

3R - 170

**ANNUAL
MONITORING
REPORT**

04/02/2008

**2007 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I
EL PASO TENNESSEE PIPELINE COMPANY**

TABLE OF CONTENTS

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT	
89961	Fields A#7A	32N	11W	34	E	3R170
89232	Johnston Fed #6A	31N	09W	35	F	3R202
94715	James F. Bell #1E	30N	13W	10	P	3R196
89620	Sandoval GC A #1A	30N	09W	35	C	3R235
LD151	Lat 0-21 Line Drip	30N	09W	12	O	3R213
73220	Fogelson 4-1 Com. #14	29N	11W	4	P	3R068
97213	Hamner #9	29N	09W	20	A	3R190
LD174	LAT L 40	28N	04W	13	H	3R212
89894	Hammond #41A	27N	08W	25	O	3R186
94810	Miles Fed 1A	26N	07W	5	F	3R223
LD072	K27 LD072	25N	06W	4	E	3R204
87640	Canada Mesa #2	24N	06W	24	I	3R155
70194	Johnston Fed #4	31N	09W	33	H	3R201



3R170

EPTPC GROUNDWATER SITES
2007 ANNUAL GROUNDWATER REPORT

Fields A#7A
Meter Code: 89961

SITE DETAILS

Legal Description:	Town: 32n	Range: 11w	Sec: 34	Unit: E
NMOCD Haz Ranking: 40	Land Type: Federal	Operator: BP / Amoco Production Company		

PREVIOUS ACTIVITIES

Site Assessment: 8/94	Excavation: 9/94 (70cy)	Soil Boring: 7/95
Monitor Well: 7/95	Geoprobe: NA	Additional MWs: 12/95
Downgradient MWs: 12/95	Replace MW: NA	Quarterly Initiated: NA
ORC Nutrient Injection: NA	Re-Excavation: NA	PSH Removal Initiated: 8/97
Annual Initiated: 4/97	Quarterly Resumed: NA	PSH Removal in 2007?: No

SUMMARY OF 2007 ACTIVITIES

- MW-1:** Semi-annual groundwater sampling was conducted at this well in April and October 2007.
 - MW-2:** Semi-annual water level monitoring was performed in April and October 2007. This well was dry during both events.
 - MW-3:** Semi-annual water level monitoring (April and October) and was conducted at this well, and a groundwater sample was collected in April 2007.
 - MW-4:** Semi-annual water level monitoring was performed in April and October 2007. This well was dry during both events.
- Site-Wide Activities:** No additional activities were performed at this Site in 2007.

SITE MAPS

2007 Site water level and BTEX maps (April and October) are attached as Figures 1 and 2.

SUMMARY TABLES AND GRAPHS

- Analytical data from 2007 are included in Table 1, and historic groundwater data

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**Fields A#7A
Meter Code: 89961**

are presented graphically in Figures 3 through 6.

- Historic free-product recovery data are included in Table 2 and presented graphically in Figures 7 and 8.
- Laboratory reports are presented in Attachment 1 (included on CD).
- Field documentation is presented in Attachment 2 (included on CD).

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this Site during 2007.

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 the analytical and water level data collected during 2007.

