3R - 202

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.

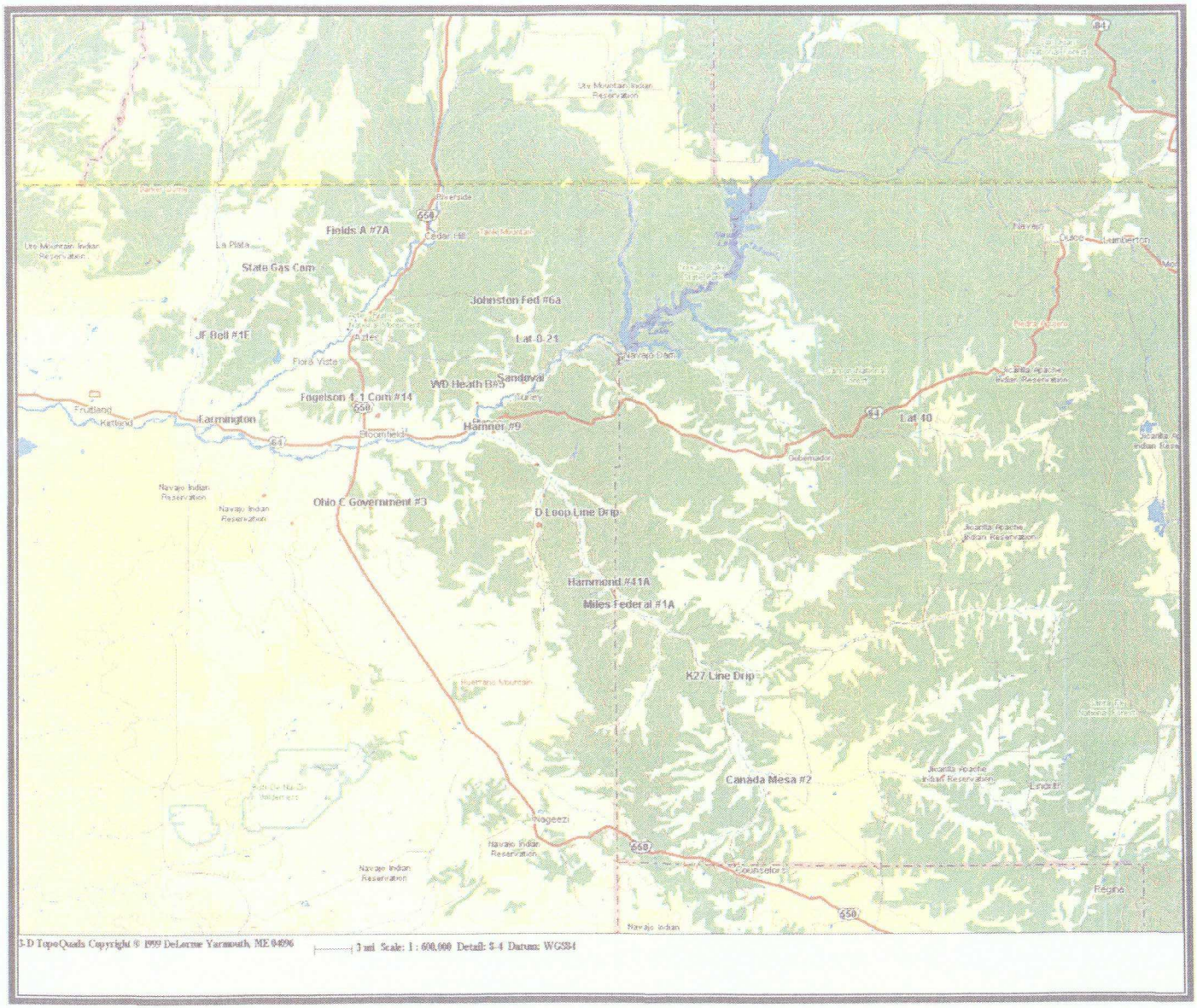
If you have any questions concerning the enclosed reports, please call me at (719) 520-4433.

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



EPFS GROUNDWATER SITES
2004 ANNUAL GROUNDWATER REPORT

3R202

Johnston Fed #6A
Meter Code: 89232

SITE DETAILS

Legal Description:	**Town:**	31N	**Range:**	9W	**Sec:** 35	**Unit:**	F
NMOCD Haz Ranking:	40	**Land Type:**	Federal	**Operator:**	Burlington Resources		

PREVIOUS ACTIVITIES

Site Assessment:	8/94	**Excavation:**	9/94 (80cy)	**Soil Boring:**	8/95
Monitor Well:	8/95	**Geoprobe:**	NA	**Additional MWs:**	12/95
Downgradient MWs:	6/00	**Replace MW:**	NA	**Quarterly Initiated:**	4/96
ORC Nutrient Injection:	NA	**Re-Excavation:**	NA	**PSH Removal Initiated:**	7/97
Annual Initiated:	NA	**Quarterly Resumed:**	NA		

SUMMARY OF 2004 ACTIVITIES

MW-1: Quarterly free-product recovery and water level monitoring were performed during 2004.

