Denny E. Foust
DEPUTY OIL & GAS INSPECTOR
DEC 29 1997
Approved

Meter Number:94274
Location Name:JICARILLA CONT. 146 #36
Location:TN-25 RG-05
SC-04 UL-A
6 - Jicarilla
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

EL PASO FIELD SERVICES

GENERAL

Meter: 94274 Location: Jicarilla Contract 146 #36
Operator #: 0203 Operator Name: Amoco P/L District: OJITO
Coordinates: Letter: A Section 4 Township: 25 Range: 5
Or Latitude _____ Longitude _____
Pit Type: Dehydrator ✓ Location Drip: ___ Line Drip: ___ Other: _____
Site Assessment Date: 7/14/99 Area: 06 Run: 53

SITE ASSESSMENT

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

Land Type:
BLM ☐ (1)
State ☐ (2)
Fee ☐ (3)
Indian Jicarilla 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 _____
(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 Book - Outside , Vulnerable Zone Topo - Outside
4 pits. Will close 1. Pit has Liquid in it.

PUSH-IN

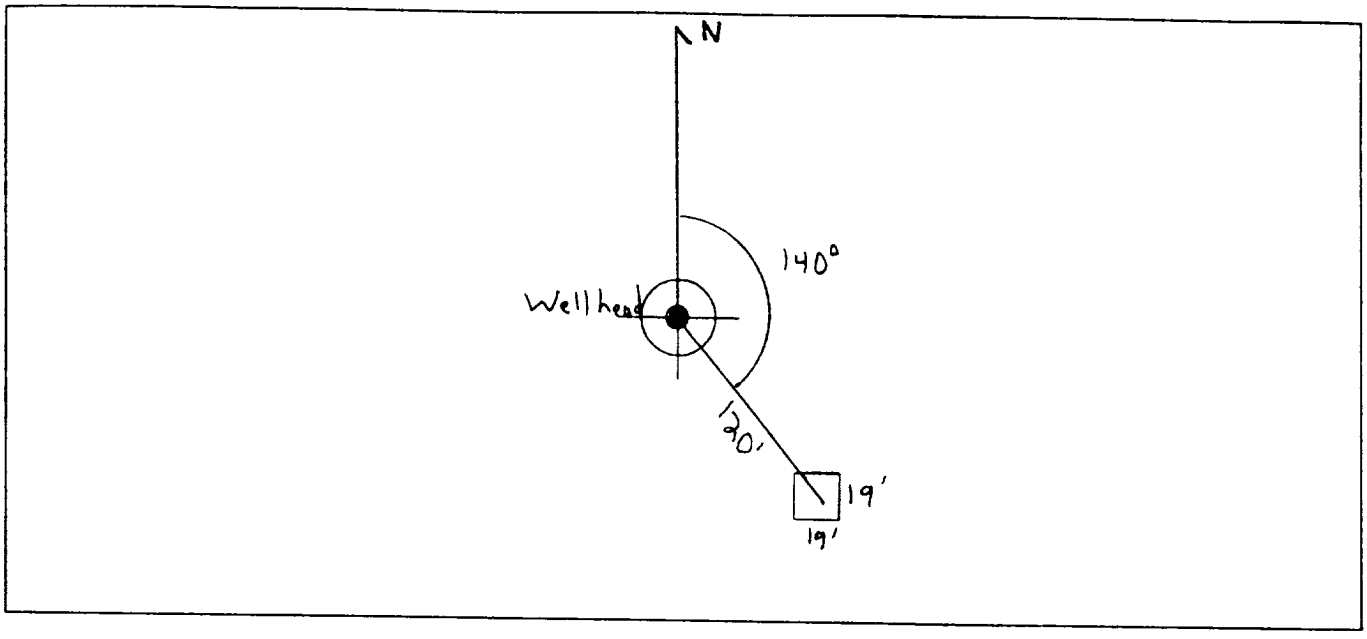
(SP31(n)) 04/08/94

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 140° Footage from Wellhead 120'

b) Length : 19' Width : 19' Depth : 4'



