3R - 196

ANNUAL MONITORING REPORTS DATE:

2/21/2005

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.

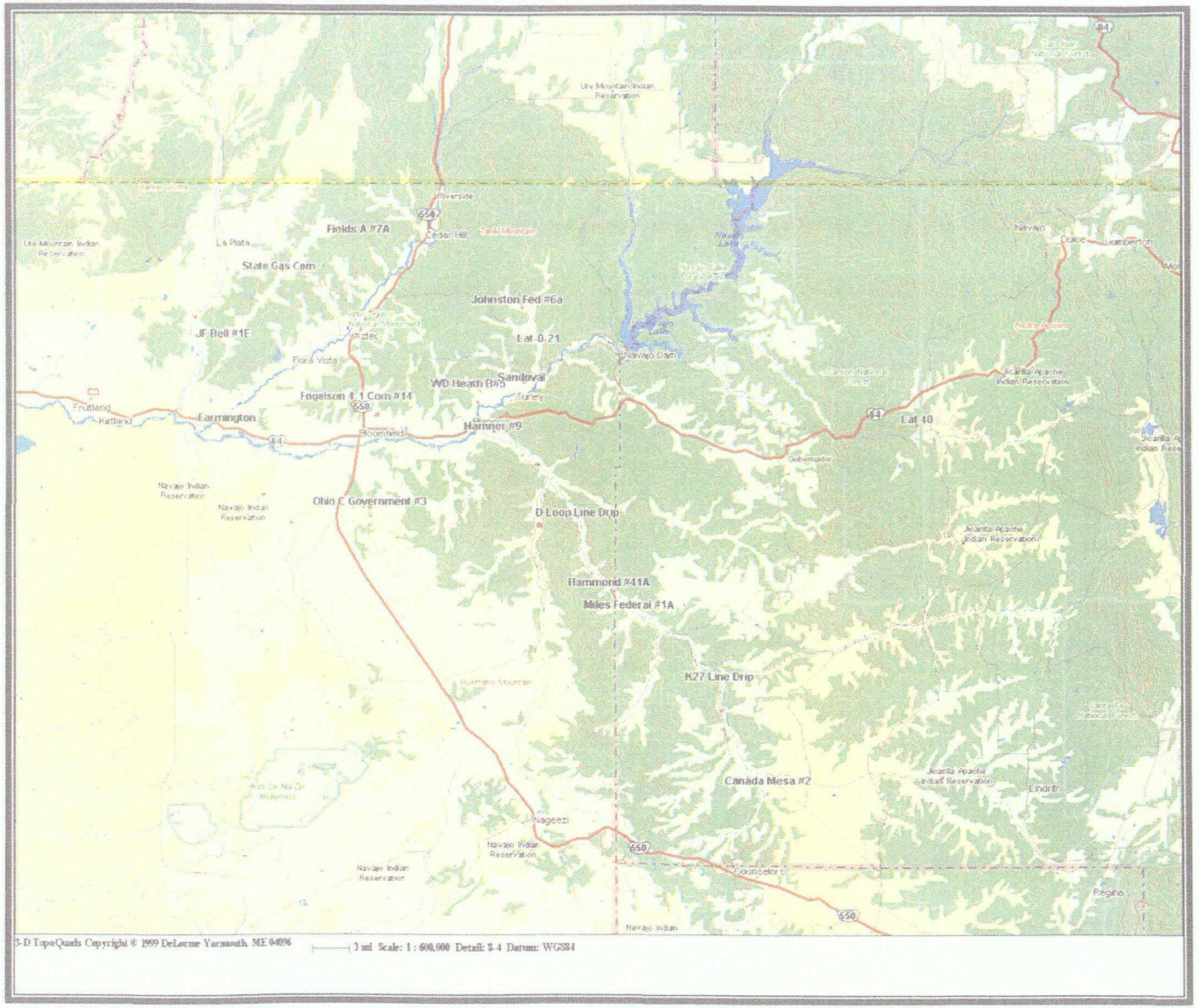
If you have any questions concerning the enclosed reports, please call me at (719) 520-4433.

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



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EPFS GROUNDWATER SITES
2004 ANNUAL GROUNDWATER REPORT

James F. Bell #1E
Meter Code: 94715

SITE DETAILS

Legal Description:	**Town:**	30N	**Range:**	13W	**Sec:** 10	**Unit:**	P
NMOCD Haz Ranking:	40	**Land Type:**	Federal	**Operator:**	Amoco Production Company		

PREVIOUS ACTIVITIES

Site Assessment:	3/94	**Excavation:**	4/94	**Soil Boring:**	10/95
Monitor Well:	10/95	**Geoprobe:**	NA	**Additional MWs:**	6/99
Downgradient MWs:	11/95	**Replace MW:**	NA	**Quarterly Initiated:**	NA
ORC Nutrient Injection:	NA	**Re-Excavation:**	NA	**PSH Removal Initiated:**	7/97
Annual Initiated:	10/00	**Quarterly Resumed:**	NA		

* Additional downgradient monitoring wells were attempted in 1995 and in 1999; however, these borings were dry and wells were not installed.

SUMMARY OF 2004 ACTIVITIES

MW-1: Monthly free-product recovery activities and quarterly static water level monitoring were performed during 2004. This well was redeveloped in February 2004.

MW-2: Annual groundwater sampling was performed in June 2004. Quarterly static water level monitoring was performed during 2004.

