3R - 170

ANNUAL MONITORING REPORTS

DATE:

2/2005

elpaso

Via Federal Express

February 21, 2005

Mr. Ed Martin
New Mexico Oil Conservation Division
1220 St. Francis Dr.
Santa Fe, NM 87504

RE: 2004 Pit Project Annual Groundwater Report

Dear Mr. Martin:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual reports for the 20 remaining groundwater impacted sites that were identified during our pit closure project of 1994 / 1995.

EPFS has organized the 20 Annual Reports (Volumes 1, 2 and 3) by land type. Volume 1 contains Annual Reports for sites found on Federal land. Volume 2 contains Non Federal land sites and Volume 3 contains one site on Navajo land. EPFS understands closure of groundwater sites on Navajo lands falls under jurisdiction of the Navajo Nation Environmental Protection Agency; however, the Navajo site report is included for your information.

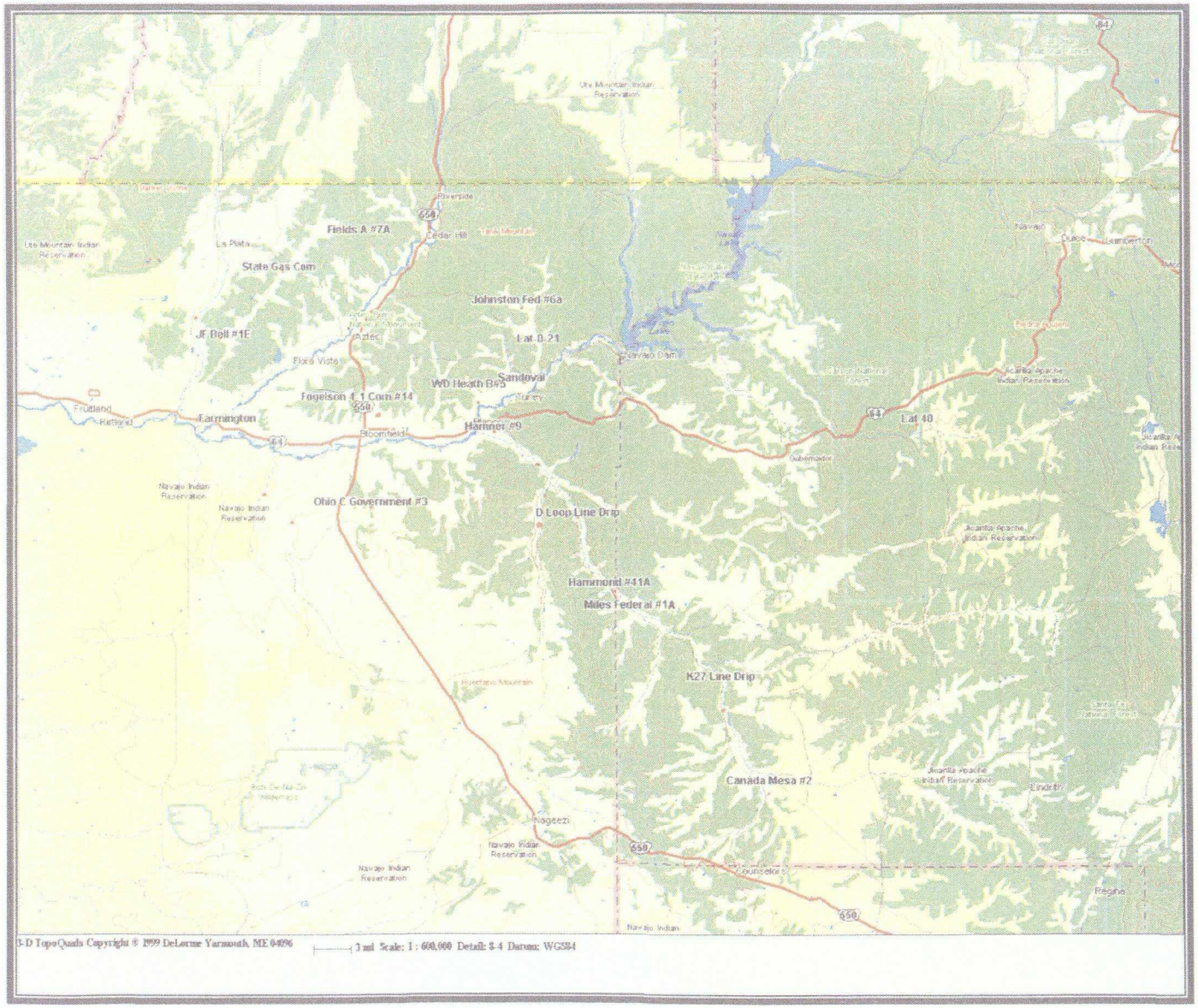
If you have any questions concerning the enclosed reports, please call me at (719) 520-4433.