REMARKS

Remarks :

Pictures @ 14|9 (8 -12)

Completed By:

Cory Chance
Signature

7/14/94
Date

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 94274 Location: Jicarilla Contract 146 #36

Coordinates: Letter: A Section 4 Township: 25 Range: 5

Or Latitude _____ Longitude _____

Date Started : 9-20-95 Run: 06 53

FIELD OBSERVATIONS

Sample Number(s): NS90 _____ _____ _____

Sample Depth: 19 Feet

Final PID Reading 105 PID Reading Depth 19 Feet

	Yes	No
Groundwater Encountered	☐	☒

Approximate Depth _____ Feet

CLOSURE

Remediation Method :

Excavation ☒ Approx. Cubic Yards 1106 LT 9/27/95

Onsite Bioremediation ☐ Gabrial From Jicarilla E.P.O.

Backfill Pit Without Excavation ☐ approved closure 9-21-95

Soil Disposition:

Envirotech ☒ ☐ Tierra

Other Facility ☐ Name: _____

Pit Closure Date: 9-22-95 Pit Closed By: Philip

REMARKS

Remarks : PID WELL READINGS : (N-43)(S-95)(E-18)(S-91)

Pit Size 37x31x19 LISTED OUTSIDE W.U. ZONE EPNG (NORM) ONSITE

MORE THAN 100' FROM EPHEMERAL STREAM

FENCE SIZE 28x28x5 (NET) SPRAYED PIT WITH SOIL ENHANCER 9-22-95

Signature of Specialist: Nicholas Schmaltz

(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:	NS90	947505
MTR CODE | SITE NAME:	94274	JIC CONTRACT 146 #36
SAMPLE DATE | TIME (Hrs):	09-20-95	1145
PROJECT:	JIC PITS	
DATE OF TPH EXT. | ANAL.:	9-22-95	
DATE OF BTEX EXT. ANAL.:	9/21/95	9/22/95 / 9/25/95
TYPE | DESCRIPTION:	VG	Light Brown Fine Sand

Field Remarks: (N-43)(S-25)(E-18)(W-91)

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	7.8	MG/KG	10	D		
TOLUENE	144	MG/KG	10	D		
ETHYL BENZENE	32.4	MG/KG	10	D		
TOTAL XYLENES	481	MG/KG	10	D		
TOTAL BTEX	665	MG/KG	10	D		
TPH (418.1)	22,600	MG/KG				
HEADSPACE PID	105	PPM				
PERCENT SOLIDS	94.7	%				

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

The Surrogate Recovery was at 97% for this sample All QA/QC was acceptable.

Narrative:

DF = Dilution Factor Used

Approved By: [signature] Date: 9-29-95

****
Test Method for
Oil and Grease and Petroleum Hydrocarbons
in Water and Soil

Perkin-Elmer Model 1600 FT-IR
Analysis Report
****

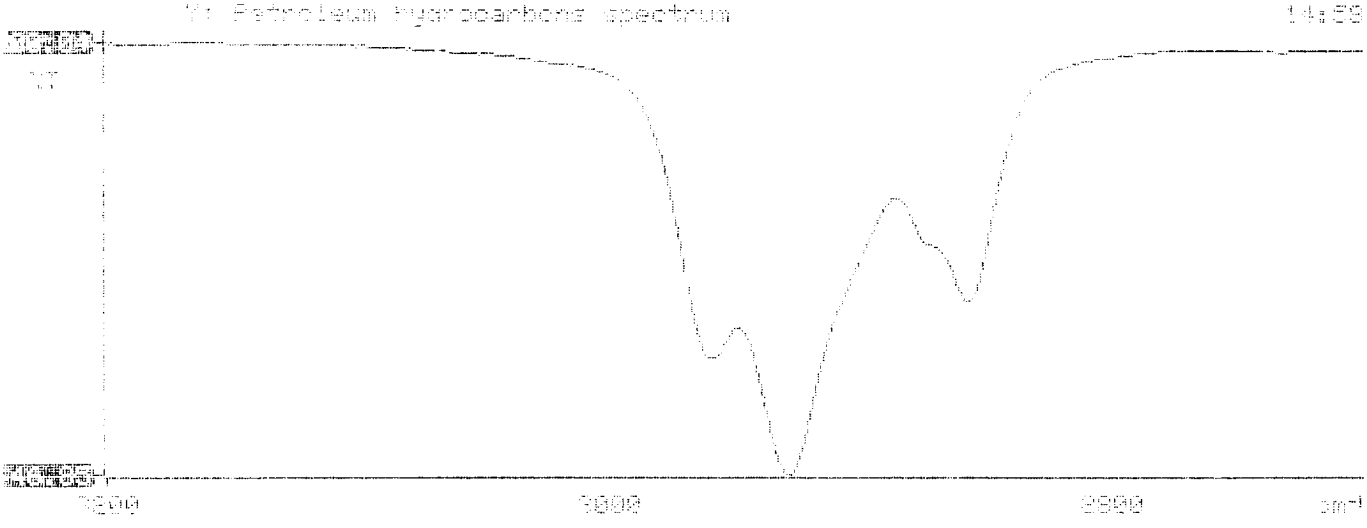
95/09/22 14:58

Sample identification
94750S

Initial mass of sample, g
0.250

Volume of sample after extraction, ml
22.000

Petroleum hydrocarbons, ppm
10706.912
Net absorbance of hydrocarbons (2930 cm-1)
.1227



BTEX SOIL SAMPLE WORKSHEET

File	947505	**Date Printed**	9/26/95
Soil Mass (g)	5.09	**Multiplier (L/g)**	0.00098
Extraction vol. (mL)	10	**DF (Analytical)**	2000
Shot Volume (uL)	5	**DF (Report)**	1.96464

