

*Benjamin E. Felt*  
DEPUTY OIL & GAS INSPECTOR

DEC 22 1997

**Meter Number: 93174**  
**Location Name: Jicarilla #116**  
**Location: TN-24 RG-04**  
**SC-07 UL-I**  
**6 - Jicarilla**  
**NMOCD Zone: OUTSIDE**  
**Hazard Ranking Score: 00**

RECEIVED  
APR 14 1998

OIL & GAS DIV.  
EL PASO

**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

Meter: 93174 Location: JICARILLA #116  
Operator #: 0148 Operator Name: <sup>SNYDER</sup> OLC CORP P/L District: DS170  
Coordinates: Letter: I Section 7 Township: 24 Range: 4  
Or Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
Pit Type: Denydrator \_\_\_\_\_ Location Drip: X Line Drip: \_\_\_\_\_ Other: \_\_\_\_\_  
Site Assessment Date: 7-26-95 Area: 08 Run: 63

NMOCD Zone:	Land Type:	BLM	<input type="checkbox"/> (1)
(From NMOCD		State	<input type="checkbox"/> (2)
Maps)	Inside	Fee	<input type="checkbox"/> (3)
	Outside	Indian	<u>JICARILLA</u>

## 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,

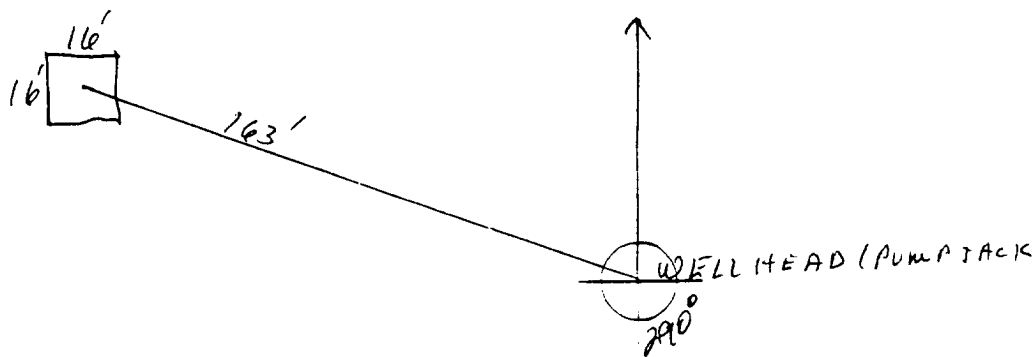
Distance to Nearest Ephemeral Stream ☐ (1) < 100' (Navajo Pits Only)  
☒ (2) > 100'

TOTAL HAZARD RANKING SCORE: 0 POINTS

Remarks : T.D.

### ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 290° Footage from Wellhead 163'  
b) Length : 16' Width : 16' Depth : 30''



Remarks :

Completed By:

*Andy Carley*  
Signature

7-26-95  
Date

# FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	<p>Meter: <u>93174</u> Location: <u>JICARILLA #116</u></p> <p>Coordinates: Letter: <u>I</u> Section <u>7</u> Township: <u>24</u> Range: <u>4</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Date Started : <u>9-26-95</u> Run: <u>08</u> <u>63</u></p>
FIELD OBSERVATIONS	<p>Sample Number(s): <u>NS98</u></p> <p>Sample Depth: <u>15</u> Feet</p> <p>Final PID Reading <u>1.5</u> PID Reading Depth <u>15</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 checked="" type="checkbox"/> Approx. Cubic Yards <u>204</u> <u>10/15/95</u></p> <p>Onsite Bioremediation <input type="checkbox"/> <u>GABRIEL JICARILLA E.P.D. Approved</u></p> <p>Backfill Pit Without Excavation <input type="checkbox"/> <u>Closure 10-2-95</u></p> <p>Soil Disposition:</p> <p>Envirotech <input checked="" type="checkbox"/> <input type="checkbox"/> Tierra</p> <p>Other Facility <input type="checkbox"/> Name: _____</p> <p>Pit Closure Date: <u>10-3-95</u> Pit Closed By: <u>Philip</u></p>
REMARKS	<p>Remarks : <u>PID READINGS (N-1.5)(S-6.9)(E-0.4)(W-5.5)</u></p> <p><u>PH SIZE 21X22X15 PIT LISTED OUTSIDE W.V. ZONE</u></p> <p><u>MORE THAN 100' FROM EPHEMERAL STREAM. EPN6 ONSITE</u></p> <p><u>FENCE SIZE 28X28X3 (NET)</u></p>
	<p>Signature of Specialist: <u>Nicholas Schmalzer</u></p>



# FIELD SERVICES LABORATORY

## ANALYTICAL REPORT

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

#### SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	NS98	947537
MTR CODE   SITE NAME:	93174	Jicarilla #116
SAMPLE DATE   TIME (Hrs):	09-26-95	1200
PROJECT:	Jic Dits	
DATE OF TPH EXT. ANAL.:	9-27-95	
DATE OF BTEX EXT. ANAL.:	9/27/95	9/27/95
TYPE   DESCRIPTION:	VG	Light brown sand

