3R - 170

REPORTS

DATE:

2001

elpaso Field Services

Certified Mail: #7001 1940 0003 1553 8513

February 28, 2002

Mr. William C. Olson
New Mexico Oil Conservation Division
1220 St. Francis Dr.
Santa Fe, NM 87504

RE: 2001 Pit Project Annual Groundwater Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual reports for the 30 remaining groundwater impacted sites that were identified during our pit closure project of 1994 / 1995.

EPFS has organized the 30 reports (Volumes IA, IB, II and III), reports by land type. Volume IA and IB contain annual reports for sites found on Federal land. Volume II contains Non Federal sites and Volume III contains sites on Navajo land. Of the 30 reports submitted EPFS is requesting closure of three sites located on Navajo lands. Of the three Navajo sites submitted for closure OCD has closed the Charley Pah #4 and the John Charles #8. The Rementa et al #1 has not been closed by either agency. EPFS understands closure of groundwater sites on Navajo land falls under jurisdiction of the Navajo Environmental Protection Agency and original documents have been submitted to them for review. Other Navajo sites are included in the report for your information.

The Jaquez Com. C #1 and Jaquez Com. E #1 site is not included in with this report and will be submitted by the required deadline of April 1, 2002.

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

Sincerely,

Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # 7001 1940 0003 1553 8506**
Mr. Bill Liesse, BLM – w / enclosures (federal sites only), **Certified Mail # 7001 1940 0003 1553 8520**

SAN JUAN BASIN PIT CLOSURES

San Juan Basin, New Mexico

El Paso Field Services
Pit Project Groundwater Sites
Annual Report
Volume IA-Federal Sites

March 2002

Prepared for

El Paso Field Services
Farmington, New Mexico

elpaso

MWH
MONTGOMERY WATSON HARZA

EL PASO FIELD SERVICES ANNUAL GROUNDWATER REPORT

FEDERAL SITES VOLUME IA

TABLE OF CONTENTS

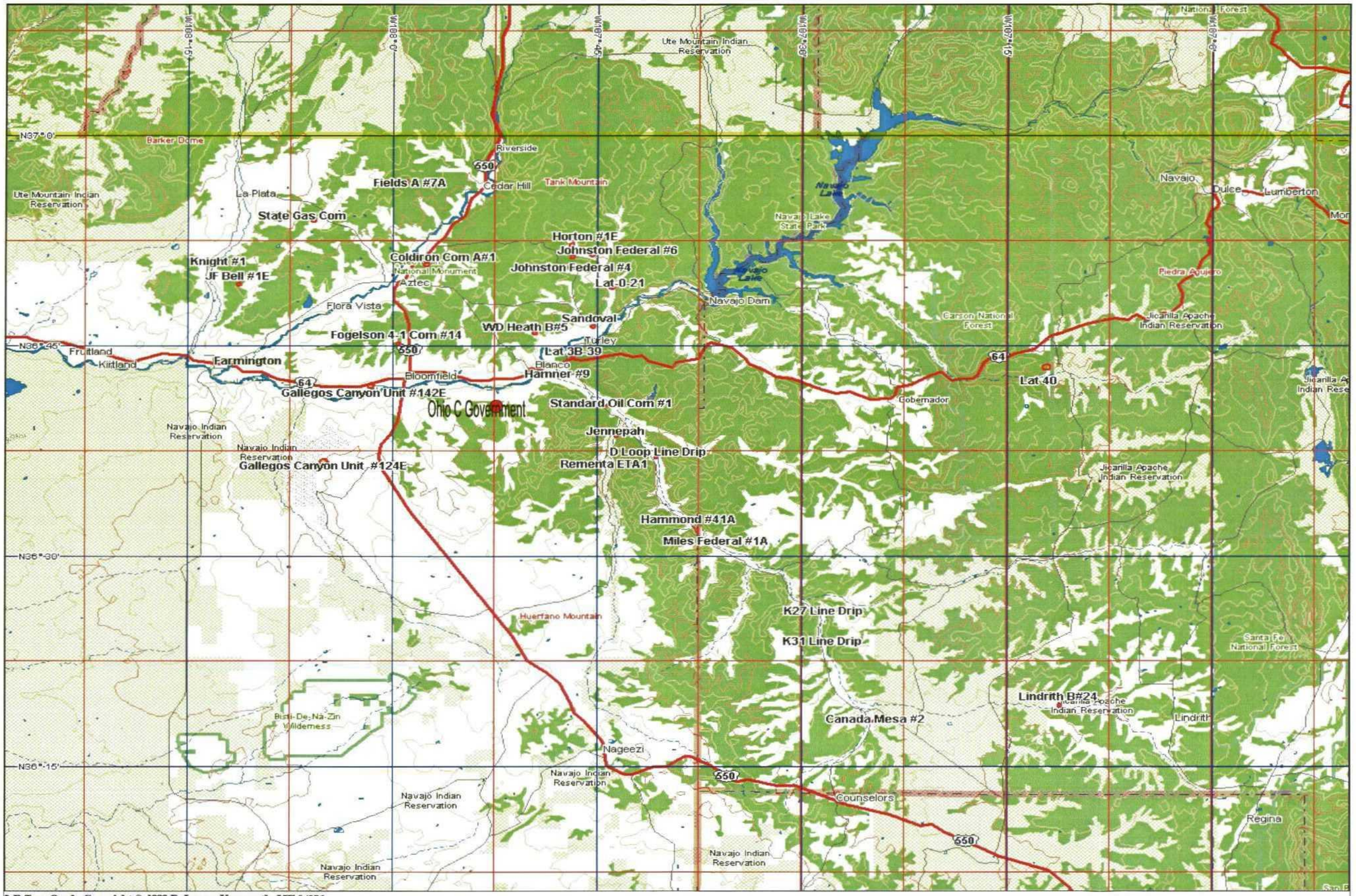
Site Map

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
89961	Fields A#7A	32N	11W	34	E
89232	Johnston Fed #6A	31N	09W	35	F
94715	James F. Bell #1E	30N	13W	10	P
89620	Sandoval GC A #1A	30N	09W	35	C
87493	W D Heath B-5	30N	09W	31	M
LD151	Lat 0-21 Line Drip	30N	09W	12	O
73220	Fogelson 4-1 Com. #14	29N	11W	4	P

elpaso

MWH
MONTGOMERY WATSON HARZA

Groundwater Site Map



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 — 3 mi Scale: 1 : 600,000 Detail: 3-4 Datum: WGS84

EPFS GROUNDWATER PITS
2001 ANNUAL GROUNDWATER REPORT

Fields A#7A

Meter Code 89961

SITE DETAILS

Legals Twn: 32N Rng: 11W Sec: 34 UNIT: E

NMOCD Haz Ranking 40 Land Type: Federal Operator: Amoco Production Company

PREVIOUS ACTIVITIES

Site Assessment: Aug-94 Excavation Sep-94 (70cy) Soil Boring: July-95 Monitor Well: Jul-95

Geoprobe: NA Additional MWs: Dec-95 Downgradient MW's: Dec-95 Replace MW: NA

PSH Removal Initiated: Aug-97 ORC Nutrient Injection NA Re-Excavation: NA

Quarterly Initiated NA Annual Initiated Apr-97 Quarterly Resumed: NA

2001 ACTIVITY

Groundwater Monitoring - Annual groundwater samples were collected from MW-2 and MW-3 in April of 2001.

Phase Separated Hydrocarbons (PSH) Measurements - PSH thickness was monitored throughout 2001. PSH in MW-1 was 9.45 cumulative gallons for 2001. PSH in MW-4 was 0.9 cumulative gallons for 2001.

SUMMARY TABLES AND GRAPHS

Groundwater analytical data are presented in Table 1 BTEX and the PSH recovery data is presented in the Product Removal Table. Copies of the laboratory data sheets and associated quality assurance/quality control data are presented as Attachment 1. Included are BTEX Data graphs for MW-1 through -4 and Free Product Recovery graphs for MW-1 and MW-4.

SITE MAP

Site Maps with BTEX concentrations and groundwater elevations are attached.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

There were no drilling activities at this site in 2001.

DISPOSITION OF GENERATED WASTES

All PSH recovered was disposed of at the Kutz Separator in Bloomfield, New Mexico

EPFS GROUNDWATER PITS
2001 ANNUAL GROUNDWATER REPORT

Fields A#7A

Meter Code: 89961

ISOCONCENTRATION MAPS

An isoconcentration map was not generated for this site.

CONCLUSIONS

A total of 9.45 gallons of phase separated hydrocarbons were recovered from MW-1 in 2001, with a cumulative total of 12.30 gallons. The appearance of product in MW-1 was sporadic - disappearing from July through October 2001. A total of 0.9 gallons of phase separated hydrocarbons were recovered from MW-4 in 2001, with a cumulative total of 0.9 gallons. Monitoring well MW-4 was dry in August 2001. Groundwater and free phase hydrocarbons (0.04 feet) were detected again in this well in December 2001.

Dissolved phase hydrocarbon concentrations in MW-3 have been decreasing and are presently at 120 ppb benzene. Dissolved phase hydrocarbon concentrations in MW-2 have decreased to nondetectable concentrations over six consecutive sampling events between April 1996 and April 2001. We recommend this well be dropped from further sampling.

