

3R - 170

**ANNUAL
MONITORING
REPORT**

2/28/2009

**MWH**

BUILDING A BETTER WORLD

RECEIVED

2009 MAR 2 AM 9 51

February 28, 2009

Mr: Glenn von Gonten
New Mexico Oil Conservation Division (NMOCD)
1220 South St., Francis Drive
Santa Fe, New Mexico 87505

**RE: El Paso Tennessee Pipeline Company Pit Groundwater Remediation Sites
2008 Annual Reports**

Dear Mr. Von Gonten:

MWH Americas, Inc., on behalf of El Paso Tennessee Pipeline Company (EPTPC), is submitting the enclosed 2008 Annual Reports for each of EPTPC's 21 remaining San Juan River Basin pit groundwater remediation Sites. The reports present the 2008 sampling and product recovery data and include recommendations for 2009 activities at these Sites.

The 2008 Annual Reports are divided into three volumes based on location type. The volumes are as follows:

Volume Location Type

- | | |
|---|--|
| 1 | Federal Land |
| 2 | Non-Federal Land (Excl. Navajo Nation) |
| 3 | Navajo Nation |

If you have any questions concerning the enclosed reports, please call either Doug Stavinocha of EPTPC (713-420-5150) or me (303-291-2276).

Sincerely,

Jed Smith
Project Manager

encl.

cc: Bill Freeman – NNEPA, Shiprock, NM (Volume 3 Only)
Bill Liese – BLM, Farmington, NM (Volume 1 Only)
Brandon Powell – NMOCD, Aztec, NM (Volumes 1, 2, and 3)
Doug Stavinocha – EPTPC (Volumes 1, 2, and 3)

**2008 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I
EL PASO TENNESSEE PIPELINE COMPANY**

TABLE OF CONTENTS

METER or LINE ID	NMOCD CASE NO.	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
87640	3RP-155-0	Canada Mesa #2	24N	06W	24	I
89961	3RP-170-0	Fields A#7A	32N	11W	34	E
73220	3RP-068-0	Fogelson 4-1 Com. #14	29N	11W	4	P
89894	3RP-186-0	Hammond #41A	27N	08W	25	O
97213	3RP-190-0	Hamner #9	29N	09W	20	A
94715	3RP-196-0	James F. Bell #1E	30N	13W	10	P
70194	3RP-201-0	Johnston Fed #4	31N	09W	33	H
89232	3RP-202-0	Johnston Fed #6A	31N	09W	35	F
LD072	3RP-204-0	K27 LD072	25N	06W	4	E
LD174	3RP-212-0	LAT L 40	28N	04W	13	H
LD151	3RP-213-0	Lat 0-21 Line Drip	30N	09W	12	O
94810	3RP-223-0	Miles Fed 1A	26N	07W	5	F
89620	3RP-235-0	Sandoval GC A #1A	30N	09W	35	C



MWH

**2008 ANNUAL GROUNDWATER REPORT
NON-FEDERAL SITES VOLUME II
EL PASO TENNESSEE PIPELINE COMPANY**

TABLE OF CONTENTS

METER or LINE ID	NMOCD CASE NO.	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
03906	3RP-179-0	GCU Com A #142E	29N	12W	25	G
93388	3RP-192-0	Horton #1E	31N	09W	28	H
LD087	3RP-205-0	K-31 Line Drip	25N	06W	16	N
72556	3RP-207-0	Knight #1	30N	13W	5	A
94967	3RP-214-0	*Lindrith B #24	24N	03W	9	N
70445	3RP-074-0	Standard Oil Com #1	29N	09W	36	N
71669	3RP-239-0	State Gas Com N #1	31N	12W	16	H

* Lindrith B#24 Site was submitted for closure in 2006, and is pending approval from NMOCD.
There were no activities for this site in 2008.



MWH

**EPTPC GROUNDWATER SITES
2008 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 2008?	No

SUMMARY OF 2008 ACTIVITIES

MW-1: Annual groundwater sampling (April) and semiannual water level monitoring (April and October) were performed during 2008.

MW-2: Annual groundwater sampling (April) and semiannual water level monitoring (April and October) were performed during 2008.

MW-3: Annual groundwater sampling (April) and semiannual water level monitoring (April and October) were performed during 2008.

MW-4: Annual groundwater sampling (April) and semiannual water level monitoring (April and October) were performed during 2008.

Site-Wide Activities: No other activities were performed at this Site during 2008.

SITE MAP

A Site map (April) is attached as Figure 1.

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 2 through 5. Where applicable, static water level elevations were corrected for measurable thicknesses of free-product (specific gravity of 0.8).

**EPTPC GROUNDWATER SITES
2008 ANNUAL GROUNDWATER REPORT**

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

- Historic free-product recovery data are summarized in Table 2 and presented graphically in Figures 6 and 7.
- The 2008 laboratory report is presented in Attachment 1 (included on CD).
- The 2008 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 2008.