Field Remarks:

#### RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	< 0.5	MG/KG				
TOLUENE	< 0.5	MG/KG				
ETHYL BENZENE	< 0.5	MG/KG				
TOTAL XYLENES	< 1.5	MG/KG				
TOTAL BTEX	< 3	MG/KG				
TPH (418.1)	< 10	MG/KG			1.98	25
HEADSPACE PID	1.5	PPM				
PERCENT SOLIDS	97.9	%				

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

The Surrogate Recovery was at  
Narrative:

98%

for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Approved By:

LP

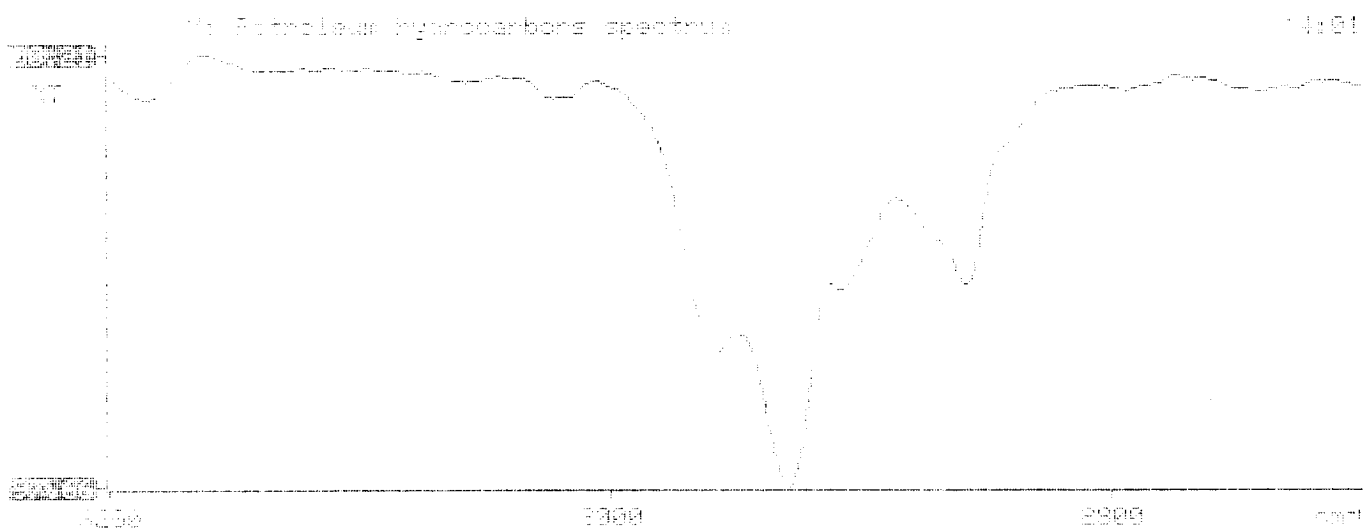
Date:

9-29-95

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

95/07/27 14:00

Sample Identification  
747537  
Initial mass of sample, g  
1.980  
Volume of sample after extraction, ml  
22.000  
Petroleum hydrocarbons, ppm  
1.161  
Net absorbance of hydrocarbons (2930 cm-1)  
0.011



## BTEX SOIL SAMPLE WORKSHEET

File	:	947537	Date Printed	:	9/28/95
Soil Mass (g)	:	5.02	Multiplier (L/g)	:	0.00100
Extraction vol. (mL)	:	10	DF (Analytical)	:	200
Shot Volume (uL)	:	50	DF (Report)	:	0.19920

				Det. Limit
Benzene (ug/L)	:	0.15	Benzene (mg/Kg):	0.030 0.498
Toluene (ug/L)	:	0.16	Toluene (mg/Kg):	0.032 0.498
Ethylbenzene (ug/L)	:	0.00	Ethylbenzene (mg/Kg):	0.000 0.498
p & m-xylene (ug/L)	:	0.29	p & m-xylene (mg/Kg):	0.058 0.996
o-xylene (ug/L)	:	0.00	o-xylene (mg/Kg):	0.000 0.498
			Total xylenes (mg/Kg):	0.058 1.494
			Total BTEX (mg/Kg):	0.120

# EL PASO NATURAL GAS

## EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM000\092795-0.010  
 Method : C:\LABQUEST\METHODS\9000.MET  
 Sample ID : 947537,5.02G,50U  
 Acquired : Sep 27, 1995 20:26:04  
 Printed : Sep 27, 1995 20:56:28  
 User : MARLON

### Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.130	55039	0.1471
a,a,a-TFT	10.477	9209769	105.2716
TOLUENE	12.883	57987	0.1593
ETHYLBENZENE	17.170	0	0.0000
M,P-XYLENES	17.603	116714	0.2909
O-XYLENE	18.710	0	0.0000
BFB	19.863	53374960	97.9212

