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Analytical **Technologies**, Inc.

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Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **405343**

May 27, 1994

El Paso Natural Gas Company
770 W. Navajo
Farmington, NM 87401

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin



On **05/11/94**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous** and **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.

Client instructed ATI (verbally) to perform a TRPH (418.1) analysis on field ID 945100 (ATI ID 405343-24).

Client instructed ATI (verbally) to continue analysis on field ID 940831 (ATI ID 405343-25) past hold time, as received.

Client was informed that field ID 945085 (ATI ID 405343-01) was received with headspace. Samples were analyzed "as is."

This report is being reissued to correct sample ID's.

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:jd

Enclosure

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
 CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 405343
 PROJECT # : 24324
 PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
14	945090	NON-AQ	05/06/94	05/13/94	05/15/94	1
15	945091	NON-AQ	05/06/94	05/13/94	05/15/94	20
16	945092	NON-AQ	05/06/94	05/13/94	05/15/94	20
PARAMETER			UNITS	14	15	16
BENZENE			MG/KG	<0.025	<0.50	<0.50
TOLUENE			MG/KG	0.042	<0.50	4.1
ETHYLBENZENE			MG/KG	<0.025	6.8	3.3
TOTAL XYLENES			MG/KG	0.10	73	31
SURROGATE:						
BROMOFLUOROBENZENE (%)				99	220*	59*

*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

PHASE II

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
 Well # _____
 Page 1 of 2

PHILIP ENVIRONMENTAL
 4000 Monroe Road
 Farmington, New Mexico 87401
 (505) 326-2262 FAX (505) 326-2388

Project Name EPNG Pits
 Project Number 11957 Phase 4002
 Project Location Jalisco A4 (87.535)
 Well Logged By CM Chance
 Personnel On-Site M. Nee
 Contractors On-Site _____
 Client Personnel On-Site R. Cook, S. Miller, J. London
 Drilling Method HSA
 Air Monitoring Method PID, C61

Elevation _____
 Borehole Location _____
 GWL Depth _____
 Logged By CM Chance
 Drilled By Philip
 Date/Time Started 5/19/95 - 0821
 Date/Time Completed 5/19/95 1125

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NB ppm BZ BH S			Drilling Conditions & Blow Counts
0				Backfill						Background Sample HS - 6 ppm
5				AA						
10				AA						
15	1	16-18	8"	Br-silty Sand, wf-med sand, dry			D		35	
20	2	21-23	6"	AA			D		20	
25	3	26-28	4"	A/A sl moist			D		16	
30	4	31-33	4"	AA Br-silty Clay, w wf sand, med with dry			D		1	
35	5	34.5-36.5	16"	Br silty sand, F-med sand, dry Very loose						
40										

HS ppm	Depth
2005	16-18
2769	21-23
155	26-28
40	31-33
16	51-53

Comments:

Sample collected at 34.5-36.5' For lab analysis CMC1 (CMC2-4)
 Sampled at 51-53'. Borehole advanced to 50'. Sample was dry.
 Typ1-11 count. TDD 50'

Geologist Signature _____

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

Borehole # BH 1

Well # _____

Page 1 of 2

Project Name EPNG PITS

Project Number 14509 Phase 6000

Project Location Jaguar A4 87535

Elevation _____

Borehole Location _____

GWL Depth _____

Logged By _____

Drilled By _____

Date/Time Started _____

Date/Time Completed _____

Well Logged By _____

Personnel On-Site _____

Contractors On-Site _____

Client Personnel On-Site _____

Drilling Method _____

Air Monitoring Method _____

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU <u>5</u>			Drilling Conditions & Blow Counts
							BZ	BH	HS	
40										
45										
50	6	5' to 6'	6"	TDBSD'					2 16	
15										
20										
25										
30										
35										
40										