CONCLUSIONS

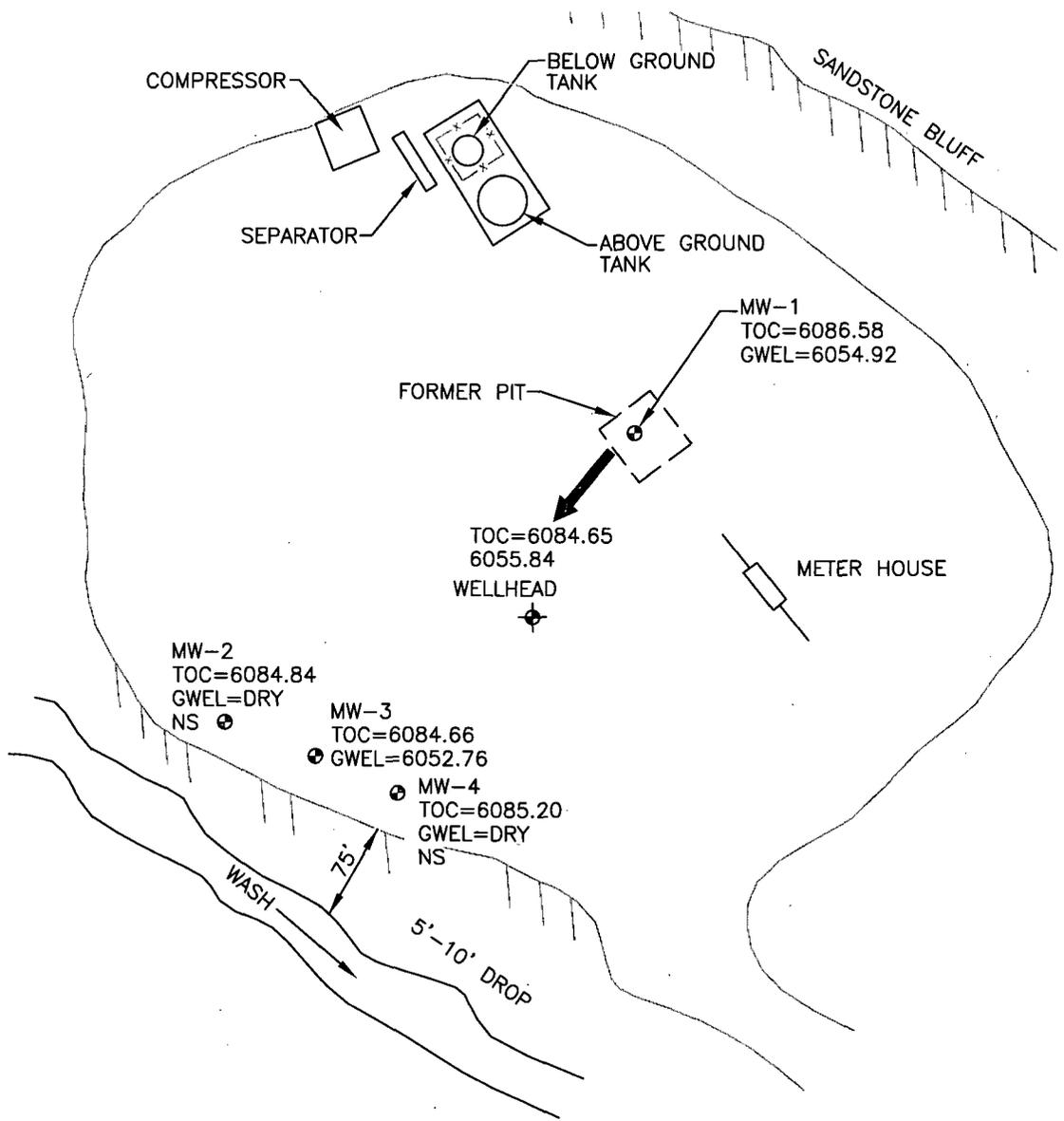
- The groundwater flow direction at this Site is to the southwest, based on historic water level measurements.
- BTEX concentrations in MW-1 have declined substantially since 1997, when free-product recovery was initiated. The April 2007 benzene concentration was 106 µg/L, and benzene was not detected in the October 2007 sample. All other BTEX constituents were below standards during both sampling events.
- Semi-annual groundwater sampling was scheduled for MW-2 during 2007; however, this well was dry during both sampling events. Overall, water levels at the Site continue to decline. MW-2 was last sampled in 2005 and was clean at the time.
- BTEX concentrations in MW-3 have declined substantially since 1997, when free-product recovery was initiated. However, the benzene concentration was 179 µg/L in April 2007, which is above the NMWQCC benzene standard and higher than in April 2006. Samples from this well have shown a high degree of fluctuation. All other BTEX constituents were below standards in 2007.
- Semi-annual groundwater sampling was scheduled for MW-4 during 2007; however, this well was dry during both events. Overall, water levels at the Site continue to decline. MW-4 was last sampled in 2005 and was clean at the time.

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**Fields A#7A
Meter Code: 89961**

RECOMMENDATIONS

- Assuming that free-product continues to be absent from MW-1, this well will be sampled semi-annually (April and October) until BTEX concentrations approach NMWQCC standards. MW-1 will then be scheduled for quarterly sampling until BTEX concentrations are below standards for four consecutive quarters, at which time this Site will be submitted for closure.
- EPTPC will attempt semi-annual groundwater level measurements and annual groundwater sampling in April at MW-2, MW-3 and MW-4. Based on the April sampling results (i.e., if it appears that concentrations in MW-1 and MW-3 are nearing standards), groundwater sampling may be performed again in October 2007 at these wells.

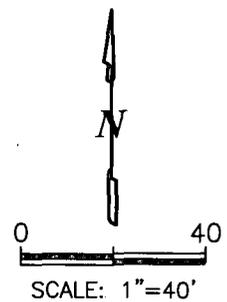


LEGEND

- MW-1 Approximate Monitoring Well Location and Number
- GWEL Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
- ← Direction of Groundwater Flow (Estimated)
- NS Not Sampled
- TOC Top of Casing

	MW-1	MW-3
B	106	179
T	37.2	<1.0
E	3.3	12.3
X	112	37.9

- B Benzene (µg/L)
- T Toluene (µg/L)
- E Ethylbenzene (µg/L)
- X Total Xylenes (µg/L)