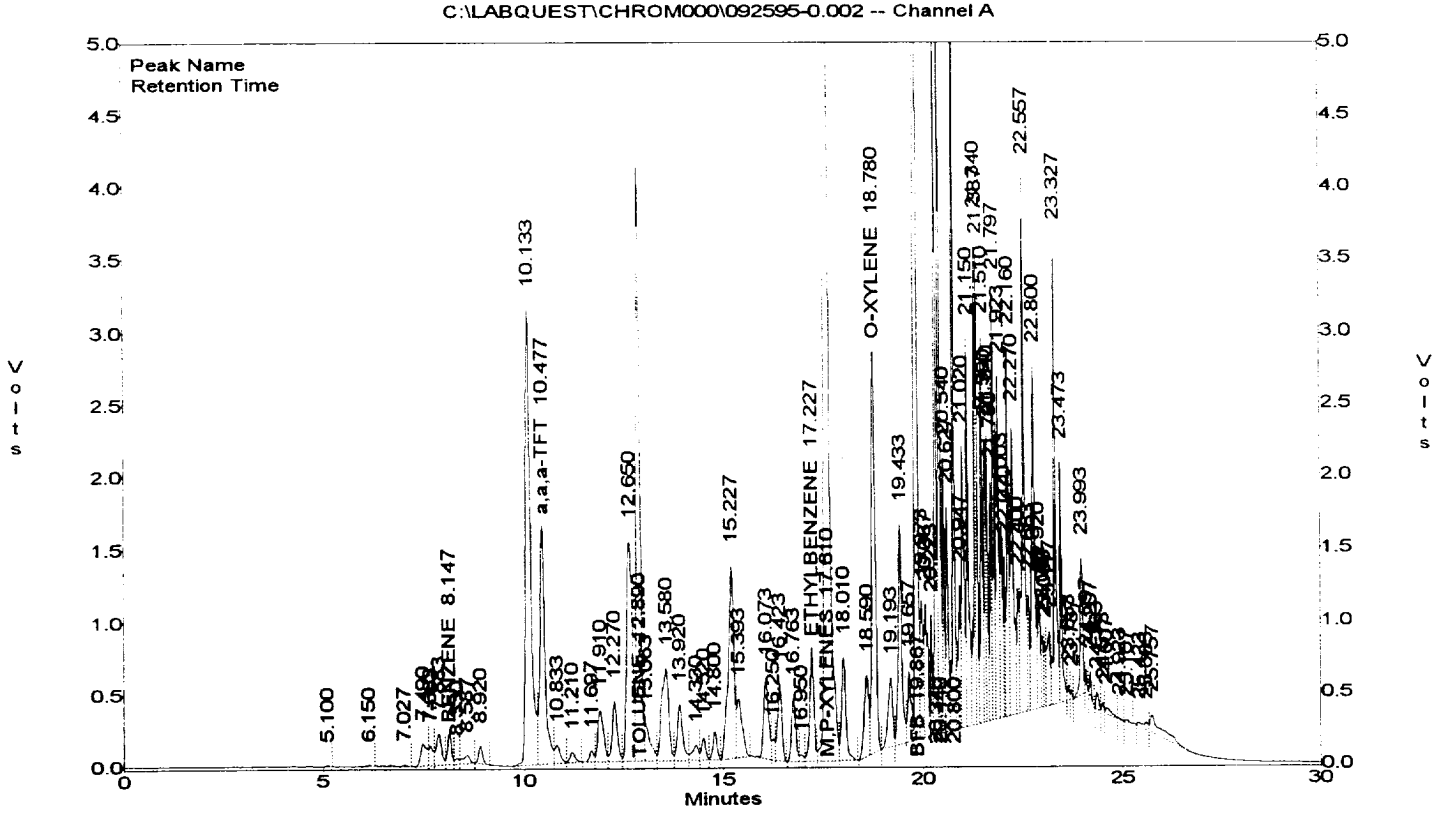
				Det. Limit
Benzene (ug/L)	3.99	**Benzene (mg/Kg):**	**7.839**	4.912
Toluene (ug/L)	73.20	**Toluene (mg/Kg):**	**143.811**	4.912
Ethylbenzene (ug/L)	16.50	**Ethylbenzene (mg/Kg):**	**32.417**	4.912
p & m-xylene (ug/L)	191.00	p & m-xylene (mg/Kg):	375.246	9.823
o-xylene (ug/L)	54.00	o-xylene (mg/Kg):	106.090	4.912
		Total xylenes (mg/Kg):	**481.336**	14.735
		Total BTEX (mg/Kg):	**665.403**	

EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM000\092595-0.002
Method : C:\LABQUEST\METHODS\9000.MET
Sample ID : 947505,5.09G,5U
Acquired : Sep 25, 1995 12:06:17
Printed : Sep 25, 1995 12:36:49
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.147	1480465	3.9918
a,a,a-TFT	10.477	14563311	166.4649
TOLUENE	12.890	26927682	73.1867
ETHYLBENZENE	17.227	5636467	16.4799
M,P-XYLENES	17.610	69339280	190.5354
O-XYLENE	18.780	17949742	54.0039
BFB	19.867	53108988	97.4332

