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ANNUAL MONITORING REPORTS

DATE: 2/2005

2004 ANNUAL GROUNDWATER REPORT
NON-FEDERAL SITES VOLUME II

EL PASO FIELD SERVICES

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* Coldiron A#1 Site was closed by NMOCD in October 2004.

** Lindrith B#24 Site has been submitted for closure, and is pending approval from NMOCD.

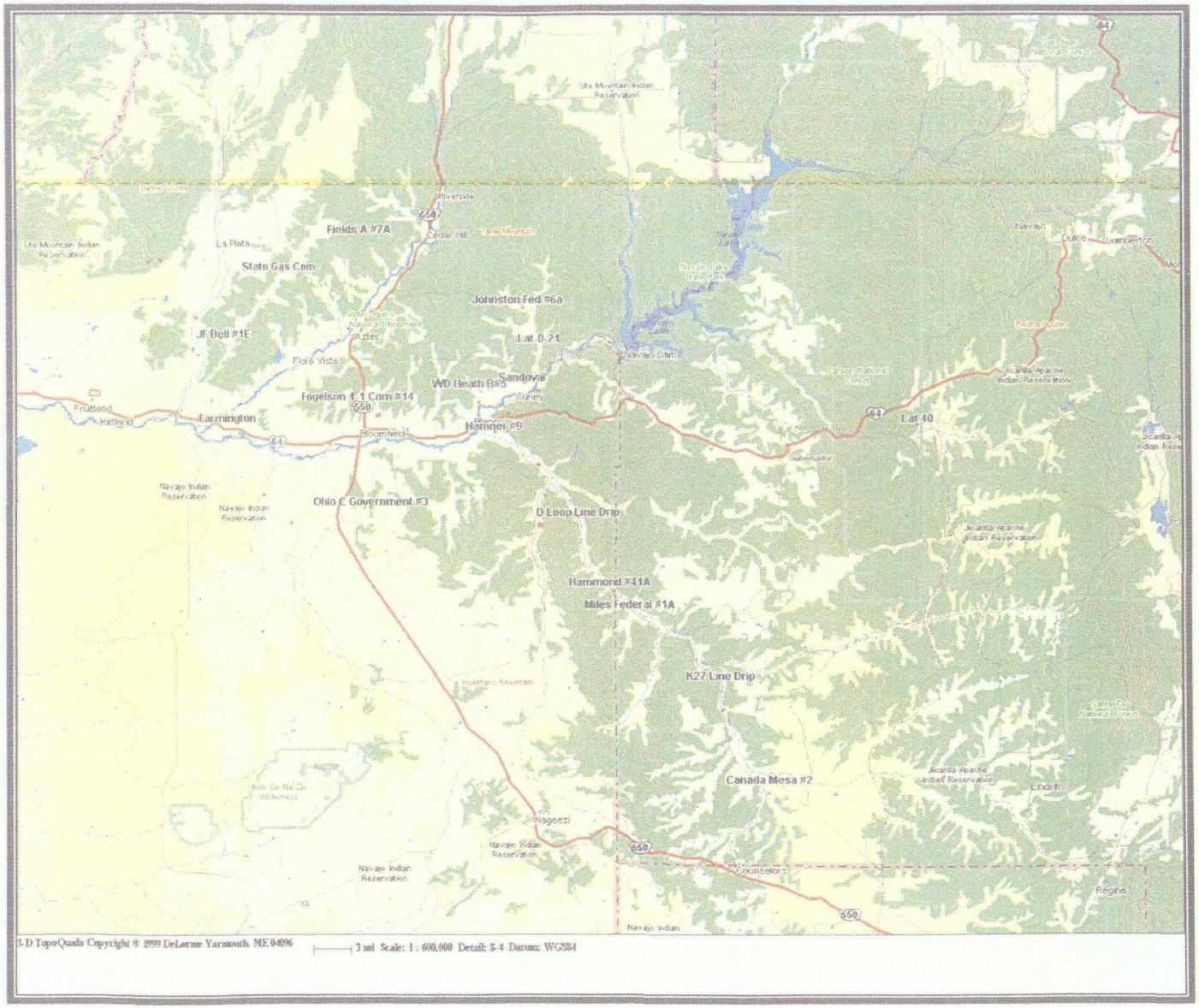
elpaso

MWH
MONTGOMERY WATSON HARZA

LIST OF ACRONYMS

B	benzene
btoc	below top of casing
E	ethylbenzene
EPFS	El Paso Field Services
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitoring well
PSH	phase-separated hydrocarbons
NMWQCC	New Mexico Water Quality Control Commission
T	toluene
TOC	top of casing
NA	not applicable
NE	not established
NM	not measured
NMOCD	New Mexico Oil Conservation Division
NS	not sampled
ORC	oxygen-releasing compound
ppb	parts per billion
µg/L	micrograms per liter
X	total xylenes

Federal Groundwater Site Map



EPFS GROUNDWATER SITES
2004 ANNUAL GROUNDWATER REPORT

3R 192

Horton #1E
Meter Code: 93388

SITE DETAILS

Legal Description:		**Town:**	31N	**Range:**	9W	**Sec:** 28	**Unit:** H
NMOCD Haz Ranking:	40	**Land Type:**	Fee	**Operator:**	Amoco Production Company		