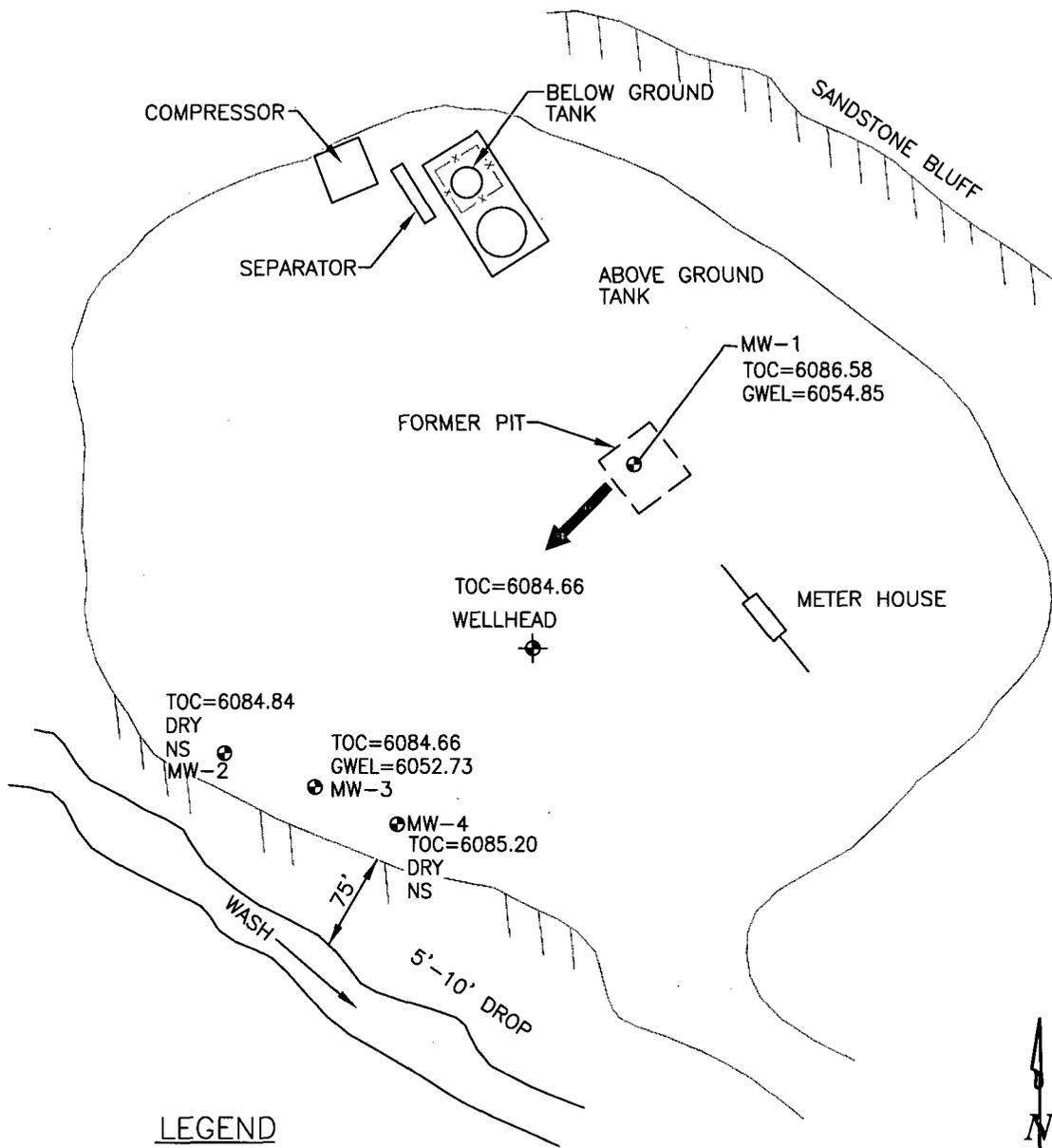


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SCALE: As Shown			FIGURE No: 1		



EL PASO TENNESSEE PIPELINE COMPANY
FIELDS A #7A, METER 89961/97546

**GROUNDWATER POTENTIOMETRIC SURFACE
ELEVATIONS AND BTEX CONCENTRATIONS
APRIL 2007**

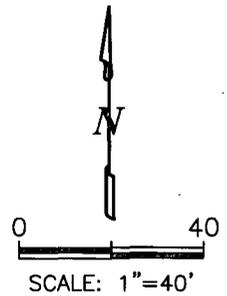


LEGEND

- ⊙ MW-1 Approximate Monitoring Well Location and Number
- GWEL Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
- ← Direction of Groundwater Flow (Estimated)
- NS Not Sampled
- TOC Top of Casing

	MW-1
B	<1.0
T	<1.0
E	<1.0
X	<2.0

- B Benzene (µg/L)
- T Toluene (µg/L)
- E Ethylbenzene (µg/L)
- X Total Xylenes (µg/L)



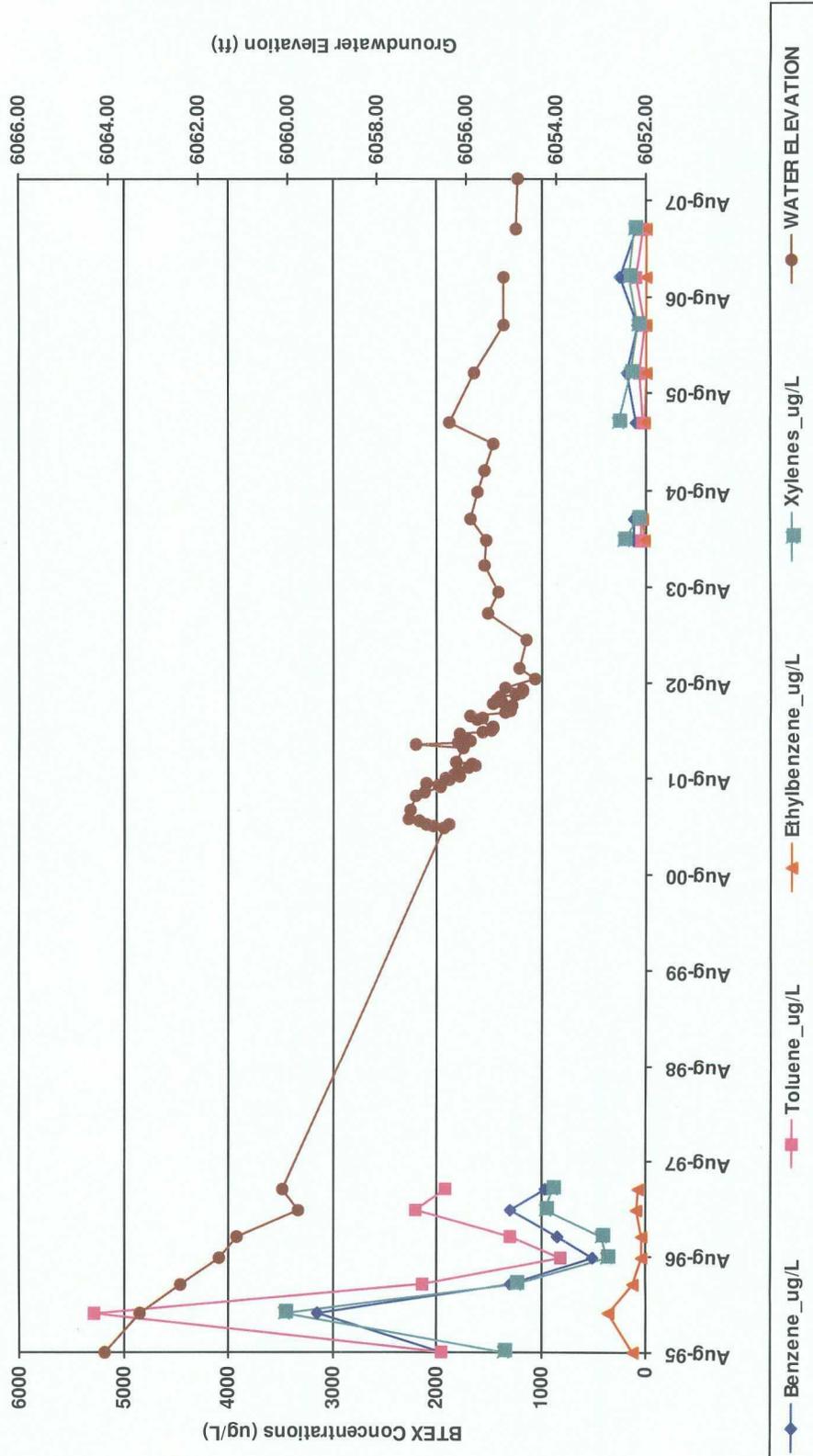
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EL PASO TENNESSEE PIPELINE COMPANY
FIELDS A #7A, METER 89961/97546

