

APPROVED
OIL CONSERVATION DIVISION

DEC 22 1997

Approved

Meter Number: 94530
Location Name: Apache #31
Location: TN-24 RG-04
SC-23 UL-I
6 - Jicarilla
NMOCD Zone: OUTSIDE
Hazard Ranking Score: 00

RECEIVED
APR 14 1997

OIL CON. DIV.
B-110

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: 94530 Location: APACHE #31
 Operator #: 750 Operator Name: APACHE CORP. P/L District: OSITO
 Coordinates: Letter: I Section 23 Township: 24 Range: 4
 Or Latitude _____ Longitude _____
 Pit Type: Dehydrator _____ Location Drip: X Line Drip: _____ Other: _____
 Site Assessment Date: 11-21-95 Area: 08 Run: 73

SITE ASSESSMENT

NMOCD Zone: (From NMOCD Maps) Inside ☐ (1) Outside ☒ (2)
 Land Type: BLM ☐ (1) State ☐ (2) Fee ☐ (3) Indian APACHE

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 LARGO WASH

(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

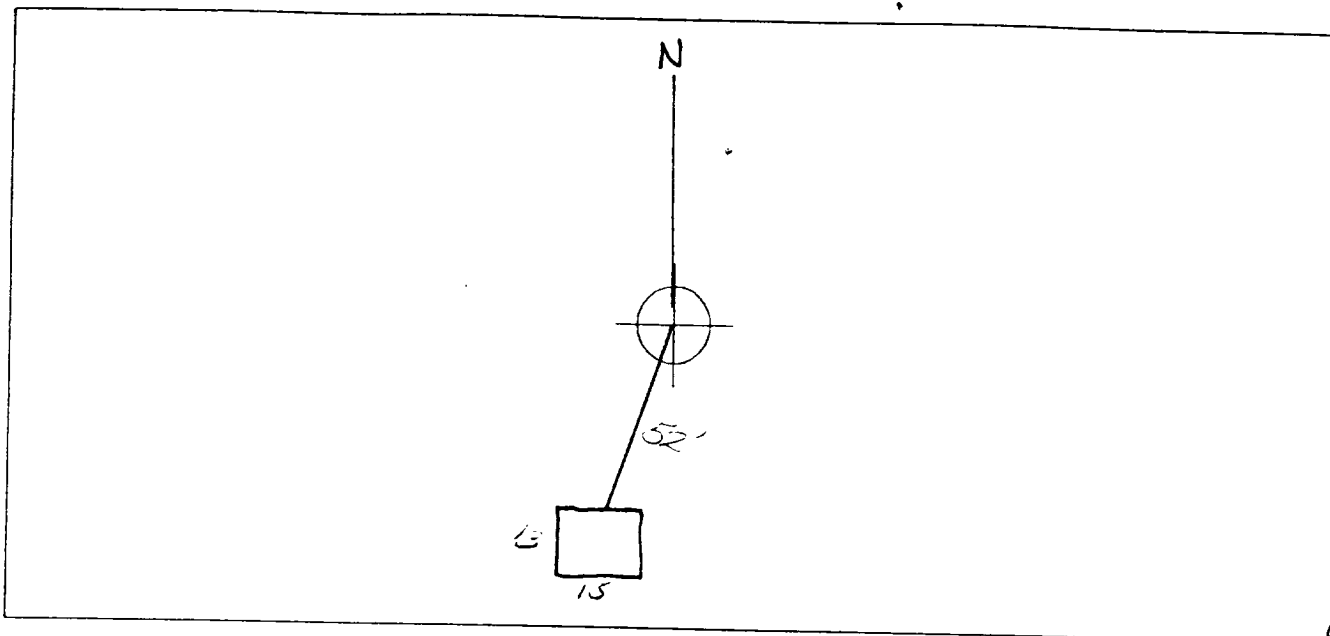
REMARKS

Remarks : Pit Listed OUTSIDE W.V. 20N BOTH TOPO-RED LINE
Pit is DRY

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 340° Footage from Wellhead 52
b) Length : 15 Width : 13 Depth : 3



REMARKS

Remarks :

P.C. # 12, 13 IN ROLL

Completed By:

Subs. Schwartz

Signature

11-21-95

Date

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	<p>Meter: <u>94530</u> Location: <u>APACHE #31</u></p> <p>Coordinates: Letter: <u>I</u> Section <u>23</u> Township: <u>24</u> Range: <u>4</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Date Started : <u>11-30-95</u> Run: <u>08</u> <u>23</u></p>
FIELD OBSERVATIONS	<p>Sample Number(s): <u>JK150</u></p> <p>Sample Depth: <u>12'</u> Feet</p> <p>Final PID Reading <u>164.0</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 checked="" type="checkbox"/> Approx. Cubic Yards <u>252</u> ^{12/5/95}</p> <p>Onsite Bioremediation <input type="checkbox"/></p> <p>Backfill Pit Without Excavation <input type="checkbox"/></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>12/1/95</u> Pit Closed By: <u>Philip</u></p>
REMARKS	<p>Remarks : <u>Pit PID Readings (N-13.4)(S-9.4)(E-23.5)(W-81.5)</u></p> <p><u>Pit Size 18x15x12</u> <u>Hit Rock at 12'</u></p> <p><u>Fence Size 18x16</u> <u>No Net</u></p> <p><u>More Than 100 Feet From Ephemeral Stream</u></p> <p>Signature of Specialist: <u>James K. King</u></p>



