

3R - 239

**ANNUAL
MONITORING
REPORT**

04/02/2008



MWH

BUILDING A BETTER WORLD

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2008 APR 4 PM 1 38

April 2, 2008

Mr. Glenn von Gonten
New Mexico Oil Conservation Division (NMOCD)
1220 South St., Francis Drive
Santa Fe, New Mexico 87505

**RE: El Paso Tennessee Pipeline Company Pit Groundwater Remediation Sites
2007 Annual Reports**

Dear Mr. Von Gonten:

MWH Americas, Inc., on behalf of El Paso Tennessee Pipeline Company (EPTPC), is submitting the enclosed 2007 Annual Reports for each of EPTPC's 21 remaining San Juan River Basin pit groundwater remediation Sites. The reports present the 2007 sampling and product recovery data and include recommendations for 2008 activities at these Sites.

Copies of the reports for Sites located on Federal or Navajo lands are also being sent under separate cover to the Bureau of Land Management and the Navajo Nation Environmental Protection Agency.

If you have any questions concerning the enclosed reports, please call either Nancy Prince of EPTPC (719-520-4690) or me (303-291-2276).

Sincerely,

Jed Smith
Project Manager

cc: Brandon Powell – NMOCD, Aztec, NM
Nancy Prince – EPTPC
MWH Project File

**2007 ANNUAL GROUNDWATER REPORT
NON-FEDERAL SITES VOLUME II
EL PASO TENNESSEE PIPELINE COMPANY**

TABLE OF CONTENTS

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT	
71669	State Gas Com N #1	31N	12W	16	H	3R239
93388	Horton #1E	31N	09W	28	H	3R192
72556	Knight #1	30N	13W	5	A	3R207
03906	GCU Com A #142E	29N	12W	25	G	3R179
70445	Standard Oil Com #1	29N	09W	36	N	3R074
LD087	K-31 Line Drip	25N	06W	16	N	3R205
94967	*Lindrith B #24	24N	03W	9	N	3R214

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

OGRID 221654
181398



EPTPC GROUNDWATER SITES
2007 ANNUAL GROUNDWATER REPORT

3R239

State Gas Com N #1
Meter Code: 71669

SITE DETAILS

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

PREVIOUS ACTIVITIES

Site Assessment:	3/94	Excavation:	5/94 (80 cy)	Soil Boring:	10/95
Monitor Well:	10/95	Geoprobe:	NA	Additional MWs:	11/06
Downgradient MWs:	11/95	Replace MW:	NA	Quarterly Initiated:	NA
ORC Nutrient Injection:	NA	Re-Excavation:	NA	PSH Removal Initiated:	7/97
Annual Initiated:	NA	Quarterly Resumed:	NA	PSH Removal in 2007?	Yes

SUMMARY OF 2007 ACTIVITIES

- MW-1:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2007.
- MW-2:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2007.
- MW-3:** Quarterly free-product and water level monitoring was performed during 2007.
- MW-4:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2007.
- MW-5:** Annual groundwater sampling (September) and quarterly water level monitoring were performed during 2007.
- MW-6:** Monthly free-product recovery and water level monitoring were performed during 2007.
- MW-7:** This well was installed in November 2006. Quarterly water level monitoring was performed during 2007.
- MW-8:** This well was installed in November 2006. Quarterly water level monitoring was performed during 2007.
- MW-9:** This well was installed in November 2006. Quarterly water level monitoring was performed during 2007.

**EPTPC GROUNDWATER SITES
2007 ANNUAL GROUNDWATER REPORT**

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

Site-Wide Activities: All wells were surveyed in January 2007.

SITE MAPS

A Site map (September) is attached as Figure 1.

SUMMARY TABLES AND GRAPHS

- Analytical data are summarized in Table 1 and presented graphically in Figures 2 through 7.
- Free-product recovery data are summarized in Table 2 and presented graphically in Figures 8 through 11.
- The laboratory report is presented in Attachment 1 (included on CD).
- Field documentation is presented in Attachment 2 (included on CD).

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were conducted in at this Site in 2008.