Sincerely,

Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Federal Express**
Mr. Bill Liesse, BLM – w / enclosures (federal sites only), **Federal Express**
Dr. Ted Helfgott, Enterprise – w / enclosures (Enterprise sites only), **Federal Express**
Groundwater Pit File w / o enclosures
Pam Anderson - MWH, w / o enclosures
Inside Pocket of Each Volume of Report

Federal Groundwater Site Map



3R170

EPFS GROUNDWATER SITES
2004 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:**	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		

SUMMARY OF 2004 ACTIVITIES

MW-1: Quarterly monitoring was conducted at this well for free-product recovery. No free-product was detected during quarterly monitoring. Groundwater samples were collected in January and April 2004. Well MW-1 was redeveloped in October 2004.

MW-2: Quarterly water level monitoring was performed during 2004. An annual groundwater sample was scheduled to be collected in April 2004; however, there was insufficient water in the well to collect a sample.

MW-3: Quarterly water level monitoring was performed during 2004. An annual groundwater sample was scheduled to be collected in April 2004; however, there was insufficient water in the well to collect a sample.

MW-4: Quarterly monitoring was conducted at this well for free-product recovery. This well was dry during each event.

Site-Wide Activities: During the April 2004 site visit, it was noted that Amoco had remediated their production pit; soil from the pit was excavated and removed. A technology review and data assessment were performed to evaluate free-product removal protocol and methodologies for sites with free-product.

SITE MAPS

Site maps (January and April) are attached in Figures 1 and 2.

SUMMARY TABLES AND GRAPHS

- Analytical data from 2004 are presented in Table 1, and historic groundwater data are presented graphically in Figures 3 through 6.
- Free-product recovery data for 2004 are summarized in Table 2, and historic data are presented graphically in Figures 7 and 8.
- Laboratory reports are presented in Attachment 1.
- Field documentation is presented in Attachment 2.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this site during 2004.

DISPOSITION OF GENERATED WASTES

All phase-separated hydrocarbons were disposed of at the EPFS Kutz Separator located in Bloomfield, New Mexico.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this site, however, the attached site maps present the water level data collected during 2004.

CONCLUSIONS

- The groundwater flow direction at this site to the southwest, based on water level measurements from 2002.
- No free-product was recovered from MW-1 in 2004.
- No free-product was recovered from MW-4 in 2004. This well was dry during each event.
- Based on the technology review and free-product removal data for this site, it was concluded that MW-1 should continue to be monitored, only.

- BTEX concentrations in MW-1 were substantially lower than in 1997 (benzene 951 µg/L), when samples were last analyzed. However, benzene concentrations were 121 and 116 µg/L in January and April, respectively, which are above NMWQCC standards. All other BTEX constituents were below standards.

