

**3R - 239**

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**ANNUAL  
MONITORING  
REPORTS**

**DATE:  
2/2005**

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**2004 ANNUAL GROUNDWATER REPORT  
NON-FEDERAL SITES VOLUME II  
EL PASO FIELD SERVICES**

**TABLE OF CONTENTS**

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT	
71669	State Gas Com N #1	31N	12W	16	H	3R239
70194	Johnston Fed #4	31N	09W	33	H	3R201
93388	Horton #1E	31N	09W	28	H	3R192
72556	Knight #1	30N	13W	5	A	3R207
73551	* Coldiron A #1	30N	11W	2	K	3R164
03906	GCU Com A #142E	29N	12W	25	G	3R197
70445	Standard Oil Com #1	29N	09W	36	N	3R238
LD087	K-31 Line Drip	25N	06W	16	N	3R205
94967	** Lindrith B #24	24N	03W	9	N	3R214

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

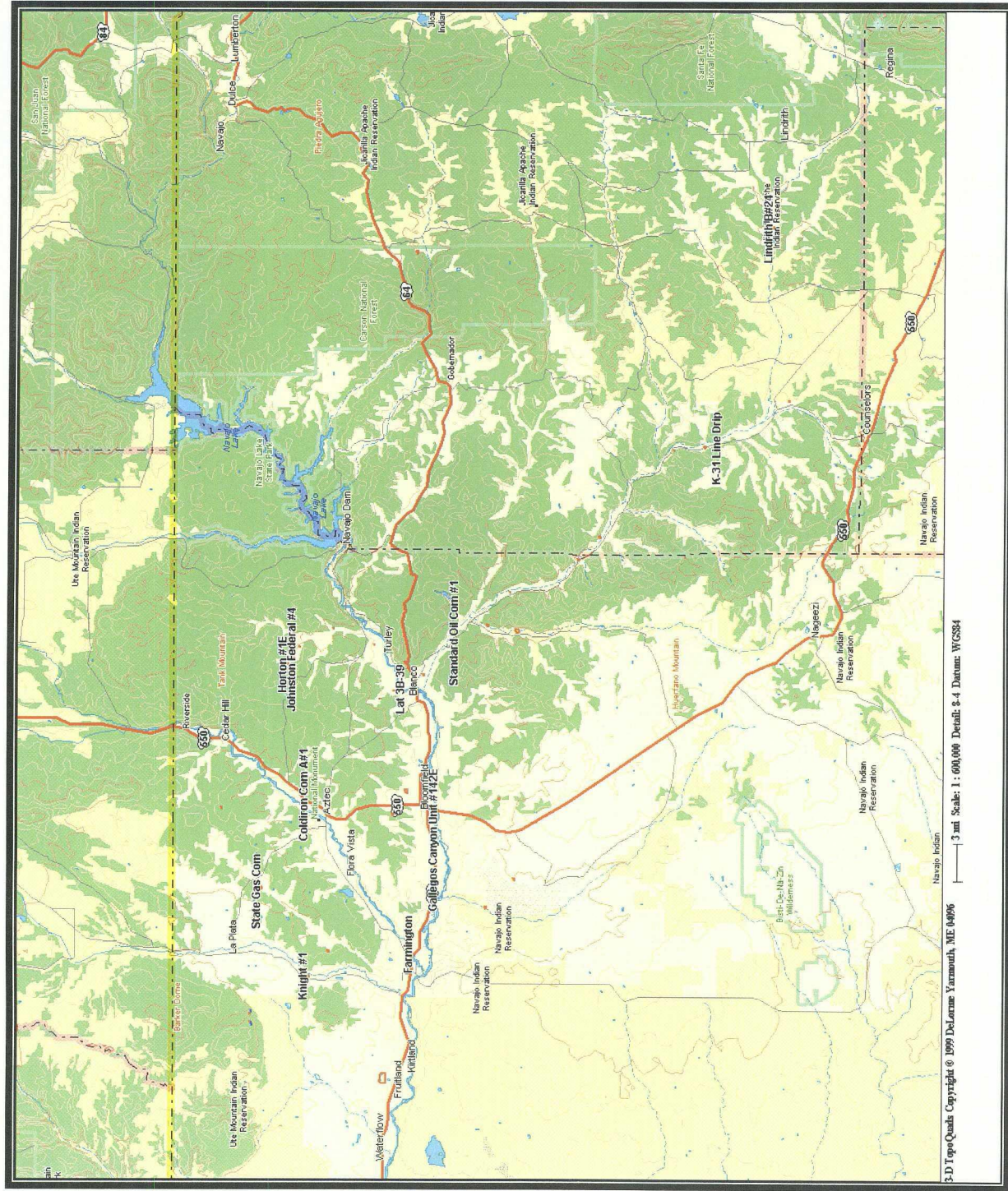
\*\* Lindrith B#24 Site has been submitted for closure, and is pending approval from NMOCD.



## 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
$\mu\text{g/L}$	micrograms per liter
X	total xylenes

# Non - Federal Groundwater Site Map



**EPFS GROUNDWATER SITES  
2004 ANNUAL GROUNDWATER REPORT**

3R239

State Gas Com N #1  
Meter Code: 71669

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**SITE DETAILS**

**Legal Description:**                      **Town:** 31N            **Range:** 12W            **Sec:** 16            **Unit:** H  
**NMOCD Haz Ranking:** 30            **Land Type:** State            **Operator:** Amoco Production Company

**PREVIOUS ACTIVITIES**

<b>Site Assessment:</b>	3/94	<b>Excavation:</b>	5/94 (80 cy)	<b>Soil Boring:</b>	10/95
<b>Monitor Well:</b>	10/95	<b>Geoprobe:</b>	NA	<b>Additional MWs:</b>	12/01
<b>Downgradient MWs:</b>	11/95	<b>Replace MW:</b>	NA	<b>Quarterly Initiated:</b>	NA
<b>ORC Nutrient Injection:</b>	NA	<b>Re-Excavation:</b>	NA	<b>PSH Removal Initiated:</b>	NA
<b>Annual Initiated:</b>	NA	<b>Quarterly Resumed:</b>	NA		

**SUMMARY OF 2004 ACTIVITIES**

- MW-1:** Quarterly free-product recovery and/or water level monitoring were performed during 2004.
- MW-2:** Quarterly free-product recovery and/or water level monitoring were performed during 2004.
- MW-3:** Quarterly free-product recovery and water level monitoring were performed during 2004.
- MW-4:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2004.
- MW-5:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2004.
- MW-6:** 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.