RECOMMENDATIONS

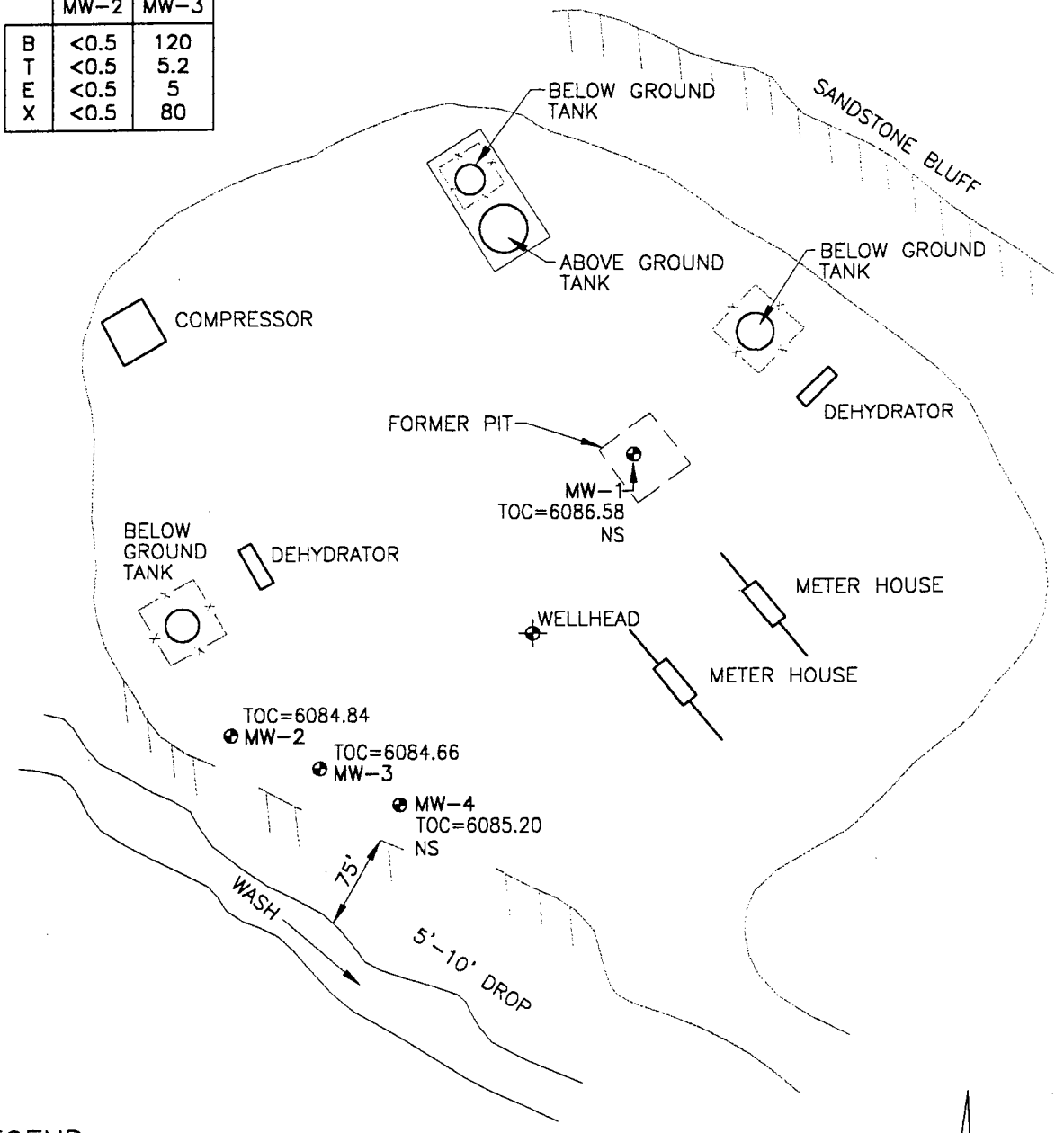
> Continue product removal at MW-1 and MW-4, as needed.

> Sample MW-1 for specific gravity.

> Following removal of product, sample annually until BTEX levels are below NMWQCC standards, then sample quarterly for closure.

> Continue annual sampling at MW-3 until BTEX levels are below NMWQCC standards and discontinue sampling at MW-2 until time of closure.

	MW-2	MW-3
B	<0.5	120
T	<0.5	5.2
E	<0.5	5
X	<0.5	80



LEGEND

⊕ MW-1	Approximate Monitoring Well Location and Number
B	Benzene (µg/L)
T	Toluene (µg/L)
E	Ethylbenzene (µg/L)
X	Total Xylenes (µg/L)
NS	Not Sampled
TOC	Top of Casing

N

0 40

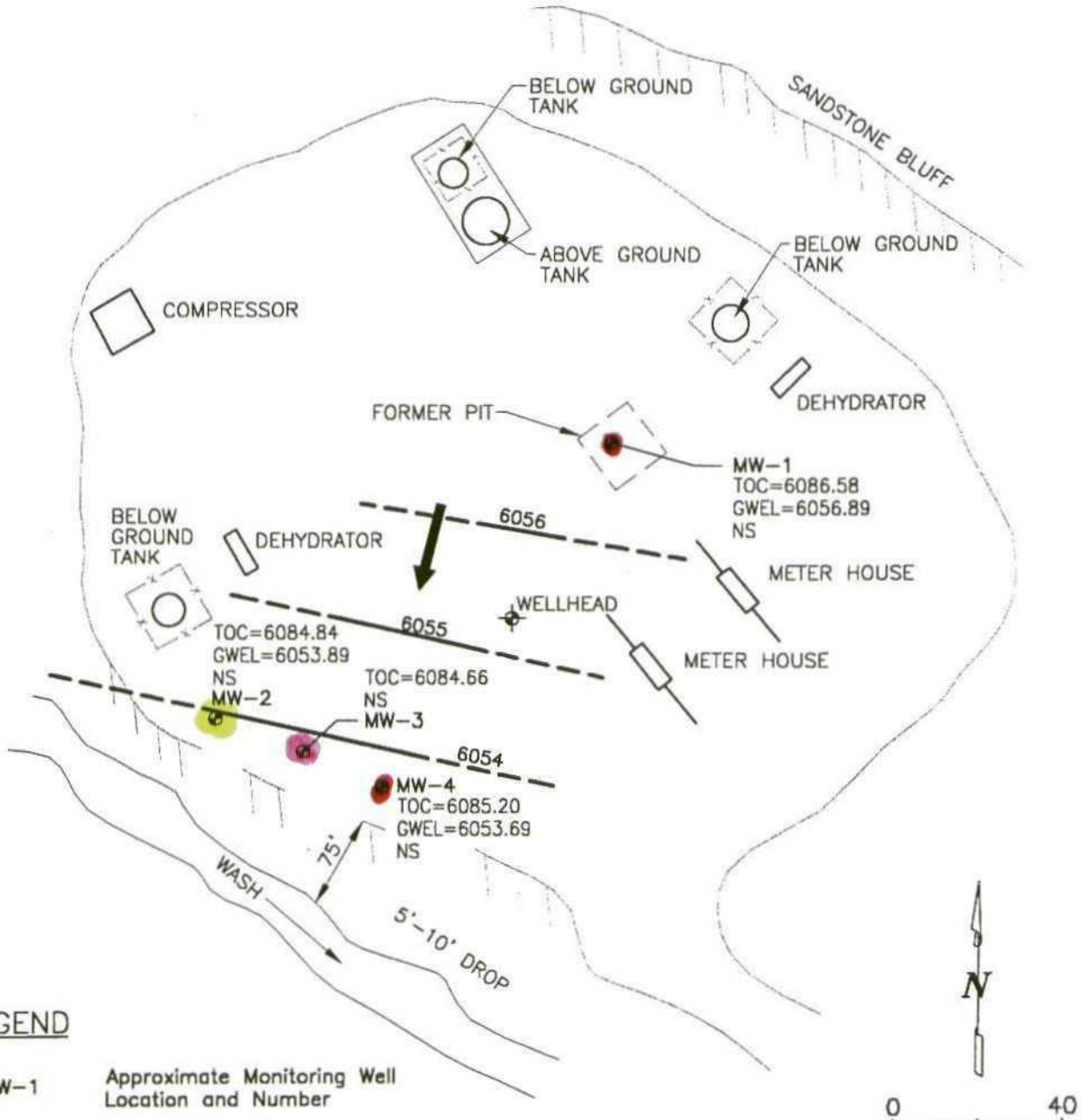
SCALE: 1"=40'

FIELDS A #7A, METER 89961/97546
APRIL, 2001

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

fieldsa7_01.dwg



LEGEND

MW-1	Approximate Monitoring Well Location and Number
B	Benzene (µg/L)
T	Toluene (µg/L)
E	Ethylbenzene (µg/L)
X	Total Xylenes (µg/L)
NS	Not Sampled
TOC	Top of Casing
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
6055	Potentiometric Surface (Approximate & Assumed Where Dashed)
→	Direction of Groundwater Flow (Estimated)