DISPOSITION OF GENERATED WASTES

All purge water was taken to the El Paso Natural Gas Rio Vista Compressor Station. Spent absorbent socks were disposed of as non-hazardous solid waste.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this Site; however, the attached Site map presents the water level and analytical data collected during 2007.

CONCLUSIONS

- The groundwater flow direction at this Site trends toward the south.
- MW-1 has not contained measurable free-product since 2003, and no significant recovery has been possible since 2001. Laboratory results from the annual groundwater sample collected from MW-1 indicated that BTEX concentrations remain elevated at this well. The benzene concentration was 21,100 µg/L. The other BTEX constituent concentrations also exceeded their respective NMWQCC standards.
- Free-product was not found in MW-2 during 2007. This well has not contained significant amounts of free-product since 2001. Laboratory results from the annual groundwater sample collected from MW-2 indicated that BTEX

**EPTPC GROUNDWATER SITES
2007 ANNUAL GROUNDWATER REPORT**

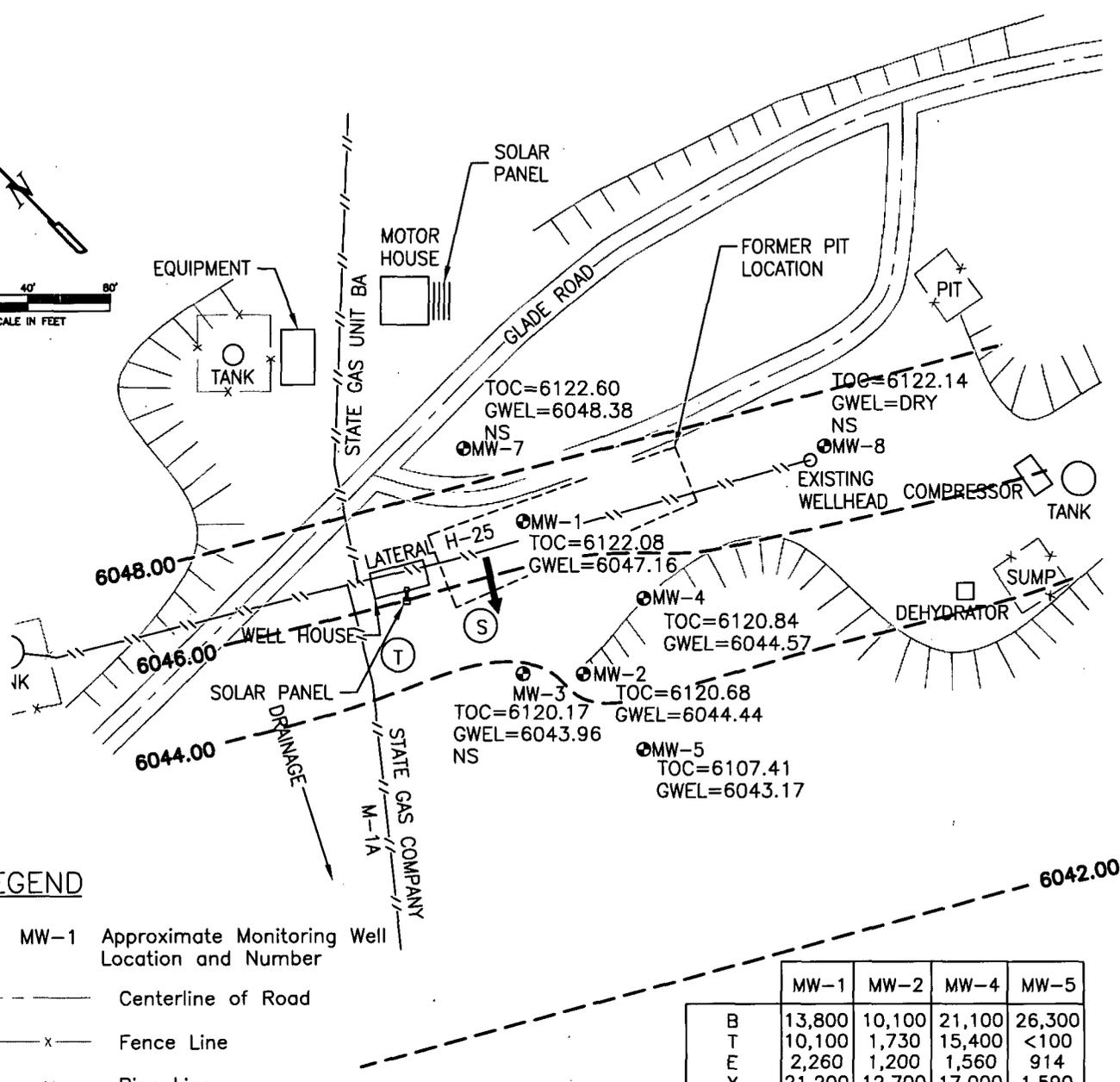
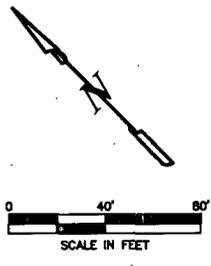
**State Gas Com N #1
Meter Code: 71669**