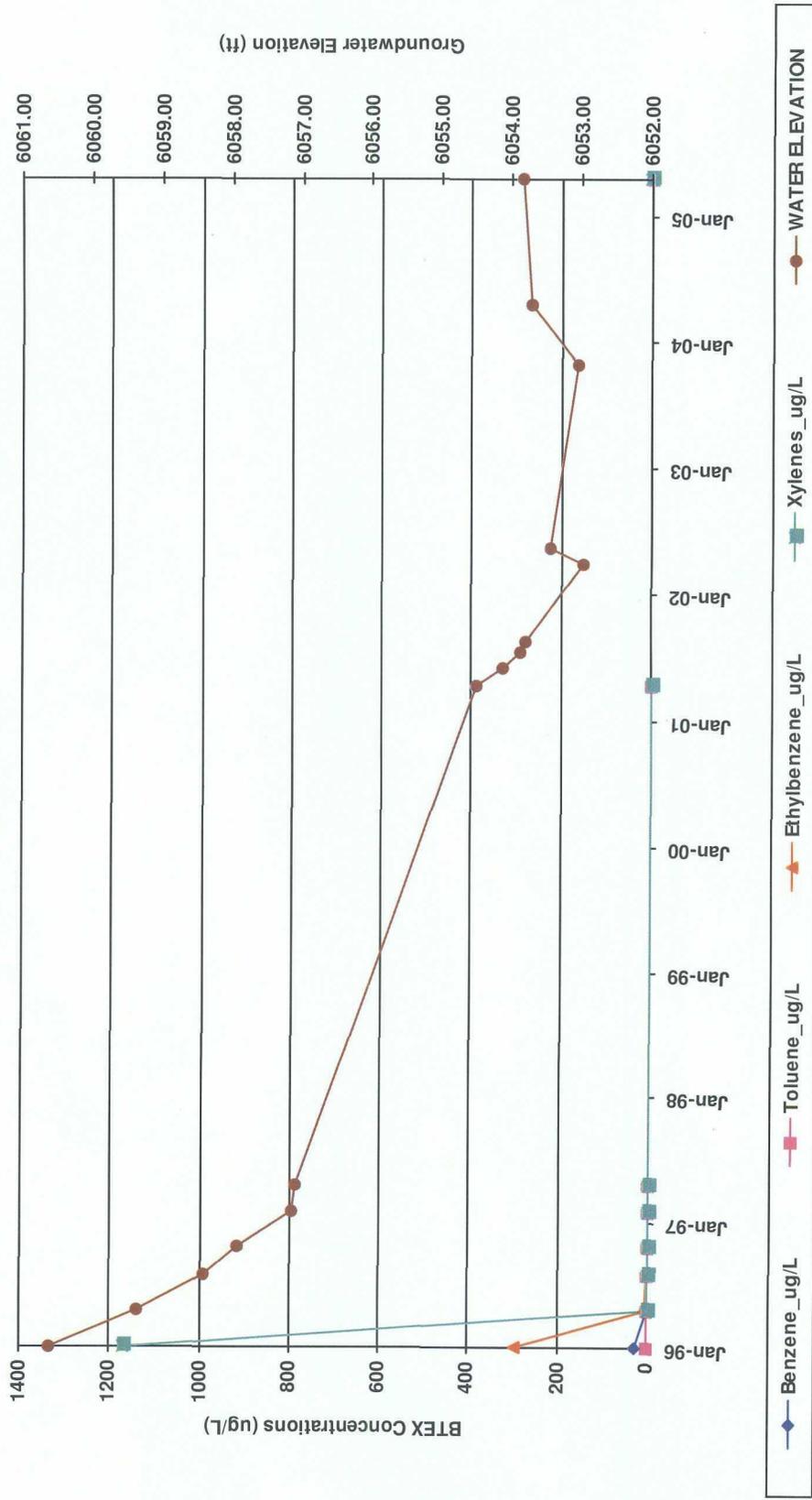
**GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS AND BTEX CONCENTRATIONS
OCTOBER 2007**