FIELDS A #7A, METER 89961/97546
JULY, 2001

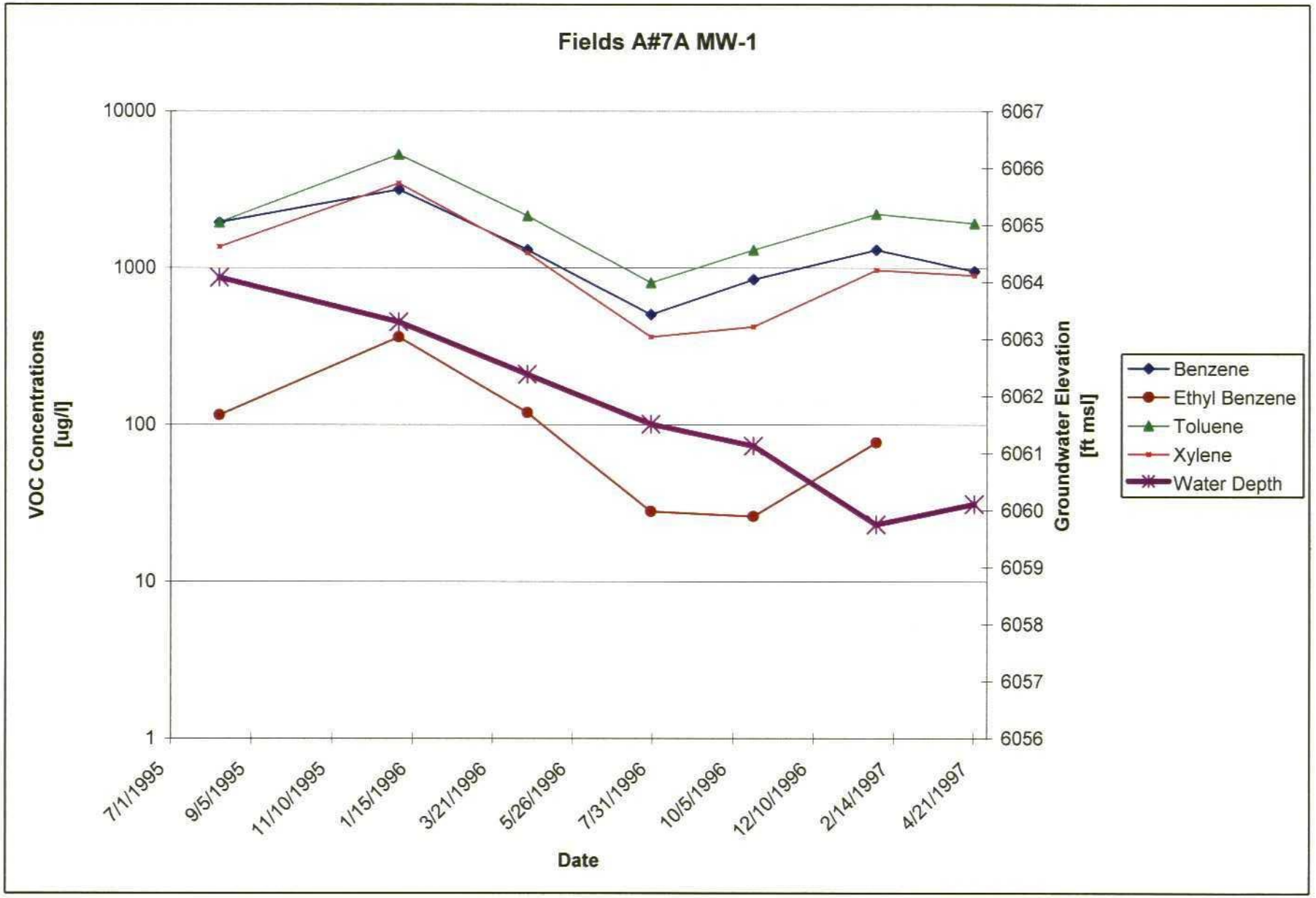
GROUNDWATER SITES
EL PASO FIELD SERVICES