PREVIOUS ACTIVITIES

Site Assessment:	8/94	**Excavation:**	9/94 (50 cy)	**Soil Boring:**	8/95
Monitor Well:	8/95	**Geoprobe:**	NA	**Additional MWs:**	10/99
Downgradient MWs:	10/99	**Replace MW:**	NA	**Quarterly Initiated:**	12/96
ORC Nutrient Injection:	NA	**Re-Excavation:**	NA	**PSH Removal Initiated:**	NA
Annual Initiated:	10/99	**Quarterly Resumed:**	NA		

SUMMARY OF 2004 ACTIVITIES

MW-1: Semi-annual groundwater sampling, dissolved oxygen measurements, and water level measurements were performed in March and September 2004. Eight ORC socks were placed in MW-1 in September 2004.

MW-2: Semi-annual water level measurements were performed in March and September 2004.

MW-3: Semi-annual water level and dissolved oxygen measurements were performed in March and September 2004.

Site-Wide Activities: No other activities were performed at this site during 2004.

SITE MAPS

Site maps (March and September) are attached as Figures 1 and 2.

SUMMARY TABLES AND GRAPHS

- Analytical data from 2004 are summarized in Table 1, and historic data are presented graphically in Figures 3 though 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

No wastes were generated at this site during 2004.