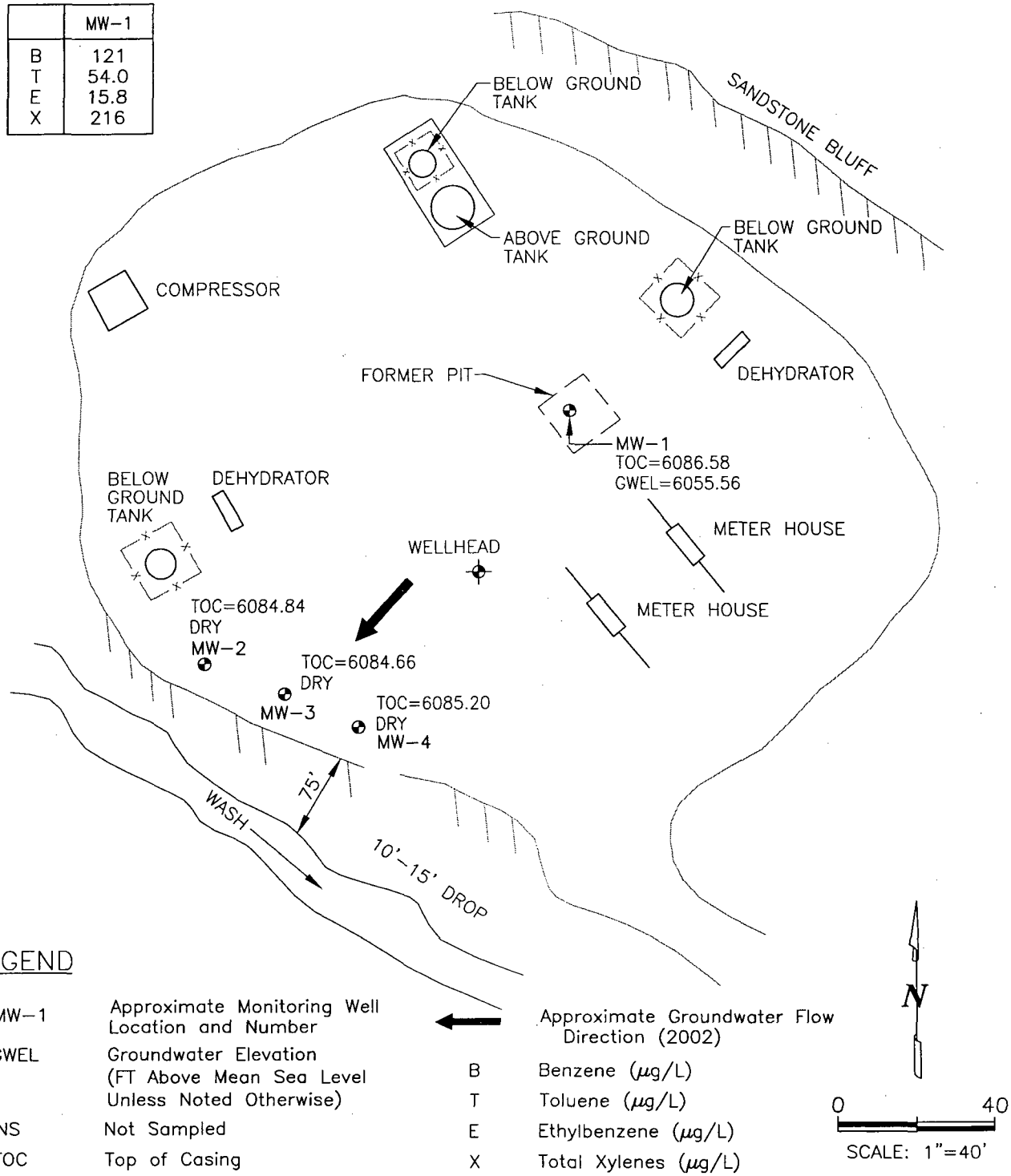
- Annual groundwater samples were scheduled to be collected from MW-2, MW-3 and MW-4 during 2004. These wells were not sampled due to insufficient quantity of water; these wells have been dry since May 2002.

- Based on visual observation, the former Amoco pit appeared to contain contaminated soils. Therefore, this pit may have represented a source of contamination upgradient of EPFS' former pit. Removal of these soils should contribute to expedited remediation of the site.

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.

- EPFS 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, groundwater sampling may be performed again in October 2005 at these wells.



LEGEND

⊕ MW-1	Approximate Monitoring Well Location and Number	←	Approximate Groundwater Flow Direction (2002)
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)	B	Benzene (µg/L)
		T	Toluene (µg/L)
NS	Not Sampled	E	Ethylbenzene (µg/L)
TOC	Top of Casing	X	Total Xylenes (µg/L)