MW-3: Monthly free-product recovery activities were performed during 2004. Quarterly static water level monitoring was performed during 2004. An annual groundwater sample was collected in June 2004.

MW-4: Quarterly static water level monitoring was performed during 2004.

Site-Wide Activities: A technology review and data assessment were performed to evaluate free-product removal protocol and methodologies for sites with free-product.

SITE MAP

A site map (June) is attached in Figure 1.

James F. Bell #1E
Meter Code: 94715

SUMMARY TABLES AND GRAPHS

- Analytical data for 2004 are summarized in Table 1, and historic data are presented graphically in Figures 2 through 5.
- Free-product recovery data for 2004 are summarized in Table 2, and historic data are presented graphically in Figures 6 and 7.
- The laboratory report is 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 both the potentiometric surface and analytical data collected during 2004.

CONCLUSIONS

- Based on water level data collected between 1997 and 2004, the hydraulic gradient is relatively flat across the site and groundwater flow may vary over time and space. The current monitoring wells do not appear to be located directly downgradient of MW-1 and the former pit location; however, they have clearly been affected by hydrocarbon contamination. These wells should continue to be monitored. In 1995, borings were attempted to the east and north of the pit that did not encounter water. Therefore, it was concluded that the extent of contaminated groundwater has been physically defined by the dry holes, providing evidence that groundwater contamination is limited to a perched, discontinuous zone.
- Free-product recovery efforts at MW-1 resulted in removal of approximately 13 gallons of free-phase hydrocarbons during 2004 bringing the cumulative total volume recovered to approximately 780 gallons. Free-product removal in 2003 totaled 52 gallons, compared to 13 gallons in 2004, demonstrating that product accumulation is decreasing.

- Free-product recovery efforts at MW-3 resulted in removal of less than 0.01 gallons of free-phase hydrocarbons during 2004 bringing the cumulative total volume recovered to approximately 103 gallons. Free-product removal in 2003 totaled 20 gallons, compared to less than 0.01 gallons in 2004, indicating that product removal is potentially complete.

- Free-product thickness and recovery has been steadily decreasing over time in both MW-1 and MW-3. There was no measurable free-product in MW-3 after January 2004.

- Based on the technology review and free-product removal data for this site, it was concluded that the current free-product removal techniques (active free-product removal in MW-1, and monitoring at MW-3) are the most efficient and effective product removal methods at this time.

- BTEX concentrations in MW-3 in 2004 were above NMWQCC standards for benzene (1,590 µg/L), ethylbenzene and total xylenes. However, all BTEX concentrations have decreased since sampling was initiated.

- BTEX concentrations in MW-2 were below detection limits in 2004. BTEX concentrations in MW-2 have been steadily decreasing since 2000.

