

3R - 155

**ANNUAL
MONITORING
REPORT**

02/21/2005



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.

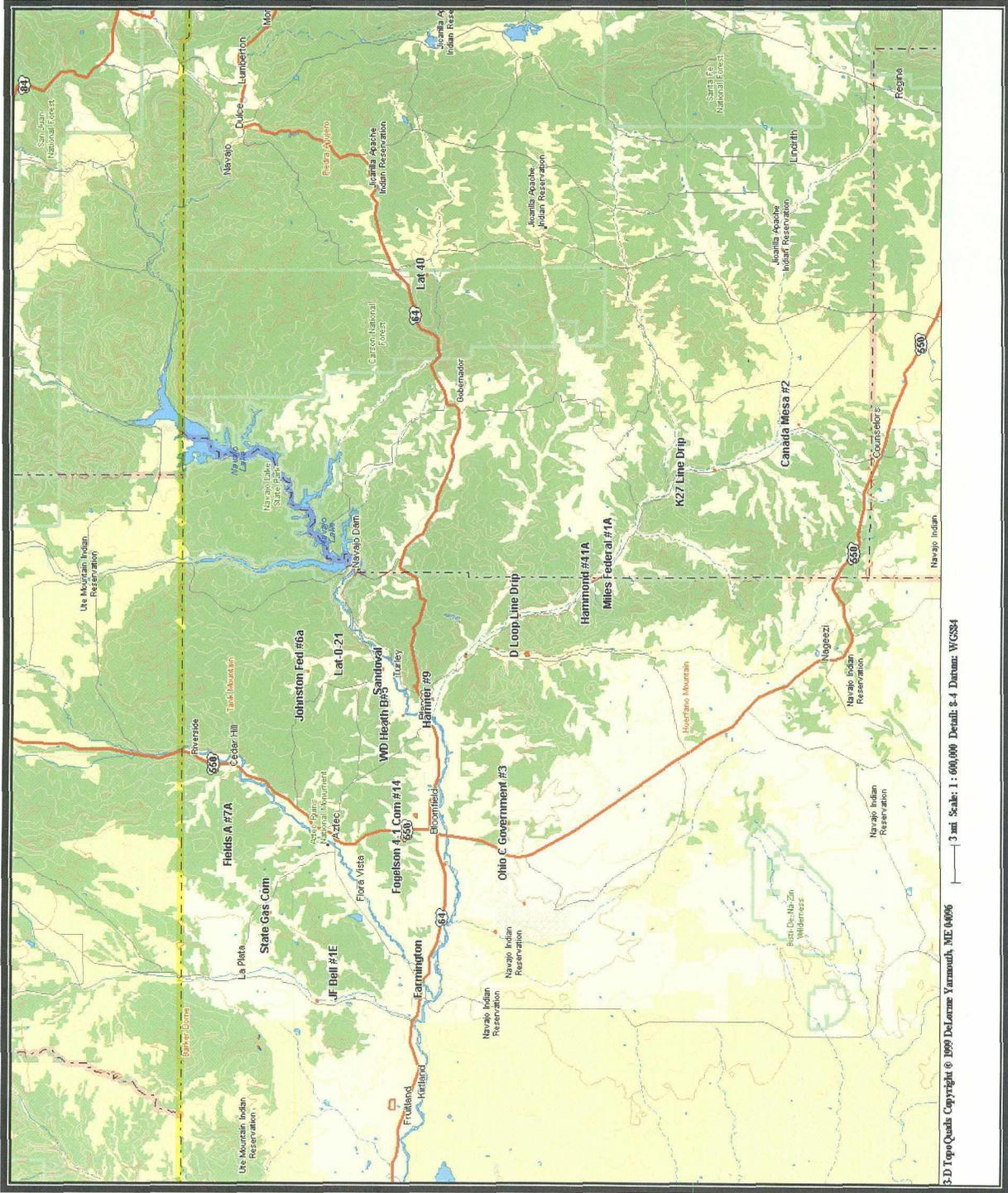
Sincerely,

A handwritten signature in black ink, appearing to read "Scott T. Pope".