ISOCONCENTRATION MAPS

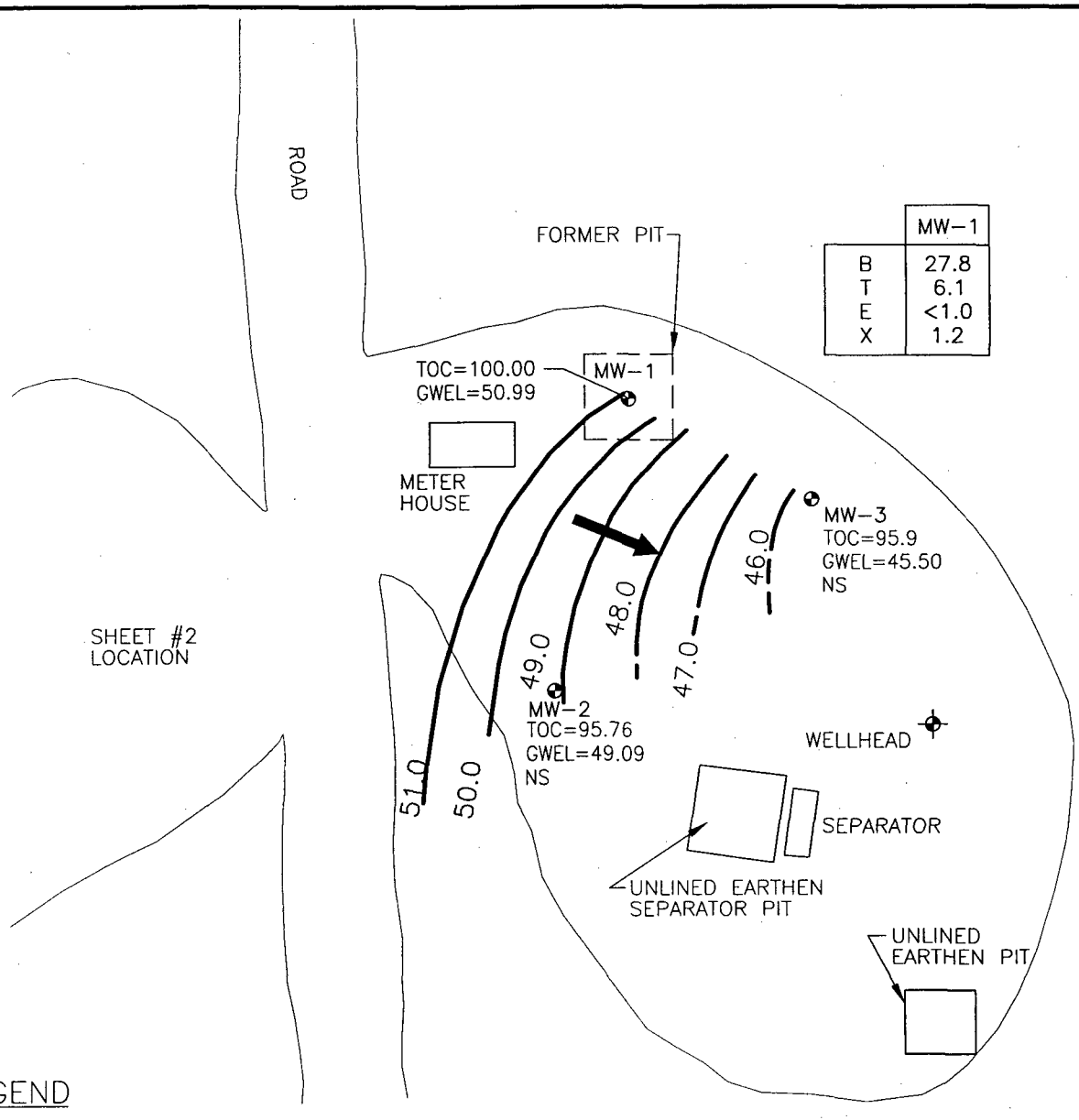
No isoconcentration maps were prepared for this site, however, the attached site maps present both the water level and analytical data collected during 2004.

CONCLUSIONS

- The groundwater flow direction at this site trends toward the southeast.
- Dissolved oxygen concentrations in MW-1 decreased from 6.1 mg/L to 4.5 mg/L between March and September, indicating that the ORC is providing oxygen to enhance natural biodegradation and that the oxygen is being used up in the process. The DO concentration in MW-3 in September was 1.8 mg/L.
- Benzene concentrations in MW-1 decreased from historic level near 100 µg/L to 27.8 µg/L and 12.8 µg/L in March and September, respectively. This drop is likely attributable to addition of ORC socks into the well in October 2003.

RECOMMENDATIONS

- EPFS recommends removing the ORC socks from MW-1 during the March site visit, and initiating quarterly groundwater sampling (March, June, September and December). Replacement of ORC will be evaluated based on the results of these sampling events.
- Because sample results dating back to 1999 indicate that BTEX concentrations in samples collected from MW-2 and MW-3 have been below detection limits, EPFS recommends that these wells not be sampled until closure samples are scheduled.
- EPFS recommends that water level measurements be collected from MW-2 and MW-3, in conjunction with sampling at MW-1.



LEGEND

MW-1	Approximate Monitoring Well Location and Number
B	Benzene (µg/L)
T	Toluene (µg/L)
E	Ethylbenzene (µg/L)
X	Total Xylenes (µg/L)
NS	Not Sampled
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing
49	Potentiometric Surface (Assumed Where Dashed)
→	Direction of Groundwater Flow (Estimated)

