

3R - 180

REPORTS

DATE:

1988

Certified Mail: #Z 211 324 121

March 31, 1999

Mr. William C. Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

RECEIVED

APR 05 1999

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: 1998 Pit Project Annual Groundwater Report

Dear Mr. Olson:

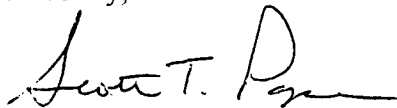
In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for the 49 remaining groundwater impacted locations that were identified during our pit closure project of 1994 / 1995.

Of the 49 reports, EPFS hereby requests closure of 18 of these locations. The 18 sites EPFS is requesting closure on are presented in 4 separate binders entitled "Final Closure Report for Groundwater Sites with Four Consecutive Quarters Below Standards".

The Jaquez Com. C #1 and Jaquez Com. E #1 site is included in a separate report which is entitled "Jaquez Com. C #1 and Jaquez Com. E #1 Annual Report for Soil and Groundwater Remediation".

If you have any questions concerning the enclosed reports or closure requests, please call me at (505) 599-2124.

Sincerely,



Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # Z 211 324 122**
Mr. Bill Liesse, BLM - w / enclosures; **Certified Mail # Z 211 324 123**
Ms. Charmaine Tso, Navajo EPA - w / enclosures; **Certified Mail # Z 211 324 120**

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services
Final Closure Report For Groundwater Sites With Four
Consecutive Quarters Below Standards

December 1998

RECEIVED

APR 05 1999

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520
Book 1



PPFS GROUNDWATER PITS 1998 CLOSURE REPORT

GALLEGOS CANYON UNIT D #160
Meter/Line ID - 14046

SITE DETAILS

Legals - Twn: 29N Rng: 12W Sec: 27 Unit: 1
NMOCD Hazard Ranking: 40 Land Type: FEE
Operator: AMOCO PRODUCTION COMPANY

PREVIOUS ACTIVITIES

Site Assessment: Apr-94	Excavation: Apr-94 (40 cy)	Soil Boring: Nov-95
Re-excavation: October-96 (1,260 cy)	Monitor Well: Feb-97	Well Points: Sep-97

The pit was excavated to 12 feet beneath ground surface (bgs) and a composite soil sample was collected from the excavation bottom and four walls. Approximately 40 cubic yards of impacted soil were removed during excavation. The headspace soil reading from the excavation bottom was 349 ppm. Soil analytical was as follows; benzene - 6.9 mg/kg, total BTEX - 638 mg/kg, TPH (418.1) - 3,400 mg/kg.

In November 1995 a soil boring was drilled in the center of the excavation. Groundwater was encountered at 19 feet bgs and a soil sample was collected. The analytical results were as follows; benzene - 24 mg/kg, total BTEX - 911 mg/kg and TPH (418.1) - 2,440 mg/kg.

The pit was re-excavated to 21 feet bgs and 1,260 additional cubic yards of impacted soil were removed. Groundwater was encountered at approximately 20.5 feet bgs. A composite soil sample was collected from the four walls and the bottom of the excavation. The soil analytical was as follows; benzene - Non-detect, total BTEX - Non-detect and TPH (418.1) - 91.4 mg/kg.

One soil boring was drilled in the center of the former pit and a monitoring well was installed. No soil samples were collected, as groundwater was encountered. Quarterly groundwater monitoring was initiated on 8/6/97 and continued through 5/6/98. Groundwater analytical data are presented in Table I. Groundwater analytical data prior to 1998 has been previously submitted in the 1997 Annual Report.

Temporary well points were installed in September of 1997 at locations identified in Figure 1. Groundwater samples were collected from the well points for analysis of BTEX components and the groundwater gradient was determined to be toward the southwest. Analytical results for all of the groundwater samples from the temporary well points showed that BTEX levels were below New Mexico Water Quality Commission standards for groundwater.

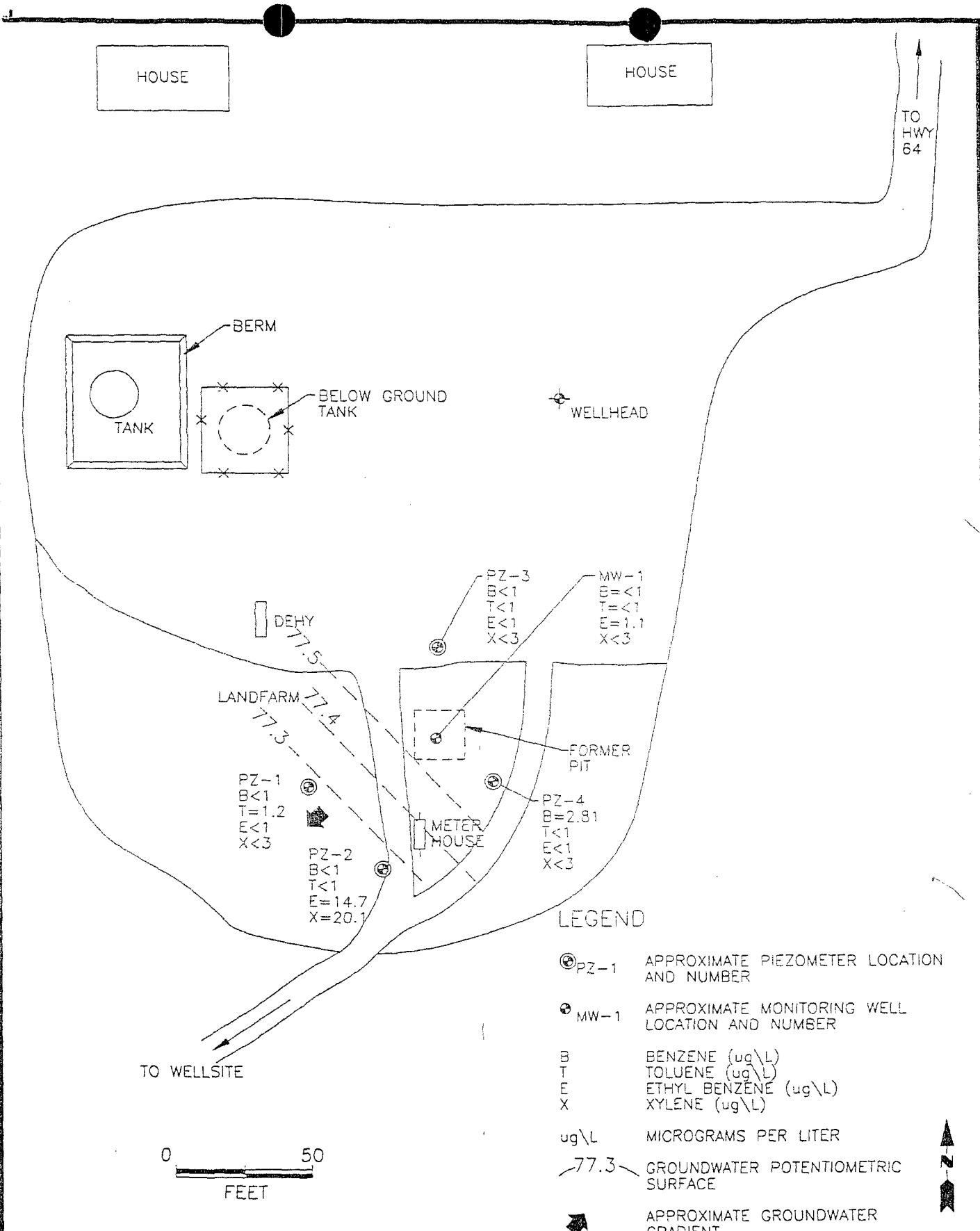
CONCLUSIONS

Initial groundwater sampling after monitoring well installation indicated benzene and xylenes to be above standards. Subsequent quarterly sampling has shown all BTEX compounds to be below standards, indicating minimal impact to groundwater. Downgradient temporary wells also indicate that BTEX compounds are below standards.

EPFS GROUNDWATER PITS 1998 CLOSURE REPORT

RECOMMENDATIONS

- EPFS request closure at this site.
- Following OCD approval for closure, MW-1 will be abandoned following OCD approved abandonment procedures.



COL. 17520J-001



TITLE:
GALLEGOS CANYON
UNIT D160 14046

DWN:	DES.:
TMM	CC
CHKD:	APPD:
CC	
DATE:	REV.:
1/20/98	0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

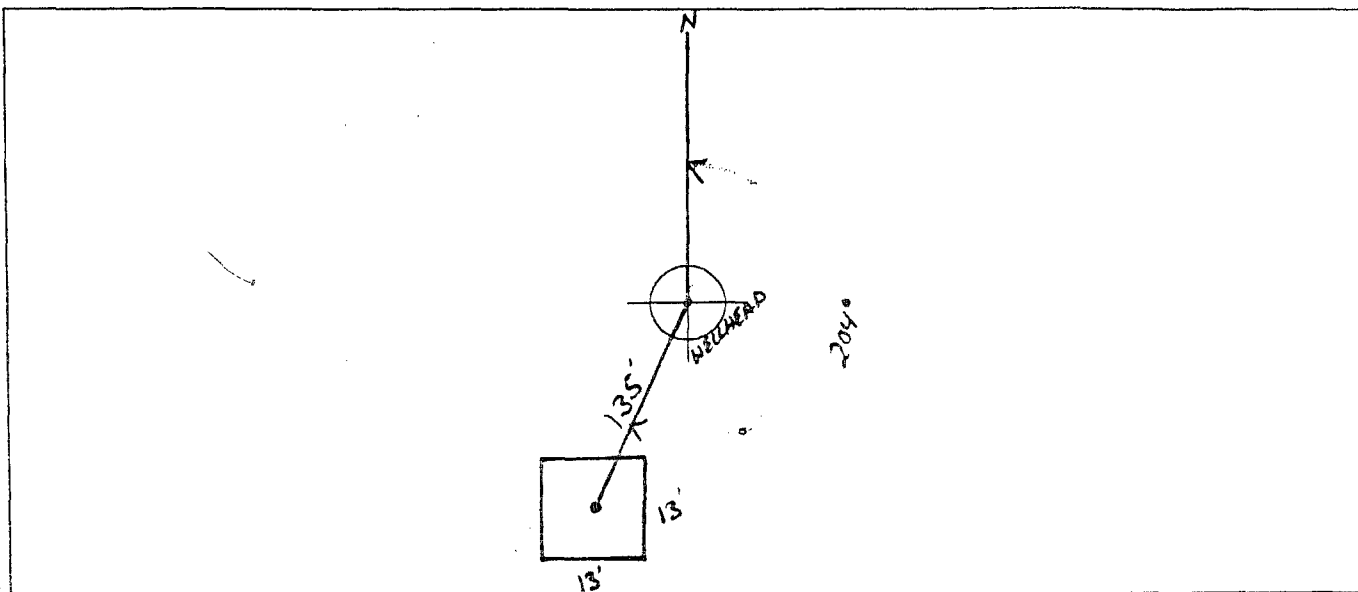
FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>14046</u> Location: <u>GALLEGOS CANYON UNIT D#160</u> Operator #: <u>0203</u> Operator Name: <u>Amoco</u> P/L District: <u>Kurtz</u> Coordinates: Letter: <u>I</u> Section <u>27</u> Township: <u>29</u> Range: <u>12</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator ☒ Location Drip: _____ Line Drip: _____ Other: _____ Site Visit Date: <u>4.5.94</u> Run: <u>02</u> <u>33</u>
SITE ASSESSMENT	NMOCD Zone: Inside ☐ Land Type: BLM ☐ (From NMOCD Vulnerable State ☐ Maps) Zone ☒ Fee ☒ Outside ☐ Indian _____ Depth to Groundwater Less Than 50 Feet (20 points) ☒ 50 Ft to 99 Ft (10 points) ☐ Greater Than 100 Ft (0 points) ☐ 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? ☒ YES (20 points) ☐ NO (0 points) Horizontal Distance to Surface Water Body Less Than 200 Ft (20 points) ☐ 200 Ft to 1000 Ft (10 points) ☐ Greater Than 1000 Ft (0 points) ☒ Name of Surface Water Body _____ (Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds) TOTAL HAZARD RANKING SCORE: <u>40</u> POINTS
REMARKS	Remarks : <u>TWO PITS ON LOCATION. WILL CLOSE ONLY ONE. PIT IS DRY. LOCATION IS IN A FLAT BEHIND SOME TRAILERS.</u>

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 204° Footage to Wellhead 135'
b) Degrees from North _____ Footage to Dogleg _____
Dogleg Name _____
c) Length : 13' Width : 13' Depth : 2'



REMARKS

Remarks :

STARTED TAKING PICTURES AT 10:12 A.M.END DUMP

Completed By:

Robert Thompson
Signature

4.5.94
Date

PHASE I EXCAVATION



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	KPI	94 50 38
MTR CODE SITE NAME:	14046	N/A
SAMPLE DATE TIME (Hrs):	4/28/94	0854
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	5-2-94	5-2-94
DATE OF BTEX EXT. ANAL.:	5/5/94	5/6/94
TYPE DESCRIPTION:	VC	Brown/Grey Clay/Sand

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	6.9	MG/KG		X10		
TOLUENE	130	MG/KG		X10		
ETHYL BENZENE	41	MG/KG		X10		
TOTAL XYLENES	460	MG/KG		X10		
TOTAL BTEX	638	MG/KG				
TPH (418.1) 3400	3400 3400	MG/KG			2.01	28
HEADSPACE PID	349	PPM				
PERCENT SOLIDS	87.6	%				

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

Surrogate Recovery was at 281 % for this sample All QA/QC was acceptable.

AT I Results attached. Surrogate recovery was out AT I QC limits due to matrix interference.

DF = Dilution Factor Used

Approved By: John Jarvich

Date: 5/21/94

FIELD REMEDIATION/CLOSURE

GENERAL

Meter: 14046 Location: GALLEGOS CANYON UNIT D #160

Coordinates: Letter: I Section 27 Township: 29 Range: 12

Or Latitude _____ Longitude _____

Date Started : 4/28/94 Area: 02 Run: 33

FIELD OBSERVATIONS

Sample Number(s): KP #1 KP #2 KP #3

Sample Depth: 12' Feet

Final PID Reading 349 PID Reading Depth 12' Feet

Yes No

Groundwater Encountered ☐ (1) ☒ (2) Approximate Depth X ^{KP 4/28/94} Feet

CLOSURE

Remediation Method :

Excavation ☒ (1) Approx. Cubic Yards 40

Onsite Bioremediation ☐ (2)

Backfill Pit Without Excavation ☐ (3)

Soil Disposition:

Envirotech ☐ (1) ☒ (3) Tierra

Other Facility ☐ (2) Name: _____

Pit Closure Date: 4/28/94 Pit Closed By: B.E.I

REMARKS

Remarks : No Line Markers. ground was still highly
contaminated. went down 12' and closed.