**EPFS GROUNDWATER SITES  
2004 ANNUAL GROUNDWATER REPORT**

**State Gas Com N #1  
Meter Code: 71669**

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**SITE MAPS**

Site map (September) is attached in Figure 1.

**SUMMARY TABLES AND GRAPHS**

- Analytical data from 2004 are summarized in Table 1, and historic data are presented graphically in Figures 2 through 7.
- Free-product recovery data from 2004 are summarized in Table 2, and historic data are presented graphically in Figures 8 through 11.
- 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 and analytical data collected during 2004.

**CONCLUSIONS**

- The groundwater flow direction at this site trends toward the southeast.
- Free-product recovery efforts at MW-1 did not produce any free-phase hydrocarbons during 2004. This well has not contained significant amounts of free-product since 2001.
- Free-product recovery efforts at MW-2 resulted in removal of approximately 0.01 gallons of free-phase hydrocarbons during 2004 bringing the cumulative total recovered to date to 133.20 gallons. This well has not contained significant amounts of free-product since 2001.
- Free-product recovery efforts at MW-3 resulted in removal of approximately 0.15 gallons of free-phase hydrocarbons during 2004 bringing the cumulative total volume removed to 61.76 gallons.



**EPFS GROUNDWATER SITES  
2004 ANNUAL GROUNDWATER REPORT**

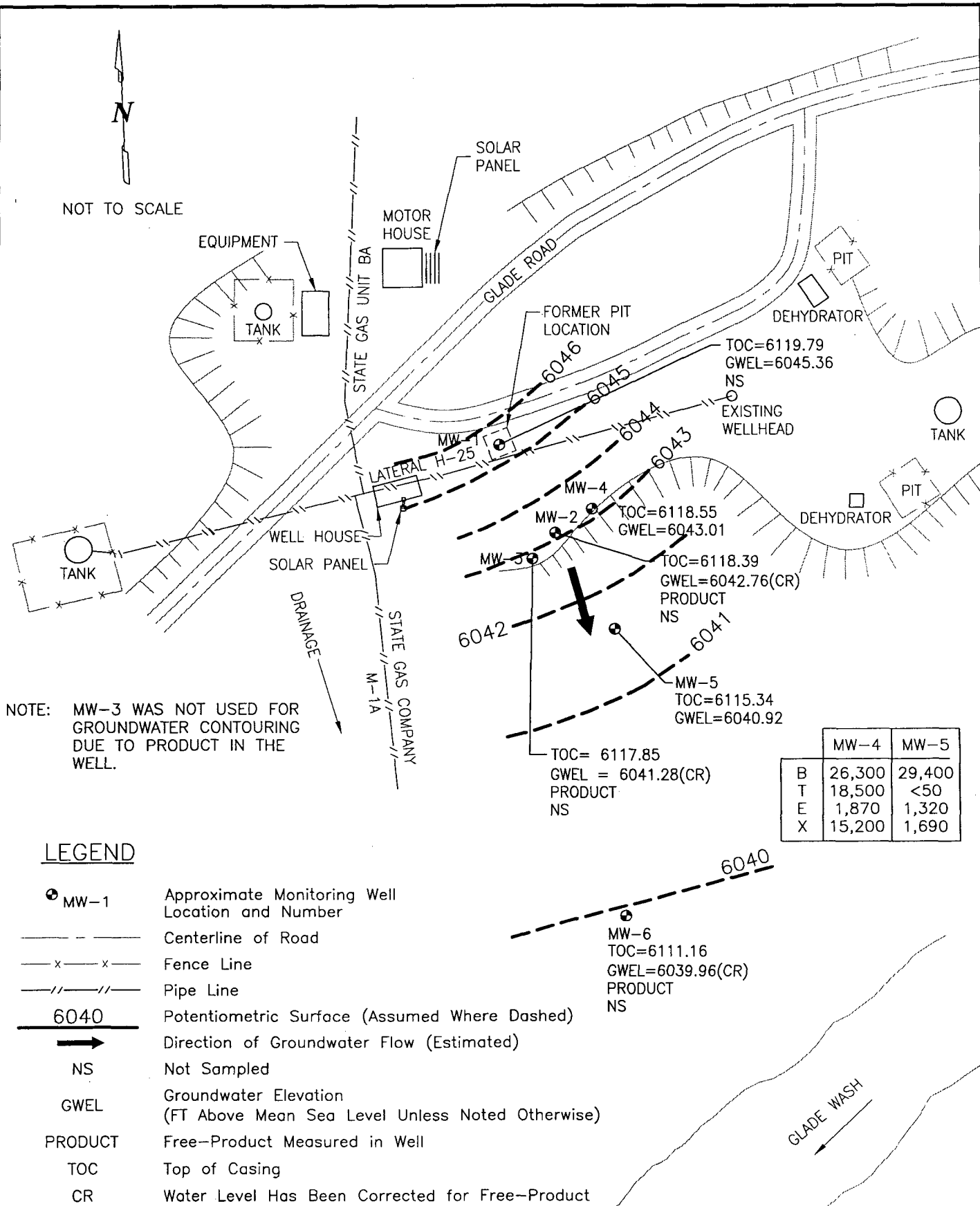
**State Gas Com N #1  
Meter Code: 71669**

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- Laboratory results from the annual groundwater sample collected at MW-4 indicate that BTEX concentrations remain elevated at this well. Benzene results for the sample collected in September indicated a concentration of 26,300 µg/L.
- Laboratory results from the annual groundwater sample collected at MW-5 indicate that BTEX concentrations remain elevated at this well. Benzene results for the sample collected in September indicate a concentration of 29,400 µg/L.
- Free-product recovery efforts at MW-6 resulted in removal of approximately 0.45 gallons of free-phase hydrocarbons during 2004 bringing the cumulative total volume removed to 3.80 gallons.
- Based on the technology review and free-product removal data for this site, it was concluded that oil-absorbent socks may be the most efficient and cost-effective product removal technique for MW-3 and MW-6 at this time. MW-1 and MW-2 will continue to be monitored.

**RECOMMENDATIONS**

- EPFS recommends to continue free-product recovery efforts at MW-1, MW-2, MW-3 and MW-6. EPFS recommends installation of oil-absorbent socks into MW-3 and MW-6 to facilitate free-product removal during 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 recommends annual groundwater sampling at MW-1 and MW-2, if free-product continues to be absent from these wells.
- EPFS recommends annual groundwater sampling at wells MW-4 and MW-5.
- EPFS recommends semi-annual water level measurements at all wells.
- EPFS will evaluate other upgradient sources to EPFS' former pit; this effort may include installation of a new monitoring well at the site.