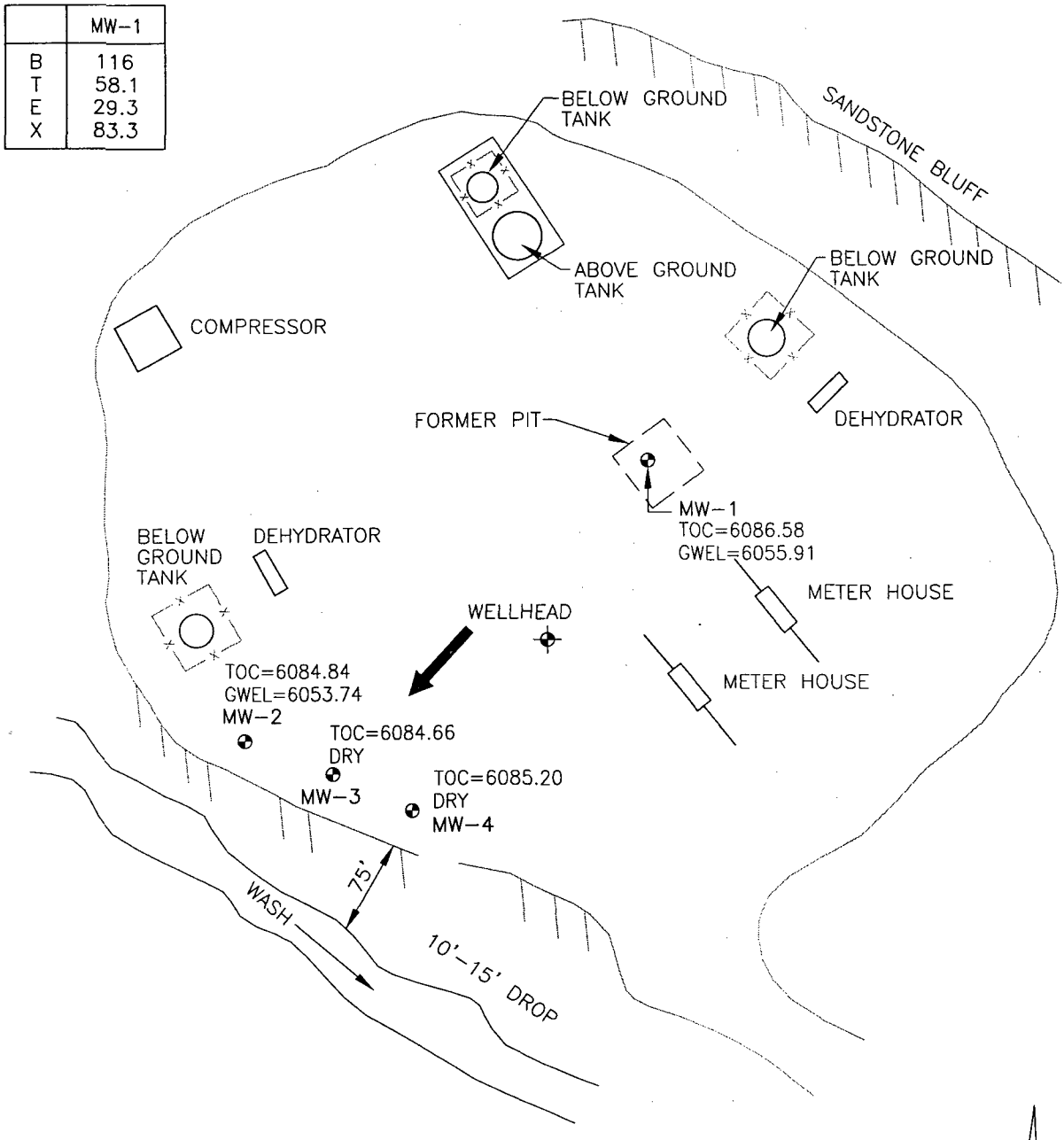
FIELDS A #7A, METER 89961/97546
JANUARY 2004

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

fields.dwg

	MW-1
B	116
T	58.1
E	29.3
X	83.3



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NS	Not Sampled	E	Ethylbenzene (μg/L)
TOC	Top of Casing	X	Total Xylenes (μg/L)

N

0 40

SCALE: 1"=40'

FIELDS A #7A, METER 89961/97546
APRIL 2004

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 2

fields

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN 2004 GROUNDWATER SAMPLES
FIELDS A#7A (METER #89961)

Site Name	Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft btoc)
Fields A#7A	MW-1	1/26/2004	121	54.0	15.8	216	31.03
Fields A#7A	MW-1	4/21/2004	116	58.1	29.3	83.3	30.67

< = Analyte not detected at Method Detection Limit (MDL). Value shown is MDL.