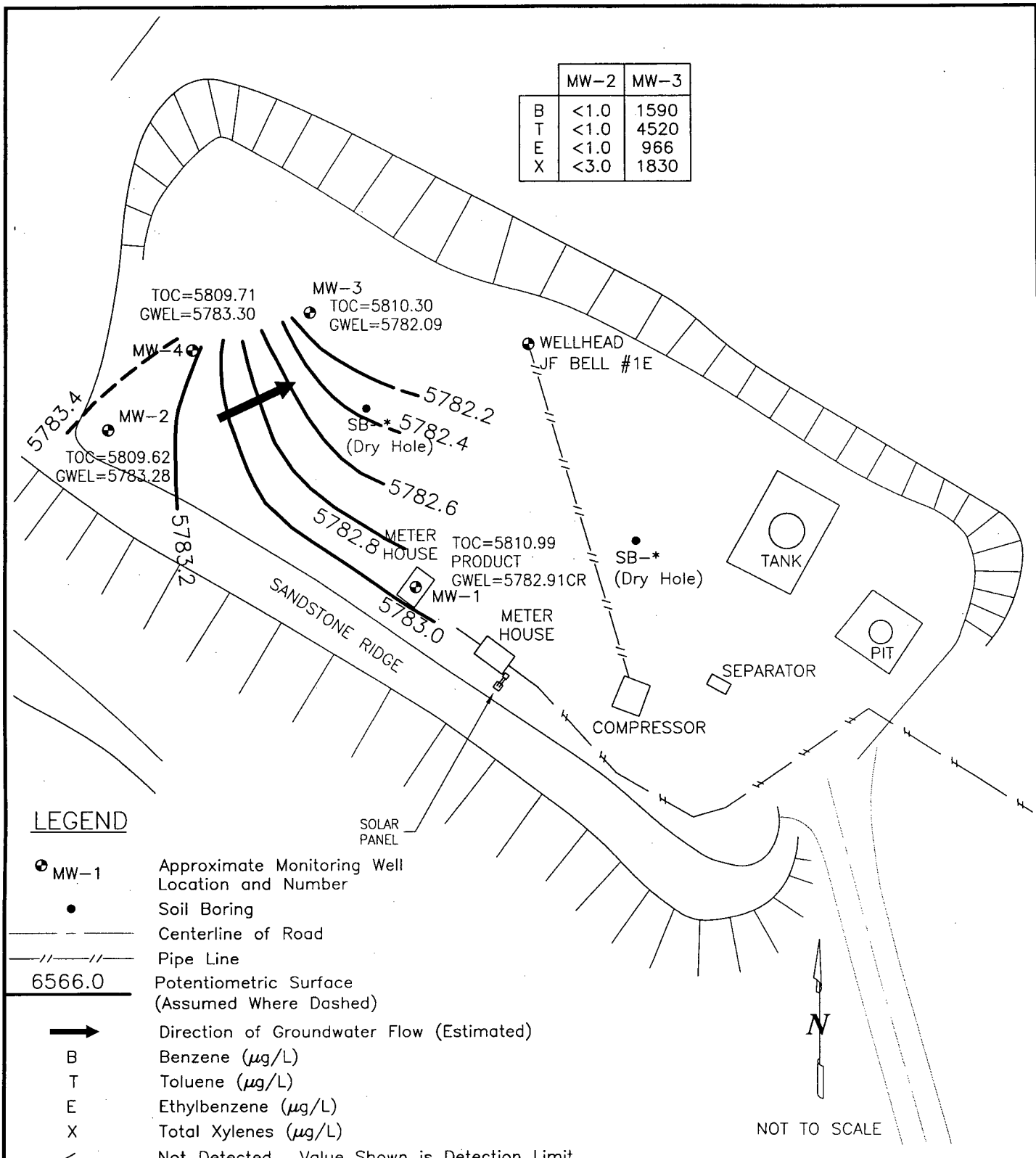
RECOMMENDATIONS

- EPFS will continue to utilize the active free-product recovery system at MW-1, and will continue monitoring MW-3. EPFS will continue monthly free-product recovery efforts at these wells; however, the frequency of monitoring will be adjusted based on the amount of product recovered during the monitoring visits.

- Once free-product recovery efforts are complete at MW-1, this well will be sampled on an annual basis until sample results approach closure criteria. The well will then be scheduled for quarterly sampling until closure criteria are met.

- EPFS will continue annual groundwater sample collection and quarterly water level monitoring at MW-2 and MW-3.

- Because historic data collected at MW-4 indicate concentrations of BTEX constituents below analytical detection limits, EPFS will not sample this well until the site closure samples are collected. Water level monitoring will continue on a quarterly basis.



LEGEND

MW-1	Approximate Monitoring Well Location and Number
•	Soil Boring
— — —	Centerline of Road
—//—//—	Pipe Line
6566.0	Potentiometric Surface (Assumed Where Dashed)
→	Direction of Groundwater Flow (Estimated)
B	Benzene (µg/L)
T	Toluene (µg/L)
E	Ethylbenzene (µg/L)
X	Total Xylenes (µg/L)
<	Not Detected. Value Shown is Detection Limit.
NS	Not Sampled
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing
Product	Free-Product Present
CR	Water Level Corrected for Product

jfbell1e6_04.dwg

JAMES F. BELL #1E, METER 94715
JUNE 2004

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN 2004 GROUNDWATER SAMPLES
JAMES F BELL #1E (METER #94715)

Site Name	Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft btoc)
James F. Bell #1E	MW-2	6/9/2004	< 1.0	< 1.0	< 1.0	< 3.0	26.34
James F. Bell #1E	MW-3	6/9/2004	1,590	4,520	966	1,830	28.21

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

J = Value estimated

TABLE 2

SUMMARY OF FREE-PRODUCT REMOVAL DURING 2004
JAMES F BELL #1E (METER #94715)
(Page 1 of 2)

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)
James F. Bell #1E	MW-1	1/2/04	NM	NM	NM	0.20	766.63
James F. Bell #1E	MW-1	1/11/04	NM	NM	NM	0.59	767.22
James F. Bell #1E	MW-1	1/16/04	NM	NM	NM	0.00	767.22
James F. Bell #1E	MW-1	1/23/04	NM	NM	NM	0.59	767.81
James F. Bell #1E	MW-1	1/30/04	NM	NM	NM	0.10	767.91
James F. Bell #1E	MW-1	2/6/04	NM	NM	NM	0.49	768.40
James F. Bell #1E	MW-1	2/12/04	NM	NM	NM	0.20	768.60
James F. Bell #1E	MW-1	2/18/04	NM	NM	NM	0.59	769.19
James F. Bell #1E	MW-1	2/27/04	28.19	28.21	0.02	0.20	769.39
James F. Bell #1E	MW-1	3/16/04	28.08	28.13	0.05	0.79	770.18
James F. Bell #1E	MW-1	4/13/04	NM	NM	NM	1.87	772.05
James F. Bell #1E	MW-1	5/10/04	NM	NM	NM	1.87	773.92
James F. Bell #1E	MW-1	6/2/04	NM	NM	NM	1.37	775.29
James F. Bell #1E	MW-1	6/9/04	28.03	28.27	0.24	0.00	775.29
James F. Bell #1E	MW-1	7/26/04	27.95	28.48	0.53	0.50	775.79
James F. Bell #1E	MW-1	8/16/04	NM	NM	NM	0.79	776.58
James F. Bell #1E	MW-1	9/9/04	NM	NM	NM	1.37	777.95
James F. Bell #1E	MW-1	9/10/04	27.82	27.89	0.07	0.00	777.95
James F. Bell #1E	MW-1	10/11/04	NM	NM	NM	0.79	778.74
James F. Bell #1E	MW-1	11/17/04	NM	NM	NM	0.39	779.13
James F. Bell #1E	MW-1	12/13/04	NM	NM	NM	0.49	779.62
James F. Bell #1E	MW-1	12/14/04	27.675	27.680	0.005	0.00	779.62
James F. Bell #1E	MW-1	12/18/04	27.67	27.71	0.04	0.00	779.62