N

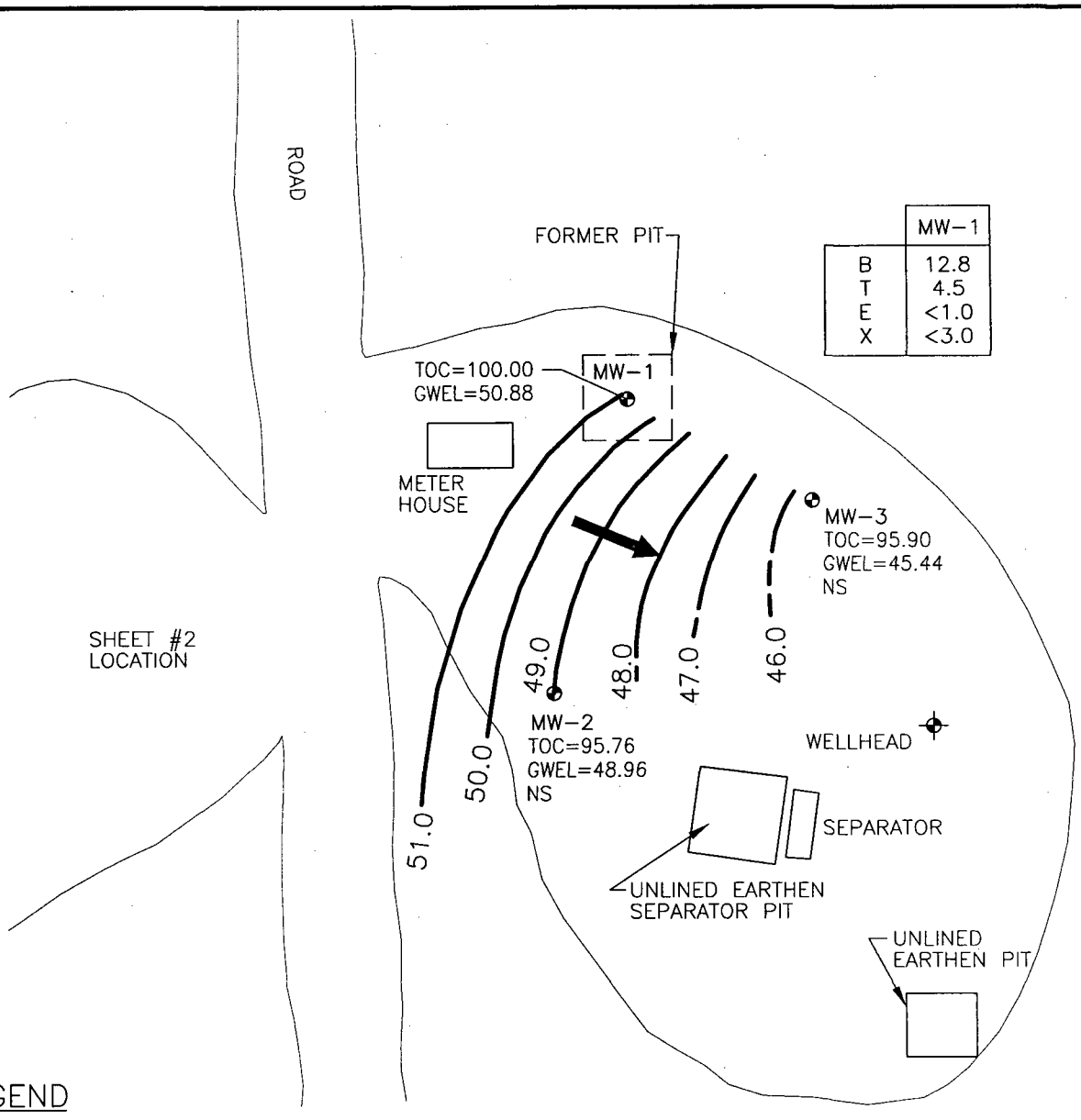
NOT TO SCALE

HORTON #1E, METER 93388
MARCH 2004

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

horton.dwg



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TOC	Top of Casing
49	Potentiometric Surface (Assumed Where Dashed)
	Direction of Groundwater Flow (Estimated)