Comments: _____

Geologist Signature _____



Phase II

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC1	946812
MTR CODE SITE NAME:	87535	N/A
SAMPLE DATE TIME (Hrs):	5-15-95	0908
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL:	5-16-95	5-16-95
DATE OF BTEX EXT. ANAL:	5/16/95	5/17/95
TYPE DESCRIPTION:	VG	Brown Sand & Clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.50	MG/KG	0.20080		4.98	20
TOLUENE	<0.50	MG/KG	I		I	I
ETHYL BENZENE	<0.50	MG/KG	I		I	I
TOTAL XYLENES	<1.51	MG/KG				
TOTAL BTEX	<3.01	MG/KG				
TPH (418.1)	29.7 30 5/16/95	MG/KG			2.03	28
HEADSPACE PID	40	PPM				
PERCENT SOLIDS	96.0	%				

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

The Surrogate Recovery was at 101 % for this sample All QA/QC was acceptable.
Narrative:

DF = Dilution Factor Used

Approved By:

John L. Linder

Date:

5/24/95

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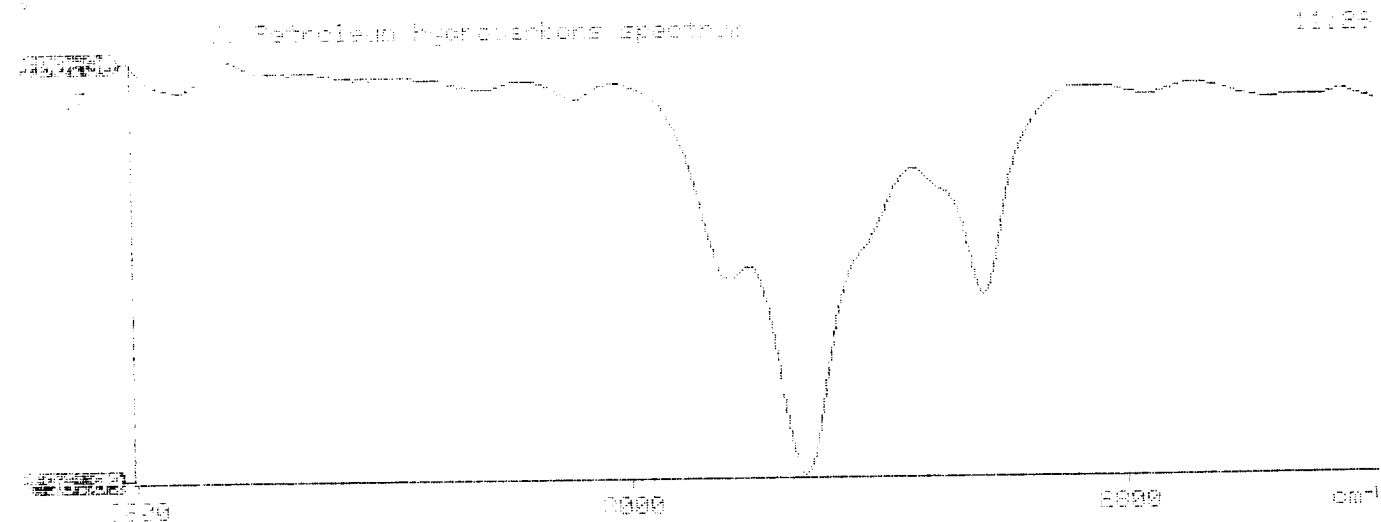
*****
#                               *
#       Test Method for         *
#       Oil and Grease and Petroleum Hydrocarbons *
#       in Water and Soil      *
#                               *
#       Perkin-Elmer Model 1600 FT-IR *
#       Analyze Report         *
*****

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# 07/03/11 11:24
# Sample Identification
# 11117
# Initial mass of sample, g
# 0.030
# Volume of sample after extraction, ml
# 0.010
# Petroleum hydrocarbons, ppm
# 99.719
# Net Absorbance of hydrocarbons (2930 cm-1)
# 0.014
#
#
#