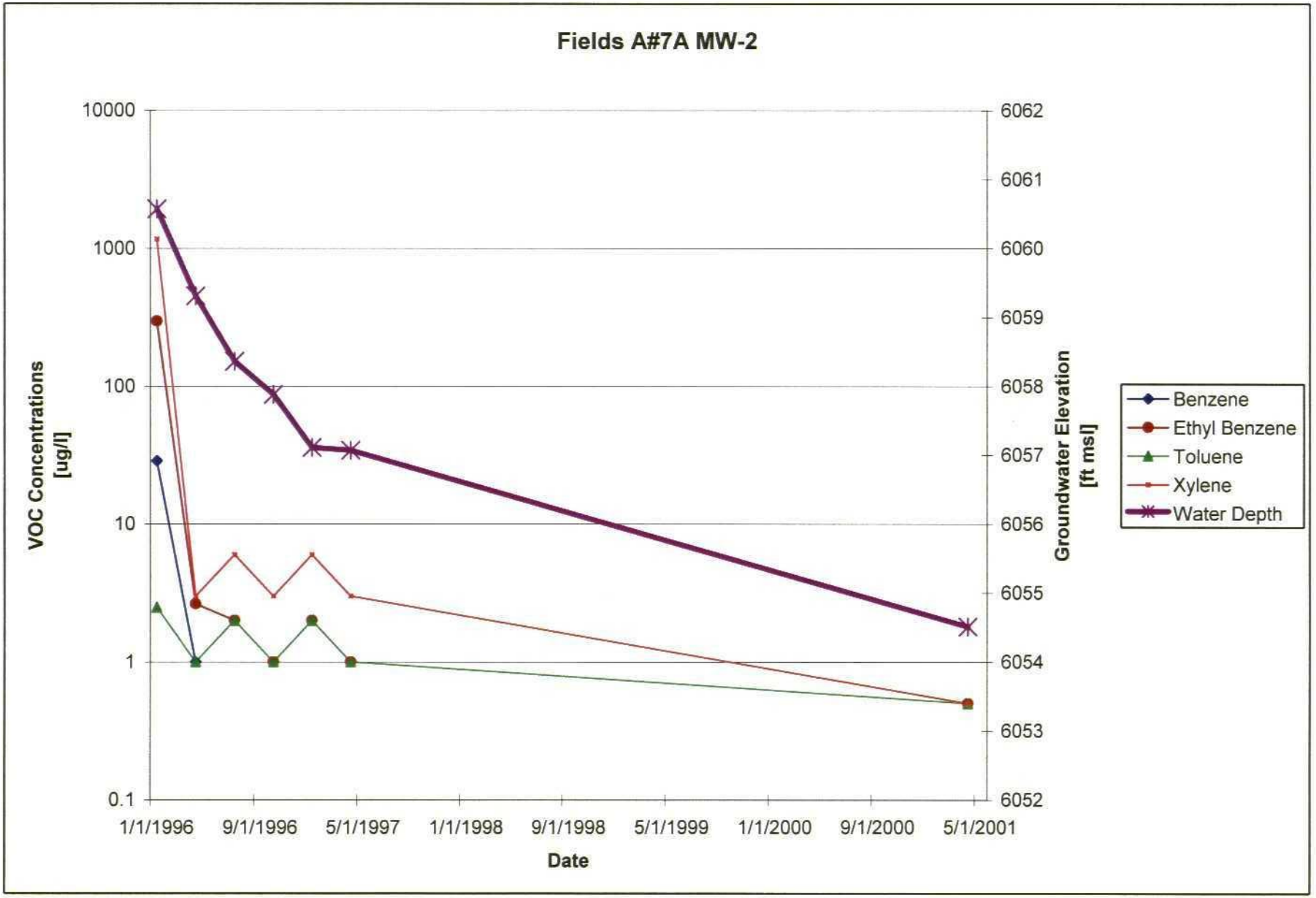
FIGURE 2

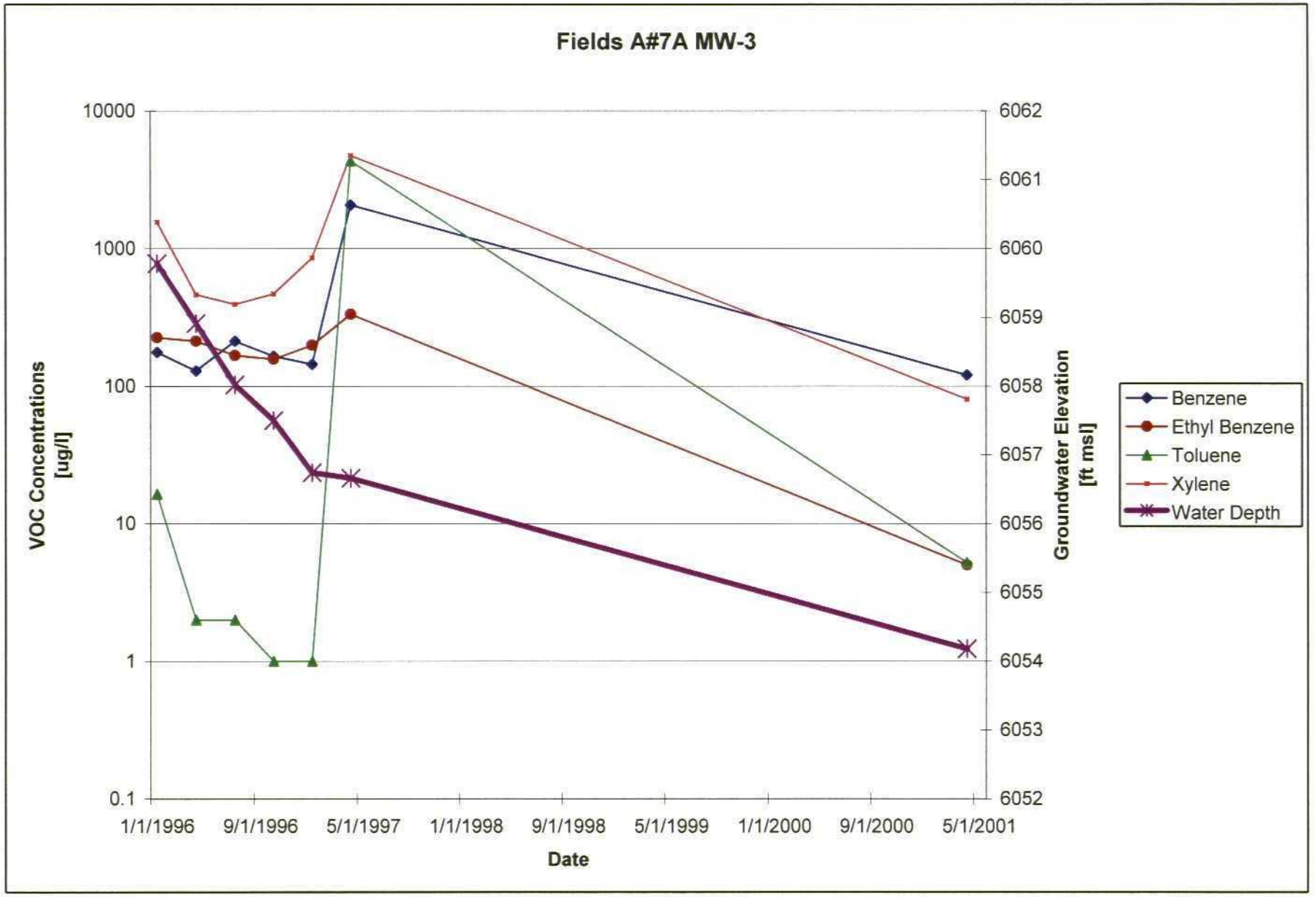
fieldsa7_01.dwg

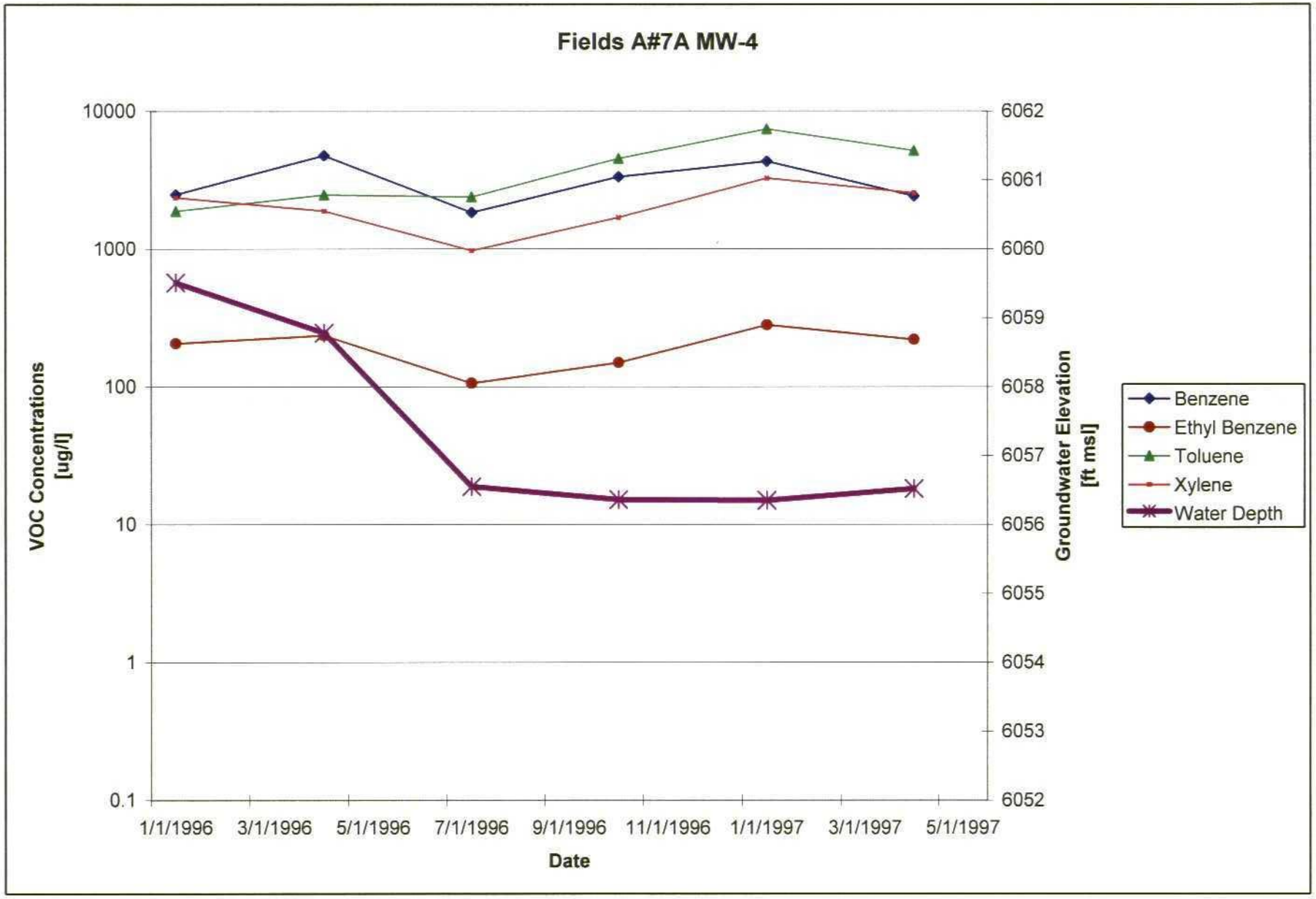
Table 1 BTEX
Fields A#7A

Sample #	Meter Line #	Site Name	Sample Date	MW#	Benzene (µg/l)	Ethyl Benzene (µg/l)	Toluene (µg/l)	Total Xylenes (µg/l)	Depth to Water (Feet)	Groundwater Elevation (feet)
FIE0104	89961	Fields A#7A	4/13/2001	2	< 0.5	< 0.5	< 0.5	< 0.5	30.33	6054.51
FIE0104	89961	Fields A#7A	4/13/2001	3	120	5	5.2	80	30.48	6054.18


Fields A#7A MW-1
VOC Concentrations [ug/l]
Groundwater Elevation [ft msl]
Date
10000
1000
100
10
1
6067
6066
6065
6064
6063
6062
6061
6060
6059
6058
6057
6056
7/1/1995
9/5/1995
11/10/1995
1/15/1996
3/21/1996
5/26/1996
7/31/1996
10/5/1996
12/10/1996
2/14/1997
4/21/1997
Benzene
Ethyl Benzene
Toluene
Xylene
Water Depth


Fields A#7A MW-2
10000
1000
100
10
1
0.1
VOC Concentrations [ug/l]
6062
6061
6060
6059
6058
6057
6056
6055
6054
6053
6052
Groundwater Elevation [ft msl]
1/1/1996
9/1/1996
5/1/1997
1/1/1998
9/1/1998
5/1/1999
1/1/2000
9/1/2000
5/1/2001
Date
Benzene
Ethyl Benzene
Toluene
Xylene
Water Depth


Fields A#7A MW-3
VOC Concentrations [ug/l]
Groundwater Elevation [ft msl]
Date
10000
1000
100
10
1
0.1
6062
6061
6060
6059
6058
6057
6056
6055
6054
6053
6052
1/1/1996
9/1/1996
5/1/1997
1/1/1998
9/1/1998
5/1/1999
1/1/2000
9/1/2000
5/1/2001
Benzene
Ethyl Benzene
Toluene
Xylene
Water Depth


Fields A#7A MW-4
10000
1000
100
10
1
0.1
VOC Concentrations [ug/l]
6062
6061
6060
6059
6058
6057
6056
6055
6054
6053
6052
Groundwater Elevation [ft msl]
1/1/1996
3/1/1996
5/1/1996
7/1/1996
9/1/1996
11/1/1996
1/1/1997
3/1/1997
5/1/1997
Date
Benzene
Ethyl Benzene
Toluene
Xylene
Water Depth

