# 1R - 83

# WORK PLAN

# **DATE:** JULY 2006



1R - 83

Work Plan July 2006

August 11, 2006

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

Re: Plains Pipeline, L.P. Document Submittal Clay Osborn Ranch – Jalmat #1 Clay Osborn Ranch – Jalmat #2 Clay Osborn Ranch – Jalmat #3 Clay Osborn Ranch – Rocky Top #2 Clay Osborn Ranch – Jalmat #22A Clay Osborn Ranch – East Shell North Jal, Lea County, New Mexico

Dear Mr. Stone:

Plains Pipeline, L.P. (Plains) is pleased to submit the attached Site Investigation Reports and Site-Specific Remediation Work Plans for six of the soil remediation project sites located on the Osborn's Rocky Top Ranch in Jal, Lea County, New Mexico. These documents include the results of an additional soil investigation conducted at the site and the remediation plan are based on the General Remediation Work Plan recently submitted to the New Mexico Oil Conservation Commission (NMOCD) by Plains.

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

Sincerely,

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

Attachments: Jalmat #1, #2, #3, #22A, East Shell North and Rocky Top #2, 22B Site Investigation Report and Site-Specific Remediation Work Plans

File: n/jetf-tiles/Osborn-RockyTopRanch/Jalmat-1 CovrLtr.doc

Plains Marketing GP Inc., General Partner

333 Clay Street, Suite 1600 (77002) 🗱 P.O. Box 4648 📓 Houston, Texas 77210-4648 🌉 713/646-4100

#### SITE INVESTIGATION SUMMARY and SITE-SPECIFIC REMEDIATION WORK PLAN

Clay Osborn Rocky Top Ranch East Shell North Release Site

(formerly part of Shell North Release Site)

SW1/4 SW1/4 UL-J, Section 12, Township 25 North, Range 36 East Latitude 32° 8' 34" Latitude North, Longitude 103° 12' 58" West Lea County, New Mexico

#### PLAINS PIPELINE, L.P. SRS ID: 2000-10615

Prepared For:

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

Prepared By: SDG Environmental Services 6611 Vialinda, Suite 204 Houston, Texas 77083

July 2006

SDG Environmental Services

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#### 1.0 INTRODUCTION

SDG Environmental Services (SDG) was retained by Plains Pipeline, L.P. (Plains) to evaluate historical information and develop a site-specific remediation work plan for the Clay Osborn East Shell North release site located on the Clay Osborne Rocky Top Ranch in Lea County, New Mexico. Plains is the owner/operator of several pipelines present on the Clay Osborne Rocky Top Ranch located near Jal, New Mexico.

This site is located in Unit Letter-J, in the SW¼ SW ¼ of Section 12, Township 25 North, Range 36 East, approximately 1-mile northwest of Jal, Lea County, New Mexico. A topographic Site Location Map is provided as Figure 1. The latitude is 32° 8′ 34″ North, and Longitude 103° 12′ 58″ West. The site is characterized by a pipeline right-of-way in a pasture and an area of surface staining.

The hydrocarbon impacted area is the result of a historical release and the date of the release as well as the volume of crude oil released and recovered is not known. The East Shell North site was initially included in previous Shell North investigation reports which actually included two separate release sites; the west site is apparently associated with past exploration and production activities, and the east site associated with the EOTT pipeline. The east site is the subject of this Site-specific Remediation Work Plan and will be referred to as the East Shell North site. The visually stained area associated with the East Shell North site is approximately 18,000 ft<sup>2</sup>. A summary of site activities is provided in Section 2.0.

Plains prepared and submitted a General Remediation Work Plan dated April 2006 to address the release sites located on the Rocky Top Ranch. The objective of the General Remediation Work Plan was to remediate crude oil impacted sites at the Rocky Top Ranch, consistent with the remediation/abatement goals and objectives set forth in the New Mexico Oil Conservation Division (NMOCD) "NMOCD Guidelines for Remediation of Leaks, Spills, and Releases, August 13, 1993." The General Remediation Work Plan proposed appropriate risk-based thresholds for contaminates of concern (CoCs) based on relative risk posed by the CoC residuals to local groundwater, area water wells, surface water bodies and impacts on surface reclamation.

