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Oil Conservation Division
Environmental Bureau

El Paso Tennessee
Pipeline Company

San Juan Basin Pit Program
Groundwater Sites Project

Final 2006 Annual Report
Federal Sites (Volume 1)

March 2007



MWH

1801 California Street, Suite 2900
Denver, Colorado 80202

**2006 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I**

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EL PASO TENNESSEE PIPELINE COMPANY

**Oil Conservation Division
Environmental Bureau**

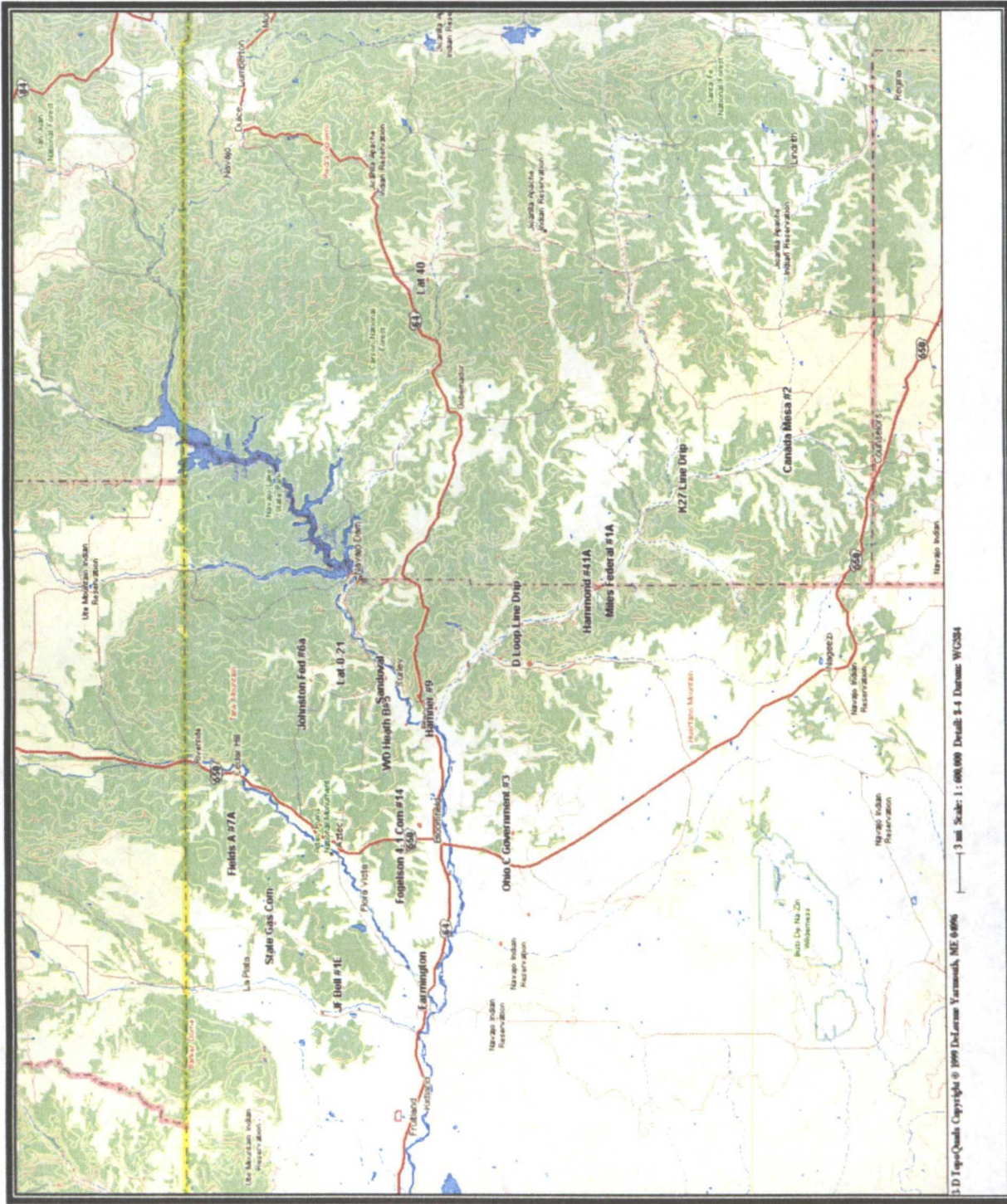
TABLE OF CONTENTS

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
LD151	Lat 0-21 Line Drip	30N	09W	12	O
73220	Fogelson 4-1 Com. #14	29N	11W	4	P
97213	Hamner #9	29N	09W	20	A
LD174	LAT L 40	28N	04W	13	H
89894	Hammond #41A	27N	08W	25	O
94810	Miles Fed 1A	26N	07W	5	F
LD072	K27 LD072	25N	06W	4	E
87640	Canada Mesa #2	24N	06W	24	I
70194	Johnston Fed #4	31N	09W	33	H



MWH

Federal Groundwater Site Map



LIST OF ACRONYMS

B	benzene
btoc	below top of casing
E	ethylbenzene
EPTPC	El Paso Tennessee Pipeline Company
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitoring well
PSH	phase-separated hydrocarbons
NMWQCC	New Mexico Water Quality Control Commission
T	toluene
TOC	top of casing
NA	not applicable
NE	not established
NM	not measured
NMOCD	New Mexico Oil Conservation Division
NS	not sampled
ORC	oxygen-releasing compound
ppb	parts per billion
µg/L	micrograms per liter
X	total xylenes