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



3.D Topo Quad Copyright © 1999 DeLorme Yarmouth, ME 04096 3 mi Scale: 1:600,000 Detail: 8:1 Datum: WGS84

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**EPFS GROUNDWATER SITES
2004 ANNUAL GROUNDWATER REPORT**

**Canada Mesa #2
Meter Code: 87640**

SITE DETAILS

Legal Description:	Town: 24N	Range: 6W	Sec: 24	Unit: I
NMOCD Haz Ranking:	40	Land Type:	Federal	Operator: Merrion Oil & Gas Company

PREVIOUS ACTIVITIES

Site Assessment:	7/94	Excavation:	8/94	Soil Boring:	8/95
Monitor Well:	8/95	Geoprobe:	NA	Additional MWs:	10/00
Downgradient MWs:	10/00	Replace MW:	NA	Quarterly Initiated:	8/95
ORC Nutrient Injection:	NA	Re-Excavation:	NA	PSH Removal Initiated:	8/97
Annual Initiated:	11/00	Quarterly Resumed:	NA		

SUMMARY OF 2004 ACTIVITIES

- MW-1:** Quarterly free-product recovery was conducted at this well in 2004.
- MW-2:** Annual groundwater sampling was performed in December 2004. Quarterly water level monitoring was performed.
- MW-3:** Annual groundwater sampling was performed in December 2004. Quarterly water level monitoring was performed.
- 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 MAPS

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

**EPFS GROUNDWATER SITES
2004 ANNUAL GROUNDWATER REPORT**

**Canada Mesa #2
Meter Code: 87640**

SUMMARY TABLES AND GRAPHS

- Groundwater analytical data for 2004 are summarized in Table 1, and historic data are presented graphically in Figures 2 through 4.
- Free-product recovery data in 2004 from MW-1 are summarized in Table 2 and are presented graphically in Figure 5.
- 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 water level and analytical data collected during 2004.