STATE GAS COM N#1, METER 71669  
SEPTEMBER 2004

GROUNDWATER SITES  
EL PASO FIELD SERVICES

FIGURE 1



**TABLE 1**  
**SUMMARY OF BTEX COMPOUNDS IN 2004 GROUNDWATER SAMPLES**  
**STATE GAS COM N#1 (METER #71669)**

Site Name	Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft btoc)
State Gas Com N #1	MW-4	9/16/2004	26,300	18,500	1,870	15,200	75.54
State Gas Com N #1	MW-4*	9/16/2004	26,800	19,200	932	11,200	-
State Gas Com N #1	MW-5	9/16/2004	29,400	< 50	1,320	1,690	74.00

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

J = Value estimated

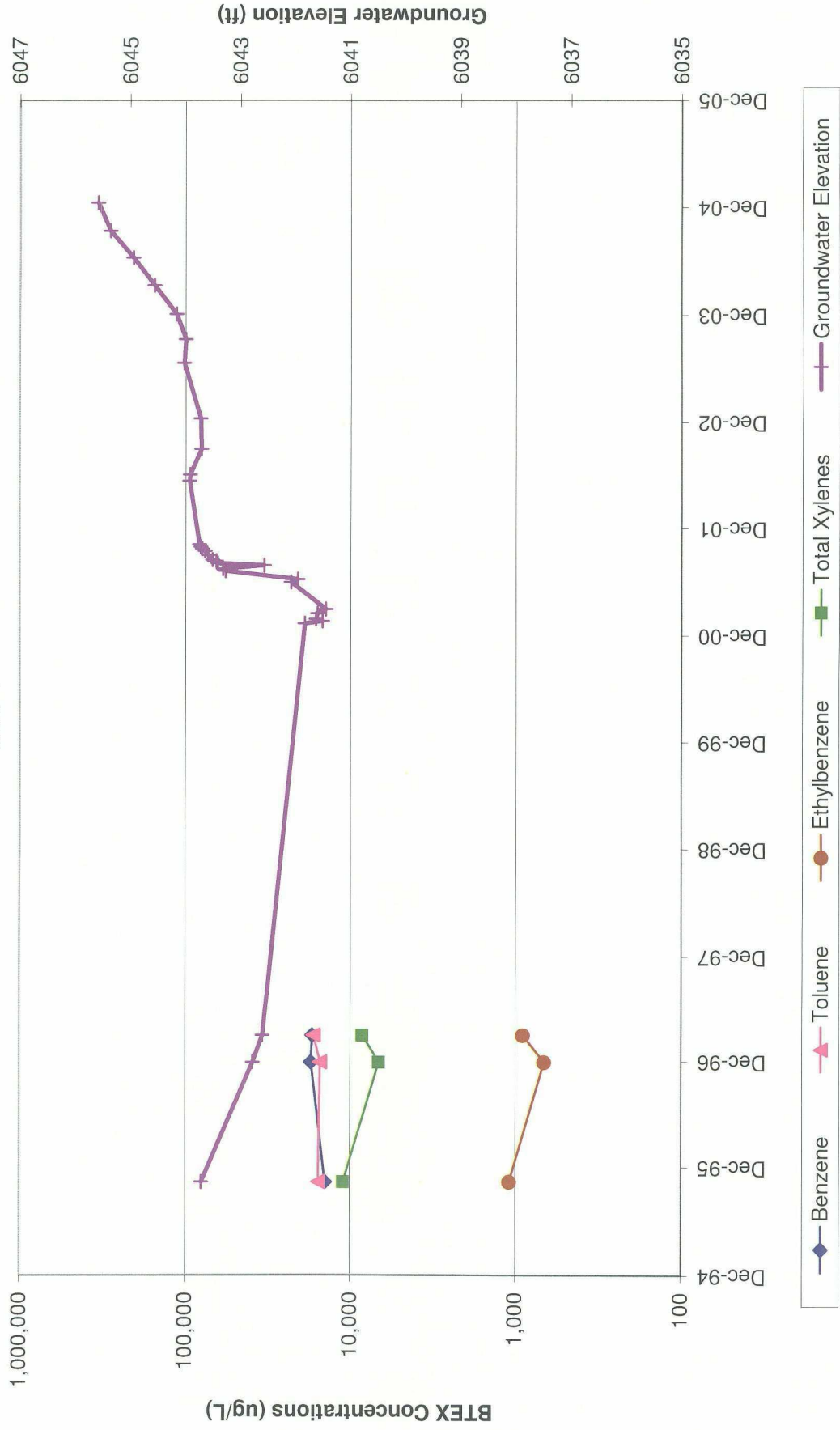
\* = Duplicate sample

TABLE 2

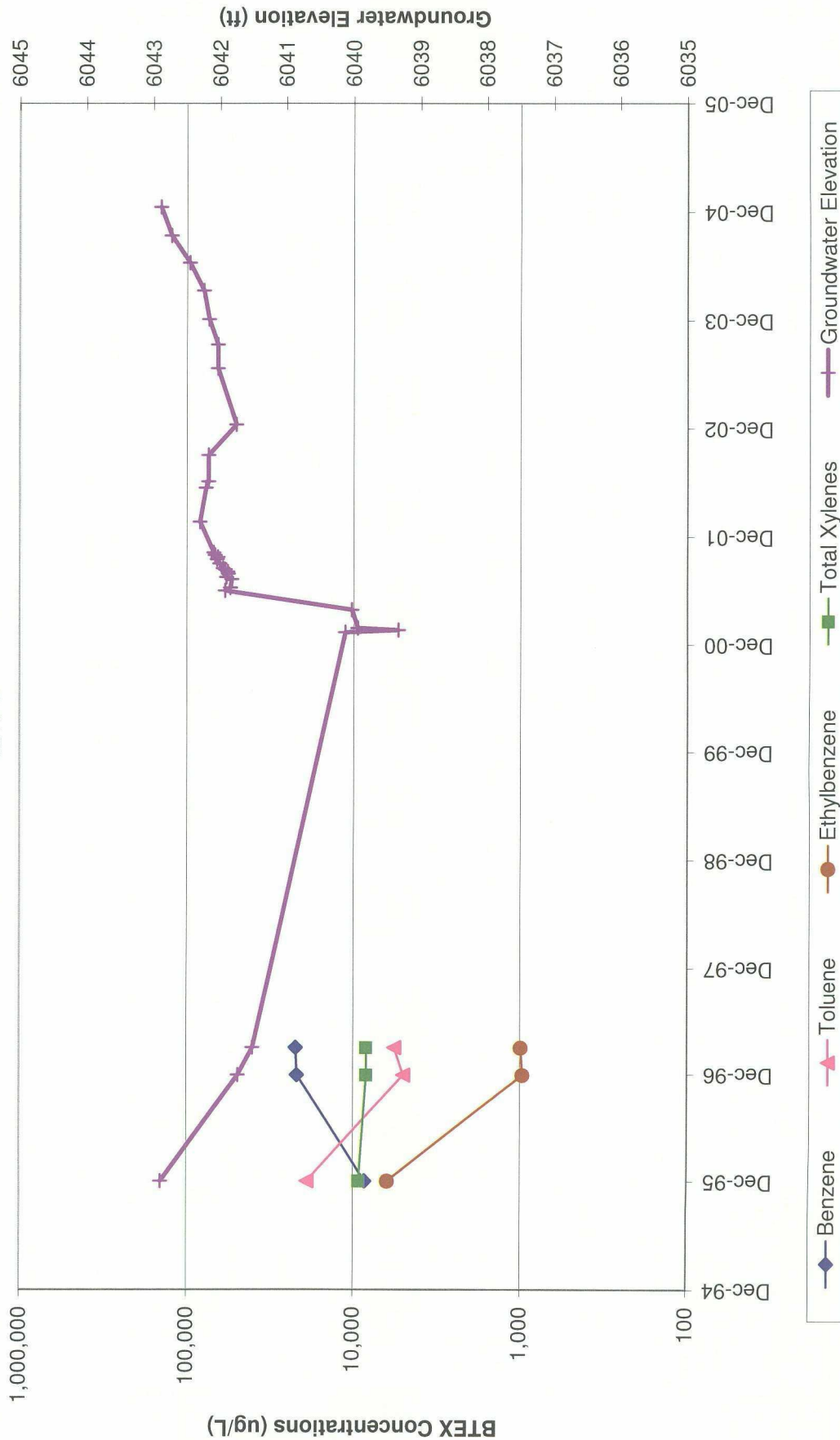
SUMMARY OF FREE-PRODUCT REMOVAL DURING 2004  
STATE GAS COM N#1 (METER #71669)

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)
State Gas Com N #1	MW-1	3/15/04	NA	75.22	0.00	0.00	79.61
State Gas Com N #1	MW-1	6/17/04	NA	74.84	0.00	0.00	79.61
State Gas Com N #1	MW-1	9/16/04	NA	74.43	0.00	0.00	79.61