Product Removal Table
Fields A#7A

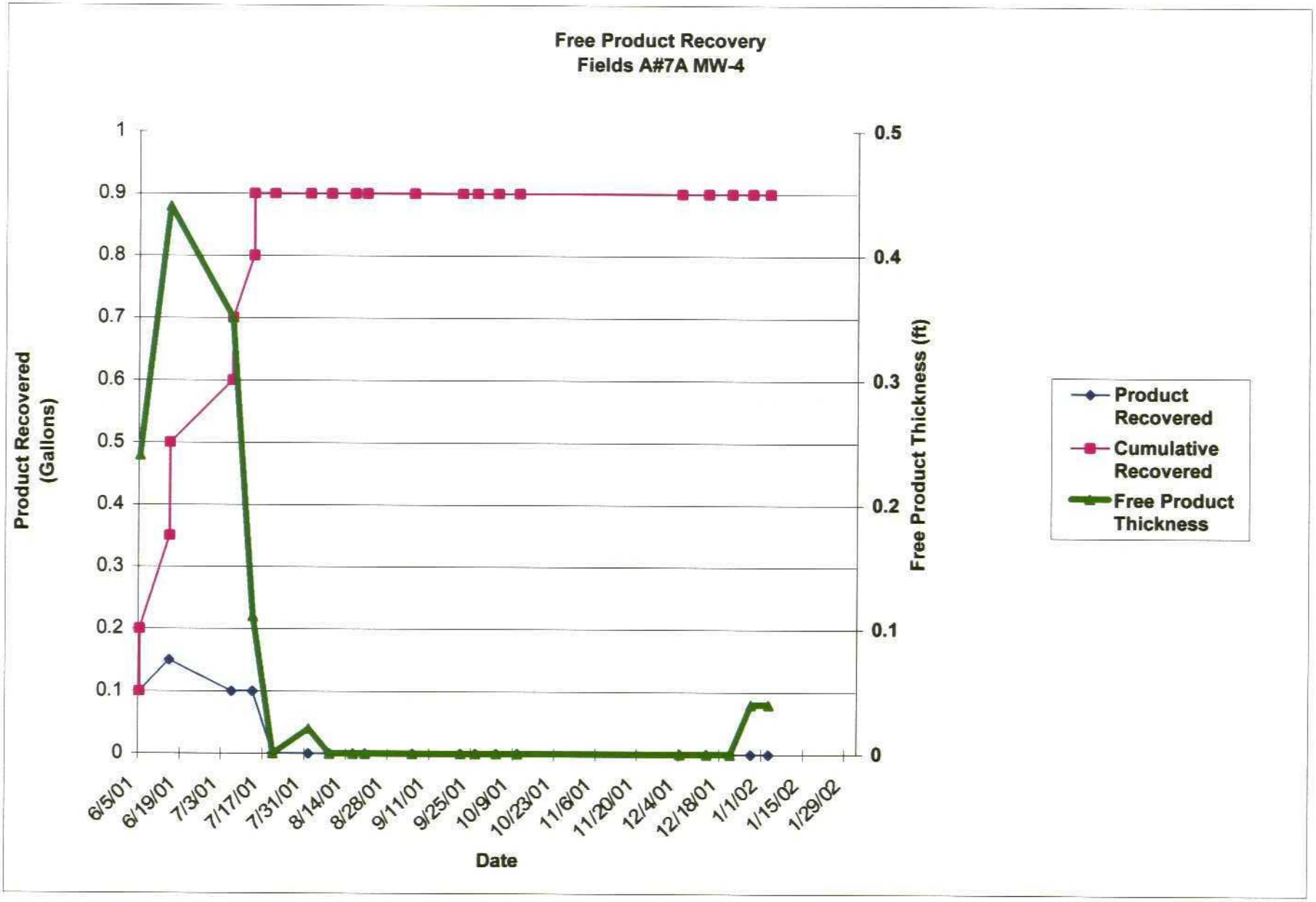
Meter Line	Site Name	MW#	Date	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Volume Removed (Gallons)	Cumulative Total (Gallons)
89961	Fields A#7A	1	1/30/01	28.74	30.08	1.1	1.25	4.10
89961	Fields A#7A	1	2/8/01	28.65	29.85	1.2	1	5.10
89961	Fields A#7A	1	2/16/01	29.08	30.2	1.12	1	6.10
89961	Fields A#7A	1	2/17/01	29.08	29.66	0.58	1	7.10
89961	Fields A#7A	1	2/26/01	29.39	29.54	0.15	1	8.10
89961	Fields A#7A	1	3/5/01	29.25	29.28	0.03	0.5	8.60
89961	Fields A#7A	1	4/11/01	0	29.33	0	0.1	8.70
89961	Fields A#7A	1	6/5/01	29.34	29.46	0.12	1	9.70
89961	Fields A#7A	1	6/15/01	29.57	29.65	0.08	0	9.70
89961	Fields A#7A	1	7/6/01	0	30	0	0.5	10.20
89961	Fields A#7A	1	7/13/01	0	29.96	0	0.05	10.25
89961	Fields A#7A	1	7/20/01	0	29.69	0	0	10.25
89961	Fields A#7A	1	8/1/01	0	30.19	0	0	10.25
89961	Fields A#7A	1	8/8/01	0	30.12	0	0	10.25
89961	Fields A#7A	1	8/18/01	0	30.44	0	0	10.25
89961	Fields A#7A	1	8/20/01	0	30.32	0	0	10.25
89961	Fields A#7A	1	9/5/01	0	30/38	0	0	10.25
89961	Fields A#7A	1	9/21/01	0.0	30.63	0	0	10.25
89961	Fields A#7A	1	9/26/01	0	30.78	0	0	10.25
89961	Fields A#7A	1	10/3/01	0	30.69	0	0	10.25
89961	Fields A#7A	1	10/10/01	30.32	30.33	0.01	2.025	12.28
89961	Fields A#7A	1	12/4/01	0	30.51	0	0.02	12.30
89961	Fields A#7A	1	12/13/01	29.42	29.43	0.01	0	12.30
89961	Fields A#7A	1	12/21/01	30.39	30.40	0.01	0	12.30
89961	Fields A#7A	1	12/28/01	0	30.64	0	0	12.30
89961	Fields A#7A	1	1/3/02	30.69	30.40	0	0	12.30
89961	Fields A#7A	4	6/5/01	31.01	31.25	0.24	0.1	0.45
89961	Fields A#7A	4	6/15/01	31.12	31.56	0.44	0.15	0.60
89961	Fields A#7A	4	7/6/01	31.20	31.55	0.35	0.1	0.70
89961	Fields A#7A	4	7/6/01	31.2	31.55	0.35	0.1	0.80
89961	Fields A#7A	4	7/13/01	31.44	31.55	0.11	0.1	0.90
89961	Fields A#7A	4	7/20/01	31.51		0	0	0.90
89961	Fields A#7A	4	8/1/01	31.54	31.56	0.02	0	0.90
89961	Fields A#7A	4	8/8/01		31.55(TD,dry)	0	0	0.90

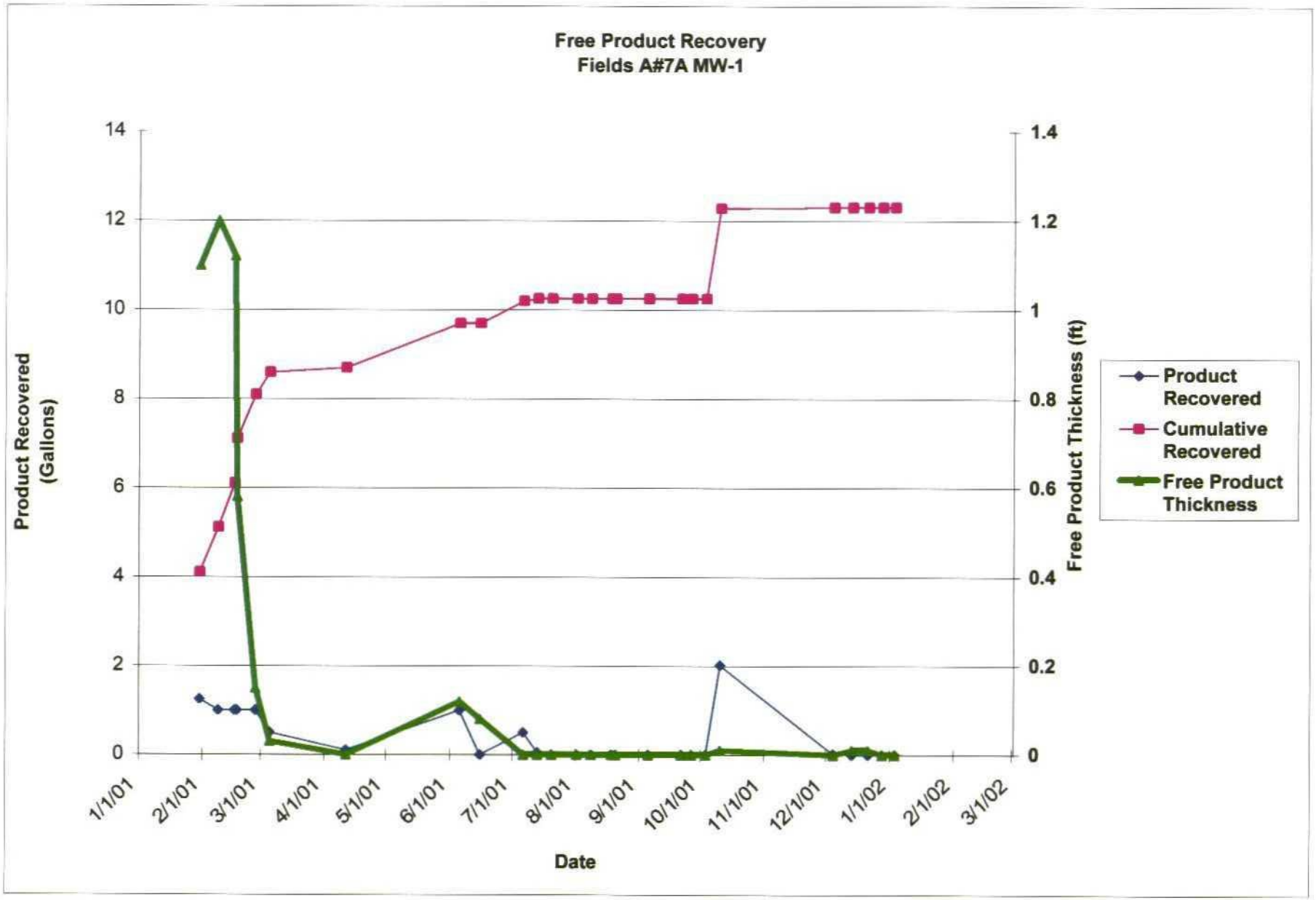
No product removed from MW-2 and MW-3 for 2001