FIGURE 3
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 FIELDS A#7A (METER #89961)
 MW01



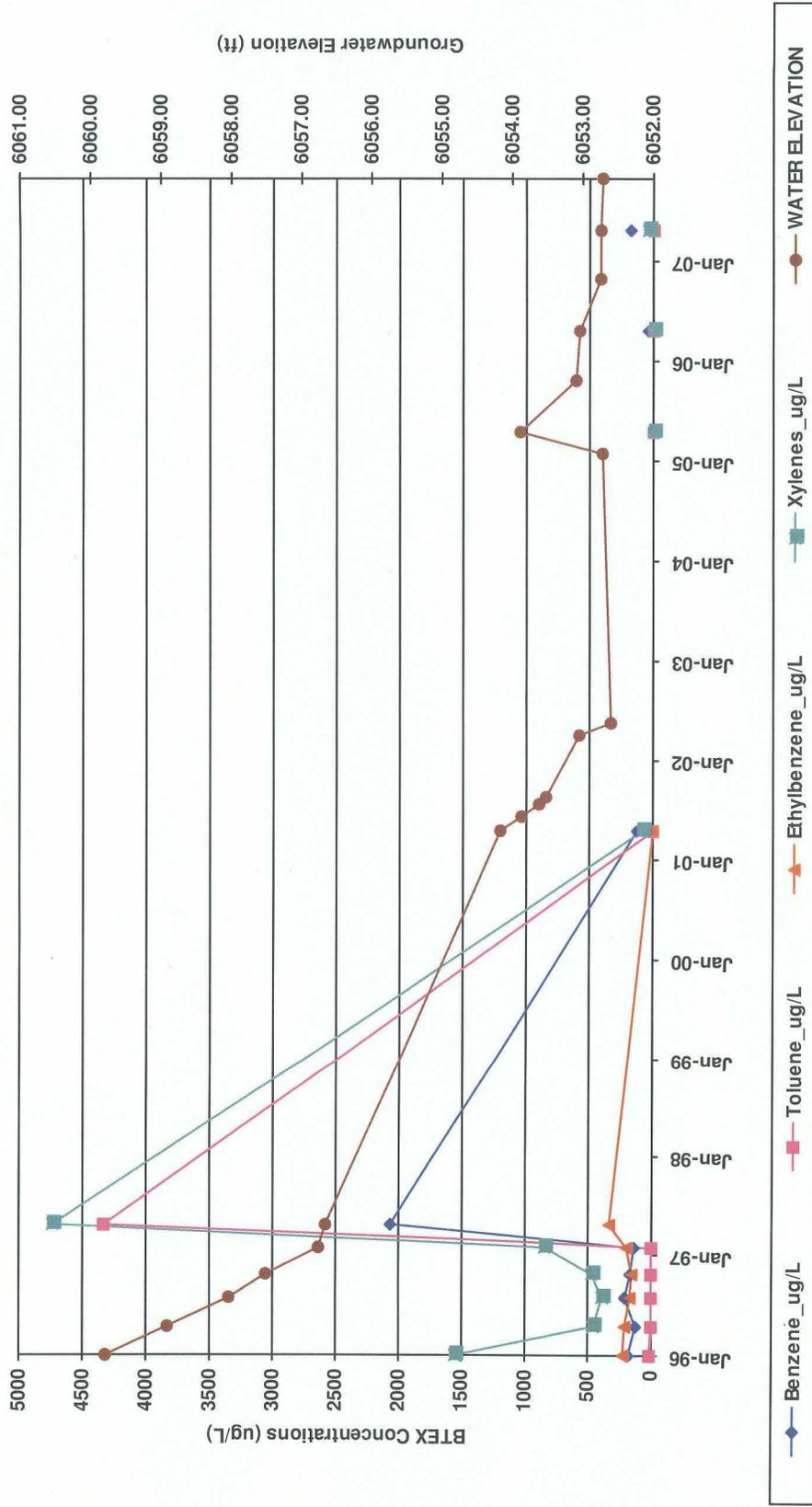
Note: Non Detects are represented by a value of 1.

FIGURE 4
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 FIELDS A#7A (METER #89961)
 MW02