Signature of Specialist: Kelly Rodilla

CHAIN OF CUSTODY RECORD

[illegible]



Analytical **Technologies**, Inc.

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

ATI I.D. 405313

May 13, 1994

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On 05/03/94, 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.

EPA Method 8015 analysis was added on 05/05/94 for sample 945008 per Stacy Sendler.

The matrix spike/spike duplicate data from the samples extracted on 05/05/94 is reported twice reflecting quantification using both the internal standard and external standard protocols. Both protocols were employed to quantify the samples submitted for this project.

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





Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)
CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 405313
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
25	945037	NON-AQ	04/28/94	05/05/94	05/06/94	1
26	945038	NON-AQ	04/28/94	05/05/94	05/06/94	20
27	945039	NON-AQ	04/28/94	05/05/94	05/05/94	20
PARAMETER			UNITS	25	26	27
BENZENE			MG/KG	<0.025	6.9	11
TOLUENE			MG/KG	0.039	130	160
METHYLBENZENE			MG/KG	<0.025	41	37
TOTAL XYLENES			MG/KG	0.063	460	380
METHYL-t-BUTYL ETHER			MG/KG	<0.12	<2.4	<2.4

SURROGATE:

BROMOFLUOROBENZENE (%)	99	281*	163*
------------------------	----	------	------

*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

PHASE II SOIL BORING

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL

100 Monroe Road

Farmington, New Mexico 87401

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

Borehole # BH-1

Well #

Page 1 of 1

Project Name EPNG PITS

Project Number 14509 Phase 6000 77

Project Location Gallegos Canyon Unit D #140 14046

Elevation

Borehole Location QI-S27-T29-R12

GWL Depth 19.1 BGS

Logged By CM CHANCE

Drilled By K Padilla

Date/Time Started 10/1/95-0728

Date/Time Completed 11/1/95-0830

Well Logged By CM Chance

Personnel On-Site K Padilla, D. Charlie

Contractors On-Site

Client Personnel On-Site

Drilling Method 4 1/4" ID HSA

Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM S BZ BH HS			Drilling Conditions & Blow Counts
0				Backfill to 12'						
5										
10										
15	1	15-17	10	Gr. silty CLAY, soft, high plasticity			0	580	665	0738
20				TDB 17' CMC 12/15/95 TDB 20'						-GW @ 19.1 -cobbles @ ~18'
25										
30										
35										
40										

Comments:

Pit located using bearing & Footage from assessment form. Area has been "cleared"; w/ dozer. GW @ 19.1' BGS. - CMC 173 (15-17) sent to lab (BTEX, TPH). BH grouted to surface. No well installed due to encroaching GW @ < 20' BGS

Geologist Signature

Corey Chance

PROJECT NUMBER # 24324		PROJECT NAME Pit Closure Project		DATE 11/1/95		FIELD ID	
SAMPLERS: (Signature)		LAB	DATE	TIME	MATRIX	DATE	FIELD ID
[Signature]		LAB 10	11/1/95	0738	SOIL	11/1/95	CMC173
[Signature]			11/1/95				CMC174
[Signature]			11/1/95	1105	SOIL	11/1/95	CMC174

REQUESTED ANALYSIS		TOTAL NUMBERS OF CONTAINERS		SAMPLE TYPE		TPH		BTEX		LAB PID		PPM		SEQUENCE #	
1	V6	1	V6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	V6	1	V6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	V6	1	V6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95

RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME	
[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95	[Signature]	11/1/95



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

CMC173

Lab ID

947720

MTR CODE | SITE NAME:

14046

Gallegos Canyon Unit D #160

SAMPLE DATE | TIME (Hrs):

11-1-95

0738

PROJECT:

Phase II Drilling

DATE OF TPH EXT. | ANAL.:

11/3/95

DATE OF BTEX EXT. | ANAL.:

11/2/95

11/6/95

TYPE | DESCRIPTION:

VG

DARK BROWN CLAY

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE ^{mb} 23.8 _{24.1}	mb 20.9	MG/KG	10⁵ mh	D		
TOLUENE	306	MG/KG	10	D		
ETHYL BENZENE ^{mb} _{62.5}	58.1 mh	MG/KG	10⁵	D		
TOTAL XYLENES	526	MG/KG	10	D, D1		
TOTAL BTEX	911	MG/KG				
TPH (418.1)	2440	MG/KG			228	28
HEADSPACE PID	545	PPM				
PERCENT SOLIDS	83	%				

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

e Surrogate Recovery was at

99%

for this sample All QA/QC was acceptable.

irra

Result for m/p xylenes exceeded calibration range

AT 1 Results for mod 8015 attached (2700)

= Dilution Factor Used

Approved By:

j.g.

Date:

11/8/95



Analytical**Technologies**, Inc.

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

ATI I.D. 511319

November 14, 1995

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

Project Name/Number: PIT CLOSURE/PHASE II 24324

Attention: John Lambdin

On 11/08/95, 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.

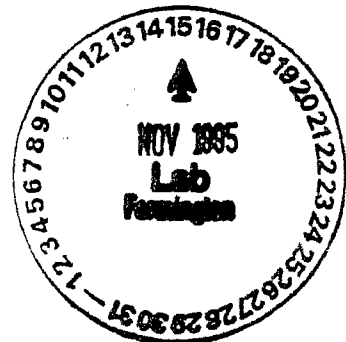
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure



GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED
 CLIENT : EL PASO NATURAL GAS ATI I.D.: 511319
 PROJECT # : 24324
 PROJECT NAME : PIT CLOSURE/PHASE II

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	947714	NON-AQ	10/31/95	11/09/95	11/09/95	1
02	947715	NON-AQ	10/31/95	11/09/95	11/09/95	1
03	947720	NON-AQ	11/01/95	11/09/95	11/11/95	5
PARAMETER			UNITS	01	02	03
FUEL HYDROCARBONS			MG/KG	<5	150	2700
HYDROCARBON RANGE				-	C7-C28	C7-C16
HYDROCARBONS QUANTITATED USING				-	GASOLINE	GASOLINE

SURROGATE:

O-TERPHENYL (%) 103 115 108

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

Perkin-Elmer Model 1600 FT-IR
Analysis Report

75/11/03 14:43

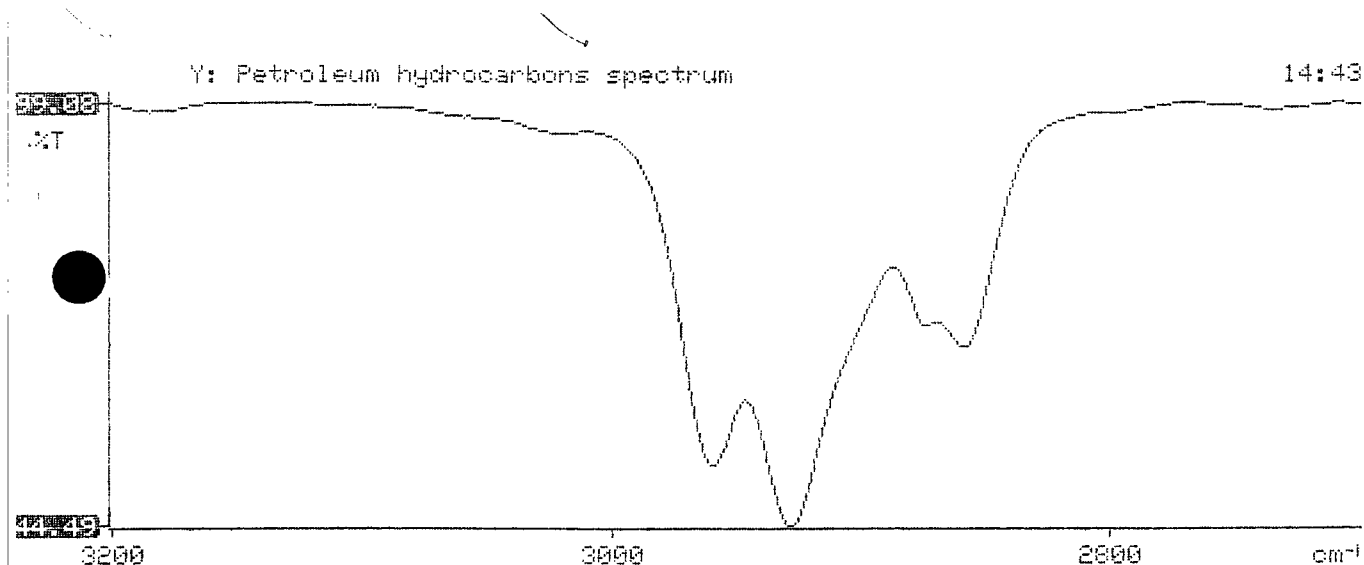
Sample identification
747720

Initial mass of sample, g
2.280

Volume of sample after extraction, ml
28.000

Petroleum hydrocarbons, ppm
2442.061

Net absorbance of hydrocarbons (2930 cm^{-1})
0.347



EL PASO NATURAL GAS

EPA METHOD 8020 - BTEX SOILS

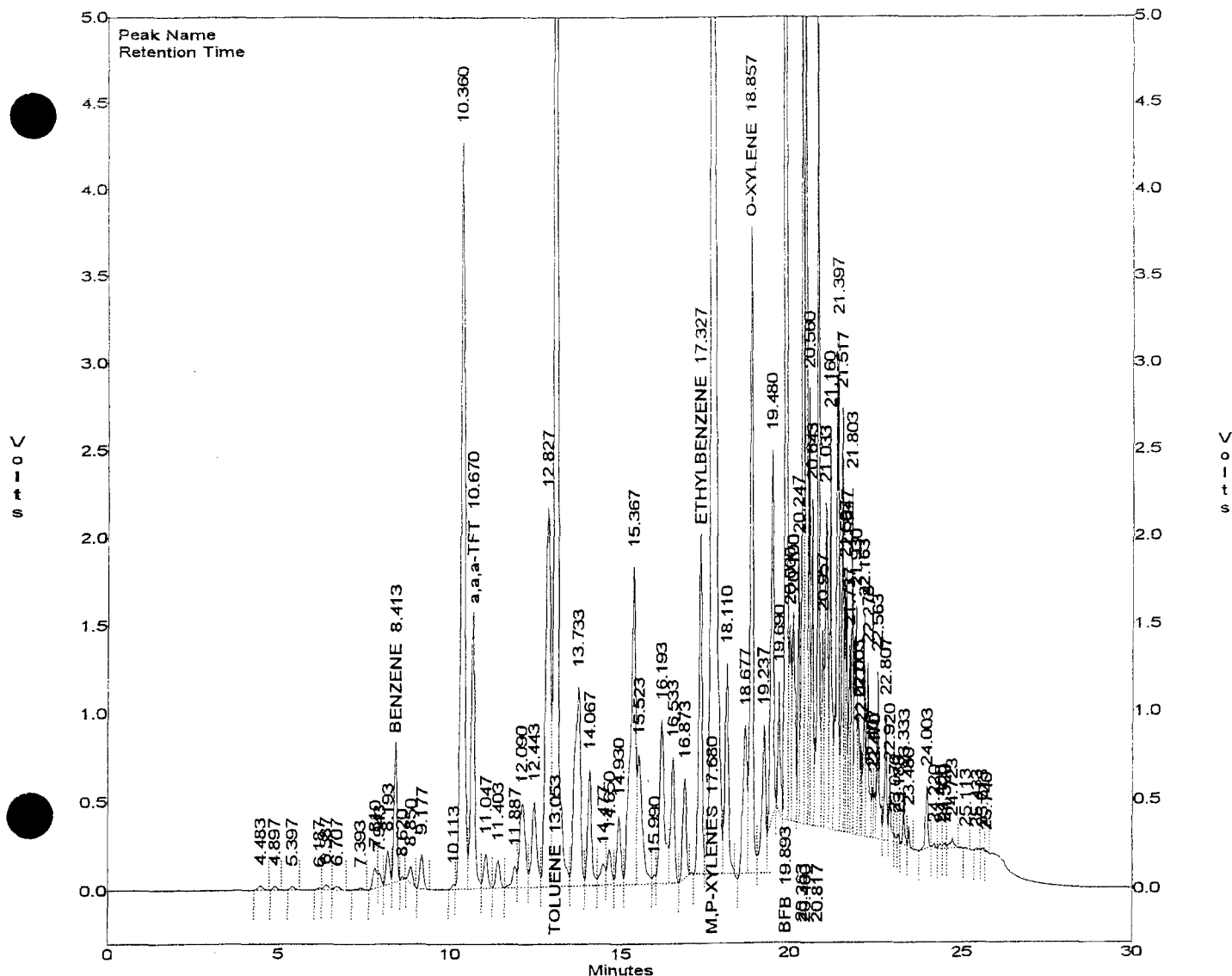
File : C:\LABQUEST\CHROM000\110695-0.007
 Method : C:\LABQUEST\METHODS\0-110295.MET
 Sample ID : 947220, 4.94G, 5U *mh*
 Acquired : Nov 06, 1995 19:58:52
 Printed : Nov 07, 1995 07:31:29
 User : MARLON

947720

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.413	4908293	10.3198
a,a,a-TFT	10.670	12172696	135.7477
TOLUENE	13.053	68987888	151.1898
ETHYLBENZENE	17.327	12730656	28.6935
M,P-XYLENES	17.680	103999240	203.5334
O-XYLENE	18.857	25424014	56.5461
BFB	19.893	52151552	98.6650

C:\LABQUEST\CHROM000\110695-0.007 -- Channel A



BTEX SOIL SAMPLE WORKSHEET

File	:	947720	Date Printed	:	11/7/95
Soil Mass (g)	:	4.94	Multiplier (L/g)	:	0.00101
Extraction vol. (mL)	:	10	CAL FACTOR (Analytical)	:	2000
Shot Volume (uL)	:	5	CAL FACTOR (Report)	:	2.02429

		DILUTION FACTOR:	10	Det. Limit
Benzene (ug/L)	:	10.32	Benzene (mg/Kg): 20.891	5.061
Toluene (ug/L)	:	151.19	Toluene (mg/Kg): 306.053	5.061
Ethylbenzene (ug/L)	:	28.69	Ethylbenzene (mg/Kg): 58.077	5.061
p & m-xylene (ug/L)	:	203.53	p & m-xylene (mg/Kg): 412.004	10.121
o-xylene (ug/L)	:	56.55	o-xylene (mg/Kg): 114.474	5.061
			Total xylenes (mg/Kg): 526.478	15.182
			Total BTEX (mg/Kg): 911.498	