Product Removal Table
Fields A#7A

Meter Line	Site Name	MW#	Date	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Volume Removed (Gallons)	Cumulative Total (Gallons)
89961	Fields A#7A	4	8/16/01	Dry	Dry	0	0	0.90
89961	Fields A#7A	4	8/20/01	Dry	Dry	0	0	0.90
89961	Fields A#7A	4	9/5/01	Dry	Dry	0	0	0.90
89961	Fields A#7A	4	9/21/01	Dry	Dry	0	0	0.90
89961	Fields A#7A	4	9/26/01	Dry	Dry	0	0	0.90
89961	Fields A#7A	4	10/3/01	Dry	Dry	0	0	0.90
89961	Fields A#7A	4	10/10/01	Dry	Dry	0	0	0.90
89961	Fields A#7A	4	12/4/01			0	0	0.90
89961	Fields A#7A	4	12/13/01	31.65		0	0	0.90
89961	Fields A#7A	4	12/21/01	31.61		0	0	0.90
89961	Fields A#7A	4	12/28/01		31.61	0.04	0	0.90
89961	Fields A#7A	4	1/3/02	31.61		0.04	0	0.90

No product removed from MW-2 and MW-3 for 2001


Free Product Recovery
Fields A#7A MW-4
Product Recovered (Gallons)
Free Product Thickness (ft)
Date
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.5
0.4
0.3
0.2
0.1
0
6/5/01
6/19/01
7/3/01
7/17/01
7/31/01
8/14/01
8/28/01
9/11/01
9/25/01
10/9/01
10/23/01
11/6/01
11/20/01
12/4/01
12/18/01
1/1/02
1/15/02
1/29/02
Product Recovered
Cumulative Recovered
Free Product Thickness


Free Product Recovery
Fields A#7A MW-1
Product Recovered (Gallons)
Free Product Thickness (ft)
Date
14
12
10
8
6
4
2
0
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1/1/01
2/1/01
3/1/01
4/1/01
5/1/01
6/1/01
7/1/01
8/1/01
9/1/01
10/1/01
11/1/01
12/1/01
1/1/02
2/1/02
3/1/02
Product Recovered
Cumulative Recovered
Free Product Thickness

ATTACHMENT 1

2001 GROUNDWATER ANALYTICAL

1500 1530

WELL OBSERVATION DATA

amec

Project Name: EPFS GW. project

Project No.: 15170001.21

Project Mngr: LISA WINN

Task: 3

Client Co.: Elpaso Field Services

Date: 1-3-02

Site Name: Fields A #7A (89961 / 97456)

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)	Floating Product Thickness	Sinking Product Thickness	Comments
MW 1	1527		30.69						O
MW 4	1521		31.61			31.65	.04		Dry

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

Comments: MW1 Skimmer empty/ NO Recovery probe did not Detect any product

Signature: Lisa A Winn

Date: 1-3-02

WELL OBSERVATION DATA

Project Name: EpFS GW project

Project No.: 151700121

Project Mngr: Lisa Winn

Task: 3

Client Co.: El Paso Field Services

Date: 12-28-01

Site Name: Fields A #7A (89-21)

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)	Floating Product Thickness	Sinking Product Thickness	Comments
MW 1	1040			30.64					0
MW 4	1025			31.61		31.65	.04		

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

Comments: NO product Recovered in Skimmer NO product Detected with water oil probe,

Signature: Chris A. Mann

Date: 12-28-01

WELL OBSERVATION DATA

amec

Project Name: EPFS GW project Project No.: 1512000

Project Mngr: Lisa Winn Task:

Client Co.: El Paso Field Services Date: 12-21-01

Site Name: Fields 1#2A 89961/97456

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)	Floating Product Thickness	Sinking Product Thickness	Comments
MW1	1221		30.39	30.40			.01		@
MW4	1209		31.61			31.65	.04		Dry

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

Comments: Skimmer Screen at Right Level NO Adjustments Made, No product Recovered

Signature: Brian Mag Date: 12-21-01

WELL OBSERVATION DATA

amec

Project Name: EPFS GW Project

Project No.: [illegible]

Project Mngr: Lisa Winn

Task:

Client Co.: El Paso Field Services

Date: 12-13-01

Site Name: Fields A#7A (89?)

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)	Floating Product Thickness	Sinking Product Thickness	Approximate [illegible] Comments [illegible]
MW 1	1308		29.72	29.73			.01		[illegible]
MW 2	1259			31.41					
MW 3	1302			31.59					
MW 4	1305		31.65			31.65			Dry well

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

Comments: Skimmer [illegible] no recovery

Signature: [illegible]

Date: 12-13-01

WELL OBSERVATION DATA

amec

Project Name: EPF GW project   Project No.: 47000121

Project Mngr: Lisa Winn   Task:

Client Co.: [illegible] Services   Date: 12-4-01

Site Name: [illegible] (8095)

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)	Floating Product Thickness	Sinking Product Thickness	Comments
[illegible] 1	1512			30.51					3025
MW 4	1506					31.65			Dry

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

Comments: [illegible] Skimmer [illegible] for 3025 MW 4 Dry [illegible]

Signature: [illegible]   Date: 12-4-01

WELL OBSERVATION DATA

Project Name: EOFS Remediation project Project No.: 6169

Project Manager: Clint Winn Cost Code:

Client Company: El Paso Field Services Date: 10-10-01

Site Name: Fields A #7A (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Approximate Hr of Last Recovery Measures Comments
MW 1	1417		30.32	30.33					2.025
MW 4	1411					31.56			Dry

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

Comments: NO water Recovered in MW 1, MW 4 Dry well

Signature: Clint Winn Date: 10-10-01

Golden Environmental Management GEM

WELL OBSERVATION DATA

Project Name EPFS Remediation project

Project No. 6169

Project Manager Lisa Winn

Cost Code

Client Company El paso Field Services

Date 10-3-01

Site Name Fields A#7A (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Comments
MW 1	1139			30.69		30			
MW 4	1135					31.56			Dry

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

Comments NO product Recovered In Skimmer MW 1, MW4 Dry well

Signature Chris A. May

Date 10-3-01

WELL OBSERVATION DATA

Project Name EPFS Remediation project Project No. 6169

Project Manager Lisa Winn Cost Code

Client Company El paso Field Services Date 9-26-01

Site Name Fields A#21 (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Comments
MW 1	1310			30.76					0
MW 4	1315					31.54			Dry

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

Comments NO Recovery in Skimmer NO product detected on probe in MW 1

MW 4 Dry well

Signature Chris A. Mangum Date 9-26-01

Golden Environmental Management
GEM

WELL OBSERVATION DATA

Project Name EPFS Remediation Project

Project No. 6169

Project Manager LISA Winn

Cost Code

Client Company El Paso Field Services

Date 9-21-01

Site Name Fields A#7A (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Approximate Comments Recovery Volume
MW 1	1605			30.63					0
MW 4	1600					31.55			0

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

Comments O Recovery NO product Detected on probe MW 4 Dry well

Signature [signature]

Date 9-21-01

WELL OBSERVATION DATA

Project Name EPFS Remediation project Project No. 6169

Project Manager Lisa Winn Cost Code

Client Company El paso Field Services Date 9-5-01

Site Name Fields A#7A

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)	Floating Product Thickness	Sinking Product Thickness	Recov Comments
MW 1	1232			30.38					0
MW 4	1228					31.56			Dry well

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

Comments NO Recovery in MW 1 NO product Detected with water/oil probe

MW 4 Dry well

Signature Chris A Mary Date 9-5-01

WELL OBSERVATION DATA

Project Name EPFS Remediation project Project No. 6169

Project Manager LISA Kinn Cost Code

Client Company El paso Field Services Date 8-20-01

Site Name Fields 1#7A (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Approximate product Recovery Comments
MW 1	1339			30.32					0
MW 4	1335					31.55			Dry well
MW 3	1343			31.14					
MW 2	1347			31.03					

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

Comments No product Detected on probe in MW 1

Signature Chris A Mm Date 8-26-01

WELL OBSERVATION DATA

Project Name EPFS Remediation project Project No. 6169

Project Manager Lisa Winn Cost Code

Client Company El paso Field Services Date 8-16-01 Thursday

Site Name Fields A #7A (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Approximate product Recovery Comments Fractions
MW 1	1250			30.44					0
MW 4	1247					31.55			Dry

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

Comments NO water or product Detected in MW 4 NO product Detected in MW 1 did not Recover any product in Skimmer

Signature [signature] Date 8-16-01

WELL OBSERVATION DATA

Project Name EPFS Remediation project Project No. 6169

Project Manager Lisa Kinn Cost Code

Client Company El paso Field Services Date 8 - 8 - 01

Site Name Fields A #7A (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Approximate product Recovery Gallons Comments
MW 1	13 20			30.12					0
MW 4	13 31	No fluid in well				31.55			0

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

Comments MW 4 Tip of probe moist product odor MW 1 NO Recovery NO product Detected with water oil probe

Signature [signature] Date 8 - 8 - 01

WELL OBSERVATION DATA

Project Name EpFS Remediation project Project No. 6169

Project Manager LISA minn Cost Code

Client Company El paso Field Services Date 8 / 01

Site Name Fields A #7A 89961/97546

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)	Floating Product Thickness	Sinking Product Thickness	Approximate Product Recovery Gallons Comments
MW 1	1000			30.19					0
MW 4	0950		31.54	31.56			02		0

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

Comments MW1 NO product Detected on probe NO product recovered in Skimmer MW4 NO product Recovered 31.56 T.D. of well NO water Detected ON probe.

