

*Denny & Faust*  
DEPUTY OIL & GAS INSPECTOR

DEC 29 1997

*Approved*

Meter Number:70082  
Location Name:JOHNSTON LS #1  
Location:TN-28 RG-09  
SC-11 UL-C  
2 - Federal  
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

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERAL         | <p>Meter: <u>70082</u> Location: <u>JOHNSTON LS #1</u></p> <p>Operator #: <u>0203</u> Operator Name: <u>AMOCO</u> P/L District: <u>BLANCO</u></p> <p>Coordinates: Letter: <u>C</u> Section <u>11</u> Township: <u>28</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>5.15.94</u> Area: <u>03</u> Run: <u>42</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SITE ASSESSMENT | <div> <div>NMOCD Zone:</div> <div>(From NMOCD Maps)</div> <div>Inside</div> <div>Outside</div> </div> <div> <div>Land Type:</div> <div>BLM</div> <div>State</div> <div>Fee</div> <div>Indian</div> </div> <div> <div><input checked="" type="checkbox"/> (1)</div> <div><input type="checkbox"/> (2)</div> <div><input type="checkbox"/> (3)</div> <div><input type="checkbox"/> (1)</div> <div><input checked="" type="checkbox"/> (2)</div> <div><input type="checkbox"/> (3)</div> </div> <p>Depth to Groundwater</p> <div> <div>Less Than 50 Feet (20 points)</div> <div>50 Ft to 99 Ft (10 points)</div> <div>Greater Than 100 Ft (0 points)</div> </div> <div> <div><input type="checkbox"/> (1)</div> <div><input type="checkbox"/> (2)</div> <div><input checked="" type="checkbox"/> (3)</div> </div> <p>Wellhead Protection Area :</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>Horizontal Distance to Surface Water Body</p> <div> <div>Less Than 200 Ft (20 points)</div> <div>200 Ft to 1000 Ft (10 points)</div> <div>Greater Than 1000 Ft (0 points)</div> </div> <div> <div><input type="checkbox"/> (1)</div> <div><input type="checkbox"/> (2)</div> <div><input checked="" type="checkbox"/> (3)</div> </div> <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><input type="checkbox"/> (2) &gt; 100'</p> <p>TOTAL HAZARD RANKING SCORE: <u>0</u> POINTS</p> |
| REMARKS         | <p>Remarks : <u>ONLY PIT ON LOCATION. <sup>ST. PIT IS DRY.</sup> <del>WILL</del> <sup>LOC</sup> LOCATION IS IN A CANYON SOUTH OF LARGO RD. REDLINE AND TOPO CONFIRMED LOCATION IS OUTSIDE V.Z.</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