**EPTPC GROUNDWATER SITES
2006 ANNUAL GROUNDWATER REPORT**

**Hammond #41A
Meter Code: 89894**

SITE DETAILS

Legal Description:	Town:	27N	Range:	8W	Sec:	25	Unit:	O
NMOCD Haz Ranking:	40	Land Type:	Federal	Operator:	R&G Drilling Company			

PREVIOUS ACTIVITIES

Site Assessment:	6/94	Excavation:	7/94	Soil Boring:	7/95
Monitor Well:	5/97	Geoprobe:	11/96	Additional MWs:	9/99
Downgradient MWs:	9/99	Replace MW:	NA	Quarterly Initiated:	6/97
ORC Nutrient Injection:	7/98	Re-Excavation:	5/97	PSH Removal Initiated:	NA
Annual Initiated:	9/99	Quarterly Resumed:	NA		

SUMMARY OF 2006 ACTIVITIES

MW-1: Water level water level monitoring was performed in February, May, and November 2006.

MW-2: Water level monitoring was performed in February, May, and November 2006.

MW-3: Water level monitoring was performed in February, May, and November 2006.

TMW-1: Sampling of TMW-1 was performed in February, May, and November 2006. This well was also surveyed in March 2006.

SITE MAPS

Site maps (February, May, and November) are attached as Figures 1 through 3.

SUMMARY TABLES AND GRAPHS

- Analytical data for 2006 are included in Table 1, and historic data for all wells are presented graphically in Figures 4 through 7.
- Laboratory reports are presented in Attachment 1 (included on CD).
- Field documentation is presented in Attachment 2 (included on CD).

**EPTPC GROUNDWATER SITES
2006 ANNUAL GROUNDWATER REPORT**

**Hammond #41A
Meter Code: 89894**

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this site during 2006.

DISPOSITION OF GENERATED WASTES

All purge water was taken to the El Paso Natural Gas Rio Vista Compressor Station.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this site; however, the attached site maps present both the water level and analytical data collected during 2006.

CONCLUSIONS

- Groundwater flow at the site is consistently to the northwest.
- Benzene concentrations at TMW-1 were above standards in February (64.2 µg/L) and May (49.2 µg/L) 2006, and total xylenes were above standards in samples collected in February 2006 (641 µg/L). All BTEX concentrations were below standards in November 2006. This pattern was observed in 2005, indicating that the concentrations fluctuate with the seasons.
- Wells MW-1, MW-2 and MW-3 have met four consecutive quarters of BTEX concentrations below NMWQCC standards by 2002. TMW-1 was installed in 2003, as requested by NMOCD.

RECOMMENDATIONS

- EPTPC recommends continuing quarterly sampling of TMW-1 until concentrations approach NMWQCC closure standards. At that time, the site will be submitted for closure.
- Because historic samples have indicated that these wells have achieved closure standards, MW-1, MW-2 and MW-3 will be sampled again only at final closure.
- Once closure has been granted, all monitoring wells will be plugged and abandoned in accordance with the approved well abandonment plan.

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
HAMMOND #41A (METER #89894)