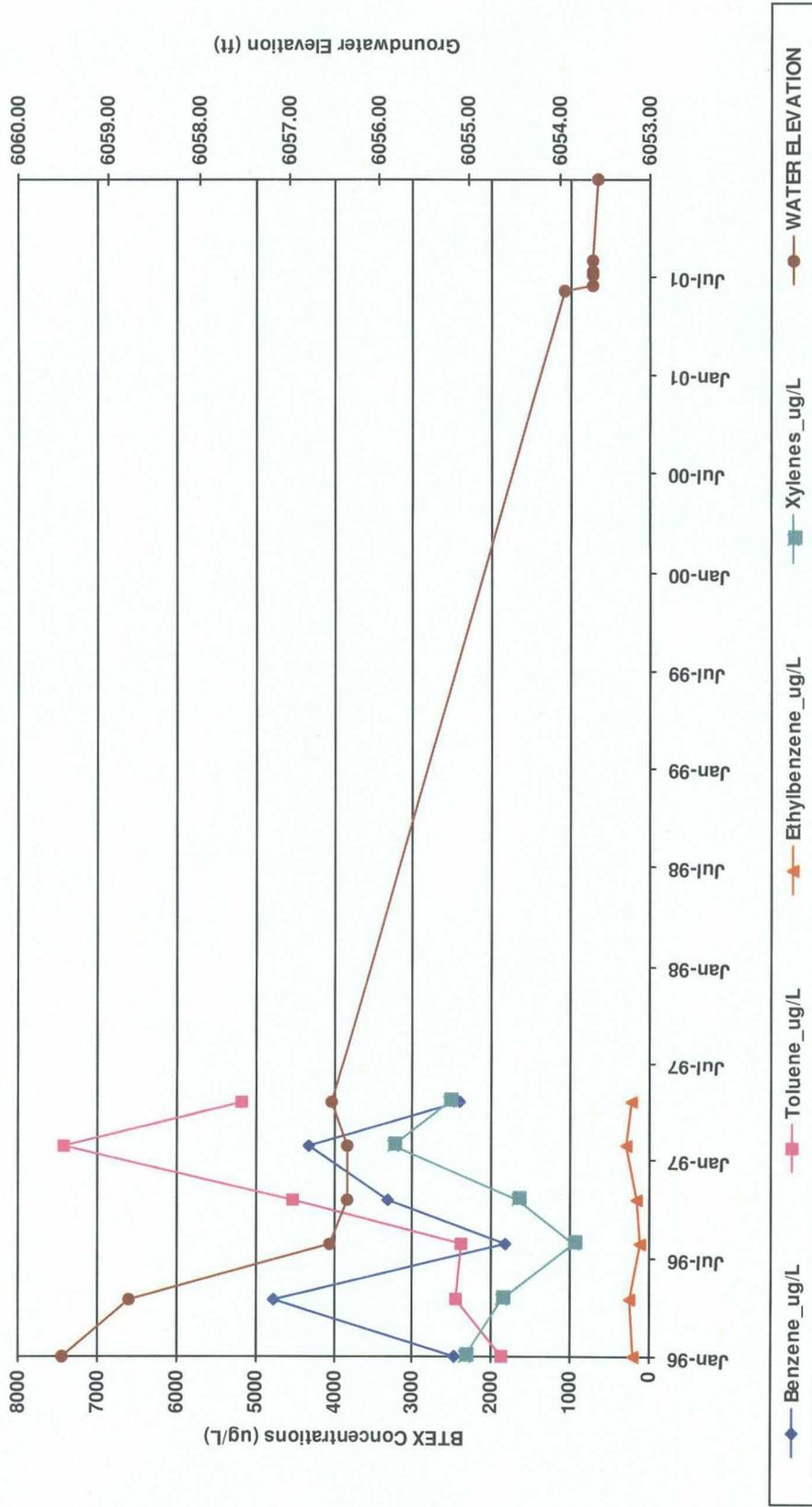
Note: Non Detects are represented by a value of 1.

FIGURE 5
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 FIELDS A#7A (METER #89961)
 MW03



Note: Non Detects are represented by a value of 1.

FIGURE 6
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 FIELDS A#7A (METER #89961)
 MW04



Note: Non Detects are represented by a value of 1.

