Meter Number:87686
Location Name:RIDDLE H #8X
Location:TN-30 RG-09
SC-07 UL-I
2 - Federal
NMOCD Zone:OUTSIDE
Hazard Ranking Score:00

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

EPFS
EL PASO FIELD SERVICES

GENERAL

Meter: 87686 Location: RIDDLE H # 8X
Operator #: 0203 Operator Name: Amoco P/L District: Aztec
Coordinates: Letter: I Section 7 Township: 30 Range: 9
Or Latitude _____ Longitude _____
Pit Type: Dehydrator ___ Location Drip: X Line Drip: ___ Other: _____
Site Assessment Date: 2.8.95 Area: 04 Run: 92

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 V.Z. TWO PITS ON LOCATION. LOCATION DRIP BELONGS TO EPNG. WILL CLOSE PIT.

PUSH IN

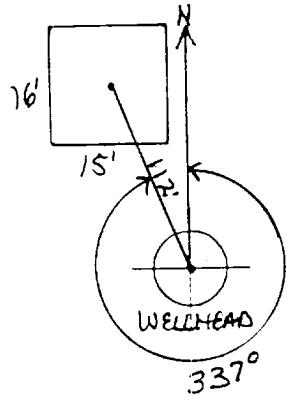
(SP3190) 04/08/94

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 337° Footage from Wellhead 112'

b) Length : 16' Width : 15' Depth : 2'



REMARKS

Remarks :

PHOTOS - 1250

Completed By:

Robert Thompson
Signature

2-8-95
Date

(SP3190B) 04/07/94

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 87686 Location: Riddle H #8X

Coordinates: Letter: I Section 7 Township: 30 Range: 9

Or Latitude _____ Longitude _____

Date Started : 2-27-95 Run: 04 92

FIELD OBSERVATIONS

Sample Number(s): mk 405 _____ _____ _____

Sample Depth: 5' Feet

Final PID Reading 451 PPM PID Reading Depth 5' Feet

	Yes	No
Groundwater Encountered	☐	☒

Approximate Depth _____ Feet

CLOSURE

Remediation Method :

Excavation	☐	Approx. Cubic Yards _____
Onsite Bioremediation	☐	
Backfill Pit Without Excavation	☒	

Soil Disposition:

Envirotech	☐	☐	Tierra
Other Facility	☐	Name: _____	

Pit Closure Date: 2-27-95 Pit Closed By: BEI

REMARKS

Remarks : Arrived Dug sample Hole Gray Soil Strong HYDrocarbon odor Hit Sandstone 5' pit Had about 1' of water on TOP of It

Signature of Specialist: Morgan Killion

(SP3191) 03/16/94

El Paso 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:	MK 405	946709
MTR CODE | SITE NAME:	87686	N/A
SAMPLE DATE | TIME (Hrs):	2-27-95	1400
SAMPLED BY:	N/A	
DATE OF TPH EXT. | ANAL.:	KBK 3/2/95 ~~2-28-95~~ 3/3/95	KBK 3/2/95 ~~2-28-95~~ 3/3/95
DATE OF BTEX EXT. | ANAL.:	2/28/95	3/2/95
TYPE | DESCRIPTION:	VG	Light grey sand & clay

REMARKS: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	2.31	MG/KG	0.39683		2.52	2
TOLUENE	46.2	MG/KG				
ETHYL BENZENE	7.22	MG/KG				
TOTAL XYLENES	104	MG/KG				
TOTAL BTEX	160	MG/KG				
TPH (418.1)	~~12~~ 23,100 25B	MG/KG			0.29 ~~1.92~~ 15B	20 28
HEADSPACE PID	451	PPM				
PERCENT SOLIDS	87.0	%				

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

The Surrogate Recovery was at 84.2 % for this sample All QA/QC was acceptable.

Narrative:

DF = Dilution Factor Used

Approved By: JR Date: 3-20-95

BTEX SOIL SAMPLE WORKSHEET

File	946709A	**Date Printed**	3/7/95
Soil Mass (g)	2.52	**Multiplier (L/g)**	0.00198
Extraction vol. (mL)	20	**DF (Analytical)**	200
Shot Volume (uL)	100	**DF (Report)**	0.39683

				Det. Limit
Benzene (ug/L)	5.81	**Benzene (mg/Kg):**	**2.306**	1.984
Toluene (ug/L)	116.41	**Toluene (mg/Kg):**	**46.194**	1.984
Ethylbenzene (ug/L)	18.19	**Ethylbenzene (mg/Kg):**	**7.218**	1.984
p & m-xylene (ug/L)	205.81	p & m-xylene (mg/Kg):	81.671	3.968
o-xylene (ug/L)	55.85	o-xylene (mg/Kg):	22.163	1.984
		Total xylenes (mg/Kg):	**103.833**	5.952
		Total BTEX (mg/Kg):	**159.552**	

EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

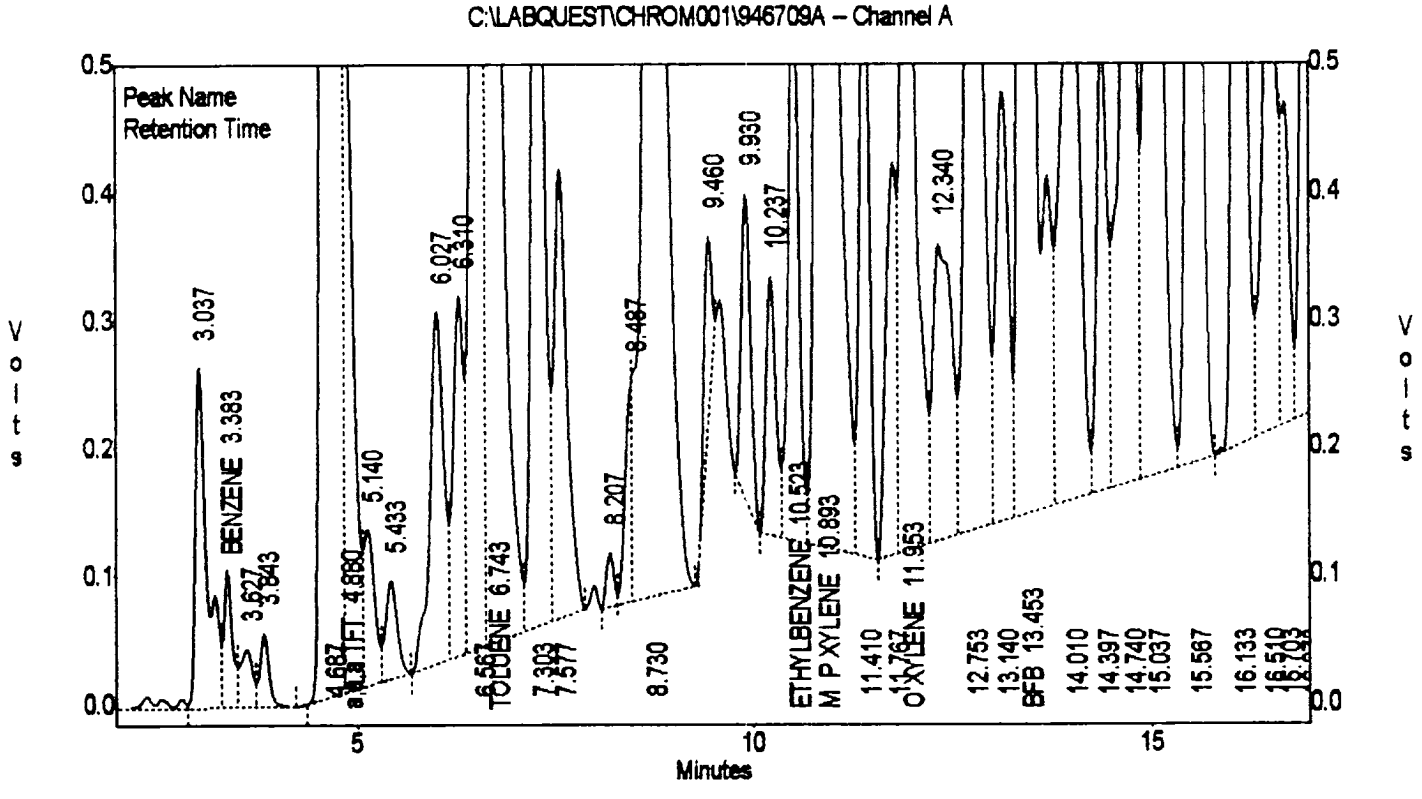
File : C:\LABQUEST\CHROM001\946709A
Method : C:\LABQUEST\METHODS\9001.MET
Sample ID : 946709,2.52/100uL
Acquired : Mar 03, 1995 05:33:43
Printed : Mar 03, 1995 06:00:01
User : Tony

Channel A Results

COMPONENT	RET TIME	AREA	AVG RF	CONC (ug/L)
BENZENE	3.383	766212	114099.32031	5.8131
a,a,a TFT	4.880	4495956	20732.91797	214.8773
TOLUENE	6.743	29412598	299078.90625	116.4062
ETHYLBENZENE	10.523	4206286	221610.40625	18.1943
M & P XYLENE	10.893	53929432	315892.00000	205.8069
O XYLENE	11.953	12616444	212388.87500	55.8527
BFB	13.453	69830112	825330.37500	84.2282

Totals :

