102*	*70-130*			
Surrogate: 1-Chlorooctadecane	*59.0*		*"*	*50.0*		*118*	*70-130*			
Matrix Spike (EK61102-MS1)	**Source: 6K10007-01**			Prepared & Analyzed: 11/11/06						
Carbon Ranges C6-C12	568	10.0	mg/kg dry	504	ND	113	75-125			
Carbon Ranges C12-C28	552	10.0	"	504	ND	110	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1120	10.0	"	1010	ND	111	75-125			
Surrogate: 1-Chlorooctane	*73.2*		*mg/kg*	*100*		*73.2*	*70-130*			
Surrogate: 1-Chlorooctadecane	*78.6*		*"*	*100*		*78.6*	*70-130*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EK61102 - Solvent Extraction (GC)										
Matrix Spike Dup (EK61102-MSD1)	**Source: 6K10007-01**			Prepared & Analyzed: 11/11/06						
Carbon Ranges C6-C12	555	10.0	mg/kg dry	504	ND	110	75-125	2.32	20	
Carbon Ranges C12-C28	546	10.0	"	504	ND	108	75-125	1.09	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1100	10.0	"	1010	ND	109	75-125	1.80	20	
Surrogate: 1-Chlorooctane	*71.7*		*mg/kg*	*100*		*71.7*	*70-130*			
Surrogate: 1-Chlorooctadecane	*74.6*		*"*	*100*		*74.6*	*70-130*			

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

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 EK61305 - General Preparation (Prep)										
Blank (EK61305-BLK1)				Prepared: 11/10/06 Analyzed: 11/13/06						
% Solids	100		%							
Duplicate (EK61305-DUP1)		**Source: 6K09012-01**		Prepared: 11/10/06 Analyzed: 11/13/06						
% Solids	85.6		%		84.6			1.18	20	
Duplicate (EK61305-DUP2)		**Source: 6K10008-06**		Prepared: 11/10/06 Analyzed: 11/13/06						
% Solids	96.2		%		96.7			0.518	20	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 11/13/2006

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.

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Reynolds
Company Name: Plains Pipeline, LP
Company Address:
City/State/Zip:
Telephone No: Fax No:
Sampler Signature: e-mail: kcody@sdgenv.com

Project Name: DT-27
Project #: Rocky Top 3
Project Loc: Clay Osborn Ranch
PO #:
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 60K10008

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	No. of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge / GW=Groundwater S=Soil/Solid / NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 / 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Scheduled) 24, 48, 72 hrs	Standard TAT
01	DT27-2WWN5			11/10/06	1000	1	✓								S	X											
02	DT27-2NWW15			11/10/06	1035	1	✓								S	X											
03	DT27-2WE15			11/10/06	1331	1	✓								S	X											
04	DT27-25WW15			11/10/06	1345	1	✓								S	X											
05	DT27-7WWW15			11/10/06	1350	1	✓								S	X											
06	DT27-2WWW10			11/10/06	1315	1	✓								S	X											
07	DT27-2NW15			11/10/06	1325	1	✓								S	X											

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	11/10/06	16:30			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				11/10/06	16:30

Laboratory Comments:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Custody seals on container(s) Y N
Custody seals on cooler(s) Y N
Sample Hand Delivered Y N
by Sampler/Client Rep. ?
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: -2.0 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains

Date/ Time: 11/10/06

Lab ID #: 6K10008-1-7

Initials: KT

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	-2.0 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	~~Not Present~~	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	~~Not Present~~	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

ENVIRONMENTAL 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: DT-27

Project Number: Rocky Top 3

Location: Clay Osborn Ranch

Lab Order Number: 6K14011

Report Date: 11/15/06

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DT27- NWSP	6K14011-01	Soil	11/14/06 08:10	11-14-2006 15:50
DT27- NESP	6K14011-02	Soil	11/14/06 08:20	11-14-2006 15:50
DT27- ESP	6K14011-03	Soil	11/14/06 09:00	11-14-2006 15:50

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27- NWSP (6K14011-01) Soil									
Carbon Ranges C6-C12	**J [3.43]**	10.0	mg/kg dry	1	EK61417	11/14/06	11/15/06	EPA 8015M	J
Carbon Ranges C12-C28	**100**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**J [6.49]**	10.0	"	"	"	"	"	"	J
Total Hydrocarbons	**100**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*108 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*133 %*	*70-130*		"	"	"	"	*S-04*
DT27- NESP (6K14011-02) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EK61417	11/14/06	11/15/06	EPA 8015M	
Carbon Ranges C12-C28	**36.8**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	**36.8**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*86.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*89.6 %*	*70-130*		"	"	"	"	
DT27- ESP (6K14011-03) Soil									
Carbon Ranges C6-C12	**J [2.86]**	10.0	mg/kg dry	1	EK61417	11/14/06	11/15/06	EPA 8015M	J
Carbon Ranges C12-C28	**106**	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**J [5.95]**	10.0	"	"	"	"	"	"	J
Total Hydrocarbons	**106**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*102 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*134 %*	*70-130*		"	"	"	"	*S-04*