Active free-product recovery system at MW-1.
MW-1 redeveloped in February 2004

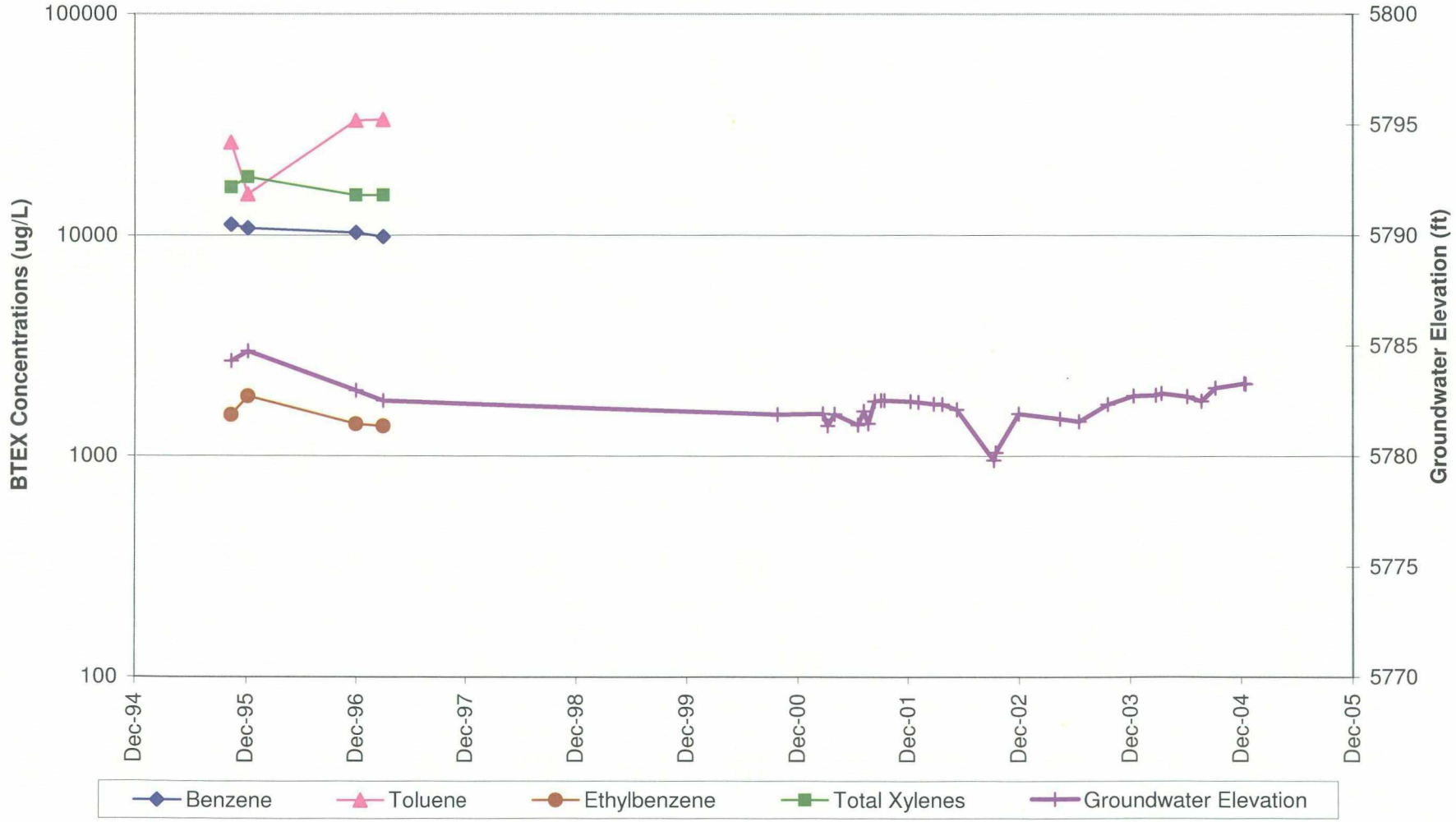
TABLE 2

SUMMARY OF FREE-PRODUCT REMOVAL DURING 2004

JAMES F BELL #1E (METER #94715)