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 map presents the analytical and water level data collected during the annual sampling event.

RESULTS

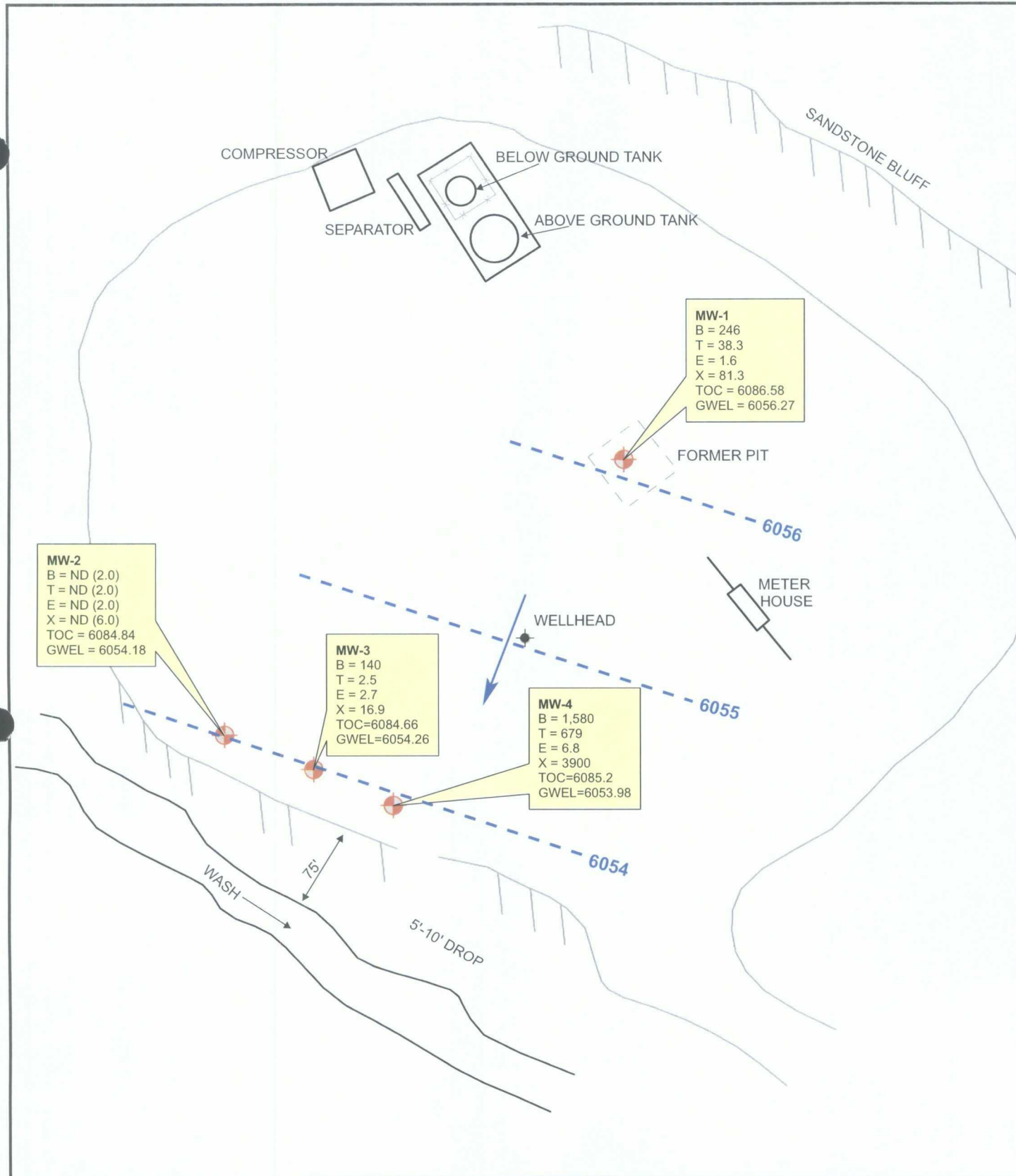
- The groundwater flow direction at this Site is to the southwest, based on historic water level measurements.
- BTEX concentrations in MW-1 have declined substantially since 1997, when free-product recovery was initiated. The April 2008 benzene concentration was 246 µg/L. All other BTEX constituents were below standards.
- The annual sample from MW-2 was non-detect for the BTEX constituents. MW-2, which has been dry the last few years, was last sampled in 2005 and was clean at the time, consistent with the historical sample results for this well.
- BTEX concentrations in MW-3 have declined substantially since 1997, when free-product recovery was initiated. However, the benzene concentration was 140 µg/L in April 2008, which is still above the NMWQCC benzene standard. All other BTEX constituents were below standards in 2008.
- The annual sample from MW-4 showed elevated BTEX constituent concentrations, similar in magnitude to the last sample from the well, collected in 1997. Due to the presence of free-product, MW-4 has typically been scheduled only for passive product recovery, rather than sampling. Product recovery efforts were ended in 2007 after several years of having no recovered or measurable product. The field observations during the 2008 sampling event indicated that the groundwater still had a product sheen.