State Gas Com N #1	MW-1	12/20/04	NA	74.21	0.00	0.00	79.61
State Gas Com N #1	MW-2	3/15/04	NA	76.14	0.00	0.00	133.19
State Gas Com N #1	MW-2	6/17/04	NA	75.93	0.00	0.00	133.19
State Gas Com N #1	MW-2	9/16/04	75.65	75.66	0.01	0.01	133.20
State Gas Com N #1	MW-2	12/20/04	NA	75.50	0.00	0.00	133.20
State Gas Com N #1	MW-3	3/15/04	76.07	76.13	0.06	0.04	61.66
State Gas Com N #1	MW-3	6/17/04	75.98	76.02	0.04	0.03	61.69
State Gas Com N #1	MW-3	9/16/04	75.72	75.75	0.04	0.03	61.72
State Gas Com N #1	MW-3	12/20/04	75.46	75.50	0.04	0.05	61.76
State Gas Com N #1	MW-6	3/15/04	71.11	71.74	0.63	0.11	3.46
State Gas Com N #1	MW-6	6/17/04	71.11	71.68	0.57	0.09	3.55
State Gas Com N #1	MW-6	9/16/04	71.05	71.79	0.74	0.12	3.67
State Gas Com N #1	MW-6	12/20/04	71.05	72.09	1.04	0.13	3.80

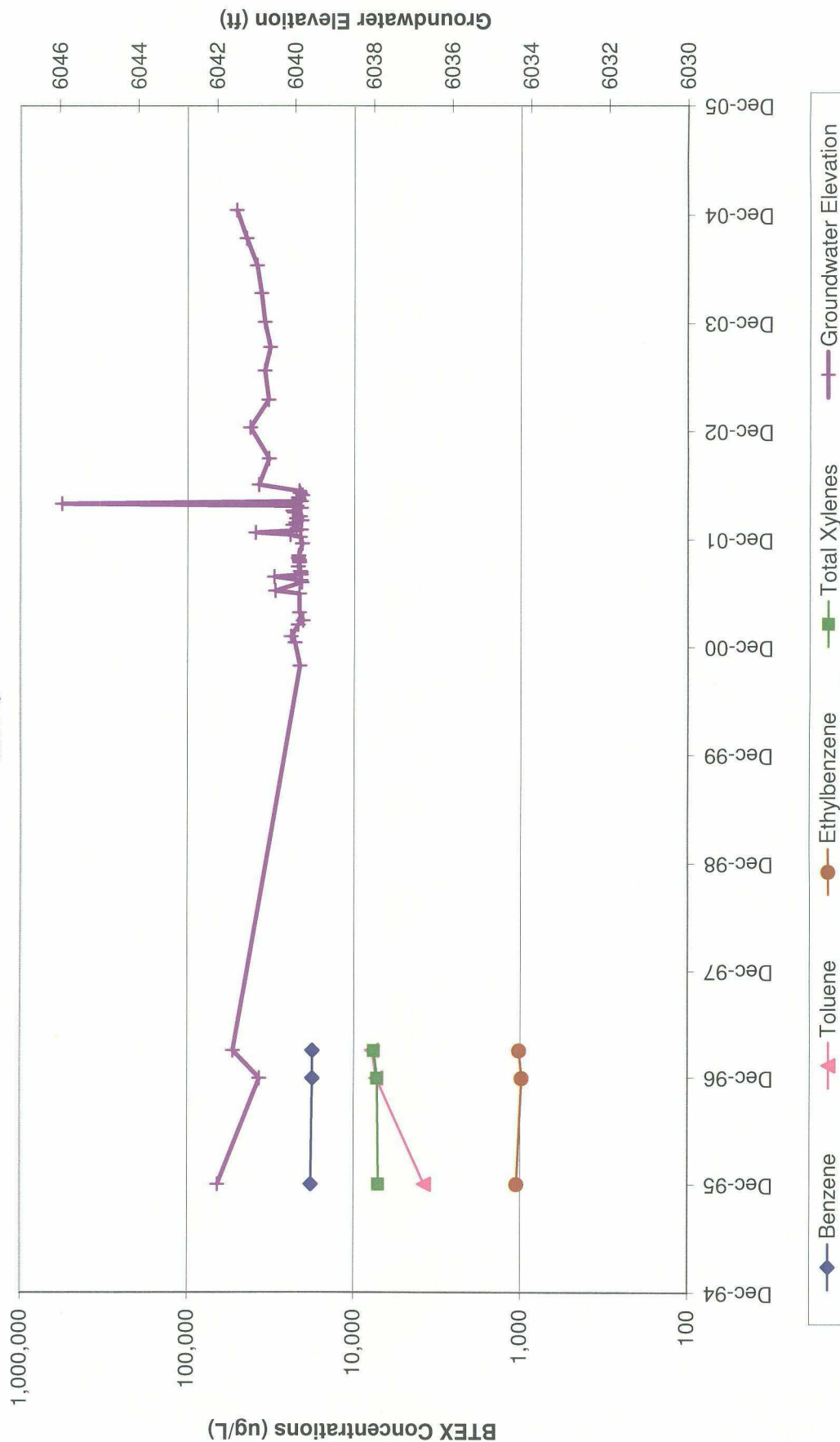
**FIGURE 2**  
**HISTORIC BTX CONCENTRATIONS AND GROUNDWATER ELEVATIONS**  
**STATE GAS COM N#1**  
**MW-1**