Signature Chris A-Macy Date 8 - 1 - 01

WELL OBSERVATION DATA

Project Name EPFS Remediation Project Project No. 6169

Project Manager LISA WINN Cost Code

Client Company El paso Field Services Date 7-20-01 (Friday)

Site Name Fields A #7A 89961/97546

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)	Floating Product Thickness	Sinking Product Thickness	Approximate Product Recovery Gallons Comments
MW 1	1139			29.69					0
MW 2	1132			30.95					
MW 3	1130			31.03					
MW 4	1134		31.51 T.D.						0

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

Comments MW 2 Vegetation very Thick. MW 4 probe Detected product at 31.51 BOTTOM of well. MW 1 NO product Decected on probe

Signature Chris A-Mary Date 7-20-01

WELL OBSERVATION DATA

Project Name EpFS Remediation project Project No. 6169

Project Manager LISA Winn Cost Code

Client Company El paso Field Services Date 7-13-01 Friday

Site Name Fields A#7A (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Approximate Product Recovery Gallons Comments
Mw 4	1041		31.44	31.55			.11		.10
Mw 1	1050			29.96					.05

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

Comments Mw4 31.55 TD of well using water interface probe no water Detected, Bailed well Dry. Mw1 Did not Detect product in well with probe, product recovered from skimmer.

Signature Clint A. Mayf Date 7-13-01

WELL OBSERVATION DATA

Project Name EpFS Remediation proj Project No. C169

Project Manager LISA Winn Cost Code

Client Company El paso Field services Date 7-6-01

Site Name Fields A#7A 89961/97546

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)	Floating Product Thickness	Sinking Product Thickness	Approximate Recovered Product Gallons
MW 1	1015			30 FT.					.5 gal
MW 4	1030		31.20	31.55 TD			.35		.10 gal

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

Comments MW 1 NO water Recovered NO product Detected on probe

MW4 probe never Detected water HIT T.D of well Before Detecting water

Signature Christy Date 7-6-01

WELL OBSERVATION DATA

Project Name EPFS Remediation project Project No. 6169

Project Manager LISA winn Cost Code

Client Company El paso Field Services Date 6 15 01

Site Name Fields A #7A (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Comments: Product Recovery Gallons
MW 4	1034		31.12	31.56			GL		.15
MW 1	1054		29.57	29.65					0

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

Comments Did not Recover any product in mw1 Checked Screen Level Reinstalled into well

Signature Chris A May Date 6 15-01

WELL OBSERVATION DATA

Project Name EPFS Remediation project Project No. 6169

Project Manager LISA winn Cost Code

Client Company El paso Field Services Date 6-5-01

Site Name Fields A#7A (89961/97546)

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)	Floating Product Thickness	Sinking Product Thickness	Approximate gal. product ~~Comments~~ Recovered
MW 1	1233		29.34	29.46			12"		1 gal
MW 2	1226			30.71					
MW 3	1229			30.79					
MW 4	1302		31.01	31.25			24"		.10

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

Comments \

Signature Chris A Mary Date 6-5-01

PHILIP ENVIRONMENTAL

Well Number MW 2

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Serial No. WDPD-

Project Name EPFS quarterly Sampling — R Thompson — Project No. 62800107

Client Company El paso Field Services

Site Name Fields A#7 (89961) — Rural San Juan CO. — Phase.Task No.

Development Criteria

- [ ] 3 to 5 Casing Volumes of Water Removal
- [x] Stabilization of Indicator Parameters (10)
- [ ] Other

Methods of Development

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

☐ Other

Initial Depth to Water 32.01
Initial Depth to Product 30.33
Thickness of Product 1.68
Diameter 4"

Casing Volume	1 Casing Volume	3 Casing Volumes	5 Casing Volumes
	1.68	1.09X3	3.27

Instruments

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

Water Disposal Kutz Separator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)			Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
4-13-01	0731		X				.75	.75	7.4	6.95	6230		Cloudy, Thick vegetation No odor

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

Comments AFTer Bailing Approximately .75 gal Bailed well Dry LeT Recover Sampled for BTex 0809

Developer's Signature(s) Ron A-May — Date 4-13-01 — Reviewer RT — Date 4/13/01

Form A0101 Rev. 10/6/94

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FHILIP ENVIRONMENTAL

WELL DEVELOPMENT AND PURGING DATA

Well Number MW 3

Serial No. WDPD-

Page 1 of 1

Project Name EPFS Quarterly Sampling

Client Company El paso Field Services

Site Name Fields A#7

[illegible] R-Thompson

[illegible] Rural San Juan CO.

Project No. 62800107

Phase.Task No. 0301

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

[illegible] 32.06
[illegible] 30.48
[illegible] 1.58
[illegible] 4"

[illegible]	1.58	1.03X3	3.09
[illegible]			3.09

Methods of Development

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

☐ Other

Instruments / Serial No. (If applicable)
- ☑ pH Meter Hydac
- ☐ DO Monitor
- ☑ Conductivity Meter Hydac
- ☑ Temperature Meter Hydac
- ☐ Other

Water Disposal K-TZ 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)					Temperature	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/l)	Comments
4-13-01	0751		X				.75	.75			7.3	6.41	4870		Cloudy Black Rotton Egg Odor

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

Comments After Bailing ~~.25~~ Approximately .75 gal Bailed well dry Let recover Sampled for BTEX 0930

Developer's Signature(s) Chris A. Macy [illegible] 4-13-01 Reviewer RT Date 4/13/01

Form A0101 Rev. 10/6/94 F:\NEWFORM\PE_A0101.DOT 1/31/94

ENVIRONMENTAL

Well Number MW 2

Serial No. WOPD-

WELL DEVELOPMENT AND PURGING DATA

Project Name EPFS quarterly Sampling R Thompson Project No. 62800107

Client Company El paso Field Services Phase.Task No.

Site Name Fields A#2 (89961) Rural San Juan CO.

Development Criteria

- ~~1~~ 3 to 5 Casing Volumes of Water Removal
- ☑ Stabilization of Indicator Parameters
- ☐ Other

32.01
30.33
1.68
4"

	1.68	1.09X3	3.27

Instruments — **Serial No. (If applicable)**

- ☑ pH Meter — Hydac
- ☐ DO Monitor
- ☑ Conductivity Meter — Hydac
- ☑ Temperature Meter — Hydac
- ☐ Other

Methods of Development

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

☐ Other

Water Disposal Kurtz Separator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)				pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
4-13-01	0731		X				.75	.75		7.4	6.95	6230		Cloudy, Thick vegetation No odor

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

Comments After Bailing Approximately .75 gal Bailed well Dry Let Recover Sampled for BTEX 0809

Developer's Signature(s) Ken A-May Date 4-13-01 Reviewer RT Date 4/13/01

ENVIRONMENTAL

Well Number MW 3

Serial No. WOPD-

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Project Name EPFS Quarterly Sampling — R. Thompson — Project No. 62800107

Client Company El Paso Field Services — Phase.Task No. 0301

Site Name Fields A#7 — Rural San Juan CO.

Development Criteria

- [x] 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

Total Depth of Well			32.06
Depth to Water			30.48
Height of Water Column			1.58
Diameter of Well			4"
Gallons in Casing	1.58	1.03x3	3.09
Gallons Removed			3.09

Instruments / Serial No. (if applicable)

- [x] pH Meter — Hydac
- [ ] DO Monitor
- [x] Conductivity Meter — Hydac
- [x] Temperature Meter — Hydac
- [ ] Other

Water Disposal: K-T-Z Seperator Bloomfield NM.

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Casing Water Depth (feet)			Temperature (°C)	pH	Conductivity (micromhos/cm)	Dissolved Oxygen (mg/L)	Comments
4-13-01	0751		X				.75	.75	7.3	6.41	4870		Cloudy Black Bottom Egg Odor

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

Comments: AFTer Bailing .35 Approximately .75 gal Bailed well dry Let Recover Sampled for BTEX 0930

Developer's Signature(s): Chris A. Mancy — 4-13-01 — Reviewer: RT — Date: 4/13/01

Product Recovery

Meter/Line #:	89961
Location/Line Name:	Fields A#
Date:	4-11-01
MW:	1
Depth to Product:	—
Depth to Water:	29.33
Product Thickness:	—
Volume Removed:	.10 gal
Comments:	no water Recovered

Product Recovery

Meter/Line #:	89961
Location/Line Name:	Fields A # 7A
Date:	9-2-01
MW:	1
Depth to Product:	29 44
Depth to Water:	29 48
Product Thickness:	.04
Volume Removed:	25 gal
Comments:	no water Recovered

Product Recovery

Meter/Line #:	89961
Location/Line Name:	Fields A# 7
Date:	3-5-01
MW:	01
Depth to Product:	29.25
Depth to Water:	29.28
Product Thickness:	.03
Volume Removed:	.50gal
Comments:	No water Recovered