**EPTPC GROUNDWATER SITES
2008 ANNUAL GROUNDWATER REPORT**

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

RECOMMENDATIONS

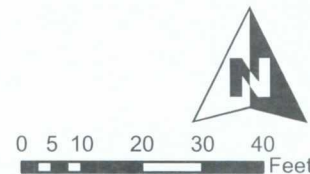
- Assuming that free-product continues to be absent from MW-1, this well will be gauged semiannually (April and October) and sampled annually (April) until BTEX concentrations approach the NMWQCC standards. MW-1 will then be scheduled for quarterly sampling until BTEX concentrations are below standards for four consecutive quarters, at which time this Site will be submitted for closure.
- EPTPC will attempt semiannual groundwater level measurements and annual groundwater sampling in April at MW-2, MW-3 and MW-4.



LEGEND

MW-4 Existing Monitoring / Observation Well
 Groundwater Flow Direction
1275 Potentiometric Surface Contour (Inferred Where Dashed)
ND Not Detected; Reporting Limit Shown In Parenthesis

B Benzene (ug/L)
T Toluene (ug/L)
E Ethylbenzene (ug/L)
X Total Xylenes (ug/L)
TOC Top of Casing (ft. AMSL)
GWEL Groundwater Elevation (ft. AMSL)



MWH



PROJECT:

FIELDS A#7A

TITLE:

Groundwater Potentiometric Surface Map,
and BTEX Concentrations - April 21, 2008

FIGURE:

1

FIGURE 2
SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
FIELDS A#7A (METER #89961)
MW01

