

*Denny E. Foust*  
**DEPUTY OIL & GAS INSPECTOR**

DEC 29 1997

*Approved*

Meter Number: 90851  
Location Name: BURROUGHS STATE #1E  
Location: TN-26 RG-11  
SC-36 UL-K  
1 - State  
NMOCD Zone: OUTSIDE  
Hazard Ranking Score: 00

**RECEIVED**  
APR 14 1997  
**OIL CON. DIV.**  
DIST. 3

**RATIONALE FOR RISK-BASED CLOSURE OF PRODUCTION PITS  
LOCATED OUTSIDE OF THE VULNERABLE ZONE  
IN THE SAN JUAN BASIN**

This production pit location was ranked according to the criteria in the New Mexico Oil Conservation Division's Unlined Surface Impoundment Closure Guidelines and received a ranking score of zero. The estimated depth to groundwater is greater than 100-feet beneath ground surface (bgs), the pit is not in a well head protection area, and there are no surface water bodies within 1,000 horizontal feet of the pit location.

The primary source, discharge to the pit has been removed. There has been no discharge to the pits for at least 4 years and the pits have been closed for at least one year.

Each pit was backfilled with clean soil and graded in a manner to divert precipitation away from the excavated area. Minimal infiltration of rainfall is expected. Any rainfall that does infiltrate the ground surface must migrate through clean backfill before reaching the residual hydrocarbons.

There is no source material at the ground surface, so direct contact of hydrocarbons with livestock and the populous is not likely.

In general, outside of the vulnerable area and alluvial valleys, bedrock material is generally encountered within 20 feet of the ground surface. Bedrock material in the San Juan Basin consists of interbedded sandstones, shales and clays. According to Freeze and Cherry, 1979, the hydraulic conductivity of the bedrock material are as follows:

Sandstone	$10^{-9}$ to $10^{-13}$ cm/sec
Shale	$10^{-12}$ to $10^{-16}$ cm/sec
Clay	$10^{-12}$ to $10^{-15}$ cm/sec

Based on this information, the residual hydrocarbons should not migrate to groundwater.

Natural process (bioremediation) are degrading the residual hydrocarbon to carbon dioxide and water and will continue until the source is gone, therefore minimizing any impact to the environment.

Based on the above information, it is highly unlikely that any source material will impact groundwater or ever find an exposure pathway to affect human health and therefore El Paso Field Services Company (EPFS) requests closure of this pit location.

## FIELD PIT SITE ASSESSMENT FORM

**EPFS****EL PASO FIELD SERVICES**

2

GENERAL

Meter: 90-851 Location: Burroughs State No. 1 E  
 Operator #: 1988 Operator Name: Meridian P/L District: Ballard  
 Coordinates: Letter: K Section 36 Township: 26 Range: 11W  
 Or Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Pit Type: Dehydrator ☒ Location Drip: \_\_\_\_\_ Line Drip: \_\_\_\_\_ Other: \_\_\_\_\_  
 Site Assessment Date: 6-29-94 Area: 11 Run: 52

SITE ASSESSMENT

**NMOCD Zone:**(From NMOCD  
Maps)

Inside

Outside

**Land Type:**BLM ☐ (1)State ☒ (2)Fee ☐ (3)

Indian \_\_\_\_\_

**Depth to Groundwater**Less Than 50 Feet (20 points) ☐ (1)50 Ft to 99 Ft (10 points) ☐ (2)Greater Than 100 Ft (0 points) ☒ (3)**Wellhead Protection Area :**

Is it less than 1000 ft from wells, springs, or other sources of  
 fresh water extraction? , or ; Is it less than 200 ft from a private  
 domestic water source? ☐ (1) YES (20 points) ☒ (2) NO (0 points)

**Horizontal Distance to Surface Water Body**Less Than 200 Ft (20 points) ☐ (1)200 Ft to 1000 Ft (10 points) ☐ (2)Greater Than 1000 Ft (0 points) ☒ (3)