FIGURE 7
 SUMMARY OF FREE-PRODUCT REMOVAL
 FIELDS A#7A (METER #89961)
 MW01

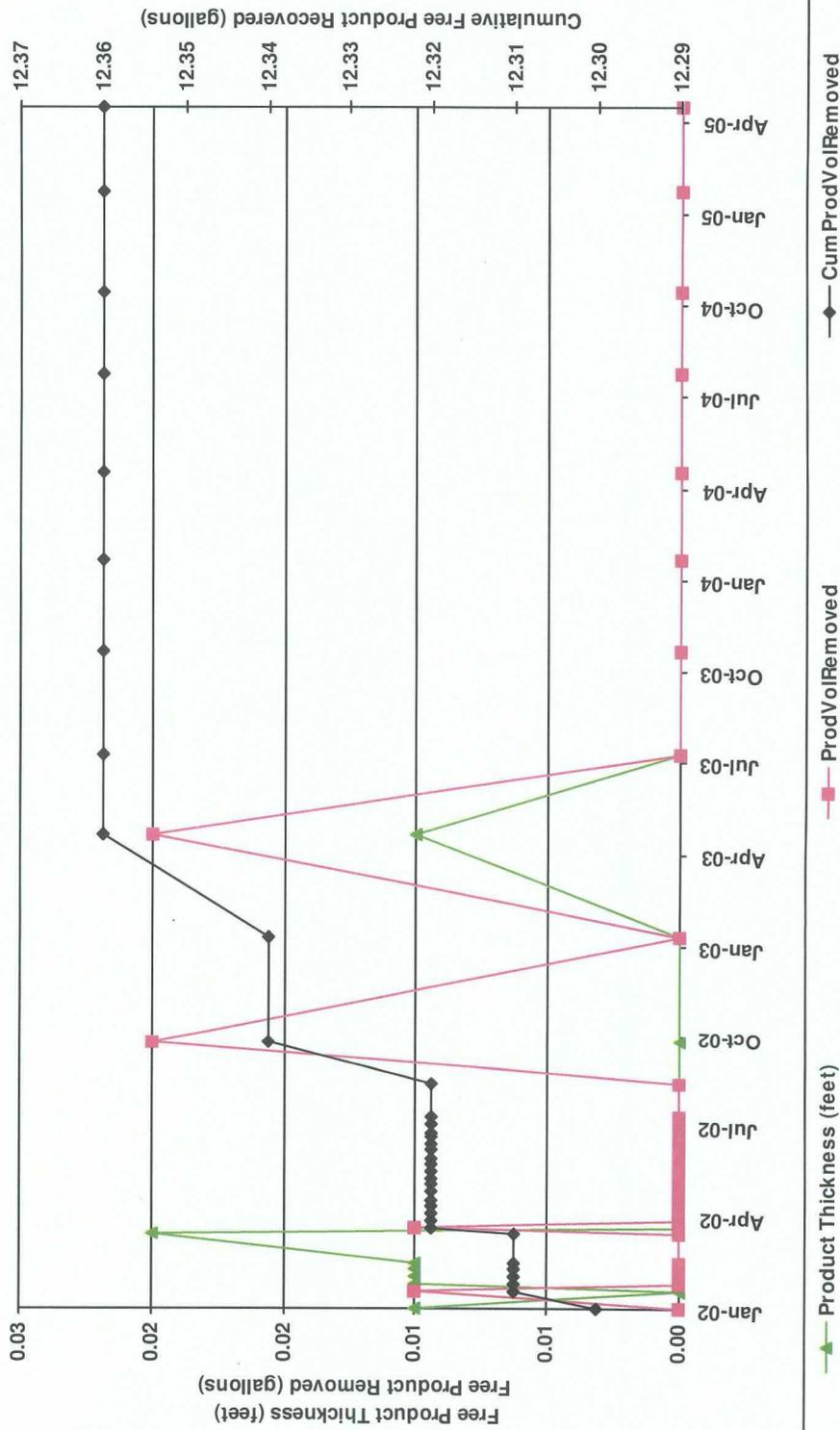


FIGURE 8
 SUMMARY OF FREE-PRODUCT REMOVAL
 FIELDS A#7A (METER #89961)
 MW04

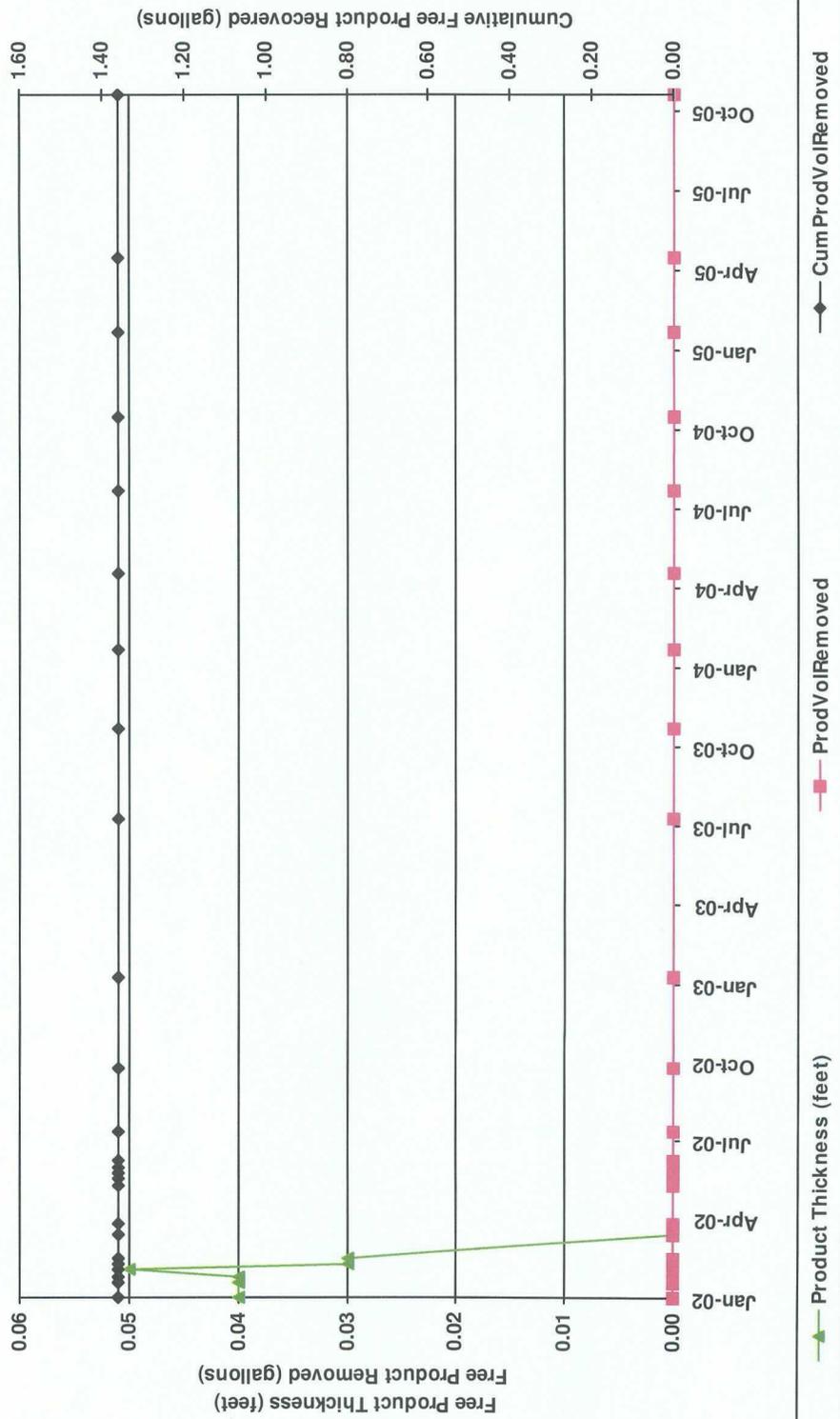


TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
FIELDS A#7A (METER #89961)**