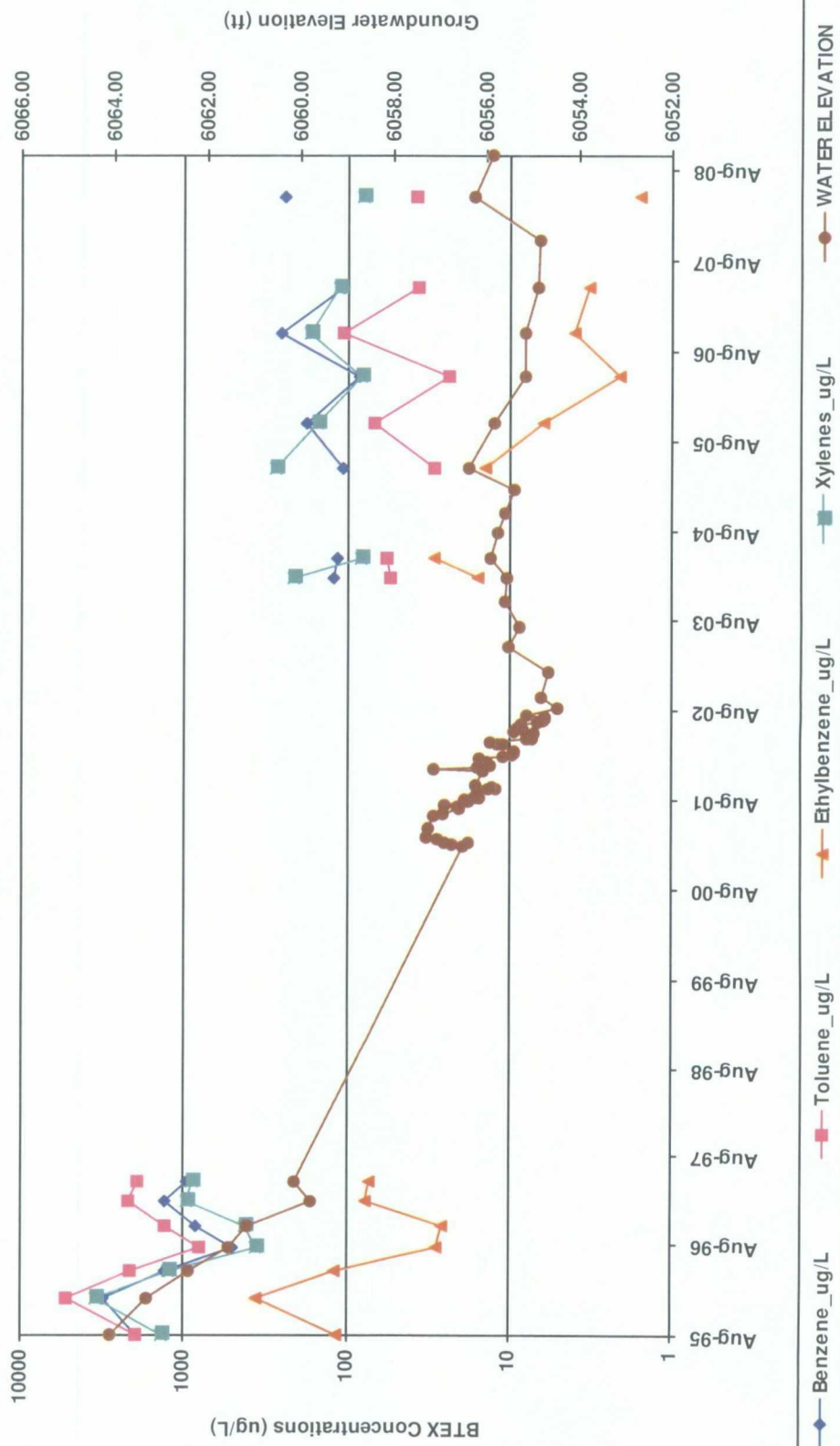


FIGURE 3
SUMMARY OF BTX COMPOUNDS IN GROUNDWATER SAMPLES
FIELDS A#7A (METER #89961)
MW02

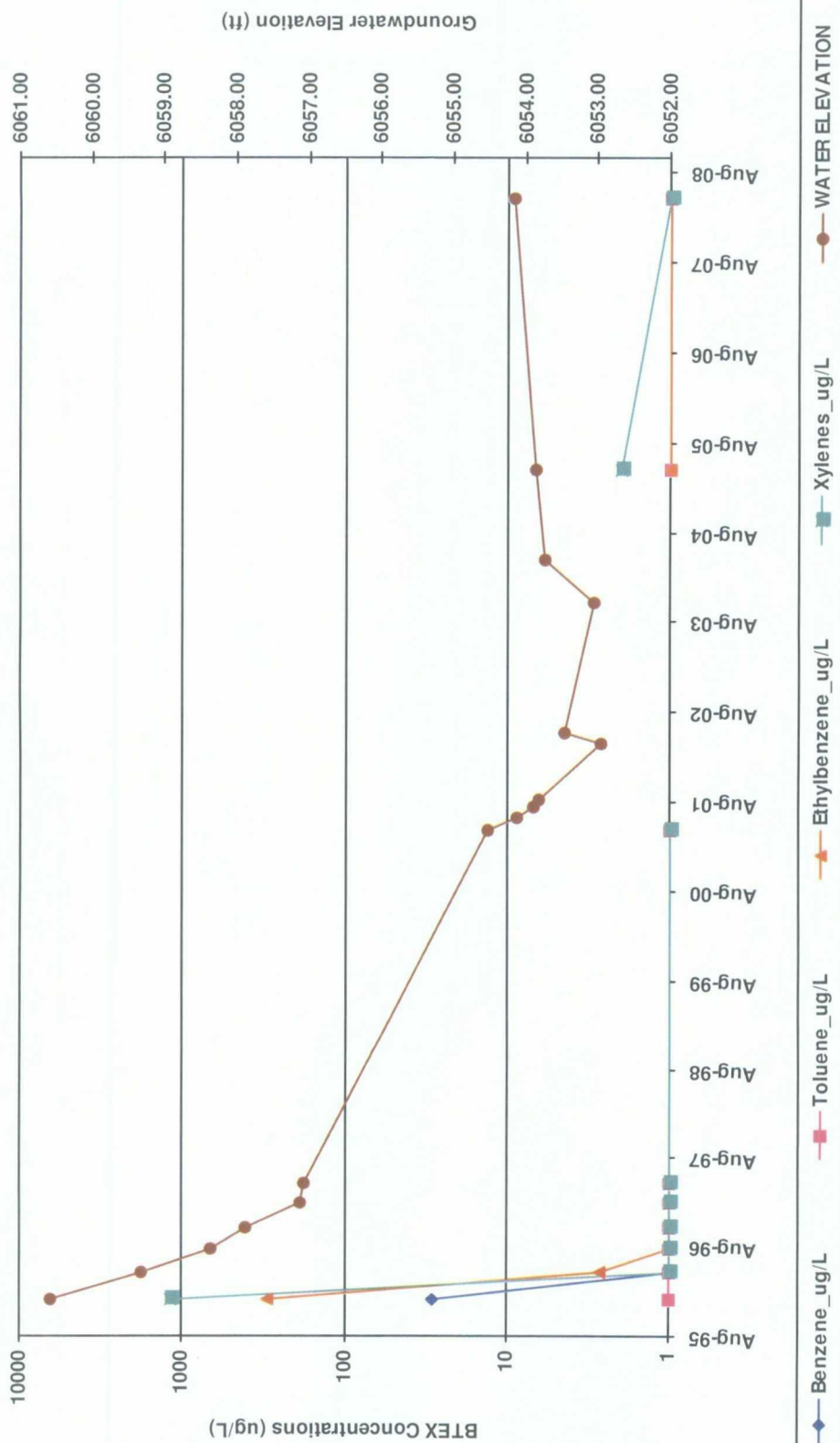


FIGURE 4
SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
FIELDS A#7A (METER #89961)
MW03

