

Denny & Co.
DEPUTY OIL & GAS INSPECTOR

DEC 20 1997

Approved

Meter Number: 73610
Location Name: ELLIOTT FED. 22 #1
Location: TN-30 RG-11
SC-22 UL-N
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

Meter: 73610 Location: Elliott Fed. 22+1
 Operator #: 0640 Operator Name: Bob Delapena P/L District: Kutz
 Coordinates: Letter: N Section 22 Township: 30 Range: 11
 Or Latitude _____ Longitude _____
 Pit Type: Dehydrator ☒ Location Drip: _____ Line Drip: _____ Other: _____
 Site Assessment Date: 5/16/94 Area: 62 Run: 53

SITE ASSESSMENT

NMOCD Zone:

(From NMOCD
Maps)

Inside

Outside

Land Type:

BLM

State

Fee

Indian

☒ (1)

☐ (2)

☐ (3)

☐ (1)

☒ (2)

Depth to Groundwater

Less Than 50 Feet (20 points)

50 Ft to 99 Ft (10 points)

Greater Than 100 Ft (0 points)

☐ (1)

☐ (2)

☒ (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)

200 Ft to 1000 Ft (10 points)

Greater Than 1000 Ft (0 points)

☐ (1)

☐ (2)

☒ (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**

MARKS

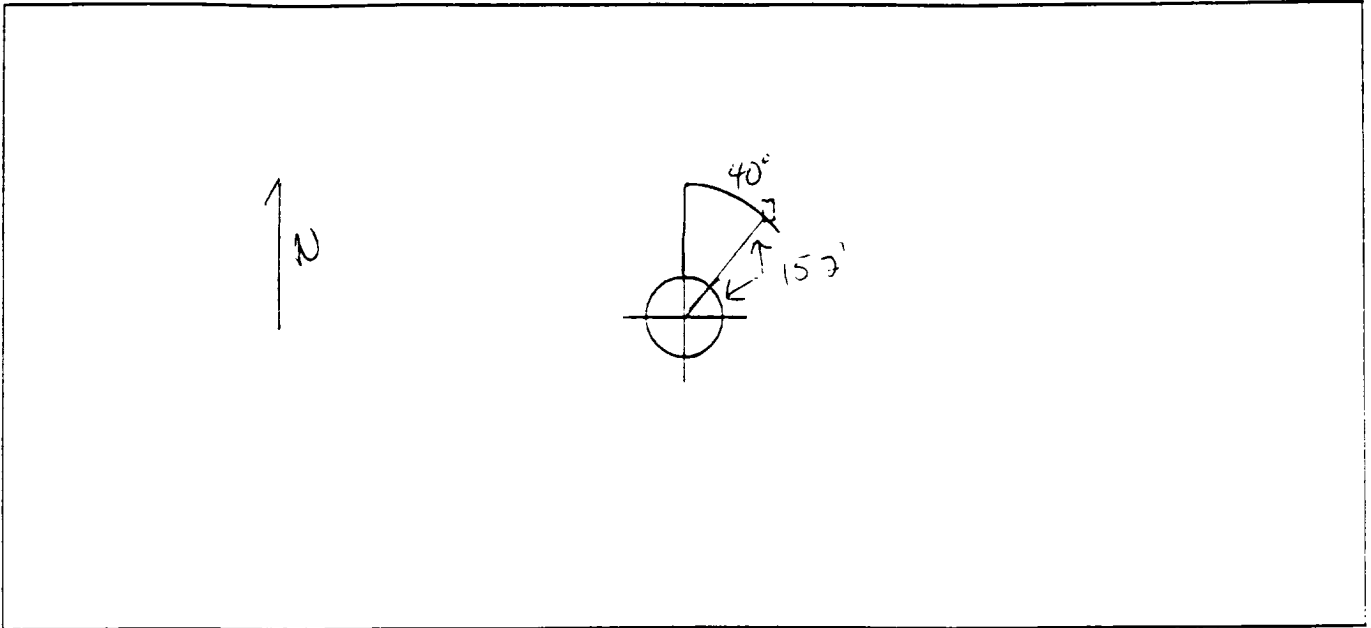
Remarks : _____

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 46° Footage from Wellhead 152'

b) Length : 18 Width : 15 Depth : 12"

ORIGINAL PIT LOCATION



REMARKS :

REMARKS

Completed By:

Lambert Gossin

Signature

5/16/94

Date

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	Meter: <u>Y3610</u> Location: <u>Elliott Fed. 22#1</u> Coordinates: Letter: <u>N</u> Section <u>22</u> Township: <u>30</u> Range: <u>11</u> Or Latitude _____ Longitude _____ Date Started : <u>5/16/94</u> Area: <u>0.2</u> Run: <u>53</u>
FIELD OBSERVATIONS	Sample Number(s): <u>245</u> Sample Depth: <u>12'</u> Feet Final PID Reading _____ PID Reading Depth _____ Feet Yes No Groundwater Encountered ☐ (1) ☐ (2) Approximate Depth _____ Feet
CLOSURE	Remediation Method : Excavation Onsite Bioremediation Backfill Pit Without Excavation ☒ (1) Approx. Cubic Yards _____ ☐ (2) ☒ (3) Soil Disposition: Envirotech Other Facility ☐ (1) ☐ (3) Tierra ☐ (2) Name: _____ Pit Closure Date: <u>5/16/94</u> Pit Closed By: <u><i>[Signature]</i> El Paso</u>
REMARKS	Remarks : _____ _____ _____
	Signature of Specialist: <u><i>Lambert Yarni</i></u>



**FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil**

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	LY5	945231
MTR CODE SITE NAME:	73610	N/A
SAMPLE DATE TIME (Hrs):	5-16-94	1130
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	5/19/94	5/19/94
DATE OF BTEX EXT. ANAL.:	N/A	N/A
TYPE DESCRIPTION:	VG	Grey sand + clay

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)	2460	MG/KG			2.02	28
HEADSPACE PID	1356	PPM				
PERCENT SOLIDS	93.089.1 RB	%				

— 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

Approved By:

[Signature]

Date:

6/15/94

Perkin-Elmer Model 1600 FT-IR
Analysis Report

Journal of Management Inquiry 16(4) 409–427
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Figure 1: Schematic representation of the experimental design. The figure is divided into two main sections: 'Pretest' and 'Main Experiment'. The 'Pretest' section includes a 'Pretest 1' box with a 'Pretest 1' label and a 'Pretest 1' box, and a 'Pretest 2' box with a 'Pretest 2' label and a 'Pretest 2' box. The 'Main Experiment' section includes a 'Main Experiment' box with a 'Main Experiment' label and a 'Main Experiment' box. The 'Main Experiment' box is further divided into 'Main Experiment 1' and 'Main Experiment 2'.

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[illegible][illegible]