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW01	8/9/1995	1950	1946	115	1361	22.50
	1/3/1996	3150	5280	361	3460	23.28
	4/18/1996	1300	2140	119	1240	24.20
	7/29/1996	503	804	28	363	25.07
	10/21/1996	843	1300	26	422	25.45
	1/30/1997	1300	2200	76.8	966	26.83
	4/21/1997	951	1920	73	894	26.47
	1/26/2004	121	54	15.8	216	31.02
	4/21/2004	116	58.1	29.3	83.3	30.67
	4/18/2005	108	29	14.2	274	30.19
	10/22/2005	180	69.2	6.3	154	30.74
	4/25/2006	83.7	23.8	2.1	82.5	31.41
	10/24/2006	254	108	4	169	31.39
	10/25/2006	254	108	4	169	31.39
4/24/2007	106	37.2	3.3	112	31.66	
MW02	1/3/1996	28.8	1	297	1169	24.27
	4/18/1996	1	1	2.64	1	25.53
	7/29/1996	1	1	1	1	26.48
	10/21/1996	1	1	1	1	26.96
	1/30/1997	1	1	1	1	27.73
	4/21/1997	1	1	1	1	27.77
	4/13/2001	1	1	1	1	30.33
	4/18/2005	1	1	1	2	30.98
MW03	1/3/1996	176	16.4	225	1550	24.88
	4/18/1996	129	1	212	463	25.75
	7/29/1996	212	1	167	393	26.64
	10/21/1996	165	1	157	467	27.16
	1/30/1997	144	1	198	851	27.92
	4/21/1997	2070	4340	332	4730	28.00
	4/13/2001	120	5.2	1	80	30.48
	4/18/2005	1	1	1	2	30.77
	4/25/2006	46.4	1	1	1	31.61
	4/24/2007	179	1	12.3	37.9	31.90
MW04	1/3/1996	2470	1880	206	2350	25.69

Note: Non Detects are represented by a value of 1.

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
FIELDS A#7A (METER #89961)

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW04	4/18/1996	4760	2460	235	1880	26.42
	7/29/1996	1830	2380	106	967	28.65
	10/21/1996	3320	4520	149	1680	28.84
	1/30/1997	4320	7420	280	3250	28.85
	4/21/1997	2410	5170	219	2530	28.68

Note: Non Detects are represented by a value of 1.

TABLE 2

**SUMMARY OF FREE-PRODUCT REMOVAL
FIELDS A#7A (METER #89961)**

Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Volume of Product Removed (gallons)
MW01	1/7/2002	30.58	30.59	0.01	0.00	12.30
	1/23/2002	30.4	30.41	0.01	0.01	12.31
	1/31/2002	30.94	30.95	0.01	0.00	12.31
	2/7/2002	31.11	31.12	0.01	0.00	12.31
	2/14/2002	31.17	31.18	0.01	0.00	12.31
	2/20/2002	31.14	31.15	0.01	0.00	12.31
	3/21/2002	30.78	30.8	0.02	0.00	12.31
	3/28/2002		30.92	0	0.01	12.32
	4/4/2002		30.64	0	0.00	12.32
	4/12/2002		31.45	0	0.00	12.32
	4/19/2002		31.56	0	0.00	12.32
	4/25/2002		31.54	0	0.00	12.32
	5/3/2002		31.51	0	0.00	12.32
	5/10/2002		31.59	0	0.00	12.32
	5/17/2002		31.16	0	0.00	12.32
	5/24/2002		31.38	0	0.00	12.32
	5/31/2002		31.23	0	0.00	12.32
	6/6/2002		31.32	0	0.00	12.32
	6/14/2002		31.34	0	0.00	12.32
	6/21/2002		31.67	0	0.00	12.32
	6/27/2002		31.81	0	0.00	12.32
	7/2/2002		31.82	0	0.00	12.32
	7/11/2002		31.84	0	0.00	12.32
	7/18/2002		31.454	0	0.00	12.32
	8/21/2002		32.12	0	0.00	12.32
	10/1/2002		31.77	0	0.02	12.34
	1/15/2003		31.9	0	0.00	12.34
	4/27/2003	31.06	31.07	0.01	0.02	12.36
	7/16/2003		31.295	0	0.00	12.36
	10/27/2003		30.97	0	0.00	12.36
	1/26/2004		31.025	0	0.00	12.36
	4/21/2004		30.67	0	0.00	12.36
	7/27/2004		30.83	0	0.00	12.36
10/18/2004		30.97	0	0.00	12.36	
1/25/2005		31.15	0	0.00	12.36	
4/18/2005		30.19	0	0.00	12.36	
MW04	1/7/2002	31.61			0.00	1.36
	1/23/2002	31.62			0.00	1.36
	1/31/2002	31.61			0.00	1.36

TABLE 2

**SUMMARY OF FREE-PRODUCT REMOVAL
FIELDS A#7A (METER #89961)**

Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Volume of Product Removed (gallons)
MW04	2/7/2002	31.6			0.00	1.36
	2/14/2002	31.62			0.00	1.36
	2/20/2002	31.62			0.00	1.36
	3/21/2002			0	0.00	1.36
	4/2/2002			0	0.00	1.36
	5/17/2002			0	0.00	1.36
	5/24/2002			0	0.00	1.36
	5/31/2002			0	0.00	1.36
	6/6/2002			0	0.00	1.36
	6/14/2002			0	0.00	1.36
	7/18/2002			0	0.00	1.36
	10/1/2002			0	0.00	1.36
	1/15/2003			0	0.00	1.36
	7/16/2003			0	0.00	1.36
	10/27/2003			0	0.00	1.36
	1/26/2004			0	0.00	1.36
	4/21/2004			0	0.00	1.36
	7/27/2004			0	0.00	1.36
	10/18/2004			0	0.00	1.36
	1/25/2005			0	0.00	1.36
	4/18/2005			0	0.00	1.36
	10/22/2005			0	0.00	1.36