

*Denny E. Faust*  
DEPUTY OIL & GAS INSPECTOR

DEC 22 1997

*Approved*

Meter Number: 87098

Location Name: JICARILLA L #3 DK

Location: TN-24 RG-05

SC-03 UL-E

6 - Jicarilla

NMOCD Zone: OUTSIDE

Hazard Ranking Score: 00

RECEIVED  
APR 14 1997

OIL CON. DIV.  
DIST. 2

**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.

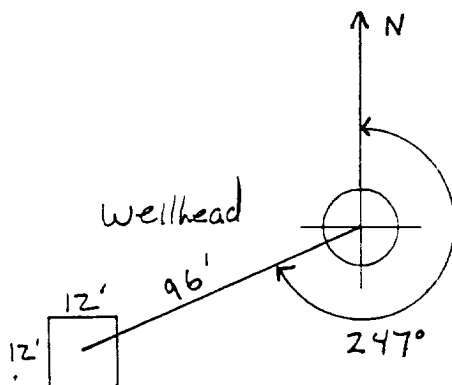
Based on the above information, it is highly unlikely that any source material will impact groundwater or ever find an exposure pathway to affect human health and therefore El Paso Field Services Company (EPFS) requests closure of this pit location.

**FIELD PIT SITE ASSESSMENT FORM**

|                        |  |
|------------------------|--|
| <b>GENERAL</b>         | <p>Meter: <u>87098</u> Location: <u>Ticarcilla L #3 DK</u></p> <p>Operator #: <u>2999</u> Operator Name: <u>Meridian</u> P/L District: <u>Ojito</u></p> <p>Coordinates: Letter: <u>E</u> Section <u>3</u> Township: <u>24N</u> Range: <u>5W</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Pit Type: Dehydrator <input checked="" type="checkbox"/> Location Drip: _____ Line Drip: _____ Other: _____</p> <p>Site Assessment Date: <u>7-18-99</u> Area: <u>06</u> Run: <u>51</u></p>   |
| <b>SITE ASSESSMENT</b> | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>NMOCD Zone:</b><br/>(From NMOCD Maps)</p> <p>Inside <input type="checkbox"/> (1)<br/>Outside <input checked="" type="checkbox"/> (2)</p> </div> <div style="width: 45%;"> <p><b>Land Type:</b></p> <p>BLM <input type="checkbox"/> (1)<br/>State <input type="checkbox"/> (2)<br/>Fee <input type="checkbox"/> (3)<br/>Indian <u>Ticarcilla Apache</u></p> </div> </div> <p><b>Depth to Groundwater</b></p> <p>Less Than 50 Feet (20 points) <input type="checkbox"/> (1)<br/>50 Ft to 99 Ft (10 points) <input type="checkbox"/> (2)<br/>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)<br/>200 Ft to 1000 Ft (10 points) <input type="checkbox"/> (2)<br/>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)<br/><input checked="" type="checkbox"/> (2) &gt; 100'</p> <p><b>TOTAL HAZARD RANKING SCORE:</b> <u>0</u> <b>POINTS</b></p> |
| <b>REMARKS</b>         | <p>Remarks : <u>Redline v.z. - outside</u> <u>Tapo v.z. - outside</u></p> <p><u>one pit on location - oil &amp; water in it</u><br/><u>~100 gals</u> <u>Push in</u></p>  |

# ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 247 Footage from Wellhead 96  
 b) Length : 12 Width : 12 Depth : 3



## REMARKS :

Photos - Roll # 2 , # 5-8

Completed By:

*[Signature]*

Signature

7-18-94

Date

# FIELD PIT REMEDIATION/CLOSURE FORM

7

|                    |  |
|--------------------|--|
| GENERAL            | <p>Meter: <u>82098</u> Location: <u>Jicarilla L #3 DK</u></p> <p>Coordinates: Letter: <u>E</u> Section <u>3</u> Township: <u>24N</u> Range: <u>5W</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Date Started : <u>9/7/95</u> Run: <u>06</u> <u>31</u></p>  |
| FIELD OBSERVATIONS | <p>Sample Number(s): <u>JK76</u></p> <p>Sample Depth: <u>6'</u> Feet</p> <p>Final PID Reading <u>522</u> PID Reading Depth <u>6'</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>104</u> <u>8/9/25/95</u></p> <p>Onsite Bioremediation <input type="checkbox"/> <u>DAVE From Jicarilla E.P.O. approved</u></p> <p>Backfill Pit Without Excavation <input type="checkbox"/> <u>closure 9-18-95</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>9-19-95</u> Pit Closed By: <u>Philip</u></p> |
| REMARKS            | <p>Remarks : <u>Pit Pcd Readings (N-94.0) (S-823) (E 5.6) (W-155.0)</u></p> <p><u>Pit size 23x20x6 SPRAYED PIT WITH SOIL ENHANCER 9-18-95</u></p> <p><u>Fence size 15x15x3 No Net</u></p> <p><u>Less than 100' From Ephemeral Stream</u></p> <p>Signature of Specialist: <u>Jos K. Kiley</u></p>   |



FIELD SERVICES LABORATORY  
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

|                            | Field ID | Lab ID            |
|----------------------------|----------|-------------------|
| SAMPLE NUMBER:             | JK 76    | 947426            |
| MTR CODE   SITE NAME:      | 87098    | Jicarilla L #3 DK |
| SAMPLE DATE   TIME (Hrs):  | 09-07-95 | 1240              |
| PROJECT:                   | Jic Pits |                   |
| DATE OF TPH EXT.   ANAL.:  | 9-7-95   |                   |
| DATE OF BTEX EXT.   ANAL.: | 9/8/95   | 9/12/95           |
| TYPE   DESCRIPTION:        | VG       | LEFT BOTTOM BENCH |

Field Remarks: (N-94.0)(S-82.3)(E-5.6)(W-155.0)

RESULTS

| PARAMETER      | RESULT   | UNITS | QUALIFIERS |   |      |       |
|----------------|--|-------|------------|---|------|-------|
|                |  |       | DF         | Q | M(g) | V(ml) |
| BENZENE        | 17.8   | MG/KG | 10         | D |      |       |
| TOLUENE        | 259  | MG/KG | 10         | D |      |       |
| ETHYL BENZENE  | 24.6   | MG/KG | 10         | D |      |       |
| TOTAL XYLENES  | 276  | MG/KG | 10         | D |      |       |
| TOTAL BTEX     | 577  | MG/KG | 10         | D |      |       |
| TPH (418.1)    | <sup>4000 PLB</sup><br><del>4910</del> 9-11-95 | MG/KG |            |   | 209  | 23    |
| HEADSPACE PID  | 522  | PPM   |            |   |      |       |
| PERCENT SOLIDS | 91.8   | %     |            |   |      |       |

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

The Surrogate Recovery was at 88% for this sample All QA/QC was acceptable.  
Narrative:

DF = Dilution Factor Used

Date:

9-13-95

\*\*\*\*\*  
 Test Method for  
 Oil and Grease and Petroleum Hydrocarbons  
 in Water and Soil  
 \*\*\*\*\*