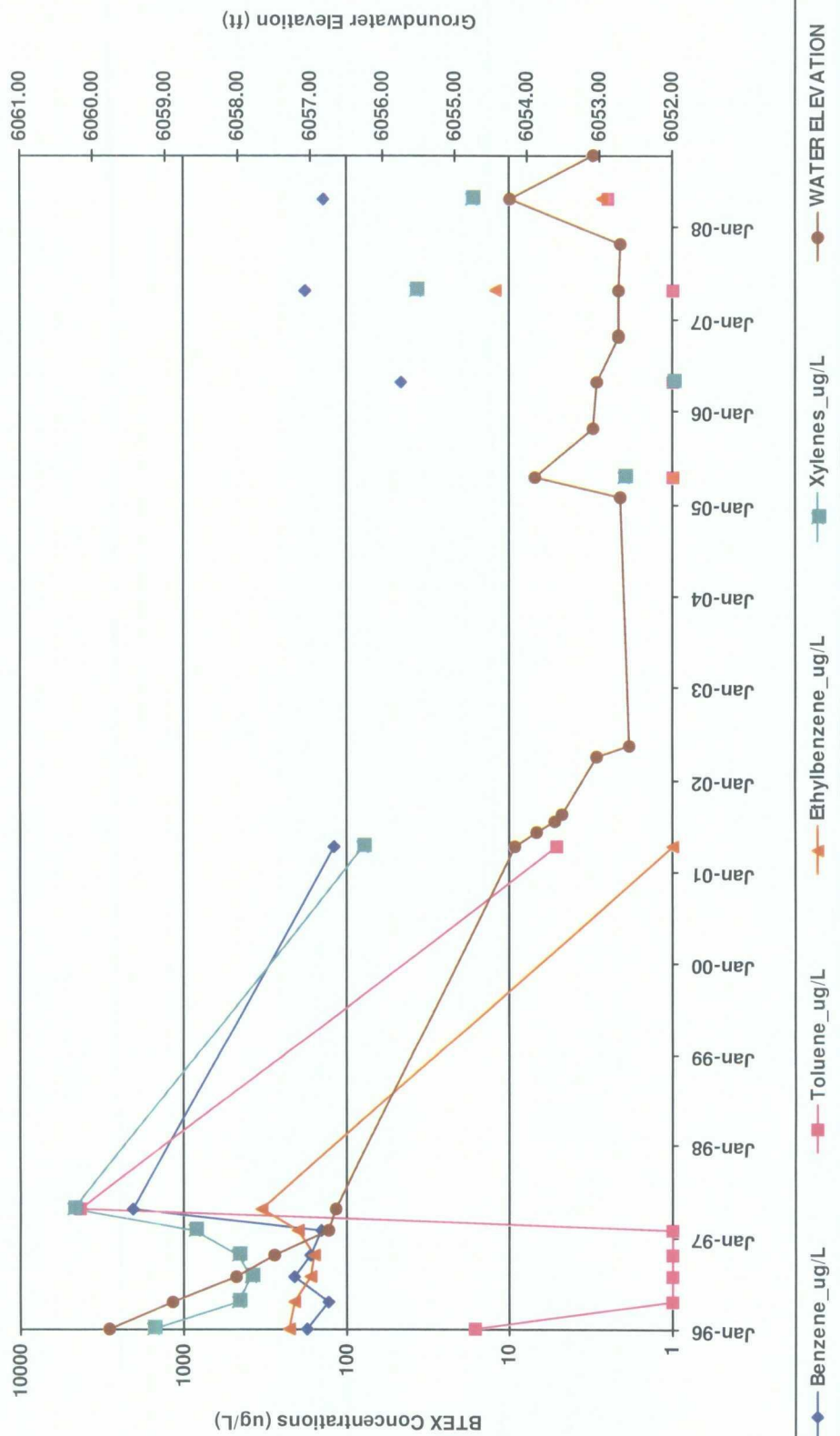


FIGURE 5
SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
FIELDS A#7A (METER #89961)
MW04

