

*Denny E. Foust*  
DEPUTY OIL & GAS INSPECTOR

DEC 22 1997

Meter Number: 75988  
Location Name: RIDDLE #3 PC  
Location: TN-30 RG-09  
SC-21 UL-O  
2 - Federal  
NMOCD Zone: OUTSIDE  
Hazard Ranking Score: 00

RECEIVED  
DEC 22 1997  
OIL & GAS  
DIVISION

**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.

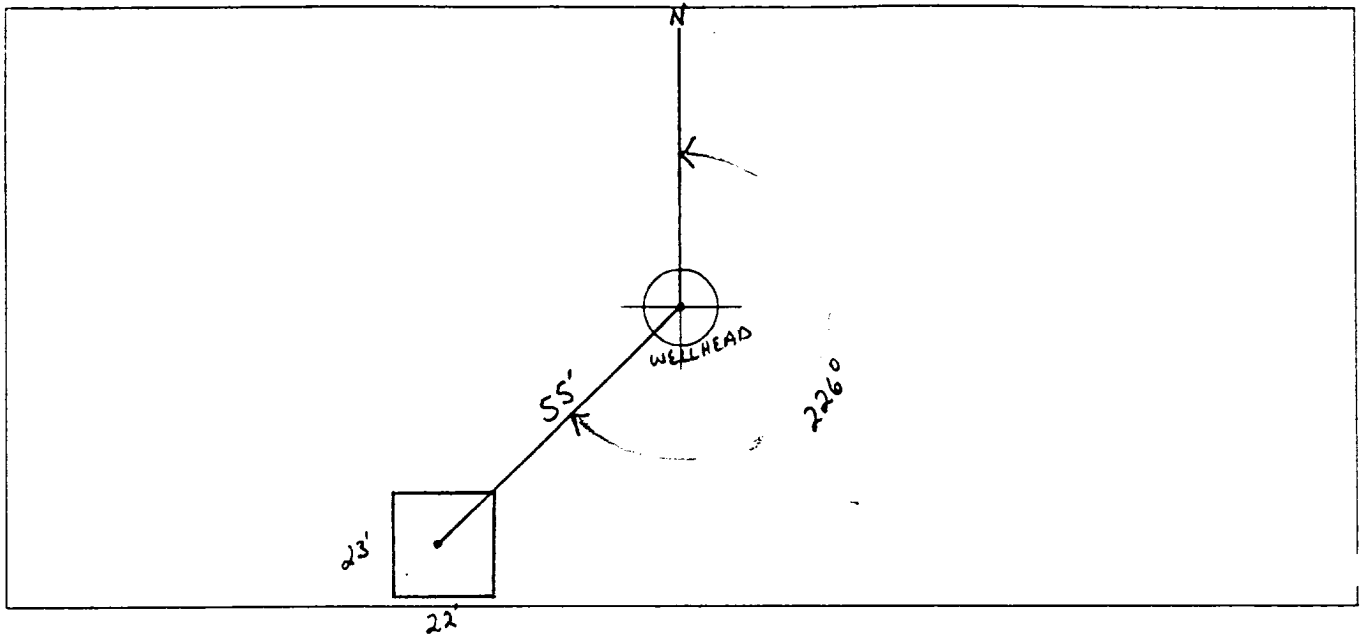
Based on the above information, it is highly unlikely that any source material will impact groundwater or ever find an exposure pathway to affect human health and therefore El Paso Field Services Company (EPFS) requests closure of this pit location.

