3R - 166

REPORTS

DATE:

2002

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EPFS GROUNDWATER PITS
GROUNDWATER CLOSURE REPORT

D Loop Line Drip
Meter Code: LD169

SITE DETAILS

Legals Twn: 28N Rng: 08W Sec: 33 UNIT: I

NMOCD Haz Ranking: 30 Land Type: Federal Operator: EPFS

PREVIOUS ACTIVITIES

Site Assessment: Jan-95 Excavation: Feb-95 Soil Boring: Nov-95 Monitor Well: Nov-95

Geoprobe: Dec-96 Additional MWs: Dec-96 Downgradient MW's: Dec-99 Replace MW: NA

PSH Removal Initiated: NA ORC Nutrient Injection: NA Re-Excavation: NA

Quarterly Initiated: Nov-96 Annual Initiated NA Quarterly Resumed: NA

Following the initial site assessment in January of 1995 the existing pit was excavated to a depth of 12 feet beneath ground surface (bgs). Approximately 80 cubic yards of source material was removed and disposed of at the Envirotech land farm. The headspace soil reading from the bottom of the excavation was 191 ppm and no groundwater was encountered. Soil analytical for the sample was as follows: Benzene 1.81 mg/kg, Toluene 28.9 mg/kg, Ethyl Benzene 18.8 mg/kg, Total Xylenes 260 mg/kg, Total BTEX 310mg/kg, and TPH (418.1) 4250 mg/kg (See Appendix A).

One soil boring was drilled in the center of the pit groundwater was encountered at 34.4 bgs. Due to very high PID and the discolored soils a sample was not collected. MW-1 was set at a TD of 45 bgs with the water level at 36.96 bgs (See Appendix B) on 11/7/1995. A water sample was taken 12/1/1995 results were as follows: Benzene 309 mg/kg, Toluene 613 mg/kg, Ethyl Benzene 180 mg/kg, Total Xylenes 1940 mg/kg, and Total BTEX 3042 mg/kg (See Appendix B).

Geoprobe groundwater data was collected in various locations, upgradient and downgradient of MW-1 during December of 1996, the groundwater data indicated groundwater below standards at all locations except PH2 and PH3 (See Appendix C , Figure 2, locating the approximate geoprobe locations).

Piezometers were established in August 1997, the data was used to establish gradient flow direction and determine contamination, PZ-2 was non-detect and PZ-1had elevated levels of BTEX (See attached Figure 2, locating the approximate well points locations). Based on groundwater levels collected from temporary well point data, the groundwater flow trends to the north, northwest (see figure 3 and 4). MW-2 and MW-3 were drilled as temporary wells on 12/21/1999 and later completed ad monitor wells, both have been less the 10 ppb benzene since installation (see appendix F).

Historical groundwater data is included as Table 1 for MW-1, -2 and -3, Figure 6 showing historical and present BTEX concentrations for MW-1. Since, previous analytical data were submitted in prior annual reports, only the analytical data and purge forms for the first, second, and third quarters of 2002 are appended. Included are appendices B (MW-1 well logs/completions and supporting analytical), C (geoprobe), D (well points) and F (completion/logs for MW-2 and MW-3).

EPFS GROUNDWATER PITS
GROUNDWATER CLOSURE REPORT

D Loop Line Drip
Meter Code: LD169

2002 ACTIVITY

First quarter samples were taken on February 25, 2002, Benzene was 5.8 ppb, Toluene was <0.5 ppb, Ethyl Benzene was 14 ppb, and Total Xylenes was 2.3 ppb (See Appendix E analytical data).

Second quarter samples for MW-1 were taken on May 21, 2002, Benzene was 3.0 ppb, Toluene was <0.5 ppb, Ethyl Benzene was 5.0 ppb, and Total Xylenes was 2.4 ppb (See Appendix E analytical data).

Third quarter samples for MW-1 were taken on August 6, 2002, this represents the fourth consecutive quarter below 10 ppb for benzene, Benzene was <0.5 ppb, Toluene was 0.5 ppb, Ethyl Benzene was <0.5 ppb, and Total Xylenes was 1.4 ppb (See Appendix E analytical data).

Closure samples for MW-2 and MW-3 were taken on September 5, 2002, MW-2 as follows Benzene was 2 ppb, Toluene was 0.7 ppb, Ethyl Benzene was 1 ppb, and Total Xylenes was 1.7 ppb. MW-3 had an anomalous result based on the historical data, and could not be re-analyzed due to holding times. Therefore MW-3 was resampled on October 8, 2002, resulting in the following, Benzene was 4.9 ppb, Toluene was 0.5 ppb, Ethyl Benzene was 1.6 ppb, and Total Xylenes was 1.4 ppb as shown in Table 1 (See Appendix E analytical data).

SUMMARY TABLES AND GRAPHS

Table 1 is attached and shows historic to present BTEX analytical data for MW-1, -2, and -3. Figure 6 shows historic to present BTEX data graphically over time for MW-1.

SITE MAP

A site map (Figure 1) is included and shows the previous geoprobe and the temporary well point locations. Also Figure 6 indicates BTEX for the past four quarters .

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Analytical Data, Completion Diagrams and Geologic Logs are appended for MW-1 as follows: Appendix A contains phase one assessment data including pit excavation data, soil sample data and analytical data; Appendix B contains phase two assessment data including well logs, well completion data for MW-1 and soil analytical; Appendix C contains Geoprobe data including analytical (See Figure 2 for geoprobe locations); Appendix D contains well point data (See Figure 2 for well point locations) and Appendix F (MW-2 and MW-3 completion/log data).

DISPOSITION OF GENERATED WASTES

No wastes were generated at this site for 2002.

ISOCONCENTRATION MAPS

No isoconcentration maps were generated at this site.

EPFS GROUNDWATER PITS
GROUNDWATER CLOSURE REPORT

D Loop Line Drip
Meter Code: LD169

CONCLUSIONS

EPFS previously excavated approximately 80 cubic yards of source material from the former pit, soils samples collected from the pit during excavation were below 1.81 mg/kg (ppm) for benzene, but TPH and Total BTEX were above remediation goals. Initial laboratory water analysis done December 1, 1995 for MW-1, had a benzene level of 309 ppm. Over the next seven years benzene levels in groundwater had a high of 750 ppm in February 25, 2000 and averaged 116.5 ppm over the seven year period. Benzene levels remained consistently over 10 ppm, until February 2001, at this point in time benzene levels began a trend below 10 ppm.

The beginning of four clean consecutive quarters began with the November 2001 quarterly sample and ended with the fourth clean quarter in August 2002.

MW-2 and MW-3 were also sampled for closure on September 5, 2002. BTEX for both monitor wells were MW-2 Benzene was 2 ppb, Toluene was 0.7 ppb, Ethyl Benzene was 1 ppb, and Total Xylenes was 1.7 ppb and MW-3 Benzene was 14.7 ppb, Toluene was 2 ppb, Ethyl Benzene was 2.2 ppb, and Total Xylenes was 2.3 ppb.

Minimal impact has occurred to groundwater at this site. Monitor Well One has showed a decreasing trend in BTEX over time with no evidence of significant rebound. BTEX levels have been below NMWQCC standards for four consecutive quarters. Based on the data presented in this closure report, the site posses minimal risk to human health and the environment. No potential receptors exist within 1,000 feet of the site and the majority of source material has been removed from the former EPFS pit. Therefore, EPFS requests this site be closed and MW-1, MW-2 and MW-3 will be abandoned according to the approved Monitoring Well Abandonment Plan.

RECOMMENDATIONS

> EPFS requests closure of this site

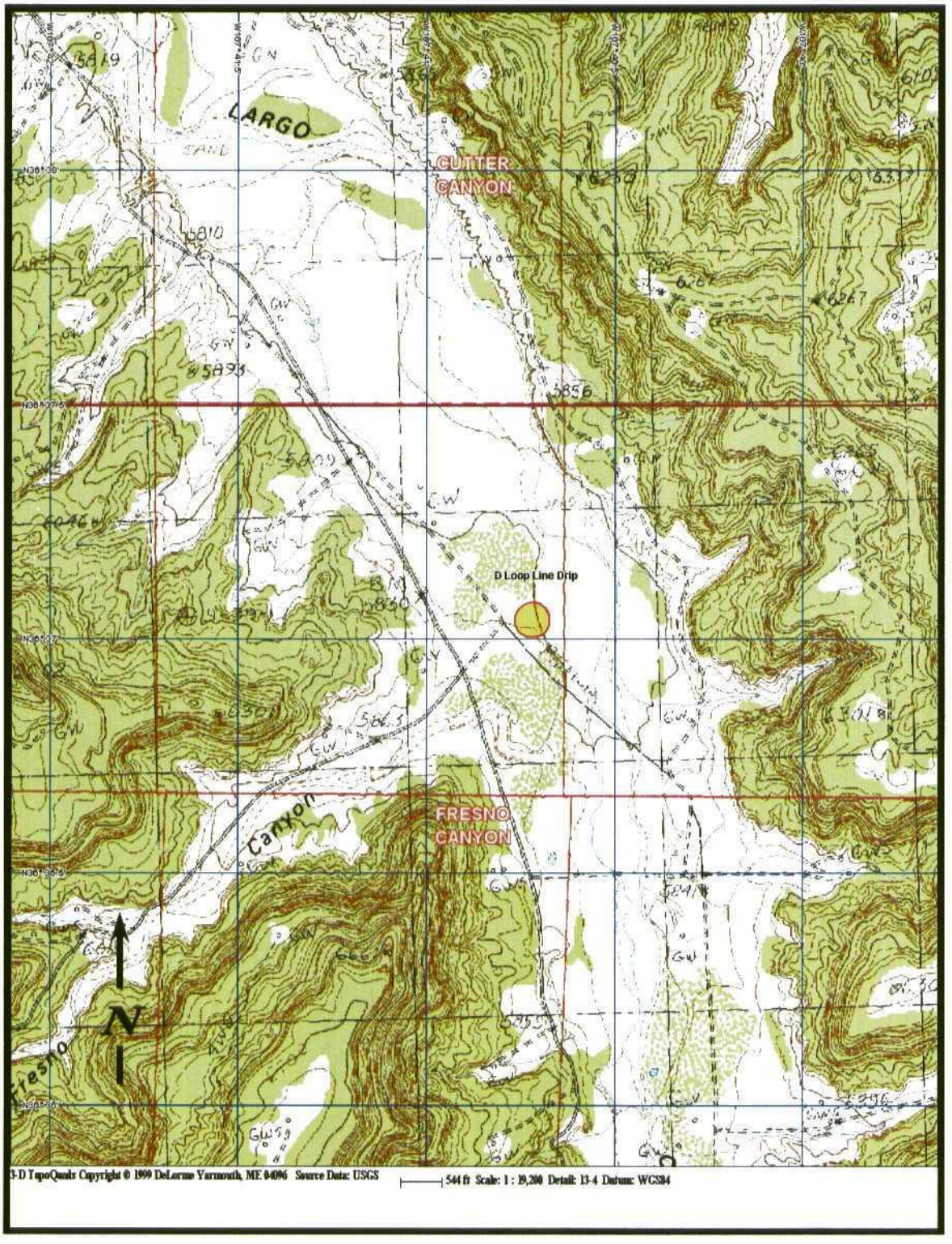
> Following NMOCD approval for closure, MW-1, MW-2, and MW-3 will be abandoned in accordance with the approved Monitoring Well Abandonment Plan.

Table 1 BTEX
D LOOP LINE DRIP

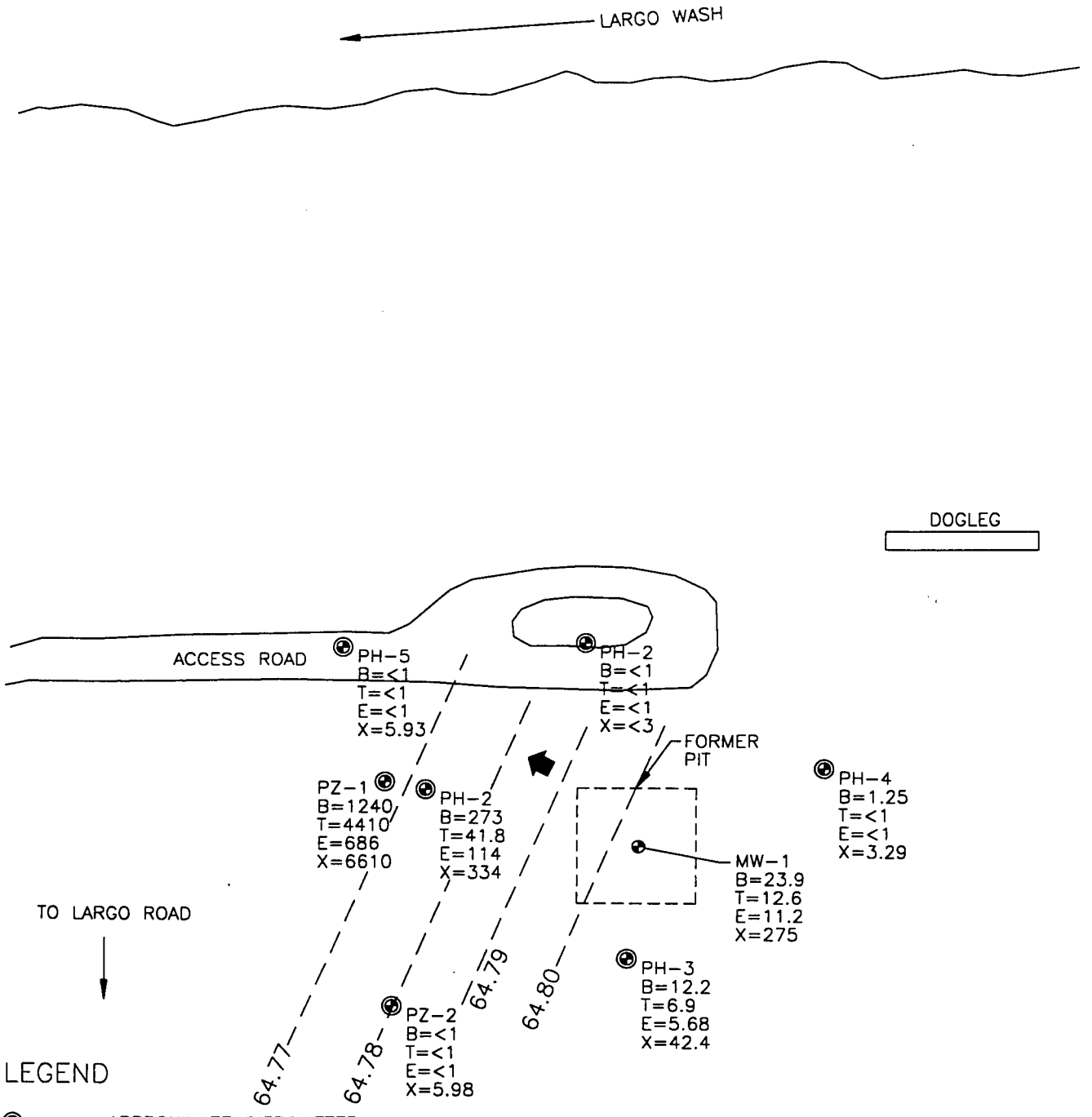
Sample #	Meter Line #	Site Name	Sample Date	MW#	Benzene (ppb)	Ethyl Benzene (ppb)	Toluene (ppb)	Total Xylenes (ppb)
947820	LD169	D Loop Line Drip	12/1/95	1	309	180	613	1940
960922	LD169	D Loop Line Drip	11/6/96	1	44.5	45.5	49.5	114
970072	LD169	D Loop Line Drip	2/7/97	1	12.7	12.5	1	54
970393	LD169	D Loop Line Drip	5/6/97	1	15.5	10.5	5.59	53.6
970833	LD169	D Loop Line Drip	8/8/97	1	14.9	5.74	7.92	129
971191	LD169	D Loop Line Drip	11/6/97	1	23.9	11.2	12.6	275
980133	LD169	D Loop Line Drip	2/3/98	1	28.2	33	25.1	1460
980359	LD169	D Loop Line Drip	5/7/98	1	82.2	123	34.2	1110
980541	LD169	D Loop Line Drip	8/4/98	1	4.1	6.88	5.84	24.9
980766	LD169	D Loop Line Drip	11/3/98	1	6.97	4.77	6.71	21.2
990021	LD169	D Loop Line Drip	2/2/99	1	48	27.1	12	132
990223	LD169	D Loop Line Drip	5/18/99	1	382	143	17.7	641
990337	LD169	D Loop Line Drip	8/4/99	1	34.3	18.3	3.5	36.4
990440	LD169	D Loop Line Drip	11/9/99	1	410	330	21	230
1690002	LD169	D Loop Line Drip	2/25/00	1	750	790	29	1600
DLO0005	LD169	D Loop Line Drip	5/24/00	1	390	1000	14	1200
1690008	LD169	D Loop Line Drip	8/8/00	1	35	69	0.5	25
1690201	LD169	D Loop Line Drip	2/12/01	1	56	50	0.5	54
1690106	LD169	D Loop Line Drip	6/4/01	1	3.6	0.7	0.5	5.2
1690108	LD169	D Loop Line Drip	8/7/01	1	15	1	1	6.1
112030	LD169	D Loop Line Drip	11/27/01	1	5.5	12	0.5	3
169-0202-MW1	LD169	D Loop Line Drip	2/25/02	1	5.8	14	0.5	2.3
169-0205-MW1	LD169	D Loop Line Drip	5/21/02	1	3	5	0.5	2.4
02-4279-1	LD169	D Loop Line Drip	8/6/02	1	0.5	0.5	0.5	1.4

Table 1 BTEX
D LOOP LINE DRIP

Sample #	Meter Line #	Site Name	Sample Date	MW#	Benzene (ppb)	Ethyl Benzene (ppb)	Toluene (ppb)	Total Xylenes (ppb)
1690008	LD169	D Loop Line Drip	8/28/00	2	3.6	1.2	1.7	6.3
1690106	LD169	D Loop Line Drip	6/4/01	2	1.3	0.7	<0.5	3.4
1690108	LD169	D Loop Line Drip	8/7/01	2	3.4	<0.5	<0.5	2.6
112030	LD169	D Loop Line Drip	11/27/01	2	1.4	0.6	<0.5	1.9
02-4755-2	LD169	D Loop Line Drip	9/5/02	2	2	1	0.7	1.7
169-0010	LD169	D Loop Line Drip	10/2/00	3	8.3	2.3	2.6	44
1690012	LD169	D Loop Line Drip	12/5/00	3	6.3	<0.5	0.7	37
1690106	LD169	D Loop Line Drip	6/4/01	3	9.6	2.9	1.1	41
1690108	LD169	D Loop Line Drip	8/7/01	3	<0.5	<0.5	0.6	14
02-4755-3	LD169	D Loop Line Drip	9/5/02	3	14.7	2.2	2	2.3
02-5368-4	LD169	D Loop Line Drip	10/8/02	3	4.9	1.6	0.5	1.4



D Loop Line Drip LD169 **Site Location Map**	Figure 1



PHILIP SERVICES CORP

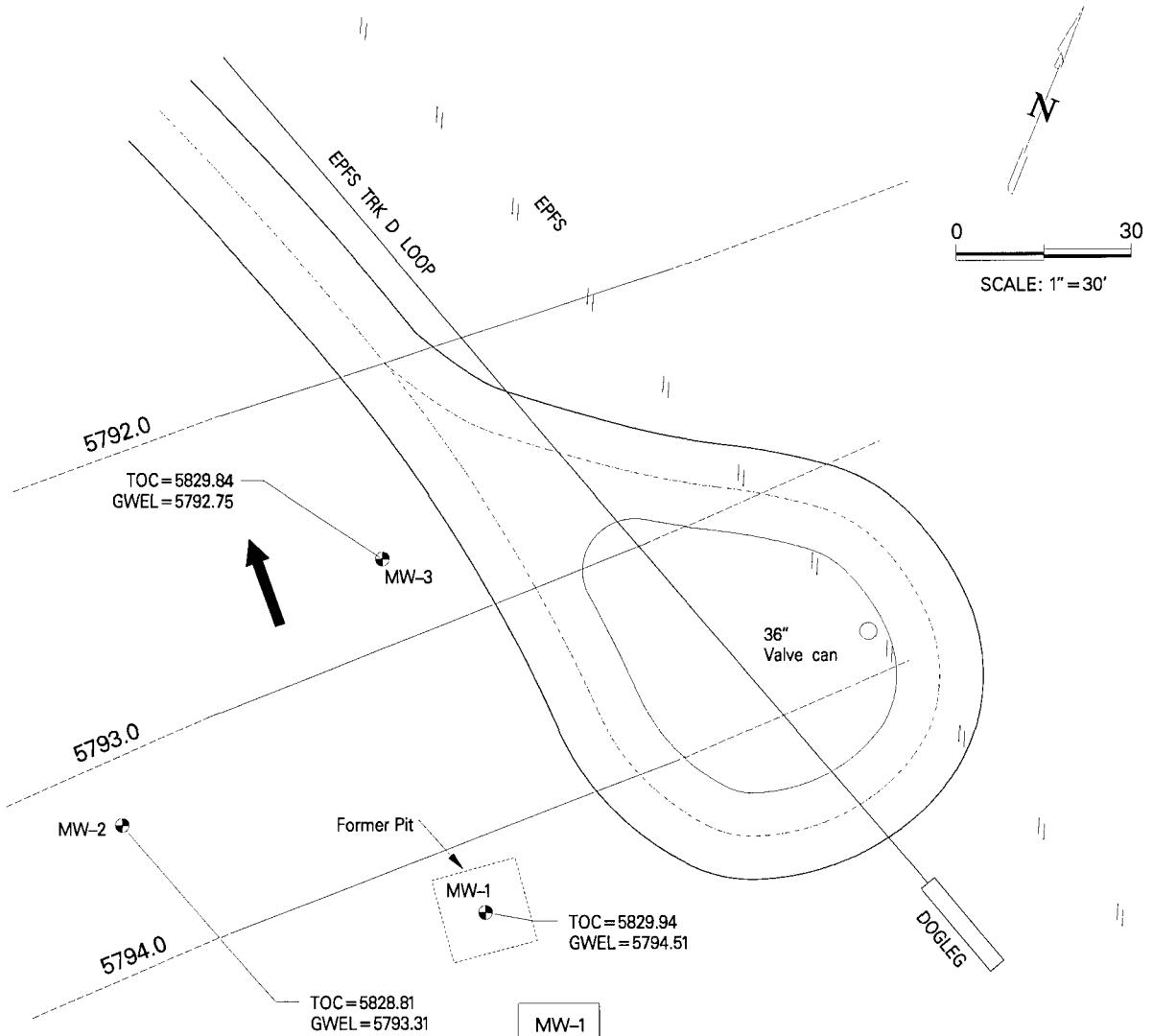
TITLE:

D LOOP LINE DRIP

LD169

DWN:	DES.:	PROJECT NO.: 17520
TMM	CC	EPFS GW PITS
CHKD:	APPD:	
CC		
DATE:	REV.:	FIGURE 2
1/20/98	0	

COL. 17520BC-001



	MW-1
B	5.8
T	< 0.5
E	14.0
X	2.3

LEGEND

MW-1	Approximate Monitoring Well Location and Number
	Centerline of Road
	Pipe Line
B	Benzene (ug/L)
T	Toluene (ug/L)
E	Ethylbenzene (ug/L)
X	Total Xylenes (ug/L)
NS	Not Sampled
5793.0	Potentiometric Surface (Approximate & Assumed Where Dashed)
	Direction of Groundwater Flow (Estimated)
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing

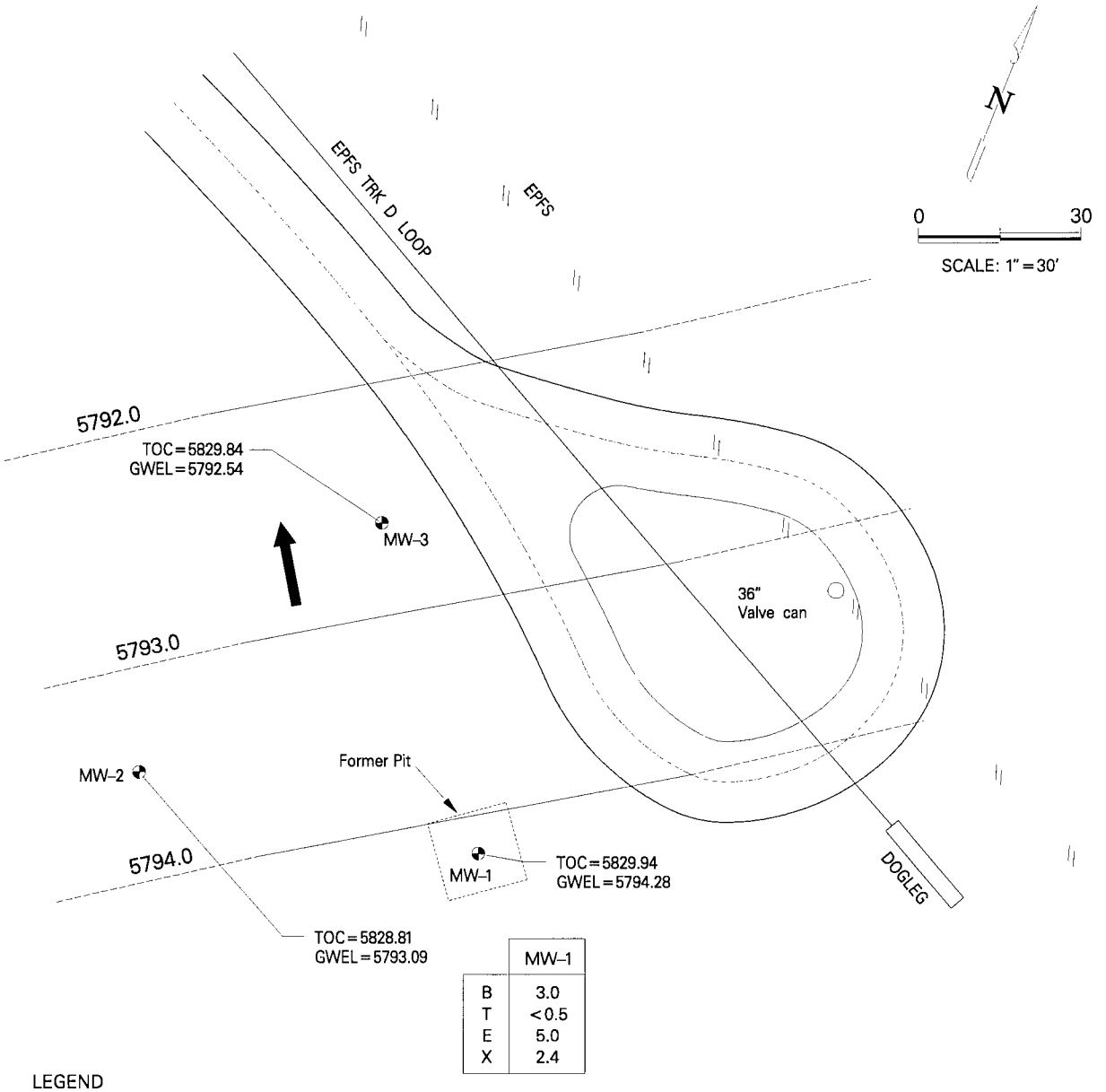
D LOOP LINE DRIP, LD169

FEBRUARY, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 3

dldpld_02.dwg



	MW-1
B	3.0
T	< 0.5
E	5.0
X	2.4

LEGEND

MW-1	Approximate Monitoring Well Location and Number	5793.0	Potentiometric Surface (Approximate & Assumed Where Dashed)
	Centerline of Road	→	Direction of Groundwater Flow (Estimated)
	Pipe Line	GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
B	Benzene (ug/L)	TOC	Top of Casing
T	Toluene (ug/L)		
E	Ethylbenzene (ug/L)		
X	Total Xylenes (ug/L)		
NS	Not Sampled		

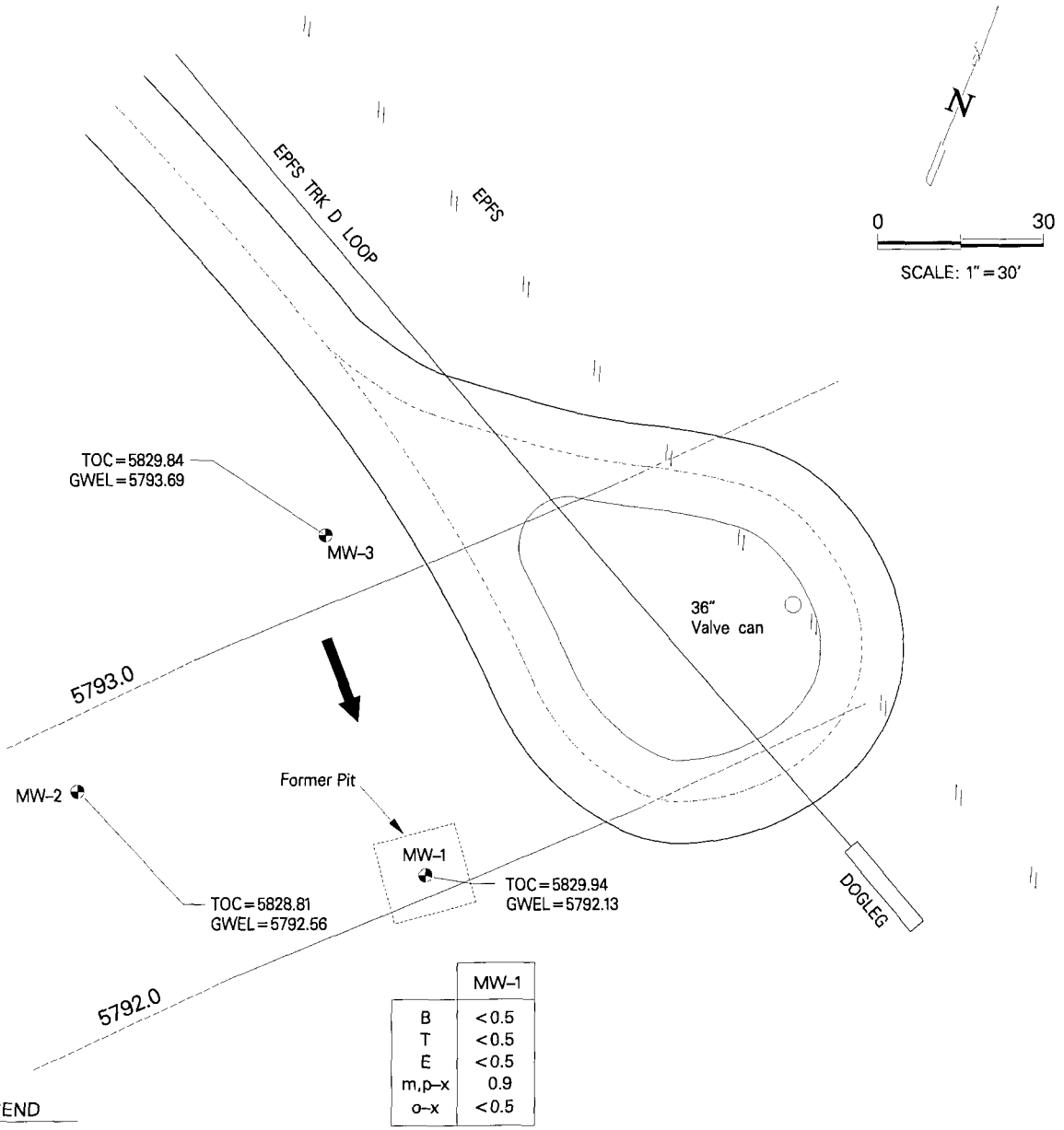
dloopld_02.dwg

D LOOP LINE DRIP, LD169

MAY, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 4



	MW-1
B	<0.5
T	<0.5
E	<0.5
m,p-x	0.9
o-x	<0.5

LEGEND

MW-1	Approximate Monitoring Well Location and Number		
	Centerline of Road	5793.0	Potentiometric Surface (Approximate & Assumed Where Dashed)
	Pipe Line		
B	Benzene (ug/L)	→	Direction of Groundwater Flow (Estimated)
T	Toluene (ug/L)		
E	Ethylbenzene (ug/L)	GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
X	Total Xylenes (ug/L)		
NS	Not Sampled	TOC	Top of Casing

D LOOP LINE DRIP, LD169

AUGUST, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 5

dwg/20_dploop.dwg

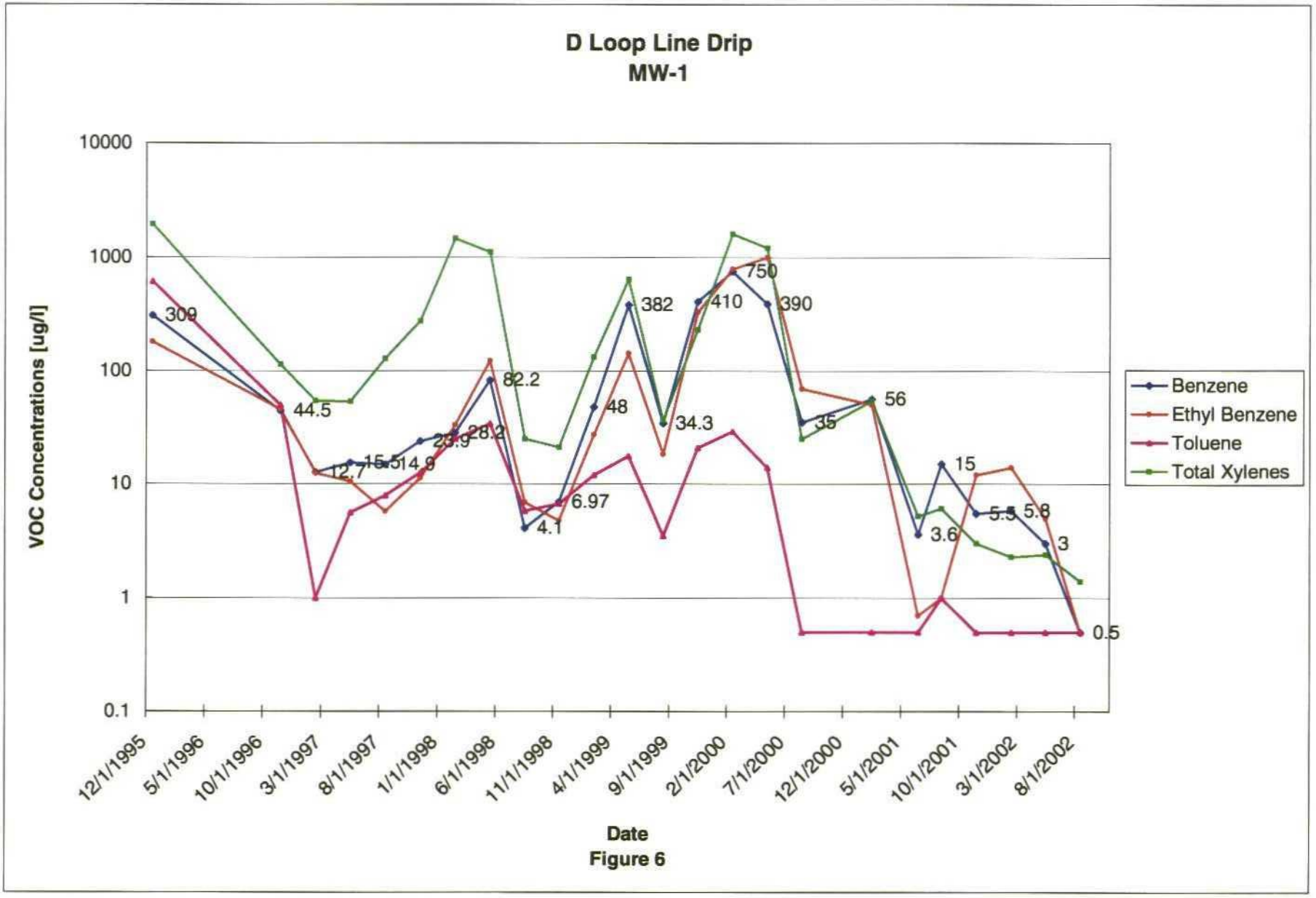

D Loop Line Drip
MW-1
VOC Concentrations [ug/l]
10000
1000
100
10
1
0.1
309
44.5
12.7
15.5
14.9
23.9
28.2
82.2
4.1
6.97
48
382
34.3
410
750
390
35
56
3.6
15
5.5
5.8
3
0.5
12/1/1995
5/1/1996
10/1/1996
3/1/1997
8/1/1997
1/1/1998
6/1/1998
11/1/1998
4/1/1999
9/1/1999
2/1/2000
7/1/2000
12/1/2000
5/1/2001
10/1/2001
3/1/2002
8/1/2002
Date
Benzene
Ethyl Benzene
Toluene
Total Xylenes

Figure 6

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: N/A Location: D LOOP DRIP
Operator #: _____ Operator Name: EPNG P/L District: BALLARD
Coordinates: Letter: I Section 33 Township: 28 Range: 8
Or Latitude _____ Longitude _____
Pit Type: Dehydrator ___ Location Drip: ___ Line Drip: X Other: _____
Site Assessment Date: 1.25.95 Area: 07 Run: 32

SITE ASSESSMENT

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

Land Type: BLM ☒ (1) State ☐ (2) Fee ☐ (3) Indian _____

Depth to Groundwater
Less Than 50 Feet (20 points) ☒ (1)
50 Ft to 99 Ft (10 points) ☐ (2)
Greater Than 100 Ft (0 points) ☐ (3)

Wellhead Protection Area :
Is it less than 1000 ft from wells, springs, or other sources of fresh water extraction? , or ; Is it less than 200 ft from a private domestic water source? ☐ (1) YES (20 points) ☒ (2) NO (0 points)

Horizontal Distance to Surface Water Body
Less Than 200 Ft (20 points) ☐ (1)
200 Ft to 1000 Ft (10 points) ☒ (2)
Greater Than 1000 Ft (0 points) ☐ (3)
Name of Surface Water Body CAÑON LARGO
(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: 30 **POINTS**

REMARKS

Remarks : REDLINE & TOPO SHOW LOCATION INSIDE V.Z. ONLY PIT AT LOCATION. BELONGS TO EPNG. WILL CLOSE PIT.

DIG & HAUL

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

LD 169

Meter: N/A Location: TRUNK D LOOP LINE DRIP

Coordinates: Letter: I Section 33 Township: 28 Range: 8

Or Latitude _____ Longitude _____

Date Started : 2-7-95 Run: 07 32

FIELD OBSERVATIONS

Sample Number(s): KP413 _____ _____ _____

Sample Depth: 12' Feet

Final PID Reading 191 PID Reading Depth 12' Feet

	Yes	No
Groundwater Encountered	☐	☒

Approximate Depth _____ Feet

CLOSURE

Remediation Method :

Excavation ☒ Approx. Cubic Yards 80

Onsite Bioremediation ☐

Backfill Pit Without Excavation ☐

Soil Disposition:

Envirotech ☒ ☐ Tierra

Other Facility ☐ Name: _____

Pit Closure Date: 2-7-95 Pit Closed By: B.E.I

REMARKS

Remarks : Some LINE MARKERS. Started remediating to 12'
Soil Light gray with A H.C ordor. At 12' soil

Signature of Specialist: Kelly Padilla

(SP3191) 03/16/94

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Kelly Padilla DATE: 2-7-95

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS: TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
9416642	2-7-95	1230	Soil	~~KP~~ 413	1	VC	X	X				374	AT 12' Soil gray looking with H.C. odor
	~~2-7-95~~		~~soil~~	~~KP 414~~ KP	2-7-95 1	VC	X	X				~~375~~	

CONTRACT LABORATORY P. O. NUMBER

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Kelly Padilla	2-7-95 1700	Brenda Liss	Brenda Liss	2/8/95 1030	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

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 - *EPNG Lab* Pink - *Field Sampler*

FM-08-0565 A (Rev. 05-94)

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT LD169
PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

LD169

	Field ID	Lab ID
SAMPLE NUMBER:	KP 413	9466-2
MTR CODE | SITE NAME:	Trunk D Loop Line Drip	N/A
SAMPLE DATE | TIME (Hrs):	2-7-95	1330
SAMPLED BY:	N/A	
DATE OF TPH EXT. | ANAL.:	2-10-95	2-10-95
DATE OF BTEX EXT. | ANAL.:	2/9/95	2/10/95
TYPE | DESCRIPTION:	VC	Brown sand and clay

REMARKS: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	1.81	MG/KG	0.53548	J	2.49	20
TOLUENE	28.9	MG/KG				
ETHYL BENZENE	18.8	MG/KG				
TOTAL XYLENES	260	MG/KG				
TOTAL BTEX	310	MG/KG				
TPH (418.1)	4250	MG/KG			1.97	28
HEADSPACE PID	191	PPM				
PERCENT SOLIDS	92.1	%				

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

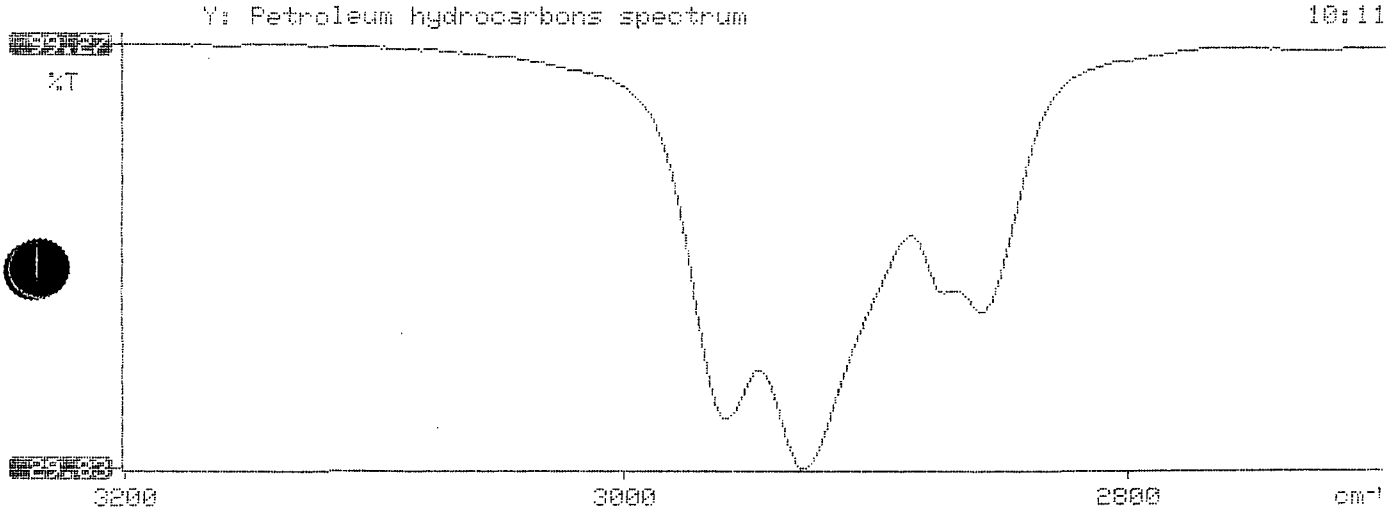
The Surrogate Recovery was at 89.6 % for this sample All QA/QC was acceptable.

ive:

DF = Dilution Factor Used

Approved By: _____ Date: 2-22-95

```
**********************************************************
*                    Test Method for                     *
*      Oil and Grease and Petroleum Hydrocarbons         *
*                   in Water and Soil                    *
*                                                        *
*            Perkin-Elmer Model 1600 FT-IR               *
*                    Analysis Report                     *
**********************************************************
*
 95/02/10  10:11
*
*  Sample identification
 946642
*
*  Initial mass of sample, g
 1.970
*
*  Volume of sample after extraction, ml
 28.000
*
*  Petroleum hydrocarbons, ppm
 4247.516
*  Net absorbance of hydrocarbons (2930 cm-1)
 0.520
*
*
*
```



BTEX SOIL SAMPLE WORKSHEET

File	946642B	**Date Printed**	2/11/95
Soil Mass (g)	2.49	**Multiplier (L/g)**	0.00201
Extraction vol. (mL)	20	**DF (Analytical)**	266.667
Shot Volume (uL)	75	**DF (Report)**	0.53548

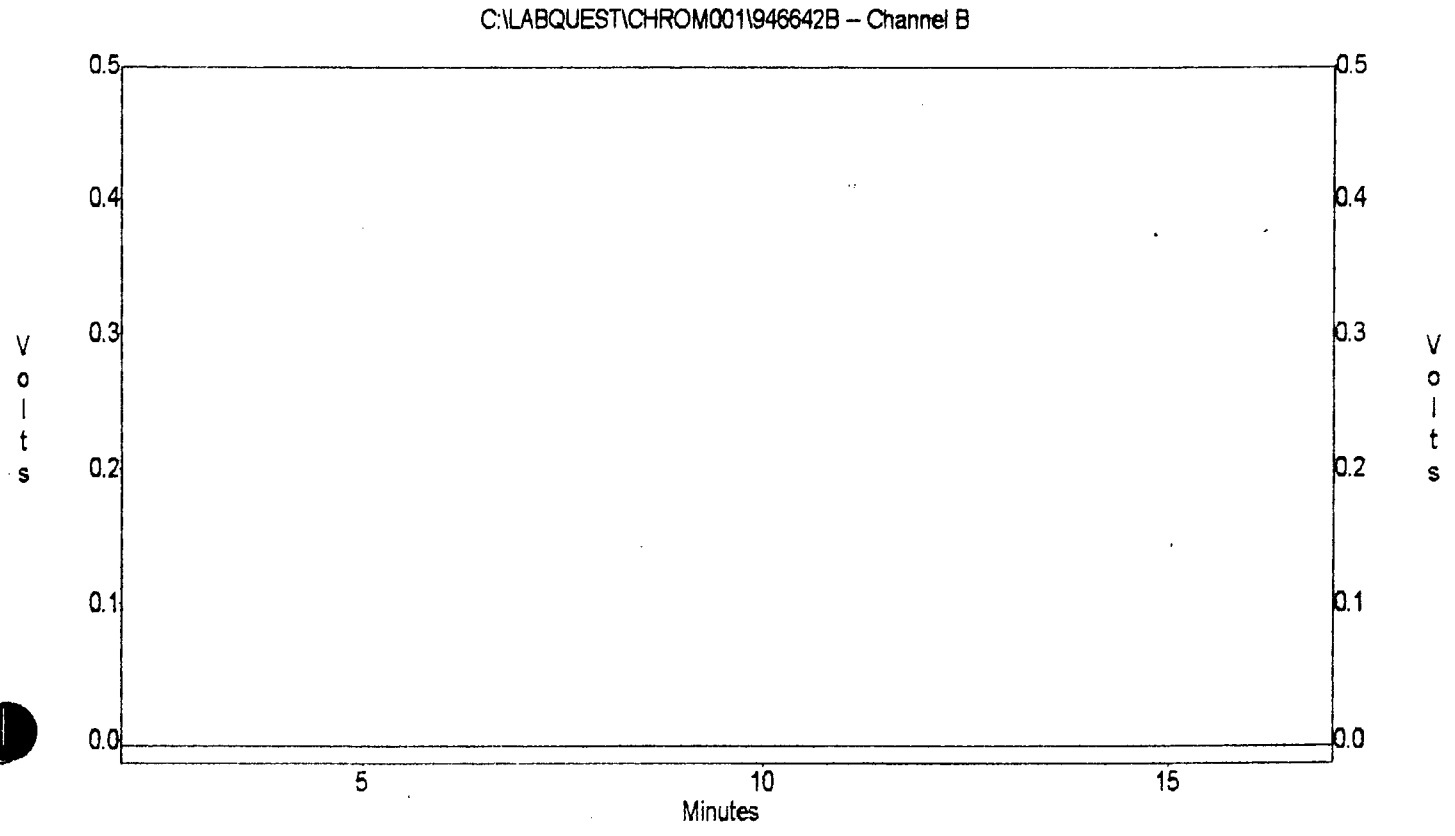
				Det. Limit
Benzene (ug/L)	3.37	**Benzene (mg/Kg):**	**1.805**	2.677
Toluene (ug/L)	53.97	**Toluene (mg/Kg):**	**28.900**	2.677
Ethylbenzene (ug/L)	35.02	**Ethylbenzene (mg/Kg):**	**18.752**	2.677
p & m-xylene (ug/L)	373.76	p & m-xylene (mg/Kg):	200.139	5.355
o-xylene (ug/L)	112.25	o-xylene (mg/Kg):	60.107	2.677
		Total xylenes (mg/Kg):	**260.246**	8.032
		Total BTEX (mg/Kg):	**309.703**	

EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\946642B
Method : C:\LABQUEST\METHODS\9001.MET
Sample ID : 946642,2.49G/75uL
Acquired : Feb 10, 1995 19:59:17
Printed : Feb 11, 1995 12:34:52
User : Tony

Channel B Results

COMPONENT	RET TIME	AREA	AVG RF	CONC (ug/L)
BENZENE	3.450	0	0.00000	0.0000
a,a,a TFT	4.950	0	0.00000	0.0000
TOLUENE	6.787	0	0.00000	0.0000
ETHYLBENZENE	10.480	0	0.00000	0.0000
M & P XYLENE	10.833	0	0.00000	0.0000
O XYLENE	11.900	0	0.00000	0.0000
BFB	13.400	0	0.00000	0.0000
Totals :		0		0.0000

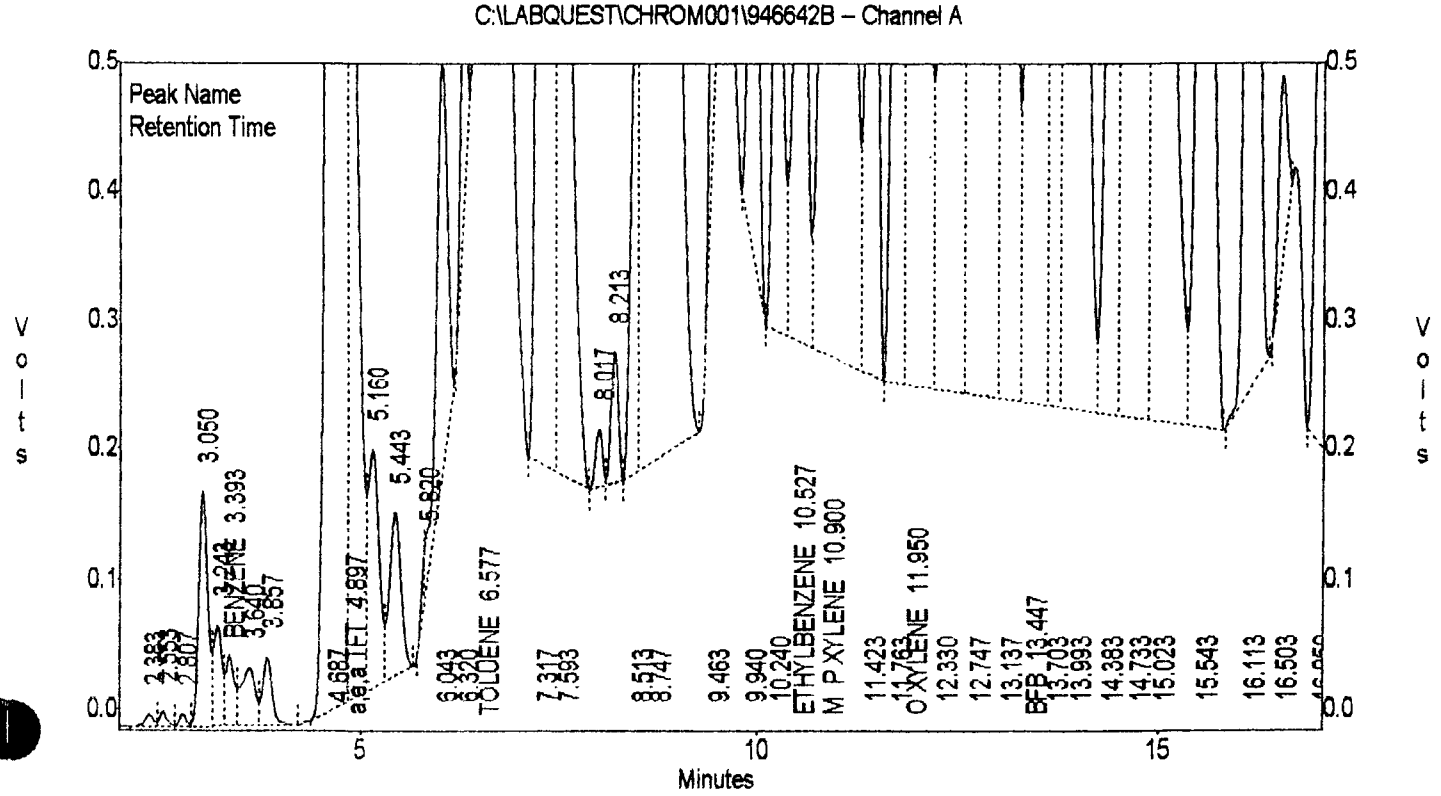


EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\946642B
Method : C:\LABQUEST\METHODS\9001.MET
Sample ID : 946642,2.49G/75uL
Acquired : Feb 10, 1995 19:59:17
Printed : Feb 11, 1995 12:34:45
User : Tony

Channel A Results

COMPONENT	RET TIME	AREA	AVG RF	CONC (ug/L)
BENZENE	3.393	408033	108665.27344	3.3671
a,a,a TFT	4.897	6091769	26415.50781	223.9380
TOLUENE	6.577	12398881	279082.62500	53.9721
ETHYLBENZENE	10.527	7449657	240650.98438	35.0175
M & P XYLENE	10.900	89832184	293876.96875	373.7636
O XYLENE	11.950	23409034	234474.71875	112.2508
BFB	13.447	76010160	832618.18750	89.6121
Totals :		215599728		891.9212



RECORD OF SUBSURFACE EXPLORATION

LD169

Borehole # BH-1
Well #
Page 1 of 2

PHILIP ENVIRONMENTAL
[illegible]000 Monroe Road
[illegible]armington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPNG PITS
Project Number 14509 Phase 6000 77
Project Location D Loop Drip

Elevation
Borehole Location QI - S33 - T28 - R8
GWL Depth 34.4 BGS
Logged By CM CHANCE
Drilled By K Padilla
Date/Time Started 11/6/95-1221
Date/Time Completed ~~11/6/95 1440~~ 11/7/95-0915

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 / 8 1/4 I.D. 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 BZ	BH	S HS	Drilling Conditions & Blow Counts
0				Backfill to 12'						
5										
10										
15	1	15-17	12	Gry clayey SAND, vf sand, loose, dry, odor			0	0	487/866	1220 hr
20	2	20-22	8	DK gry/BLK SAND, vf-f sand, loose, sl moist, odor			0	280	780/830	1226
25	3	25-27	14	AA			0	360	946/1036	1243
30	4	30-32	12	DK gry SAND, vf sand, loose, dry, odor grading to DK gry SILT, o			4	280	690/1051	1249
35	5	35-37	3	DK Gry SAND, vf-f sand, loose, wet, odor			8	178	765/NA	34.4'
40										

Comments: GW@34.4 'BGS. No sample due to very high PID, & discolored soil. Will set well @ 44.4'. At 35', pull 4 1/4 augers & go back in w/ 8 1/4 augers.

Geologist Signature Cory Chance

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page 2 of 2

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

Project Name EPNG PITS
Project Number 14509 Phase 6000 77
Project Location D Loop Drip

Elevation
Borehole Location QT - S33 - T28 - R8
GWL Depth 34.4' BGS
Logged By CM CHANCE
Drilled By K Padilla
Date/Time Started 11/6/95-1221
Date/Time Completed ~~11/6/95 1410~~ cmr
11/7/95 - 0915

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 / 8 1/4 I.D. 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 BZ	BH	S HS	Drilling Conditions & Blow Counts
40										
45				TDB45'						
50										
55										
60										
65										
70										
75										
80										

Comments:

Geologist Signature Cory Chance

-32

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(606) 326-2262 FAX (606) 326-2388

Borehole # BH-1
Well # MW-1
Page 1 of 1

Project Name EPNG PITS

Project Number 14509 Phase 6001.77
Project Location D Loop Line Drip

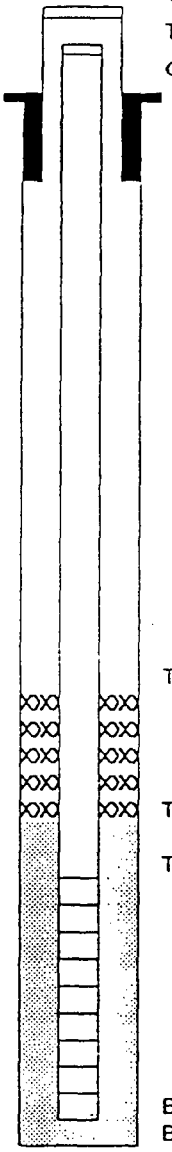
Elevation
Well Location QI-S33-T28-R8
GWL Depth 33.9' BGS
Installed By K. Padilla

On-Site Geologist CM Chance
Personnel On-Site D. Charlie
Contractors On-Site
Client Personnel On-Site

Date/Time Started ~~11/6/95 - 1420~~ 11/7/95 - 0915
Date/Time Completed ~~11/6/95~~ 11/7/95 - 1130

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing		NA
Bottom of Protective Casing		NA
Top of Permanent Borehole Casing		NA
Bottom of Permanent Borehole Casing		NA
Top of Concrete		NA
Bottom of Concrete		NA
Top of Grout	~94# Type I-II Portland	0'
Bottom of Grout	~50# Powdered Bentonite	21'
Top of Well Riser	4" dia SCH40	+3'
Bottom of Well Riser	Flush Thread PVC	26'
Top of Well Screen	4" dia SCH40 Flush Thread	26'
Bottom of Well Screen	0.01 Slot PVC	41'
Top of Peltonite Seal	~50# Enviro plug	21'
Bottom of Peltonite Seal	Bentonite	23'
Top of Gravel Pack	~50# 10-20	23'
Bottom of Gravel Pack	Silica Sand	41'
Top of Natural Cave-In		41'
Bottom of Natural Cave-In		45'
Top of Groundwater		33.9
Total Depth of Borehole		45'



Top of Protective Casing NA
Top of Riser +3'
Ground Surface 0'
Top of Seal 21'
Top of Gravel Pack 23'
Top of Screen 26'
Bottom of Screen 41'
Bottom of Borehole 45'

Comments: BH had 4' of slough. Well set @ 41' BGS. Bentonite hydrated w/ 10 gal potable water. Locking well cap & padlock placed on well. GW @ 33.9' BGS after well install.

Geologist Signature CM Chance

LD169

EPFS

EL PASO FIELD SERVICES

Field Services Laboratory Water Analysis Report

LOCATION: D Loop Drip Line **PROJECT:** Monitor Well
DATE OF REPORT: 12/15/95 **SAVE FILE:** 947820
SAMPLED BY: Cory Chance

****All Results By Standard Methods (AWWA) Or EPA Method 300****

SAMPLE POINT	MW-1				
LAB ID #	947820				
Date Of Sample	1-Dec-95				
pH (Units)	7.43				
ALKALINITY AS CO_3	0				
ALKALINITY AS HCO_3	541				
CALCIUM AS Ca	141				
MAGNESIUM AND Mg	26				
TOTAL HARDNESS AS $CaCO_3$	459	0	0	0	0
CHLORIDE AS Cl	13				
SULFATE AS SO_4	1072				
FLUORIDE AS F	1.9				
POTASSIUM AS K	5				
SODIUM AS Na	597				
TOTAL DISSOLVED SOLIDS	2184				
CONDUCTIVITY (umhos)	2800				
NITRATE AS NO_3-N	<0.1				

****All Results Expressed as ppm or umhos****

REMARKS:

Fluoride results were with the HACH DR/2000 using the spadns fluoride reagents.

Approvals:

Analyst: Dennis Bird Date: 1-8-96

Lab Super.: John Fowler Date: 1-8-96

PHILIP ENVIRONMENTAL Water Sampling Data

Location No. _____

Serial No. WSD- _____

Group List Number _____

Sample Type: ☑ Groundwater ☐ Surface Water ☐ Other _____ Date ~~11/30/95~~ 12/1/95

Project Name EPNG Pits Project No. 14509

Project Manager CM Chance Phase.Task No. 6002 . 77

Site Name D Loop Line Drip

Sampling Specifications

Requested Sampling Depth Interval (feet) Upper 3'

Requested Wait Following Development/Purging (hours) NA

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) 36.96' TOR

Nonaqueous Liquids Present (Describe) None Found CMC 12/1/95

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 Development Form										

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Sample Containers

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
BTEX	2	V	40		✓	HCL	✓		CMC 190 0900hr
TDS	1	P	250		✓	4°C	✓		CMC 190 "
BTEX	1	V	40		✓	HCL	✓		CMC 191 Trip Blank

Filter Type _____ Chain-of-Custody Form Number EPNG COC

Comments _____

Signature Cory Chance Date 12/1/95 Reviewer _____ Date _____

Form A0202 Rev. 02/24/94

PHILIP ENVIRONMENTAL Well Development and Purging Data

☑ Development ☐ Purging Well Number _____

Serial No. WDPD-_____ Page 1 of 1

Project Name [redacted] EPNG Pits Project Manager Cory Chance Project No. 14509

Client Company EPNG Phase.Task No. 6003

Site Name D Loop Line Drip Site Address DI-S33-T28-R8

Development Criteria

☑ 3 to (5) Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

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

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 44.77' TOR
Initial Depth to Water (feet) 36.96' TOR
Height of Water Column in Well (feet) 7.81
Diameter (inches): Well 4" Gravel Pack _____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		5.09 x 5	25.49
Gravel Pack			
Drilling Fluids			
Total			25.49

Instruments

	Serial No. (If applicable)
☑ pH Meter	9206
☐ DO Monitor	
☑ Conductivity Meter	"
☑ Temperature Meter	"
☐ Other _____	

Water Disposal

Kutz

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C ~~°F~~	pH	Conductivity (µmhos/cm) X1000	Dissolved Oxygen (mg/L)	Comments
11-30-95	12:56		✓				5	5			67.2	6.91	2.92		Br. v. silty
11-30-95	~~01:38~~ 1338		✓				5	10			60.1	7.35	2.85		Br. same as above
11-30-95	1356		✓				5	15			60.2	7.86 (7.76)	2.80		Br. slightly clear
11-30-95	1413		✓				5	20			58.8	7.86	2.76		Br. slightly clear
11-30-95	1426		✓				5	25			57.2	7.85	2.68		Br. slightly clear

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

Comments Initial water level had slight product odor on probe

Developer's Signature(s) Cory Chance Date 11/30/95 Reviewer _____ Date _____

A0101 Rev. 03/21/94

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Water

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	947820
FIELD ID:	CMC190
MTR CODE:	LD169
SAMPLE DATE:	12-1-95
SAMPLE TYPE:	W [MW]
SITE NAME:	D Loop Line Drip
PROJECT:	Phase II MW
DATE OF BTEX ANALYSIS:	12/1/95

FIELD COMMENTS: _____

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT	QUALIFIER	WQCC LIMIT PPB
TDS - TOTAL DISSOLVED SOLIDS (PPM)	2184		None
BENZENE (PPB)	309	D (X10)	10
TOLUENE (PPB)	613	D (X10)	740
ETHYL BENZENE (PPB)	180	D (X10)	750
TOTAL XYLENES (PPB)	1940	D (X10)	620
SURROGATE % RECOVERY	93%	Allowed Range 80 to 120 %	

NOTES:

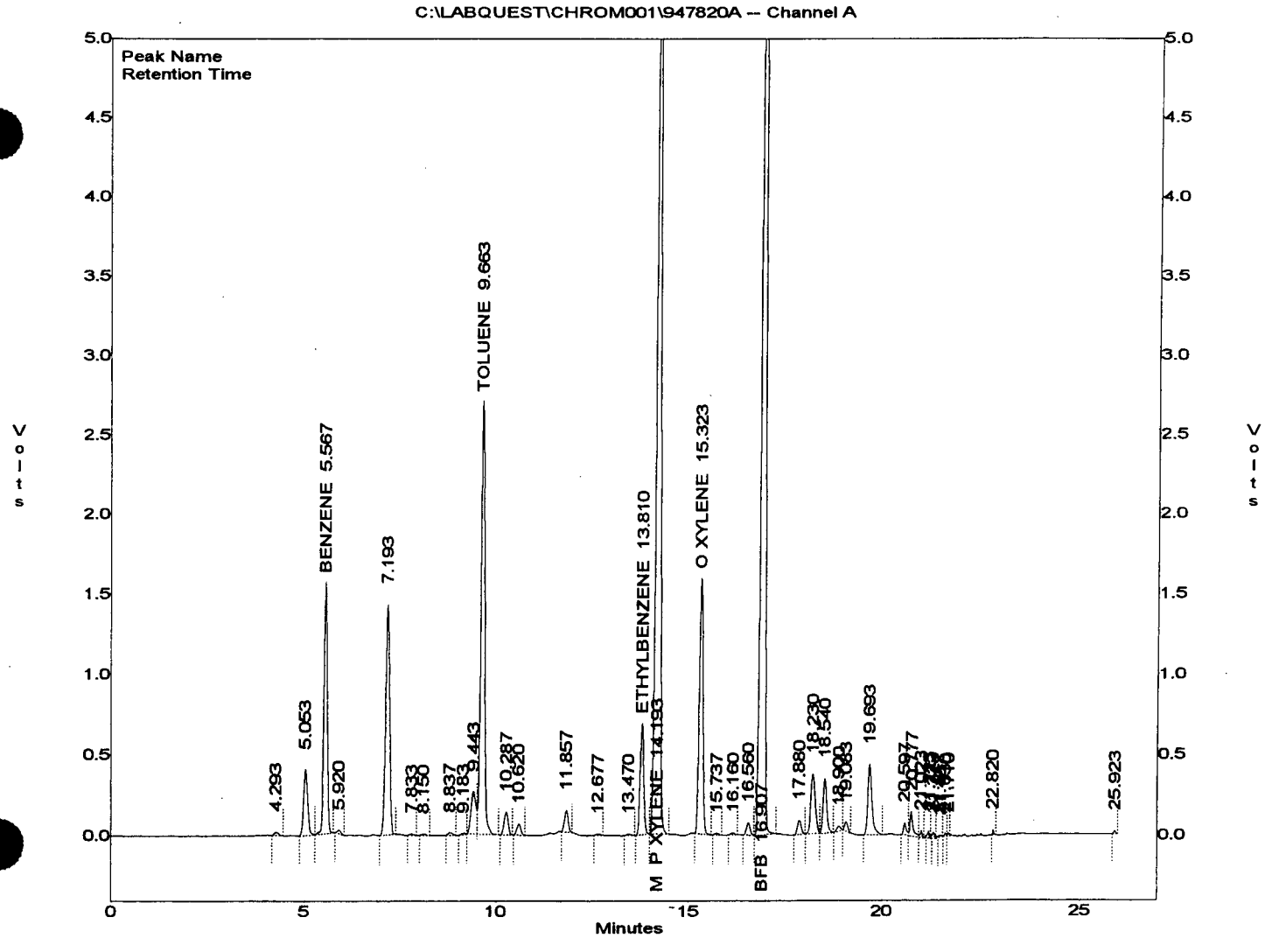
Approved By: _____ 12/4/95 Date

EL PASO NATURAL GAS
EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM001\947820A
Method : C:\LABQUEST\METHODS\1-112095.MET
Sample ID : 947820x10
Acquired : Dec 01, 1995 11:39:15
Printed : Dec 01, 1995 12:05:39
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	5.567	9838959	309.4673
TOLUENE	9.663	18762800	612.9596
ETHYLBENZENE	13.810	4497032	180.0806
M & P XYLENE	14.193	46387804	1518.5374
O XYLENE	15.323	10656439	424.0971
BFB	16.907	61441040	933.3218



El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (*Signature*) Cory Chavez DATE: 12/1/95

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID	TDS		SEQUENCE #	REMARKS
947820	12/1/95	0900	Water	CMC190	3	W		V		V		6	DLoop Line Drip QT-533-T28R8 LD164
947821	↓	NA	↓	CMC191	1	B		✓				6	Trip BLank

Cmc 12/1/95

CONTRACT LABORATORY P. O. NUMBER

RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED BY: (*Signature*)	RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED BY: (*Signature*)
Cory Chavez	12/1/95 1100				
RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED BY: (*Signature*)	RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED OF LABORATORY BY: (*Signature*)

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

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 - *EPNG Lab* Pink - *Field Sampler*

08-0565 A (Rev. 05-94)

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chance DATE: 12/9/96

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS: TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
	12/9/96	—	WATER	Trip BLANK	1	Grab TD		X					Trip BLANK
948040		1050		CMC277	2	Grab		X					PH1 D Loop Line Drip LD169
948041		1210		CMC278	2			X					PH2 (Product Odor)
948042		1424		CMC279	2			X					PH3

Cust 12/9/96

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chance	12/9/96 1700	Kelly Stovall	Kelly Stovall	12-10-96 10:45	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				12-10-96 1045	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

505-599-2144 FAX: [illegible]599-2261

CONTRACT LABORATORY P. O. NUMBER

White - Testing Laboratory Canary - EPNG Lab Pink - Field Sampler

08-0565 A (Rev. 05-94)

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC277	948040
MTR CODE | SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE | TIME (Hrs):	12/9/96	1050
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	12/11/96	12/11/96
TYPE | DESCRIPTION:	PH1	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 97.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Sanchez Date: 12/13/96

EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

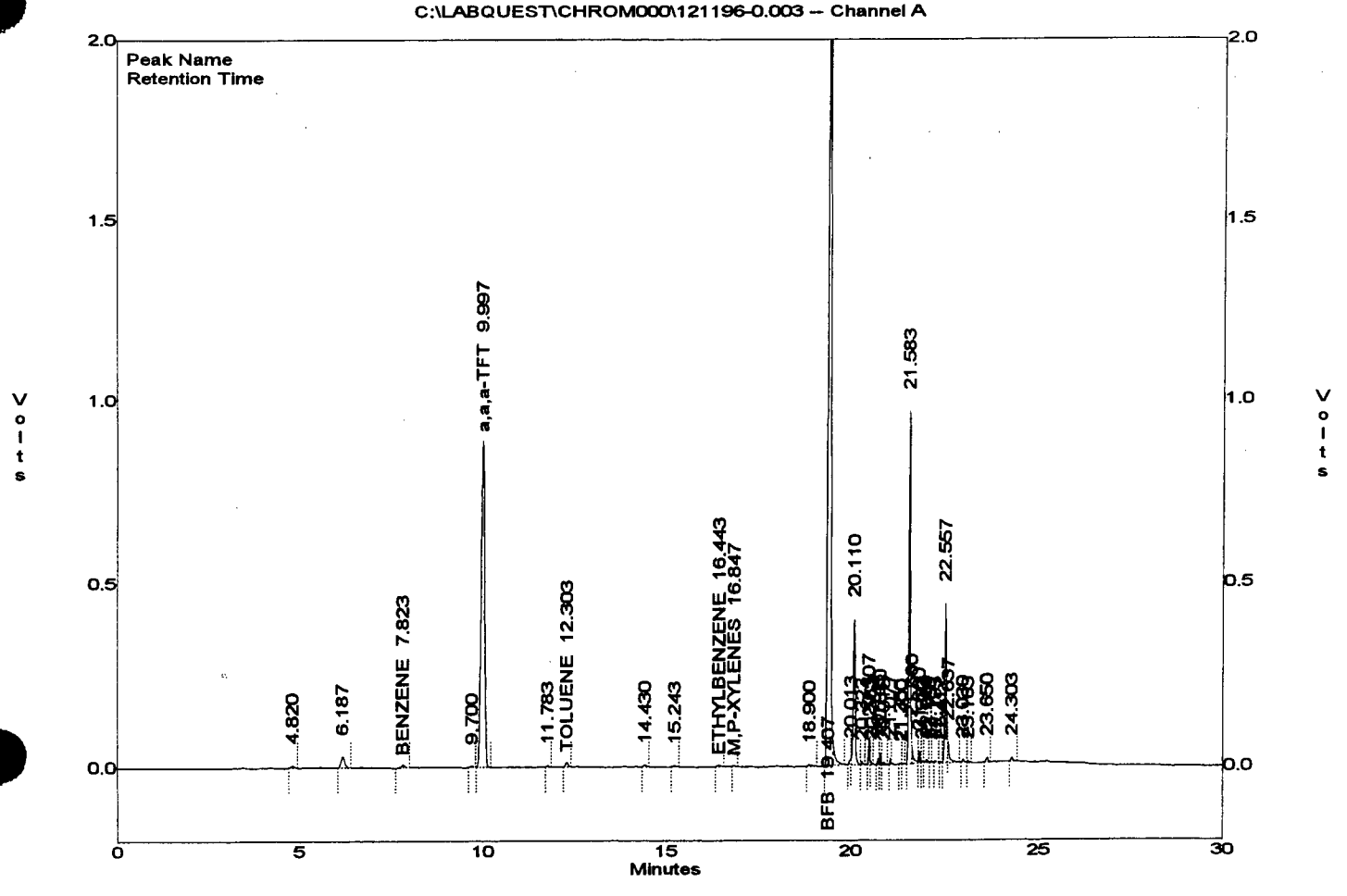
File : C:\LABQUEST\CHROM000\121196-0.003
Method : C:\LABQUEST\METHODS\0-120296.MET
Sample ID : 948040 X1
Acquired : Dec 11, 1996 16:16:03
Printed : Dec 11, 1996 16:46:28
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	7.823	40537	0.4553
a,a,a-TFT	9.997	6180219	95.6436
TOLUENE	12.303	64538	0.5475
ETHYLBENZENE	16.443	32644	0.3747
M,P-XYLENES	16.847	9454	0.0867
O-XYLENE	18.057	0	0.0000
BFB	19.407	13525857	97.1929