concentrations remain elevated at this well. The benzene concentration was 10,100 µg/L. The other BTEX constituent concentrations also exceeded their respective NMWQCC standards.

- Free-product was not found in MW-3 during 2007, leaving the cumulative total volume removed at 17.85 gallons. Product recovery activities were suspended in September 2005. Sampling of the well has not yet been reinitiated.
- Laboratory results from the annual groundwater sample collected from MW-4 indicate that BTEX concentrations remain elevated at this well. Benzene results for the sample collected in September indicated a concentration of 21,100 µg/L. The other BTEX constituent concentrations also exceeded their respective NMWQCC standards.
- Laboratory results from the annual groundwater sample collected from MW-5 indicate that BTEX concentrations remain elevated at this well. Benzene results for the sample collected in September indicate a concentration of 26,300 µg/L. The ethylbenzene and total xylenes concentrations also exceeded their respective NMWQCC standards.
- Free-product recovery efforts at MW-6 resulted in removal of approximately 0.44 gallons of free-phase hydrocarbons during 2007, bringing the cumulative total volume removed to 6.64 gallons. Based on the observed steady product recovery rate at MW-6, it was concluded that monthly product recovery was warranted, and this frequency was instituted in June 2006.
- Monitoring wells MW-7, MW-8, and MW-9 were installed in November 2006. Lithologic logs of the new wells did not indicate particularly high impact levels (i.e., headspace screening of soil samples indicated vapor concentrations no greater than 34.4 ppm). Both MW-7 and MW-9 have yielded groundwater, but MW-8 has so far remained dry.

RECOMMENDATIONS

- EPTPC recommends continuing free-product recovery efforts at MW-6. EPTPC will generally maintain the monthly frequency; however, the frequency of monitoring may be adjusted based on the amount of product recovered during the monitoring visits.
- EPTPC recommends annual groundwater sampling at MW-1, MW-2, and MW-3 if free-product continues to be absent from these wells.
- EPTPC recommends annual groundwater sampling at wells MW-4, MW-5, MW-7, MW-8 (if possible), and MW-9.
- EPTPC recommends semi-annual water level measurements at all wells.



LEGEND

- ⊙ MW-1 Approximate Monitoring Well Location and Number
- Centerline of Road
- x-x- Fence Line
- //—//— Pipe Line
- 6040.00 Potentiometric Surface (Inferred Where Dashed)
- ➔ Direction of Groundwater Flow (Estimated)
- GWEL Groundwater Elevation (Feet Above Mean Sea Level Unless Otherwise Noted)
- TOC Top of Casing
- NS Not Sampled
- CR Water Level Corrected for Product
- B Benzene (µg/L)
- T Toluene (µg/L)
- E Ethylbenzene (µg/L)
- X Total Xylenes (µg/L)

	MW-1	MW-2	MW-4	MW-5
B	13,800	10,100	21,100	26,300
T	10,100	1,730	15,400	<100
E	2,260	1,200	1,560	914
X	21,200	12,700	17,000	1,590