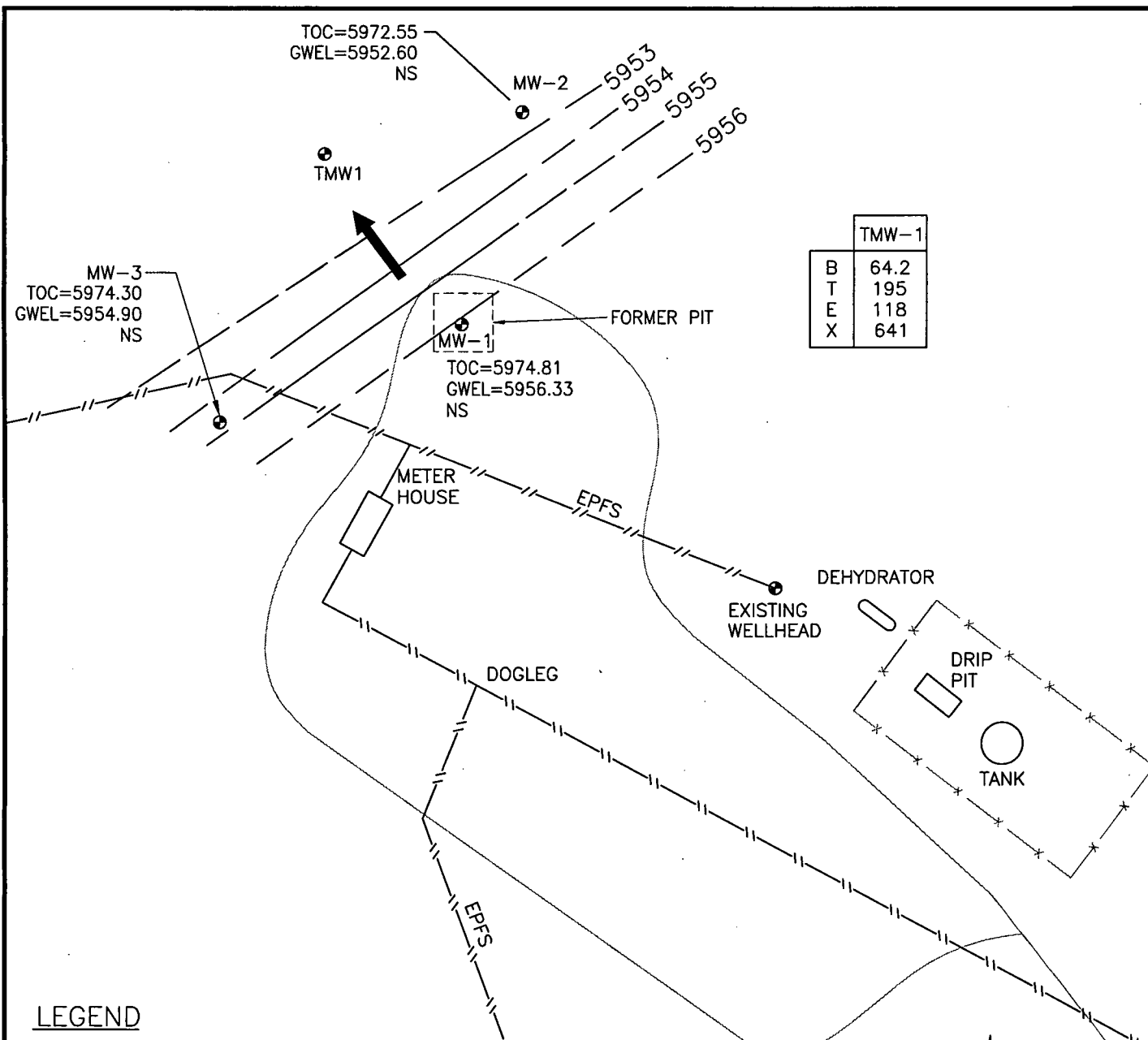
Site Name	Sample Date	Monitoring Well	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (feet)
Hammond #41A	5/21/97	MW-1	150	601	56.7	484	18.79
Hammond #41A	6/9/97	MW-1	190	12.3	36.9	181	18.89
Hammond #41A	9/17/97	MW-1	1230	1	263	830	18.79
Hammond #41A	12/9/97	MW-1	685	1	141	261	18.47
Hammond #41A	3/20/98	MW-1	662	3.06	78.7	292	18.05
Hammond #41A	6/4/98	MW-1	286	2.43	38.4	140	18.54
Hammond #41A	9/10/98	MW-1	391	1	34	144	1819.00
Hammond #41A	12/17/98	MW-1	330	1.6	30	150	17.42
Hammond #41A	3/23/99	MW-1	197	1	15.8	741	17.56
Hammond #41A	6/11/99	MW-1	260	3.3	42	270	17.80
Hammond #41A	9/20/99	MW-1	460	16	78	440	17.36
Hammond #41A	12/9/99	MW-1	110	3.9	13	53	17.42
Hammond #41A	3/31/00	MW-1	98	3.4	19	59	1715.00
Hammond #41A	6/9/00	MW-1	290	9.7	49	290	17.64
Hammond #41A	9/21/00	MW-1	110	1.7	16	44	181.00
Hammond #41A	12/5/00	MW-1	10	1	3.6	4.3	17.91
Hammond #41A	6/4/01	MW-1	39	0.6	5.5	16	18.09
Hammond #41A	8/7/01	MW-1	33	1	2.8	4.9	18.62
Hammond #41A	11/27/01	MW-1	3.2	1	0.6	1	18.06
Hammond #41A	2/25/02	MW-1	3.9	1	0.5	1	17.86
Hammond #41A	5/21/02	MW-1	4.4	1	1	1	1816.00
Hammond #41A	9/5/02	MW-1	2.7	0.5	2.2	1.4	18.82
Hammond #41A	10/15/99	MW-2	1	1	1	1	1412.00
Hammond #41A	8/28/00	MW-2	69	1.3	9.4	28	17.32
Hammond #41A	6/4/01	MW-2	1	1	1	1	17.54
Hammond #41A	8/7/01	MW-2	1	1	1	1	18.08
Hammond #41A	11/27/01	MW-2	1	1	1	1	17.47
Hammond #41A	2/25/02	MW-2	1	1	1	1	17.30
Hammond #41A	5/21/02	MW-2	1	1	1	1	17.62
Hammond #41A	10/8/02	MW-2	1	1	1	0.5	17.80
Hammond #41A	10/15/99	MW-3	1	1	1	1	16.43

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
HAMMOND #41A (METER #89894)

Site Name	Sample Date	Monitoring Well	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (feet)
Hammond #41A	8/28/00	MW-3	1	1	1	1	18.96
Hammond #41A	8/7/01	MW-3	1	1	1	1	19.58
Hammond #41A	10/8/02	MW-3	1	1	1	0.6	19.38
Hammond #41A	8/13/03	TMW1	7.3	128	44.8	625	17.22
Hammond #41A	11/15/03	TMW1	19.2	113	84.6	1200	16.40
Hammond #41A	2/17/04	TMW1	22.3	109	83.2	774	16.01
Hammond #41A	5/11/04	TMW1	27.2	255	56.6	685	16.03
Hammond #41A	8/19/04	TMW1	3.1	1	2.6	5.6	17.24
Hammond #41A	11/18/04	TMW1	55.2	53.3	70.7	306	17.00
Hammond #41A	2/21/05	TMW1	11.2	20.2	28.9	196	16.43
Hammond #41A	5/18/05	TMW1	140	398	252	1710	16.35
Hammond #41A	8/23/05	TMW1	1	1	1	5.6	17.18
Hammond #41A	11/8/05	TMW1	13.9	20.1	20.1	149	16.91
Hammond #41A	2/23/06	TMW1	64.2	195	118	641	16.23
Hammond #41A	5/23/06	TMW1	49.2	188	85.1	429	16.92
Hammond #41A	11/8/06	TMW1	2.3	ND	2.5	9.3	15.97