175257040		701.1788

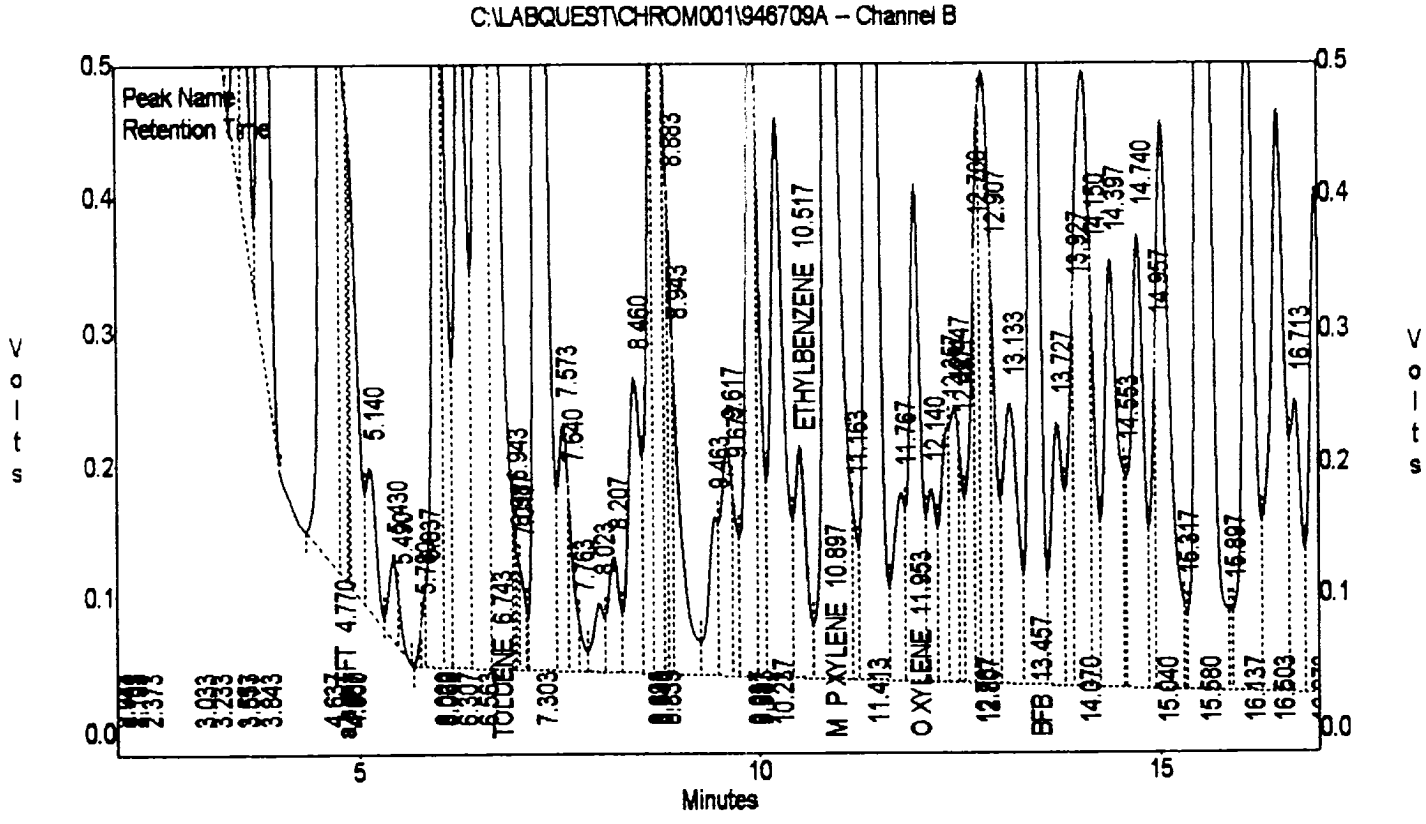


EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\946709A
Method : C:\LABQUEST\METHODS\9001.MET
Sample ID : 946709,2.52/100uL
Acquired : Mar 03, 1995 05:33:43
Printed : Mar 03, 1995 06:00:07
User : Tony

Channel B Results

COMPONENT	RET TIME	AREA	AVG RF	CONC (ug/L)
BENZENE	3.357	0	0.00000	0.0000
a,a,a TFT	4.770	2540542	6878.05664	347.7549
TOLUENE	6.743	7921646	49631.89453	156.4727
ETHYLBENZENE	10.517	1723044	46387.72266	35.9229
M & P XYLENE	10.897	14499625	47699.00781	289.5925
O XYLENE	11.953	3575918	46224.92188	74.5797
BFB	13.457	9291511	79386.75781	116.2265
Totals :		39552288		1020.5493



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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
****

95/03/03 15:05

Sample identification
46709

Initial mass of sample, g
1.290

Volume of sample after extraction, ml
12.000

Petroleum hydrocarbons, ppm
3131.433
Net absorbance of hydrocarbons (2930 cm-1)
1.204