BTEX SOIL SAMPLE WORKSHEET

File	:	947720	Date Printed	:	11/7/95
Soil Mass (g)	:	4.94	Multiplier (L/g)	:	0.00101
Extraction vol. (mL)	:	10	CAL FACTOR (Analytical):		1000
Shot Volume (uL)	:	10	CAL FACTOR (Report):		1.01215

		DILUTION FACTOR:	5	Det. Limit
Benzene (ug/L)	:	23.84	Benzene (mg/Kg):	24.130 2.530
Toluene (ug/L)	:	271.11	Toluene (mg/Kg):	274.403 2.530 - over
Ethylbenzene (ug/L)	:	61.71	Ethylbenzene (mg/Kg):	62.460 2.530
p & m-xylene (ug/L)	:	278.67	p & m-xylene (mg/Kg):	282.055 5.061 - over
o-xylene (ug/L)	:	112.85	o-xylene (mg/Kg):	114.221 2.530
			Total xylenes (mg/Kg):	396.275 7.591
			Total BTEX (mg/Kg):	757.267

EL PASO NATURAL GAS

EPA METHOD 8020 - BTEX SOILS

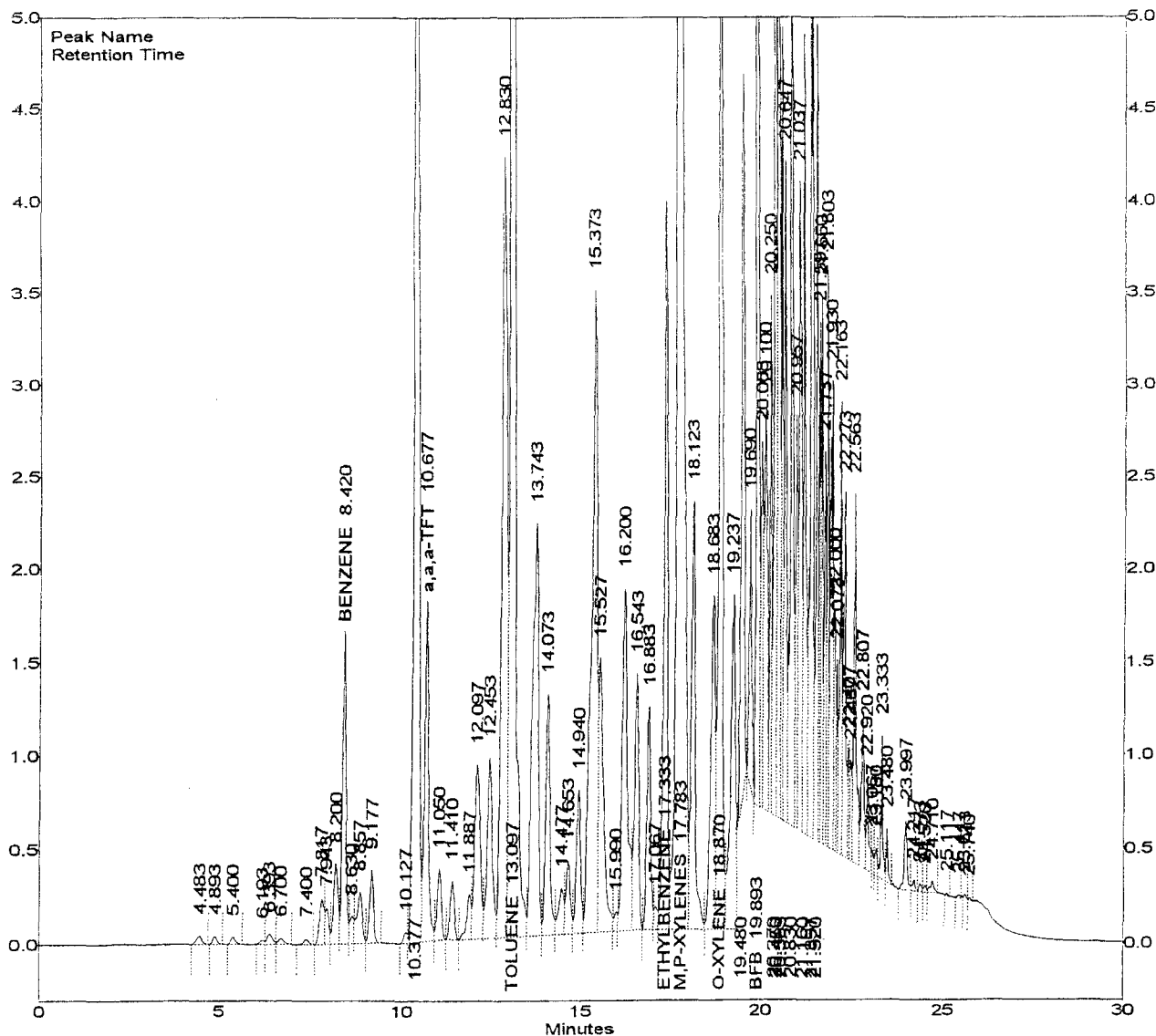
File : C:\LABQUEST\CHROM000\110695-0.008
 Mod : C:\LABQUEST\METHODS\0-110295.MET
 Sample ID : 947220-4.94G,10U *mh*
 Acquired : Nov 06, 1995 20:40:16
 Printed : Nov 07, 1995 07:32:20
 User : MARLON

947720

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.420	11274850	23.8426
a,a,a-TFT	10.677	14179147	158.1232
TOLUENE	13.097	107619152	271.1089
ETHYLBENZENE	17.333	27180052	61.7078
M,P-XYLENES	17.783	142437488	278.6728
O-XYLENE	18.870	50685572	112.8478
BFB	19.893	50980988	96.4504

C:\LABQUEST\CHROM000\110695-0.008 -- Channel A



[illegible]

PHASE III RE-EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM/PHASE II

GENERAL

Meter: 14046 Location: GALLIE GOS CANYON UNIT D #160

Coordinates: Letter: I Section 27 Township: 29 Range: 12

Or Latitude _____ Longitude _____

Date Started : 10-16-96 Area: 02 Run: 33

OBSERVATIONS

Sample Number(s): MK 538^{H2O} MK 539 MK 540 MK 541

Sample Depth: 21' Feet

Final PID Reading 350 PPM PID Reading Depth 21' Feet
Yes No

Groundwater Encountered ☒ (1) ☐ (2) Approximate Depth 20'.6" Feet

Final Dimensions: Length 36' Width 37' Depth 21'

CLOSURE

Remediation Method :

Excavation ☒ (1) Approx. Cubic Yards 1260

Onsite Bioremediation ☐ (2)

Backfill Pit Without Excavation ☐ (3)

Overburden Cubic Yards 40

Soil Disposition:

Envirotech ☒ (1) ☐ (3) Tierra

Other Facility ☐ (2) Name: _____

Pit Closure Date: 10-18-96 Pit Closed By: Philip

REMARKS

Remarks : Arrived dug sample Hole to 21' Had Clean
Bottom Thier is a sales line on west side of pit and amoco
Electric lines on East Final sample result West-Well 140 PPM
E-Well 37 PPM North-Well 650 PPM South-Well 89 PPM Bottom 53 PPM

Signature of Specialist: Morgan Killian



Phase III Excavation

CHAIN OF CUSTODY RECORD

Page _____ of _____

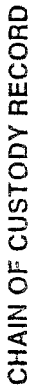
PROJECT NUMBER # 24324		PROJECT NAME Pit Closure Project		DATE 10-17-96					
LAB ID		DATE	TIME	MATRIX	FIELD ID				
947931	10-17-96	1555	Soil	MK 539					
947932	10-17-96	1555	Soil	MK 540					
947933	10-17-96	1600	Soil	MK 541					
RECEIVED BY: (Signature) <i>Morgan Killion</i> DATE/TIME 10-17-96 17:35 RECEIVED BY: (Signature) <i>Vally Stall</i> DATE/TIME 10-18-96 10:55 RECEIVED BY: (Signature) <i>Marle Armenta</i> DATE/TIME 10-18-96 10:55									
						RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	
						RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	
						RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	
						RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	
						RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	
						RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	
						RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	
						RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	
						RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	
REQUESTED TURNAROUND TIME: ☐ ROUTINE ☐ RUSH									
CARRIER CO.									
BILL NO.:									

REQUESTED ANALYSIS		REMARKS	
TPH EPA 418.1	BTEX EPA 8020	LAB PID	SEQUENCE #
X	X		32
X	X		
X	X		
X	X		
Gallegos Canyon unit 0160 14046			

CONTRACT LABORATORY P. O. NUMBER	

RESULTS & INVOICES TO:	
FIELD SERVICES LABORATORY EL PASO NATURAL GAS COMPANY P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499	

505-599-2144 FAX: 505-599-2261



White - Testing Laboratory	Canary - E-PNG Lab	Pink - Field Sampler
----------------------------	--------------------	----------------------



EL PASO FIELD SERVICES
FIELD SERVICES LABORATORY

ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	MK538	947930
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	10/17/96	911
PROJECT:	PHASE III Excavation	
DATE OF BTEX EXT. ANAL.:	10/19/96	10/19/96
TYPE DESCRIPTION:	Grab	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	13.7	PPB	20	D		
TOLUENE	97.7	PPB	20	D		
ETHYL BENZENE	8.60	PPB	20	D		
TOTAL XYLENES	102	PPB	20	D		
TOTAL BTEX	222	PPB				

—BTEX is by EPA Method 8020 —

The "D" qualifier indicates that the analyte is calculated based on a secondary dilution factor.

The Surrogate Recovery was at 114 % for this sample All QA/QC was acceptable.

Narrative:

DF = Dilution Factor Used

Approved By: John Lard

Date: 10/24/96



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID MK539	Lab ID 947931
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	10/17/96	1555
PROJECT:	PHASE III Excavation	
DATE OF TPH EXT. ANAL.:	10/21/96	10/21/96
DATE OF BTEX EXT. ANAL.:	10/22/96	10/22/96
TYPE DESCRIPTION:	VC	Brown/yellow clay&sand

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	< 1	MG/KG				
TOLUENE	< 1	MG/KG				
ETHYL BENZENE	< 1	MG/KG				
TOTAL XYLENES	3.69	MG/KG				
TOTAL BTEX	3.95	MG/KG				
TPH (418.1)	91.4	MG/KG			2.05	28
HEADSPACE PID	350	PPM				
PERCENT SOLIDS	85.2	%				

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

The Surrogate Recovery was at 115 % for this sample All QA/QC was acceptable.
Narrative:

L = Dilution Factor Used

Approved By: John Fack

Date: 10/24/96

BTEX SOIL SAMPLE WORKSHEET

File	:	947931	Date Printed	:	10/24/96
Soil Mass (g)	:	5.09	Multiplier (L/g)	:	0.00098
Extraction vol. (mL)	:	10	CAL FACTOR (Analytical):		200
Shot Volume (uL)	:	50	CAL FACTOR (Report):		0.19646

		DILUTION FACTOR:	1	Det. Limit
Benzene (ug/L)	:	0.00	Benzene (mg/Kg):	0.000 0.491
Toluene (ug/L)	:	1.31	Toluene (mg/Kg):	0.257 0.491
Ethylbenzene (ug/L)	:	0.00	Ethylbenzene (mg/Kg):	0.000 0.491
p & m-xylene (ug/L)	:	15.1	p & m-xylene (mg/Kg):	2.967 0.982
o-xylene (ug/L)	:	3.70	o-xylene (mg/Kg):	0.727 0.491
			Total xylenes (mg/Kg):	3.694 1.473
			Total BTEX (mg/Kg):	3.951



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID MK540	Lab ID 947932
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	10/17/96	1555
PROJECT:	PHASE III Excavation	
DATE OF TPH EXT. ANAL.:	10/21/96	10/21/96
DATE OF BTEX EXT. ANAL.:	10/22/96	10/22/96
TYPE DESCRIPTION:	Duplicate	Brown/yellow clay&sand

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	< 1	MG/KG				
TOLUENE	< 1	MG/KG				
ETHYL BENZENE	< 1	MG/KG				
TOTAL XYLENES	2.99	MG/KG				
TOTAL BTEX	2.99	MG/KG				
TPH (418.1)	63.4	MG/KG			2.03	28
HEADSPACE PID	350	PPM				
PERCENT SOLIDS	86.7	%				

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

The Surrogate Recovery was at 115 % for this sample All QA/QC was acceptable.

Narrative:

DF = Dilution Factor Used

Approved By: John Larch

Date: 10/24/96

BTEX SOIL SAMPLE WORKSHEET

File	:	947932	Date Printed	:	10/24/96
Soil Mass (g)	:	5.08	Multiplier (L/g)	:	0.00098
Extraction vol. (mL)	:	10	CAL FACTOR (Analytical):		200
Shot Volume (uL)	:	50	CAL FACTOR (Report):		0.19685

		DILUTION FACTOR:	1	Det. Limit
Benzene (ug/L)	:	0.00	Benzene (mg/Kg):	0.000 0.492
Toluene (ug/L)	:	0.00	Toluene (mg/Kg):	0.000 0.492
Ethylbenzene (ug/L)	:	0.00	Ethylbenzene (mg/Kg):	0.000 0.492
p & m-xylene (ug/L)	:	12.0	p & m-xylene (mg/Kg):	2.362 0.984
o-xylene (ug/L)	:	3.20	o-xylene (mg/Kg):	0.630 0.492
			Total xylenes (mg/Kg):	2.992 1.476
			Total BTEX (mg/Kg):	2.992



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	MK541	947933
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	10/17/96	1600
PROJECT:	PHASE III Excavation	
DATE OF TPH EXT. ANAL.:	10/21/96	10/21/96
DATE OF BTEX EXT. ANAL.:	10/22/96	10/22/96
TYPE DESCRIPTION:	Blank	Red sand

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	< 1	MG/KG				
TOLUENE	< 1	MG/KG				
ETHYL BENZENE	< 1	MG/KG				
TOTAL XYLENES	< 3	MG/KG				
TOTAL BTEX	< 6	MG/KG				
TPH (418.1)	15.7	MG/KG			2.15	28
HEADSPACE PID	NA	PPM				
PERCENT SOLIDS	94.6	%				

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

The Surrogate Recovery was at 113 % for this sample All QA/QC was acceptable.

Narrative:

Dilution Factor Used

Approved By: John Smith

Date: 10/24/96

BTEX SOIL SAMPLE WORKSHEET

File	:	947933	Date Printed	:	10/24/96
Soil Mass (g)	:	5.00	Multiplier (L/g)	:	0.00100
Extraction vol. (mL)	:	10	CAL FACTOR (Analytical):		200
Shot Volume (uL)	:	50	CAL FACTOR (Report):		0.20000

		DILUTION FACTOR:	1	Det. Limit
Benzene (ug/L)	:	0.00	Benzene (mg/Kg):	0.000 0.500
Toluene (ug/L)	:	0.00	Toluene (mg/Kg):	0.000 0.500
Ethylbenzene (ug/L)	:	0.00	Ethylbenzene (mg/Kg):	0.000 0.500
p & m-xylene (ug/L)	:	0.00	p & m-xylene (mg/Kg):	0.000 1.000
o-xylene (ug/L)	:	0.00	o-xylene (mg/Kg):	0.000 0.500
			Total xylenes (mg/Kg):	0.000 1.500
			Total BTEX (mg/Kg):	0.000

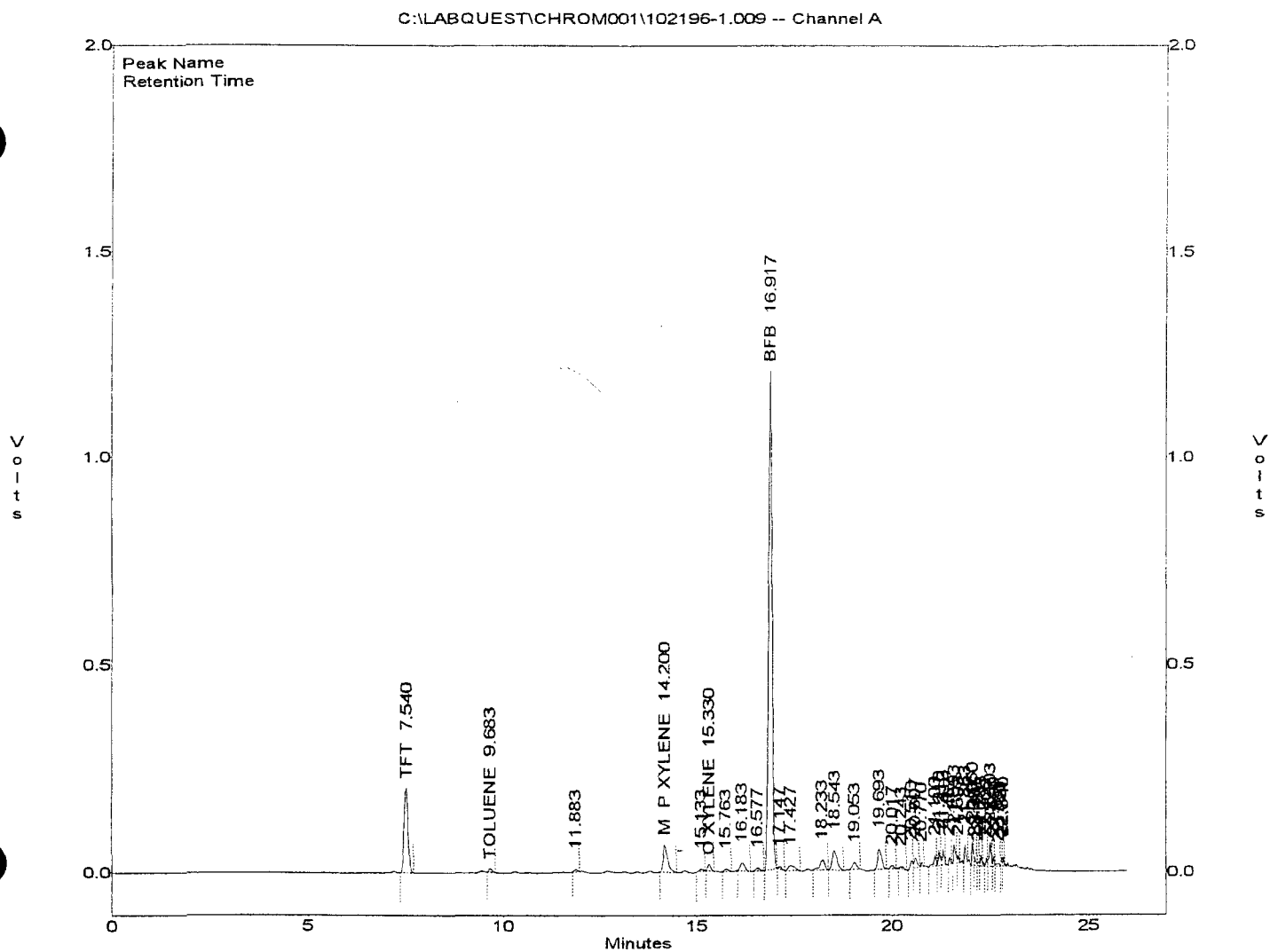
EL PASO NATURAL GAS

EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\102196-1.009
 Method : C:\LABQUEST\METHODS\1-100896.MET
 Sample ID : 947931.5.09G.50U
 Acquired : Oct 22, 1996 12:29:04
 Printed : Oct 22, 1996 12:55:33
 User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	5.567	0	0.0000
TFT	7.540	1423984	117.1946
TOLUENE	9.683	47493	1.3129
ETHYLBENZENE	13.847	0	0.0000
M & P XYLENE	14.200	538656	15.0549
O XYLENE	15.330	89617	3.7037
BFB	16.917	7889144	114.8238



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

96/10/21 11:33

* Sample identification
947931

* Initial mass of sample, g
2.050

* Volume of sample after extraction, ml
28.000

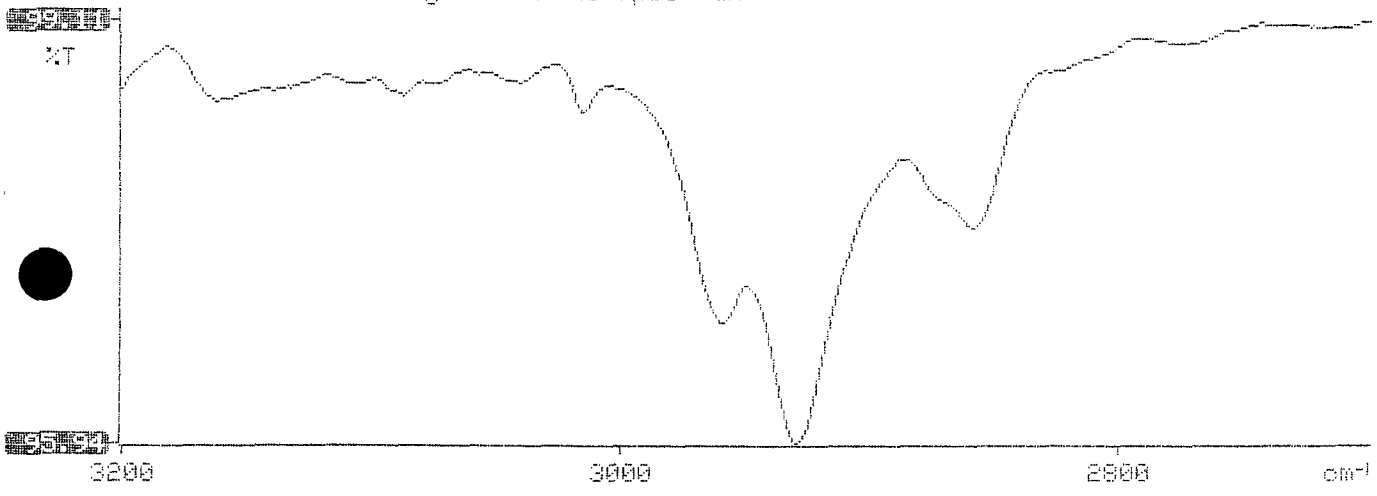
* Petroleum hydrocarbons, ppm
91.390

* Net absorbance of hydrocarbons (2930 cm-1)
0.013

*
*
*

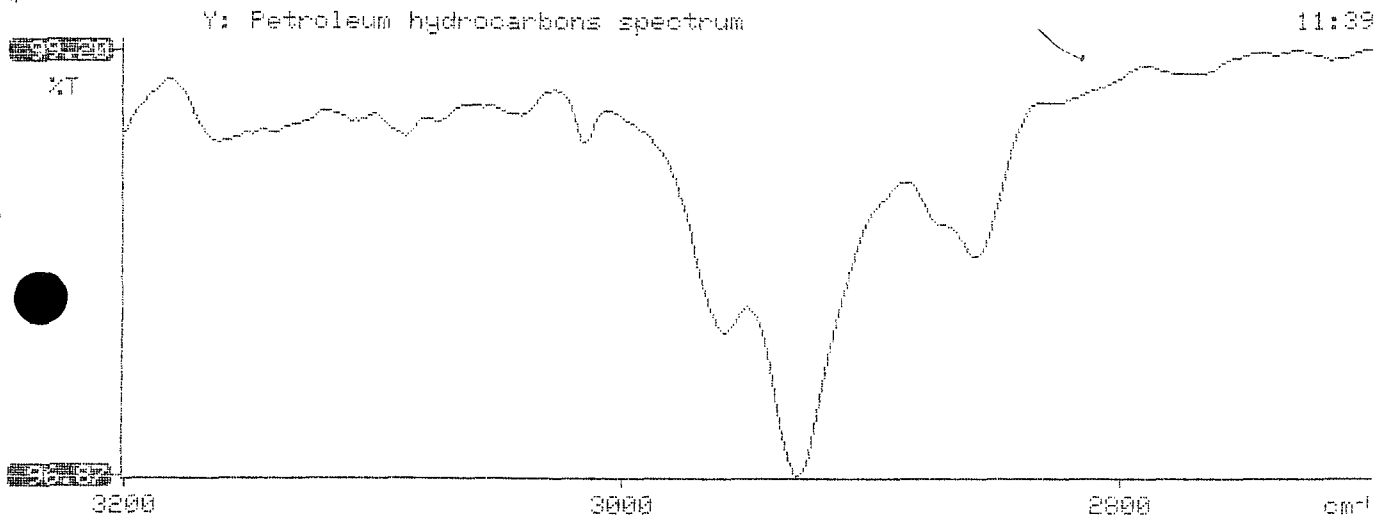
Y: Petroleum hydrocarbons spectrum

11:33



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

96/10/21 11:39
 *
 * Sample identification
 947932
 *
 * Initial mass of sample, g
 2.030
 *
 * Volume of sample after extraction, ml
 28.000
 *
 * Petroleum hydrocarbons, ppm
 63.420
 * Net absorbance of hydrocarbons (2930 cm⁻¹)
 0.009
 *
 *



EL PASO NATURAL GAS

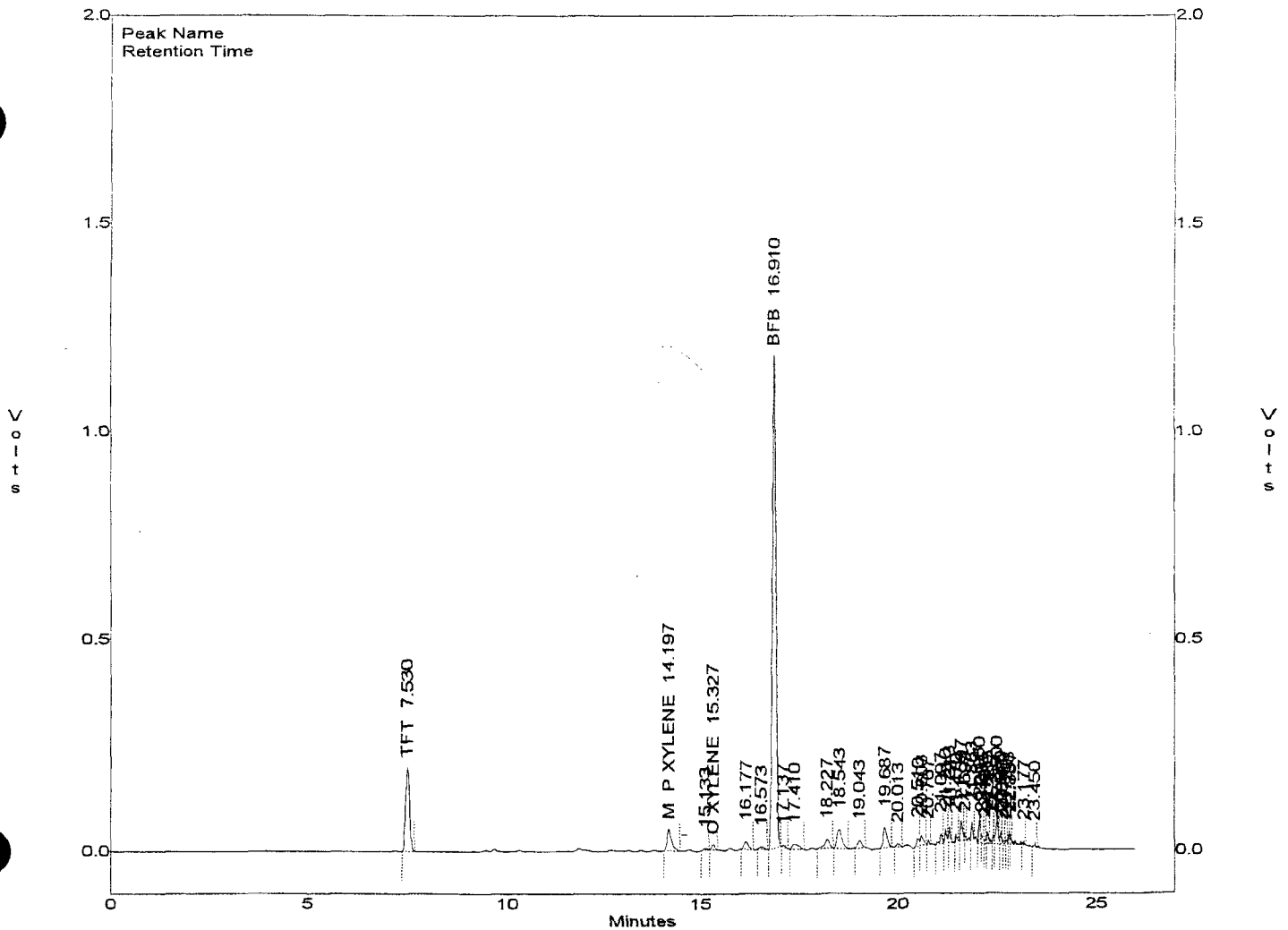
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\102196-1.013
 Method : C:\LABQUEST\METHODS\1-100896.MET
 Sample ID : 947932,5.08G,50U
 Acquired : Oct 22, 1996 15:09:39
 Printed : Oct 22, 1996 15:36:08
 User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	5.567	0	0.0000
TFT	7.530	1400111	115.2298
TOLUENE	9.677	0	0.0000
ETHYLBENZENE	13.847	0	0.0000
M & P XYLENE	14.197	426406	12.0097
O XYLENE	15.327	74315	3.1989
BFB	16.910	7889551	114.8298

C:\LABQUEST\CHROM001\102196-1.013 -- Channel A

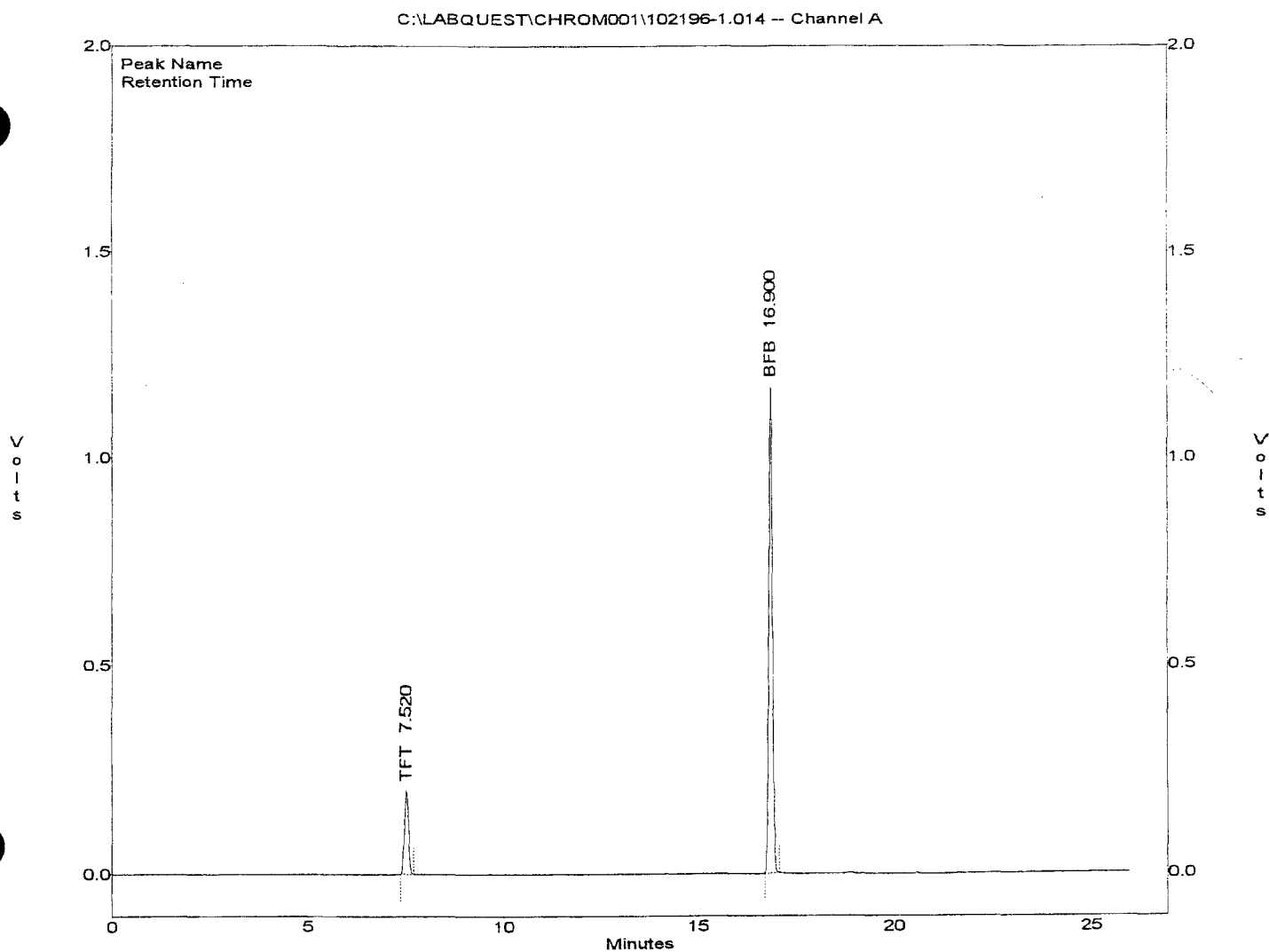


**EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS**

File : C:\LABQUEST\CHROM001\102196-1.014
Method : C:\LABQUEST\METHODS\1-100896.MET
Sample ID : 947933,5.00G,50U
Acquired : Oct 22, 1996 15:50:08
Printed : Oct 22, 1996 16:16:34
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	5.567	0	0.0000
TFT	7.520	1385094	113.9939
TOLUENE	9.677	0	0.0000
ETHYLBENZENE	13.847	0	0.0000
M & P XYLENE	14.230	0	0.0000
O XYLENE	15.367	0	0.0000
BFB	16.900	7768228	113.0639



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

* 96/10/21 11:41

* Sample identification
* 947933

* Initial mass of sample, g
* 2.150

* Volume of sample after extraction, ml
* 28.000

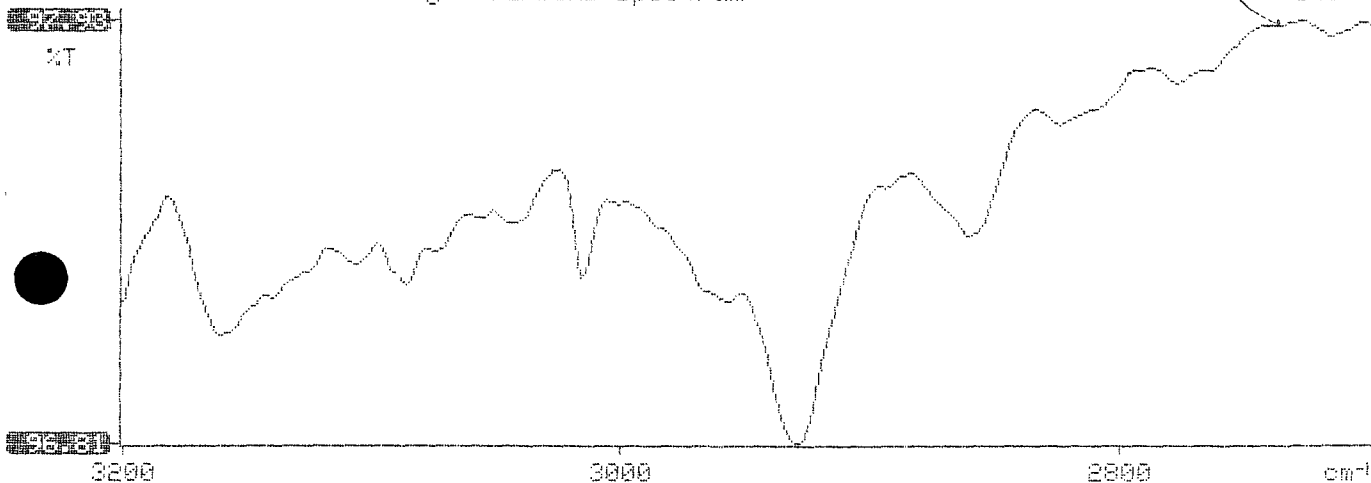
* Petroleum hydrocarbons, ppm
* 15.660

* Net absorbance of hydrocarbons (2930 cm⁻¹)
* 0.003

*
*
*

Y: Petroleum hydrocarbons spectrum

11:41

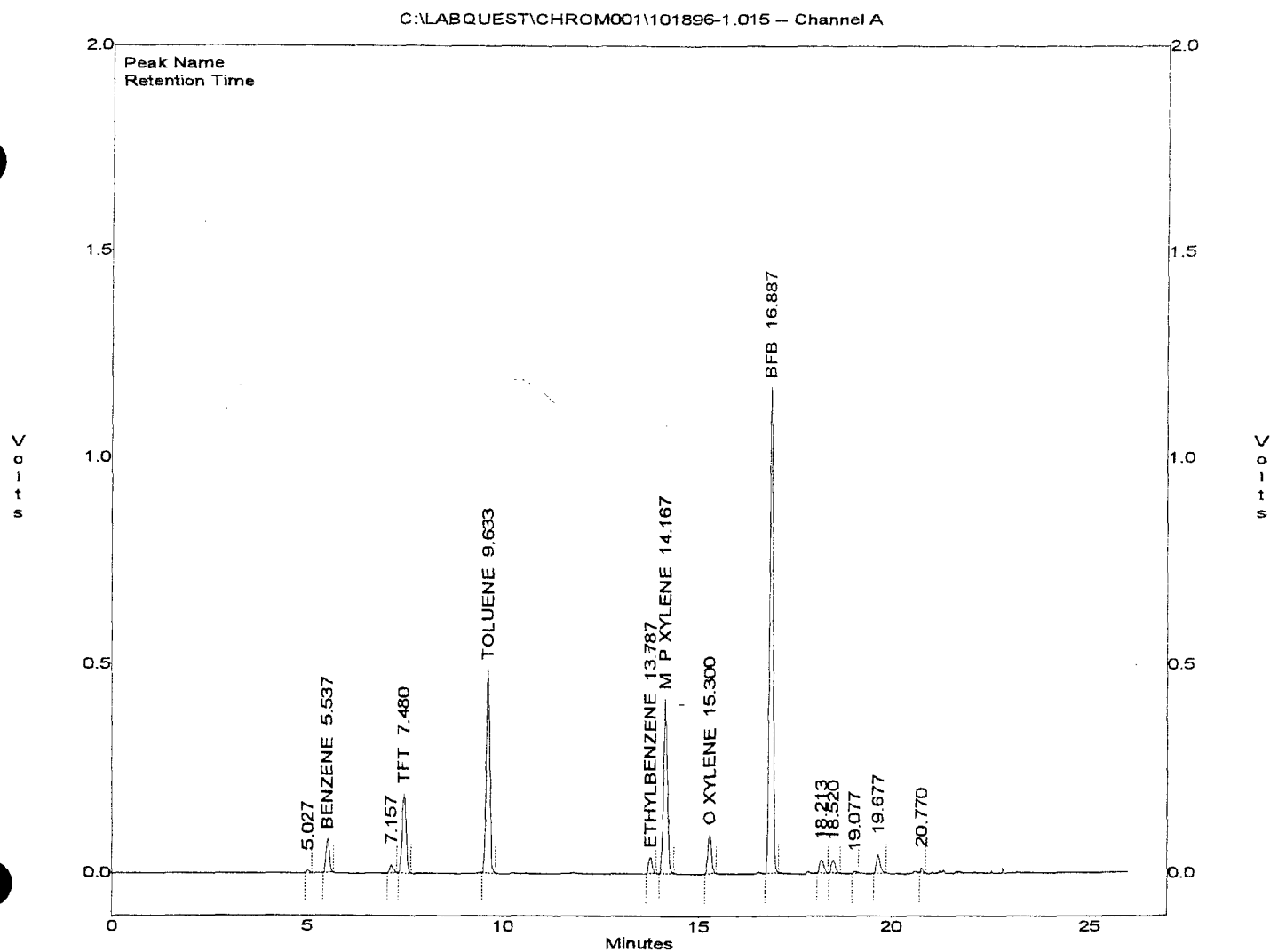


EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\101896-1.015
Method : C:\LABQUEST\METHODS\1-100896.MET
Sample ID : 947930 X20
Acquired : Oct 19, 1996 01:22:48
Printed : Oct 19, 1996 01:49:13
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	5.537	512546	13.7479
TFT	7.480	1376702	113.3033
TOLUENE	9.633	3223367	97.7431
ETHYLBENZENE	13.787	253901	8.6023
M & P XYLENE	14.167	2896191	80.7801
O XYLENE	15.300	625978	20.9203
BFB	16.887	7819608	113.8118



PHASE IV MONITORING WELL INSTALLATION

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL SERVICES INC.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # BH- 2

Well # 1

Page 1 of 1

Project Name EPFS GW PITS
 Project Number 17520 Phase 6001.77
 Project Location GCU UNIT D #160-14046

Elevation _____
 Borehole Location T29 R12-S27-Ltr 1
 GWL Depth 21' BGS
 Logged By D CESARK
 Drilled By M DONOHUE
 Date/Time Started 2/26/97 - 1400
 Date/Time Completed 1 - 1600

Well Logged By D CESARK
 Personnel On-Site D CHARLEY
 Contractors On-Site _____
 Client Personnel On-Site _____

Drilling Method 4 1/4" ID HSA
 Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM			Drilling Conditions & Blow Counts
							BZ	BH	S	
0				BACKFILL						TIME 7
5				TO						
10				12'						
15	1	13'-15'	12"	(FILL MATERIAL) - TO 19'						0/ <14207
20	2	18'-20'		CLAYEY, FINE-SAND, SAND-CLAY MIXTURES. DARK GRAY HC STAIN, MODERATE HC COLOR.	SC					24/5/ <14307
25				GRAVELS / COBBLES (NO SAMPLE)						
30				TD = 29'						
35										
40										

Comments:

AUGER REFUSAL IN COBBLES @ 29' BGS. GW ENCOUNTERED @ 21' BGS.
 LAST RETRIEVABLE SAMPLE WAS HIGHLY CONTAMINATED, SO NOT SUBMITTED
 TO LAB. SET WELL - PLEASE REFER TO WELL COMP. DIAGRAM.