The General Remediation Work Plan proposed remediation strategies for sites would be developed under the following three scenarios.

1. Surface Restoration Sites (Scenario 1)

This scenario was developed for sites where investigation data indicates that the surface area has restored itself naturally, the surface expression of the release is difficult to identify, the impacts are limited to the surface and/or shallow soils, and there is no threat to groundwater.

- Total Excavation (Scenario 2) For sites where data indicates that soil impacts are limited in vertical extent (i.e. 10 to 15 feet in depth) and total excavation of the impacted soil is practical.
- Limited Excavation and Risk-based Closure (Scenario 3)
   For sites where data indicates that soil impacts in the source area extend to
   between 10 feet and 45 feet below ground surface (bgs) and excavation of all
   the impacted soil to below NMOCD guidelines is not practical.

The General Remediation Work Plan was conditionally approved by the NMOCD in a letter to Plains dated May 30, 2006.

The soil analytical data related to the East Shell North Release Site was obtained from the EPI December 2001 Shell North Site Investigation Report. This data was used in development of this Site Specific Remediation Work Plan.

#### 2.0 SUMMARY OF SITE ACTIVITIES

On 8 August 2000 and 9 September 2000, initial subsurface horizontal and vertical delineation was conducted by EPI with the installation of twelve (12) soil borings installed at the site. Two (2) soil borings were installed to a depth of 15 feet bgs and are identified in Figure 2 as BH-1 and BH-31. Ten (10) soil borings were installed to a depth of 5 feet bgs and are identified in Figure 2 as BH-38 through BH-47. Soil samples were collected at depths of 2, 5, 10, and 15 feet bgs field screened with a PID and analyzed for BTEX and TPH-GRO/DRO. Laboratory results indicated that constituent concentrations of BTEX were either below NMOCD regulatory standards or not detected above laboratory method detection limits on the twenty eight (28) soil samples. Laboratory results indicated that TPH-GRO/DRO concentrations exceed 100 mg/kg TPH in eleven (11) of the soil samples and the remaining fifteen (17) soil samples were either below NMCOD regulatory standards or were not detected above the laboratory method detection limits. The highest concentrations were exhibited in samples collected from BH-31 and BH-40. A table of the analytical results related to the East Shell North site from December 2001 Site Investigation Report for the Shell North site is presented in Appendix A.

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

The depth to water at the site is estimated to be approximately 50 feet bgs based on a monitor wells located at the adjacent release site. Based on the analytical results of soil samples, the hydrocarbon impacted soil extends from the surface to 5 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 ft 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 ft 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:

Benzene: 10 mg/kg

BTEX: 50 mg/kg

TPH: 100 mg/kg

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

The estimated area of soils impacted above NMOCD Standards is shown in Figure 3. The area is estimated to be approximately 18,000 square feet. The vertical extent of soils impacted above NMOCD standards based on the data obtained in the August/September 2000 subsurface sampling is surface to 5 feet bgs. No visual observations of free phase hydrocarbons were reported during the installation of the soil borings.

The extent of hydrocarbon impacted soils has been delineated vertically. Hydrocarbon impacted soils shallower than 5 feet bgs have not been fully delineated horizontally. However, based on the results of the shallow soil samples collected and analyzed from surrounding soil borings, it is likely that the horizontal impacts of shallow soils are limited in extent.

#### 5.0 DISTRIBUTION OF HYDROCARBONS IN THE SATURATED ZONE

No saturated conditions were reported in any of the borings. Soil boring BH-1 was installed to 15 feet bgs and no groundwater was reported. The depth of hydrocarbon impacted soils above 100 mg/kg TPH is limited to less than 10 feet bgs. Therefore, there is no indication that hydrocarbons from the East Shell North historical release have impacted the saturated zone.

#### 6.0 RECOMMENDATIONS FOR REMEDIATION

Based on the results of the previous investigation conducted at the site, it appears that hydrocarbon impacted soils are present to depths of less than 10 feet bgs. Given the NMOCD guideline cleanup standard of 100 mg/kg TPH, an estimated 3,333 cubic

yards of impacted soil and segregated clean overburden will require excavation. Because the horizontal impacts have not been fully defined, delineation samples will be collected commensurate with excavation and/or cleanup confirmation sampling activities.