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		9454	0.0867



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC278	948041
MTR CODE | SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE | TIME (Hrs):	12/9/96	1210
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	12/11/96	12/13/96
TYPE | DESCRIPTION:	PH2	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	273	PPB	2	D		
TOLUENE	41.8	PPB	2	D		
ETHYL BENZENE	114	PPB	2	D		
TOTAL XYLENES	334	PPB	2	D		
TOTAL BTEX	763	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 98.0 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

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

Narrative:

Approved By: John Saddler Date: 12/13/96

EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

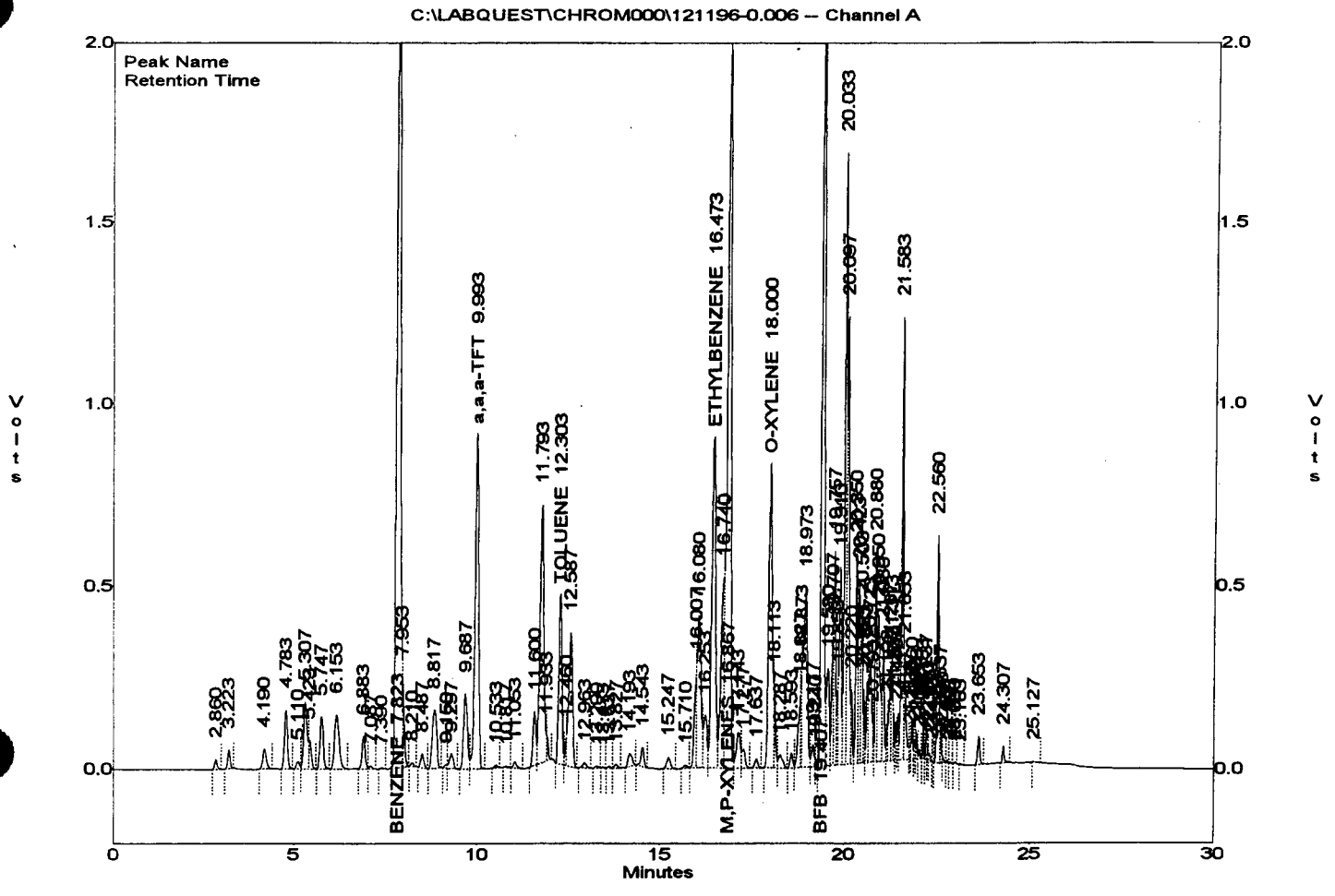
File : C:\LABQUEST\CHROM000\121196-0.006
Method : C:\LABQUEST\METHODS\0-120296.MET
Sample ID : 948041 X2
Acquired : Dec 11, 1996 18:23:35
Printed : Dec 13, 1996 07:19:38
User : MARLON

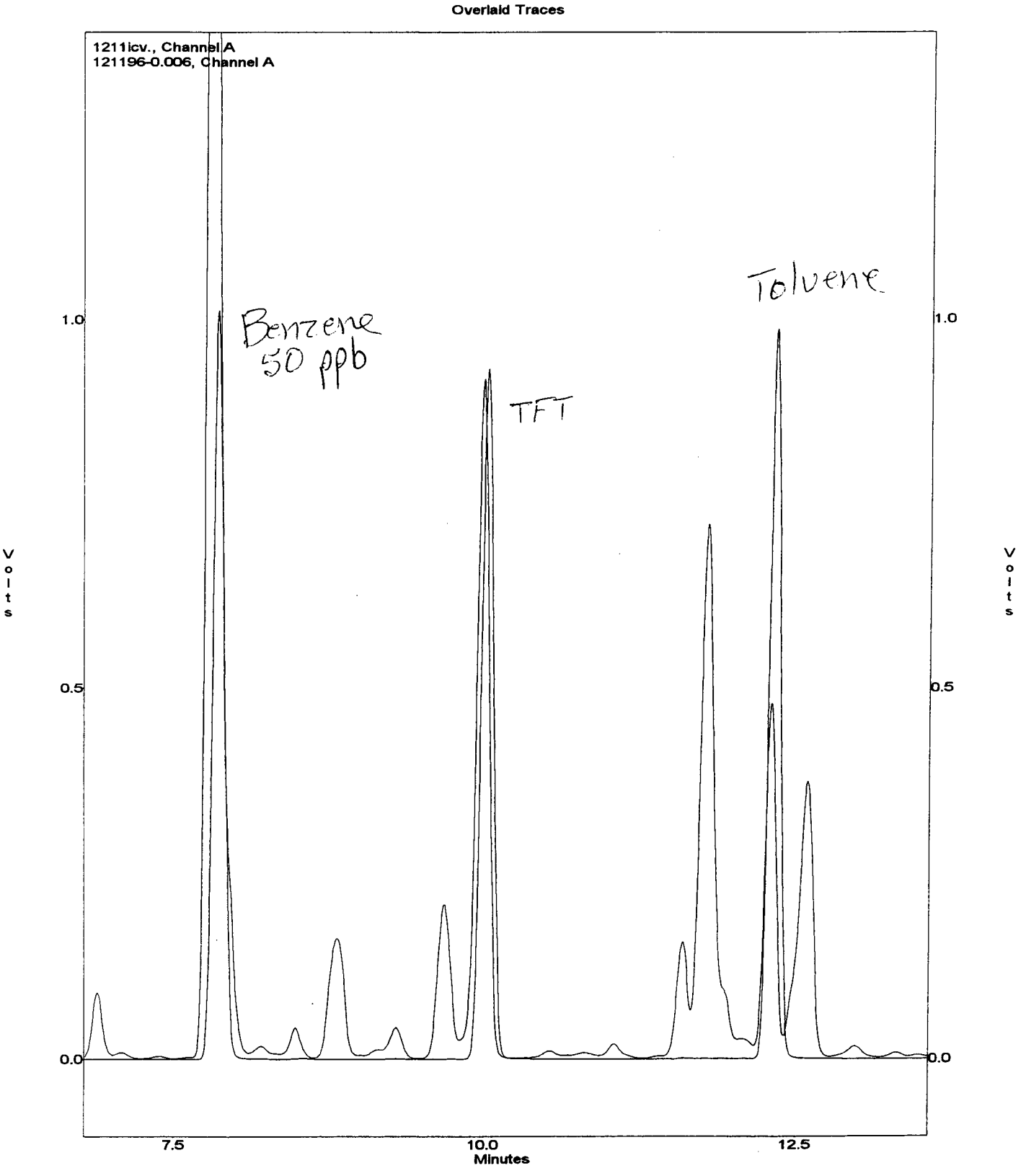
Channel A Results

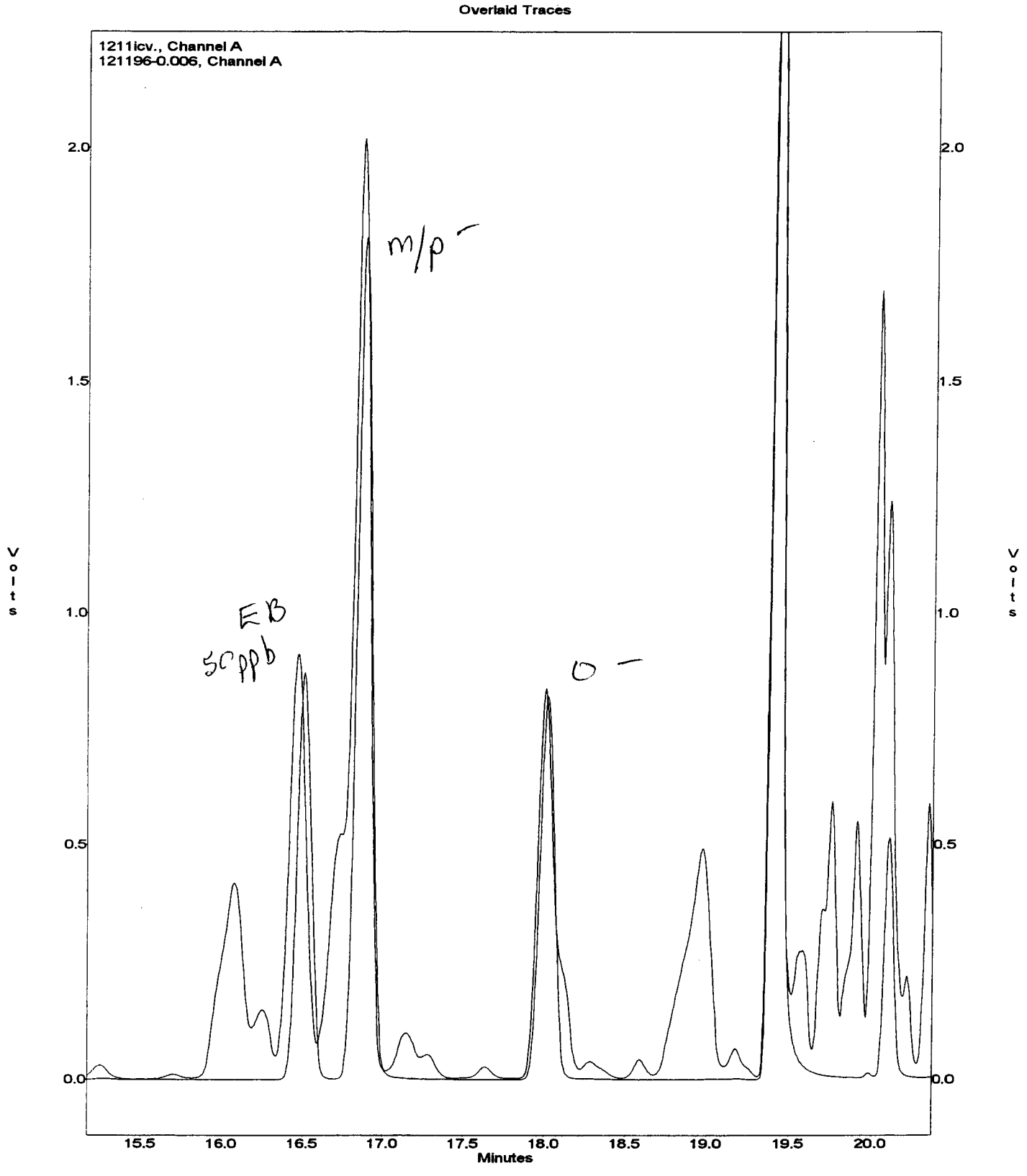
COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	7.823	17466578	273.0197
a,a,a-TFT	9.993	6455102	199.7952
TOLUENE	12.303	2810975	41.7749
ETHYLBENZENE	16.473	6692296	114.0845
M,P-XYLENES	16.867	14627188	230.6357
O-XYLENE	18.000	5840551	103.6535
BFB	19.407	13615590	195.6755

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		20467740	334.2892




Overlaid Traces
1211icv., Channel A
121196-0.006, Channel A
Benzene
50 ppb
TFT
Toluene
1.0
0.5
0.0
Volts
7.5
10.0
12.5
Minutes


Overlaid Traces
1211icv., Channel A
121196-0.006, Channel A
m/p
EB
50ppb
O
2.0
1.5
1.0
0.5
0.0
Volts
15.5
16.0
16.5
17.0
17.5
18.0
18.5
19.0
19.5
20.0
Minutes

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC279	948042
MTR CODE | SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE | TIME (Hrs):	12/9/96	1424
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	12/11/96	12/11/96
TYPE | DESCRIPTION:	PH3	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	12.2	PPB				
TOLUENE	6.90	PPB				
ETHYL BENZENE	5.68	PPB				
TOTAL XYLENES	42.4	PPB				
TOTAL BTEX	67.2	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 96.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 12/13/96

EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

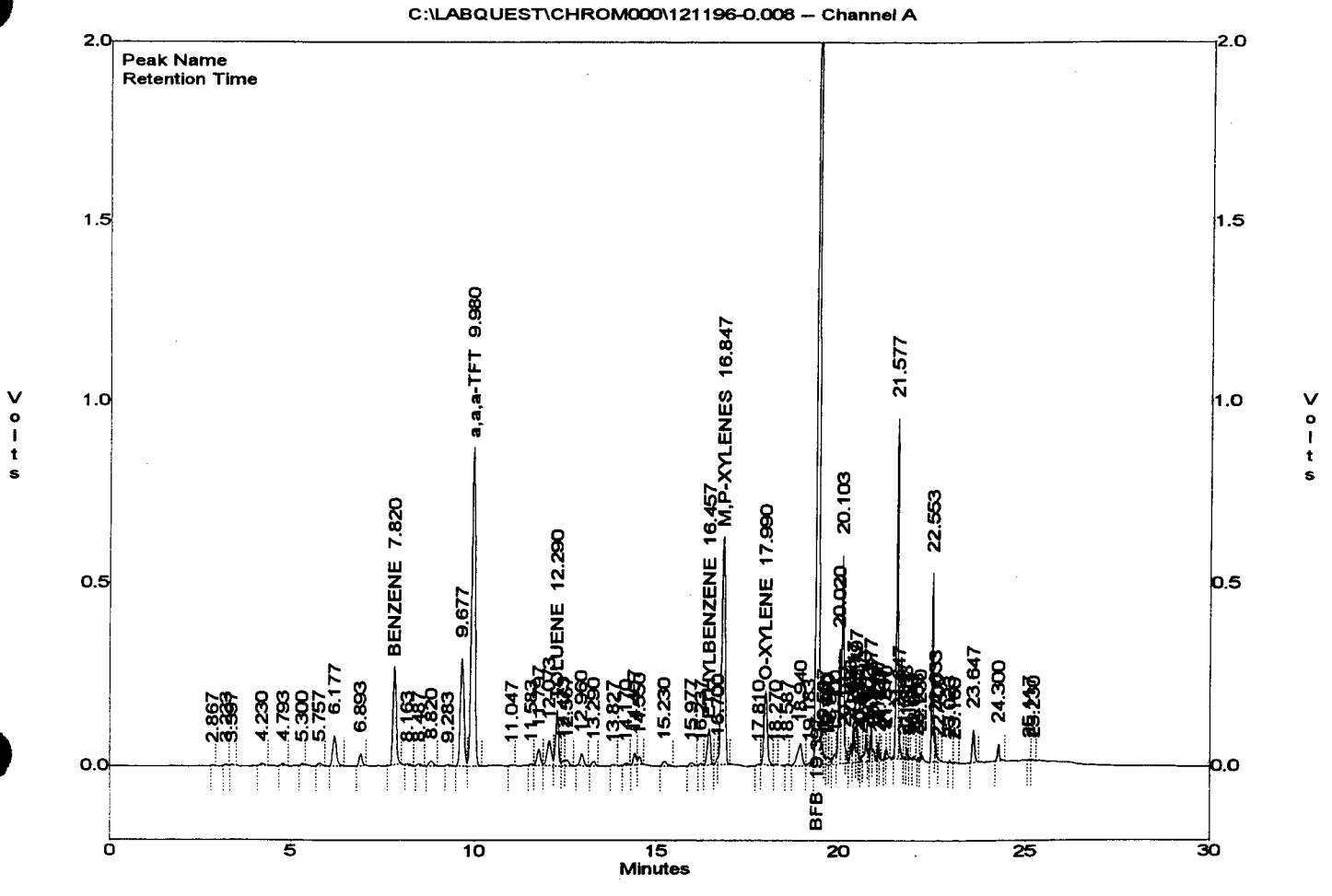
File : C:\LABQUEST\CHROM000\121196-0.008
Method : C:\LABQUEST\METHODS\0-120296.MET
Sample ID : 948042 X1
Acquired : Dec 11, 1996 19:48:13
Printed : Dec 11, 1996 20:18:44
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	7.820	1598949	12.2079
a,a,a-TFT	9.980	6097662	94.3659
TOLUENE	12.290	879022	6.8998
ETHYLBENZENE	16.457	588015	5.6845
M,P-XYLENES	16.847	3993781	30.3989
O-XYLENE	17.990	1268540	12.0260
BFB	19.397	13390319	96.2190

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		5262322	42.4249



El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chance DATE: 12/10/96

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
948043	12/10/96	0920	Water	CMC280	2	Grab		X					PH4 DLoop Line Drip LD169
948044	"	1025	"	CMC281	2	"		X					PH5 (Water reacted w/HCL. Slight prod. sheen)
		—		TRIP BLANK	1	TB		X					TRIP BLANK
948045	"	1120	"	CMC282	2	Grab		X					Jacquez 3 PC PH1
948046	↓	1510	↓	CMC283	2	"		X					PH1 Fogelson 4-1 #14 73220 → Strong Prod. odor. Potential high dissolved phase

CMC 12/10/96

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chance	12/10/96 1700	Kelly Stovall	Kelly Stovall	12-11-96 9:35	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				12-11-96 0935	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

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 - EPNG Lab Pink - Field Sampler

08-0565 A (Rev. 05-94)

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC280	948043
MTR CODE | SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE | TIME (Hrs):	12/10/96	920
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	12/11/96	12/11/96
TYPE | DESCRIPTION:	PH4	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1.25	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	3.29	PPB				
TOTAL BTEX	4.54	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 90.7 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 12/16/96

968043.XLS,12/13/96

EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

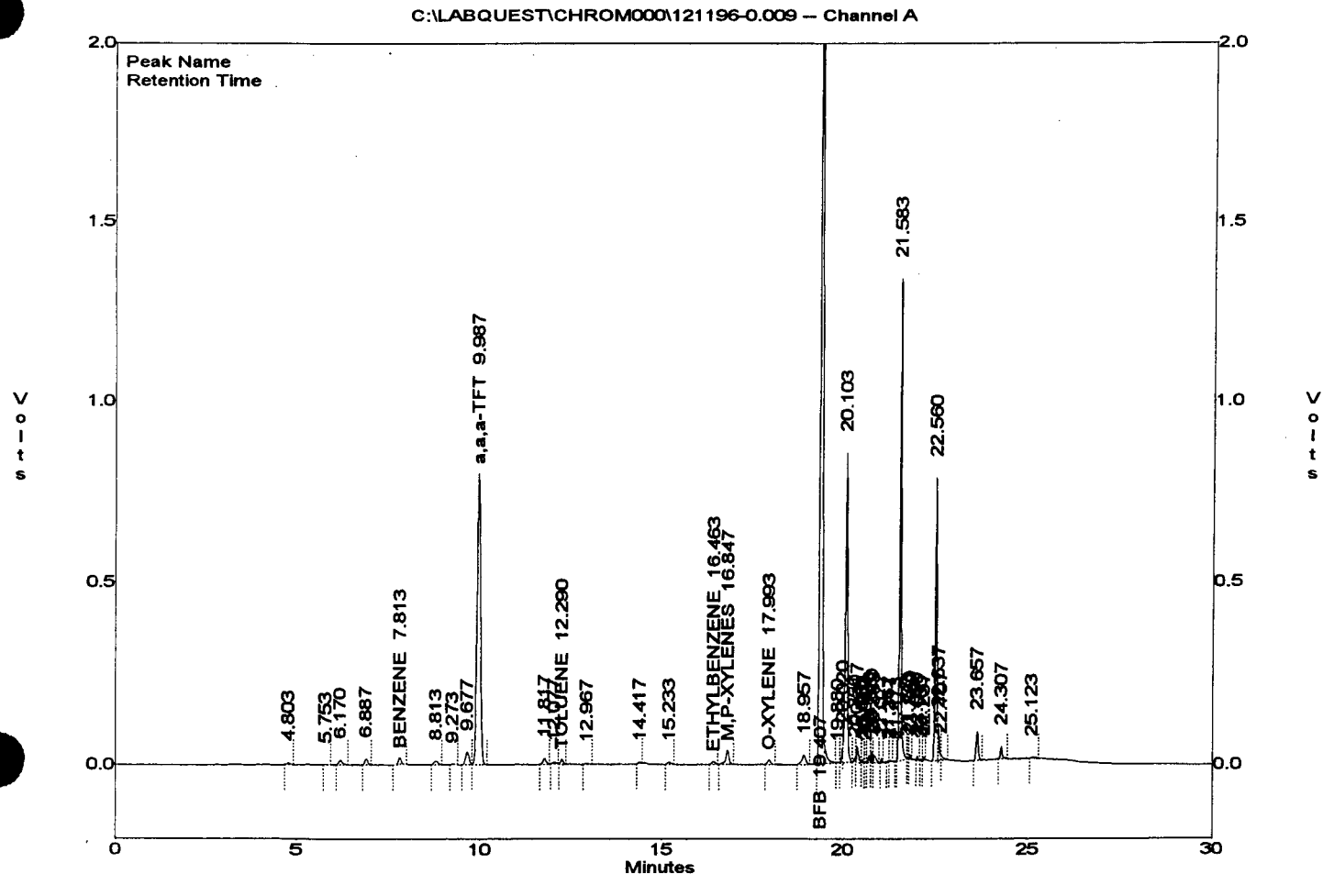
File : C:\LABQUEST\CHROM000\121196-0.009
Method : C:\LABQUEST\METHODS\0-120296.MET
Sample ID : 948043 X1
Acquired : Dec 11, 1996 20:30:35
Printed : Dec 11, 1996 21:01:02
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	7.813	111599	1.2534
a,a,a-TFT	9.987	5361693	82.9763
TOLUENE	12.290	64023	0.5432
ETHYLBENZENE	16.463	49517	0.5683
M,P-XYLENES	16.847	245228	2.2485
O-XYLENE	17.993	74124	1.0466
BFB	19.407	12623241	90.7070