- ⊙ MW-6 TOC=6113.47
GWEL=6041.53
CR
PRODUCT
NS
- TOC=6109.29
GWEL=6041.19
NS
- ⊙ MW-9



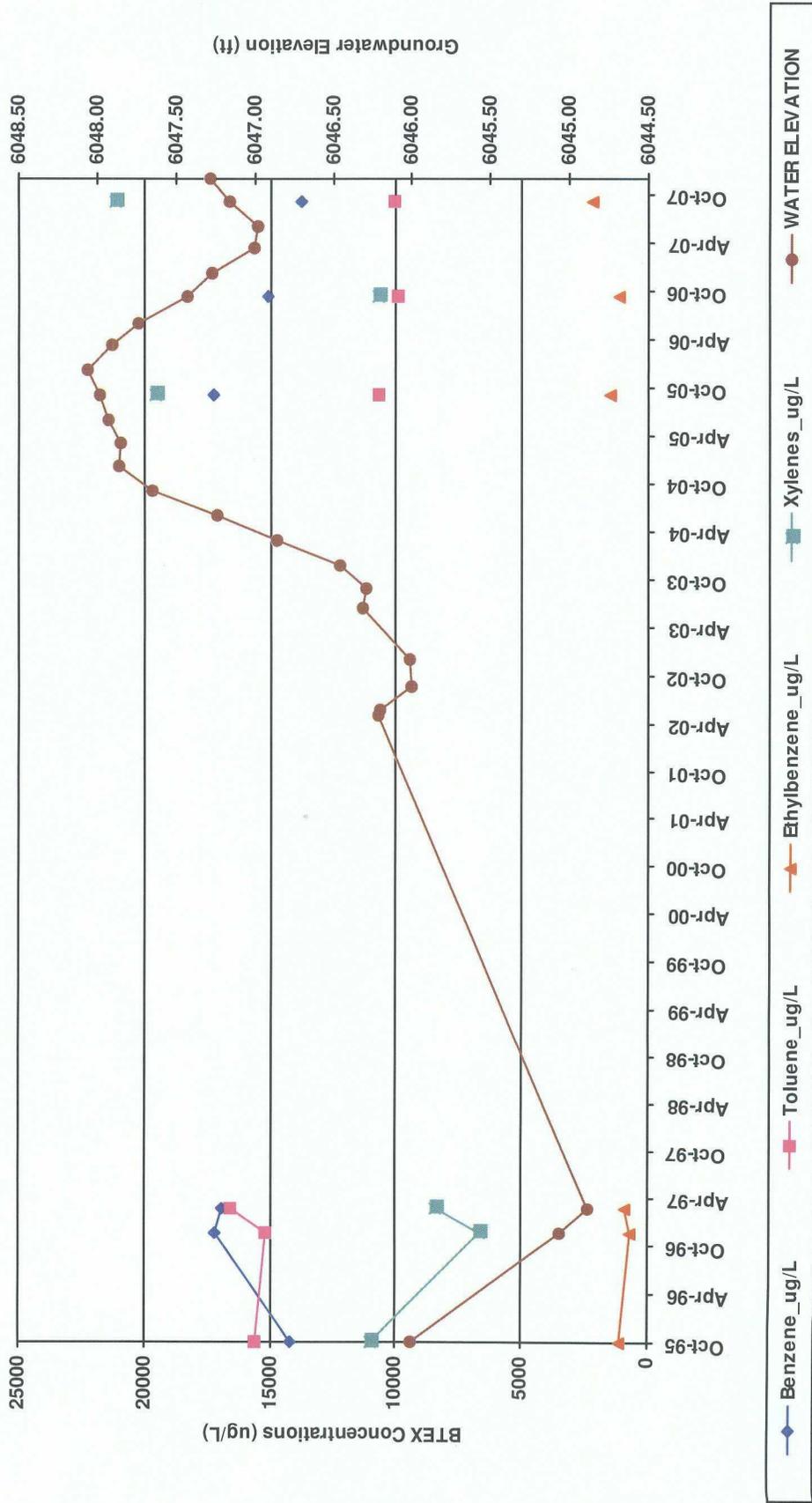
EL PASO TENNESSEE PIPELINE COMPANY
STATE GAS COM N#1, METER 71669