The area with observed staining and where laboratory analytical results indicate that surface impacts do not extend to below 2 feet bgs as defined by soil borings BH38, and BH42 through BH45 will be addressed under the General Work Plan Scenario 1 involving the following procedures as were outlined under the General Remediation Work Plan and approved by NMOCD in the May 2006 NMOCD approval letter:

General Work Plan Scenario 1

- Scrape the surface asphaltines where apparent and remove;
- Blend the underlying 1 to 2 feet of soil with native soil and contour;
- Do not disturb areas that have already re-vegetated.

Because the impacts greater than 100 mg/kg TPH are limited in vertical extent (i.e. 5 to 10 feet in depth) as defined by soil borings BH46, BH47, BH1 and BH31, these soils will be remediated under the General Work Plan Scenario 2 (Surface Restoration) involving the following procedures as were outlined in the approved General Remediation Work Plan and includes 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.

Should impacted soils be determined to be limited in extent based on additional delineation samples collected commensurate with excavation activities, the soils may be blended on site and stockpiled adjacent to the excavation pending approval of the NMOCD Project Manager.

Additionally, should areas where vertical hydrocarbon impacted soils extend below 15 feet bgs be determined based on analytical results commensurate with excavation activities, Plains recommends that the approved General Work Plan Closure Scenario 3 be applied. Under this scenario, an impermeable barrier consisting of an oversized 20-mil polyethylene liner will be permanently installed 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 will be established around the impacted soil in the floor of the excavation. The buffer extent will be determined using a calibrated PID and confirmed by laboratory analysis of grab samples collected around the perimeter of the excavation. The liner shall be cushioned above and below with a 3 to 4-inch layer of sand or geotextile to protect it from puncture and tearing during the backfilling process. Installation of the 20-mil polyethylene liner at a minimum depth of 10 feet bgs will protect the barrier from erosion and human intrusion for a term sufficient to allow natural biodegrading of contaminates in the soil.

The clean overburden and impacted soils will be blended and utilized as backfill. Soil samples will be collected at a rate of one sample per 500 cubic yards to verify constituent concentrations of BTEX are below NMOCD guidelines and TPH-GRO/DRO are below 1000 mg/kg as approved for backfill over liners. Once the excavation has been confirmed to meet NMOCD standards or the installation of the 20-mil poly liner is completed, backfilling of the excavation will be initiated with the blended soil. The backfilled excavation will be contoured to the original grade surrounding the site and reseeded with approved grass seed.

A request for closure will be submitted to the NMOCD, upon completion of backfilling activities. Plains is requesting approval from NMOCD to implement these proposed final remediation and site closure activities.

#### 7.0 QA/QC PROCEDURES

#### Soil Sampling

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

The soil samples will be analyzed as follows:

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

#### Decontamination of Equipment

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

#### Laboratory Protocol

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

#### 8.0 LIMITATIONS

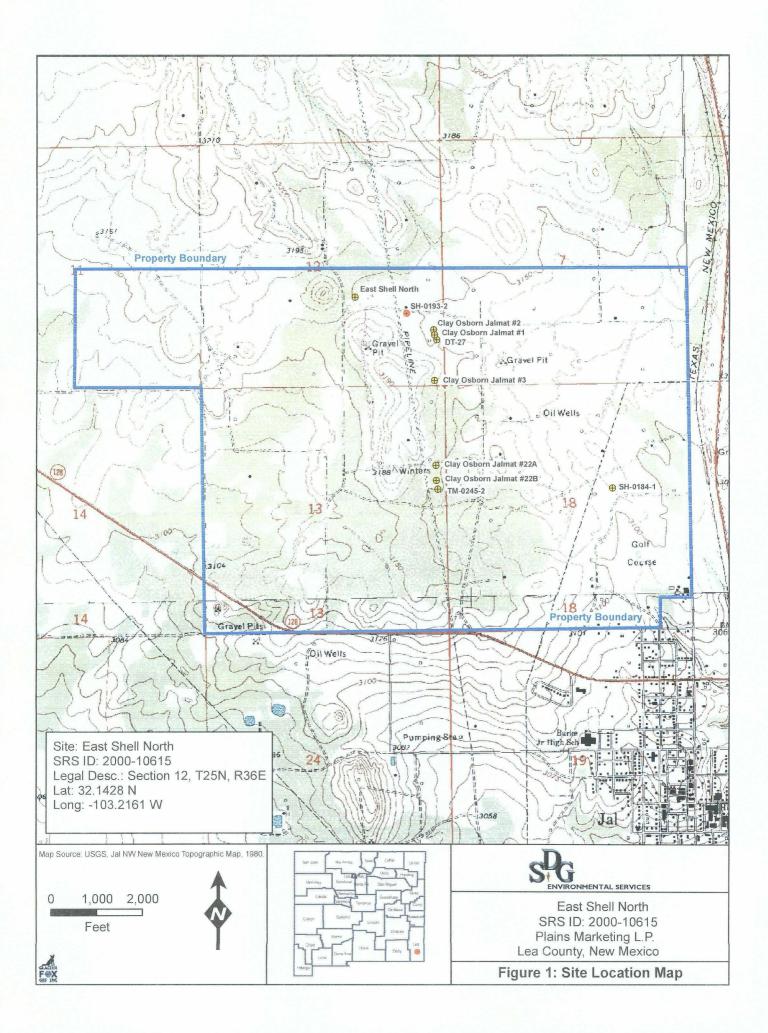
SDG Environmental Services has prepared this Site Investigation Report and Remediation Work Plan to the best of its ability. No other warranty, expressed or implied, is made or intended.

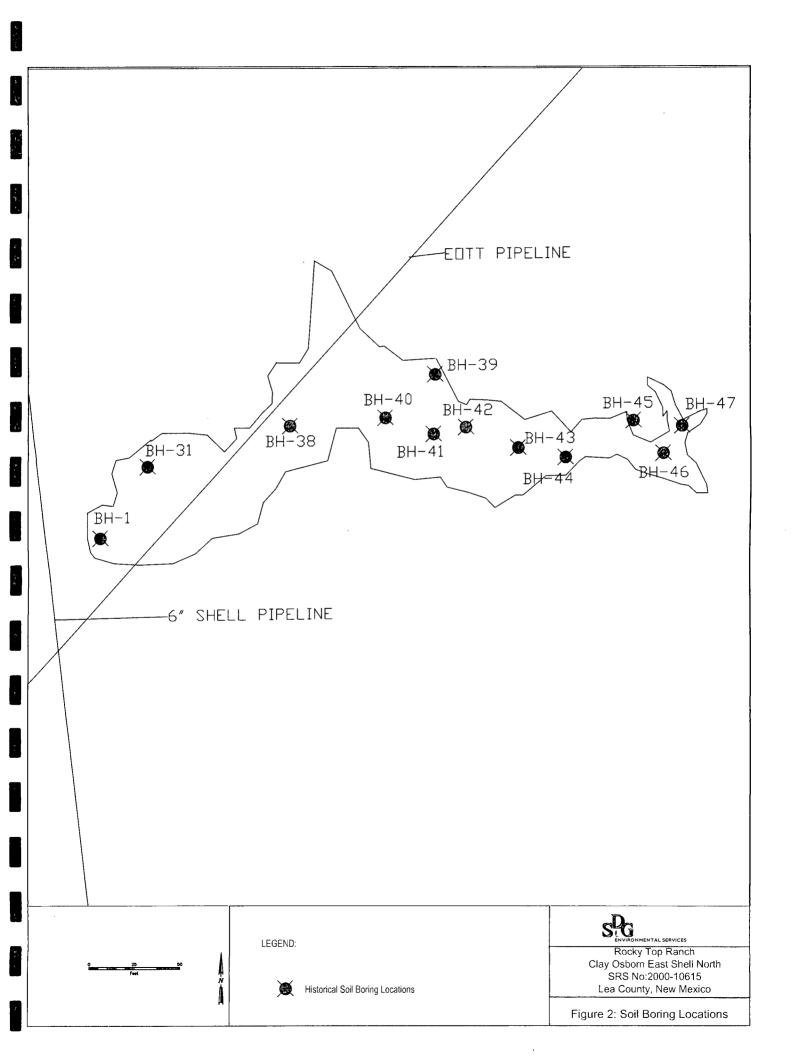
SDG Environmental Services has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. SDG Environmental Services has not conducted an independent examination of the facts contained in referenced, materials and statements. We have presumed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