Perkin-Elmer Model 1600 FT-IR  
 Analysis Report  
 \*\*\*\*\*

45/09/08 16:55

Sample Identification  
 447426

Initial mass of sample, g  
 1.090

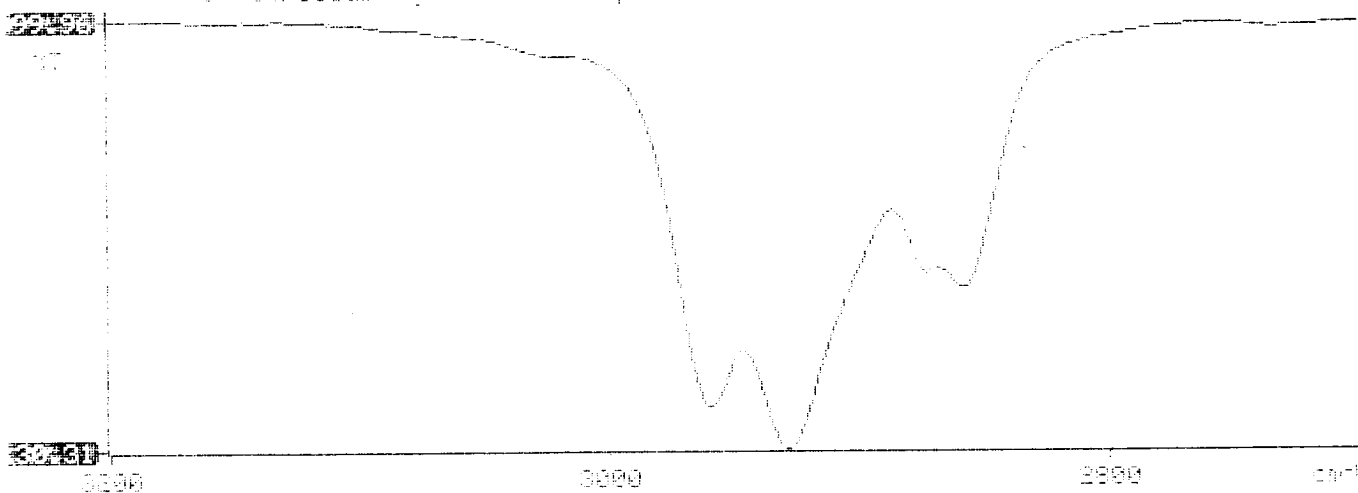
Volume of sample after extraction, ml  
 12.000

Petroleum hydrocarbons, ppm  
 1004.974

Net absorbance of hydrocarbons (2930  $\text{cm}^{-1}$ )  
 517

Net Petroleum hydrocarbons spectrum

16:56



## BTEX SOIL SAMPLE WORKSHEET

|                      |   |        |                  |   |         |
|----------------------|---|--------|------------------|---|---------|
| File                 | : | 947426 | Date Printed     | : | 9/13/95 |
| Soil Mass (g)        | : | 5.01   | Multiplier (L/g) | : | 0.00100 |
| Extraction vol. (mL) | : | 20     | DF (Analytical)  | : | 2000    |
| Shot Volume (uL)     | : | 10     | DF (Report)      | : | 1.99601 |

|                        |   |         | Det. Limit |
|------------------------|---|---------|------------|
| Benzene (ug/L)         | : | 8.92    |            |
| Benzene (mg/Kg):       |   | 17.804  | 4.990      |
| Toluene (ug/L)         | : | 130.00  |            |
| Toluene (mg/Kg):       |   | 259.481 | 4.990      |
| Ethylbenzene (ug/L)    | : | 12.30   |            |
| Ethylbenzene (mg/Kg):  |   | 24.551  | 4.990      |
| p & m-xylene (ug/L)    | : | 113.00  |            |
| p & m-xylene (mg/Kg):  |   | 225.549 | 9.980      |
| o-xylene (ug/L)        | : | 25.40   |            |
| o-xylene (mg/Kg):      |   | 50.699  | 4.990      |
| Total xylenes (mg/Kg): |   | 276.248 | 14.970     |
| Total BTEX (mg/Kg):    |   | 578.084 |            |

# EL PASO NATURAL GAS

## EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\091295-1.005  
 Method : C:\LABQUEST\METHODS\9001.MET  
 Sample ID : 947418.5.04G.100U mh  
 Acquired : Sep 12, 1995 19:28:31  
 Printed : Sep 12, 1995 19:54:58  
 User : MARLON

947426  
 10-yl 5.01g

### Channel A Results

| COMPONENT    | RET TIME | AREA     | CONC (ug/L) |
|--------------|----------|----------|-------------|
| BENZENE      | 3.463    | 899701   | 8.9233      |
| a,a,a TFT    | 4.980    | 5282325  | 152.9650    |
| TOLUENE      | 6.820    | 31200866 | 130.3436    |
| ETHYLBENZENE | 10.580   | 2726869  | 12.3299     |
| M & P XYLENE | 10.940   | 28939640 | 112.6361    |
| O XYLENE     | 11.993   | 5401473  | 25.4114     |
| BFB          | 13.483   | 52767708 | 88.0560     |

C:\LABQUEST\CHROM001\091295-1.005 -- Channel A