CONCLUSIONS

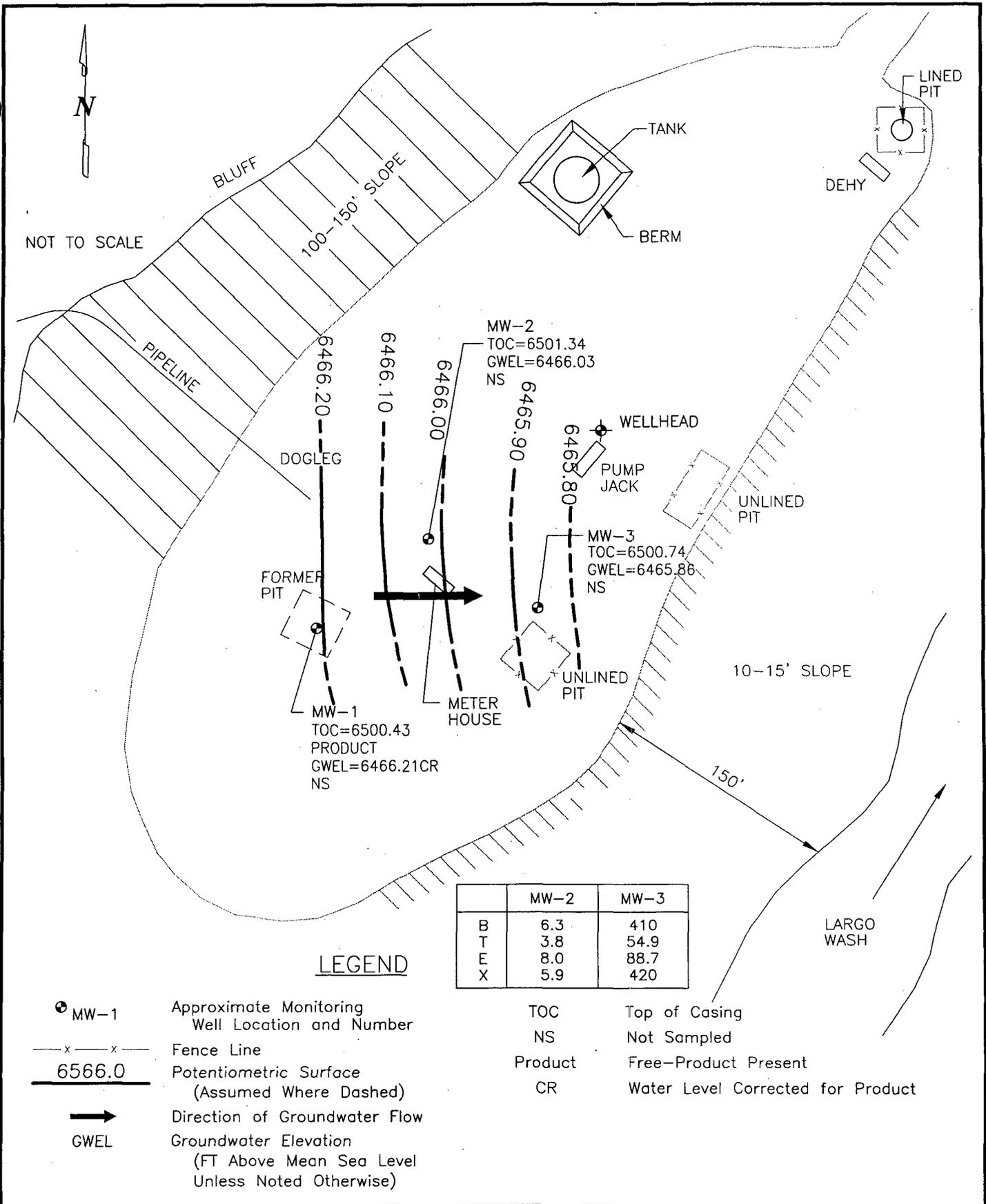
- The groundwater flow direction is generally to the east at this site.
- Free-product recovery from MW-1 removed approximately 2 gallons of free-phase hydrocarbons in 2004, bringing the cumulative total recovered to date to approximately 40 gallons.
- Based on the technology review and free-product removal data for this site, it was concluded that MW-1 requires a new passive skimmer; the skimmer that is currently in the well is not operating correctly and fills with water.
- BTEX concentrations in MW-2 were all below closure standards for the first time in 2004. Concentrations in MW-2 have been steadily decreasing since 2000.
- The benzene concentration in MW-3 continues to decrease from a high concentration of 1,430 µg/L in 2002, to 410 µg/L in December 2004. Toluene, ethylbenzene and total xylenes concentrations were below standards.

**EPFS GROUNDWATER SITES
2004 ANNUAL GROUNDWATER REPORT**

**Canada Mesa #2
Meter Code: 87640**

RECOMMENDATIONS

- EPFS recommends installation of a new passive skimmer in MW-1 to facilitate free-product removal 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.
- EPFS will continue sampling MW-2 and MW-3 on an annual basis.
- Once free-product recovery efforts are completed at MW-1, this well will be sampled on an annual basis until sample results approach closure criteria. All wells will then be scheduled for quarterly sampling until closure criteria are met.



CANADA MESA #2, METER 87640
DECEMBER 2004

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

TABLE 1
SUMMARY OF BTEX COMPOUNDS IN 2004 GROUNDWATER SAMPLES
CANADA MESA #2 (METER #87640)

Site Name	Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft btoc)
Canada Mesa #2	MW-2	12/15/2004	6.3	3.8	8.0	5.9	35.79
Canada Mesa #2	MW-3	12/15/2004	410	54.9	88.7	420	35.33

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

J = Value estimated

TABLE 2

SUMMARY OF FREE-PRODUCT REMOVAL DURING 2004
CANADA MESA #2 (METER #87640)

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)
Canada Mesa #2	MW-1	3/17/04	34.24	34.80	0.56	0.50	38.54
Canada Mesa #2	MW-1	6/3/04	34.30	34.44	0.14	0.25	38.79
Canada Mesa #2	MW-1	9/13/04	34.64	35.30	0.66	1.00	39.79
Canada Mesa #2	MW-1	12/15/04	34.74	35.32	0.58	0.25	40.04

MW-1 contains a passive skimmer for free-product removal.