MW-2: Quarterly water level monitoring was performed during 2004.

MW-3: Quarterly free-product recovery and water level monitoring were performed during 2004.

MW-4: Annual groundwater sampling (June) and quarterly water level monitoring were performed during 2004.

MW-5: Quarterly free-product recovery and water level monitoring were 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.

Johnston Fed #6A
Meter Code: 89232

SUMMARY TABLES AND GRAPHS

- Analytical data for 2004 are summarized in Table 1, and historic data are presented graphically in Figures 2 through 6.
- Product recovery data for 2004 are summarized in Table 2, and historic data are presented graphically in Figures 7 through 9.
- 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 both the water level and analytical data collected during 2004.

CONCLUSIONS

- The groundwater flow gradient is generally to the north-northeast.
- Free-product recovery efforts at MW-1 resulted in removal of approximately 1.04 gallons of free-phase hydrocarbons bringing the cumulative total recovered to date to 5.90 gallons.
- Free-product recovery efforts at MW-3 resulted in removal of approximately 0.25 gallons of free-phase hydrocarbons. The cumulative total recovered from this well since 2003 is 0.42 gallons.
- The annual groundwater sample from MW-4 indicated BTEX concentrations at or near the detection limits. BTEX levels in MW-4 have been near or below standards since 2002, representing a significant decrease since 1997 (benzene concentration of 899 µg/L).

- Free-product recovery efforts at MW-5 resulted in removal of approximately 0.09 gallons of free-phase hydrocarbons bringing the cumulative total recovered to date to 0.21 gallons.

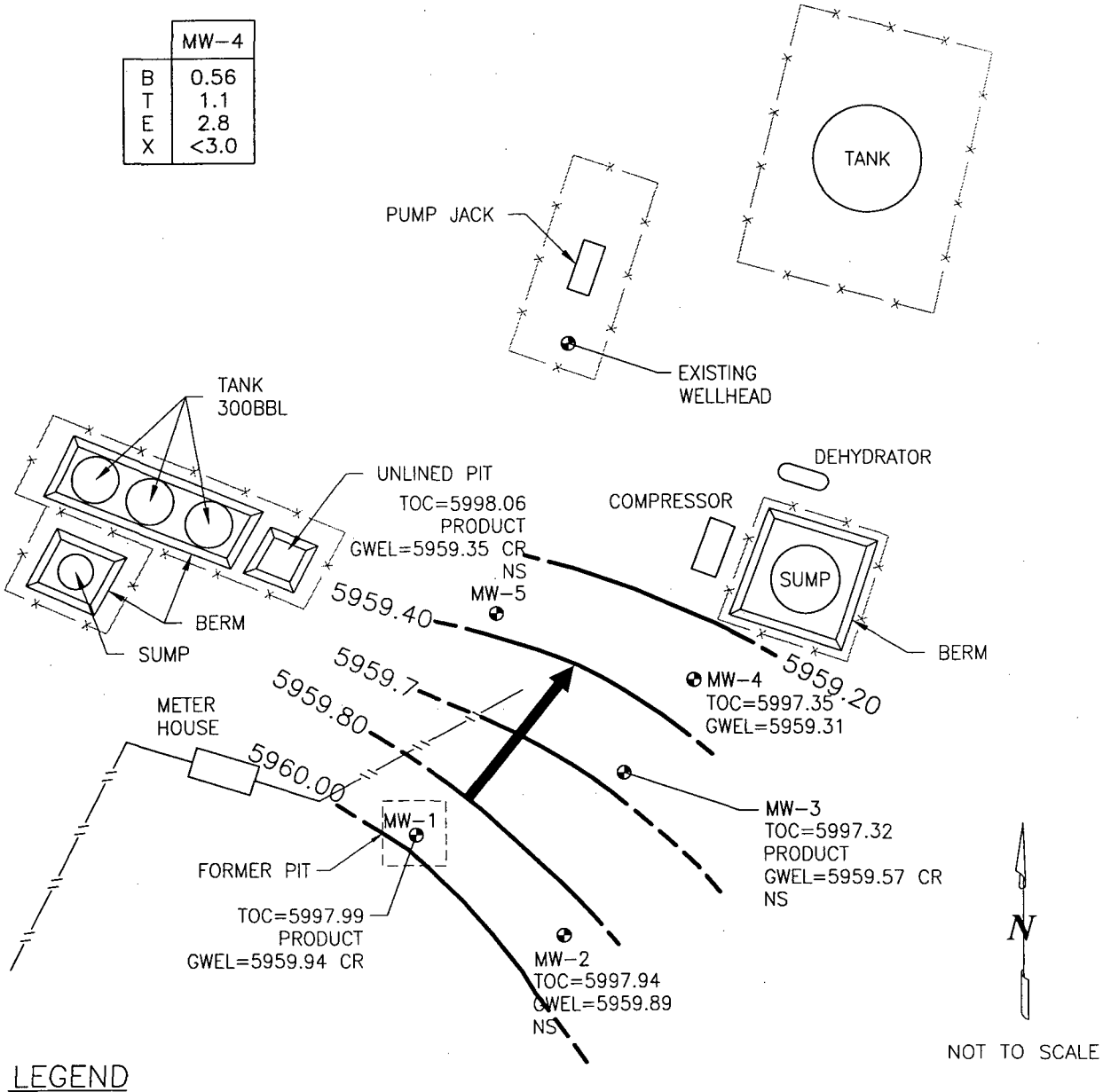
- Based on the technology review and free-product removal data for this site, it was concluded that free-product removal would be most efficient using oil-absorbent socks in the wells at this time.