J = Value estimated

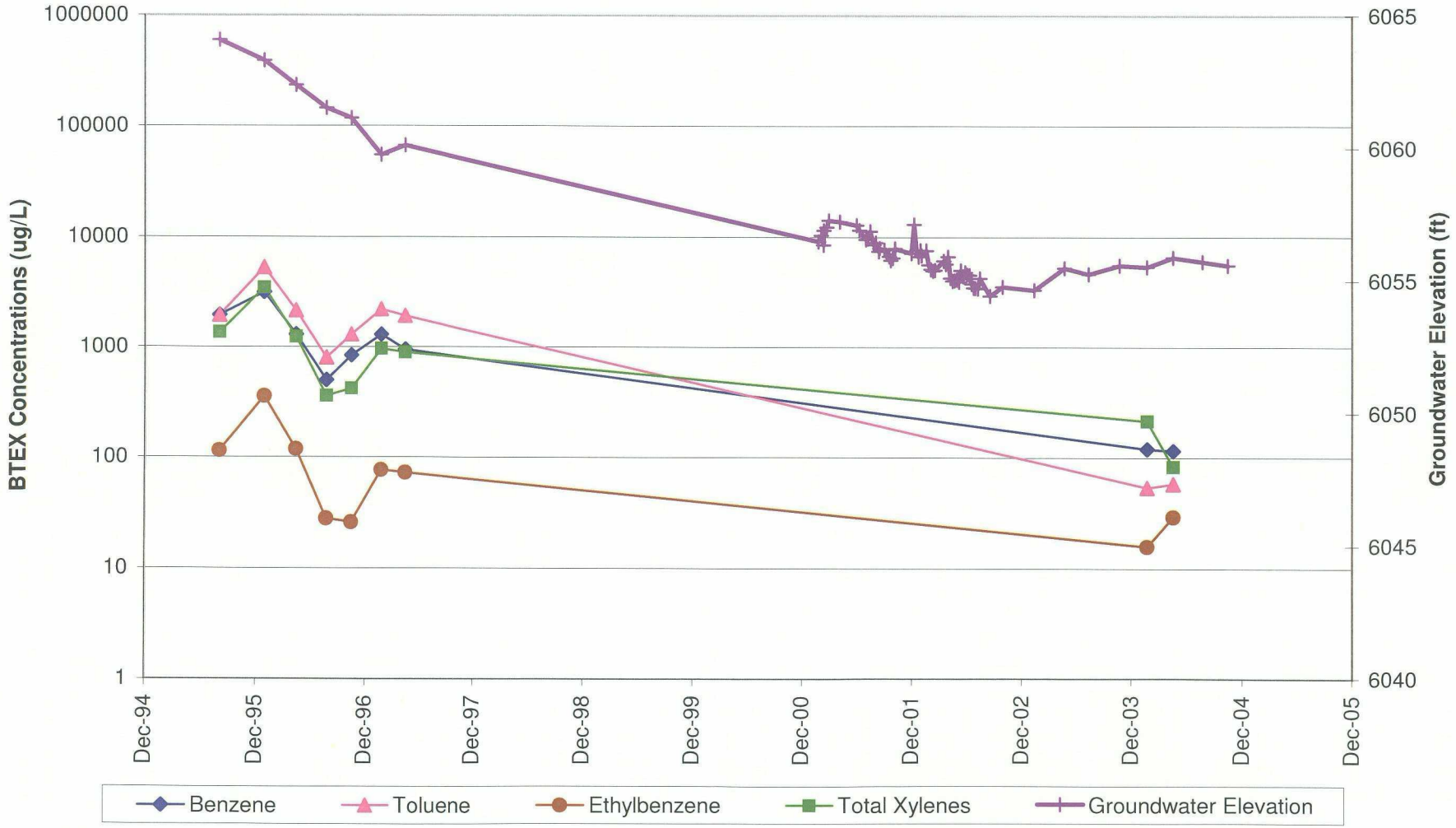
TABLE 2

SUMMARY OF FREE-PRODUCT REMOVAL DURING 2004
FIELDS A#7A (METER #89961)

Site Name	Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume of Product Removed (gallons)	Cummulative Volume of Product Removed (gallons)
Fields A#7A	MW-1	1/26/04	NA	31.03	0.00	0.00	12.34
Fields A#7A	MW-1	4/21/04	NA	30.67	0.00	0.00	12.34
Fields A#7A	MW-1	7/27/04	NA	30.83	0.00	0.00	12.34
Fields A#7A	MW-1	10/18/04	NA	30.97	0.00	0.00	12.34
Fields A#7A	MW-4	1/26/04	dry	dry	0.00	0.00	1.36
Fields A#7A	MW-4	4/21/04	dry	dry	0.00	0.00	1.36
Fields A#7A	MW-4	7/27/04	dry	dry	0.00	0.00	1.36
Fields A#7A	MW-4	10/18/04	dry	dry	0.00	0.00	1.36