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JK150	94-217
MTR CODE SITE NAME:	94530	Apache #31
SAMPLE DATE TIME (Hrs):	11-30-95	1300
PROJECT:	Phase I Navajo	
DATE OF TPH EXT. ANAL.:	12/1/95	
DATE OF BTEX EXT. ANAL.:	12/1/95	12/1/95
TYPE DESCRIPTION:	VG	light brown fine sandstone

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	< 0.5	MG/KG				
TOLUENE	< 0.5	MG/KG				
ETHYL BENZENE	< 0.5	MG/KG				
TOTAL XYLENES	< 1.5	MG/KG				
TOTAL BTEX	< 3	MG/KG				
TPH (418.1)	36	MG/KG			2.0	2.5
HEADSPACE PID	16.4	PPM				
PERCENT SOLIDS	92.2	%				

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

The Surrogate Recovery was at 94% for this sample All QA/QC was acceptable.
Narrative:

DF = Dilution Factor Used

Approved By: [Signature]

Date: 12/4/95

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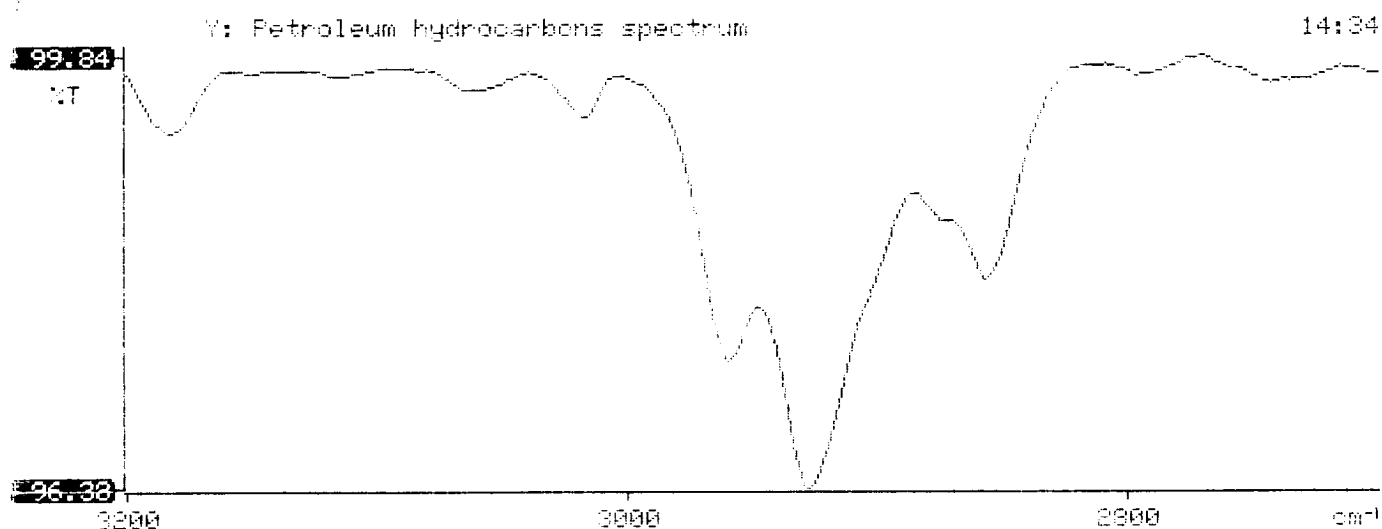
*****
*                               *
*      Test Method for         *
*      Oil and Grease and Petroleum Hydrocarbons *
*      in Water and Soil      *
*                               *
*      Perkin-Elmer Model 1600 FT-IR *
*      Analysis Report        *
*****

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* 95/12/01 14:34
*
* Sample identification
* 947817
*
* Initial mass of sample, g
* 2.000
*
* Volume of sample after extraction, ml
* 29.000
*
* Petroleum hydrocarbons, ppm
* 36.438
* Net absorbance of hydrocarbons (2930 cm-1)
* 0.015
*
*
*

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BTEX SOIL SAMPLE WORKSHEET

File	:	947817	Date Printed	:	12/2/95
Soil Mass (g)	:	4.99	Multiplier (L/g)	:	0.00100
Extraction vol. (mL)	:	10	CAL FACTOR (Analytical):		200
Shot Volume (uL)	:	50	CAL FACTOR (Report):		0.20040

			DILUTION FACTOR:	1	Det. Limit
Benzene (ug/L)	:	0.00	Benzene (mg/Kg):	0.000	0.501
Toluene (ug/L)	:	0.00	Toluene (mg/Kg):	0.000	0.501
Ethylbenzene (ug/L)	:	0.00	Ethylbenzene (mg/Kg):	0.000	0.501
p & m-xylene (ug/L)	:	0.72	p & m-xylene (mg/Kg):	0.144	1.002
o-xylene (ug/L)	:	0.00	o-xylene (mg/Kg):	0.000	0.501
			Total xylenes (mg/Kg):	0.144	1.503
			Total BTEX (mg/Kg):	0.144	

EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\120195-1.008
Method : C:\LABQUEST\METHODS\1-112095.MET
Sample ID : 947817,4.99G,50U
Acquired : Dec 01, 1995 20:20:44
Printed : Dec 01, 1995 20:47:03
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	5.590	0	0.0000
TOLUENE	9.650	0	0.0000
ETHYLBENZENE	13.827	0	0.0000
M & P XYLENE	14.220	186573	0.7221
O XYLENE	15.340	0	0.0000
BFB	16.937	62048416	94.2548