RECOMMENDATIONS

- EPFS recommends installation of oil-absorbent socks into MW-1, MW-3 and MW-5 to facilitate free-product recovery in 2005. EPFS will continue quarterly 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.

- BTEX concentrations in MW-2 have been below closure standards for four sampling events (1997 – 2002); therefore, EPFS will sample MW-2 at closure.

- EPFS will continue annual groundwater sampling at MW-4. Groundwater level measurements will also be collected from MW-4, in conjunction with product removal activities.



LEGEND

MW-1	Approximate Monitoring Well Location and Number
x x	Fence Line
// //	Pipe Line
B	Benzene (μg/L)
T	Toluene (μg/L)
E	Ethylbenzene (μg/L)
X	Total Xylenes (μg/L)
NS	Not Sampled
Product	Free-Product Present
CR	Water Level Corrected for Product
<	Not Detected. Value Shown is Detection Limit.
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing
5960	Potentiometric Surface (Approximate & Assumed Where Dashed)
→	Direction of Groundwater Flow (Estimated)

JOHNSTON FEDERAL #6A, METER 89232
JUNE 2004

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

johnso_03.dwg

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN 2004 GROUNDWATER SAMPLES
JOHNSTON FED #6A (METER #89232)

Site Name	Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft btoc)
Johnston Fed #6A	MW-4	6/22/2004	J 0.56	1.1	2.8	< 3	38.04

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

J = Value estimated

TABLE 2

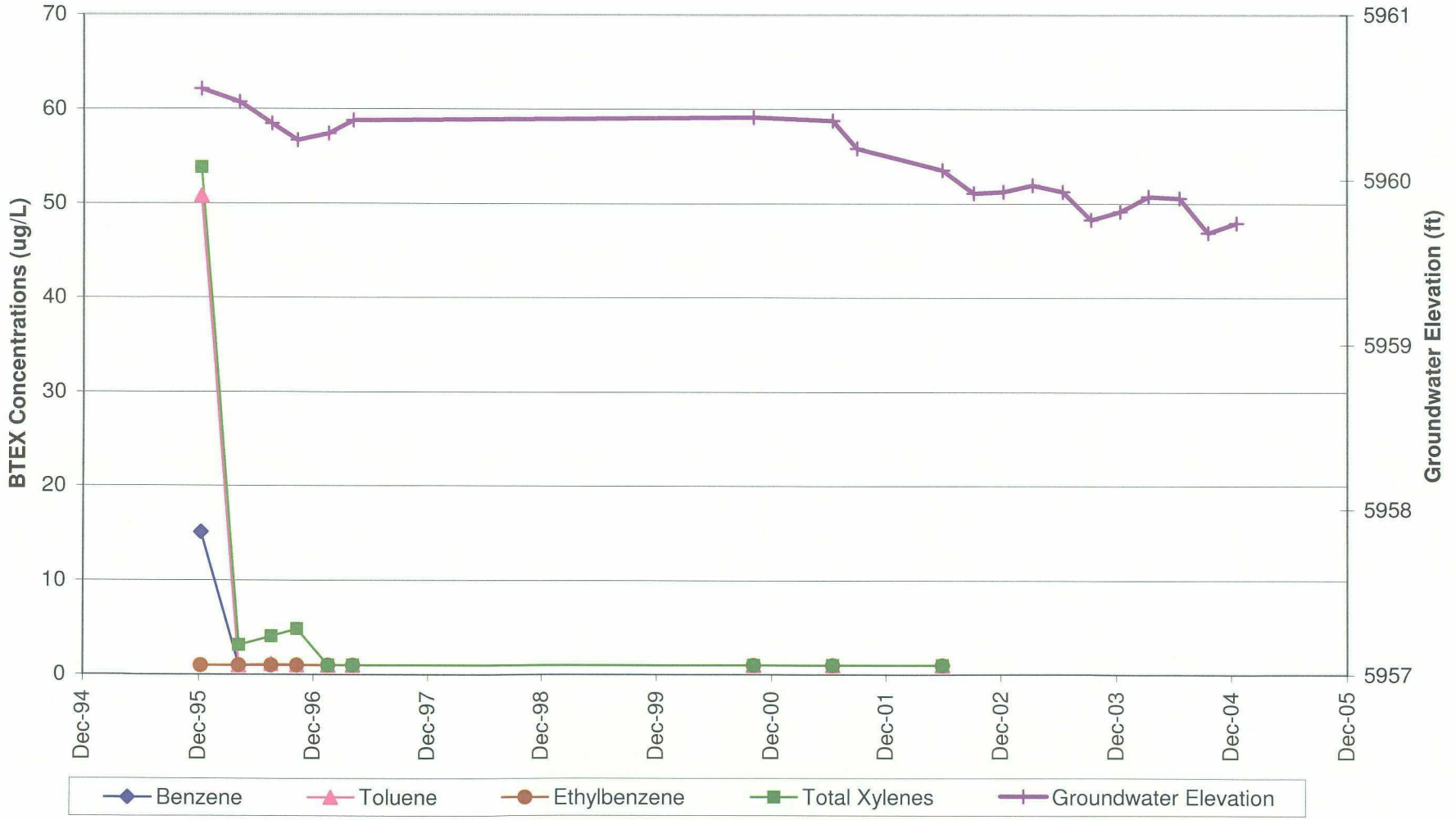
SUMMARY OF FREE-PRODUCT REMOVAL DURING 2004
JOHNSTON FED #6A (METER #89232)