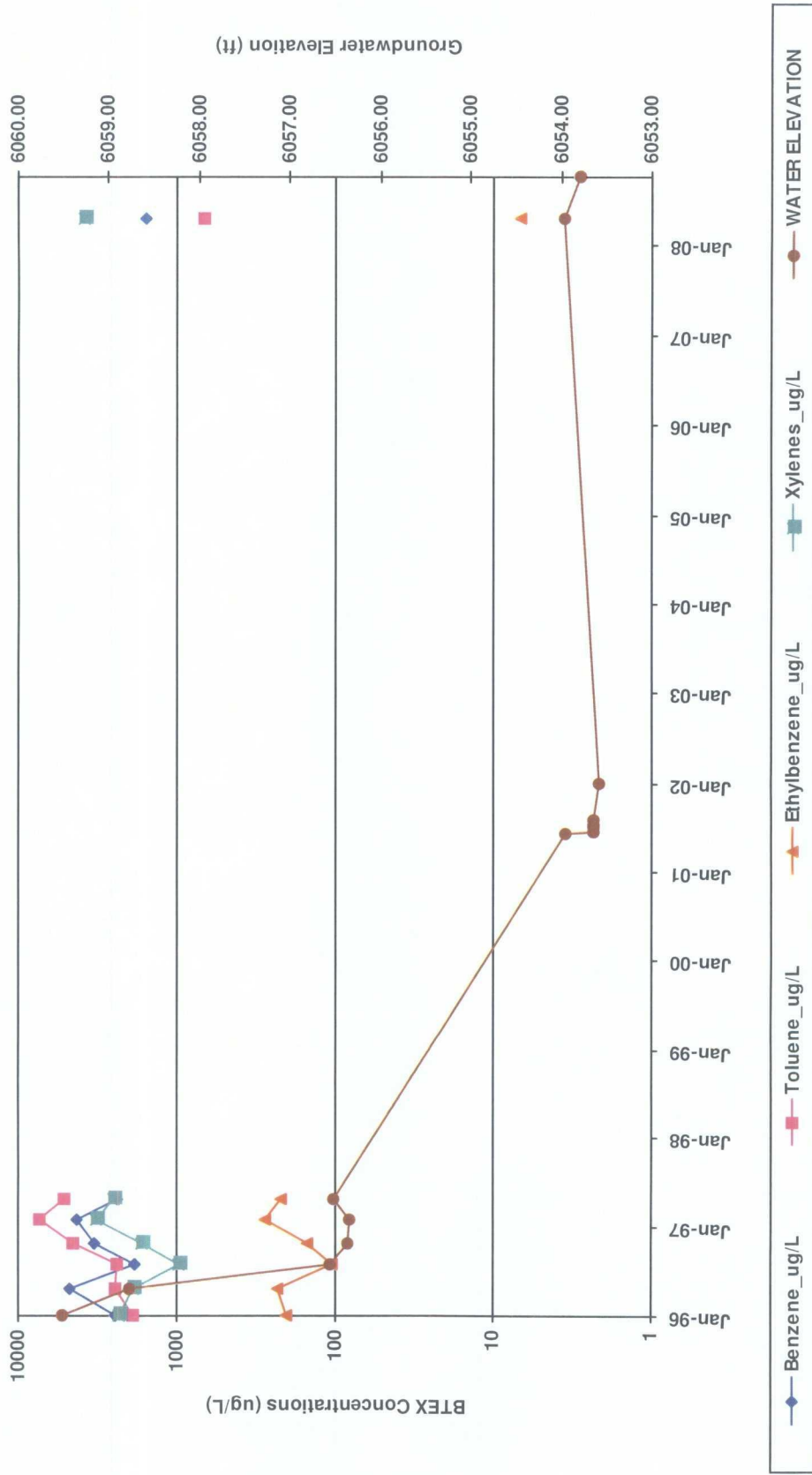


FIGURE 6
SUMMARY OF FREE-PRODUCT REMOVAL
FIELDS A#7A (METER #89961)
MW01

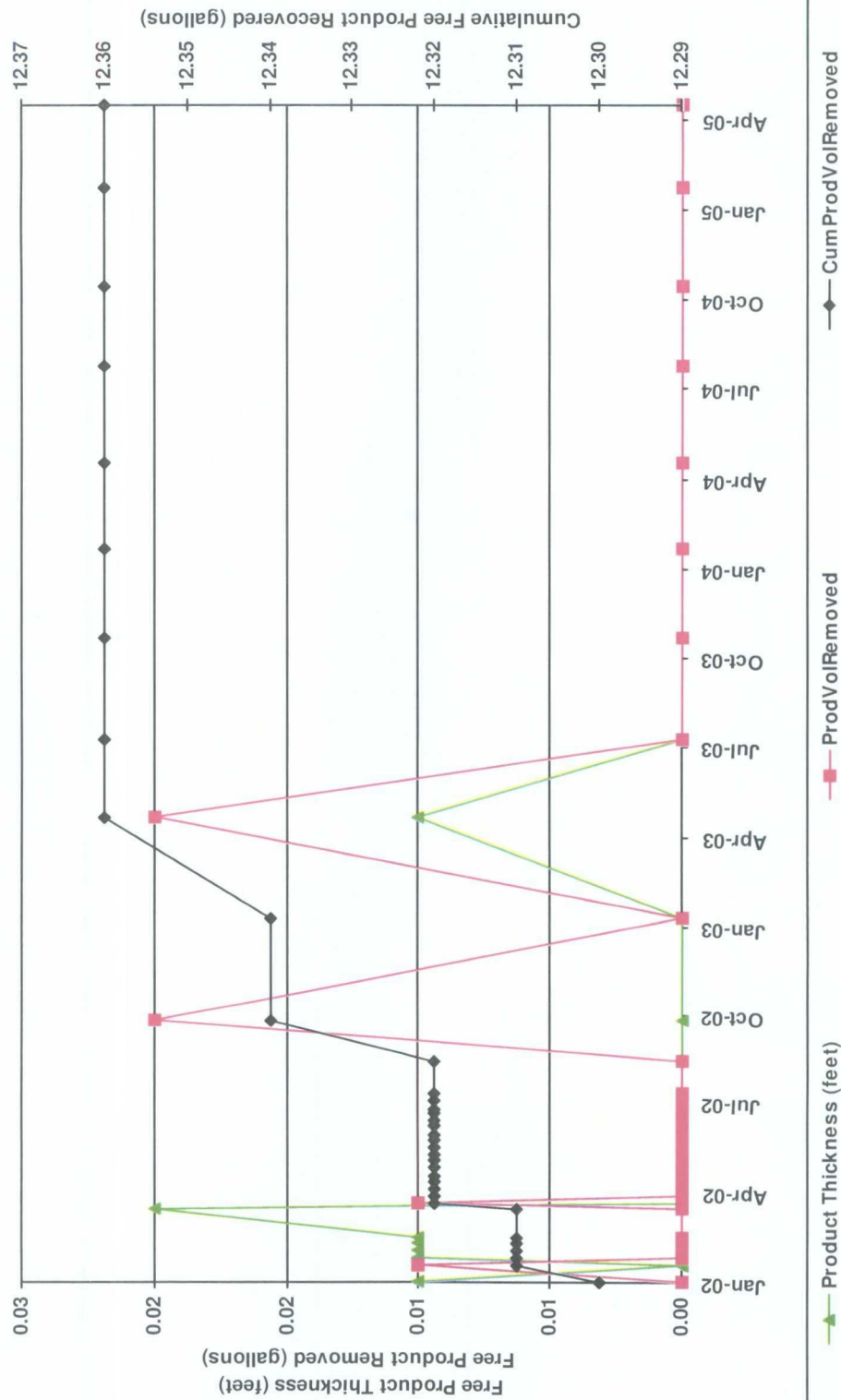


FIGURE 7
SUMMARY OF FREE-PRODUCT REMOVAL
FIELDS A#7A (METER #89961)
MW04

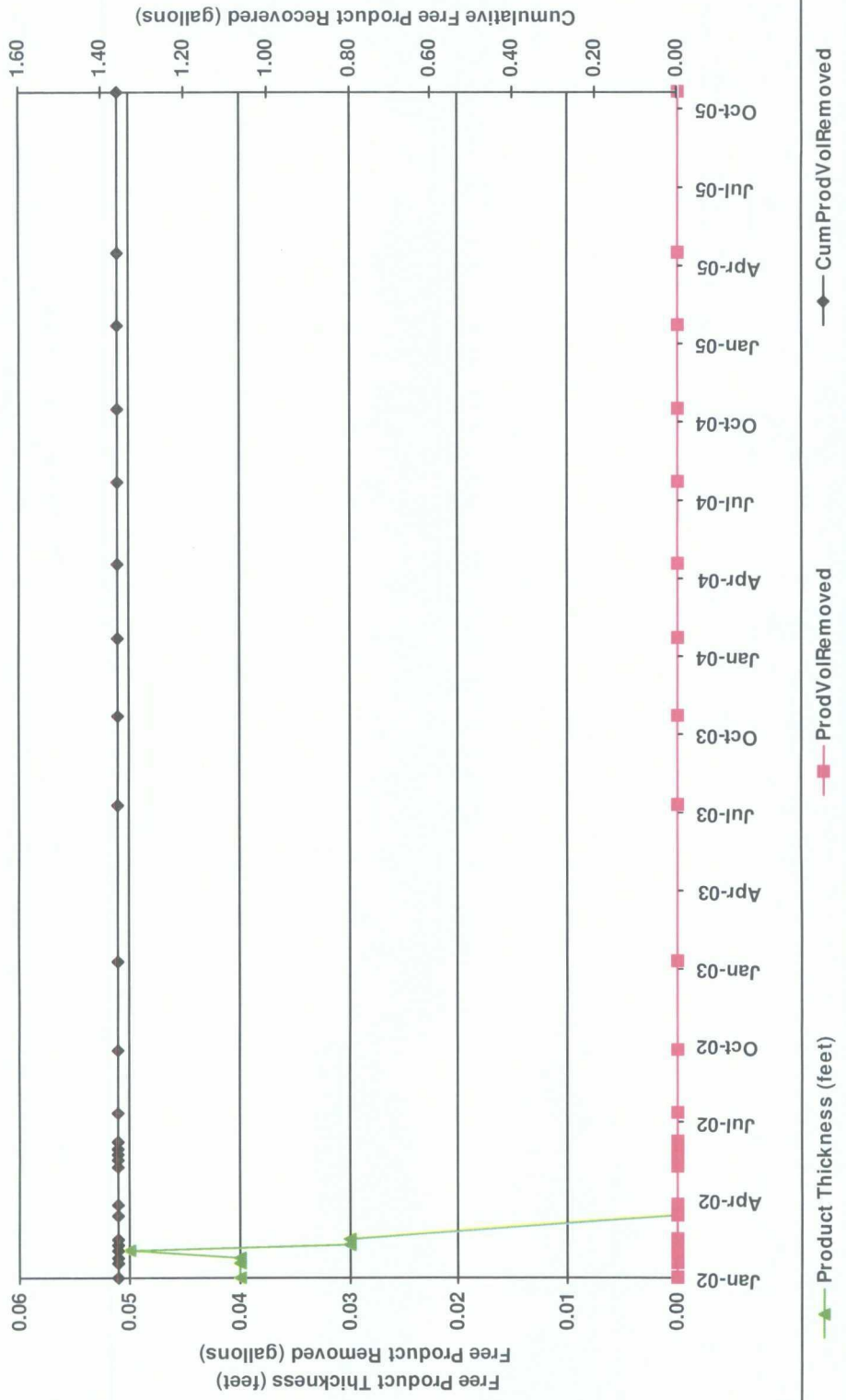


TABLE 1

**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
	4/21/2008	246	38.3	1.6	81.3	30.31
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
	4/21/2008	1	1	1	1	30.66
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

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)
MW03	4/21/2008	140	2.5	2.7	16.9	30.40
MW04	1/3/1996	2470	1880	206	2350	25.69
	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
	4/21/2008	1580	679	6.8	3900	31.22

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	30.40	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	30.80	0.02	0.00	12.31
