

Denny L. Frost
DEPUTY OIL & GAS INSPECTOR

DEC 29 1997

Approved

Meter Number: 94693
Location Name: FEDERAL 28 #2
Location: TN-25 RG-09
SC-28 UL-E
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

2

GENERAL

Meter: 94693 Location: Federal 28 No. 2
Operator #: 5997 Operator Name: Merrion P/L District: Ballard
Coordinates: Letter: E Section 28 Township: 25N Range: 9W
Or Latitude _____ Longitude _____
Pit Type: Dehydrator _____ Location Drip: X Line Drip: _____ Other: _____
Site Assessment Date: 6-28-94 Area: 11 Run: 21

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

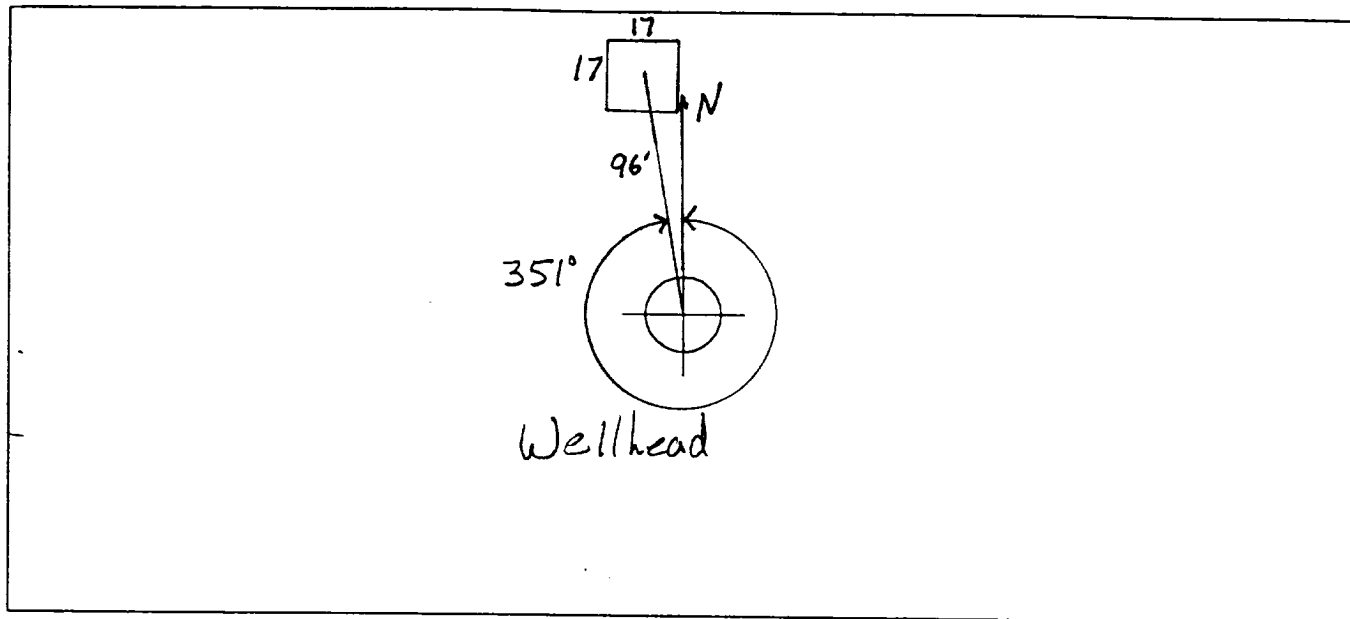
Remarks : Three pits on location, drip pit is dry

Outside V.Z. on Redlined Topo

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 351 Footage from Wellhead 96
b) Length : 17 Width : 17 Depth : 3



REMARKS

Remarks :

Photos - 1014 hrs

Completed By:

Signature

6-28-94

Date

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	Meter: <u>94693</u> Location: <u>Federal 28 No. 2</u> Coordinates: Letter: <u>E</u> Section <u>28</u> Township: <u>25</u> Range: <u>9</u> Or Latitude _____ Longitude _____ Date Started : <u>9-28-99</u> Run: <u>11</u> <u>21</u>
FIELD OBSERVATIONS	Sample Number(s): <u>KP 259</u> Sample Depth: <u>12'</u> Feet Final PID Reading <u>272</u> PID Reading Depth <u>12'</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: right;"> <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: right;"> <input type="checkbox"/> <input type="checkbox"/> </div> <div> Name: _____ Pit Closure Date: <u>9-28-99</u> </div> <div style="text-align: right;"> Pit Closed By: <u>B.E.I</u> </div> </div>
REMARKS	Remarks : <u>Some Line Markers. Soil Dark Brown with A. Smell</u> <u>closed pit</u>
	Signature of Specialist: <u>Kelly Lohle</u>