Name of Surface Water Body \_\_\_\_\_

(Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks,  
 Irrigation Canals, Ditches, Lakes, Ponds)

Distance to Nearest Ephemeral Stream ☐ (1) < 100' (Navajo Pits Only)  
☐ (2) > 100'

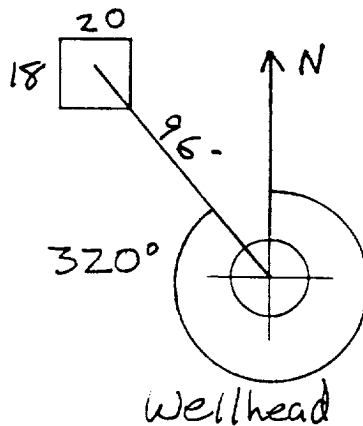
**TOTAL HAZARD RANKING SCORE:** 0 POINTS

REMARKS

Remarks : Two pits. Dehy pit dryoutside V.2. on Redline & Topo

### ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 320 Footage from Wellhead 96  
b) Length : 20 Width : 18 Depth : 4



Remarks :

Photos - 1249 hrs

Bobtail

Completed By:

[Signature]

Signature

6-29-94

Date

# FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	<p>Meter: <u>90851</u> Location: <u>Burroughs State No 14</u></p> <p>Coordinates: Letter: <u>K</u> Section <u>36</u> Township: <u>26</u> Range: <u>11</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Date Started : <u>9-28-94</u> Run: <u>11</u> <u>52</u></p>
FIELD OBSERVATIONS	<p>Sample Number(s): <u>1K257</u></p> <p>Sample Depth: <u>5'</u> Feet</p> <p>Final PID Reading <u>250</u> PID Reading Depth <u>5'</u> Feet</p> <p>Yes No</p> <p>Groundwater Encountered <input type="checkbox"/> <input checked="" type="checkbox"/> Approximate Depth _____ Feet</p>
CLOSURE	<p>Remediation Method :</p> <p>Excavation <input type="checkbox"/> Approx. Cubic Yards _____</p> <p>Onsite Bioremediation <input type="checkbox"/></p> <p>Backfill Pit Without Excavation <input checked="" type="checkbox"/></p> <p>Soil Disposition:</p> <p>Envirotech <input type="checkbox"/> Tierra <input type="checkbox"/></p> <p>Other Facility <input type="checkbox"/> Name: _____</p> <p>Pit Closure Date: <u>9-28-94</u> Pit Closed By: <u>B.E.I.</u></p>
REMARKS	<p>Remarks : <u>Some line markers. Hit sand stone at 5'</u></p> <p><u>sample closed pit</u></p>
	<p>Signature of Specialist: <u>Kelly Schell</u></p>



outside

## FIELD SERVICES LABORATORY

### ANALYTICAL REPORT

#### PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

#### SAMPLE IDENTIFICATION

SAMPLE NUMBER:

MTR CODE | SITE NAME:

SAMPLE DATE | TIME (Hrs):

SAMPLED BY:

DATE OF TPH EXT. | ANAL.:

DATE OF BTEX EXT. | ANAL.:

TYPE | DESCRIPTION:

Field ID

Lab ID

KP 257	946243
90851	N/A
9-28-94	10-10
N/A	
9-29-94	9-29-94
10-3-94	10-6-94
VG	Brown Sand & Clay

REMARKS:

#### RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	40.50	MG/KG	20			
TOLUENE	27	MG/KG	20			
ETHYL BENZENE	3.0	MG/KG	20			
TOTAL XYLENES	77	MG/KG	20			
TOTAL BTEX	108	MG/KG				
TPH (418.1)	1090	MG/KG			2.03	28
HEADSPACE PID	250	PPM				
PERCENT SOLIDS	83.6	%				

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 81 % for this sample All QA/QC was acceptable.