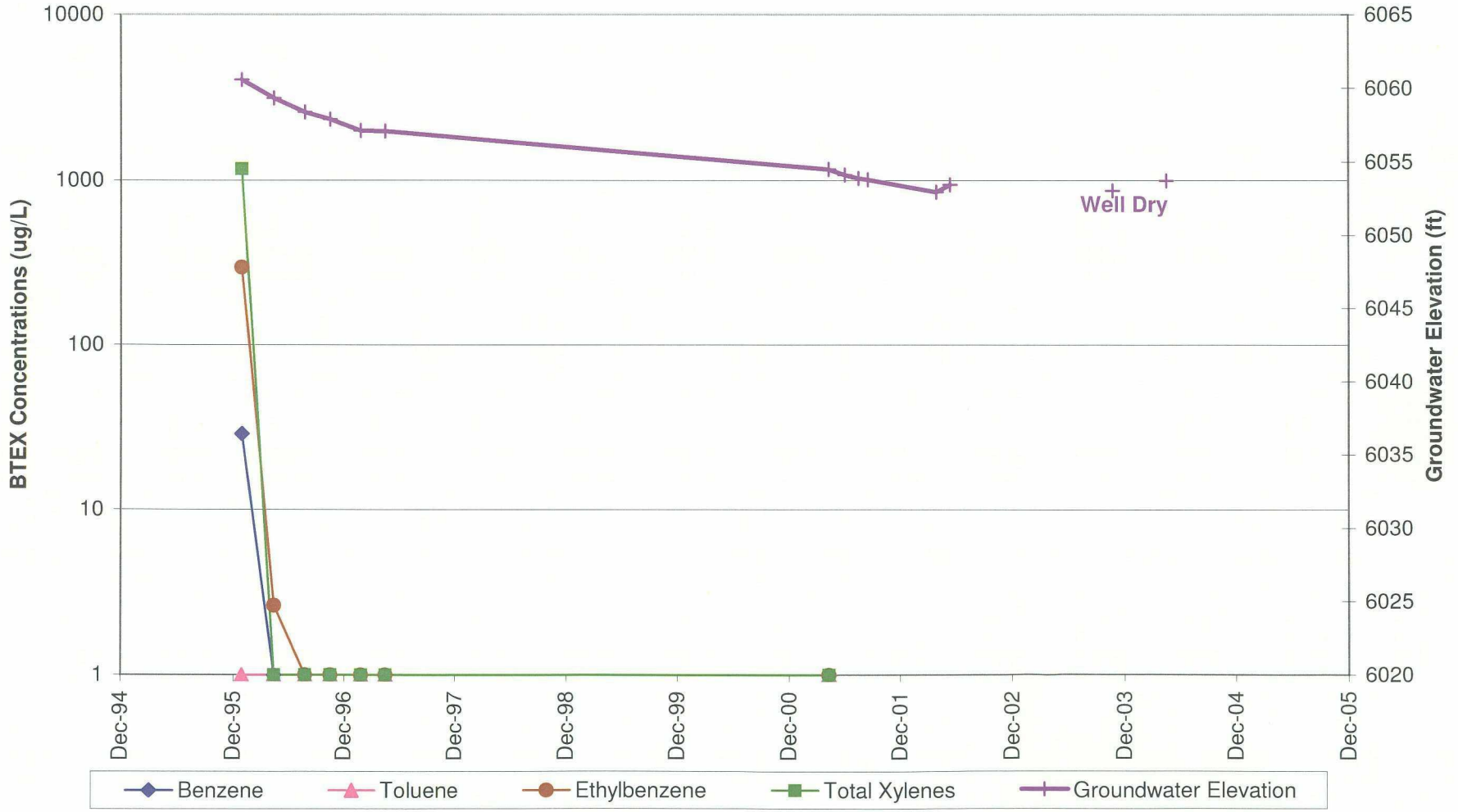
Well MW-1 redeveloped in October 2004

FIGURE 3
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
FIELDS A #7A
MW-1



2004 Fields A7A.xls,Flds MW1

FIGURE 4
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
FIELDS A #7A