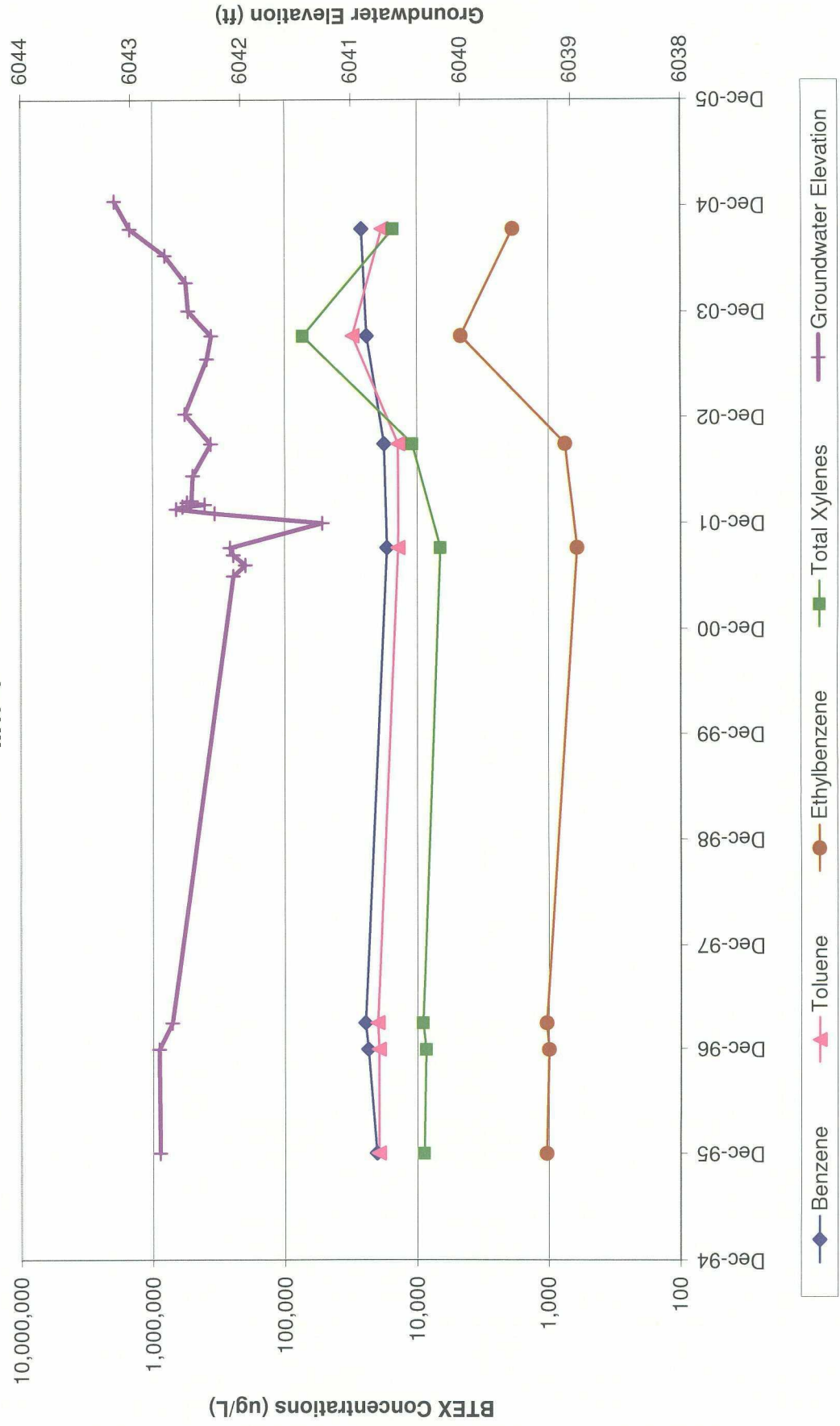
**FIGURE 3**  
**HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS**  
**STATE GAS COM N#1**  
**MW-2**