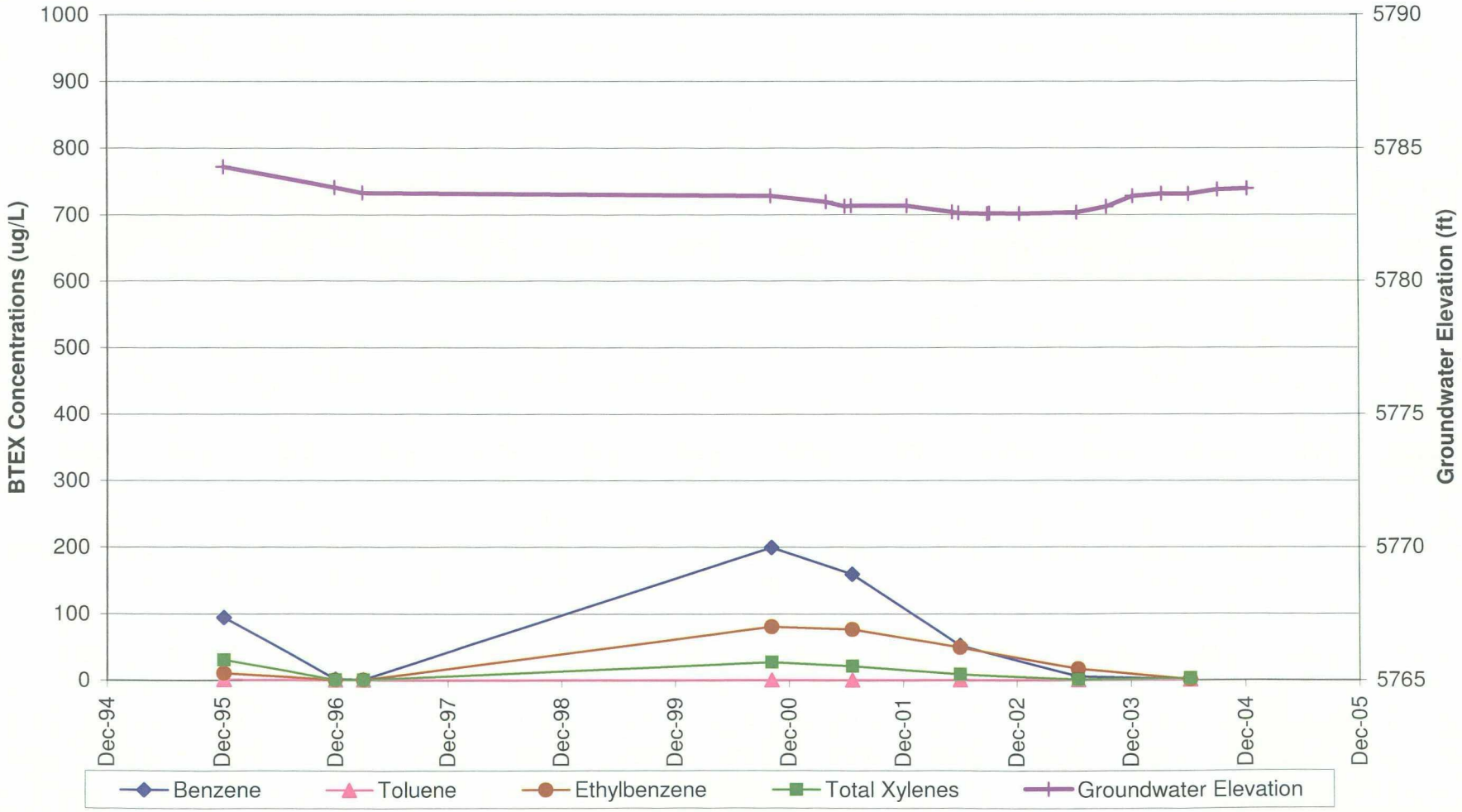
Site Name	Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume of Product Removed (gallons)	Cummulative Volume of Product Removed (gallons)
James F. Bell #1E	MW-3	1/2/04	NA	28.42	0.00	0.00	102.58
James F. Bell #1E	MW-3	1/11/04	28.36	28.37	0.01	0.004	102.58
James F. Bell #1E	MW-3	1/16/04	28.245	28.250	0.005	0.004	102.59
James F. Bell #1E	MW-3	1/23/04	NA	28.22	0.00	0.00	102.59
James F. Bell #1E	MW-3	1/30/04	28.22	28.22	0.00	0.00	102.59
James F. Bell #1E	MW-3	2/6/04	NA	28.23	0.00	0.00	102.59
James F. Bell #1E	MW-3	2/12/04	NA	28.20	0.00	0.00	102.59
James F. Bell #1E	MW-3	2/18/04	NA	28.17	0.00	0.00	102.59
James F. Bell #1E	MW-3	2/27/04	NA	28.20	0.00	0.00	102.59
James F. Bell #1E	MW-3	3/16/04	NA	28.21	0.00	0.00	102.59
James F. Bell #1E	MW-3	4/13/04	NA	28.19	0.00	0.00	102.59
James F. Bell #1E	MW-3	5/10/04	NA	28.22	0.00	0.00	102.59
James F. Bell #1E	MW-3	6/2/04	NA	28.19	0.00	0.00	102.59
James F. Bell #1E	MW-3	6/9/04	NA	28.21	0.00	0.00	102.59
James F. Bell #1E	MW-3	7/26/04	NA	28.08	0.00	0.00	102.59
James F. Bell #1E	MW-3	8/16/04	NA	28.08	0.00	0.00	102.59
James F. Bell #1E	MW-3	9/9/04	NA	28.02	0.00	0.00	102.59
James F. Bell #1E	MW-3	9/10/04	NA	28.03	0.00	0.00	102.59
James F. Bell #1E	MW-3	10/11/04	NA	27.96	0.00	0.00	102.59
James F. Bell #1E	MW-3	11/17/04	NA	27.87	0.00	0.00	102.59
James F. Bell #1E	MW-3	12/13/04	NA	27.87	0.00	0.00	102.59
James F. Bell #1E	MW-3	12/14/04	NA	27.83	0.00	0.00	102.59

FIGURE 2
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
JAMES F BELL #1E
MW-1