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Plains All American EH & S	Project: DT-27	Fax: (432) 687-4914
1301 S. County Road 1150	Project Number: Rocky Top 3	
Midland TX, 79706-4476	Project Manager: Camille Reynolds	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DT27- NWSP (6K14011-01) Soil									
% Moisture	**4.3**	0.1	%	1	EK61503	11/14/06	11/15/06	% calculation	
DT27- NESP (6K14011-02) Soil									
% Moisture	**7.2**	0.1	%	1	EK61503	11/14/06	11/15/06	% calculation	
DT27- ESP (6K14011-03) Soil									
% Moisture	**3.3**	0.1	%	1	EK61503	11/14/06	11/15/06	% calculation	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EK61417 - Solvent Extraction (GC)										
Blank (EK61417-BLK1)				Prepared & Analyzed: 11/14/06						
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	*41.8*		*mg/kg*	*50.0*		*83.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*54.1*		"	*50.0*		*108*	*70-130*			
LCS (EK61417-BS1)				Prepared & Analyzed: 11/14/06						
Carbon Ranges C6-C12	460	10.0	mg/kg wet	500		92.0	75-125			
Carbon Ranges C12-C28	427	10.0	"	500		85.4	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	887	10.0	"	1000		88.7	75-125			
Surrogate: 1-Chlorooctane	*48.9*		*mg/kg*	*50.0*		*97.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*54.5*		"	*50.0*		*109*	*70-130*			
Calibration Check (EK61417-CCV1)				Prepared: 11/14/06 Analyzed: 11/15/06						
Carbon Ranges C6-C12	208		mg/kg	250		83.2	80-120			
Carbon Ranges C12-C28	275		"	250		110	80-120			
Total Hydrocarbons	483		"	500		96.6	80-120			
Surrogate: 1-Chlorooctane	*54.4*		"	*50.0*		*109*	*70-130*			
Surrogate: 1-Chlorooctadecane	*64.0*		"	*50.0*		*128*	*70-130*			
Matrix Spike (EK61417-MS1)	**Source: 6K14005-01**			Prepared: 11/14/06 Analyzed: 11/15/06						
Carbon Ranges C6-C12	512	10.0	mg/kg dry	546	ND	93.8	75-125			
Carbon Ranges C12-C28	504	10.0	"	546	ND	92.3	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1020	10.0	"	1090	ND	93.6	75-125			
Surrogate: 1-Chlorooctane	*60.6*		*mg/kg*	*50.0*		*121*	*70-130*			
Surrogate: 1-Chlorooctadecane	*64.5*		"	*50.0*		*129*	*70-130*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EK61417 - Solvent Extraction (GC)										
Matrix Spike Dup (EK61417-MSD1)	**Source: 6K14005-01**			Prepared: 11/14/06 Analyzed: 11/15/06						
Carbon Ranges C6-C12	532	10.0	mg/kg dry	546	ND	97.4	75-125	3.83	20	
Carbon Ranges C12-C28	525	10.0	"	546	ND	96.2	75-125	4.08	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1060	10.0	"	1090	ND	97.2	75-125	3.85	20	
Surrogate: 1-Chlorooctane	*64.4*		*mg/kg*	*50.0*		*129*	*70-130*			
Surrogate: 1-Chlorooctadecane	*64.7*		*"*	*50.0*		*129*	*70-130*			

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

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 EK61503 - General Preparation (Prep)										
Blank (EK61503-BLK1)				Prepared: 11/14/06 Analyzed: 11/15/06						
% Solids	100		%							
Duplicate (EK61503-DUP1)		**Source: 6K13015-01**		Prepared: 11/14/06 Analyzed: 11/15/06						
% Solids	95.2		%		95.0			0.210	20	
Duplicate (EK61503-DUP2)		**Source: 6K14006-03**		Prepared: 11/14/06 Analyzed: 11/15/06						
% Solids	92.5		%		92.8			0.324	20	
Duplicate (EK61503-DUP3)		**Source: 6K14012-10**		Prepared: 11/14/06 Analyzed: 11/15/06						
% Solids	97.1		%		97.6			0.514	20	

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

Project: DT-27
Project Number: Rocky Top 3
Project Manager: Camille Reynolds

Fax: (432) 687-4914

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 11/15/2006

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.

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Camille Reynolds
Company Name: Plains Pipeline, LP
Company Address:
City/State/Zip:
Telephone No: Fax No:
Sampler Signature: e-mail: kcody@sdgenv.com

Project Name: DT-27
Project #: Rocky Top 3
Project Loc: Clay Osborn Ranch
PO #:
Report Format: ☐ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 6K14011

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water GW=Groundwater NP=Non-Potable SL=Sludge S=Soil/Solid Specify Other	Analyze For: TCLP: TPH: 418.1 (8015M)	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	TOTAL: 8015B	8021B	8260	RUSH TAT (Pre-Schedule) (24, 48, 72 hrs)	Standard TAT
01	DT27-NWSP			11/14/06	0810		1	✓								S	X																✓	
02	DT27-NESP			11/14/06	0820		1	✓								S	X																✓	
03	DT27-ESP			11/14/06	0900		1	✓								S	X																✓	

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	11/14/06	1550			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				11/14/06	15:50

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

4oz glass
Temperature Upon Receipt: 5.0 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains

Date/ Time: 11/14/06 15:50

Lab ID # : 6K1401 11

Initials: CK

Sample Receipt Checklist

					Client Initials
1	Temperature of container/ cooler?	Yes	No	5.0 °C	
2	Shipping container in good condition?	Yes	No		
3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
5	Chain of Custody present?	Yes	No		
6	Sample instructions complete of Chain of Custody?	Yes	No		
7	Chain of Custody signed when relinquished/ received?	Yes	No		
8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
9	Container label(s) legible and intact?	Yes	No	Not Applicable	
10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
11	Containers supplied by ELOT?	Yes	No		
12	Samples in proper container/ bottle?	Yes	No	See Below	
13	Samples properly preserved?	Yes	No	See Below	
14	Sample bottles intact?	Yes	No		
15	Preservations documented on Chain of Custody?	Yes	No		
16	Containers documented on Chain of Custody?	Yes	No		
17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
18	All samples received within sufficient hold time?	Yes	No	See Below	
19	Subcontract of sample(s)?	Yes	No	Not Applicable	
20	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event