**GROUNDWATER POTENTIOMETRIC SURFACE
CONTOURS AND BTEX CONCENTRATIONS
SEPTEMBER 2007**

0	Issued for 2007 Report	09/07	D. Wade	N. Day	J. Smith
REV. No.	REVISIONS	REV. DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
PROJECT No.: 1005521.0601			AutoCAD FILE: hammond41a.dwg		
SCALE: As Shown			FIGURE No: 1		

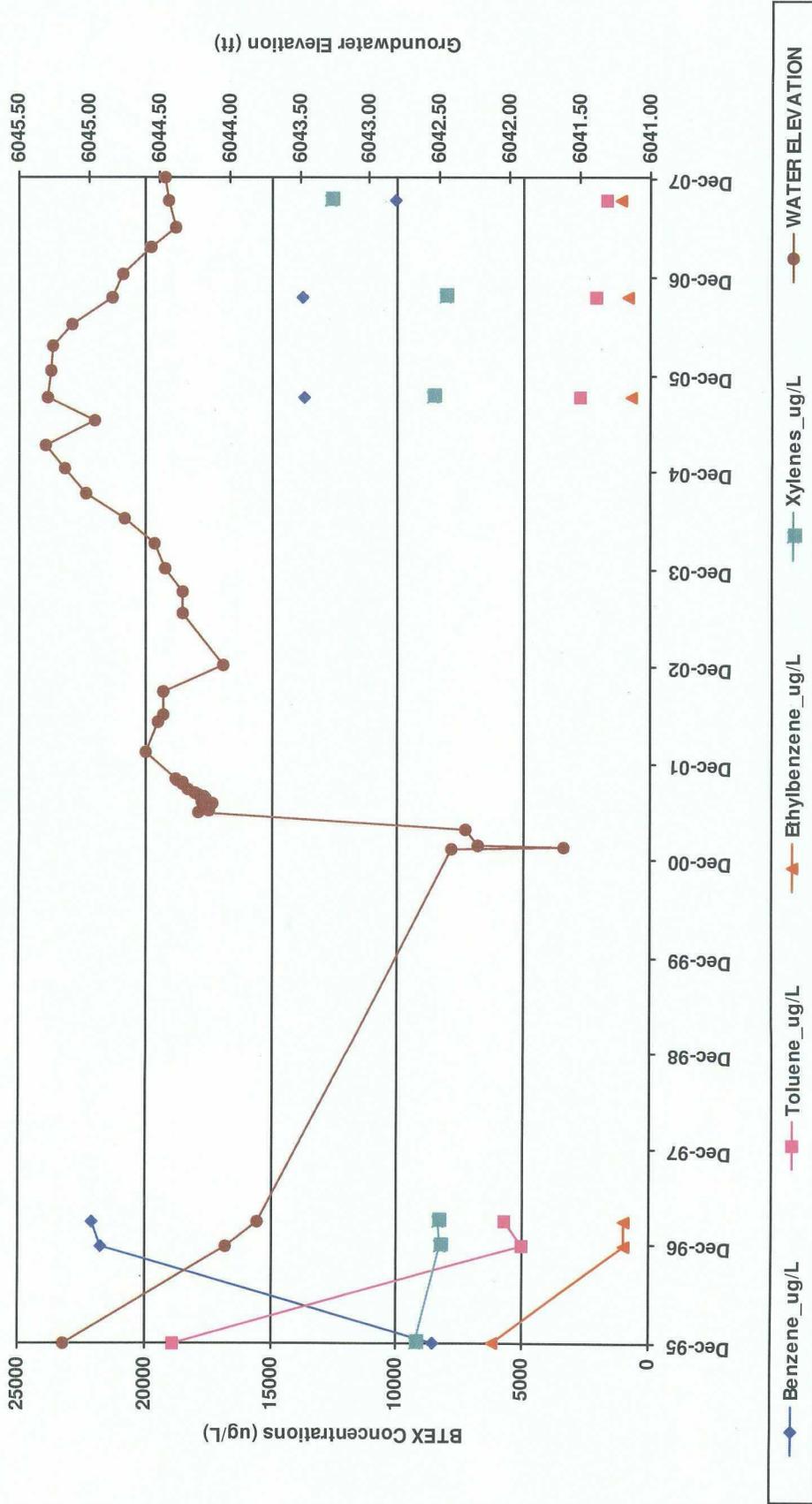


FIGURE 2
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 STATE GAS COM N #1 (METER #71669)
 MW01