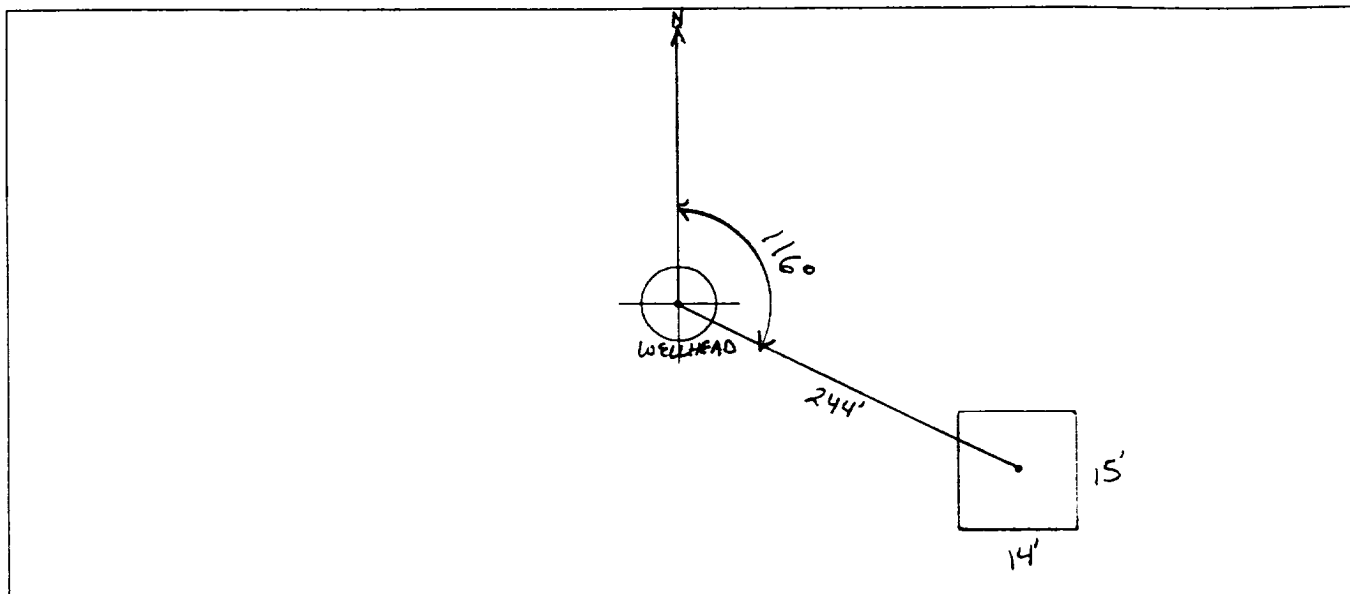
PUSH IN

21713

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 116° Footage from Wellhead 244'  
b) Length : 15' Width : 14' Depth : 2'

ORIGINAL PIT LOCATION



REMARKS

Remarks :

TOOK PICTURES AT 8:51 A.M.

END DUMP

Completed By:

Robert Thompson

Signature

5.15.94

Date

# FIELD PIT REMEDIATION/CLOSURE FORM

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERAL            | <p>Meter: <u>70082</u> Location: <u>JOHNSTON LS #1</u></p> <p>Coordinates: Letter: <u>C</u> Section <u>11</u> Township: <u>28</u> Range: <u>9</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Date Started : <u>7-21-94</u> Run: <u>03</u> <u>42</u></p>                                                                                                                                                                                                       |
| FIELD OBSERVATIONS | <p>Sample Number(s): <u>MK 178</u> <u>MK 179</u> <u>MK 180</u></p> <p>Sample Depth: <u>12'</u> Feet</p> <p>Final PID Reading <u>5</u> PID Reading Depth <u>12'</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>7-21-94</u> Pit Closed By: <u>BEI</u></p> |
| REMARKS            | <p>Remarks : <u>EPNG lines Not marked Brown Soil NO</u></p> <p><u>Hydrocarbon odor : location is right next to a wash</u></p>                                                                                                                                                                                                                                                                                                                                      |
|                    | <p>Signature of Specialist: <u>Morgan Killion</u></p>                                                                                                                                                                                                                                                                                                                                                                                                              |



FIELD SERVICES LABORATORY  
ANALYTICAL REPORT  
PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

|                            | Field ID | Lab ID            |
|----------------------------|----------|-------------------|
| SAMPLE NUMBER:             | mk 178   | 975744            |
| MTR CODE   SITE NAME:      | 70082    | N/A               |
| SAMPLE DATE   TIME (Hrs):  | 7-21-94  | 1209              |
| SAMPLED BY:                | N/A      |                   |
| DATE OF TPH EXT.   ANAL.:  | 7-26-94  | 7-26-94           |
| DATE OF BTEX EXT.   ANAL.: | N/A      | N/A               |
| TYPE   DESCRIPTION:        | VG       | 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)    | 410    | MG/KG |            |   | 202  | 28    |
| HEADSPACE PID  | 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 N/A % for this sample All QA/QC was acceptable.  
Narrative:

DF = Dilution Factor Used

✓ P

8/8/94