I = Not Detected

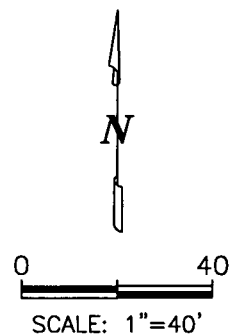


TMW-1	
B	64.2
T	195
E	118
X	641

LEGEND

● MW-1	Approximate Monitoring Well Location and Number
—	Road
— x — x —	Fence Line
— // — // —	Pipe Line
6566.0	Potentiometric Surface (Assumed Where Dashed)
➔	Direction of Groundwater Flow
GWEL	Groundwater Elevation (Feet Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing

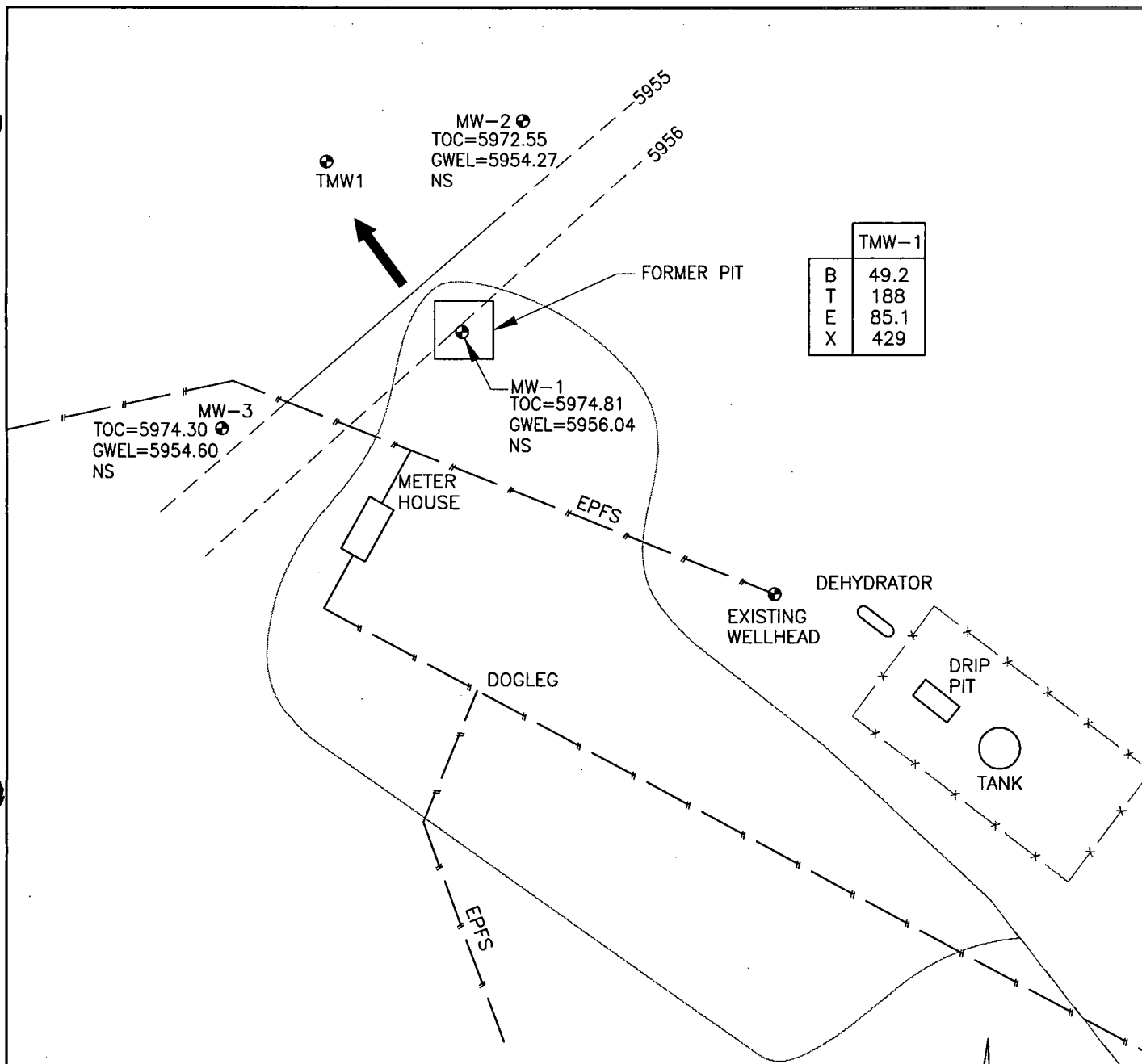
B	Benzene ($\mu\text{g/L}$)
T	Toluene ($\mu\text{g/L}$)
E	Ethylbenzene ($\mu\text{g/L}$)
X	Total Xylenes ($\mu\text{g/L}$)
NS	Not Sampled