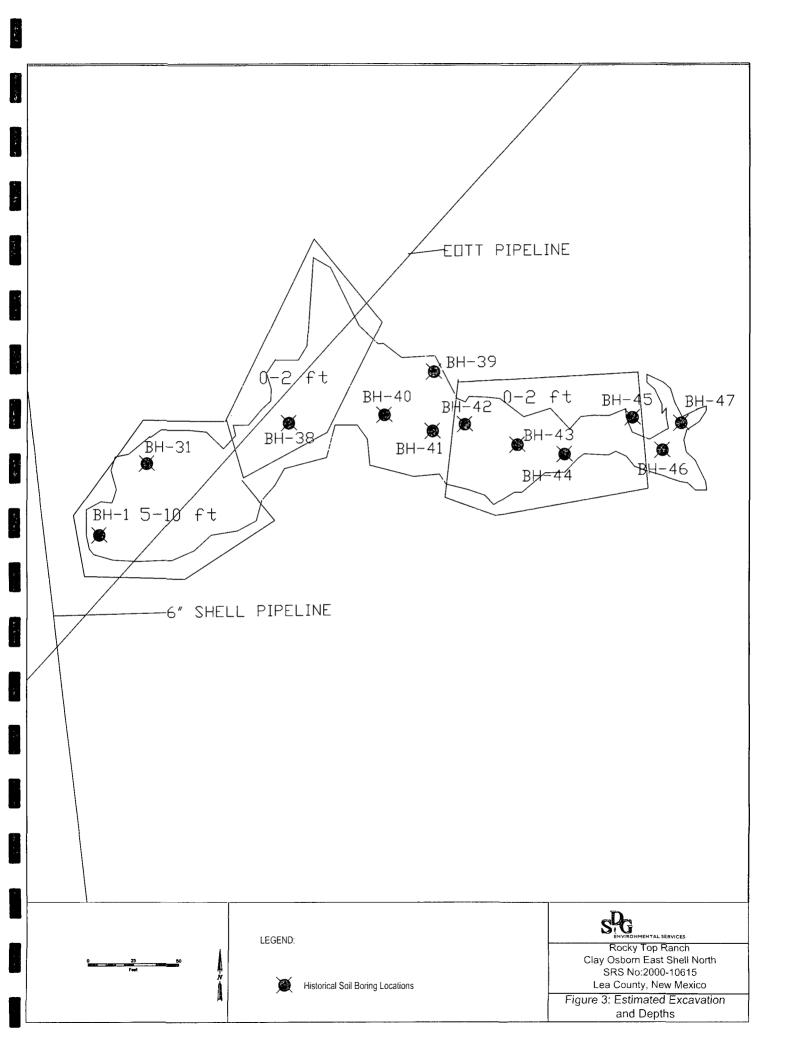
This report has been prepared for the benefit of Plains Pipeline, L.P. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of SDG Environmental Services and Plains Pipeline, L.P.

#### DISTRIBUTION

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- Copy 3: Mr. Ben Stone New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 88240 ben.stone@state.nm.us
- Copy 6: Kenneth Cody SDG Environmental Services 6611 Vialinda, Suite 204 Houston, Texas 77083 <u>kcody@sdgenv.com</u>







## APPENDIX A

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## EPI August/September 2000 Soil Sample Results

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<sup>1</sup>bes – below ground surface

<sup>2</sup>VOC-Volatile Organic Contaminants/Constituents

<sup>3</sup>GRO-Gauline Range Organics C<sub>6</sub>-C<sub>16</sub>

<sup>4</sup>DRO-Diesel Range Organics C<sub>10</sub>-C<sub>28</sub>

<sup>5</sup> [PHI-] buil Fettoleum Hydrocarbon = GRO+DRO.