FIELD PIT SITE ASSESSMENT FORM

<b>GENERAL</b>	<p>Meter: <u>75988</u> Location: <u>RIDDLE #3 P.C.</u></p> <p>Operator #: <u>0203</u> Operator Name: <u>Amoco</u> P/L District: <u>Bloomfield</u></p> <p>Coordinates: Letter: <u>70</u> Section <u>21</u> Township: <u>30</u> Range: <u>9</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Pit Type: Dehydrator _____ Location Drip: <u>X</u> Line Drip: _____ Other: _____</p> <p>Site Assessment Date: <u>4.19.94</u> Area: <u>10</u> Run: <u>43</u> <u>33</u> 4.19.94</p>
<b>SITE ASSESSMENT</b>	<p><b>NMOCD Zone:</b> (From NMOCD Maps)</p> <p style="margin-left: 100px;">Inside <input type="checkbox"/> (1)</p> <p style="margin-left: 100px;">Outside <input checked="" type="checkbox"/> (2)</p> <p style="margin-left: 100px;">Land Type: BLV <input checked="" type="checkbox"/> (1) State <input type="checkbox"/> (2) Fee <input type="checkbox"/> (3) Indian _____</p> <p><b>Depth to Groundwater</b></p> <p>Less Than 50 Feet (20 points) <input type="checkbox"/> (1)</p> <p>50 Ft to 99 Ft (10 points) <input type="checkbox"/> (2)</p> <p>Greater Than 100 Ft (0 points) <input checked="" type="checkbox"/> (3)</p> <p><b>Wellhead Protection Area :</b></p> <p>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? <input type="checkbox"/> (1) YES (20 points) <input checked="" type="checkbox"/> (2) NO (0 points)</p> <p><b>Horizontal Distance to Surface Water Body</b></p> <p>Less Than 200 Ft (20 points) <input type="checkbox"/> (1)</p> <p>200 Ft to 1000 Ft (10 points) <input type="checkbox"/> (2)</p> <p>Greater Than 1000 Ft (0 points) <input checked="" type="checkbox"/> (3)</p> <p>Name of Surface Water Body _____</p> <p>(Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds)</p> <p>Distance to Nearest Ephemeral Stream <input type="checkbox"/> (1) &lt; 100' (Navajo Pits Only)</p> <p style="margin-left: 100px;"><input type="checkbox"/> (2) &gt; 100'</p> <p><b>TOTAL HAZARD RANKING SCORE:</b> <u>0</u> POINTS</p>
<b>REMARKS</b>	<p>Remarks : <u>THREE PITS ON LOCATION. WILL CLOSE TWO OF THEM. PITS ARE DRY.</u></p>

### ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 226° Footage from Wellhead 55'  
b) Length : 23' Width : 22' Depth : 3'



### REMARKS :

STARTED TAKING PICTURES AT 1:04 P.M.  
END DUMP

Completed By:

Robert Thompson

Signature

4-19-94

Date

# FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 75988 Location: Riddle #3 PC  
 Coordinates: Letter: 0 Section 21 Township: 30 Range: 9  
 Or Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Date Started : 5-17-94 Area: 10 Run: 33

FIELD OBSERVATIONS

Sample Number(s): 1W90 1W91 1W92  
 Sample Depth: 4' Feet  
 Final PID Reading 187 PID Reading Depth 4' Feet  
 Yes No  
 Groundwater Encountered ☐ (1) ☒ (2) Approximate Depth \_\_\_\_\_ Feet

CLOSURE

Remediation Method :  
 Excavation ☐ (1) Approx. Cubic Yards \_\_\_\_\_  
 Onsite Bioremediation ☐ (2)  
 Backfill Pit Without Excavation ☒ (3)  
 Soil Disposition:  
 Envirotech ☐ (1) ☐ (3) Tierra  
 Other Facility ☐ (2) Name: \_\_\_\_\_  
 Pit Closure Date: 5-17-94 Pit Closed By: BEI

REMARKS

Remarks : Line markers 4' h+ sandstone  
 \_\_\_\_\_  
 \_\_\_\_\_

Signature of Specialist: Vale Wilson



# FIELD SERVICES LABORATORY

## ANALYTICAL REPORT

### PIT CLOSURE PROJECT - Soil

#### SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	VW90	945207
MTR CODE   SITE NAME:	75988	N/A
SAMPLE DATE   TIME (Hrs):	5-17-94	1115
SAMPLED BY:	N/A	
DATE OF TPH EXT.   ANAL.:	5-18-94	5/18/94
DATE OF BTEX EXT.   ANAL.:	N/A	N/A
TYPE   DESCRIPTION:	VG	Light brown coarse sand

REMARKS:

#### RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE		MG/KG				
TOLUENE		MG/KG				
ETHYL BENZENE		MG/KG				
TOTAL XYLENES		MG/KG				
TOTAL BTEX		MG/KG				
TPH (418.1)	5300	MG/KG			1.9E	28
HEADSPACE PID	187	PPM				
PERCENT SOLIDS	91.6	%				

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

The Surrogate Recovery was at \_\_\_\_\_ % for this sample All QA/QC was acceptable.  
Narrative:

DF = Dilution Factor Used

Approved By:

*John Latch*

Date:

5/21/94

Perkin-Elmer Model 1600 FT-IR  
Analysis Report