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)
Johnston Fed #6A	MW-1	3/16/04	37.90	38.57	0.67	0.47	5.34
Johnston Fed #6A	MW-1	6/22/04	37.90	38.65	0.75	0.19	5.53
Johnston Fed #6A	MW-1	9/22/04	38.21	38.60	0.39	0.25	5.78
Johnston Fed #6A	MW-1	12/21/04	38.20	38.38	0.18	0.13	5.90
Johnston Fed #6A	MW-3	3/16/04	37.72	37.85	0.13	0.09	0.26
Johnston Fed #6A	MW-3	6/22/04	37.72	37.88	0.16	0.03	0.29
Johnston Fed #6A	MW-3	9/22/04	37.96	38.07	0.11	0.10	0.39
Johnston Fed #6A	MW-3	12/21/04	37.93	37.96	0.03	0.03	0.42
Johnston Fed #6A	MW-5	3/16/04	38.68	38.72	0.04	0.01	0.14
Johnston Fed #6A	MW-5	6/22/04	38.70	38.74	0.04	0.02	0.16
Johnston Fed #6A	MW-5	9/22/04	38.74	38.95	0.21	0.05	0.21
Johnston Fed #6A	MW-5	12/21/04	38.92	38.93	0.01	0.004	0.21

FIGURE 2
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
JOHNSTON FEDERAL #6A
MW-1