Natural Gas Company

FIELD SERVICES LABORATORY ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	KP 259	946245
MTR CODE SITE NAME:	KDK 1230 94693	N/A
SAMPLE DATE TIME (Hrs):	9-28-94	1230
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	9-29-94	9-29-94
DATE OF BTEX EXT. ANAL.:	10-3-94	10-10-94
TYPE DESCRIPTION:	VG	Brown sand & clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	8.6	MG/KG	50			
TOLUENE	14	MG/KG	50			
ETHYL BENZENE	1.0	MG/KG	50			
TOTAL XYLENES	6.3	MG/KG	50			
TOTAL BTEX	29.9	MG/KG				
TPH (418.1)	3,900	MG/KG			1.49	28
HEADSPACE PID	272	PPM				
PERCENT SOLIDS	92.1	%				

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

The Surrogate Recovery was at 87 % for this sample All QA/QC was acceptable.
Narrative:

ATI Results attached.

DF = Dilution Factor Used

Approved By:

Date:

10/23/94

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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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94/09/29 14:15

Sample identification
746245

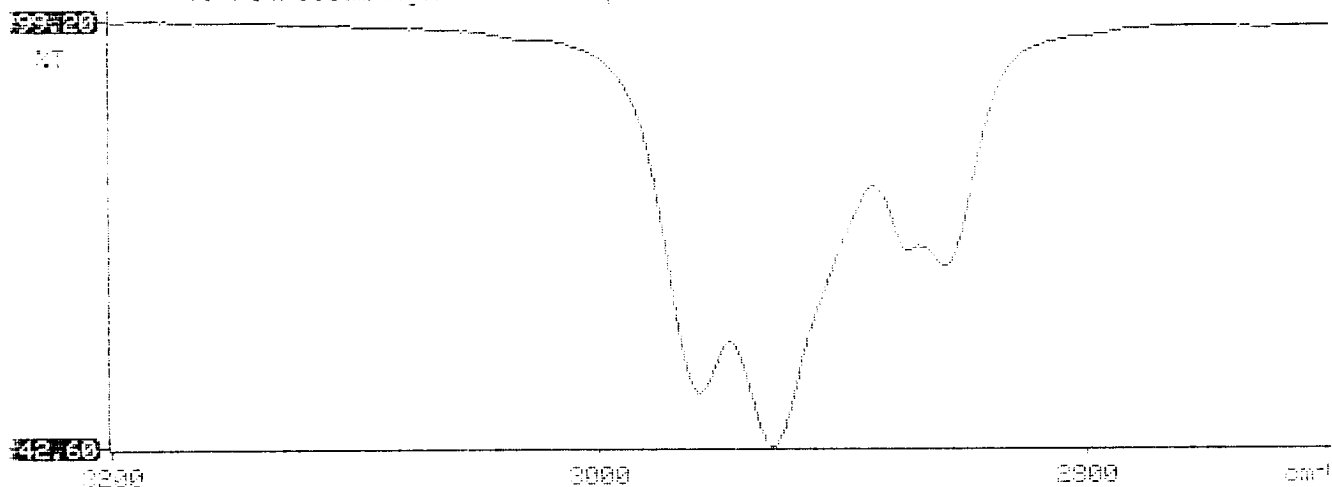
Initial mass of sample, g
1.490

Volume of sample after extraction, ml
28.000

Petroleum hydrocarbons, ppm
1899.008
Net absorbance of hydrocarbons (2930 cm⁻¹)
1.364

Y: Petroleum hydrocarbons spectrum

14:15



GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
 CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 409445
 PROJECT # : 24324
 PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	946245	NON-AQ	09/28/94	10/03/94	10/10/94	50
08	946246	NON-AQ	09/28/94	10/03/94	10/06/94	1
09	946247	NON-AQ	09/28/94	10/03/94	10/06/94	1

PARAMETER	UNITS	07	08	09
BENZENE	MG/KG	8.6	<0.50	<0.025
TOLUENE	MG/KG	14	2.4	<0.025
ETHYLBENZENE	MG/KG	1.0	0.99	<0.025
TOTAL XYLENES	MG/KG	6.3	9.4	<0.025

SURROGATE:

BROMOFLUOROBENZENE (%) 87 73 96



Analytical **Technologies**, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **409445**

October 13, 1994

El Paso Natural Gas Co.
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On **09/30/94**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure