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		319352	3.2951



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC281	948044
MTR CODE | SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE | TIME (Hrs):	12/10/96	1005
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	12/11/96	12/11/96
TYPE | DESCRIPTION:	PH5	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	5.93	PPB				
TOTAL BTEX	5.93	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 94.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Tavlin Date: 12/13/96

EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

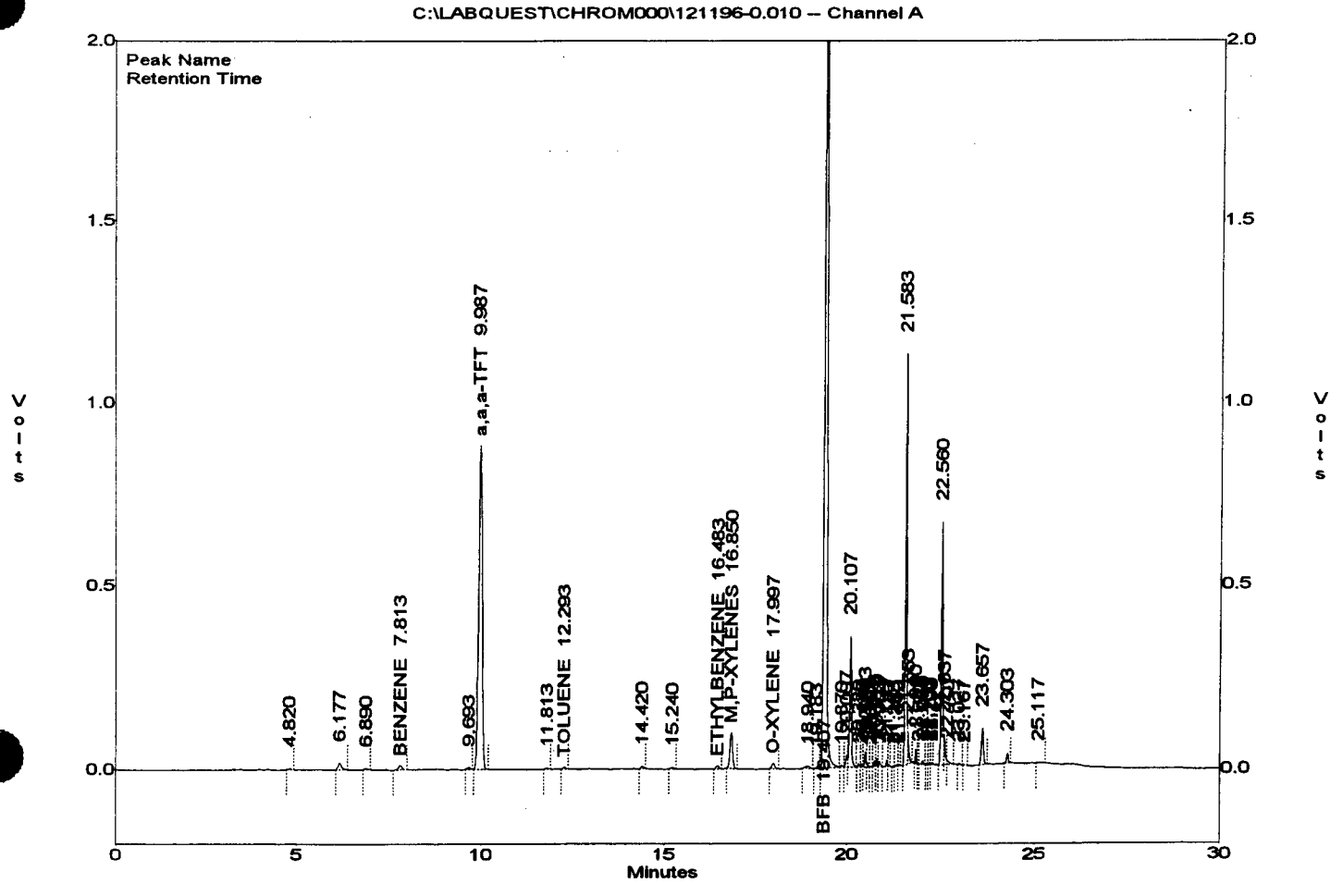
File : C:\LABQUEST\CHROM000\121196-0.010
Method : C:\LABQUEST\METHODS\0-120296.MET
Sample ID : 948044 X1
Acquired : Dec 11, 1996 21:13:03
Printed : Dec 11, 1996 21:43:31
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	7.813	70060	0.7869
a,a,a-TFT	9.987	5910687	91.4724
TOLUENE	12.293	27521	0.2335
ETHYLBENZENE	16.483	51035	0.5857
M,P-XYLENES	16.850	512591	4.6999
O-XYLENE	17.997	86957	1.2278
BFB	19.407	13103299	94.1566

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		599548	5.9277



Well Points

PHILIP ENVIRONMENTAL

SITE SKETCH

Serial No. SS- _____ Title D Loop Line Drip LD169

Project Name EPFS GW Pits Project No. 16297

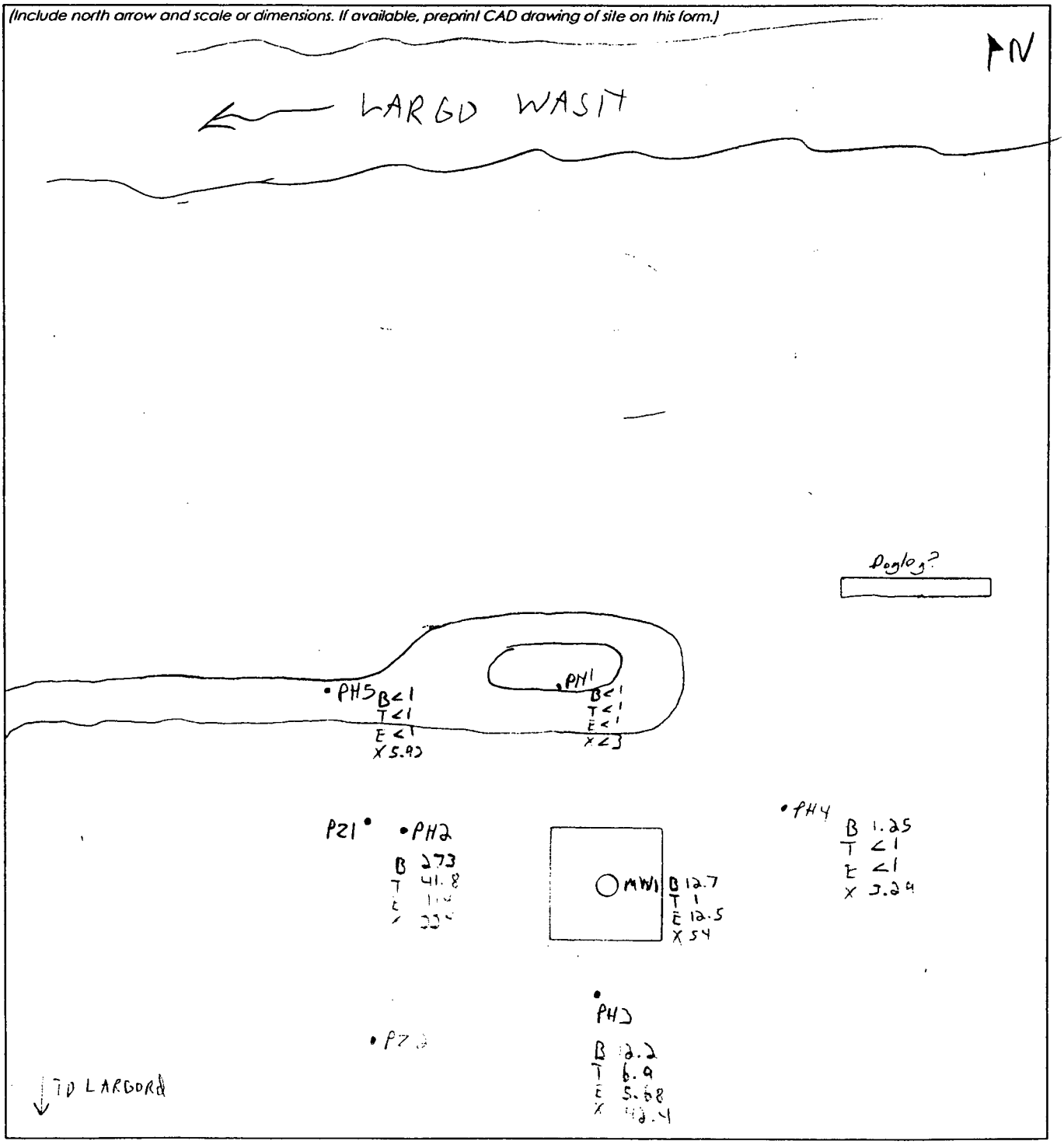
Project Manager CM Chance Phase.Task No. 6004.77

Client Company EPFS

Site Name D Loop Line Drip

Site Address R8-T28-S33-I

(Include north arrow and scale or dimensions. If available, preprint CAD drawing of site on this form.)



Sketched by (signature) _____ Date _____

D Loop LD 169

8/4/97 D Loop
- 0945 Drilling
- Set PZ1 @ 40' BGS
FtB from MW1 340° 70'
- Cutting from PZ1 clean
- DW had product odor.
- 1410 Sampled PZ1
- 1430 Leave site
- 1500 Office

2 - 5' screen
3 - 10' risers
1 - bottom cap

D Loop

LD 69

8/6/97

- 0630 office
- 0700 Leave for field
- 0850 D Loop site Rig
- PZ2 290° 59'

PZ2 set @ 40' BGS. Cutting gravel

- Sample PZ2 @ 1000 hr

1 - 10' screen
3 - 10' risers
1 - Bottom Cap

- 1030 offsite

145 Canada Mesa #2 87640

Site is secured

	Prod	GW
MW1	33.84 TOR	34.71 TOR
- PZ1	180°	56'
MH	70°	38'
PJ	55°	106'
TANK	30°	156'
2nd PJ	100°	64'
3rd PJ	50°	232
Dog Leg	5°	42'

D Loop

LD 169

8/6/97

- PZ1 cutting smell like product.
- Set PZ1 @ 40'
- Sample PZ1 @ 1010

1-10' screen
3-10' screen
1-bottom cap
1 bung

- PZ2 120° 70'
  cutting have strong odor
- Dark grey sandy clay @ 35'

1-10'
3-10
1-bottom
1-bung

- Sample PZ2 @ 1430

1500 offsite

- 1640 offsite

9.5 hr

Site Activities 8/97

Meter/Line #: LD1b9 Date: 8/21/97

Location/Line #: D Loop Line Drip

Activity: Well Completion

MW#: 1

Depth to GW:

Depth to Product:

Product Thickness:

Sample Type:

Sample Depth:

Refusal Depth:

Comments: Completed MW1

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chavez DATE: 8/4/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS: TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970806	8/4/97	1410	Water	CMC325	2	VG		X					D Loop Drip LO169 PZ1
970807	↓	-	↓	Trip Blank	1	TB		X					Trip Blank
				~~CMC326~~	~~2~~	~~VG~~		~~X~~	cmc 8/4/97				
							cmc 8/4/97						
													Note: PZ1 had hydrocarbon odor + water reacted w/ HCL 35°

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chavez	8/4/97 1700		Cari Williams	8/5/97 1015	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				8/5/97 1015	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

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 - EPNG Lab Pink - Field Sampler

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC325	970806
MTR CODE | SITE NAME:	LD169	D Loop Drip
SAMPLE DATE | TIME (Hrs):	8/4/97	1410
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/6/97	8/6/97
TYPE | DESCRIPTION:	PZ-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1240	PPB	50	D		
TOLUENE	4410	PPB	50	D		
ETHYL BENZENE	686	PPB	50	D		
TOTAL XYLENES	6610	PPB	50	D		
TOTAL BTEX	13000	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 93.6 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

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

Narrative:

Approved By: John Laskowski Date: 8/7/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970807
MTR CODE | SITE NAME:	LD169	D Loop Drip
SAMPLE DATE | TIME (Hrs):	8/4/97	1410
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/5/97	8/5/97
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 --

The Surrogate Recovery was at 97.7 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Fabich Date: 8/7/97

970807.XLS,8/7/97

TRANSMIT CONFIRMATION REPORT

NO.	:	002
RECEIVER	:	5053262388
TRANSMITTER	:	ELPASO NO.REG.LAB
DATE	:	AUG 07'97 15:26
DURATION	:	02'15
MODE	:	STD
PAGES	:	04
RESULT	:	OK

EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

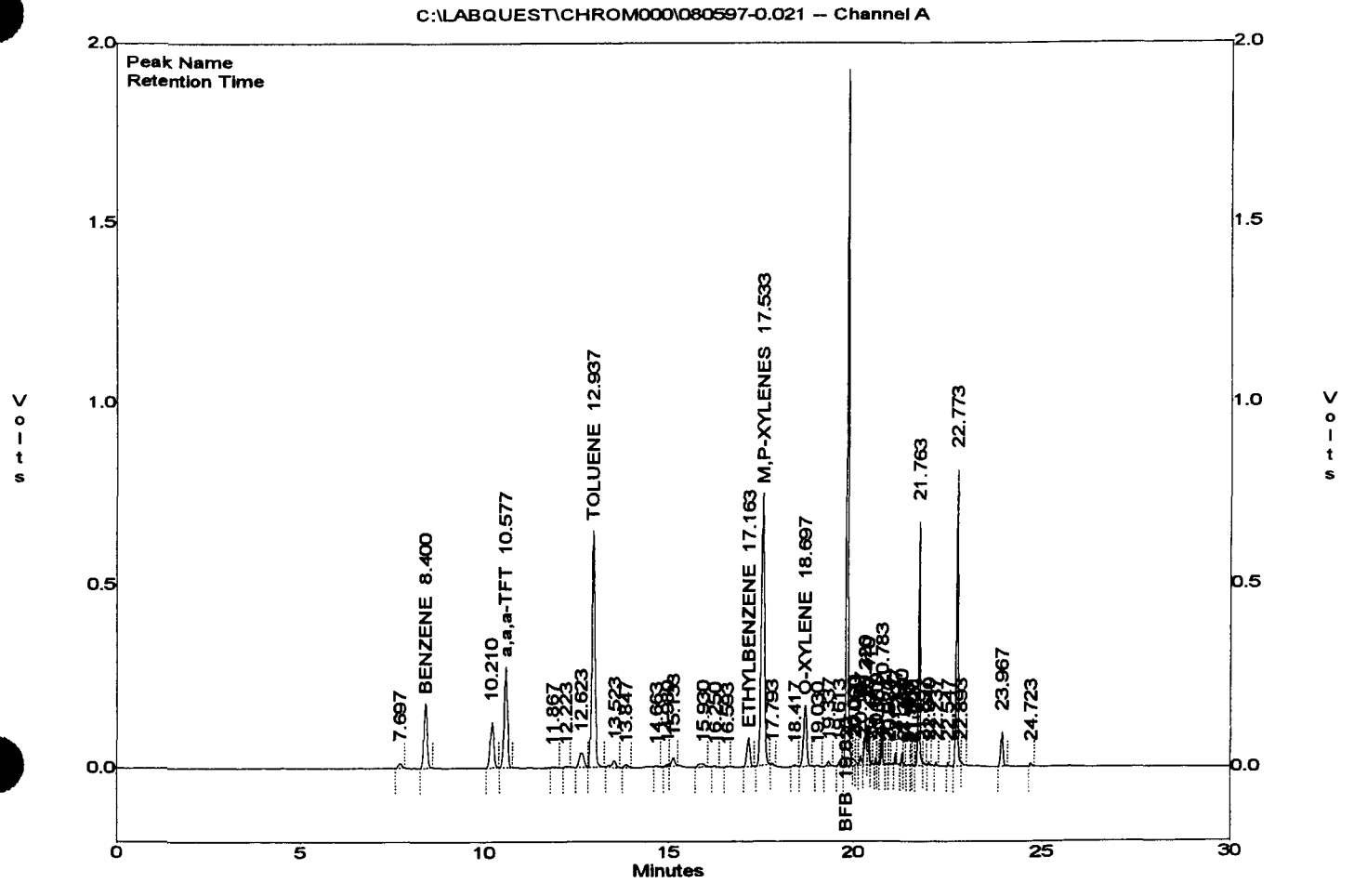
File : C:\LABQUEST\CHROM000\080597-0.021
Method : C:\LABQUEST\METHODS\0-071797.MET
Sample ID : 970806 X50
Acquired : Aug 06, 1997 04:20:08
Printed : Aug 06, 1997 04:50:37
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.400	1101424	1242.6250
a,a,a-TFT	10.577	1807486	4518.7148
TOLUENE	12.937	3995187	4408.8369
ETHYLBENZENE	17.163	457498	685.9824
M,P-XYLENES	17.533	4804459	5132.8218
O-XYLENE	18.697	1027797	1477.9160
BFB	19.820	6644057	4678.9131

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		5832257	6610.7378



EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

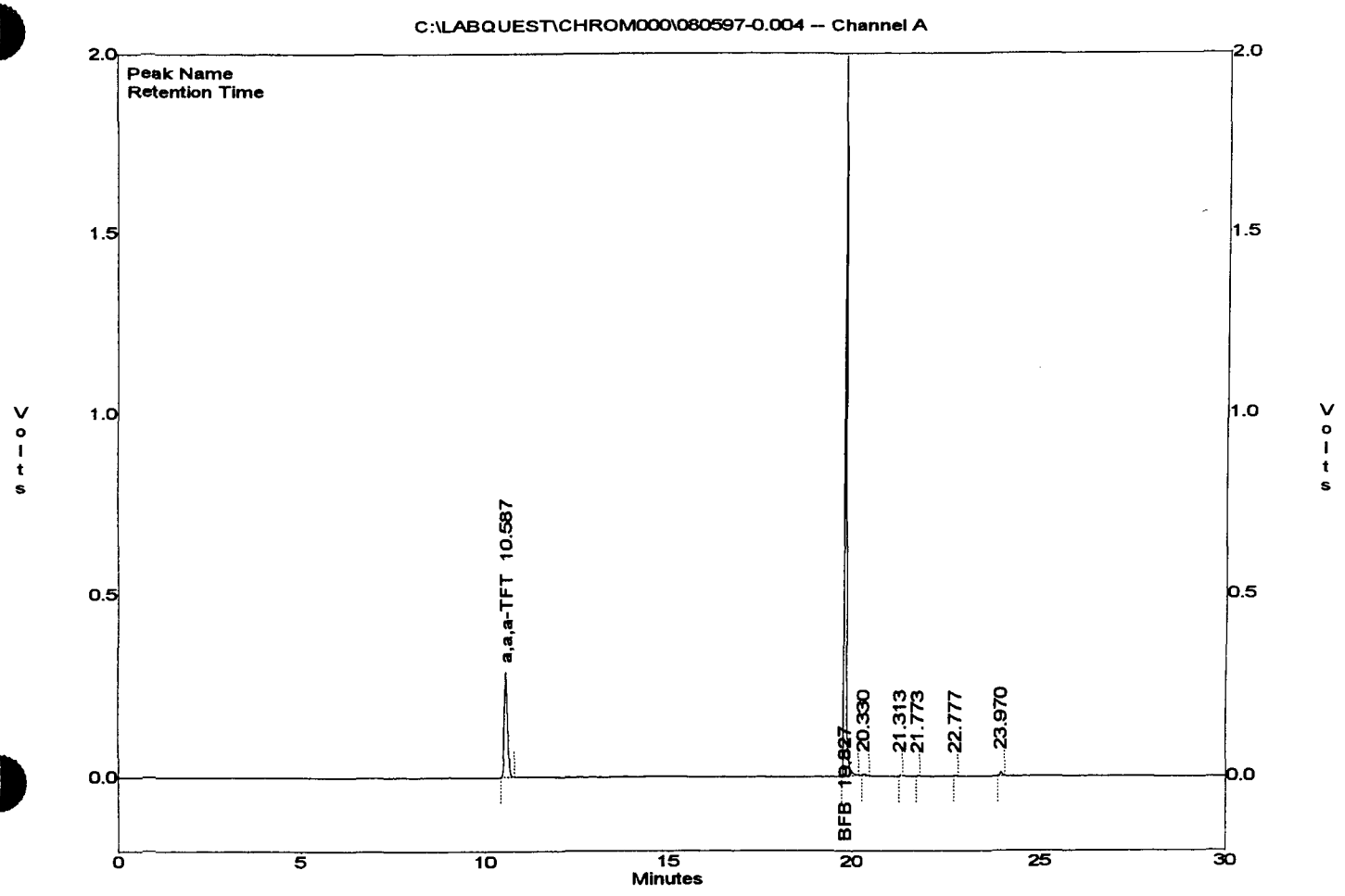
File : C:\LABQUEST\CHROM000\080597-0.004
Method : C:\LABQUEST\METHODS\0-071797.MET
Sample ID : 970807 X1
Acquired : Aug 05, 1997 16:59:29
Printed : Aug 05, 1997 17:29:53
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.420	0	0.0000
a,a,a-TFT	10.587	1839577	91.9789
TOLUENE	12.970	0	0.0000
ETHYLBENZENE	17.230	0	0.0000
M,P-XYLENES	17.600	0	0.0000
O-XYLENE	18.763	0	0.0000
BFB	19.827	6936794	97.7013

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		0	0.0000



El Paso Natural Gas Company

Well Points

CHAIN OF CUSTODY RECORD

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Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS (Signature): Cory Clarke DATE: 8/6/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970818	8/6/97	1000	Water	CMC326	2	VG		✓					D Loop Drip LD 169 PZ2
970819		—		Trip Blank	1	TB		✓					Trip Blank
970820		1310		CMC327	2	VG		✓					Canada Mesa #287640 PZ1
970821	↓	1430	↓	CMC 327 (328)	2	VG		✓					" PZ2
		*	SAMPLE BOTTLE TAKEN @ 1430 LISTED AS CMC328 - Order 1050										

Cory 8/6/97

35°

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Clarke	8/6/97 1700		Ceri Williams	8-7-97 1037	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				8/7/97 1037	Maria Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

505-599-2144 FAX: 599-2261

White - Testing Laboratory Canary - EPNG Lab Pink - Field Sampler

8-0565 A (Rev. 05-94)

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC326	970818
MTR CODE | SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE | TIME (Hrs):	8/6/97	1000
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/11/97	8/11/97
TYPE | DESCRIPTION:	PZ-2	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	5.98	PPB				
TOTAL BTEX	5.98	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.6 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 8/13/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	NA	970819
MTR CODE | SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE | TIME (Hrs):	8/6/97	1000
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/11/97	8/11/97
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 --

The Surrogate Recovery was at 98.8 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 8/13/97

970819,8/13/97

EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

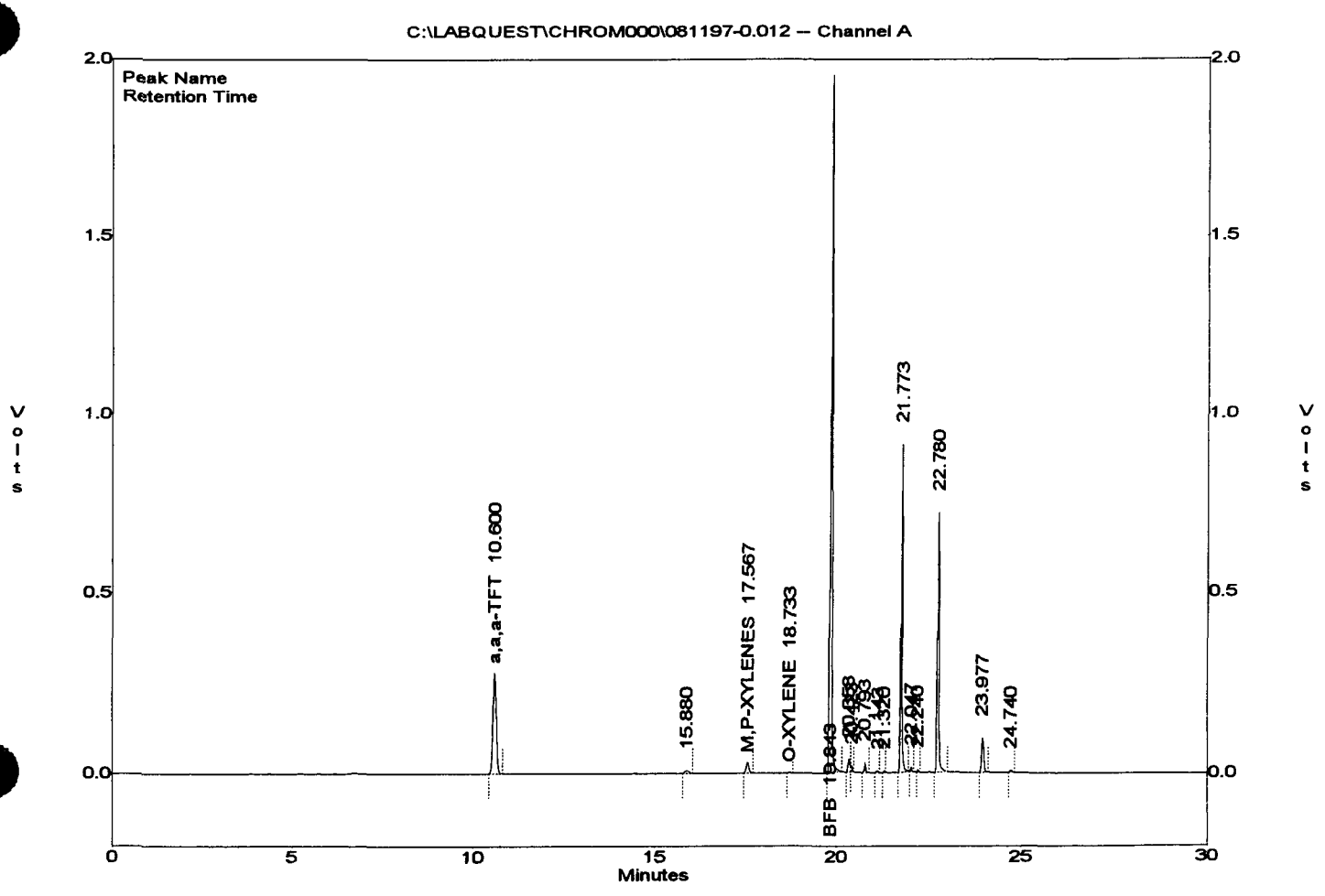
File : C:\LABQUEST\CHROM000\081197-0.012
Method : C:\LABQUEST\METHODS\0-071797.MET
Sample ID : 970818 X1
Acquired : Aug 11, 1997 20:22:16
Printed : Aug 11, 1997 20:52:44
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.420	0	0.0000
a,a,a-TFT	10.600	1778954	88.9477
TOLUENE	12.970	0	0.0000
ETHYLBENZENE	17.230	0	0.0000
M,P-XYLENES	17.567	169269	5.4040
O-XYLENE	18.733	11370	0.5808
BFB	19.843	6715908	94.5903

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		180639	5.9848



EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

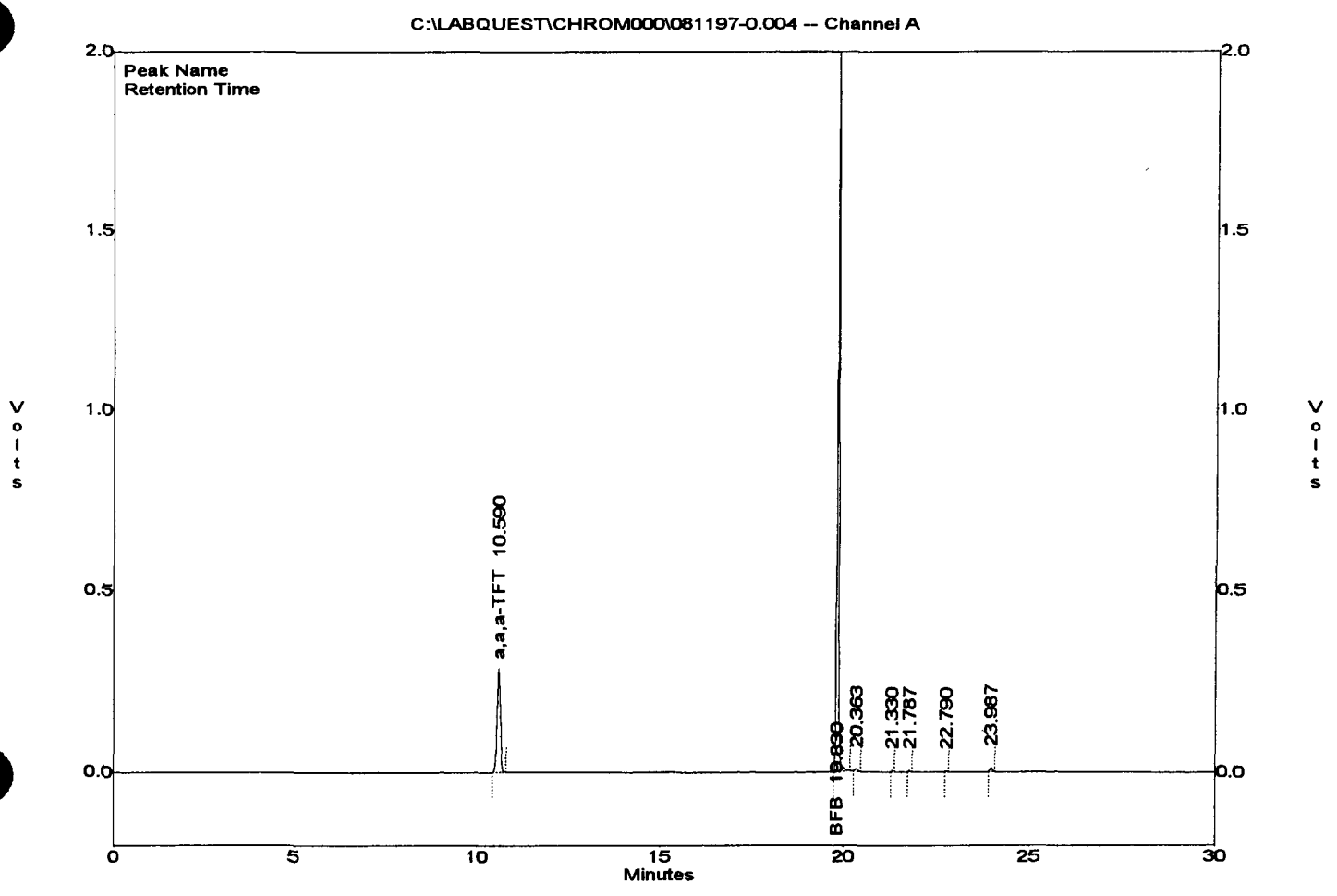
File : C:\LABQUEST\CHROM000\081197-0.004
Method : C:\LABQUEST\METHODS\0-071797.MET
Sample ID : 970819 X1
Acquired : Aug 11, 1997 15:05:03
Printed : Aug 11, 1997 15:35:26
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.420	0	0.0000
a,a,a-TFT	10.590	1830058	91.5029
TOLUENE	12.970	0	0.0000
ETHYLBENZENE	17.230	0	0.0000
M,P-XYLENES	17.600	0	0.0000
O-XYLENE	18.763	0	0.0000
BFB	19.830	7013083	98.7758

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		0	0.0000



EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

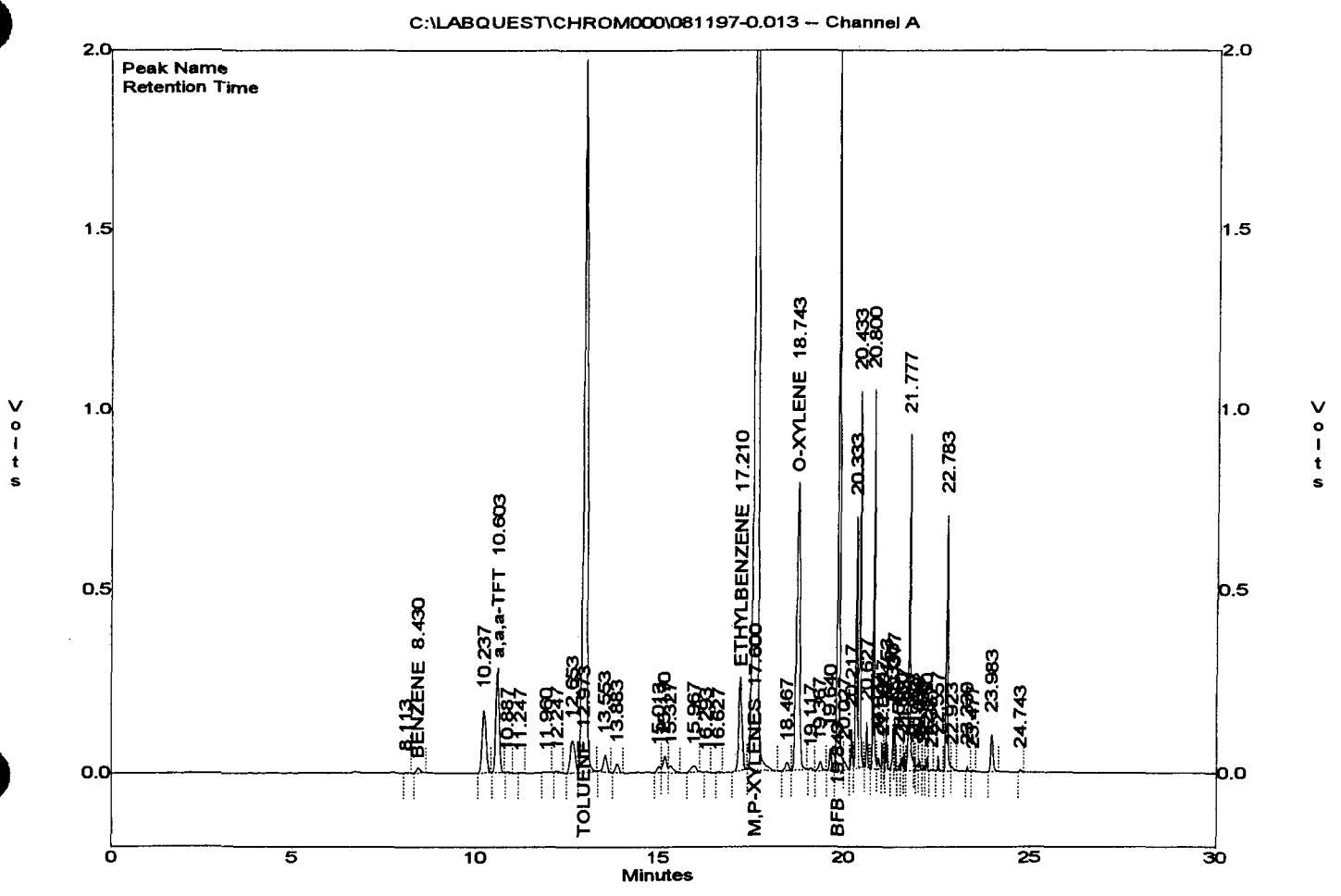
File : C:\LABQUEST\CHROM000\081197-0.013
Method : C:\LABQUEST\METHODS\0-071797.MET
Sample ID : 970820 X1
Acquired : Aug 11, 1997 21:02:05
Printed : Aug 11, 1997 21:32:34
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)	
BENZENE	8.430	107372	3.6270	
a,a,a-TFT	10.603	1882853	94.1427	
TOLUENE	12.973	12834836	281.1480	- over D1
ETHYLBENZENE	17.210	1566937	40.9475	
M,P-XYLENES	17.600	23817920	531.8096	- over D1
O-XYLENE	18.743	4989960	126.8945	
BFB	19.843	6925422	97.5412	

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		28807880	658.7040



EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

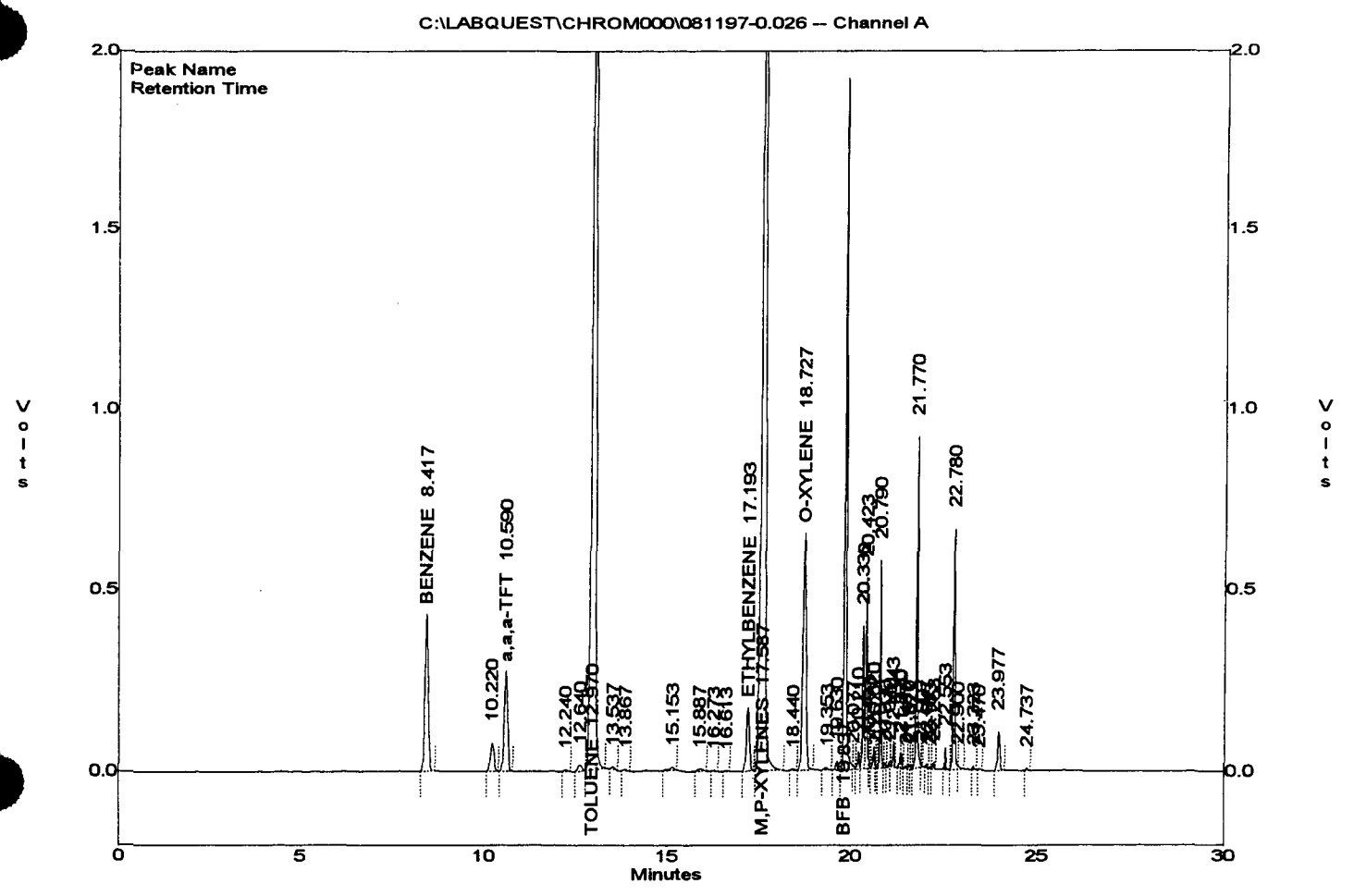
File : C:\LABQUEST\CHROM000\081197-0.026
Method : C:\LABQUEST\METHODS\0-071797.MET
Sample ID : 970821 X25
Acquired : Aug 12, 1997 05:34:35
Printed : Aug 12, 1997 06:05:03
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)	
BENZENE	8.417	2749155	1421.9856	
a,a,a-TFT	10.590	1795347	2244.1838	
TOLUENE	12.970	20715870	11371.6084	- over
ETHYLBENZENE	17.193	1056655	721.7260	
M,P-XYLENES	17.587	20633492	11446.3135	- over
O-XYLENE	18.727	4142442	2656.1938	
BFB	19.837	6631538	2335.0486	

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		24775934	14102.5078



EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

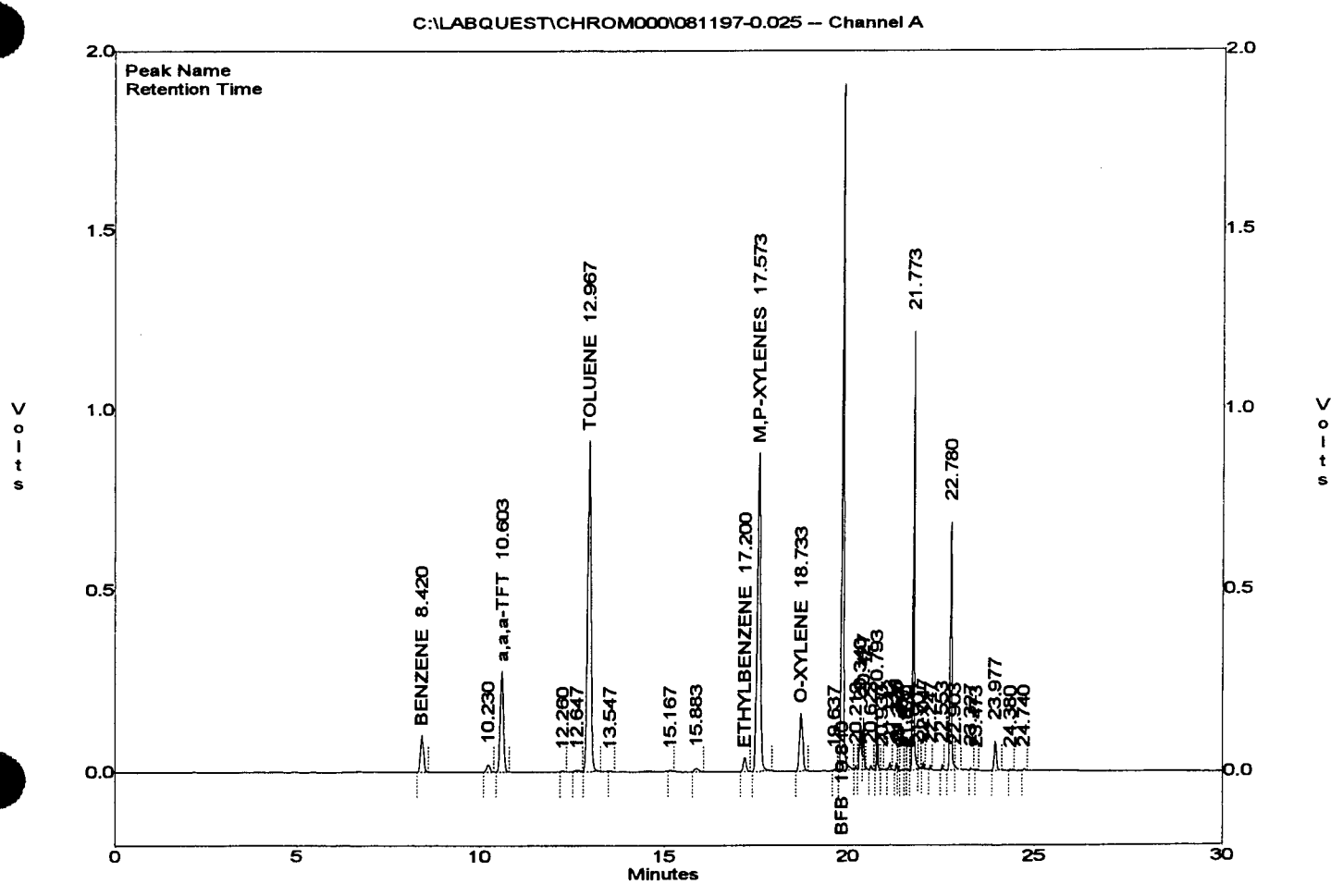
File : C:\LABQUEST\CHROM000\081197-0.025
Method : C:\LABQUEST\METHODS\0-071797.MET
Sample ID : 970821 X100
Acquired : Aug 12, 1997 04:55:01
Printed : Aug 12, 1997 05:25:27
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.420	609335	1452.9626
a,a,a-TFT	10.603	1780627	8903.1377
TOLUENE	12.967	5651883	12357.0371
ETHYLBENZENE	17.200	209385	729.5947
M,P-XYLENES	17.573	5554389	11885.0791
O-XYLENE	18.733	958931	2785.9319
BFB	19.840	6592930	9285.8174

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		6513321	14671.0107



CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY APCL
Contract El Paso Corp., San Jaun River Basin

Chain of Custody ID _____
Page 2 of 3
Air Bill No. 834715209965

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project San Juan River ~~Plant~~ Basin
Project Number 220013
Date Due _____
Sampler's Name Ashley Lowe
(print clearly)

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix [a]	Sampling Technique [b]	BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0				
							ANALYSES REQUESTED											
GW=D Loop Line Drip	MW-1	>41.2'	08/06/02	12:19	WG	B	✓											

4279

[a] **Matrix:**
SO – Soil
WS – Surface Water
WG – Ground Water
AA – Air
WQ – Trip Blank/ Equipment Blanks
WW – Wastewater

[b] **Sampling Technique:**
Composite=C
Grab=G
Hand Auger=HA
Submersible Pump=SP
Bladder Pump=BP
Bailer=B
Wellhead Faucet=WF
Hydropunch=HP

Location IDs:
Groundwater Sites=GW
Bisti=BI
Jaquez=JA
North Flare Pit=NF
South Flare Pit=SF
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
Ashley L Lowe / AESE		08/07/02	9:00
		8/8/02	1000

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered
Notes:

2 Ambient or Chilled
Notes:

3 Temperature _____

4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:

5 Properly Preserved
Y N
Notes:

6 Received Within Holding Times
Y N
Notes:

COC Tape Was:

1 Present on Outer Package
Y N NA

2 Unbroken on Outer Package
Y N NA

3 Present on Sample
Y N NA

4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-025368
Collected by: Ashley Lowe
Collected on: 10/08/02

Received: 10/10/02
Extracted: N/A
Tested: 10/14/02
Reported: 10/16/02

Sample Description: Water
Project Description: 220013 San Juan River Plant

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-1 K-31 02-05368-1	MW-2 Hammond 41A 02-05368-2	MW-2 K-31 02-05368-3
BTXE						
Dilution Factor				1	1	1
BENZENE	8021B	µg/L	0.5	0.6	<0.5	104
ETHYLBENZENE	8021B	µg/L	0.5	<0.5	<0.5	2.3
TOLUENE	8021B	µg/L	0.5	<0.5	<0.5	1.6
O-XYLENE	8021B	µg/L	0.5	0.8	<0.5	1
M,P-XYLENE	8021B	µg/L	1	0.5J	0.5J	0.6J

Component Analyzed	Method	Unit	PQL	Analysis Result MW-3 GWDLoop 02-05368-4	MW-3 Hammond 41A 02-05368-5	TB02100801 02-05368-6
BTXE						
Dilution Factor				1	1	1
BENZENE	8021B	µg/L	0.5	4.9	<0.5	<0.5
ETHYLBENZENE	8021B	µg/L	0.5	1.6	<0.5	0.9
TOLUENE	8021B	µg/L	0.5	0.5J	<0.5	<0.5
O-XYLENE	8021B	µg/L	0.5	0.7	<0.5	0.4J
M,P-XYLENE	8021B	µg/L	1	0.7J	0.6J	1

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY APCL
Contract El Paso Corp., San Jaun River Basin

Chain of Custody ID 021008AL01
Page 1 of 1
Air Bill No. 836381676565

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project San Juan River Plant
Project Number 220013
Date Due 21 days
Sampler's Name Ashley Lowe
(print clearly)

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix [a]	Sampling Technique [b]	ANALYSES REQUESTED: BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0			One vial/No ples	No Preservative
GW DLoop	MW-3		10-8-02	9:13	WG	B	✓											
GW Hammond 41A	MW-2		10-8-02	10:08	WG	B	✓										✓	
GW Hammond 41A	MW-3		10-8-02	10:32	WG	B	✓											
GW K-31	MW-2		10-8-02	13:34	WG	B	✓											✓
GW K-31	MW-1		10-8-02	13:52	WG	B	✓											✓
TB02100801			10-8-02				✓											

5368

[a] **Matrix:**
SO – Soil
WS – Surface Water
WG – Ground Water
AA – Air
WQ – Trip Blank/ Equipment Blanks
WW – Wastewater

[b] **Sampling Technique:**
Composite=C
Grab=G
Hand Auger=HA
Submersible Pump=SP
Bladder Pump=BP
Bailer=B
Wellhead Faucet=WF
Hydropunch=HP

Location IDs:
Groundwater Sites=GW
Bisti=BI
Jaquez=JA
North Flare Pit=NF
South Flare Pit=SF
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
Ashley L Lowe / AESE	APCL	10-9-02	10:00
		10/10/02	1000

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered
Notes:

2 Ambient or Chilled
Notes:

3 Temperature _____

4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:

5 Properly Preserved
Y N
Notes:

6 Received Within Holding Times
Y N
Notes:

COC Tape Was:

1 Present on Outer Package
Y N NA

2 Unbroken on Outer Package
Y N NA

3 Present on Sample
Y N NA

4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-024755
Collected by: Ashley Lowe
Collected on: 09/05/02

Received: 09/07/02
Extracted: N/A
Tested: 09/10/02
Reported: 09/16/02

Sample Description: Water
Project Description: 4270032-020105 San Juan River Basin

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-1 Hammond 41A 02-04755-1	Analysis Result MW-2 GW D Loop Line 02-04755-2
BTXE					
Dilution Factor				1	1
BENZENE	8021B	µg/L	0.5	2.7	2.0
ETHYLBENZENE	8021B	µg/L	0.5	2.2	1.0
TOLUENE	8021B	µg/L	0.5	0.5	0.7
O-XYLENE	8021B	µg/L	0.5	0.4J	0.7
M,P-XYLENE	8021B	µg/L	1	1	1

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY APCL
Contract El Paso Corp., San Jaun River Basin

Chain of Custody ID 020906AL01
Page 1 of 1
Air Bill No. 834715209737

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project San Juan River Basin
Project Number 4270032-020105
Date Due 21 days
Sampler's Name Ashley Lowe
(print clearly)

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix [a]	Sampling Technique [b]	ANALYSES REQUESTED: BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0	No Preservative in one Vial		
GW D Loop Line Drip	MW-2		09/05/02	13:54	WG	B	✓										
GW D Loop Line Drip	MW-3		09/05/02	14:37	WG	B	✓										
GW Hammond 4A	MW-1		09/05/02	15:35	WG	B	✓								✓		
TB02090501			09/05/02				✓										

4755

[a] **Matrix:** SO – Soil; WS – Surface Water; WG – Ground Water; AA – Air; WQ – Trip Blank/ Equipment Blanks; WW – Wastewater

[b] **Sampling Technique:** Composite=C; Grab=G; Hand Auger=HA; Submersible Pump=SP; Bladder Pump=BP; Bailer=B; Wellhead Faucet=WF; Hydropunch=HP

Location IDs: Groundwater Sites=GW; Bisti=BI; Jaquez=JA; North Flare Pit=NF; South Flare Pit=SF; San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
Ashley L Lowe/AESE		09/06/02	10:00
		9/7/02	1135A

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered
Notes: Fed Ex

2 Ambient or Chilled
Notes:

3 Temperature 4.8°C

4 Received Broken/Leaking (Improperly Sealed)
Y (N)
Notes:

5 Properly Preserved
(Y) N
Notes:

6 Received Within Holding Times
(Y) N
Notes:

COC Tape Was:

1 Present on Outer Package
(Y) N NA

2 Unbroken on Outer Package
(Y) N NA

3 Present on Sample
Y N (NA)

4 Unbroken on Sample
Y N (NA)
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-024755
Collected by: Ashley Lowe
Collected on: 09/05/02

Received: 09/07/02
Extracted: N/A
Tested: 09/10/02
Reported: 09/16/02

Sample Description: Water
Project Description: 4270032-020105 San Juan River Basin

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-1 Hammond 41A 02-04755-1	Analysis Result MW-2 GW D Loop Line 02-04755-2
BTXE					
Dilution Factor				1	1
BENZENE	8021B	µg/L	0.5	2.7	2.0
ETHYLBENZENE	8021B	µg/L	0.5	2.2	1.0
TOLUENE	8021B	µg/L	0.5	0.5	0.7
O-XYLENE	8021B	µg/L	0.5	0.4J	0.7
M,P-XYLENE	8021B	µg/L	1	1	1

Component Analyzed	Method	Unit	PQL	Analysis Result MW-3 GW D Loop Line 02-04755-3	Analysis Result TB02090501 02-04755-4
BTXE					
Dilution Factor				1	1
BENZENE	8021B	µg/L	0.5	14.7	0.4J
ETHYLBENZENE	8021B	µg/L	0.5	2.2	1.2
TOLUENE	8021B	µg/L	0.5	2.0	0.5J
O-XYLENE	8021B	µg/L	0.5	1.1	0.4J
M,P-XYLENE	8021B	µg/L	1	2	2

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Tsau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (000) 590-1498

APCL QA/QC Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City, UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-024755
Collected by: Ashley Lowe
Collected on: 09/05/02
Sample description:
Water
Project: San Juan River Basin /4270032-020105

Received: 09/07/02
Tested: 09/10/02
Reported: 09/17/02

Analysis of Water

801-024755QC

Component Name	Analysis Batch #	CCV (µg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
BTXE												
Benzene	02G3806	100	93	N.D.	µg/L	18.0	92	89	89	0	68-130	31
Toluene	02G3806	100	93	N.D.	µg/L	70.0	92	93	94	1	66-133	33
Ethylbenzene	02G3806	100	95	N.D.	µg/L	18.0	97	95	95	0	65-134	35
m/p-Xylene	02G3806	200	88	N.D.	µg/L	70.0	92	94	95	1	65-134	35
o-Xylene	02G3806	100	89	N.D.	µg/L	25.0	91	97	97	0	65-134	35

Notation:
ICV Initial Calibration Verification
CCV - Continuation Calibration Verification
LCS - Lab Control Spike
MS Matrix Spike
MSD - Matrix Spike Duplicate
ICS - Interference Check Standard
MD - Matrix Duplicate
N.D. - Not detected or less than PQL
CCB - Continuation Calibration Blank
M-blank Method Blank
SP Level - Spike Level
%Rec - Recovery Percent
%RPD - Relative Percent Differences
%Diff - Control Limit for %RPD
ICP-SD - ICP Serial Dilution
N.A. - Not Applicable

Respectfully submitted,

Regina Kirakozova,
Associate QA/QC Director
Applied P & Ch Laboratory

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8021B

Client Name:	Montgomery Watson Harza	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	024755
Project ID:	San Juan River Basin	Project No:	4270032-020105	Sample Matrix:	Water
		Batch No:	02G3806		

#	Client Sample No	Lab Sample ID	S1 %	S1 #	TOT OUT
1		02G3806-LCS-01	78		0
2		02G3806-LSD-01	80		0
3		02G3806-MB-02	82		0
4	TB02090501	02-4755-4	88		0
5	MW-1 HAMMOND 41A	02-4755-1	92		0
6	MW-2 GW D LOOP LINE	02-4755-2	91		0
7	MW-3 GW D LOOP LINE	02-4755-3	94		0
8	821816-0748	02-4758-13MS	86		0
9	821816-0748	02-4758-13MSD	86		0
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

QC Control Limit

S1 = 4-BROMO-FLUOROBENZENE (PID) 65-134

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number **205202**
June 06, 2002

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name D LOOP (LD 169)
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

On 05/24/02 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **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.

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: AMEC EARTH & ENVIRONMENTAL	PINNACLE ID	: 205202
PROJECT #	: 1517000121	DATE RECEIVED	: 05/24/02
PROJECT NAME	: D LOOP (LD 169)	REPORT DATE	: 06/06/02

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
205202 - 01	169-0205-MW1	AQUEOUS	05/21/02
205202 - 02	TRIP BLANK	AQUEOUS	05/20/02

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

'EST : EPA 8021 MODIFIED
;LIENT : AMEC EARTH & ENVIRONMENTAL PINNACLE I.D.: 205202
'ROJECT # : 1517000121
'ROJECT NAME : D LOOP (LD 169)

;AMPLE). #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
1	169-0205-MW1	AQUEOUS	05/21/02	NA	05/24/02	1
2	TRIP BLANK	AQUEOUS	05/20/02	NA	05/24/02	1

'ARAMETER	DET. LIMIT	UNITS	169-0205-MW1	TRIP BLANK
;ENZENE	0.5	**UG/L**	**3.0**	< 0.5
'OLUENE	0.5	UG/L	< 0.5	< 0.5
:THYLBENZENE	0.5	**UG/L**	**5.0**	< 0.5
[illegible] XYLENES	1.0	**UG/L**	**2.4**	< 1.0
;URROGATE:				
;ROMOFLUOROBENZENE (%)			95	103
;URROGATE LIMITS	(80 - 120)			

;HEMIST NOTES:
I/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 205202
LANK I. D.	: 052402	DATE EXTRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 05/24/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: D LOOP (LD 169)		

ARAMETER	UNITS	
ENZENE	UG/L	<0.5
OLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<1.0
URROGATE:		
ROMOFLUOROBENZENE (%)		100
GATE LIMITS:	(80 - 120)	

ST NOTES:
I/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

EST : EPA 8021 MODIFIED
ATCH # : 052402
LIENT : AMEC EARTH & ENVIRONMENTAL
ROJECT # : 1517000121
ROJECT NAME : D LOOP (LD 169)

PINNACLE I.D. : 205202
DATE EXTRACTED : N/A
DATE ANALYZED : 05/24/02
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	<0.5	20.0	20.9	105	19.5	98	7	(80 - 120)	20
OLUENE	<0.5	20.0	21.1	106	19.8	99	6	(80 - 120)	20
THYLBENZENE	<0.5	20.0	21.6	108	20.3	102	6	(80 - 120)	20
OTAL XYLENES	<1.0	60.0	66.4	111	62.7	105	6	(80 - 120)	20

H T NOTES:
/A

$$\text{Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{PD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 205202
MSMSD #	: 205202-01	DATE EXTRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 05/24/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: D LOOP (LD 169)	UNITS	: UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	3.0	20.0	21.6	93	21.4	92	1	(80 - 120)	20
OLUENE	<0.5	20.0	19.8	99	19.9	100	1	(80 - 120)	20
THYLBENZENE	5.0	20.0	24.5	98	23.9	95	2	(80 - 120)	20
OTAL XYLENES	2.4	60.0	65.0	104	64.8	104	0	(80 - 120)	20

HEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 5-21-02 PAGE: 1 OF 1

PLI Accession #: 205202

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: Lisa Hinn

COMPANY: AMEC

ADDRESS: 2060 AFTON PLACE
Farmington NM. 87401

PHONE: (505) 327-7928

FAX: (505) 325-5721

BILL TO: Scott Pope

COMPANY: El paso Field Services

ADDRESS: 614 Reilly AVE
Farmington N.M.

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
169-0205-MW1	5-20-02	1025	H2O	01					X																					2
Trip Blank	5-20-02	1550	H2O	02					X																					1

PROJECT INFORMATION

PROJ. NO.: 15/7000121

PROJ. NAME: EpFS GW proj.

P.O. NO.:

SHIPPED VIA: Grey Hound

SAMPLE RECEIPT

NO. CONTAINERS:	3
CUSTODY SEALS:	Y / N (NA)
RECEIVED INTACT:	Y / N
BLUE ICE/ICE	2.7 C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☑

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

D Loop (LD 169)

RELINQUISHED BY: 1.

Signature: [signature] Time: 1530

Printed Name: Chris A Mez Date: 5-23-02

Company: AMEC

See reverse side (Force Majeure)

RECEIVED BY: 1.

Signature: Time:

Printed Name: Date:

Company:

RELINQUISHED BY: 2.

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: (LAB) 2.

Signature: [signature] Time: 1030

Printed Name: Francine Tarvio Date: 5/24/02

Pinnacle Laboratories Inc.

☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

amec

Well Number MW 1

Page 1 of 1

Project Name EPFS GW Project Project Manager Lisa Winn Project No. 1517000121

Client Company El Paso Field Services

Site Name D Loop (LD 169) Site Address Rural San Juan Co.

Development Criteria

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

Methods of Development

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

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 43.46
Initial Depth to Water (feet) 35.66
Height of Water Column in Well (feet) 7.8
Diameter (inches): Well ____ Gravel Pack ____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	7.9	5.09 x 3	15.27
Gravel Pack			
Drilling Fluids			
Total			15.27

Instruments

	Serial No. (If applicable)
☑ pH Meter	YSI 63
☑ DO Monitor	YSI 95
☑ Conductivity Meter	YSI 63
☑ Temperature Meter	YSI 63
☐ Other	

Water Disposal

Lutz Separator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
5-21-02	0955		X				3.25	3.25			16.4	7.36	3037		Clear Bottom ESS odor
	0959		X				3.25	6.5			15.7	7.45	2922		" "
	1003		X				3.25	9.75			15.6	7.46	2413		" "
	1009		X				3.25	13			15.6	7.49	2204		" "
	1013		X			36.98	3.25	16.25			15.6	7.48	2129	0.45	no Change

Comments SAMPLED for BTEX 1025

Developer's Signature(s) Chris A. Mann Date 5-21-02 Reviewer [signature] Date 5/23/02

WELL OBSERVATION DATA

amec

Project Name: EpFS G.W. project

Project No.: 1512000121

Project Mngr: Lisa Minn

Task: 2

Client Co.: El Paso Field Services

Date: 5-21-02

Site Name: D Loop (LD 169)

Well or Piezometer	Time	Reason Not Measured	Depth to Floating Product (Feet)	Depth to Water (Feet)	Depth to Sinking Product (Feet)	Total Well Depth (Feet)	[redacted]	[redacted]	Comments
MW2	1040			35.72					
MW3	1032			37.30					

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments:

Signature: Chris A. Macy

Date: 5-21-02

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 5-21-02 PAGE: 1 OF 1

PLI Accession #:

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Lisa Winn

COMPANY: AMEC

ADDRESS: 2060 AFTON PLACE
Farmington NM. 87401

PHONE: (505) 327-7928

FAX: (505) 325-5721

BILL TO: Scott Pope

COMPANY: El paso Field Services

ADDRESS: 614 Reilly AVE
Farmington NM.

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
169-0205-MW1	5-20-02	1025	H_2O						X																						2
Trip Blank	5-20-02	1550	H_2O						X																						1

PROJECT INFORMATION

PROJ. NO.: 15700012.1

PROJ. NAME: EPFS GW proj

P.O. NO.:

SHIPPED VIA: Grey Hound

SAMPLE RECEIPT

NO. CONTAINERS:		
CUSTODY SEALS:	Y, N, NA	
RECEIVED INTACT:	Y, N, NA	
BLUE ICE:	Y, N, NA	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☑

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

D Loop (LD 169)

RELINQUISHED BY: 1

Signature: Lisa M Winn Time: 1530

Printed Name: Lisa M Winn Date: 5-23-02

Company: AMEC

See reverse side (Force Majeure)

RECEIVED BY: 1

Signature: Time:

Printed Name: Date:

Company:

RELINQUISHED BY: 2

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: (LAB) 2

Signature: Time:

Printed Name: Date:

Pinnacle Laboratories Inc.

5700 D... (505) 344-3777 • Fax (505) 344-4413 • E-mail: PIN_LAB@WORLDNET.ATT.NET

DISTRIBUTION: ...te - PLI, Canary - Originato...

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number **202126**
March 07, 2002

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name D LOOP
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

On 02/27/02 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **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.

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: AMEC EARTH & ENVIRONMENTAL	PINNACLE ID	: 202126
PROJECT #	: 1517000121	DATE RECEIVED	: 02/27/02
PROJECT NAME	: D LOOP	REPORT DATE	: 03/07/02

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
202126 - 01	169-0202-MW1	AQUEOUS	02/25/02

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

'EST : EPA 8021 MODIFIED
:LIENT : AMEC EARTH & ENVIRONMENTAL PINNACLE I.D.: 202126
'ROJECT # : 1517000121
'ROJECT NAME : D LOOP

:AMPLE). #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
1	169-0202-MW1	AQUEOUS	02/25/02	NA	02/27/02	1

'ARAMETER	DET. LIMIT	UNITS	169-0202-MW1
:ENZENE	0.5	**UG/L**	**5.8**
OLUENE	0.5	UG/L	< 0.5
:THYLBENZENE	0.5	**UG/L**	**14**
OTAL XYLENES	1.0	**UG/L**	**2.3**

[redacted]GATE:
ROMOFLUOROBENZENE (%) 99
URROGATE LIMITS (80 - 120)

HEMIST NOTES:
/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 202126
LANK I. D.	: 022702	DATE EXTRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 02/27/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: D LOOP		

ARAMETER	UNITS	
ENZENE	UG/L	<0.5
OLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<1.0
URROGATE:		
ROMOFLUOROBENZENE (%)		92
OGATE LIMITS:	(80 - 120)	

ST NOTES:
/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

EST : EPA 8021 MODIFIED
ATCH # : 022702
LIENT : AMEC EARTH & ENVIRONMENTAL
ROJECT # : 1517000121
ROJECT NAME : D LOOP

PINNACLE I.D. : 202126
DATE EXTRACTED : N/A
DATE ANALYZED : 02/27/02
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	<0.5	20.0	19.5	98	19.6	98	1	(80 - 120)	20
OLUENE	<0.5	20.0	19.0	95	19.2	96	1	(80 - 120)	20
THYLBENZENE	<0.5	20.0	18.7	94	18.7	94	0	(80 - 120)	20
OTAL XYLENES	<1.0	60.0	57.4	96	57.9	97	1	(80 - 120)	20

HEMIST NOTES:
/A

$$\text{Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{PD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

EST	: EPA 8021 MODIFIED		
SMSD #	: 202123-01	PINNACLE I.D.	: 202126
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE EXTRACTED	: N/A
ROJECT #	: 1517000121	DATE ANALYZED	: 02/27/02
ROJECT NAME	: D LOOP	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	<0.5	20.0	20.1	101	19.5	98	3	(80 - 120)	20
OLUENE	<0.5	20.0	19.7	99	19.1	96	3	(80 - 120)	20
THYLBENZENE	<0.5	20.0	19.2	96	18.7	94	3	(80 - 120)	20
OTAL XYLENES	<1.0	60.0	59.2	99	57.5	96	3	(80 - 120)	20

HEMIST NOTES:
'A

$$\text{Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE 2-26-02 PAGE: 1 OF 1

PLI Accession #: 202126

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PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:	Lisa Winn
COMPANY:	AMEC
ADDRESS:	2060 AFTON place Farmington N.M. 87401
PHONE:	(505) 327-7928
FAX:	(505) 326-5721
BILL TO:	SCOTT pope
COMPANY:	El paso Field Services
ADDRESS:	614 Reilly AVE Farmington NM. 87401

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
169-0202-MW 1	2-25-02	1145	H_2O	01					X																					2

PROJECT INFORMATION	
PROJ. NO.:	151000121
PROJ. NAME:	EPFS GW. project
P.O. NO.:	
SHIPPED VIA:	Grey Hound

SAMPLE RECEIPT	
NO. CONTAINERS	2
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	Y / N
BLUE ICE/ICE	2.3°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

D LOOP (LD 169)

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Chris Mac Time: 1500	Signature: Time:
Printed Name: Chris L. Mac Date: 2-26-02	Printed Name: Date:
Company: AMEC	Company:
See reverse side (Force Majeure)	
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time: 0905
Printed Name: Date:	Printed Name: Date: 2/27/02
Company:	Pinnacle Laboratories Inc.

WELL OBSERVATION DATA

amec

Project Name: EpFS GW project

Project No.: 1517000121

Project Mngr: Lisa winn

Task: 2

Client Co.: El paso field services

Date: 2 25 02

Site Name: D Loop (LO 169)

Well or Piezometer	Time	Reason Not Measured	Depth to Floating Product (Feet)	Depth to Water (Feet)	Depth to Sinking Product (Feet)	Total Well Depth (Feet)	Thickness of Floating Product (Feet)	Thickness of Sinking Product (Feet)	Comments
MW 2	1153			35.5					
MW3	1149			37.09					

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments:

Signature: Chris A. Mayf

Date: 2-25-02

☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

amec

Well Number MW1

Page 1 of 1

Project Name EPFS GW project Project Manager LISA Winn Project No. 15/2000121

Client Company El Paso Field Services

Site Name (D Loop LD) (LO 169) Site Address Rural San Juan Co.

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 43.41
Initial Depth to Water (feet) 35.43
Height of Water Column in Well (feet) 8.03
Diameter (inches): Well 4" Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	8.03	5.24 X 3	15.72
Gravel Pack			
Drilling Fluids			
Total			15.72

Instruments

	Serial No. (if applicable)
☑ pH Meter	YSI 63
☐ DO Monitor	
☑ Conductivity Meter	YSI 63
☑ Temperature Meter	YSI 63
☐ Other	

Methods of Development

Pump: ☐ Centrifugal ☐ Submersible ☐ Peristaltic
Bailer: ☑ Bottom Valve ☐ Double Check Valve ☐ Stainless-steel Kemmerer
☐ Other _____

Water Disposal

Kurtz Seperator Bloomfield NM

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
2-25-02	1122		X				3.25	3.25			14.4	7.21	3663		Cloudy, Rotten egg odor
	1126		X				3.25	6.5			14.8	7.33	3461		" "
	1131		X				3.25	9.75			14.6	7.39	2835		" "
	1136		X				3.25	13			14.4	7.46	2466		" "
	1141		X			35.59	3.25	16.25			14.4	7.49	2249		no change

Comments SAMPled for BTEX 1145

Developer's Signature(s) [signature] Date 2-25-02 Reviewer [signature] Date 3/1/02

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE 2-26-02 PAGE 1 OF 2

PLI Accession #

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PROJECT MANAGER: Lisa Winn

COMPANY: AMEC
ADDRESS: 2060 AFTON Place
Farmington N.M. 87401
PHONE: (505) 327-7928
FAX: (505) 326-5721

BILL TO: SCOTT Pope
COMPANY: El Paso Field Services
ADDRESS: 614 Reilly AVE
Farmington NM. 87401

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ /DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
169-0202-MW1	2-25-02	1145	H_2O						X																				

PROJECT INFORMATION

PROJ. NO.: 157000121
PROJ. NAME: EPFS GW project
P.O. NO.:
SHIPPED VIA: Greyhound

SAMPLE RECEIPT

NO. CONTAINERS		
CUSTODY SEALS	Y / N / NA	
RECEIVED INTACT		
BLUE ICE/ICE		

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

DLOOP (LD169)

RELINQUISHED BY: 1

Signature: Time: 1500
Printed Name: Chris L. Maez Date: 2-26-02
Company: AMEC
See reverse side (Force Majeure)

RECEIVED BY: 1

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2

Signature: Time:
Printed Name: Date:

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

January 25, 2002

Mr. Lynn Benally
El Paso Field Service
614 Reilly Ave
Farmington, NM 87401

Client No.: 97057-052

Dear Mr. Bays:

Enclosed are the analytical results for sample collected from the location designated as "D-IOOP-Line-Drip". One water sample was collected by El Paso Field Service personnel on 1/10/02, and received by the Envirotech laboratory on 1/10/02 for BTEX per USEPA Method 8021.