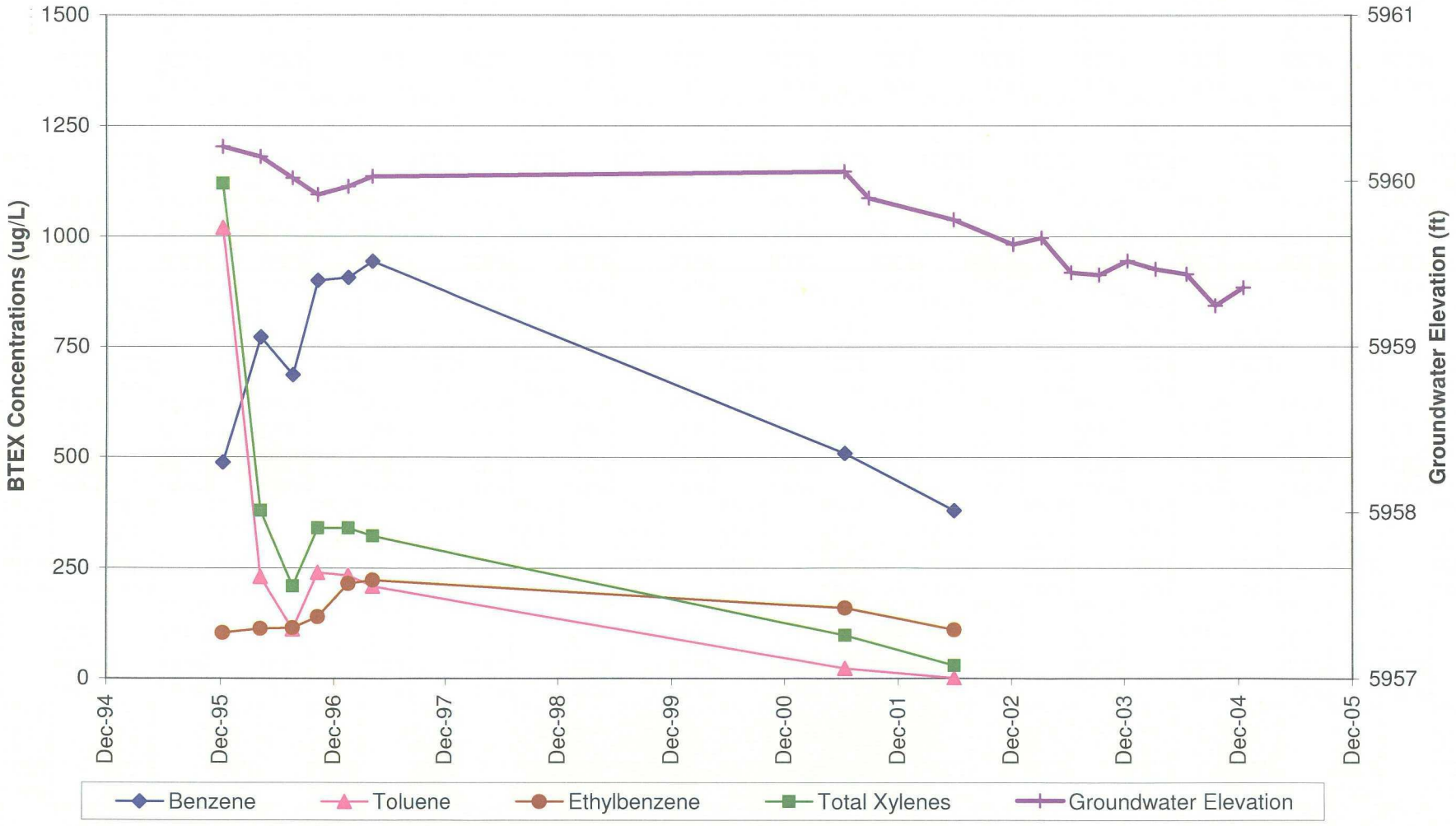
2004 Johnston Fed 6A.xls,JFed 6A MW1

FIGURE 3
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
JOHNSTON FEDERAL #6A
MW-2