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ILLEGIBLE

BTEX SOIL SAMPLE WORKSHEET

File	:	946812A	Date Printed	:	5/18/95
Soil Mass (g)	:	4.98	Multiplier (L/g)	:	0.00100
Extraction vol. (mL)	:	20	DF (Analytical)	:	200
Shot Volume (uL)	:	100	DF (Report)	:	0.20080

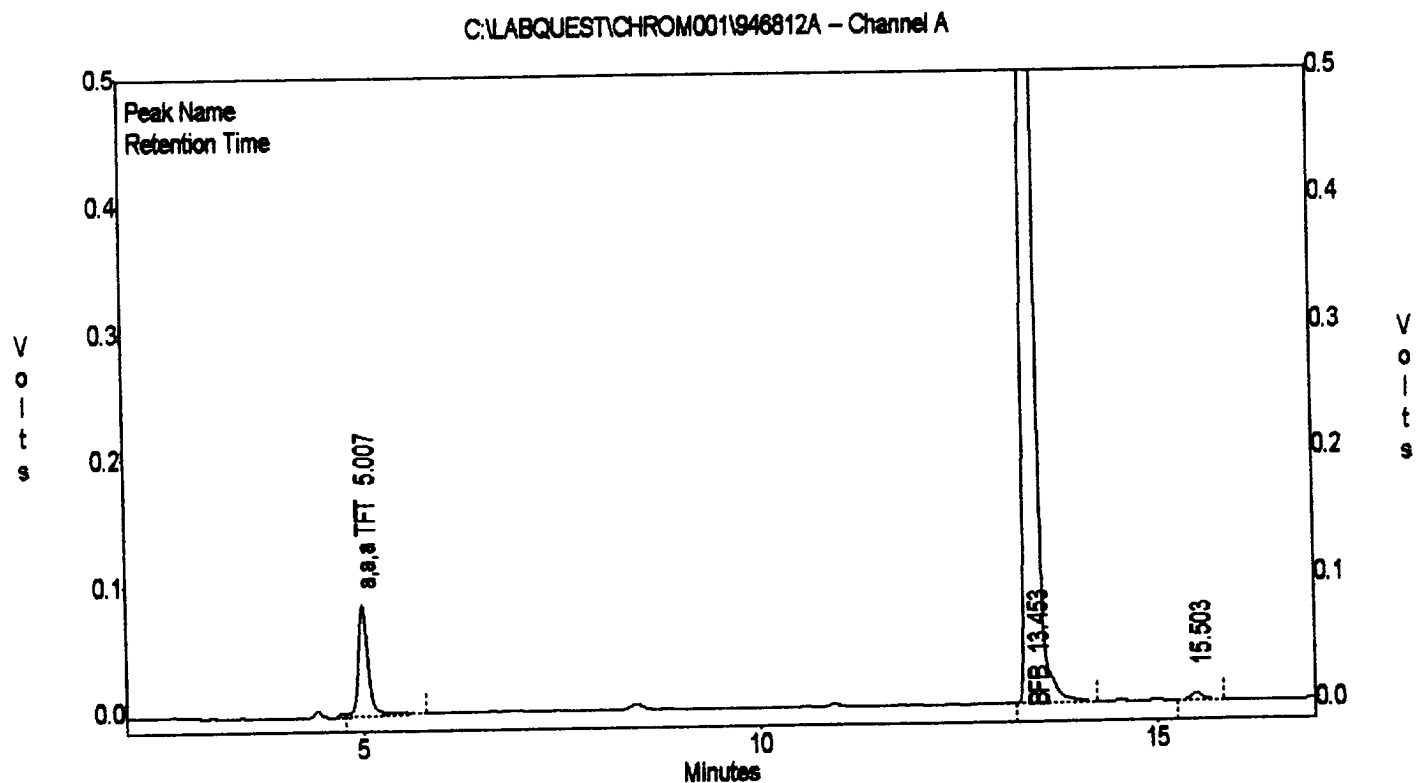
				Det. Limit
Benzene (ug/L)	:	0.00	Benzene (mg/Kg):	0.00 0.502
Toluene (ug/L)	:	0.00	Toluene (mg/Kg):	0.00 0.502
Ethylbenzene (ug/L)	:	0.00	Ethylbenzene (mg/Kg):	0.00 0.502
p & m-xylene (ug/L)	:	0.00	p & m-xylene (mg/Kg):	0.00 1.004
o-xylene (ug/L)	:	0.00	o-xylene (mg/Kg):	0.00 0.502
			Total xylenes (mg/Kg):	0.00 1.506
			Total BTEX (mg/Kg):	0.00

EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\946812A
Method : C:\LABQUEST\METHODS\9001.MET
Sample ID : 946812.4.98/100uL
Acquired : May 17, 1995 17:58:26
Printed : May 17, 1995 18:24:41
User : Tony

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	3.433	0	0.0000
a,a,a TFT	5.007	771285	103.1605
TOLUENE	6.757	0	0.0000
ETHYLBENZENE	10.503	0	0.0000
M & P XYLENE	10.857	0	0.0000
O XYLENE	11.907	0	0.0000
BFB	13.453	15101386	101.0728



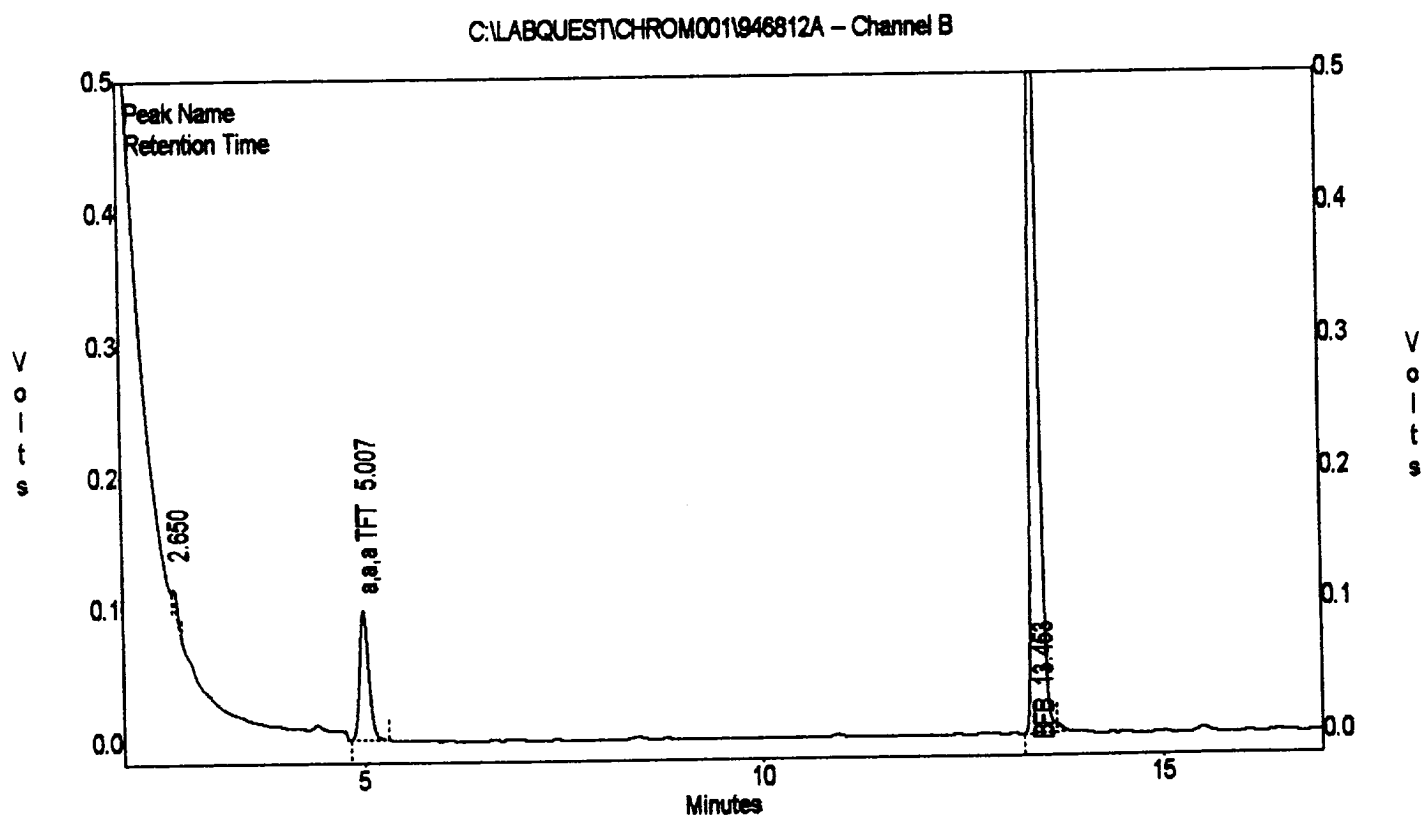
EL PASO NATURAL GAS

EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\946812A
 Method : C:\LABQUEST\METHODS\9001.MET
 Sample ID : 946812,4.98/100uL
 Acquired : May 17, 1995 17:58:26
 Printed : May 17, 1995 18:24:45
 User : Tony

Channel B Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	3.433	0	0.0000
a,a,a TFT	5.007	762082	90.6191
TOLUENE	6.757	0	0.0000
ETHYLBENZENE	10.580	0	0.0000
M & P XYLENE	10.860	0	0.0000
O XYLENE	11.977	0	0.0000
BFB	13.453	4457192	93.3615





Phase II

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	cmcl	946815
MTR CODE SITE NAME:	75127 87535	N/A
SAMPLE DATE TIME (Hrs):	5-15-95	10/8
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	5-16-95	5-16-95
DATE OF BTEX EXT. ANAL.:	5/16/95	5/17/95
TYPE DESCRIPTION:	G	light brown sand

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.50	MG/KG	0.19841		5.04	20
TOLUENE	<0.50	MG/KG				
ETHYL BENZENE	<0.50	MG/KG				
TOTAL XYLENES	<1.50	MG/KG				
TOTAL BTEX	<3.00	MG/KG				
TPH (418.1)	<10	MG/KG			2.01	28
HEADSPACE PID	16	PPM				
PERCENT SOLIDS	97.8	%				

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

The Surrogate Recovery was at 95.2 % for this sample All QA/QC was acceptable.
Narrative:

DF = Dilution Factor Used

Approved By:

John Tard

Date:

5/26/95

1 Test Method for
2 Oil and Grease and Petroleum Hydrocarbons
3 in Water and Soil
4
5 Perkin-Elmer Model 1600 FT-IR
6 Analysis Report
7 *****