HAMMOND #41 A, METER 89894
FEBRUARY 2006

GROUNDWATER SITES
EL PASO TENNESSEE PIPELINE COMPANY

FIGURE 1



LEGEND

MW-1

Approximate Monitoring Well Location and Number

Road

Fence Line

Pipe Line

6566.0

Potentiometric Surface (Assumed Where Dashed)

Direction of Groundwater Flow

GWEL

Groundwater Elevation (Feet Above Mean Sea Level Unless Noted Otherwise)

TOC

Top of Casing

B

Benzene ($\mu\text{g/L}$)

T

Toluene ($\mu\text{g/L}$)

E

Ethylbenzene ($\mu\text{g/L}$)

X

Total Xylenes ($\mu\text{g/L}$)

NS

Not Sampled

0 40

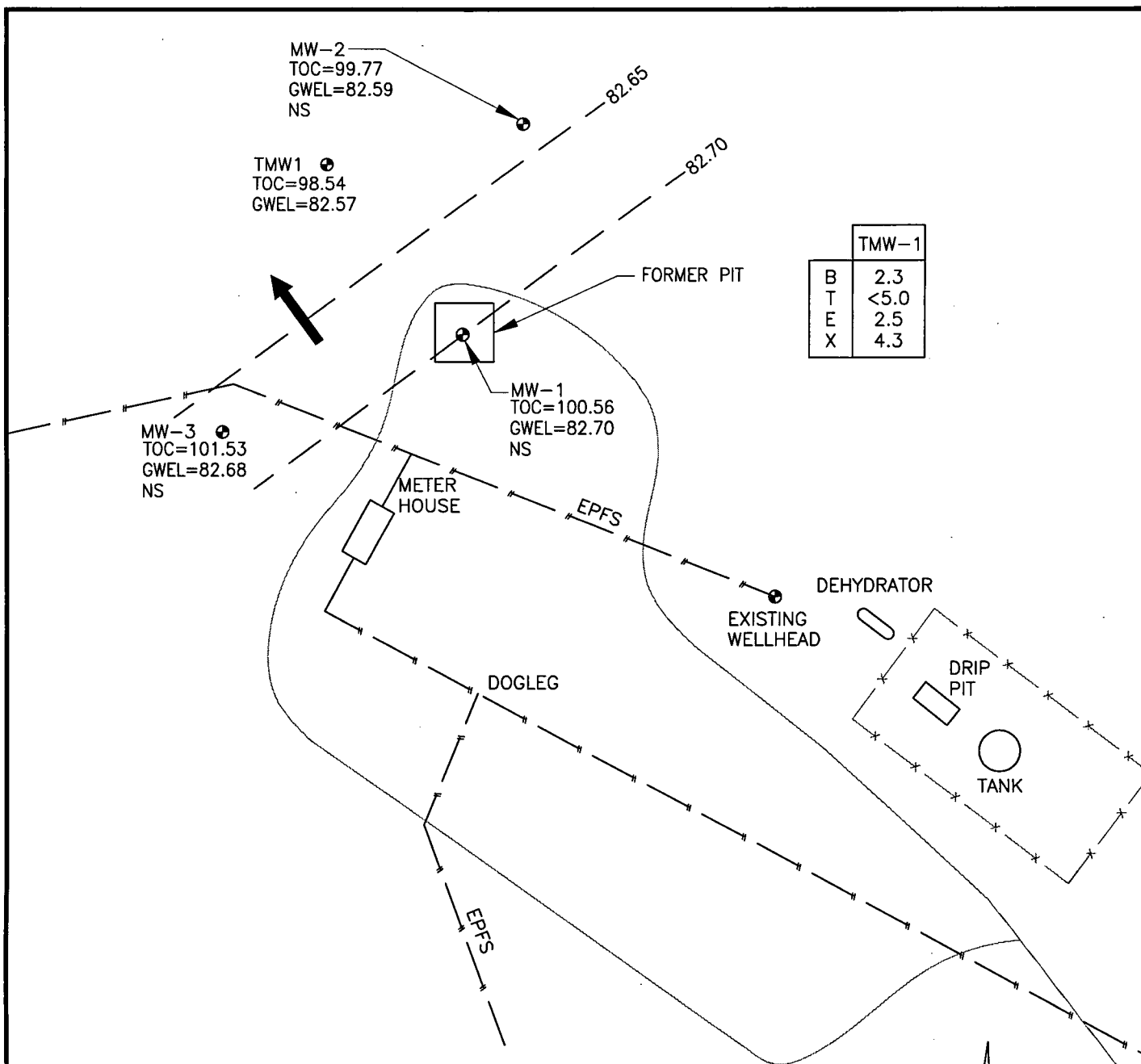
SCALE: 1"=40'

HAMMOND #41A, METER 89894

MAY 2006

GROUNDWATER SITES
EL PASO TENNESSEE PIPELINE COMPANY

FIGURE 2



LEGEND

- MW-1 Approximate Monitoring Well Location and Number
- Road
- x-x- Fence Line
- ||- Pipe Line
- 6566.0 Potentiometric Surface (Assumed Where Dashed)
- ➔ Direction of Groundwater Flow
- GWEL Groundwater Elevation Relative.
- TOC Top of Casing

- B Benzene ($\mu\text{g/L}$)
- T Toluene ($\mu\text{g/L}$)
- E Ethylbenzene ($\mu\text{g/L}$)
- X Total Xylenes ($\mu\text{g/L}$)
- NS Not Sampled