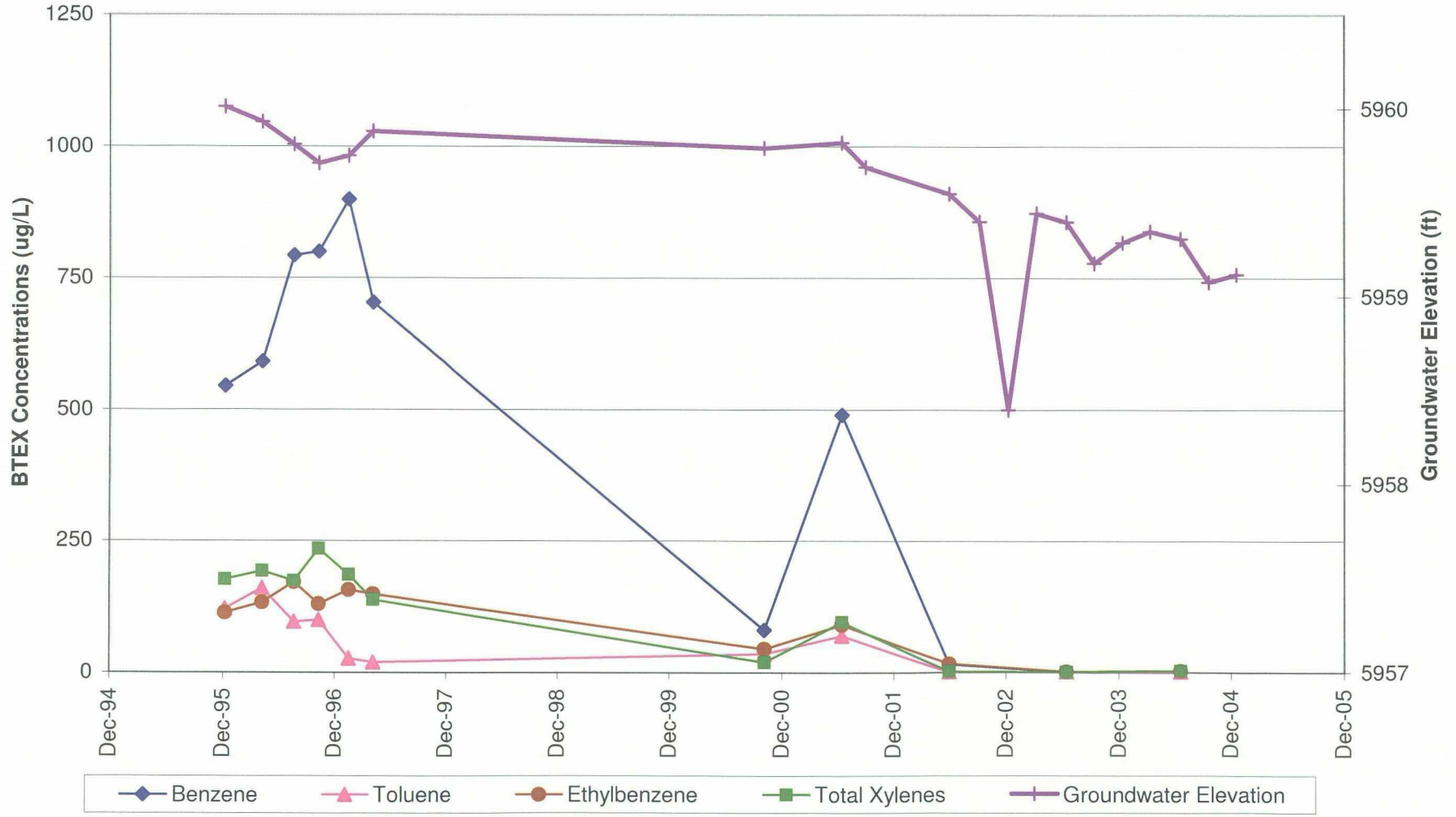
2004 Johnston Fed 6A.xls,JFed 6A MW2

FIGURE 4
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
JOHNSTON FEDERAL #6A
MW-3



2004 Johnston Fed 6A.xls,JFed 6A MW3

FIGURE 5
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
JOHNSTON FEDERAL #6A
MW-4