N

NOT TO SCALE

HORTON #1E, METER 93388
SEPTEMBER 2004

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 2

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TABLE 1

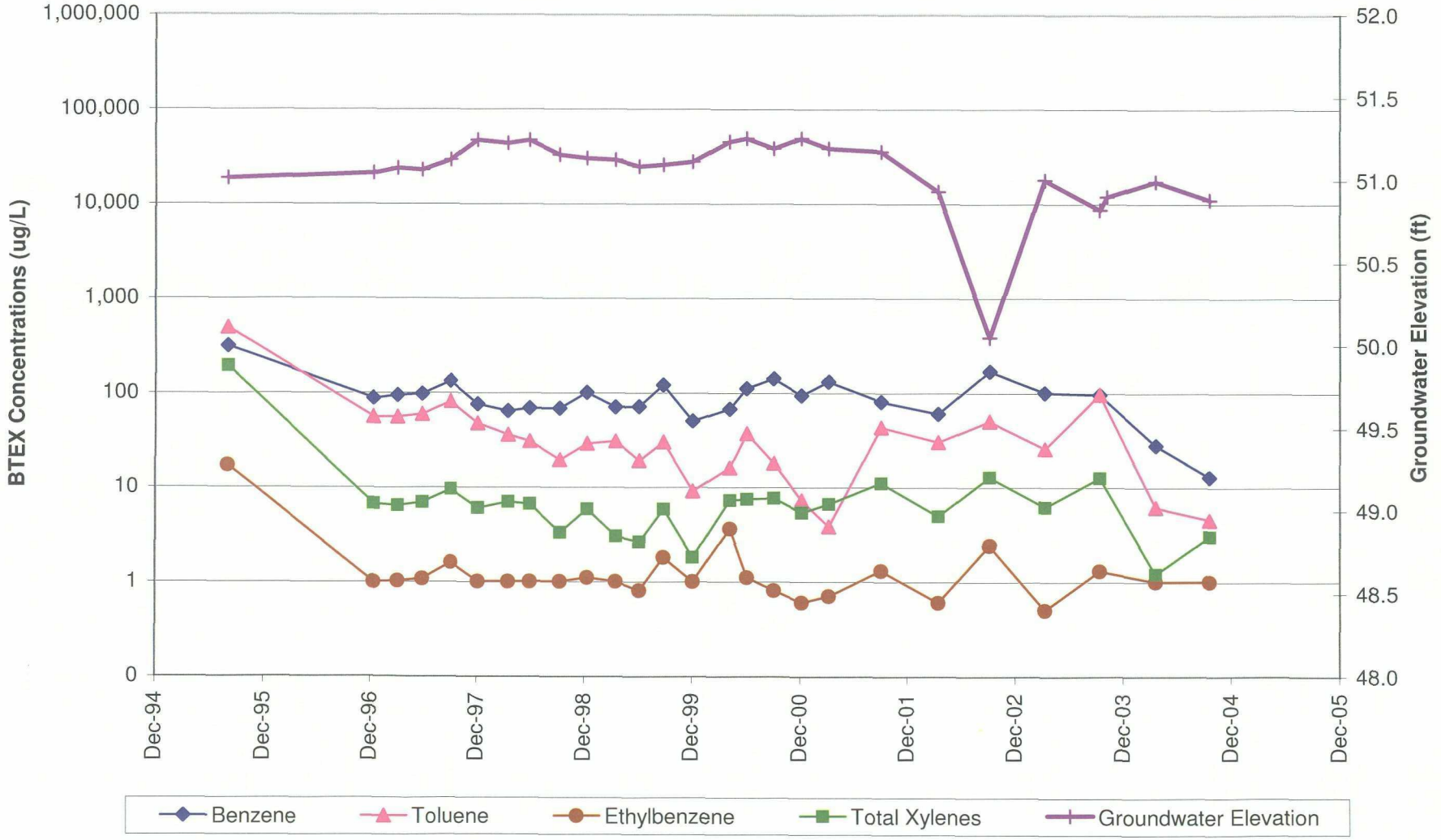
SUMMARY OF BTEX COMPOUNDS IN 2004 GROUNDWATER SAMPLES
HORTON #1E (METER #93388)

Site Name	Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft btoc)
Horton #1E	MW-1	3/23/2004	27.8	6.1	< 1.0	1.2	49.01
Horton #1E	MW-1	9/22/2004	12.8	4.5	< 1.0	< 3.0	49.12