Product Recovery

Meter/Line #:	89961
Location/Line Name:	Fields A #7
Date:	2-26-01
MW:	01
Depth to Product:	29.39
Depth to Water:	29.54
Product Thickness:	.15
Volume Removed:	1 gal.
Comments:	No water Recovered

Product Recovery

Meter/Line #:	89961
Location/Line Name:	Fields A # 7A
Date:	02/17/01
MW:	01
Depth to Product:	29.08
Depth to Water:	29.66
Product Thickness:	.58
Volume Removed:	1 gal.
Comments:	No water Recovered

Product Recovery

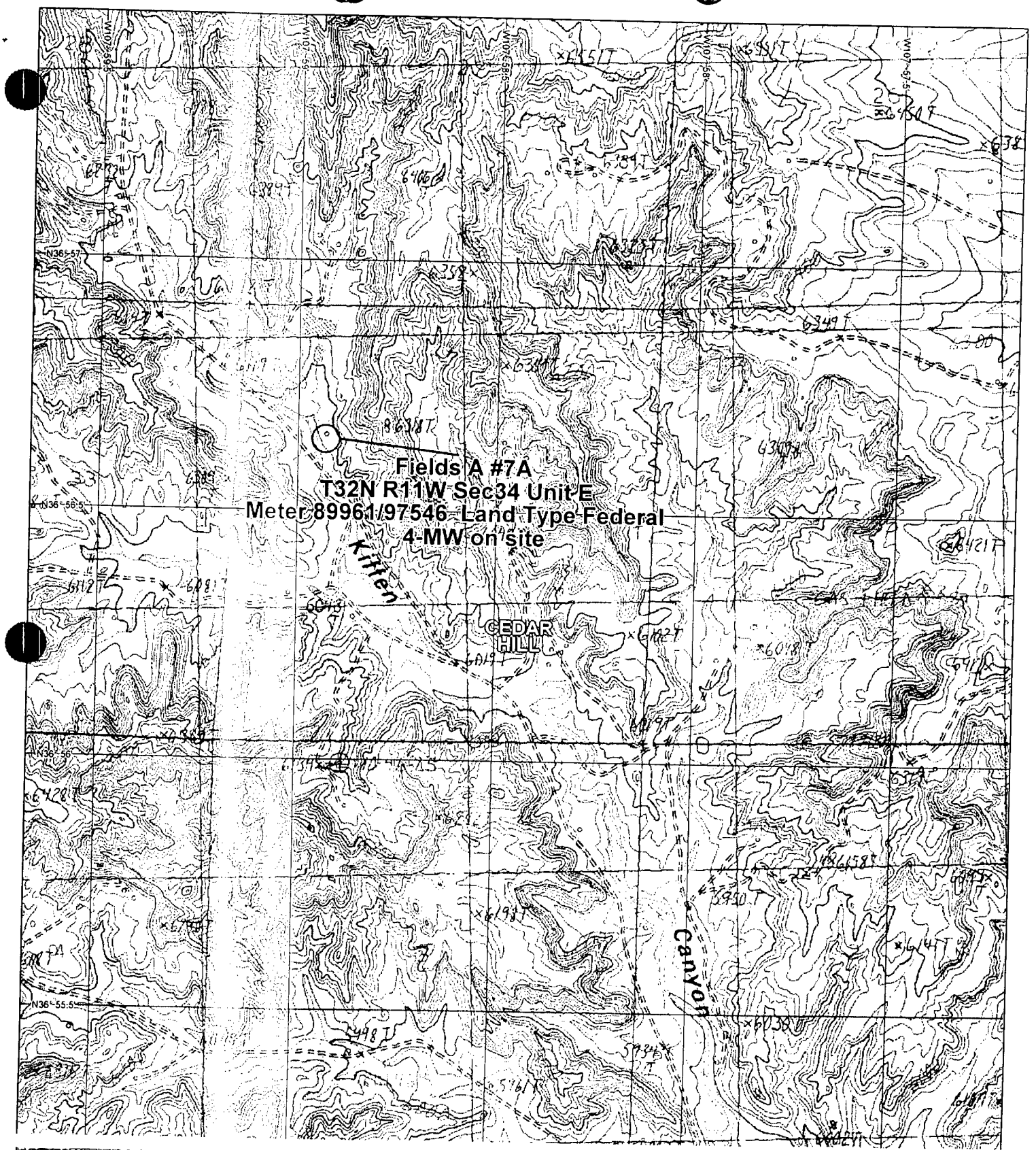
Meter/Line #:	89961
Location/Line Name:	Fields A #7
Date:	02-16-01
MW:	51
Depth to Product:	29.09
Depth to Water:	30.20
Product Thickness:	1.12
Volume Removed:	1 GAL
Comments:	No water Recovered

Product Recovery

Meter/Line #:	89961
Location/Line Name:	Fields A#7
Date:	02/08/01
MW:	01
Depth to Product:	28.65
Depth to Water:	29.85
Product Thickness:	1.2
Volume Removed:	1 GAL
Comments:	NO water Recovered

Product Recovery

Meter/Line #:	89961
Location/Line Name:	Field SA #7A
Date:	01-30-01
MW:	01
Depth to Product:	28.74
Depth to Water:	30.08
Product Thickness:	1.10
Volume Removed:	1.25 GAL.
Comments:	NO water Recovered


Fields A #7A
T32N R11W Sec34 Unit E
Meter 89961/97546 Land Type Federal
4-MW on site
Kitten
CEDAR HILL
Canyon

PINNACLE LABORATORIES

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

Pinnacle Lab ID number **104069**
April 23, 2001

PHILIP SERVICE CORPORATION
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/SCOTT POPE

On 04/17/01 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: ft

Enclosure

PINNACLE LABORATORIES

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

CLIENT	: PHILIP SERVICE CORPORATION	PINNACLE ID	: 104069
PROJECT #	: 62800107	DATE RECEIVED	: 04/17/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 04/23/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
04069 - 01	FIE-0104-MW 2	AQUEOUS	04/13/01
04069 - 02	FIE-0104-MW 3	AQUEOUS	04/13/01

PINNACLE LABORATORIES

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

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP SERVICE CORPORATION PINNACLE I.D.: 104069
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	FIE-0104-MW 2	AQUEOUS	04/13/01	NA	04/18/01	1
02	FIE-0104-MW 3	AQUEOUS	04/13/01	NA	04/18/01	10

PARAMETER	DET. LIMIT	UNITS	FIE-0104-MW 2	FIE-0104-MW 3
BENZENE	0.5	**UG/L**	< 0.5	**120**
TOLUENE	0.5	**UG/L**	< 0.5	**5.2**
ETHYLBENZENE	0.5	UG/L	< 0.5	< 5.0
TOTAL XYLENES	0.5	**UG/L**	< 0.5	**80**
SURROGATE:				
BROMOFLUOROBENZENE (%)			101	109
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/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.	: 104069
LANK I. D.	: 041801	DATE EXTRACTED	: NA
LIENT	: PHILIP SERVICE CORPORATION	DATE ANALYZED	: 04/18/01
ROJECT #	: 62800107	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: EPFS QUARTERLY SAMPLING		

ARAMETER	UNITS	
ENZENE	UG/L	<0.5
OLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<0.5
URROGATE:		
R[redacted]FLUOROBENZENE (%)		100
JR[redacted]GATE 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 QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED		
MSMSD #	: 041801	PINNACLE I.D.	: 104069
CLIENT	: PHILIP SERVICE CORPORATION	DATE EXTRACTED	: NA
PROJECT #	: 62800107	DATE ANALYZED	: 04/18/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	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	19.3	97	19.0	95	2	(80 - 120)	20
TOLUENE	<0.5	20.0	19.4	97	19.1	96	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.2	101	19.9	100	1	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	55.2	92	54.3	91	2	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

PHILIP ENVIRONMENTAL

Chain of Custody Record

104069

4000 Monroe Road
Farmington, NM 87401
(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2589

Project Name EPFS quarterly Sampling
Project Number 22800107 Phase . Task 0301
Samplers C. Maez
Laboratory Name PINNACLE
Location ALBQ N.M.

Sample Number (and depth)	Date	Time	Matrix	Total Number of Bottles	Type of Analysis and Bottle: BTEX 8021	Lab ID #	Comments
FIE-0104-MW 2	4-13-01	0809	H_2O	2	X	01	Fields filt (89961)
FIE-0104-MW 3	4-13-01	0830	H_2O	2	X	02	" "

RT 4/16/01

Relinquished by:

Signature	Date	Time
Chris A. Maez	4-13-01	1000

Received By:

Signature	Date	Time
Francine Jaime	4/17/01	0915

Samples Iced: ☑ Yes ☐ No

Preservatives (ONLY for Water Samples)

- ☐ Cyanide ..... Sodium hyroxide (NaOH)
- ☐ Volatile Organic Analysis ..... Hydrochloric acid (HCl)
- ☐ Metals ..... Nitric acid (HNO_3)
- ☐ TPH (418.1) ..... Sulfuric acid (H_2SO_4)
- ☑ Other (Specify) H_2SCl_2
- ☐ Other (Specify) _____

Carrier: GREYHOUND LINES
Airbill No. GLI 160 691 962 2

Shipping and Lab Notes: BILL SCOTT POPE OF EPFS DIRECTLY.
SEND COPY OF LAB REPORT TO SCOTT POPE OF EPFS AND ROBERT THOMPSON OF PSC.

Rec'd @ 8.0°c Ice Present

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