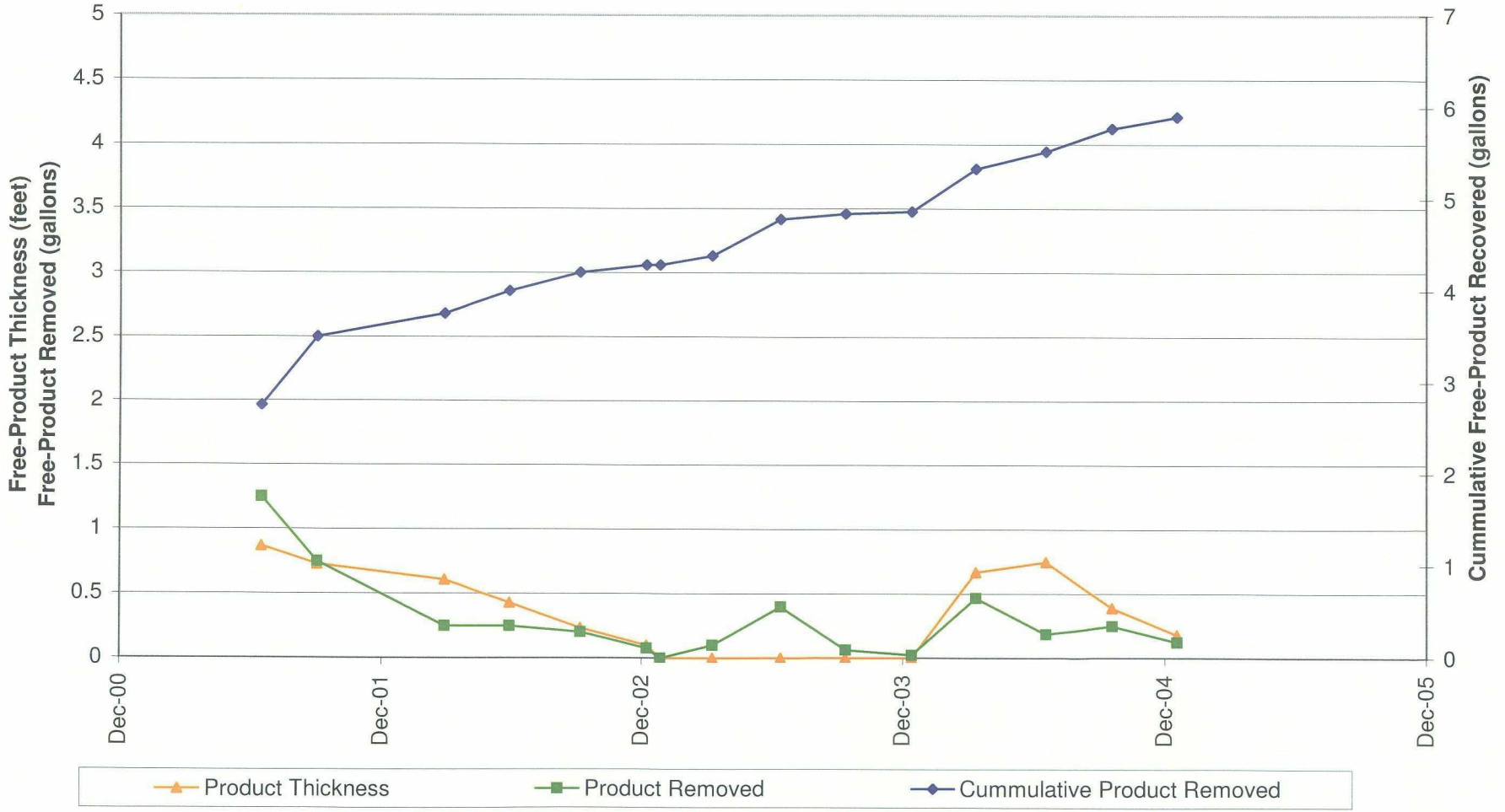


2004 Johnston Fed 6A.xls,JFed 6A MW4

FIGURE 6
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
JOHNSTON FEDERAL #6A
MW-5