<sup>b</sup>bolded values are in excess of the New Mexico Oil Conservation Division guideline threshold for the parameter

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<sup>7</sup>Iralicized vulues are < the instrument detection fimit. \*N/A Not Analyzed Reported detection limits are considered "de minimu" values and are included in the GRO/DRO and BTEX summations.

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	(FT. BGS7)				(mdd)	р Ş	c ò	o ò				111B/ NB	HAY /Sim	
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ç	5	ECOSNGP24-05	8/28/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
<b>H</b> 7	10	ECOSNGP24-10	8/28/2000	Sand	N/A	10	10	8	0.134	0.034	0.025	0.025	0,025	0.025
	15	ECOSNGP24-15	8/28/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
	2	ECOSNGP25-02	8/28/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
ы С	5	ECOSNGP25-05	8/28/2000	Sand	N/A	50	50	100	0.125	0.025	0.025	0.025	0.025	0.025
¢7	10	ECOSNGP25-10	8/28/2000	Sand	N/A	10	28	38	0.125	0.025	0.025	0.025	0.025	0.025
	15	ECOSNGP25-15	8/28/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
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70	S.	ECOSNGP26-05	8/28/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0,025
	5	ECOSNGP27-02	8/28/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
Į	5	ECOSNGP27-05	8/28/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
17	10	ECOSNGP27-10	8/28/2000	Sand	N/A	10	10	20	0.145	0.025	0.025	0.031	0.025	0.039
	15	ECOSNGP27-15	8/28/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
	0	ECOSNGP28-02	8/28/2000	Sand	N/A	50	232	282	0.125	0.025	0.025	0.025	0.025	0.025
č	5	ECOSNGP28-05	8/28/2000	Sand	N/A	10	10	20	0.125	0,025	0.025	0.025	0.025	0.025
87	10	ECOSNGP28-10	8/28/2000	Sand	N/A	10	10 1	20	0.132	0.032	0.025	0.025	0.025	0.025
	15	ECOSNGP28-15	8/28/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
	2	ECOSNGP29-02	8/29/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
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ŝ	10	ECOSNGP29-10	8/29/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
	15	ECOSNGP29-15	8/29/2000	Sand	N/A	10	10	20	0.125	0.025	0.025	0.025	0.025	0.025
	2	ECOSNGP30-02	8/29/2000	Sand	N/A	50	83	133	0.125	0.025	0.025	0.025	0.025	0.025
06	ŝ	ECOSNGP30-05	8/29/2000	Sand	N/A	50	2781	2831	0.167	0.025	0.059	0,033	0.025	0.025
00	10	ECOSNGP30-10	8/29/2000	Sand	N/A	10	632	642	0.125	0.025	0.025	0.025	0.025	0.025
	15	ECOSNGP30-15	8/29/2000	Sand	N/A	50	2160	2210	· 0.15	0.025	0.05	0.025	0.025	0.025
	2	ECOSNGP31-02	8/29/2000	Sand	N/A	50	2538	2588	0.22	0.025	0.076	0.043	0.048	0.028
15	Ś	ECOSNGP31-05	8/29/2000	Sand	N/A	50	1004	1054	0.125	0.025	0.025	0.025	0.025	0.025
10	10	ECOSNGP31-10	8/29/2000	Sand	N/A	10	12	22	0.125	0.025	0,025	0.025	0.025	0.025
	15	ECOSNGP31-15	8/29/2000	Sand	N/A	10	10	20	0.142	0.042	0.025	0.025	0.025	620.0
<sup>1</sup> hgs below ground surf <b>a</b> ce	und surface													
YOU-Velacite C	<sup>2</sup> VOU-Velatile Organic Contaminants/Constituents	as/Constituents												
CRO.Gasoline I	GBO-Gasoline Banke Organice CC.													

<sup>3</sup>GRO-Gasoline Range Organics C<sub>0</sub>-C<sub>10</sub>

<sup>4</sup>DRO-Diesel Range Organics C<sub>10</sub>-C<sub>28</sub>

<sup>5</sup>TPH-Total Petroleum Hydrocarbon ~ GRO+DRO.