FIGURE 2
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
CANADA MESA #2
MW-1

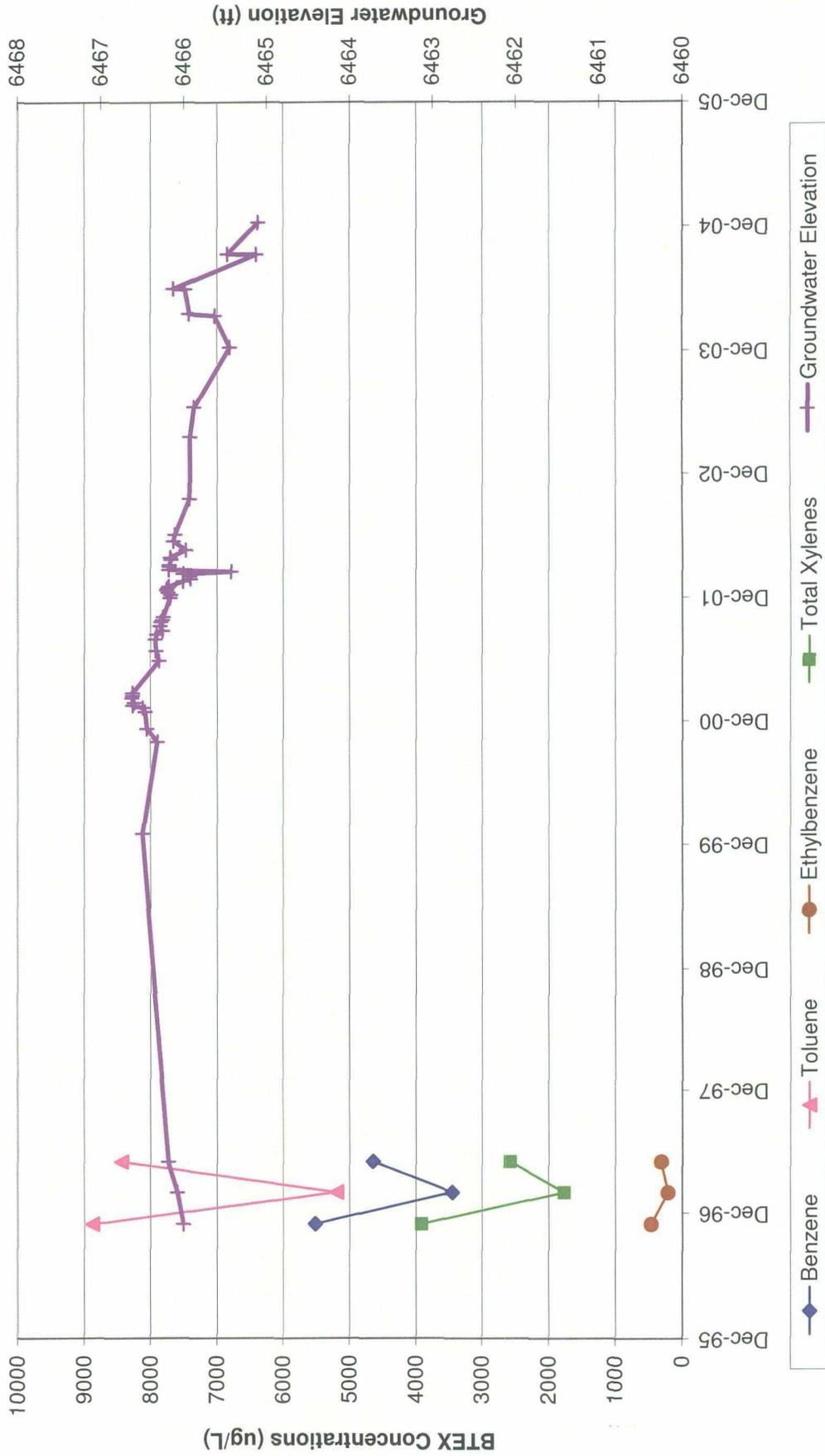


FIGURE 3
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
CANADA MESA #2
MW-2