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services, Inc.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole # 2
Well # 1
Page 1 of 1

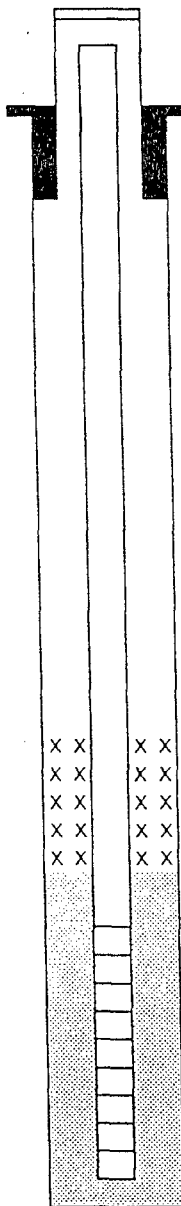
Project Name EPFS GW PITS
Project Number 17520 Phase 6002.77
Site Location GCA UNIT D#160 - 14046

Elevation _____
Well Location T29N-R12W-S27-L1'
GWL Depth -21'
Installed By M DONOHUE

On-Site Geologist D CESARK
Personnel On-Site B CHARLEY
Contractors On-Site _____
Client Personnel On-Site _____

Date/Time Started 2/26/97 1600
Date/Time Completed " 1800

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing				
Bottom of Protective Casing				
Top of Permanent Borehole Casing		N/A		
Bottom of Permanent Borehole Casing		N/A		
Top of Concrete				
Bottom of Concrete				
Top of Grout		-1'		
Bottom of Grout		-7'		
Top of Well Riser	SCHED. 40 PVC	+3'		
Bottom of Well Riser	"	-12'		
Top of Well Screen	1010 SCREEN	-12'		
Bottom of Well Screen	"	-27'		
Top of Peltonite Seal	ENVIROPLUG	-7'		
Bottom of Peltonite Seal	"	-9'		
Top of Gravel Pack	10-20 SAND	-9'		
Bottom of Gravel Pack	"	-27'		
Top of Natural Cave-In		-27'		
Bottom of Natural Cave-In		-29'		
Top of Groundwater		-21'		
Total Depth of Borehole		-29'		



Top of Protective Casing N/A

Top of Riser +3'

Ground Surface -0'-

Top of Seal -7'

Top of Gravel Pack -9'

Top of Screen -12'

Bottom of Screen -27'

Bottom of Borehole -29'

Comments: PROBLEMS w/ ROD BINDING IN GRAVELS w/ AUGER, HEAVING SANDS -
HAD TO 'STEM' AUGERS w/ CLEAN WATER TO COMPLETE WELL.

Site Activities

06-Mar-97

Meter/Line #: 14046

Location/Line #: Gallegos Canyon Unit D #160

MW#:

Depth to GW:

Depth to Product:

Product Thickness:

Date: 3/5/97

Activity: Well Completion

Sample Type:

Sample Depth:

Refusal Depth:

Comments:

Well Development and Purging Data

☒ Development
☐ Purging

Well Number HW1

Serial No. WDPD-

Page 1 of 1

Project Name EPFS G/L PITS

Project Manager Carol Chance

Project No. 17520

Client Company EPFS

Phase Task No. 6003

77

Site Name GCU D#160 (14046)

Site Address 5400 J.W. CTH N.W.

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

- Pump ☐ Centrifugal ☒ Bottom Valve
☐ Submersible ☐ Double Check Valve
☐ Peristaltic ☐ Stainless-steel Kemmerer
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 29.2 *
Initial Depth to Water (feet) 21.41
Height of Water Column in Well (feet) 7.79
Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		<u>3.0</u>	<u>5 x 5</u>
Gravel Pack			
Drilling Fluids			
Total			<u>25</u>

Instruments

- Serial No. (if applicable)
☒ pH Meter 01372
☐ DO Monitor _____
☒ Conductivity Meter _____
☒ Temperature Meter _____
☐ Other _____

Water Disposal

Drained & disposed at Kotes Separator
in Georgetown

Water Removal Data

Date	Time	Development Method Pump/Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Comments
						Increment	Cumulative	Increment	Cumulative					
3-10-97	10:35	✓				5	5			14.9	6.45	84		100% muddy
	10:47	✓				2	7			14.2	6.46	44		100%
	11:46	✓				1	8			15.5	6.50	208		100%
3-10-97	12:25	✓				1	9			15.9	7.78	208		100%

Circle the date and time that the development criteria are met.

Comments measurements for top of well indicated extremely slow rate of water removal. 15 min after 12:25, water level was 21.41 feet. 15 min after 12:25, water level was 21.41 feet. 15 min after 12:25, water level was 21.41 feet.

Developer's Signature(s) _____

Date 3-10-97

Reviewer _____

Date _____

Water Sampling Data

Location No. 77 W 1

Serial No. WSD-

Group List Number

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 3-10-97

Project Name EPPE Gumpus Project No. 17520

Project Manager Cory Chance Phase/Task No. 6003 77

Site Name GCD #160

Sampling Specifications

Requested Sampling
Depth Interval (feet) 0P 3'
Requested Wait Following
Development/Purging (hours)

Initial Measurements

Time Elapsed From Final Development/Purging ^{min} (hours) 20
Initial Water Depth (feet) 21.41
Nonaqueous Liquids Present (Describe)

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/ cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (feet)	Bail	Final Water Depth (feet)	

See well development + purging d+tz sheet

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)
Preservatives: H = HCl; N = HNO₃; S = H₂SO₄; A = NaOH; O = Other (Specify); - = None

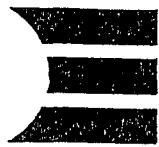
Sample Containers

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Sample #	Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No		
BTEX	2	G	40		X	H	X			JAL-14046-01 T1245

Filter Type Chain-of-Custody Form Number C 3059

Comments

Signature [Signature] Date 3-10-97 Reviewer Date



EL PASO FIELD SERVICES



5-22-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JAL 14046-01	970202
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	3/10/97	1245
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. ANAL:	3/14/97	3/14/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	72.8	PPB	5	D		
TOLUENE	<1	PPB	5	D		
ETHYL BENZENE	111	PPB	5	D		
TOTAL XYLENES	822	PPB	5	D		
TOTAL BTEX	1010	PPB				

-BTEX is by EPA Method 8020 -

The Surrogate Recovery was at 95.4 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indicates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By:

Date:

4/5/97

PHILIP

WELLSERVICES
WELLSERVICES
WELLSERVICES

Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

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

COC Serial No. C 3059

Project Name EPFS GWPTS		Phase Task 0003 77		Total Number of Bottles		Type of Analysis and Bottle	Comments
Project Number 17520	Phase Task 0003 77	Total Number of Bottles		Type of Analysis and Bottle	Comments		
Samplers J. Long		Name EPFS		Location Farmington NM			
Laboratory	Sample Number (and depth)	Date	Time	Matrix			
	JAL T-RIP BLANK	3-10-97	1115	WATER	1	X	
	JAL 140' / 6.01	3-10-97	1245	WATER	2	✓	
	JAL 089' / 6.01	3-10-97	1610	WATER	2	✓	
	JAL T-RIP BLANK	3-11-97	1000	WATER	1	✓	
	JAL 105' / 6.01	3-11-97	1045	WATER	2	✓	
	JAL 95' / 210.01	3-11-97	1325	WATER	2	✓	
	JAL 75' / 220.01	3-11-97	1530	WATER	2	✓	
	JAL T-RIP BLANK	3-12-97	1150	WATER	1	✓	
	JAL 716' / 6.01	3-12-97	1155	WATER	2	✓	
	JAL T-RIP BLANK	3-13-97	1000	WATER	1	✓	
	JAL 750' / 6.01	3-13-97	1010	WATER	2	✓	

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
<i>[Signature]</i>	3-13-97	1420	<i>[Signature]</i>	3/13/97	1435

Samples Iced: ☒ Yes ☐ No	Carrier: Hand Delivered	Alr Bill No.
Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☒ Volatile Organic Analyte Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO3) ☐ TPH (418.1) Sulfuric acid (H2SO4) ☐ Other (Specify) _____ ☐ Other (Specify) _____		
Shipping and Lab Notes: Rec'd - Cool and In-Txt JX		

**PHASE V TEMPORARY WELL
POINT DATA**

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.

000 Monroe Rd.

Farmington, NM 87401

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

Borehole #

Well # PZ-1

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520 Phase 6006

Site Location Gallegos Canyon Unit D 160
14046

On-Site Geologist C CHANCE

Personnel On-Site D. Charley, C. Govee

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location Ltr I -S27-T29-R12

GWL Depth 17.83' TOP

Installed By K. Padilla

Date/Time Started 9/29/97

Date/Time Complete 9/29/97

COMMENTS

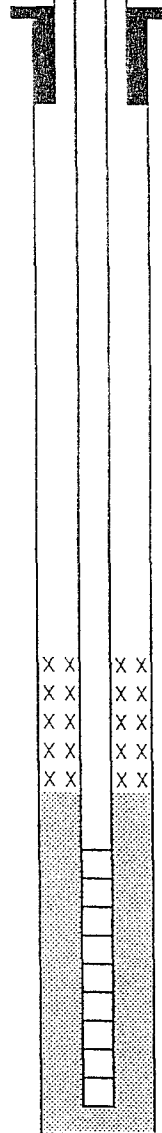
- PZ1 is 250' ± 49' From MW1

- Collect soil sample @ 15-17'

BGS: OK br CLAY, soft,
high plastic, dry mod gypsum
parting. PID = 3 per

Install piezometer &
collect GW sample (CM(350))

Top of Protective Casing NA
Top of Riser (survey elev.) 77.29
Ground Surface NA



Top of Seal NA

Top of Gravel Pack NA

Top of Screen 9'

Bottom of Screen 19'

Bottom of Borehole 19.5'

Majority of site has been "land farmed".

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole #

Well # PZ-2

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520 Phase 6006

Site Location Gallegos Canyon Unit D160

14046

On-Site Geologist C CHANCE

Personnel On-Site D. Chackay, C. Gomez

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location Ltr I -S27-T29-R12

GWL Depth 16.98 TOR

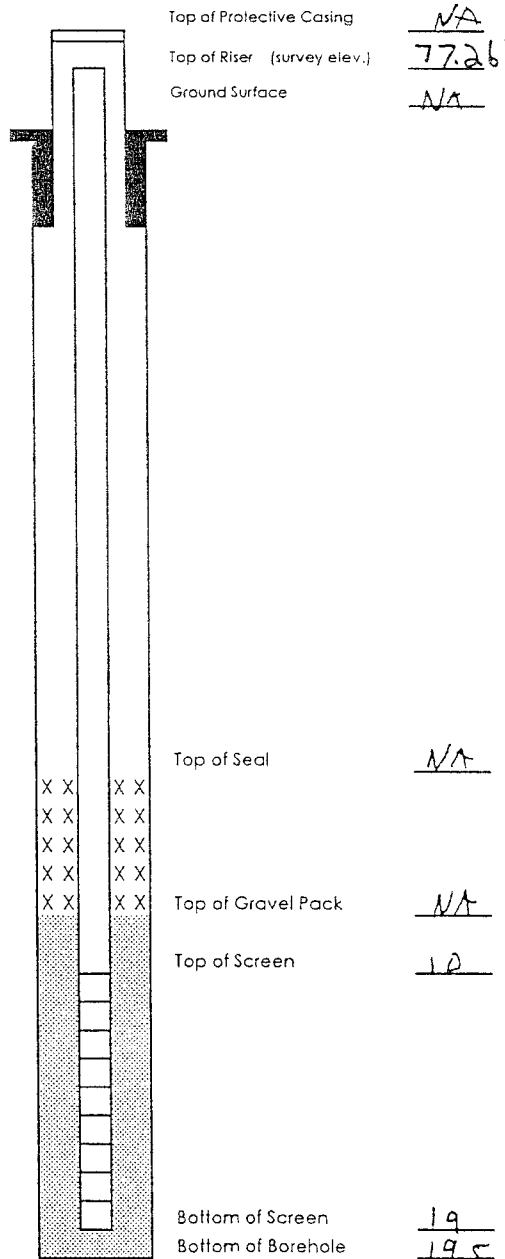
Installed By K Padilla

Date/Time Started 9/29/97

Date/Time Complete 9/29/97

COMMENTS

- PZ2 is 205° ↓ 52' from MW1
- Collect soil sample @ 15-17'
- BGS: Br/Tan mottled CLAY, med stiff, hi plastic, dry, med gypsum parting
- PI10 = bl pps
- Install piezometer & collect GW sample (CMC Jbl)



MW1 ^{GW} riser elev. 77.54. MW1 GW @ 22.11 TDR

MWINSTAL.WKT

Geologist Signature

Con Chance

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.

000 Monroe Rd.

Farmington, NM 87401

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

Borehole #

Well # PZ-3

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520

Phase 6006

Site Location Gallegos Canyon Unit D110
14046

On-Site Geologist C CHANCE

Personnel On-Site

D Gomez, D Charley

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location Ltr J -S27-129-R12

GWL Depth ~24' BGS

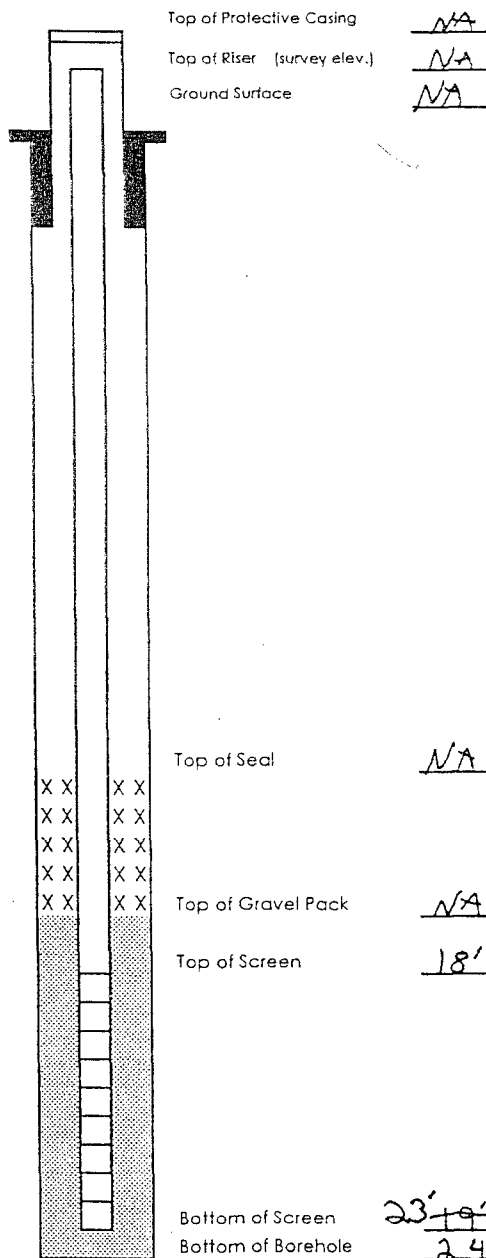
Installed By K P. J. L.