	3/28/2002		30.92	0.00	0.01	12.32
	4/4/2002		30.64	0.00	0.00	12.32
	4/12/2002		31.45	0.00	0.00	12.32
	4/19/2002		31.56	0.00	0.00	12.32
	4/25/2002		31.54	0.00	0.00	12.32
	5/3/2002		31.51	0.00	0.00	12.32
	5/10/2002		31.59	0.00	0.00	12.32
	5/17/2002		31.16	0.00	0.00	12.32
	5/24/2002		31.38	0.00	0.00	12.32
	5/31/2002		31.23	0.00	0.00	12.32
	6/6/2002		31.32	0.00	0.00	12.32
	6/14/2002		31.34	0.00	0.00	12.32
	6/21/2002		31.67	0.00	0.00	12.32
	6/27/2002		31.81	0.00	0.00	12.32
	7/2/2002		31.82	0.00	0.00	12.32
	7/11/2002		31.84	0.00	0.00	12.32
	7/18/2002		31.45	0.00	0.00	12.32
	8/21/2002		32.12	0.00	0.00	12.32
	10/1/2002		31.77	0.00	0.02	12.34
	1/15/2003		31.90	0.00	0.00	12.34
	4/27/2003	31.06	31.07	0.01	0.02	12.36
	7/16/2003		31.30	0.00	0.00	12.36
	10/27/2003		30.97	0.00	0.00	12.36