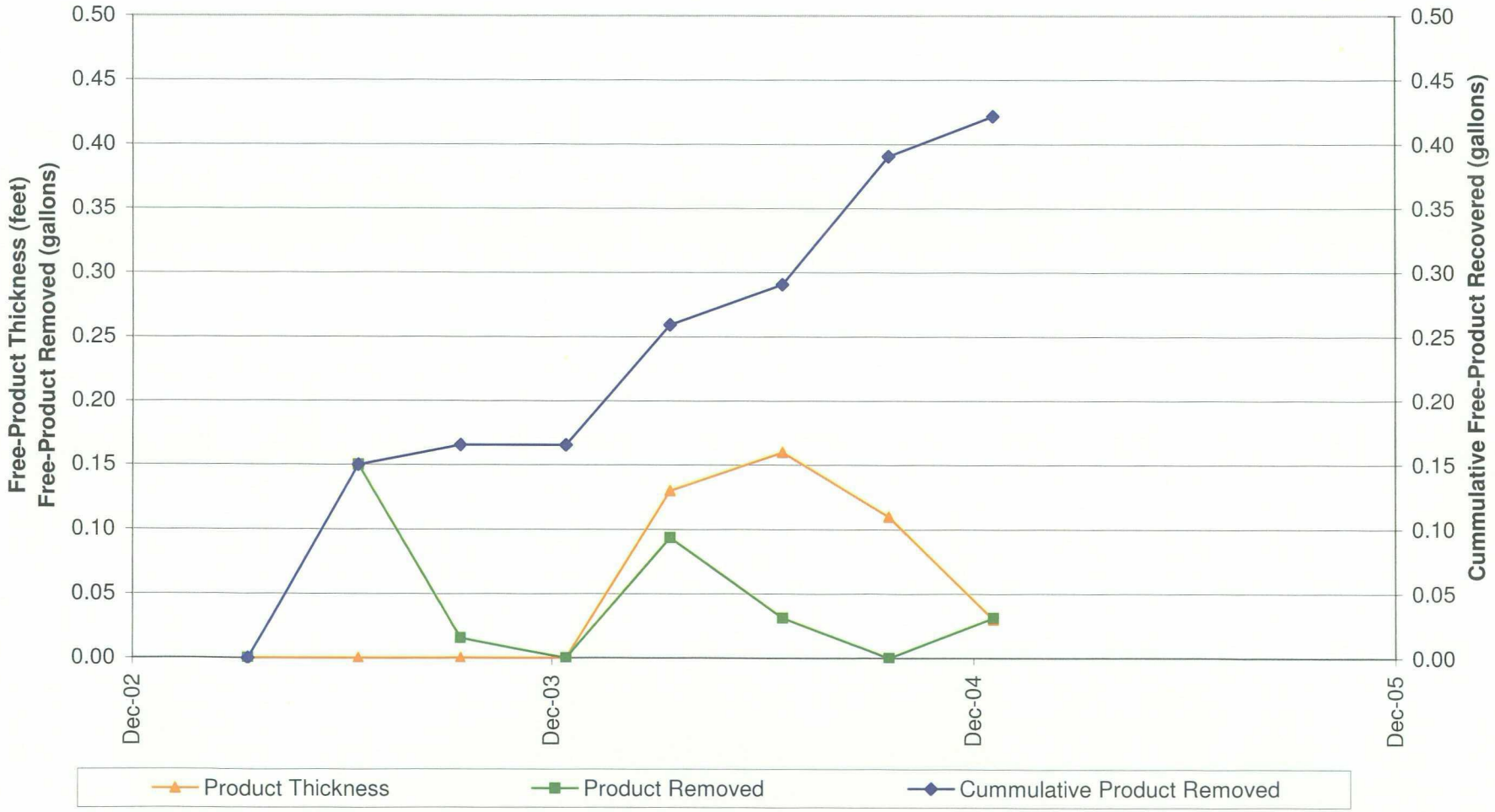
2004 Johnston Fed 6A.xls,JFed 6A MW5

FIGURE 7
HISTORIC FREE-PRODUCT RECOVERY
JOHNSTON FEDERAL #6A
MW-1



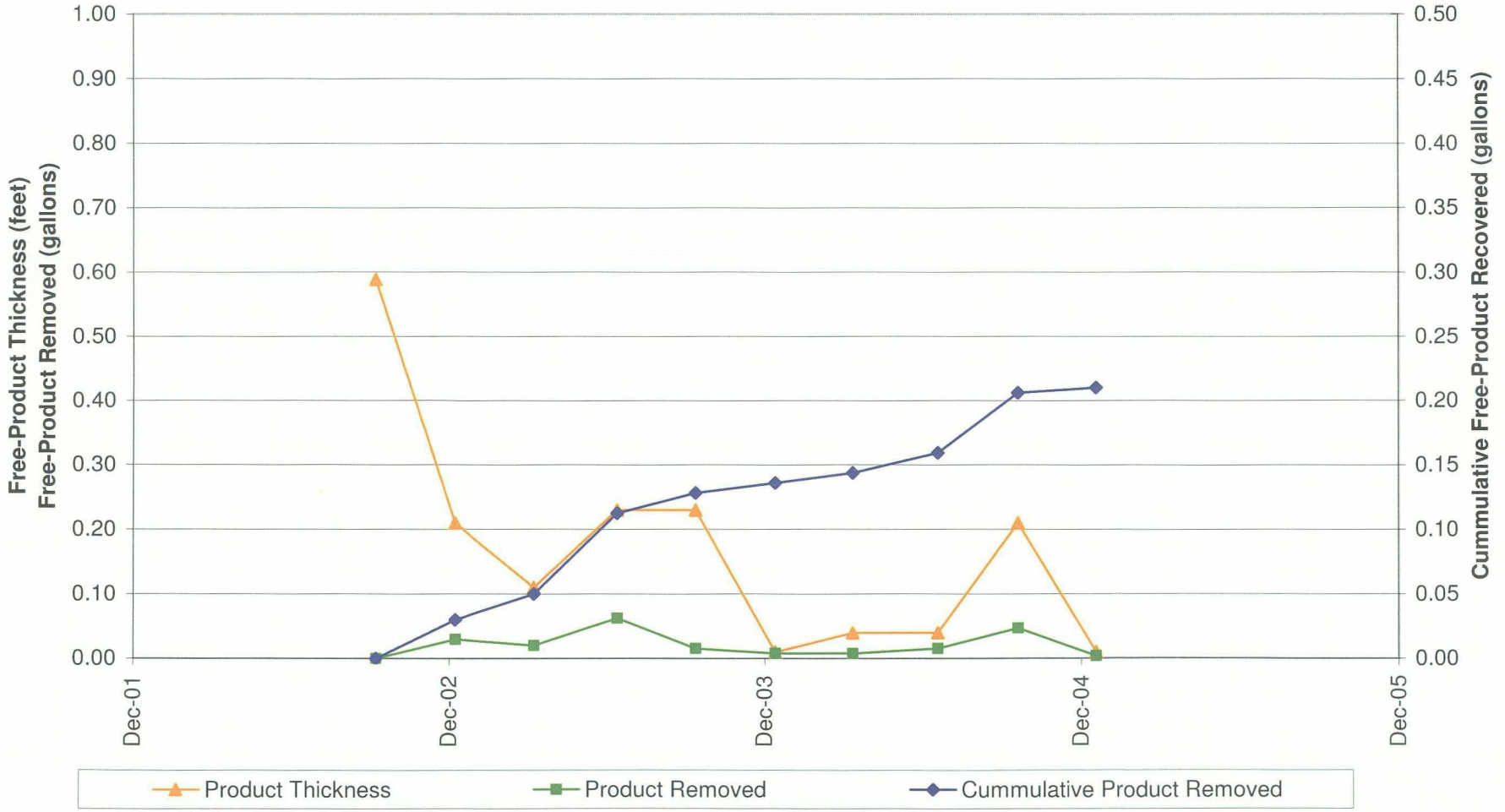
2004 Johnston Fed 6A.xls, JFed6A PR1

FIGURE 8
HISTORIC FREE-PRODUCT RECOVERY
JOHNSTON FEDERAL #6A
MW-3



2004 Johnston Fed 6A.xls, JFed6A PR3

FIGURE 9
HISTORIC FREE-PRODUCT RECOVERY
JOHNSTON FEDERAL #6A
MW-5



2004 Johnston Fed 6A.xls, JFed6A PR5