Date/Time Started 9/30/97

Date/Time Complete 9/30/97

COMMENTS

- P23 is 30' + 35' from MW1
- Collect soil sample 20-22'
- BGS: DE Br CLAY, med stiff,
- hi plastic, dry, to gypsum parting
- PII = 2 ppm
- Install temp well pt +
- collect Gb sample (CMC362)
- Pull well pt + gravel B4



Note: P23 is ~5' higher in elev. than MW1

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole #

Well # PZ-4

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520 Phase 6006

Site Location Gallegos Canyon Univ D 160
14846

On-Site Geologist C CHANCE

Personnel On-Site C Gomez, D Charley

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location Ltr I -S27-129-R12

GWL Depth

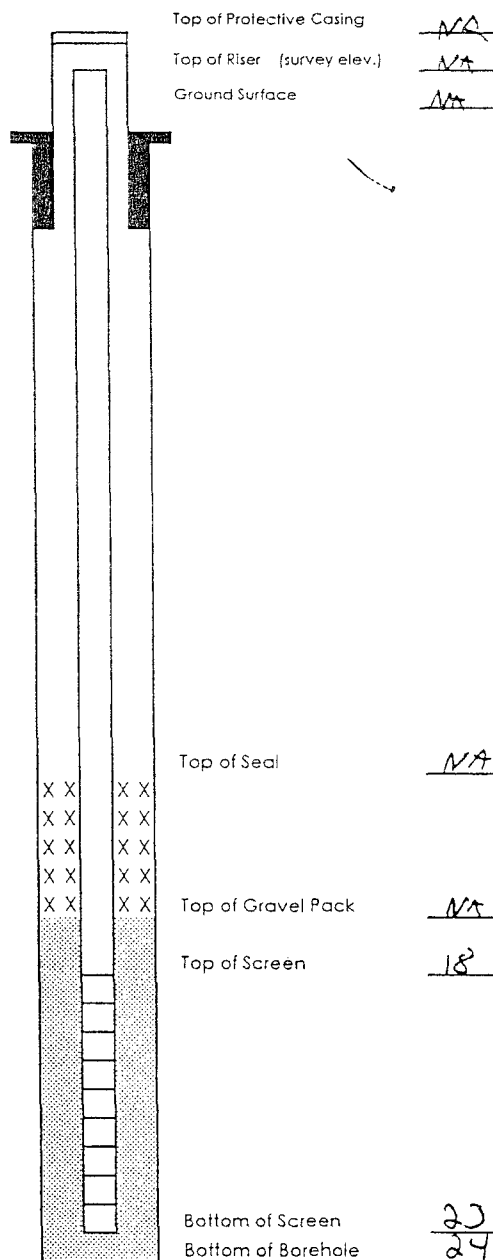
Installed By K. Padilla

Date/Time Started 9/30/97

Date/Time Complete 9/30/97

COMMENTS

- PZ4 is 120' + 26' from MW1
- Collect soil sample from 15-17' BGS: Br clayey SILT, med dense, dry
- PID = 7 ppm
- Install temp well pt + collect GW sample (Cmr363)
- Pull well pt + gravel BH



Well PTs

PROJECT NAME 4324 Pit Closure Project				DATE: 9/29/97				FIELD ID			
CONTRACT LABORATORY P. O. NUMBER				REQUESTED ANALYSIS				REMARKS			
LAB ID	DATE	TIME	MATRIX	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID	SEQUENCE #		
1072	9/29/97	—	Water	1	TB		✓			Trip Blank	
1073	1115		CMC 358	2	V6		✓			GCU A142E Q3906 P25	
1074	1215		CMC 359	2	V6		✓			" " P26	
1075	1410		CMC 360	2	V6		✓			GCU D16D 14046 P21	
1076	1530	✓	CMC 361	2	V6		✓			" " P22	
<i>enc 9/29/97</i> Note: GW reacted w/ HCL. VERY difficult to remove all bubbles											
RECEIVED BY: (Signature) <i>Chance</i> DATE/TIME 9/29/97 10:05 RECEIVED BY: (Signature) <i>Chance</i> DATE/TIME 9/30/97 10:05				RECEIVED BY: (Signature) _____ RECEIVED BY: (Signature) <i>Michael</i>				RECEIVED BY: (Signature) _____ RECEIVED BY: (Signature) _____			
TESTED TURNAROUND TIME: _____ DATE/TIME _____ DATE/TIME _____				SAMPLE RECEIPT REMARKS: <i>Exp. 340c</i> <i>Intact & Cool</i>				RESULTS & INVOICES TO: FIELD SERVICES LABORATORY EL PASO NATURAL GAS COMPANY P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499			
CHARGE CODE				505-599-2144				FAX: 505-599-2261			



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

Field ID

Lab ID

CMC360

971075

MTR CODE | SITE NAME:

14046

GCU D #160

SAMPLE DATE | TIME (Hrs):

9/29/97

1410

PROJECT:

Well Points

DATE OF BTEX EXT. | ANAL.:

10/1/97

10/1/97

TYPE | DESCRIPTION:

PZ-1

Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	1.20	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	1	PPB				

--BTEX is by EPA Method 8020 --

Surrogate Recovery was at
= Dilution Factor Used

92.8

% for this sample All QA/QC was acceptable.

Narrative:

Approved By:

John L. Ladd

Date:

10-3-97

971075BTEXWP,10/2/97



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

CMC361

Lab ID

971076

MTR CODE | SITE NAME:

14046

GCU D #160

SAMPLE DATE | TIME (Hrs):

9/29/97

1530

PROJECT:

Well Points

DATE OF BTEX EXT. | ANAL.:

10/1/97

10/1/97

TYPE | DESCRIPTION:

PZ-2

Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	14.7	PPB				
TOTAL XYLENES	20.1	PPB				
TOTAL BTEX	35	PPB				

--BTEX is by EPA Method 8020 --

he Surrogate Recovery was at
F = Dilution Factor Used

101.8

% for this sample All QA/QC was acceptable.

narrative:

pproved By:

John Lardi

Date:

10-3-97

971075BTEXWP,10/2/97

any Well PTS

PROJECT NAME		DATE		PROJECTED ANALYSIS		REQUESTED ANALYSIS		REMARKS	
ACT NUMBER	PROJECT NAME	DATE	FIELD ID	TPH	BTEX	LAB PID	SEQUENCE #		
24324	Pit Closure Project	9/20/97							
LAB ID	DATE	TIME	MATRIX	TPH	BTEX	LAB PID	SEQUENCE #		
71088	9/20/97	~	Water	✓	✓			Trip Blank	
71086	1000	↓	CMC362	✓	✓			GCV D160 14046 P23	
71087	1145	↓	CMC363	✓	✓			11 P24	
RECEIVED OCT 10 1997									
Note: P24 GW reacted w/ HCL									

INVOICED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
<i>Way Chase</i>	9/20/97 1400	<i>Way Chase</i>	10/2/97 1145
INVOICED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

REQUESTED TURNAROUND TIME:	RESULTS & INVOICES TO:
ROUTINE ☐ RUSH ☐	FIELD SERVICES LABORATORY
TRIER CO.	EL PASO NATURAL GAS COMPANY
	P.O. BOX 4990
	FARMINGTON, NEW MEXICO 87499
	FAX: 505-599-2261



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

Trip Blank

Lab ID

971085

MTR CODE | SITE NAME:

14046

GCU Unit D #160

SAMPLE DATE | TIME (Hrs):

9/30/97

1000

PROJECT:

Well Points

DATE OF BTEX EXT. | ANAL.:

10/6/97

10/6/97

TYPE | DESCRIPTION:

Trip Blank

Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

--BTEX is by EPA Method 8020 --

he Surrogate Recovery was at
F = Dilution Factor Used

97.4

% for this sample All QA/QC was acceptable.

arrative:

pproved By:

John Ladd

Date:

10-7-97

971085BTEXWPTB,10/7/97



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

CMC362

Lab ID

971086

MTR CODE | SITE NAME:

14046

GCU Unit D #160

SAMPLE DATE | TIME (Hrs):

9/30/97

1000

PROJECT:

Well Points

DATE OF BTEX EXT. | ANAL.:

10/6/97

10/6/97

TYPE | DESCRIPTION:

PZ-3

Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at
DF = Dilution Factor Used

98.8

% for this sample All QA/QC was acceptable.

Narrative:

Approved By:

John F. Fudge

Date:

10-7-97

971086BTEXWP,10/7/97



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

CMC363

Lab ID

971087

MTR CODE | SITE NAME:

14046

GCU Unit D #160

SAMPLE DATE | TIME (Hrs):

9/30/97

1145

PROJECT:

Well Points

DATE OF BTEX EXT. | ANAL.:

10/6/97

10/6/97

TYPE | DESCRIPTION:

PZ-4

Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2.81	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	3	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Linder

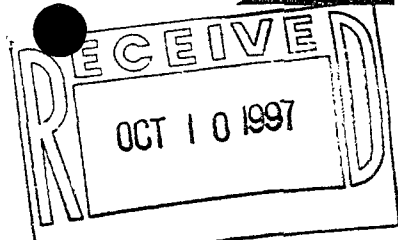
Date:

10-8-97

971087BTEXWP,10/8/97



EL PASO FIELD SERVICES



QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 971080 to 971087

QA/QC for 10/6/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
ICV LA-52589 50 PPB						
Benzene	Standard	50.0	49.3	98.7	75 - 125 %	X
Toluene	Standard	50.0	48.7	97	75 - 125 %	X
Ethylbenzene	Standard	50.0	49.3	99	75 - 125 %	X
m & p - Xylene	Standard	100	98.5	98.5	75 - 125 %	X
o - Xylene	Standard	50.0	49.2	98	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
LCS LA-45476 25 PPB						
Benzene	Standard	25.0	25.3	101.2	39 - 150	X
Toluene	Standard	25.0	24.4	97	46 - 148	X
Ethylbenzene	Standard	25.0	24.8	99	32 - 160	X
m & p - Xylene	Standard	50.0	49.8	100	Not Given	X
o - Xylene	Standard	25.0	24.9	100	Not Given	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	49.2	98.5	75 - 125 %	X
Toluene	Standard	50.0	48.1	96.2	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.9	97.8	75 - 125 %	X
m & p - Xylene	Standard	100	97.7	97.7	75 - 125 %	X
o - Xylene	Standard	50.0	49.0	98	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	49.9	99.7	75 - 125 %	X
Toluene	Standard	50.0	48.0	96.0	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.3	96.7	75 - 125 %	X
m & p - Xylene	Standard	100	96.3	96.3	75 - 125 %	X
o - Xylene	Standard	50.0	48.4	96.8	75 - 125 %	X

errative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
971086					RANGE	
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X

errative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 971086					RANGE	
Benzene	50	<1	53.7	107.5	75 - 125 %	X
Toluene	50	<1	48.6	97	75 - 125 %	X
Ethylbenzene	50	<1	49.1	98	75 - 125 %	X
m & p - Xylene	100	<2	98.2	98.2	75 - 125 %	X
o - Xylene	50	<1	49.3	99	75 - 125 %	X

errative: Acceptable

AUTO BLANK	SOURCE	PPB (3 analyzed with set)		STATUS
Benzene	Boiled Water	<1.0		ACCEPTABLE
Toluene	Boiled Water	<1.0		ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0		ACCEPTABLE
Total Xylenes	Boiled Water	<3.0		ACCEPTABLE

errative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (none analyzed with set)		STATUS
Benzene	Vial + Boiled Water	<1.0		ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0		ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0		ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0		ACCEPTABLE

errative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (none analyzed with this set)		STATUS
Benzene	Vial + Boiled Water	<1.0		ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0		ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0		ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0		ACCEPTABLE

errative: Acceptable.

9/30/97 TRIP BLANK	SOURCE	PPB		STATUS
Benzene	Vial + Boiled Water	<1.0		ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0		ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0		ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0		ACCEPTABLE

errative: Acceptable.

ported By: CV

Approved By: J. L. Ladd

Date: 10-8-97



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

Samples: 971052 to 971055, 971058, 971068, 971069, 971070, 971071 to 971074

QA/QC for 9/30/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
ICV LA-52589 50 PPB						
Benzene	Standard	50.0	49.7	99.4	75 - 125 %	X
Toluene	Standard	50.0	49.9	100	75 - 125 %	X
Ethylbenzene	Standard	50.0	50.0	100	75 - 125 %	X
m & p - Xylene	Standard	100	100.3	100.3	75 - 125 %	X
o - Xylene	Standard	50.0	50.0	100	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
LCS LA-45476 25 PPB						
Benzene	Standard	25.0	25.0	100.0	39 - 150	X
Toluene	Standard	25.0	25.2	101	46 - 148	X
Ethylbenzene	Standard	25.0	25.0	100	32 - 160	X
m & p - Xylene	Standard	50.0	50.1	100	Not Given	X
o - Xylene	Standard	25.0	25.1	100	Not Given	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	49.5	99.0	75 - 125 %	X
Toluene	Standard	50.0	49.1	98.1	75 - 125 %	X
Ethylbenzene	Standard	50.0	49.1	98.2	75 - 125 %	X
m & p - Xylene	Standard	100	97.9	97.9	75 - 125 %	X
o - Xylene	Standard	50.0	49.2	98	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	49.2	98.3	75 - 125 %	X
Toluene	Standard	50.0	48.7	97.3	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.4	96.8	75 - 125 %	X
m & p - Xylene	Standard	100	96.5	96.5	75 - 125 %	X
o - Xylene	Standard	50.0	48.6	97.2	75 - 125 %	X

relative: Acceptable.

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	48.5	97.0	75 - 125 %	X
Toluene	Standard	50.0	47.4	94.8	75 - 125 %	X
Ethylbenzene	Standard	50.0	47.3	94.6	75 - 125 %	X
m & p - Xylene	Standard	100	93.9	93.9	75 - 125 %	X
o - Xylene	Standard	50.0	47.6	95.1	75 - 125 %	X

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
971053					RANGE	
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2	<1	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X

narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 971053					RANGE	
Benzene	50	<1	50.3	100.7	75 - 125 %	X
Toluene	50	<1	49.7	99	75 - 125 %	X
Ethylbenzene	50	<1	49.3	99	75 - 125 %	X
m & p - Xylene	100	<2	98.1	98.1	75 - 125 %	X
o - Xylene	50	<1	49.3	99	75 - 125 %	X

narrative: Acceptable

AUTO BLANK	SOURCE	PPB (2 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (none analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

narrative: Acceptable.

CONTAMINATION OVER CHECK	SOURCE	PPB (none analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

narrative: Acceptable.