0 40
SCALE: 1"=40'



HAMMOND #41A, METER 89894
NOVEMBER 2006

GROUNDWATER SITES
EL PASO TENNESSEE PIPELINE COMPANY

FIGURE 3

FIGURE 4
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
HAMMOND #41A
TMW-1

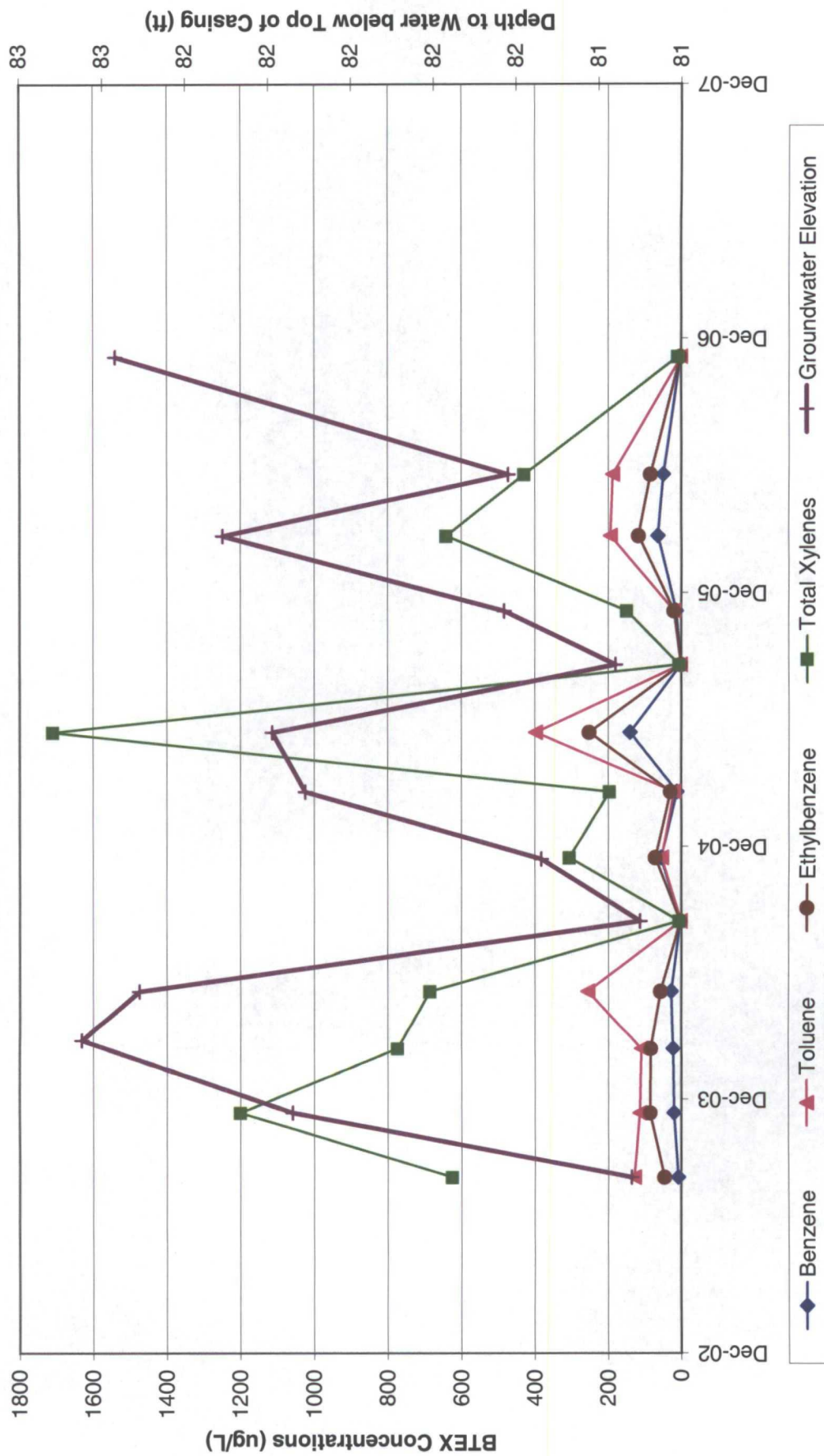