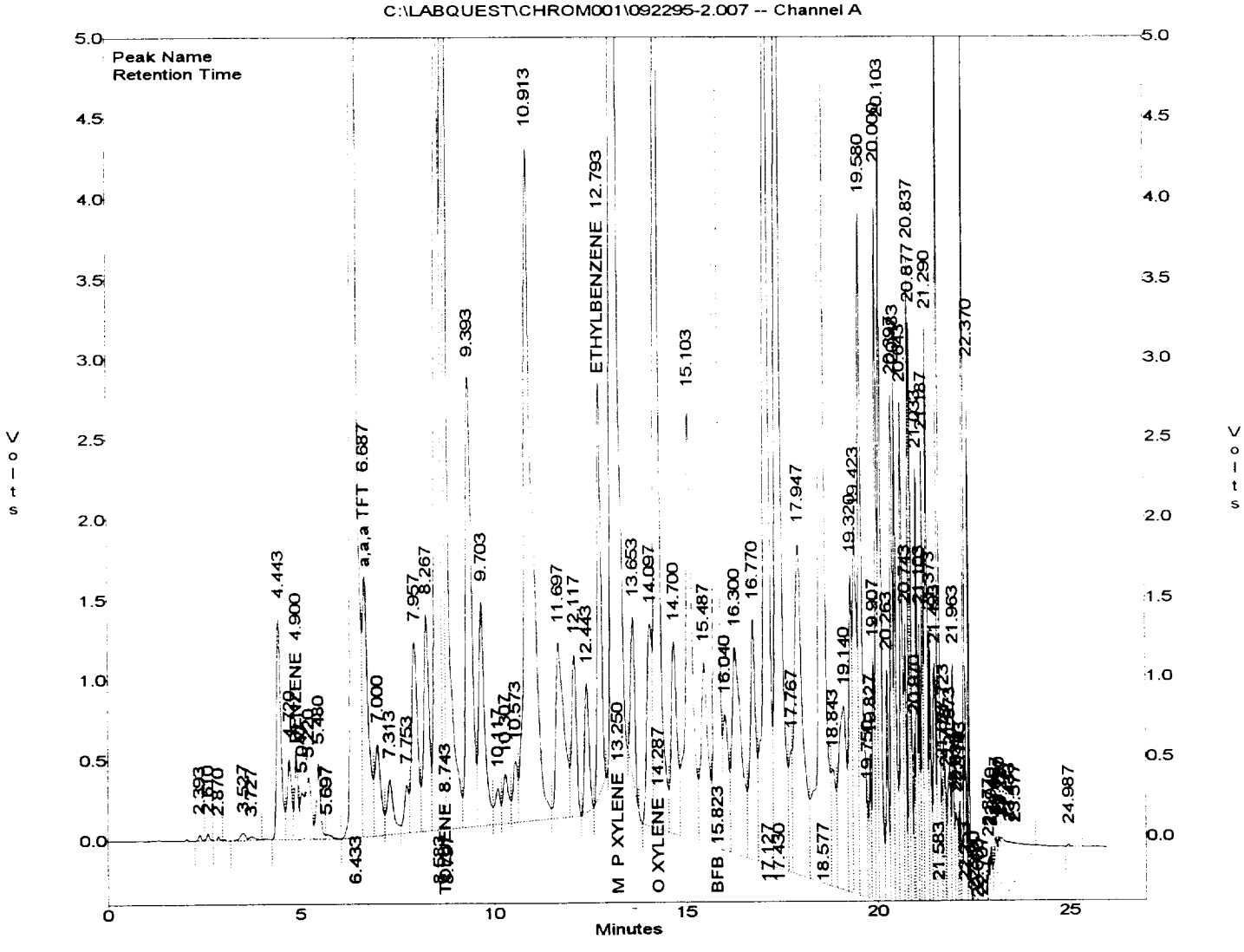


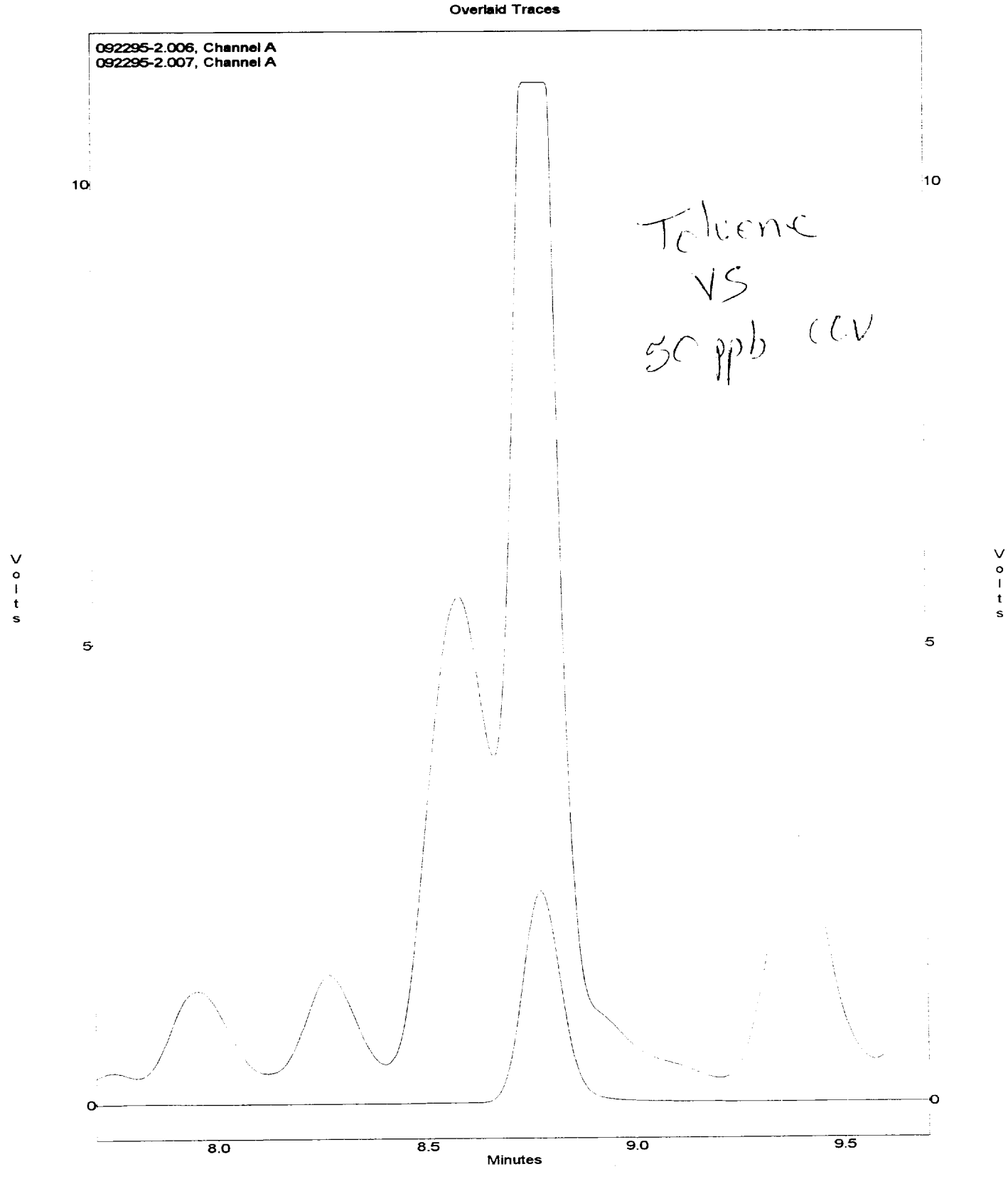
EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