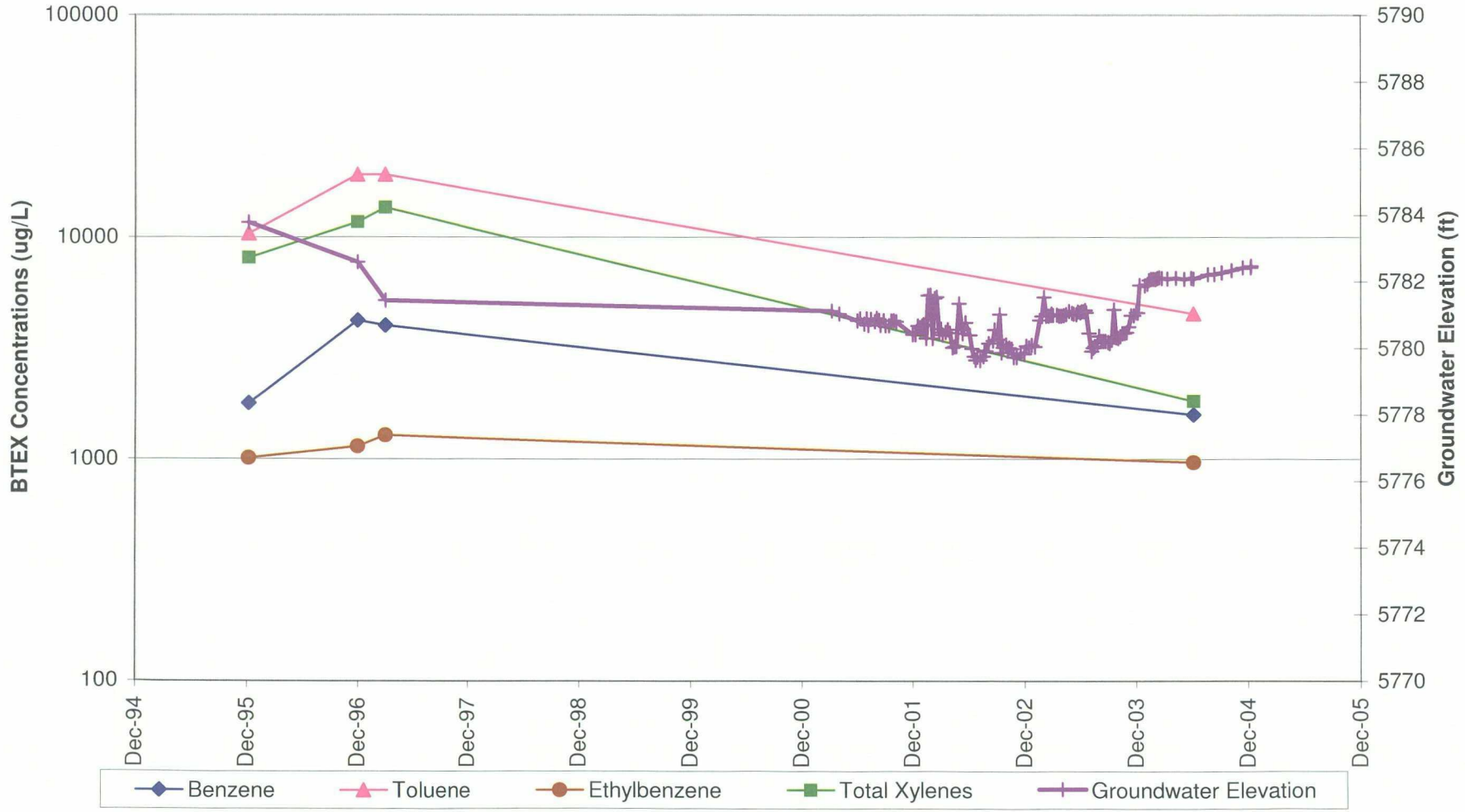
2004 JF Bell 1E.xls,JFBell MW1

FIGURE 3
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
JAMES F BELL #1E
MW-2