8 05/05/16 11:32

9 Sample identification
10 514817

11 Initial mass of sample, g
12 2.010

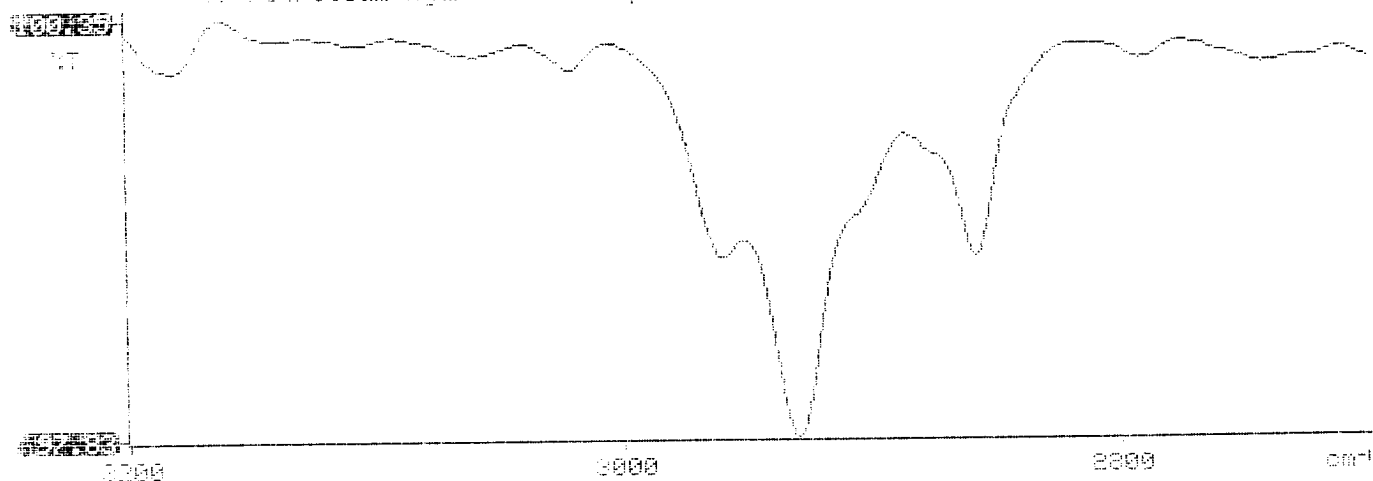
13 Volume of sample after extraction, ml
14 28.000

15 Petroleum hydrocarbons, ppm
16 40.619

17 Net absorbance of hydrocarbons (2930 cm⁻¹)
18 0.010

19 V: Petroleum hydrocarbons spectrum

11:32



ILLEGIBLE

BTEX SOIL SAMPLE WORKSHEET

File	:	946815A	Date Printed	:	5/18/95
Soil Mass (g)	:	5.04	Multiplier (L/g)	:	0.00099
Extraction vol. (mL)	:	20	DF (Analytical)	:	200
Shot Volume (uL)	:	100	DF (Report)	:	0.19841

