

Denny E. Best
DEPUTY OIL & GAS INSPECTOR

DEC 29 1997

Approved

Meter Number: 75663
Location Name: MCKENZIE #4
Location: TN-25 RG-06
SC-25 UL-C
2 - Federal
NMOCD Zone: OUTSIDE
Hazard Ranking Score: 00

RECEIVED
APR 14 1997

OIL & GAS FIELD
LIFE

**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: 75663 Location: MCKENZIE #4
 Operator #: _____ Operator Name: NORMAN GILBERT P/L District: OSITO
 Coordinates: Letter: C Section 25 Township: 25 Range: 6
 Or Latitude _____ Longitude _____
 Pit Type: Dehydrator _____ Location Drip: ☒ Line Drip: _____ Other: _____
 Site Assessment Date: 2.7.95 Area: 06 Run: 52

SITE ASSESSMENT

NMOCD Zone: (From NMOCD Maps) Inside ☐ (1) Outside ☒ (2)

Land Type: BLM ☒ (1) State ☐ (2) Fee ☐ (3) Indian _____

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

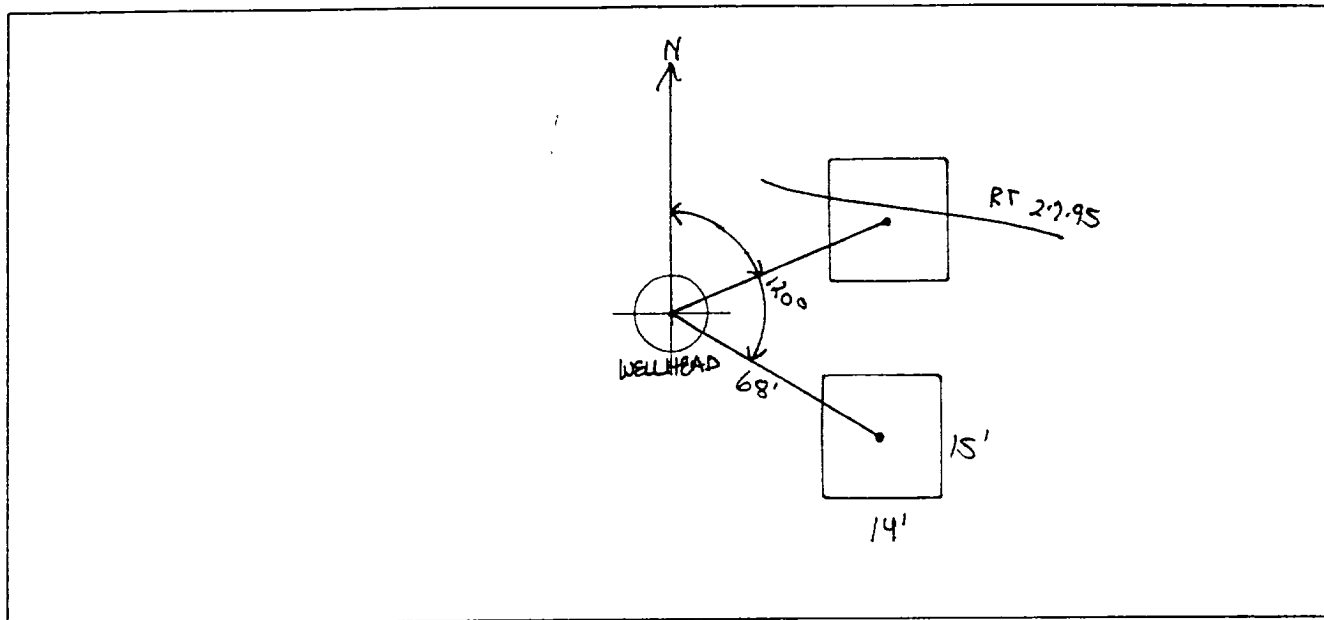
REMARKS

Remarks : REDLINE & TOPO SHOW LOCATION OUTSIDE U.Z. ONLY PIT ON LOCATION. BELONGS TO SPNG. WILL CLOSE PIT.

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 120° Footage from Wellhead 68'
 b) Length : 15' Width : 14' Depth : 1'

ORIGINAL PIT LOCATION



Remarks :

PHOTOS - 1113

REMARKS

Completed By:

Robert Thompson

Signature

2.7.95

Date

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	Meter: <u>75663</u> Location: <u>McKENZIE #4</u> Coordinates: Letter: <u>C</u> Section <u>25</u> Township: <u>25</u> Range: <u>6</u> Or Latitude _____ Longitude _____ Date Started : <u>3-14-95</u> Run: <u>06</u> <u>52</u>
FIELD OBSERVATIONS	Sample Number(s): <u>KP 441</u> <u>KP 442</u> <u>KP 443</u> _____ Sample Depth: <u>10</u> Feet Final PID Reading _____ PID Reading Depth <u>10</u> Feet <div style="text-align: center;">Yes No</div> Groundwater Encountered <input type="checkbox"/> <input checked="" type="checkbox"/> Approximate Depth _____ Feet
CLOSURE	Remediation Method : <div style="display: flex; justify-content: space-between;"> <div> Excavation Onsite Bioremediation Backfill Pit Without Excavation </div> <div style="text-align: center;"> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> </div> <div> Approx. Cubic Yards _____ Tierra </div> </div> Soil Disposition: <div style="display: flex; justify-content: space-between;"> <div> Envirotech Other Facility </div> <div style="text-align: center;"> <input type="checkbox"/> <input type="checkbox"/> </div> <div> Name: _____ Pit Closure Date: <u>3-14-95</u> </div> </div> Pit Closed By: <u>B.E.I</u>
REMARKS	Remarks : <u>Some line markers. dug a test hole</u> <u>sampled closed pit. Hit sand stone at 10' soil gray with a</u> <u>little odor</u>
	Signature of Specialist: <u>Kelly Padilla</u>



**FIELD SERVICES LABORATORY
ANALYTICAL REPORT**

PIT CLOSURE PROJECT - Soil Samples Outside the GWV Zone

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

Field ID

Lab ID

MTR CODE | SITE NAME:

SAMPLE DATE | TIME (Hrs):

SAMPLED BY:

DATE OF TPH EXT. | ANAL.:

DATE OF BTEX EXT. | ANAL.:

TYPE | DESCRIPTION:

KP 441

946728

75663

N/A

3-14-95

1510

N/A

3/23/95

3/23/95

N/A

N/A

VG

Brown sand and clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
TPH (418.1)	954	MG/KG			2.02	28
HEADSPACE PID	330	PPM				
PERCENT SOLIDS	92.6	%				

-- TPH is by EPA Method 418.1 --

Narrative:

DF = Dilution Factor Used

Approved By:

Date:

3-24-95

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

95/03/23 09:10

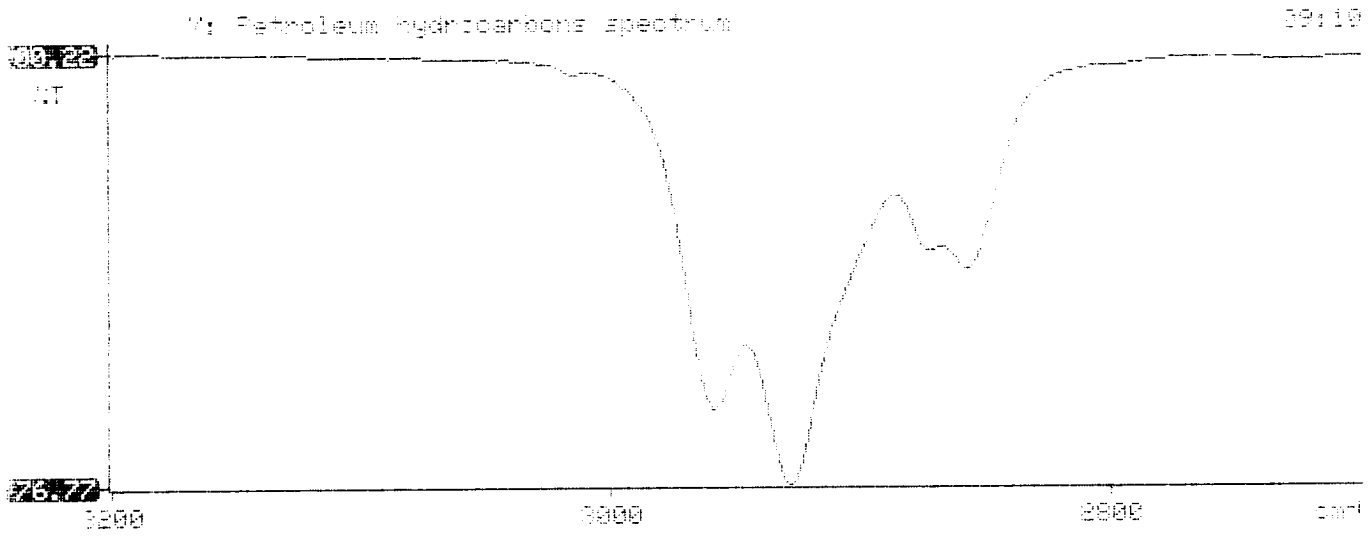
Sample identification
946728

Initial mass of sample, g
0.020

Volume of sample after extraction, ml
22.000

Petroleum hydrocarbons, ppm
353.958

Net absorbance of hydrocarbons (2930 cm-1)
0.115



ILLEGIBLE