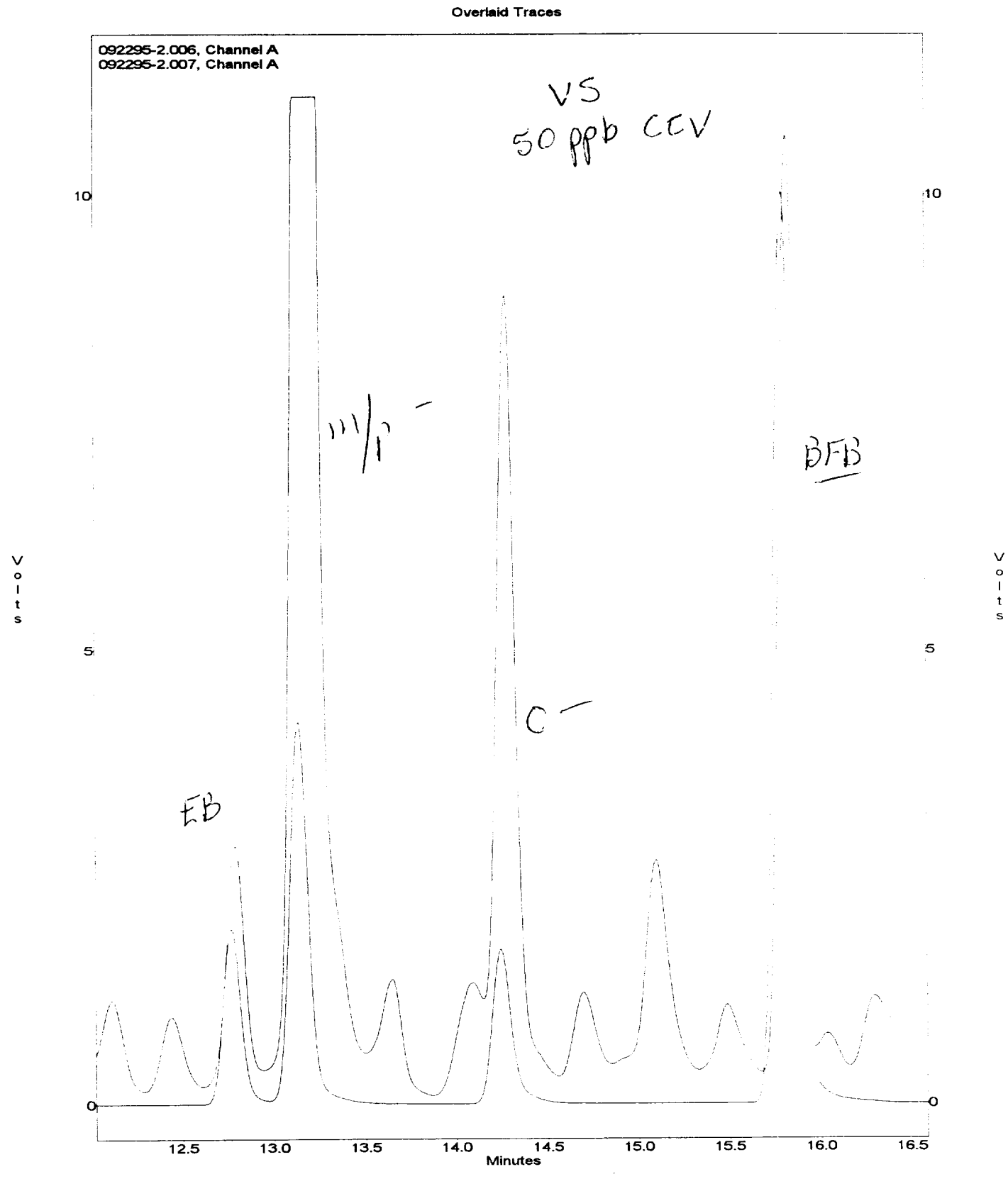
File : C:\LABQUEST\CHROM001\092295-2.007
Method : C:\LABQUEST\METHODS\9001.MET
Sample ID : 947505,5.09G,25U
Acquired : Sep 22, 1995 17:20:52
Printed : Sep 25, 1995 07:56:39
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	4.900	3291984	21.5515
a,a,a TFT	6.687	16391988	355.0562
TOLUENE	8.743	41667476	150.0013
ETHYLBENZENE	12.793	17602790	65.0864
M & P XYLENE	13.250	132754912	494.8241
O XYLENE	14.287	69363624	291.0608
BFB	15.823	75315152	103.8984




Overlaid Traces
092295-2.006, Channel A
092295-2.007, Channel A
10
5
0
Volts
10
5
0
Volts
8.0
8.5
9.0
9.5
Minutes
Toluene
VS
50 ppb CCV


Overlaid Traces
092295-2.006, Channel A
092295-2.007, Channel A
VS
50 ppb CCV
10
5
0
Volts
111-TCE
BFB
EB
C-
12.5
13.0
13.5
14.0
14.5
15.0
15.5
16.0
16.5
Minutes