Narrative:

ATI Results attached

DF = Dilution Factor Used

Approved By:

Date:

10/24/94

\*\*\*\*\*  
 Test Method for  
 Oil and Grease and Petroleum Hydrocarbons  
 in Water and Soil  
 Perkin-Elmer Model 1600 FT-IR  
 Analysis Report  
 \*\*\*\*\*

04/09/29 13:39

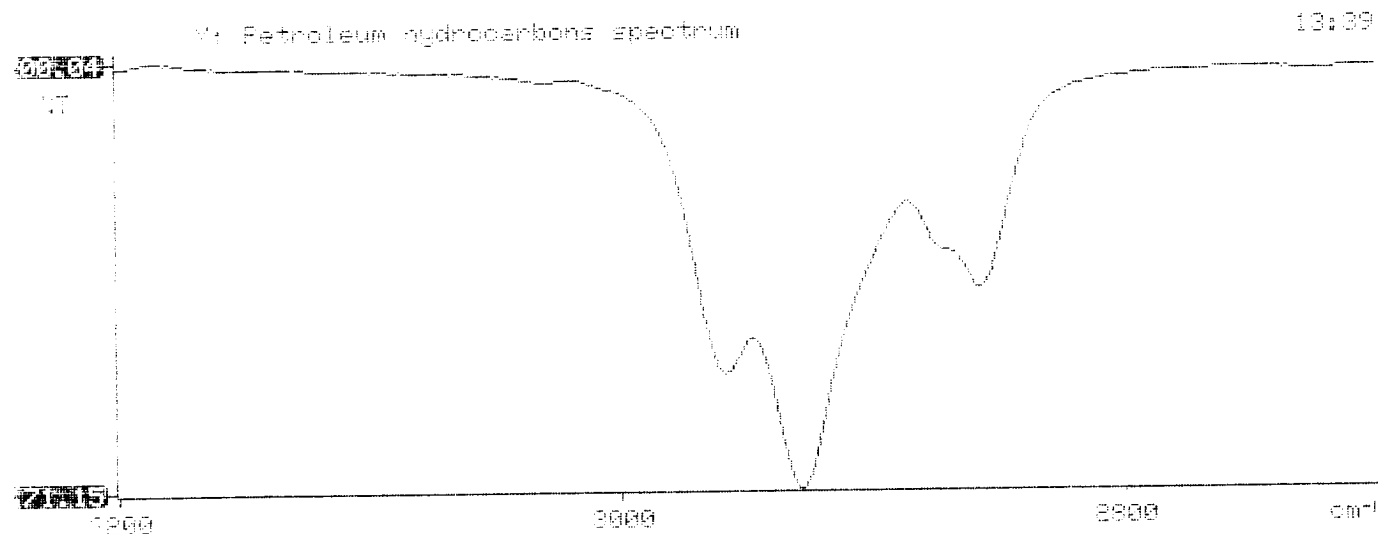
Sample identification  
 046243

Initial mass of sample, g  
 1.030

Volume of sample after extraction, ml  
 19.000

Petroleum hydrocarbons, ppm  
 1071.458

Net absorbance of hydrocarbons (2930  $\text{cm}^{-1}$ )  
 0.145



# GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)  
 CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 409445  
 PROJECT # : 24324  
 PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	946242	NON-AQ	09/28/94	10/03/94	10/06/94	5
05	946243	NON-AQ	09/28/94	10/03/94	10/06/94	20
06	946244	NON-AQ	09/28/94	10/03/94	10/06/94	5

PARAMETER	UNITS	04	05	06
BENZENE	MG/KG	0.85	<0.50	0.39
TOLUENE	MG/KG	8.7	27	9.6
ETHYLBENZENE	MG/KG	0.13	3.0	1.2
TOTAL XYLENES	MG/KG	8.1	77	43

## SURROGATE:

BROMOFLUOROBENZENE (%) 95 81 80



Analytical **Technologies**, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107  
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **409445**

October 13, 1994

El Paso Natural Gas Co.  
P.O. Box 4990  
Farmington, NM 87499

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On **09/30/94**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.  
Project Manager

H. Mitchell Rubenstein, Ph.D.  
Laboratory Manager

MR:jt

Enclosure