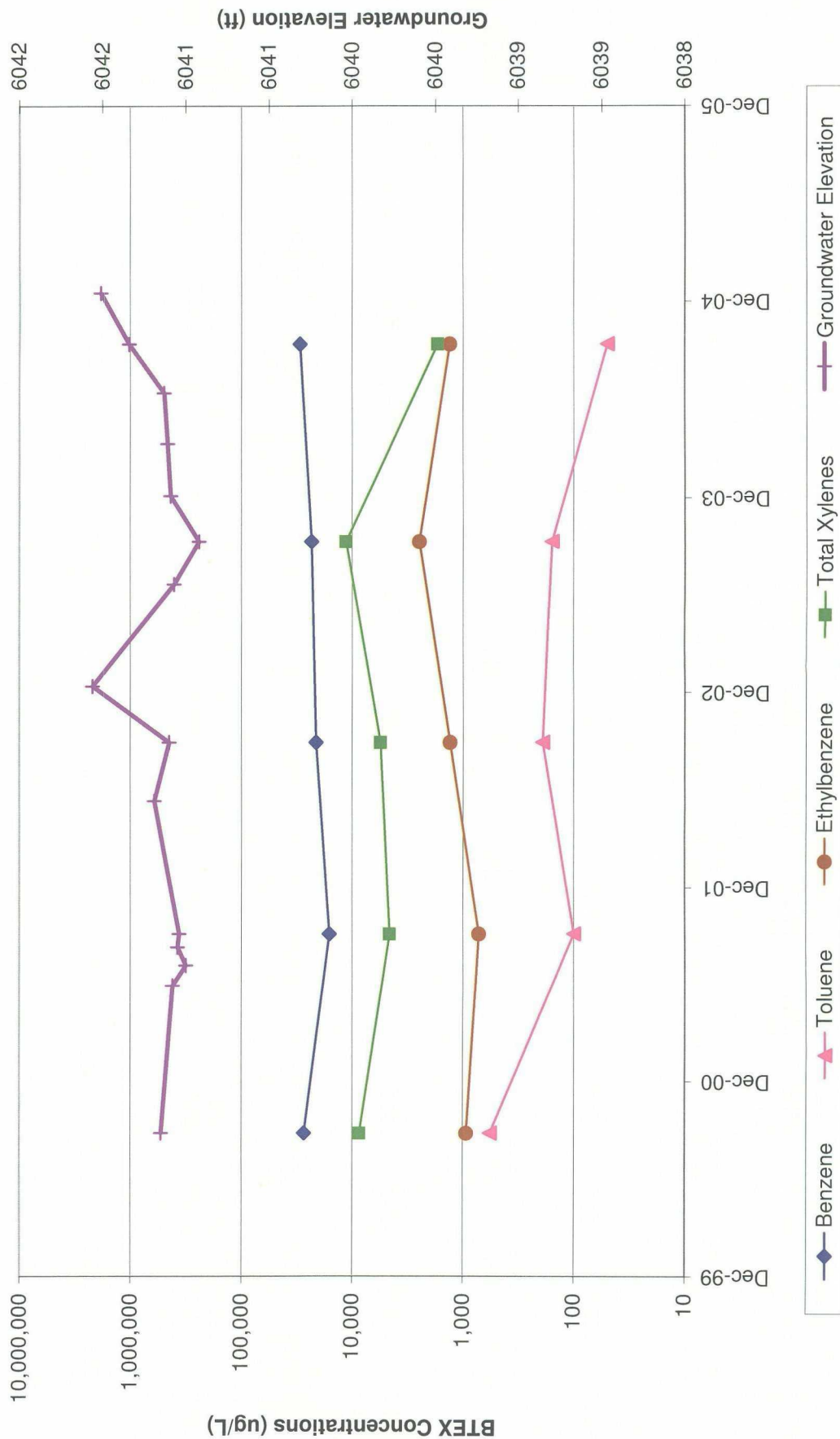
**FIGURE 4**  
**HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS**  
**STATE GAS COM N#1**  
**MW-3**