9/30/97 TRIP BLANK	SOURCE	PPB	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

ative: Acceptable.

orted By: CA

Approved By: John Fawcett

Date: 10-6-97



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

Samples: 971056 to 971057, 971075 to 971076

QA/QC for 10/1/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	50.4	100.7	75 - 125 %	X
Toluene	Standard	50.0	50.0	100	75 - 125 %	X
Ethylbenzene	Standard	50.0	49.7	99	75 - 125 %	X
m & p - Xylene	Standard	100	99.3	99.3	75 - 125 %	X
o - Xylene	Standard	50.0	49.4	99	75 - 125 %	X
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	24.4	97.5	39 - 150	X
Toluene	Standard	25.0	23.8	95	46 - 148	X
Ethylbenzene	Standard	25.0	24.4	98	32 - 160	X
m & p - Xylene	Standard	50.0	49.1	98	Not Given	X
o - Xylene	Standard	25.0	24.5	98	Not Given	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	49.4	98.7	75 - 125 %	X
Toluene	Standard	50.0	48.1	96.1	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.7	97.4	75 - 125 %	X
m & p - Xylene	Standard	100	97.5	97.5	75 - 125 %	X
o - Xylene	Standard	50.0	48.6	97	75 - 125 %	X

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
971075					RANGE	
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	1.2	1.1	4.56	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 971075					RANGE	
Benzene	50	<1	51.9	103.7	75 - 125 %	X
Toluene	50	1.2	51.0	100	75 - 125 %	X
Ethylbenzene	50	<1	50.1	100	75 - 125 %	X
m & p - Xylene	100	<2	100.9	100.9	75 - 125 %	X
o - Xylene	50	<1	49.9	100	75 - 125 %	X

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (analyzed at X5)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (none analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION OVER CHECK	SOURCE	PPB (none analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLANK	SOURCE	PPB (none analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

 Reported By: CPV

 Approved By: John Linder

 Date: 10-6-97

QUARTERLY MONITORING RESULTS

Sample #	Meter/ Line #	Site Name	Sample Date	Project	S1	Benzene (PPB)	S2	Toluene (PPB)	S3	Ethyl Benzene (PPB)	S4	Total Xylenes (PPB)	S7	Total BTX PPB
970202 *	14046	GCU Unit D #160	3/10/97	Phase II Drilling - Initial	=	72.8	<	1	=	111	=	822	=	1007
970817 *	14046	GCU Unit D #160	8/6/97	Sample 4 - 1st Qtr	=	2.65	=	1.97	=	30.1	<	6	=	35
971194 *	14046	GCU Unit D #160	11/6/97	Sample 4 - 2nd Qtr	<	1	<	1	=	1.1	<	3	<	6
980161	14046	GCU Unit D #160	2/13/98	Sample 4 - 3rd Qtr	=	2.35	=	2.98	<	1	<	3	<	5
980351	14046	GCU Unit D #160	5/6/98	Sample 4 - 4th Qtr	<	1	=	1.86	<	1	<	3	=	2

* Analytical reports provided to NMOCD in prior annual report.



☐	Development
☒	Purging

Well Number MW-1

Meter Code 14046

Water Volume Calculation

Water Volume Calculation

Initial Depth of Well (feet)	30.20
Initial Depth to Water (feet)	20.56
Height of Water Column in Well (feet)	9.64

☒	Temperature Meter	0.0. CHEMET5 KIT
☒	Other	

☐	Pump	Bailer
☐	Centrifugal	Bottom Valve ☒
☐	Submersible	Double Check Valve ☐
☐	Peristaltic	Stainless-steel Kemmerer ☐

Water Disposal
K072 SEPARATOR

Water Removal Data

[illegible]

Comments THE WELL BAILED OLYP 6.0 GALLONS.

Developer's Signature Dennis Bied Date 2-13-98 Reviewer John Farkas Date 3/2/98



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980161
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	2/13/98	1147
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	2/19/98	2/19/98
TYPE DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2.35	PPB				
TOLUENE	2.98	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	5	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 79.5 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John F. SmithDate: 3/2/98

980161BTEXMW, 2/19/98

Project No.

Project Name

MC #14046

Samplers: (Signature)

Figure Dennis Bird

Date: 2-13-98

Date _____

Time

OMP.

GRAB

Sample Number

1147	2628	1147
------	------	------

X

98016

19

		X
--	--	---

Requested Analysis

[illegible]

Technique
Preservation

Remarks

GC# WWT#180 MW-1

Relinquished by: (Signature)

Date/Time

Received by: (Signature)

Relinquished by: (Signature)

Date/Time

Received by: (Signature)

Relinquished by: (Signature)

Date/Time 14/11/

Received by: (Signature)

Belinquished by: (Signature)

Date/Time	Location	Activity	Remarks
10/10/2023	...	...	...

Received by: (Signature)

Relinquished by: (Signature)

Date/Time

Received for Laboratory by: (Signature)

Remarks:

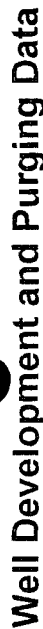
Time	Date/Time
10:00	10/10/2023
10:05	10/10/2023
10:10	10/10/2023
10:15	10/10/2023
10:20	10/10/2023
10:25	10/10/2023
10:30	10/10/2023
10:35	10/10/2023
10:40	10/10/2023
10:45	10/10/2023
10:50	10/10/2023
10:55	10/10/2023
11:00	10/10/2023
11:05	10/10/2023
11:10	10/10/2023
11:15	10/10/2023
11:20	10/10/2023
11:25	10/10/2023
11:30	10/10/2023
11:35	10/10/2023
11:40	10/10/2023
11:45	10/10/2023
11:50	10/10/2023
11:55	10/10/2023
12:00	10/10/2023
12:05	10/10/2023
12:10	10/10/2023
12:15	10/10/2023
12:20	10/10/2023
12:25	10/10/2023
12:30	10/10/2023
12:35	10/10/2023
12:40	10/10/2023
12:45	10/10/2023
12:50	10/10/2023
12:55	10/10/2023
13:00	10/10/2023
13:05	10/10/2023
13:10	10/10/2023
13:15	10/10/2023
13:20	10/10/2023
13:25	10/10/2023
13:30	10/10/2023
13:35	10/10/2023
13:40	10/10/2023
13:45	10/10/2023
13:50	10/10/2023
13:55	10/10/2023
14:00	10/10/2023
14:05	10/10/2023
14:10	10/10/2023
14:15	10/10/2023
14:20	10/10/2023
14:25	10/10/2023
14:30	10/10/2023
14:35	10/10/2023
14:40	10/10/2023
14:45	10/10/2023
14:50	10/10/2023
14:55	10/10/2023
15:00	10/10/2023
15:05	10/10/2023
15:10	10/10/2023
15:15	10/10/2023
15:20	10/10/2023
15:25	10/10/2023
15:30	10/10/2023
15:35	10/10/2023
15:40	10/10/2023
15:45	10/10/2023
15:50	10/10/2023
15:55	10/10/2023
16:00	10/10/2023
16:05	10/10/2023
16:10	10/10/2023
16:15	10/10/2023
16:20	10/10/2023
16:25	10/10/2023
16:30	10/10/2023
16:35	10/10/2023
16:40	10/10/2023
16:45	10/10/2023
16:50	10/10/2023
16:55	10/10/2023
17:00	10/10/2023
17:05	10/10/2023
17:10	10/10/2023
17:15	10/10/2023
17:20	10/10/2023
17:25	10/10/2023
17:30	10/10/2023
17:35	10/10/2023
17:40	10/10/2023
17:45	10/10/2023
17:50	10/10/2023
17:55	10/10/2023
18:00	10/10/2023
18:05	10/10/2023
18:10	10/10/2023
18:15	10/10/2023
18:20	10/10/2023
18:25	10/10/2023
18:30	10/10/2023
18:35	10/10/2023
18:40	10/10/2023
18:45	10/10/2023
18:50	10/10/2023
18:55	10/10/2023
19:00	10/10/2023
19:05	10/10/2023
19:10	10/10/2023
19:15	10/10/2023
19:20	10/10/2023
19:25	10/10/2023
19:30	10/10/2023
19:35	10/10/2023
19:40	10/10/2023
19:45	10/10/2023
19:50	10/10/2023
19:55	

Carrier Co:

Carrier Phone No. 777-7777

Date Results Reported / by: (Signature)

Air Bill No.:



☐	Development
☒	Purging

Well Number MW-1

Meter Code 14046

Development Criteria

- | | |
|-------------------------------------|--|
| ☒ | 3 to 5 Casing Volumes of Water Removal |
| ☐ | Stabilization of Indicator Parameters |
| ☐ | Other |

Water Volume Calculation

Initial Depth of Well (feet) 30.20
Initial Depth to Water (feet) 21.49
Height of Water Column in Well (feet) 8.71

4, Gravel Pack

Methods of Development

- | | | | |
|--------------------------|-------------|-------------------------------------|--------------------------|
| ☐ | Pump | ☒ | Bailer |
| ☐ | Centrifugal | ☒ | Bottom Valve |
| ☐ | Submersible | ☐ | Double Check Valve |
| ☐ | Peristaltic | ☐ | Stainless-steel Kemmerer |

Instruments

- | | |
|-------------------------------------|--------------------|
| ☒ | pH Meter |
| ☐ | DO Monitor |
| ☒ | Conductivity Meter |
| ☒ | Temperature Meter |
| ☒ | Other <u>D.O.C</u> |

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments THE WELL BAILED DRY @ 6.0 GALLONS.

Developer's Signature Dennis Bird

Date 5-6-98

Mr. Fowler.

Date 5/11/98



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980351
MTR CODE SITE NAME:	14046	GCU D #160
SAMPLE DATE TIME (Hrs):	5/6/98	1120
PROJECT:	Sample 4 4th Quarter	
DATE OF BTEX EXT. ANAL.:	5/7/98	5/7/98
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	1.86	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	2	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.1 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Lardi

Date:

5/11/98

980351BTEXMW, 5/8/98

5-18-98 - Adult.
5-18-98 Adult.
5-18-98 Juven.

A 2305

CHAIN OF CUSTODY RECORD

[illegible]



QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 980345 to 980348, 980350 to 980352

QA/QC for 5/7/98 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	49.7	99.4	75 - 125 %	X
Toluene	Standard	50.0	50.9	102	75 - 125 %	X
Ethylbenzene	Standard	50.0	51.7	103	75 - 125 %	X
m & p - Xylene	Standard	100	104.0	104.0	75 - 125 %	X
o - Xylene	Standard	50.0	50.8	102	75 - 125 %	X
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	25.1	100.5	39 - 150	X
Toluene	Standard	25.0	25.6	102	46 - 148	X
Ethylbenzene	Standard	25.0	26.0	104	32 - 160	X
m & p - Xylene	Standard	50.0	52.7	105	Not Given	X
o - Xylene	Standard	25.0	25.7	103	Not Given	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	48.8	97.5	75 - 125 %	X
Toluene	Standard	50.0	50.0	100.0	75 - 125 %	X
Ethylbenzene	Standard	50.0	51.2	102.3	75 - 125 %	X
m & p - Xylene	Standard	100	103.0	103.0	75 - 125 %	X
o - Xylene	Standard	50.0	49.9	100	75 - 125 %	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	48.1	96.2	75 - 125 %	X
Toluene	Standard	50.0	49.0	98.1	75 - 125 %	X
Ethylbenzene	Standard	50.0	50.2	100.3	75 - 125 %	X
m & p - Xylene	Standard	100	100.7	100.7	75 - 125 %	X
o - Xylene	Standard	50.0	49.1	98.1	75 - 125 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
980345					RANGE	
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	1.8	1.8	0.31	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 980345					RANGE	
Benzene	50	<1	49.2	98.4	75 - 125 %	X
Toluene	50	1.8	51.8	100	75 - 125 %	X
Ethylbenzene	50	<1	50.2	100	75 - 125 %	X
m & p - Xylene	100	<2	101.3	101.3	75 - 125 %	X
o - Xylene	50	<1	50.2	100	75 - 125 %	X

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (2 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (none analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (none analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLANK	SOURCE	PPB (2 analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: CVApproved By: John L. LatchDate: 5/1/98



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

Samples: 980131, 980146 to 980148, 980150 to 980153, 980160 to 980162

QA/QC for 2/18/98 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	45.2	90.3	75 - 125 %	X
Toluene	Standard	50.0	46.0	92	75 - 125 %	X
Ethylbenzene	Standard	50.0	46.2	92	75 - 125 %	X
m & p - Xylene	Standard	100	92.4	92.4	75 - 125 %	X
o - Xylene	Standard	50.0	46.0	92	75 - 125 %	X
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	22.4	89.5	39 - 150	X
Toluene	Standard	25.0	22.5	90	46 - 148	X
Ethylbenzene	Standard	25.0	22.4	89	32 - 160	X
m & p - Xylene	Standard	50.0	44.8	90	Not Given	X
o - Xylene	Standard	25.0	22.3	89	Not Given	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	47.7	95.5	75 - 125 %	X
Toluene	Standard	50.0	47.6	95.2	75 - 125 %	X
Ethylbenzene	Standard	50.0	47.4	94.9	75 - 125 %	X
m & p - Xylene	Standard	100	94.6	94.6	75 - 125 %	X
o - Xylene	Standard	50.0	47.4	95	75 - 125 %	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	47.1	94.2	75 - 125 %	X
Toluene	Standard	50.0	45.5	90.9	75 - 125 %	X
Ethylbenzene	Standard	50.0	45.2	90.3	75 - 125 %	X
m & p - Xylene	Standard	100	89.9	89.9	75 - 125 %	X
o - Xylene	Standard	50.0	45.2	90.4	75 - 125 %	X

Narrative: Acceptable.

NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Standard	50.0	44.5	89.1	75 - 125 %	X
Toluene	Standard	50.0	43.4	86.9	75 - 125 %	X
Ethylbenzene	Standard	50.0	42.8	85.7	75 - 125 %	X
m & p - Xylene	Standard	100	85.5	85.5	75 - 125 %	X
o - Xylene	Standard	50.0	42.9	85.7	75 - 125 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 980148	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	5.4	5.3	1.34	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 980148	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	50	<1	49.5	99.0	75 - 125 %	X
Toluene	50	5.4	53.0	95	75 - 125 %	X
Ethylbenzene	50	<1	47.6	95	75 - 125 %	X
m & p - Xylene	100	<2	95.0	95.0	75 - 125 %	X
o - Xylene	50	<1	47.6	95	75 - 125 %	X

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (3 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (none analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (none analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	< 1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	< 1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	< 1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	< 3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLANK	SOURCE	PPB (3 analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	< 1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	< 1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	< 1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	< 3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: CV

Approved By: John Forder

Date: 3/2/98