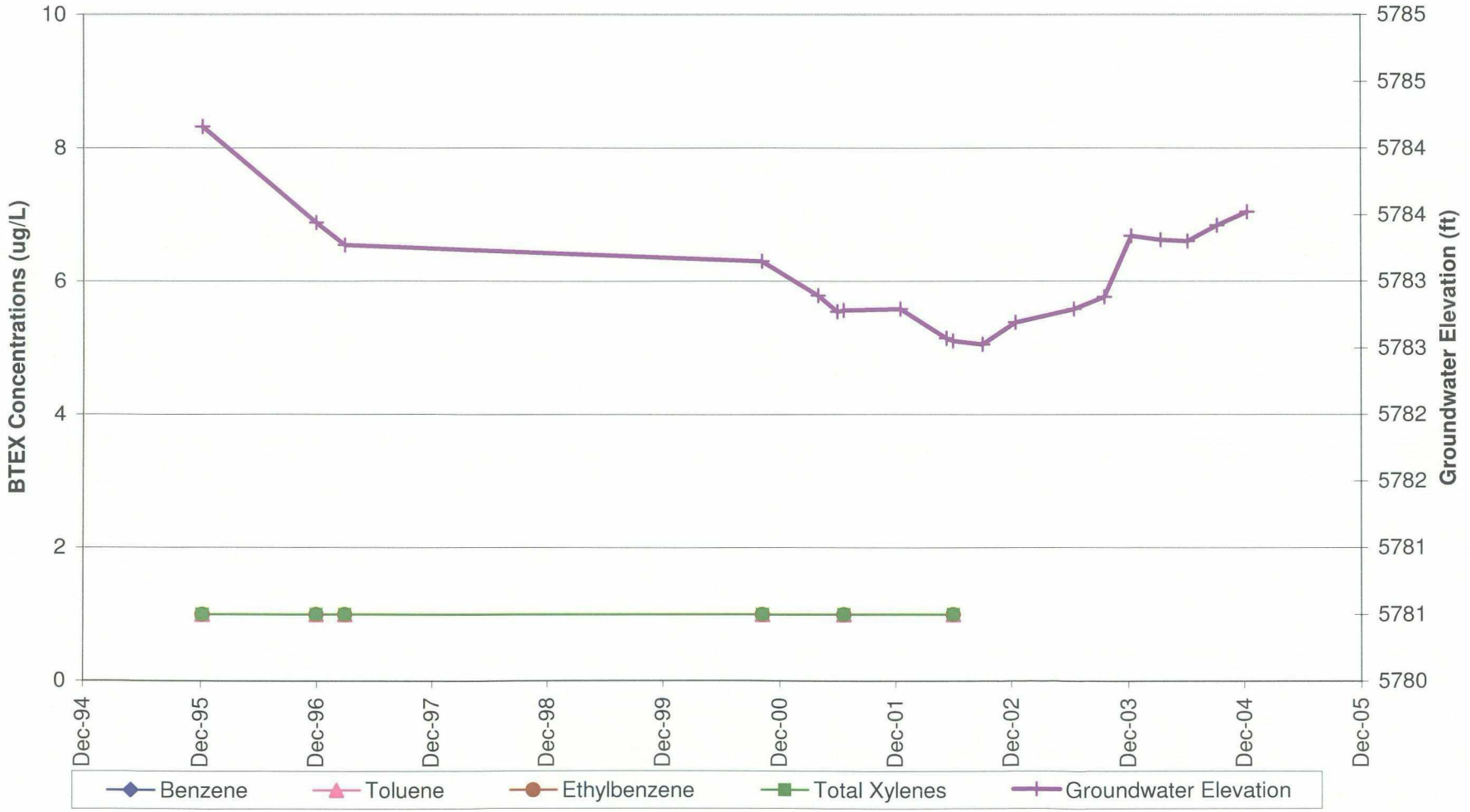
2004 JF Bell 1E.xls,JFBell MW2

FIGURE 4
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
JAMES F BELL #1E
MW-3