**FIGURE 5**  
**HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS**  
**STATE GAS COM N#1**  
**MW-4**

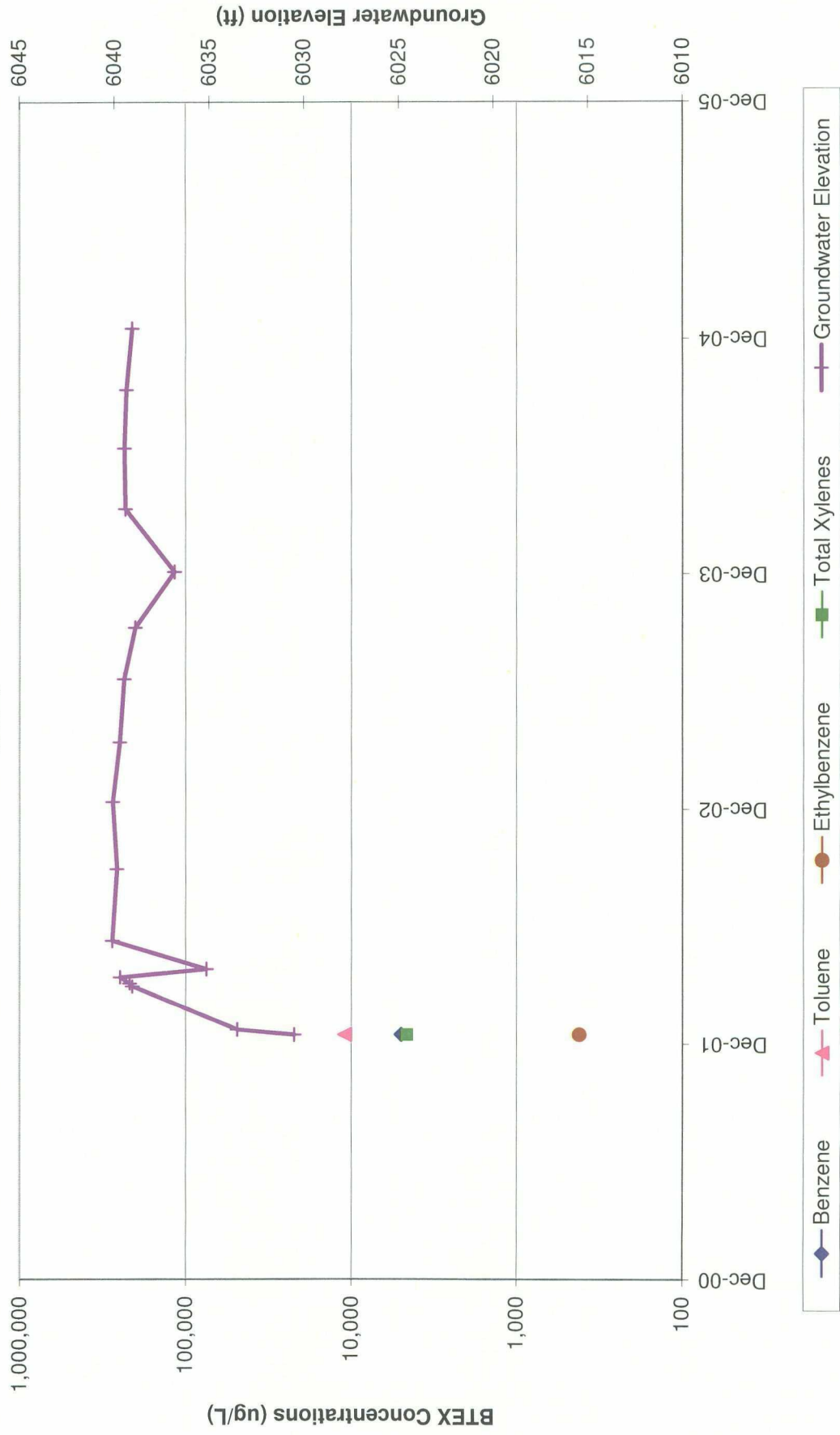


**FIGURE 6**  
**HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS**  
**STATE GAS COM N#1**  
**MW-5**

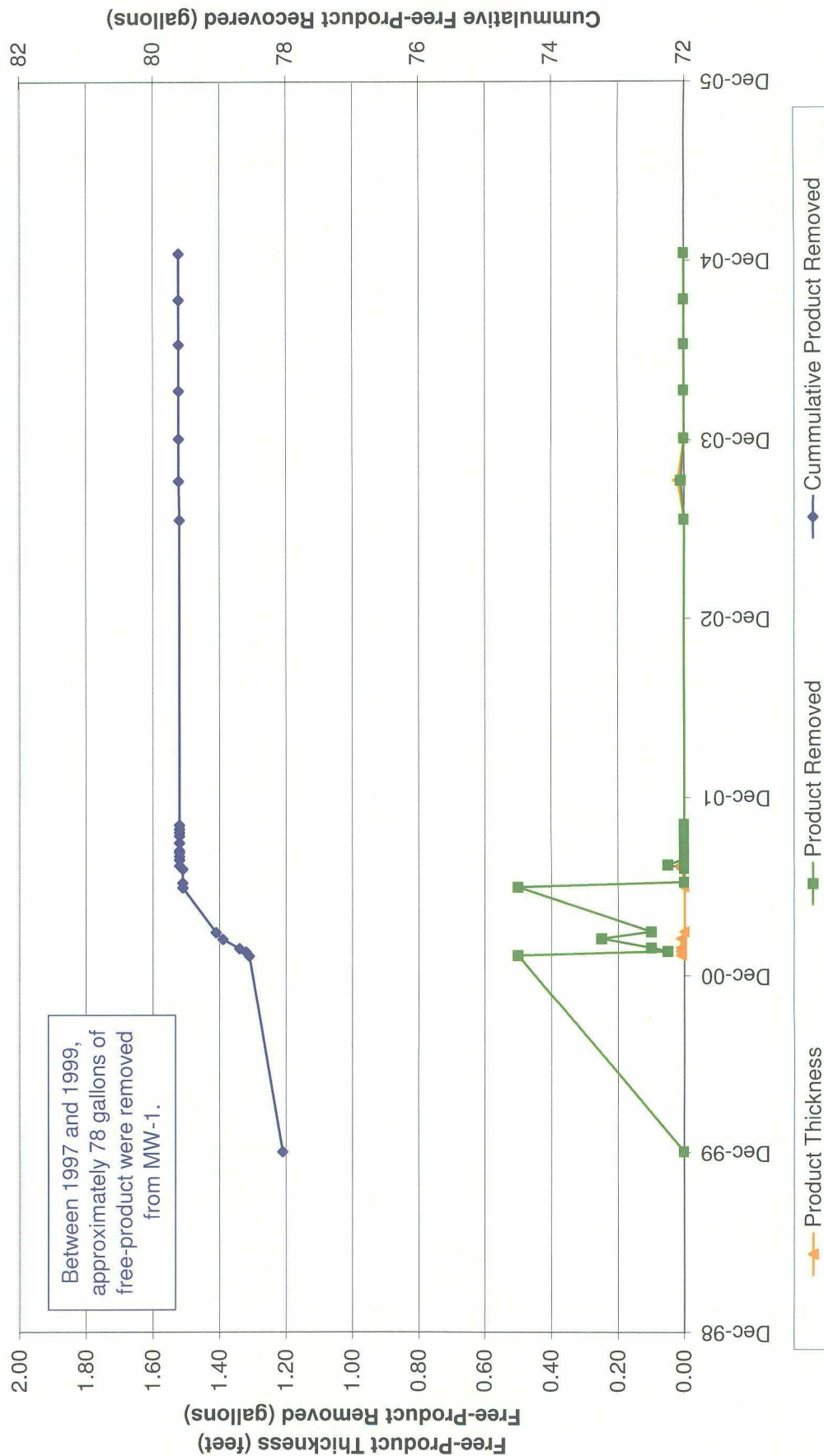




**FIGURE 7**  
**HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS**  
**STATE GAS COM N#1**  
**MW-6**