	1/26/2004		31.02	0.00	0.00	12.36
	4/21/2004		30.67	0.00	0.00	12.36
	7/27/2004		30.83	0.00	0.00	12.36
	10/18/2004		30.97	0.00	0.00	12.36
	1/25/2005		31.15	0.00	0.00	12.36
	4/18/2005		30.19	0.00	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	31.60			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			0.00	0.00	1.36
	4/2/2002			0.00	0.00	1.36
	5/17/2002			0.00	0.00	1.36
	5/24/2002			0.00	0.00	1.36
	5/31/2002			0.00	0.00	1.36
	6/6/2002			0.00	0.00	1.36
	6/14/2002			0.00	0.00	1.36
	7/18/2002			0.00	0.00	1.36
	10/1/2002			0.00	0.00	1.36
	1/15/2003			0.00	0.00	1.36
	7/16/2003			0.00	0.00	1.36
	10/27/2003			0.00	0.00	1.36
	1/26/2004			0.00	0.00	1.36
	4/21/2004			0.00	0.00	1.36
	7/27/2004			0.00	0.00	1.36
	10/18/2004			0.00	0.00	1.36
	1/25/2005			0.00	0.00	1.36
	4/18/2005			0.00	0.00	1.36
	10/22/2005			0.00	0.00	1.36