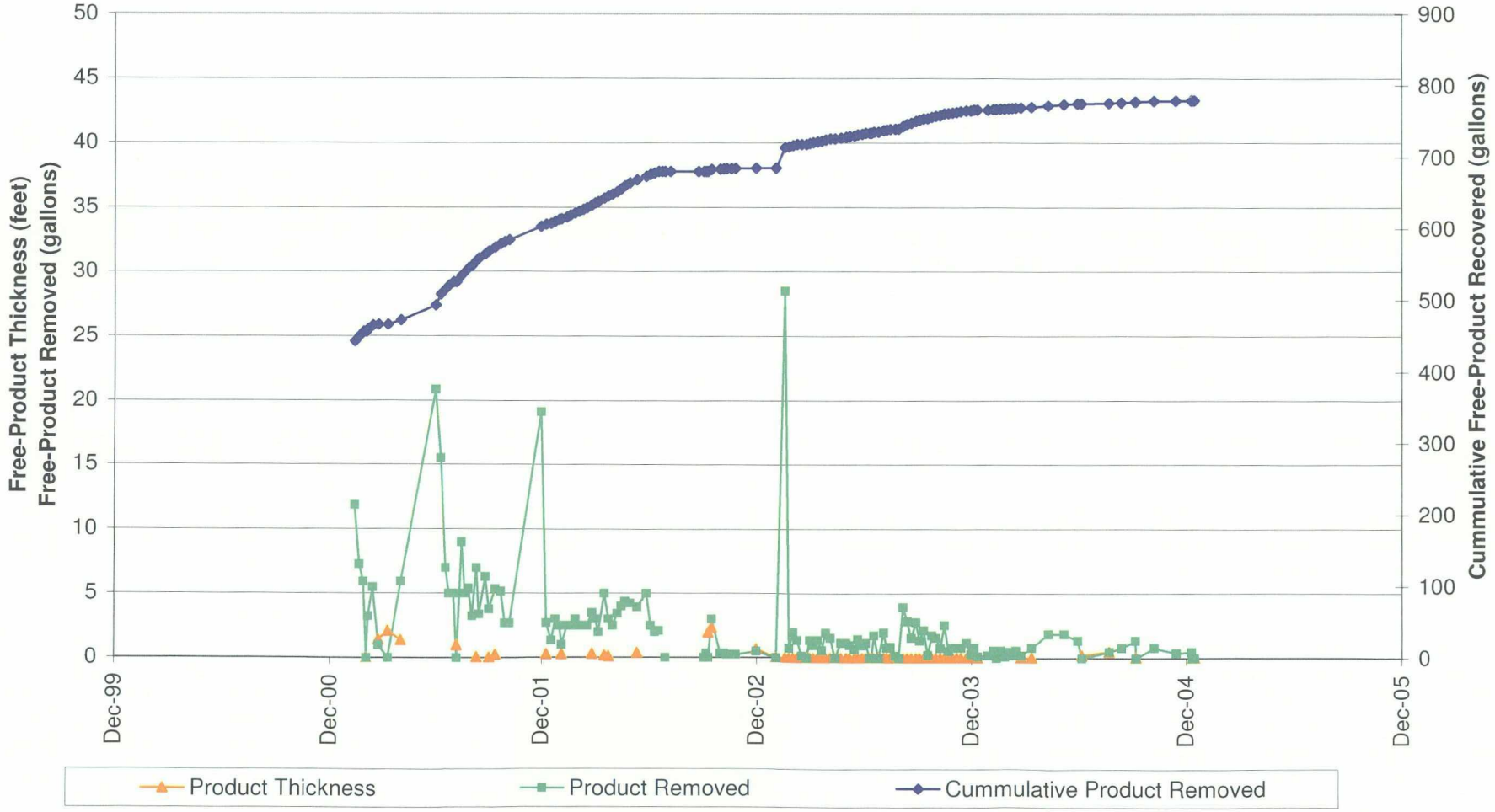
2004 JF Bell 1E.xls,JFBell MW3

FIGURE 5
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
JAMES F BELL #1E
MW-4



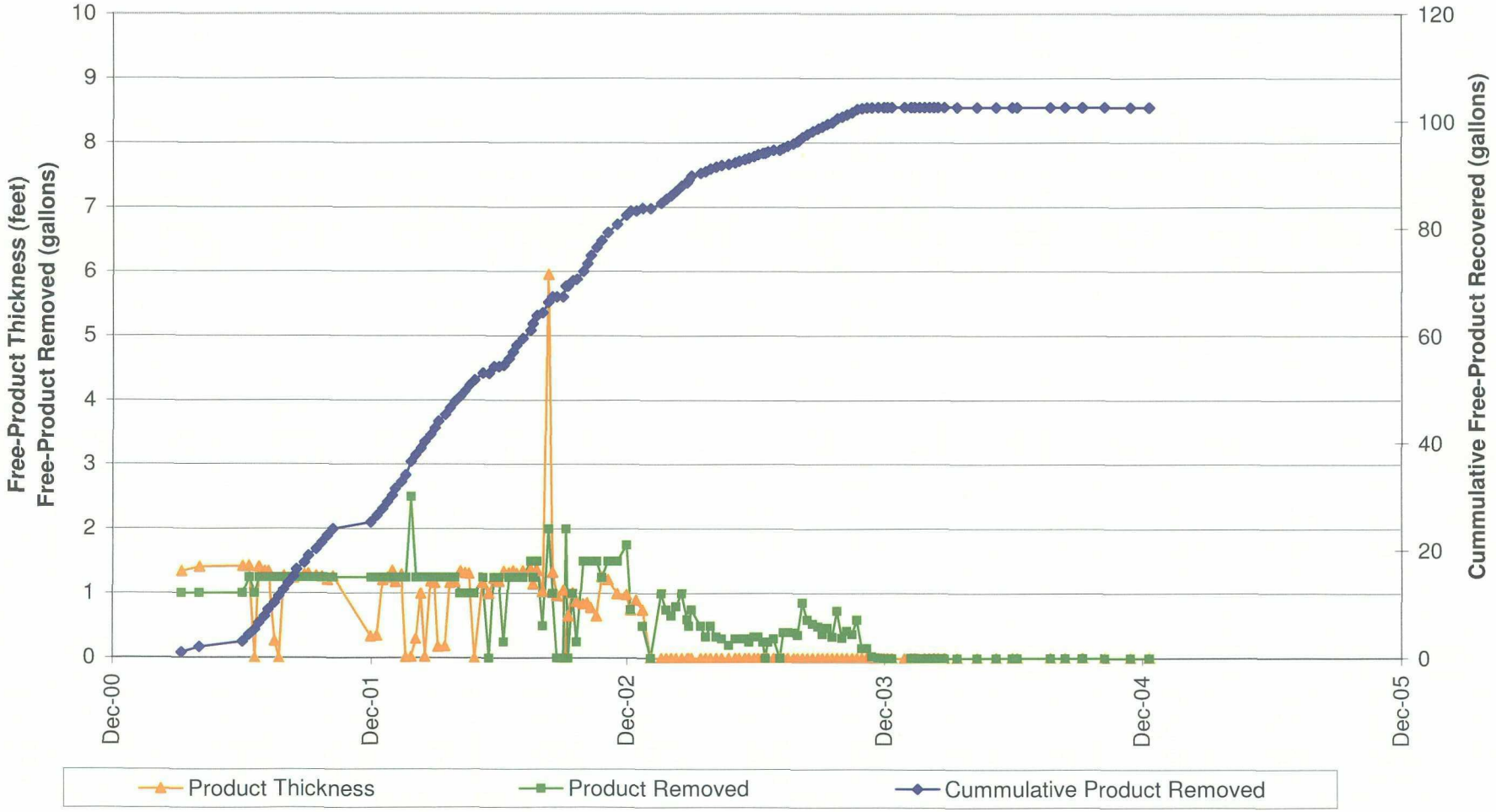
2004 JF Bell 1E.xls,JFBell MW4

FIGURE 6
HISTORIC FREE-PRODUCT RECOVERY
JAMES F BELL #1E
MW-1



2004 JF Bell 1E.xls, JFBell PR1

FIGURE 7
HISTORIC FREE-PRODUCT RECOVERY
JAMES F BELL #1E
MW-3



2004 JF Bell 1E.xls, JFBell PR3