<sup>o</sup>bolded values ac in excess of the New Mexico Oil Conservation Division guideline threshold for the parameter

<sup>7</sup>Italicized values are < the instrument detection limit.

<sup>5</sup>N/A Not Analyzed

Reported detection limits are considered "de minimus" values and are included in the GRO/DRO and BTEX summations.

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E.O.T.T. ENERGY P. LINE

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E.O.T.T. Energy Pipeline Shell North

o-Xylene mg/Kg	0.025	0.025	0.025	0.028	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	.0.025	0.025	0.025	0.028	0.025	0.025			
m.p- Xylene mg/Kg																											
Ehtyl Bcnzene mg/Kg	0.025	0.025	0.025	0.048	0.025	0.025	0.025	0.025	0.025	0.083	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025			
Toluene mg/Kg	0.025	0,064	0.025	0.025	0.025	0,025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.028	0.025	0.025	0.033	0.025	0.025	0.025			
Benzene mg/Kg	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	- 0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025			
BTEX mg/Kg	0.125	0.212	0.125	0.151	0.125	0.162	0.125	0.125	0.125	0.183	0,125	0.125	0.125	0.125	0.125	0.125	0.125	0.128	0.125	0.125	0.133	0.149	0.125	0.125			
T'PH <sup>5</sup> mg/Kg	11	850	20	20	100	20	107	100	1014	36	544	20	96	20	20	20	100	20	100	20	<del>8</del> 4 84	26	37	272			
DRO <sup>4</sup> mg/Kg	1	800	10	10	50	10	57	50	964	26	534	10	86	10	10	10	20	10	50	10	438	16	27	262			
GRO <sup>3</sup> mg/Kg	10	50	10	10	50	10	50	50	50	10	10	10	10	10	10	10	50	10	50	10	10	10	10	10			
HEADSPACE VOC <sup>2</sup> (ppm)	N/A	N/A	N/A	N/A																							
Lithology	Sand	Sand	Sand	Sand																							
Date Taken		9/5/2000							9/5/2000		9/5/2000	9/5/2000	9/5/2000	9/5/2000	9/5/2000	9/5/2000	9/5/2000	9/5/2000	9/5/2000	9/5/2000		9/5/2000					
#CH FIIAMES	ECOSNGP37-02	ECOSNGP37-05	ECOSNGP37-10	ECOSNGP37-15	ECOSNGP38-02	ECOSNGP38-05	ECOSNGP39-02	ECOSNGP39-05	ECOSNGP40-02	ECOSNGP40-05	ECOSNGP41-02	ECOSNGP41-05	ECOSNGP42-02	ECOSNGP42-05	ECOSNGP43-02	ECOSNGP43-05	ECOSNGP44-02	ECOSNGP44-05	ECOSNGP45-02	ECOSNGP45-05	ECOSNGP46-02	ECOSNGP46-05	ECOSNGP47-02	ECOSNGP47-05		(Constituents	
Sampling Interval (FT. BGS <sup>1</sup> )	5	ŝ	10	15	2	5	2	s	13	S	7	S	2	5	61	2	5	ŝ	2	S	2	ŝ	5	ŝ	surface	<sup>2</sup> VCX:-Volatile Organic Contaminants/Constituents	
Borcholc		1	/c		0,	80	0,0	γc	9	40	Ţ	4	<u>c</u>	<b>7</b>	57	C4		<del>.</del>	57	C <b>+</b>	2	40	ĩ	/+	<sup>1</sup> bgs - below ground surface	<sup>2</sup> VOC:-Volatie Or	-

<sup>2</sup>GRO-Gasoline Range Organics Ge-C<sub>10</sub>

<sup>4</sup>DRO-Diesel Range Organics C<sub>10</sub>-C<sub>20</sub>

<sup>5</sup>TPH-I atai Petroleum Hydrocarbon = GRO+DRO.

<sup>4</sup>Bolded values are in excess of the New Mexico Oft Conservation Division guideline threshold for the parameter

 $^{7}$ ltalicized values are < the instrument detection limit.

N/A Nut Analyzed

Reported detection limits are considered "de minimus" values and are included in the GRO/DRO and BTEX summations.

CLAY OSBORN 6" SHELL NORTH