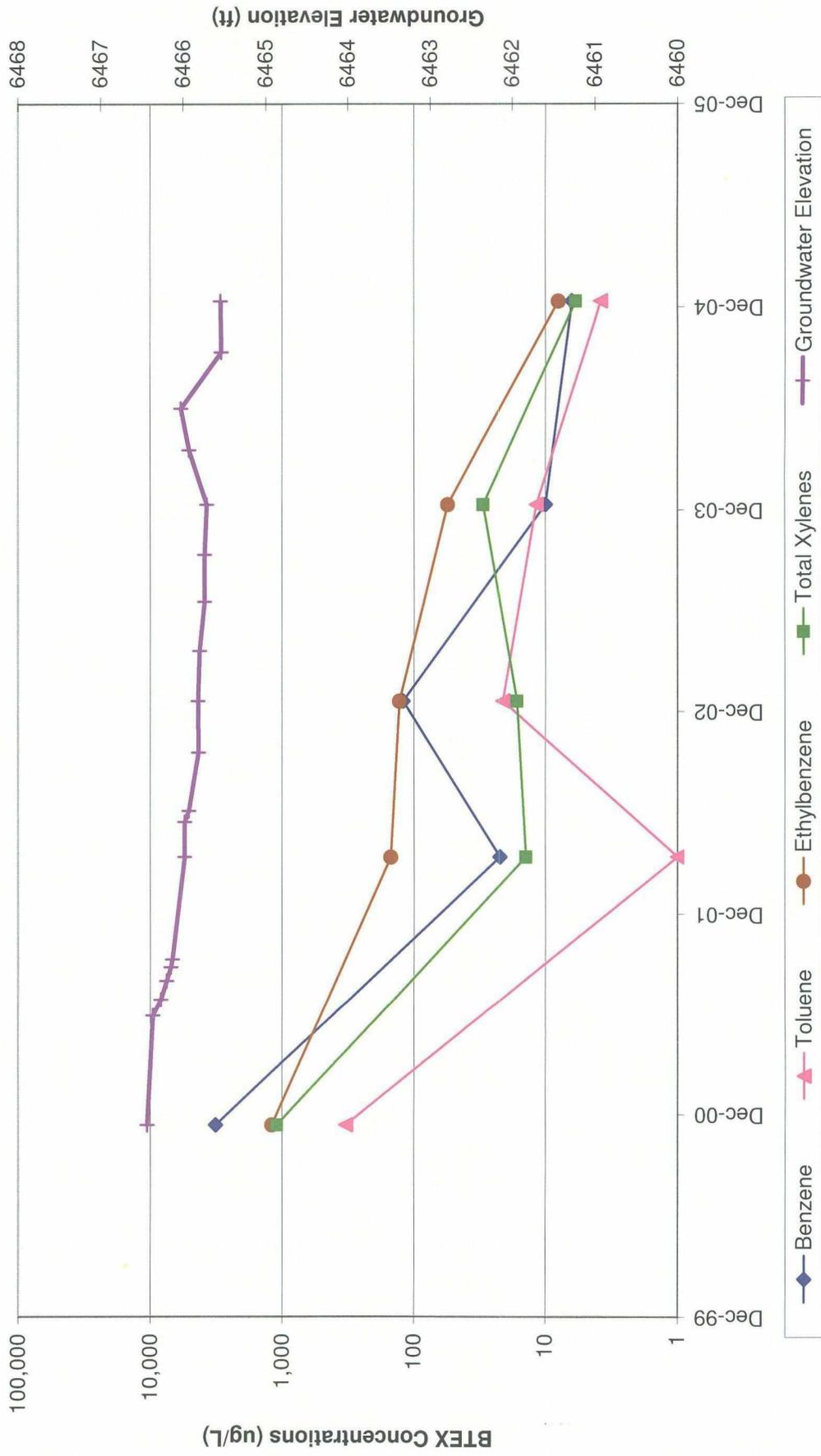
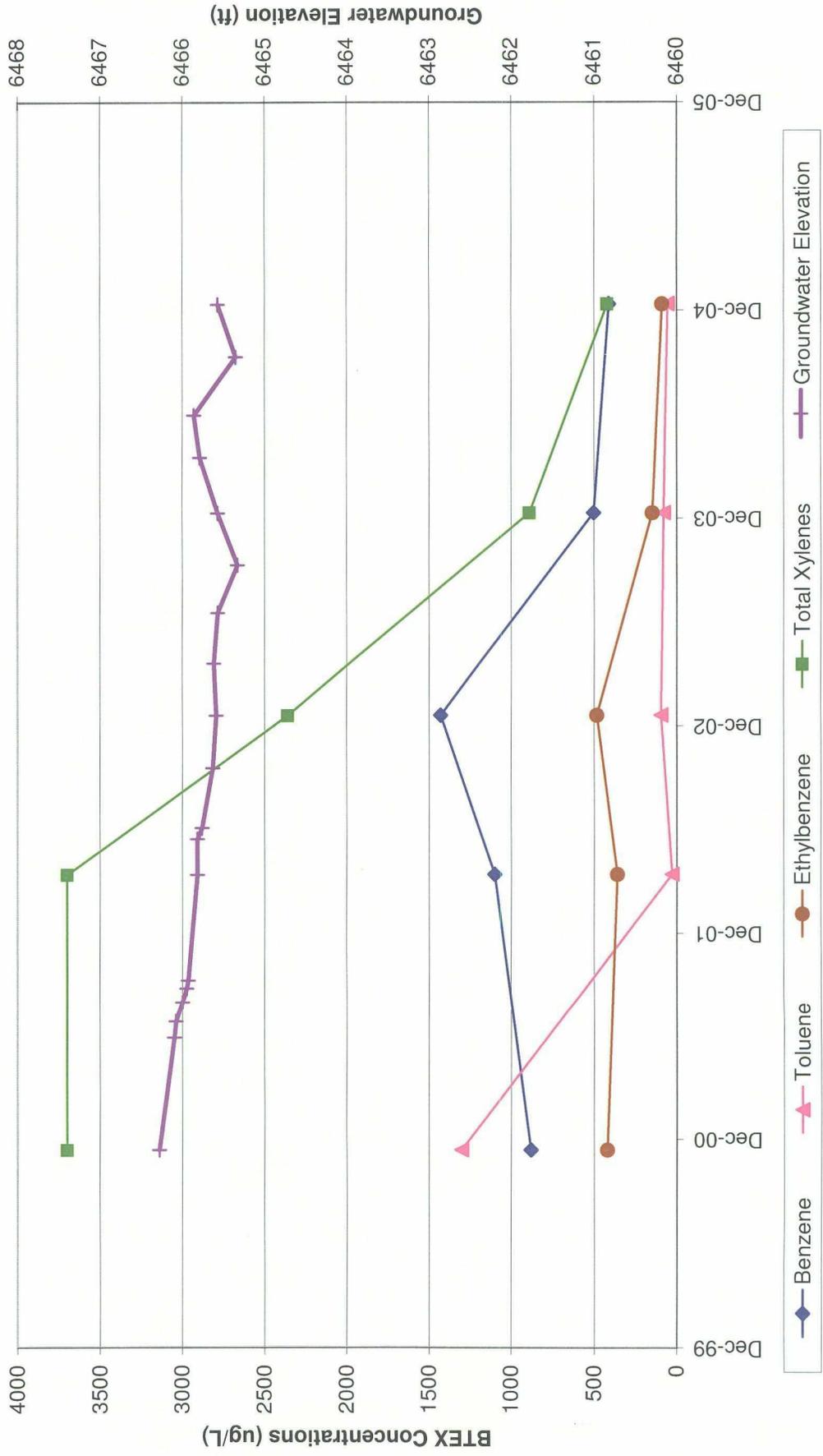


FIGURE 4
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
CANADA MESA #2
MW-3



**FIGURE 5
 HISTORIC FREE-PRODUCT RECOVERY
 CANADA MESA #2
 MW-1**