The sample was documented on Envirotech Chain of Custody No. 8887 and assigned Laboratory No. 21786 (MW-2A) for tracking purposes.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.

Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/EPFS.wpd

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: ENVIROTECH, INC.	PINNACLE ID	: 201044
PROJECT #	: 97057-052	DATE RECEIVED	: 01/11/02
PROJECT NAME	: EPFS	REPORT DATE	: 01/22/02

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
201044 - 01	MW-2A/21786	AQUEOUS	01/10/02

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : ENVIROTECH, INC.
PROJECT # : 97057-052
PROJECT NAME : EPFS

PINNACLE I.D.: 201044

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-2A/21786	AQUEOUS	01/10/02	NA	01/11/02	1

PARAMETER	DET. LIMIT	UNITS	MW-2A/21786
BENZENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5
TOTAL XYLENES	1.0	UG/L	< 1.0

SURROGATE:
BROMOFLUOROBENZENE (%) 106
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 201044
BLANK I. D.	: 011102	DATE EXTRACTED	: N/A
CLIENT	: ENVIROTECH, INC.	DATE ANALYZED	: 01/11/02
PROJECT #	: 97057-052	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<1.0
SURROGATE:		
BROMOFLUOROBENZENE (%)		106
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

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GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8021 MODIFIED		
BATCH ID#	: 011102	PINNACLE I.D.	: 201044
CLIENT	: ENVIROTECH, INC.	DATE EXTRACTED	: N/A
PROJECT #	: 97057-052	DATE ANALYZED	: 01/11/02
PROJECT NAME	: EPFS	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	21.5	108	20.9	105	3	(80 - 120)	20
TOLUENE	<0.5	20.0	21.2	106	20.7	104	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.4	107	20.8	104	3	(80 - 120)	20
TOTAL XYLENES	<1.0	60.0	64.9	108	63.7	106	2	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

EST	: EPA 8021 MODIFIED		
ISMSD #	: 201027-01	PINNACLE I.D.	: 201044
LIENT	: ENVIROTECH, INC.	DATE EXRACTED	: N/A
ROJECT #	: 97057-052	DATE ANALYZED	: 01/11/02
ROJECT NAME	: EPFS	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	**7.6**	20.0	26.9	97	26.7	97	1	(80 - 120)	20
OLUENE	**20**	20.0	37.5	88	37.0	88	1	(80 - 120)	20
THYLBENZENE	**4.7**	20.0	26.7	110	26.1	110	2	(80 - 120)	20
OTAL XYLENES	**34**	60.0	98.5	108	96.9	108	2	(80 - 120)	20

HEMIST NOTES:
I/A

$$\text{\% Recovery} = \frac{\text{(Spike Sample Result - Sample Result)}}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{\text{(Sample Result - Duplicate Result)}}{\text{Average Result}} \times 100$$

CHAIN OF CUSTODY RECORD

08887

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
EPFS	D-100P-LINE-DRIP	
Sampler:	Client No. 97057-052	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	8021 BTEX						Remarks
MW-2A	1-10-02	11:41	21786	WATER	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Kelly Padilla	1-10-02	11:45	Christa Walter	1-10-02	11:45
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Forward: To Pinnacle for Analysis

Results & Invoice to
Lynn Bonelly
EPFS
614 Reilly

ENVIROTECH INC.
5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

ENVIROTECH INC.
FARMINGTON, NM 5796 HIGHWAY 64
MONITOR WELL DATA

Date: 1-10-02 Project No: 97057-052

Project Name: EPFS Chain of Custody No: 08887

Location: D-LOOP-LINE DRIP

Project Manager: _____ Sampler: Kelly Padilla

MONITOR WELL DATA

WELL #	TIME	OVM ppm	pH	COND. µS	TEMP. °F	DEPTH TO WATER FT.	TOTAL DEPTH FT.	WATER COLUMN FT.	BAILED Water Gal.	PRODUCT Ft.	WATER LEVEL FT.
	10:09	0	8.8	2.16	56.6	34.45	39.07		2.5		
	10:14	0	8.5	2.27	55.6				2.5		
	10:19	0	8.5	2.26	56.6				2.5		
	10:35	0	8.5	230	56.5				2.5		
	10:45	0	8.6	2.46	55.6				2.5		
	11:00	0	8.5	2.46	55.5				2.5		
	11:15	0	8.4	2.46	55.6				2.5		
	11:20	0	8.4	2.47	55.5				2.5		

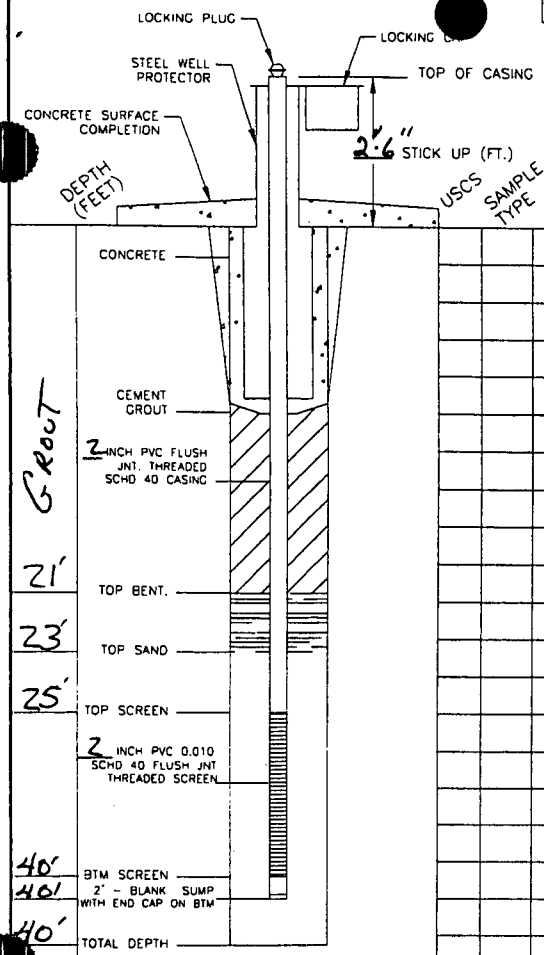
Notes: TOC = Top of Casing
Bailed = 3 well volumes:
1.25" well = 0.19 gal/ft.
2.00" well = 0.49 gal/ft.
4.00" well = 1.96 gal/ft.
Note well diameter if not one of the above.

ABOVE GRADE WELL COMPLETION DIAGRAM / LITHOLOGY LOG

MW _____

SB _____

D-Loop-LINE-DRIP



DEPTH (FEET)	USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	DEPTH (FEET)
						0
					DRILL CUTTINGS	
					SAND, FINE, MEDIUM YELLOW	10
					NO ODOR	
					DRILL CUTTINGS	10'
					SOME SILT YELLOW MEDIUM	
					NO ODOR	20'
					DRILL CUTTINGS	20'
					SANDY MEDIUM LIGHT BROWN	
					NO ODOR.	30'
					DRILL CUTTINGS	30'
					SANDY BROWN STARTING TO COME UP	
					MOIST. SILTY at 36' NO ORDOR.	40'

Well Materials Used:

- 7 Sks 10-12 Silica Sand
- 1 Sks Bentonite Chips
- 6 Sks Class "A" Cement
- 2 Sks Quickcrete
- 30 Ft Blank Casing
- 15 Ft Screen

Well Development:

- _____ Bailed
- _____ Pumped
- _____ Gallons of Water

Remarks:

DRILLER: Kelly Padilla
HELPER: T.J VALDEZ
DRILLING COMPANY: ACPI
DRILLING METHOD: Auger

BIT SIZE: 8"
TOTAL BORING DEPTH: 40'
DATE STARTED: 1/18/02
SAMPLER TYPE: _____

LOCATION: D-Loop / EPFS
ELEVATION: _____
DATE COMPLETED 1/18/02
GEOLOGIST: _____

REVISIONS
BY ___ DATE _____
BY ___ DATE _____

JOB # _____

ENVIROTECH INC.
ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64
FARMINGTON, NEW MEXICO 87401
(505) 632-0615

AbvGrdlog.dwg

DATE _____ DRAWN ___
SCALE _____ APPROVED ___
PAGE ___ OF ___

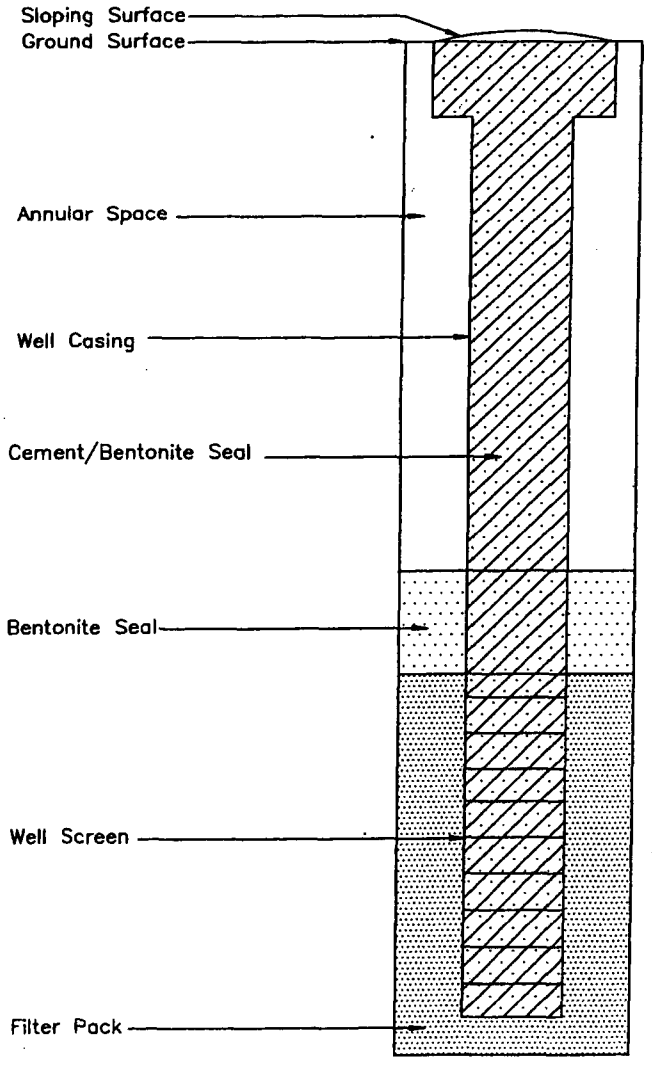
MONITOR WELL ABANDONMENT FORM

Envirotech Inc.
5796 US Hwy 64
Farmington, New Mexico 87401
(505)632-0615 Fax (505)632-1865

D-LOOP-LINE-DRIP

Project Name	EPFS	**Well #**	D-loop line DRIP
Project Number/Phase		Well Location	
Driller	Kelly Padilla	Site Location	D-loop line DRIP
Date/Time Started	1-8-02		
Date/Time Completed	1-8-02		

WELL DIAGRAM



Ground Surface	↑ ↑ ↑
Top of Grout	Ground Surface
Top of Riser	
Water Level	
Bottom of Grout	35'
Bottom of Well (TD)	35'

Comments: Pulled well Protector about 3' of Casing Came up with Protector. Grouted well.

Driller's Signature Kelly Padilla

SURFACE EXPLORATIC

s Corp.

/401
)05) 326-2388

Borehole # TW-1 South West
Well # MW-2
Page 1 of 1

Project Name EPFS
Project Number Phase
Project Location D Loop Drip

Location Temp Well (TW) - 1 (South West)
Depth ~32'
gged By Don Fernald
Drilled By K Padilla
Date/Time Started 12/21/99 9:00 A.M.
Date/Time Completed 12/21/99 11:10 A.M.

Well Logged By Don Fernald
Personnel On-Site Fernald, K.Padilla, D. Padilla
Contractors On-Site NONE
Client Personnel On-Site NONE

Drilling Method CME-75 Auger
Air Monitoring Method N/A

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	PID Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0			Lt. brown - brown silty fine sand w/some organic material (roots) very dry			34			
5	X								
			brown silty clay w/some small grains of qtz sand. Moisture present, some roots.						
10	X					3.4			
			Mostly fine w/some med. grained sand, very silty. brown.						
15	X					7.2			
			Well-sorted med-fine grained silty brown sand. (lt. brown to slight yellow)						
20	X					6.6			
			Very fine grained silty sand - brown -						
25	X					2.4			
			Grades to med-fine grained reddish brown silty sand @ ~28'.						
30	X					7.5			
			Ground water @ ~32-33'. HC smear @ top of G.W. Fine grained silty sand. Brown						
35	X					127.0			
			Boring continued to 40'						
40									

SCREEN 10 ft

Comments: 2" Temporary well installed .10 Screen from 40'-25' / Solid PVC from 25' to surface. 10-20 Sand from 40'-23'. 3/8" Bentonite hole plug from 23' to 21'. Baled ~ 15 gallons of water/HC product from well.

Geologist Signature Don Fernald

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MONITORING WELL INSTALLATION RECORD

Borehole # TW-1 SW
Well # MW-2
Page 1 of 1

Philip Services Corporation
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPFS
Project Number _____ Cost Code _____
Project Location D Loop Drip

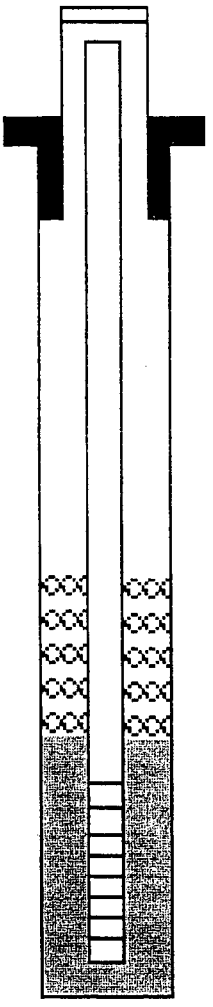
Elevation _____
Well Location T-1 South West
GWL Depth ~ 32-33'
Installed By K. Padilla

On-Site Geologist D. Fernald
Personnel On-Site Fernald, K. Padilla, D. Padilla
Contractors On-Site NONE
Client Personnel On-Site NONE

Date/Time Started 10:15 AM / 12-21-99
Date/Time Completed 11:10 A.M. / 12-21-99

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing	Steel	~2.5'
Bottom of Protective Casing	"	-6"
Top of Permanent Borehole Casing		2+'
Bottom of Permanent Borehole Casing		40'
Top of Concrete		—
Bottom of Concrete		—
Top of Grout	Bentonite	—
Bottom of Grout	"	21'
Top of Well Riser	2" Sch 40 PVC	2+'
Bottom of Well Riser	"	25'
Top of Well Screen	.10 screen	25'
Bottom of Well Screen	"	40'
Top of Peltonite Seal	3/8" bentonite	21'
Bottom of Peltonite Seal	"	23'
Top of Gravel Pack	10-20 Sand	23'
Bottom of Gravel Pack	"	40'
Top of Natural Cave-In	—	—
Bottom of Natural Cave-In	—	—
Top of Groundwater	—	~32'
Total Depth of Borehole	—	40'



Top of Protective Casing +3.5'
Top of Riser ~~+2~~ +3.0'
Ground Surface 0

Top of Seal 21'

Top of Gravel Pack 23'
Top of Screen 25'

Bottom of Screen 40'
Bottom of Borehole 40'

Comments: MW-2 (temporary well) was completed 7/18/00

Geologist Signature _____

JF SUBSURFACE EXPLORAT

...vironmental Services Corp.
...onroe Road
...ington, New Mexico 87401
...326-2262 FAX (505) 326-2388

Borehole # TW-2 - Northwest
Well # MW-3
Page 1 of 1

Project Name EPFS
Project Number ____ Phase ____
Project Location D LOOP DRIP

...tion ____
Borehole Location TW-2 Northwest
GWL Depth ____
Logged By Don Fernald
Drilled By Kelly Padilla
Date/Time Started 11:50 A.M. / 12-21-99
Date/Time Completed 2:50 P.M. / 12-21-99

Well Logged By Don Fernald
Personnel On-Site Fernald, D. Padilla, K. Padilla
Contractors On-Site NONE
Client Personnel On-Site NONE

Drilling Method CME-75 Auger
Air Monitoring Method N/A - PID

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	PID Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0			Brown, Med-Fine grained silty sand - Dry.						
5		X				2.7			
			Brown, Fine grained silty sand. some vegetation (roots) dry						
10		X				3.0			
			Brown, fine grained silty sand. Some moisture. Some sporce white pieces of chalky material						
15		X				4.1			
			Brown, fine grained silty sand grading to less sand to more silt.						
20		X				2.7			
			Brown, silt w/some very fine grained sand.						
25		X				4.7			
			Poor sample recovery. Very moist. Brown w/some mottled grey silty soil w/some very fine grained sand.						
30		X				1.8			
			~~Brown~~ - Grey med-fine grained sand. - WATER @ ~ 32'						
35		X				2.1			
40									

Comments: 2" Temporary well installed w/.10 screen from 40'-25'/solid PVC from 25' to surface. 10-20 sand from 40'-23'. 3/8" Bentonite hole plug from 23'-21'. Baled ~15 gallons of water from well.

Geologist Signature Don Fernald

5/6/99\Drillog.xls

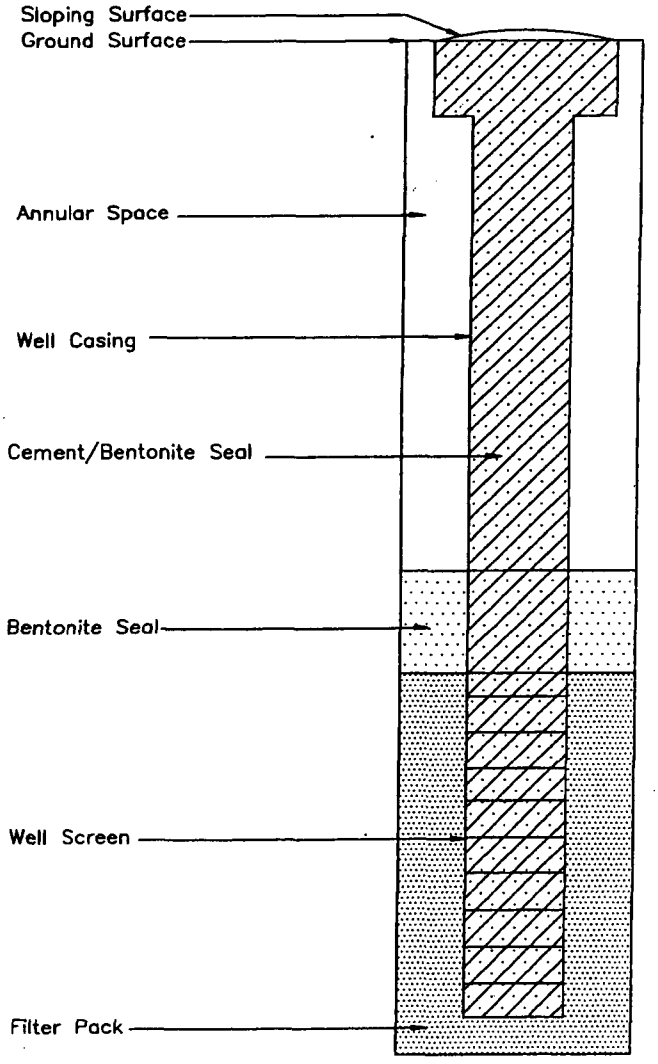
MONITOR WELL ABANDONMENT FORM

Envirotech Inc.
5796 US Hwy 64
Farmington, New Mexico 87401
(505)632-0615 Fax (505)632-1865

D-LOOP-LINE-DRIP

Project Name	EPFS	**Well #**	D-loop line drip
Project Number/Phase		Well Location	
Driller	Kelly Padilla	Site Location	D-loop line drip
Date/Time Started	1-8-02		
Date/Time Completed	1-8-02		

WELL DIAGRAM



Ground Surface	↑ ↑ ↑
Top of Grout	Ground Surface
Top of Riser	
Water Level	
Bottom of Grout	35'
Bottom of Well (TD)	35'

Comments: Pulled well Protector about 3' of Casing came up with Protector. Grouted well.

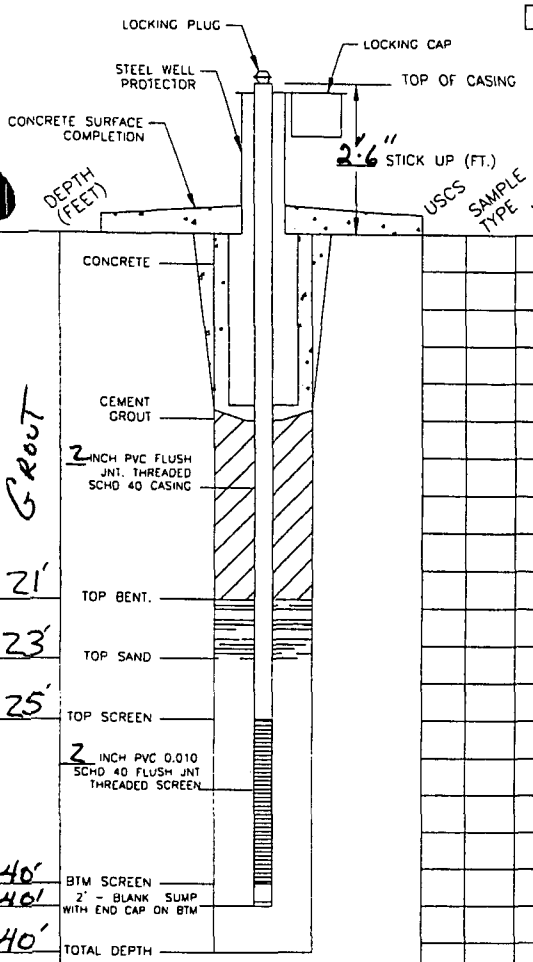
Driller's Signature Kelly Padilla

ABOVE GRADE WELL COMPLETION DIAGRAM / LITHOLOGY LOG

MW _____

SB _____

D-Loop-LINE-DRIP



DEPTH (FEET)	USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	DEPTH (FEET)
						0
					DRILL CUTTINGS	
					SAND, FINE, MEDIUM YELLOW	10'
					NO ODOR	
					DRILL CUTTINGS	10'
					SOME SILT YELLOW MEDIUM	20'
					NO ODOR	
					DRILL CUTTINGS	20'
					SANDY MEDIUM LIGHT BROWN	
					NO ODOR.	30'
					DRILL CUTTINGS	30'
					SANDY BROWN STARTING TO COME UP	
					MOIST. SILTY at 36' NO ODOR.	40'

Well Materials Used:

- 7 Sks 10-12 Silica Sand
- 1 Sks Bentonite Chips
- 6 Sks Class "A" Cement
- 2 Sks Quickcrete
- 30 Ft Blank Casing
- 15 Ft Screen

Well Development:

- _____ Bailed
- _____ Pumped
- _____ Gallons of Water

Remarks:

DRILLER: Kelly Padilla
HELPER: T.J VALDEZ
DRILLING COMPANY: ACPT
DRILLING METHOD: Auger

BIT SIZE: 8"
TOTAL BORING DEPTH: 40'
DATE STARTED: 1/18/02
SAMPLER TYPE: _____

LOCATION: D-Loop / EPES
ELEVATION: _____
DATE COMPLETED 1/18/02
GEOLOGIST: _____

REVISIONS
BY ___ DATE ___
BY ___ DATE ___

JOB # _____

ENVIROTECH INC.
ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64
FARMINGTON, NEW MEXICO 87401
(505) 632-0615

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DATE _____ DRAWN ___
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