MW-2

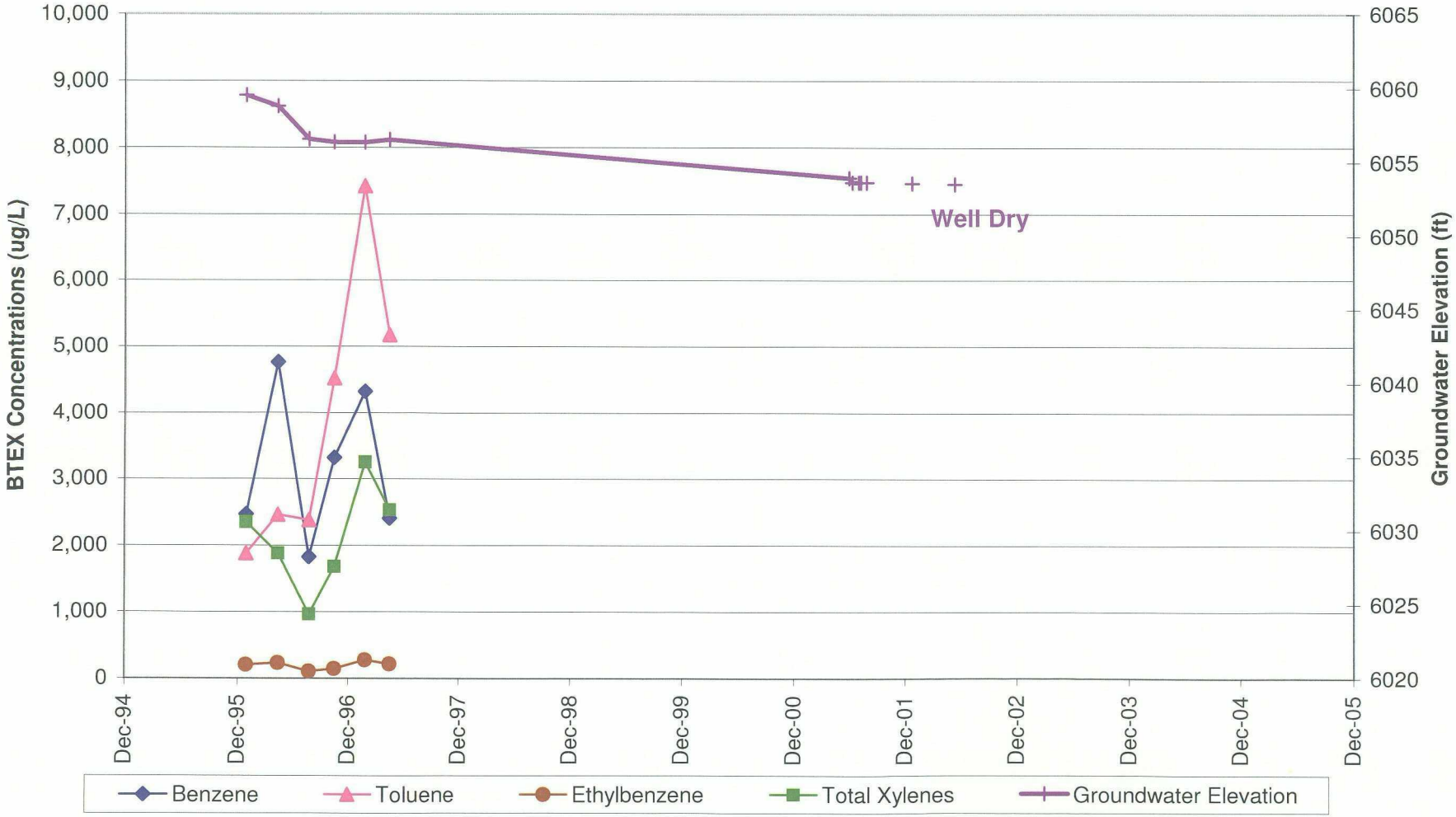


2004 Fields A7A.xls,Flds MW2

FIGURE 5
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
FIELDS A #7A
MW-3

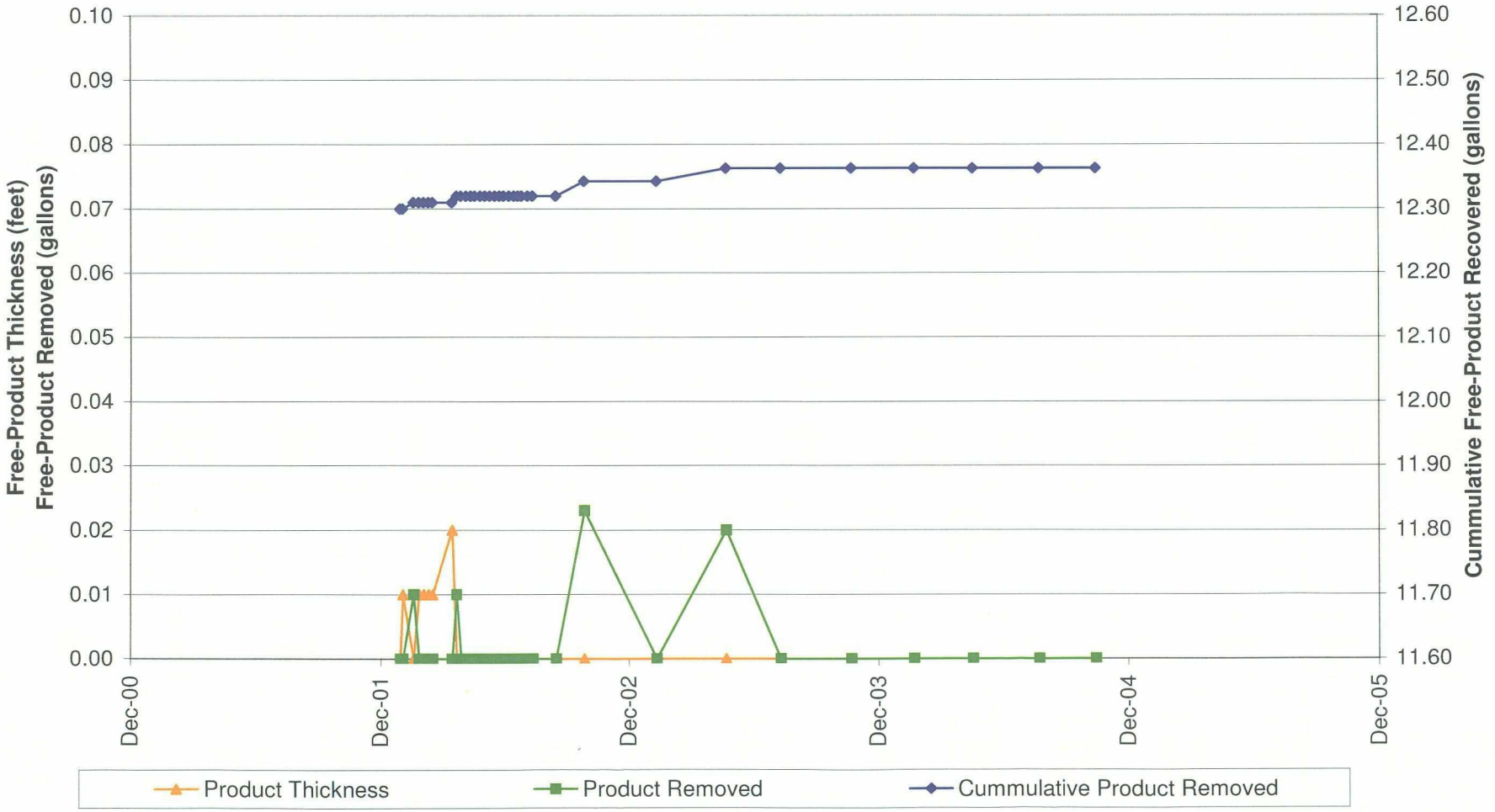
2004 Fields A7A.xls,Flds MW3

FIGURE 6
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
FIELDS A #7A
MW-4



2004 Fields A7A.xls,Flds MW4

FIGURE 7
HISTORIC FREE-PRODUCT RECOVERY
FIELDS A #7A
MW-1



2004 Fields A7A.xls, Flds PR1

FIGURE 8
HISTORIC FREE-PRODUCT RECOVERY
FIELDS A #7A
MW-4

2004 Fields A7A.xls, Flds PR4