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

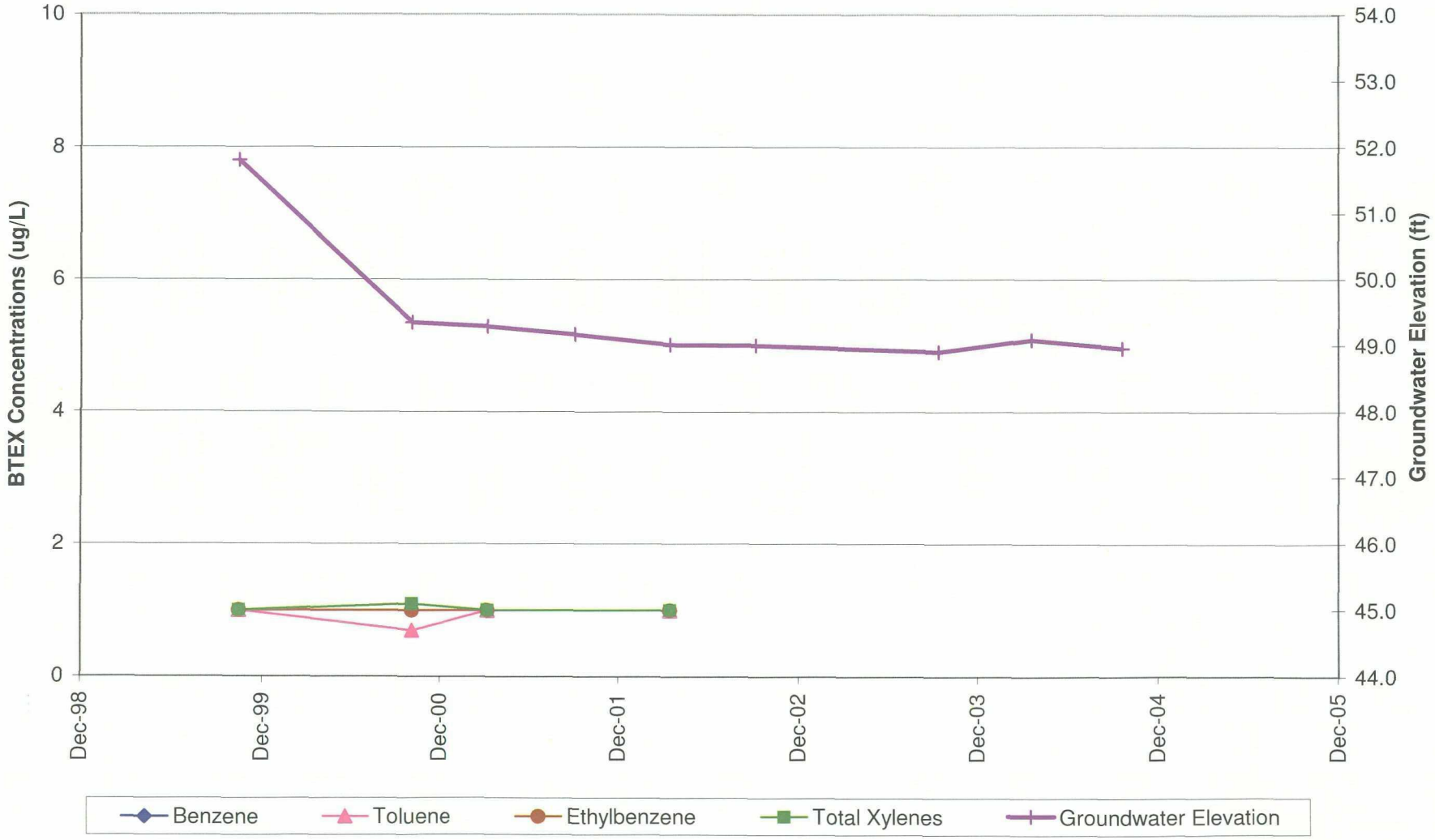
J = Value estimated

FIGURE 3
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
HORTON #1E
MW-1



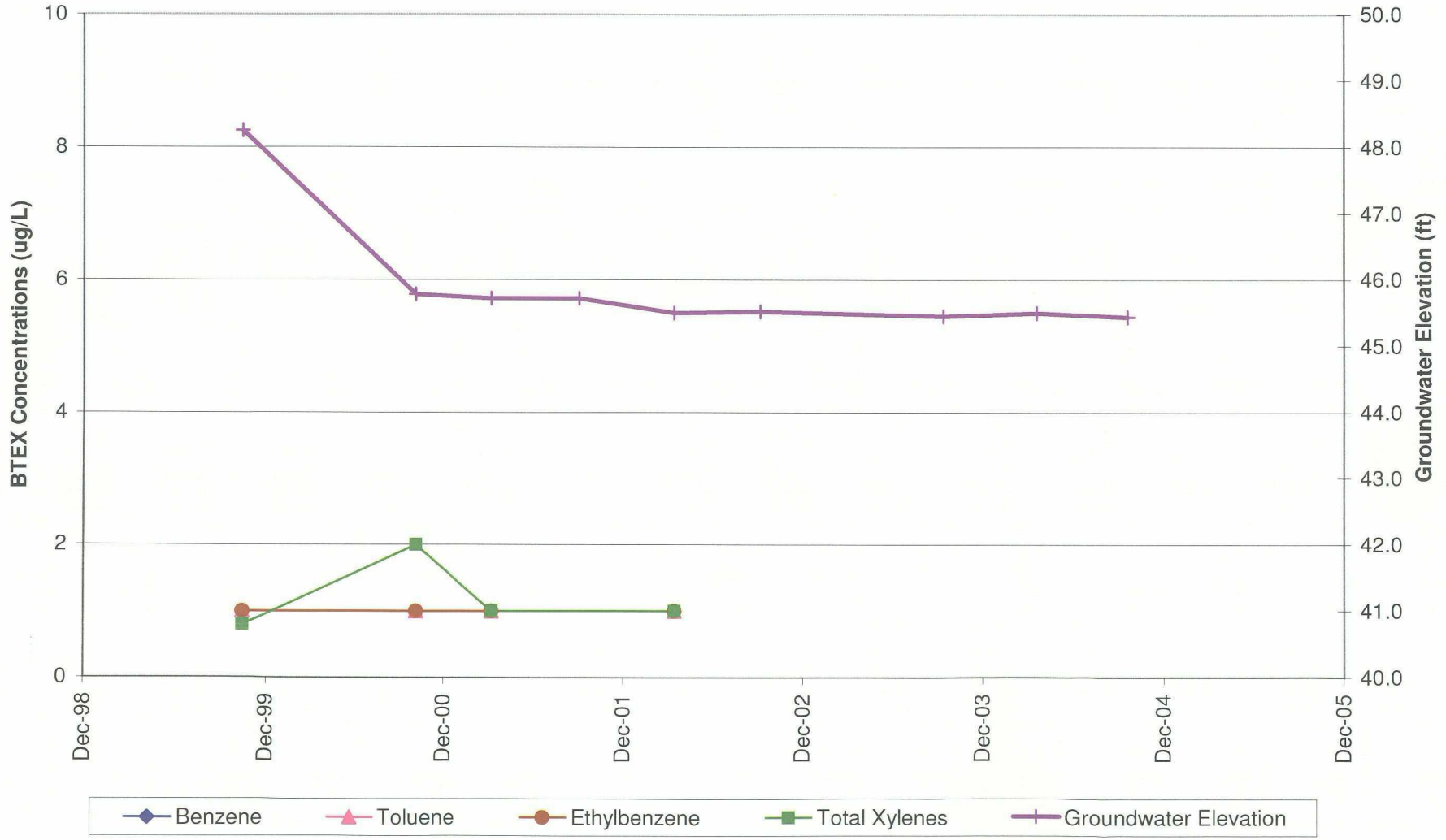
2004 Horton 1E.xls,Horton MW1

FIGURE 4
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
HORTON #1E
MW-2



2004 Horton 1E.xls,Horton MW2

FIGURE 5
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
HORTON #1E
MW-3



2004 Horton 1E.xls,Horton MW3