FIGURE 5
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
HAMMOND #41A
MW-1

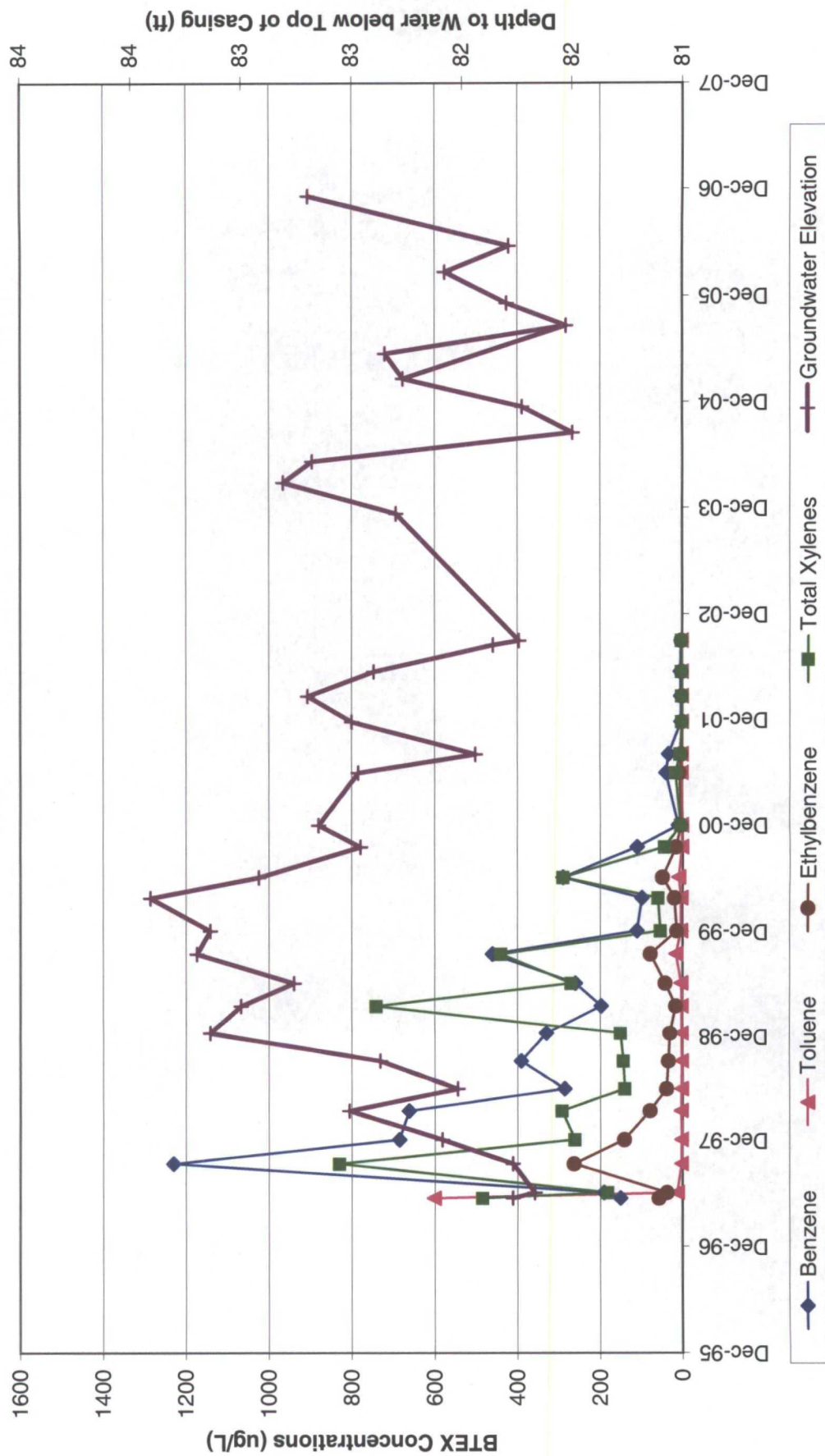
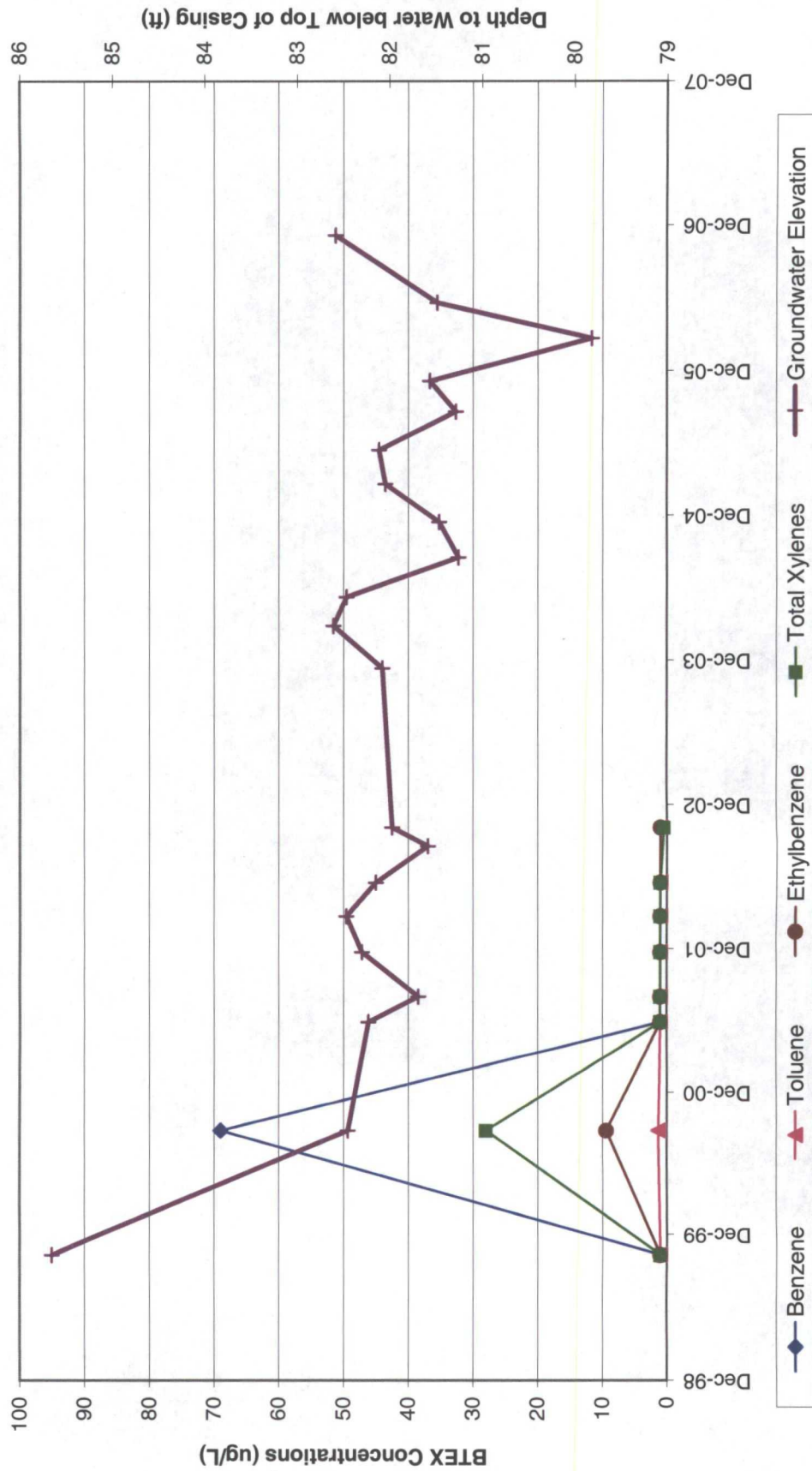
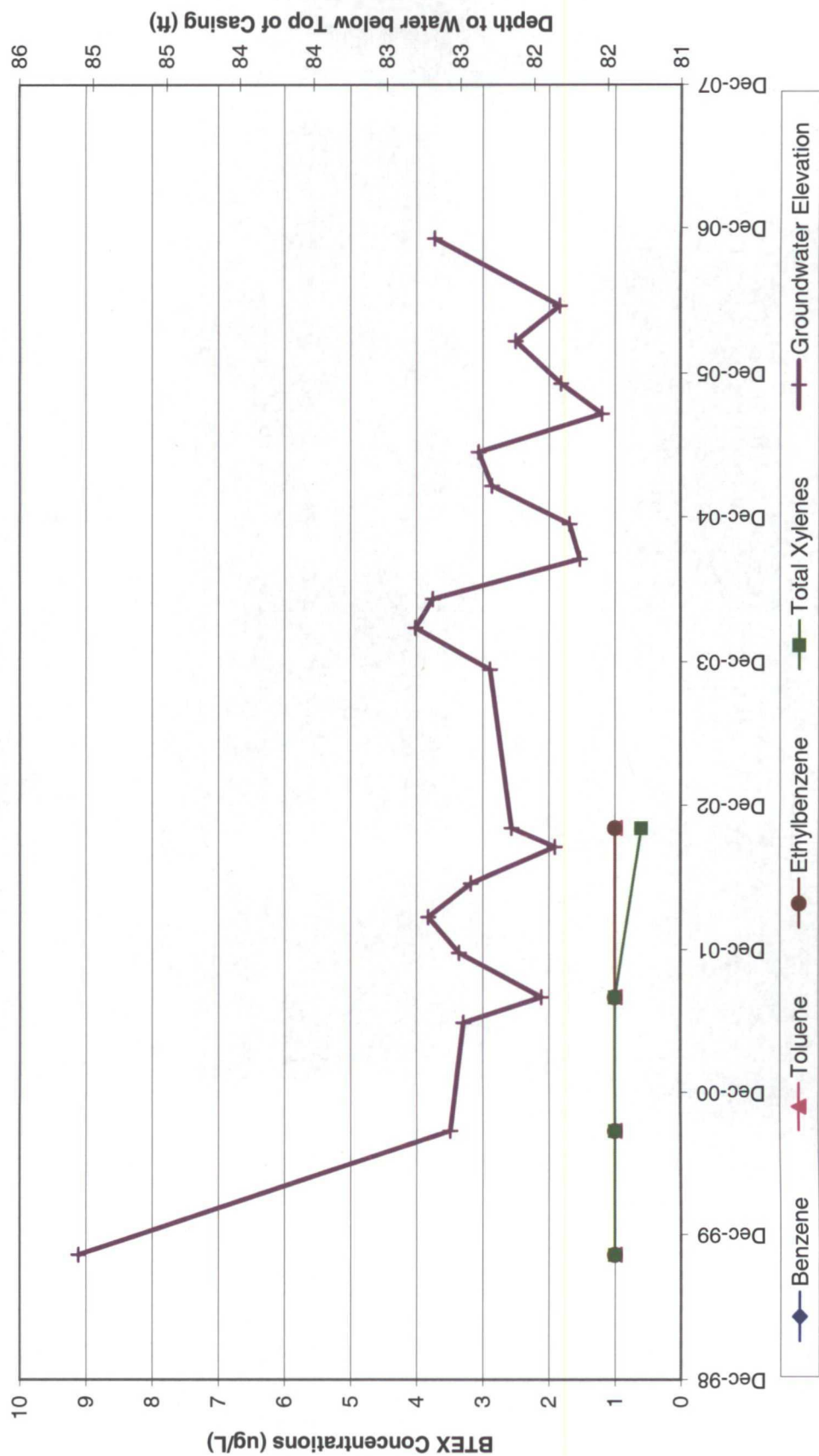


FIGURE 6
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
HAMMOND #41A
MW-2



Note: A value of 1 indicates parameter not detected

FIGURE 7
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
HAMMOND #41A
MW-3



Note: A value of 1 indicates parameter not detected