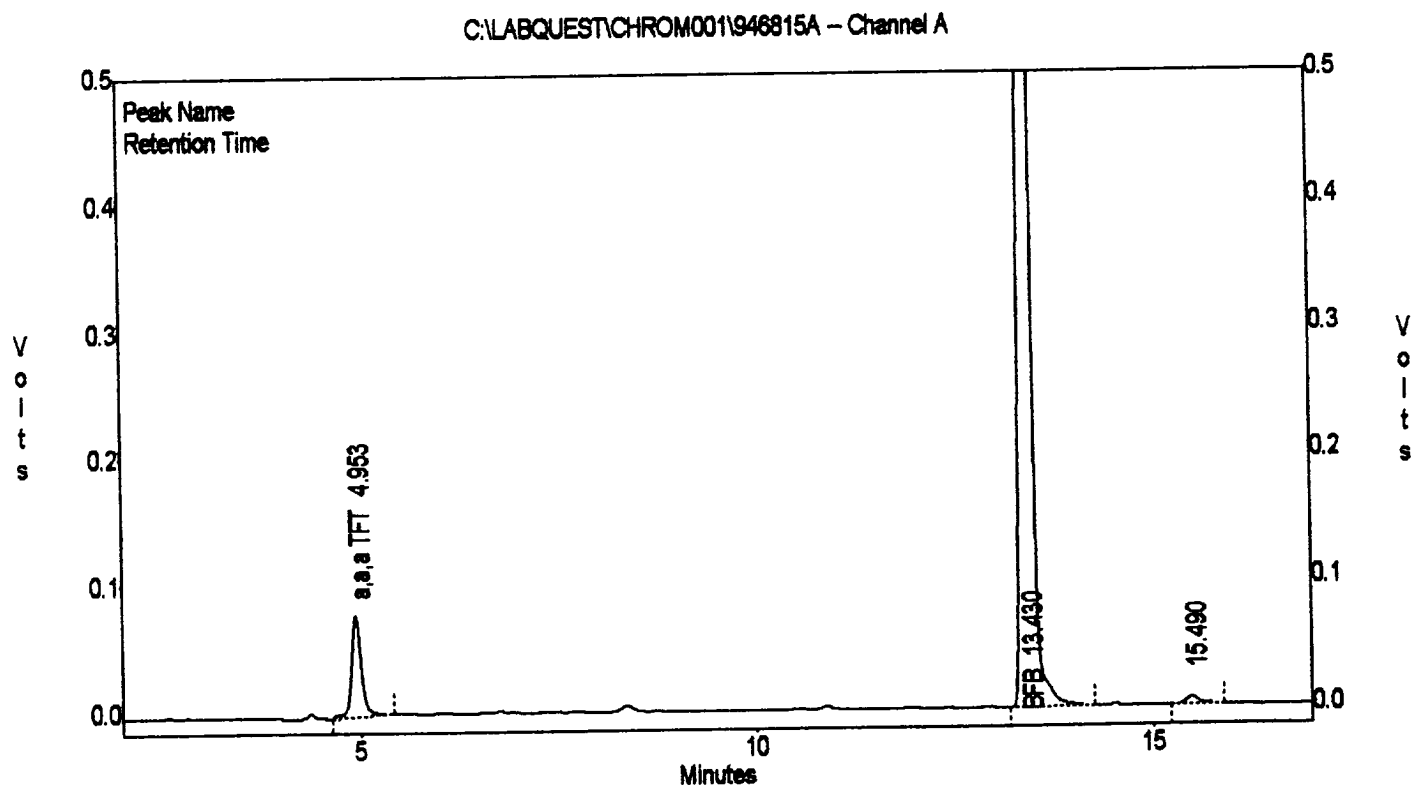
				Det. Limit
Benzene (ug/L)	:	0.00	Benzene (mg/Kg):	0.00 0.496
Toluene (ug/L)	:	0.00	Toluene (mg/Kg):	0.00 0.496
Ethylbenzene (ug/L)	:	0.00	Ethylbenzene (mg/Kg):	0.00 0.496
p & m-xylene (ug/L)	:	0.00	p & m-xylene (mg/Kg):	0.00 0.992
o-xylene (ug/L)	:	0.00	o-xylene (mg/Kg):	0.00 0.496
			Total xylenes (mg/Kg):	0.00 1.488
			Total BTEX (mg/Kg):	0.00

EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\946815A
Method : C:\LABQUEST\METHODS\9001.MET
Sample ID : 946815,5.04/100uL
Acquired : May 17, 1995 20:21:22
Printed : May 17, 1995 20:47:37
User : Tony

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	3.477	0	0.0000
a,a,a TFT	4.953	681649	91.1716
TOLUENE	6.923	0	0.0000
ETHYLBENZENE	10.560	0	0.0000
M & P XYLENE	10.913	0	0.0000
O XYLENE	11.963	0	0.0000
BFB	13.430	14226328	95.2161



EL PASO NATURAL GAS**EPA METHOD 8020 - BTEX SOILS**

File : C:\LABQUEST\CHROM001\946815A
 Method : C:\LABQUEST\METHODS\9001.MET
 Sample ID : 946815,5.04/100uL
 Acquired : May 17, 1995 20:21:22
 Printed : May 17, 1995 20:47:41
 User : Tony

Channel B Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	3.420	89169	8.7157
a,a,a TFT	4.953	736210	87.5427
TOLUENE	6.827	0	0.0000
ETHYLBENZENE	10.563	0	0.0000
M & P XYLENE	10.917	0	0.0000
O XYLENE	11.963	0	0.0000
BFB	13.430	4341189	90.9317