**FIGURE 8**  
**HISTORIC FREE-PRODUCT RECOVERY**  
**STATE GAS COM N#1**  
**MW-1**



**FIGURE 9**  
**HISTORIC FREE-PRODUCT RECOVERY**  
**STATE GAS COM N#1**  
**MW-2**

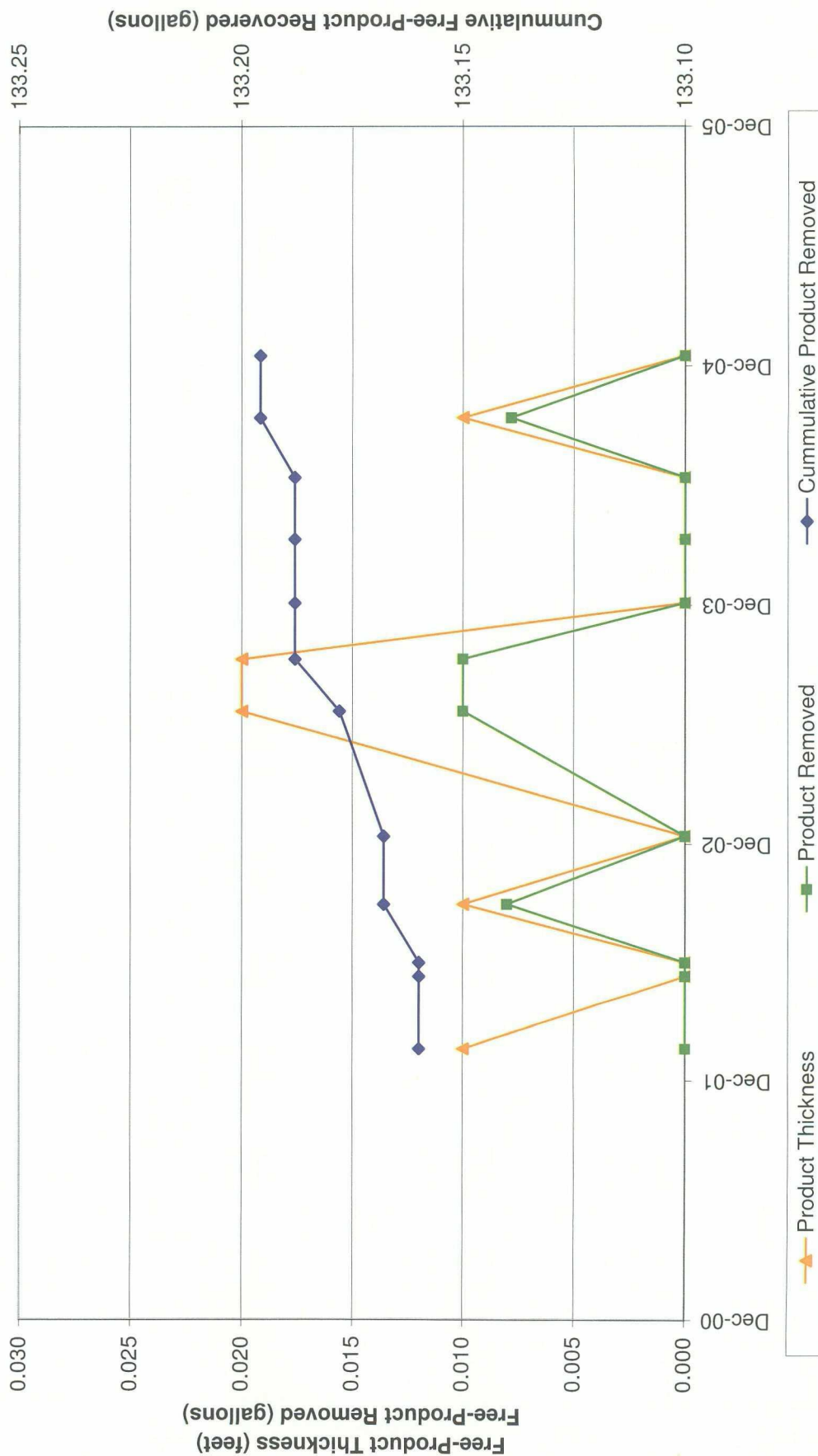
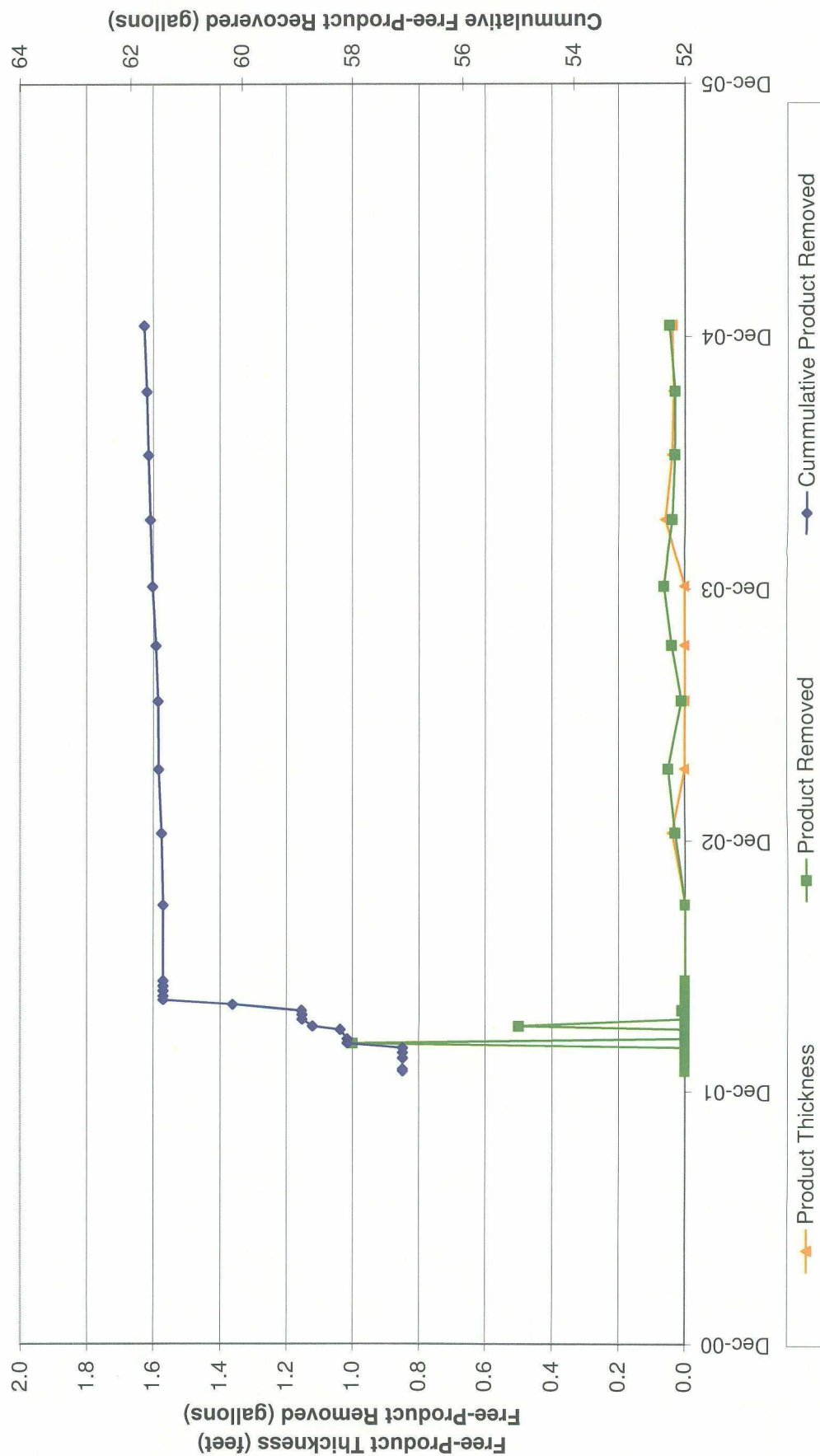


FIGURE 10  
HISTORIC FREE-PRODUCT RECOVERY  
STATE GAS COM N#1  
MW-3



**FIGURE 11**  
**HISTORIC FREE-PRODUCT RECOVERY**  
**STATE GAS COM N#1**  
**MW-6**