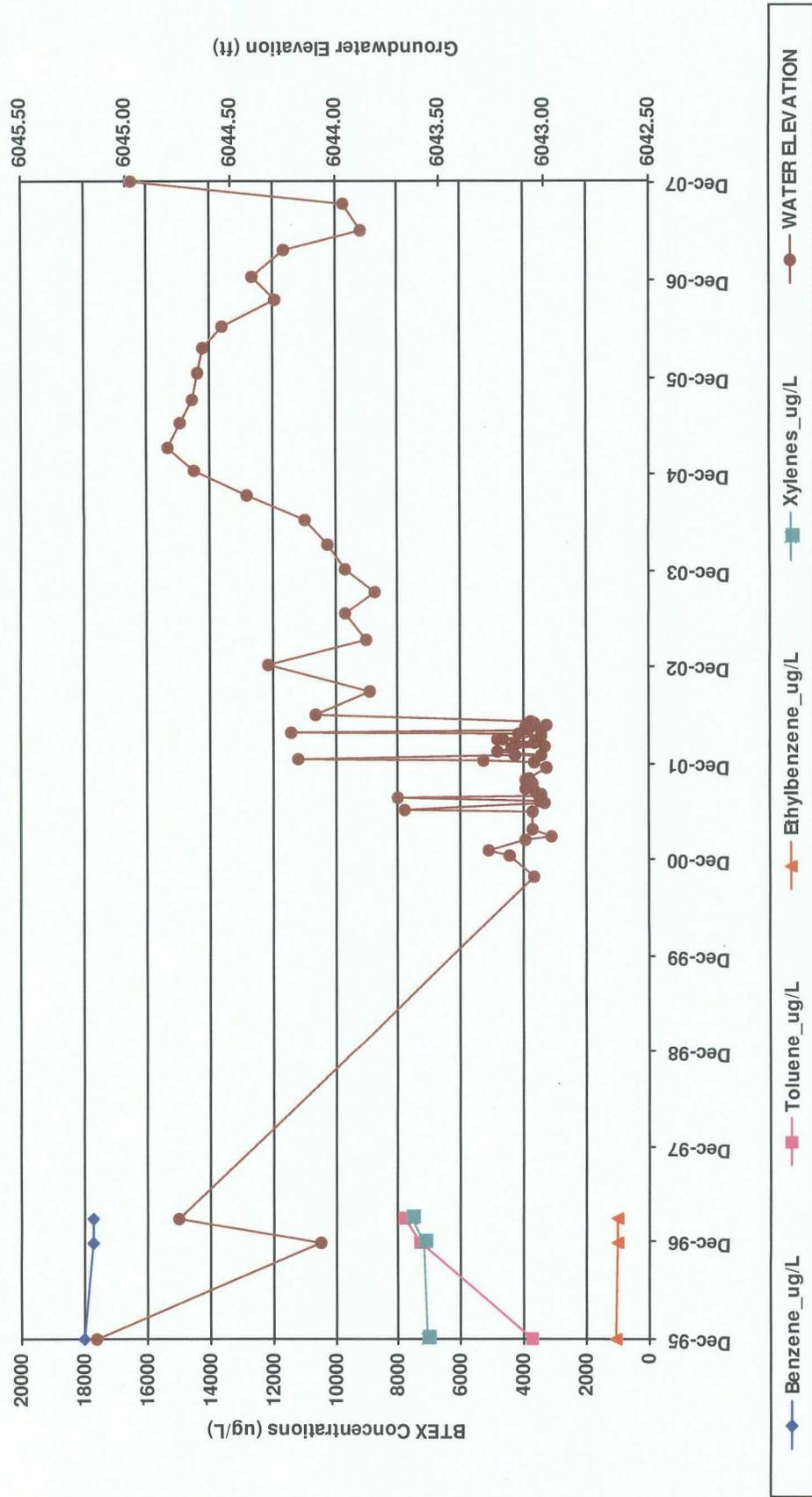
Note: Non Detects are represented by a value of 1.

FIGURE 3
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 STATE GAS COM N #1 (METER #71669)
 MW02



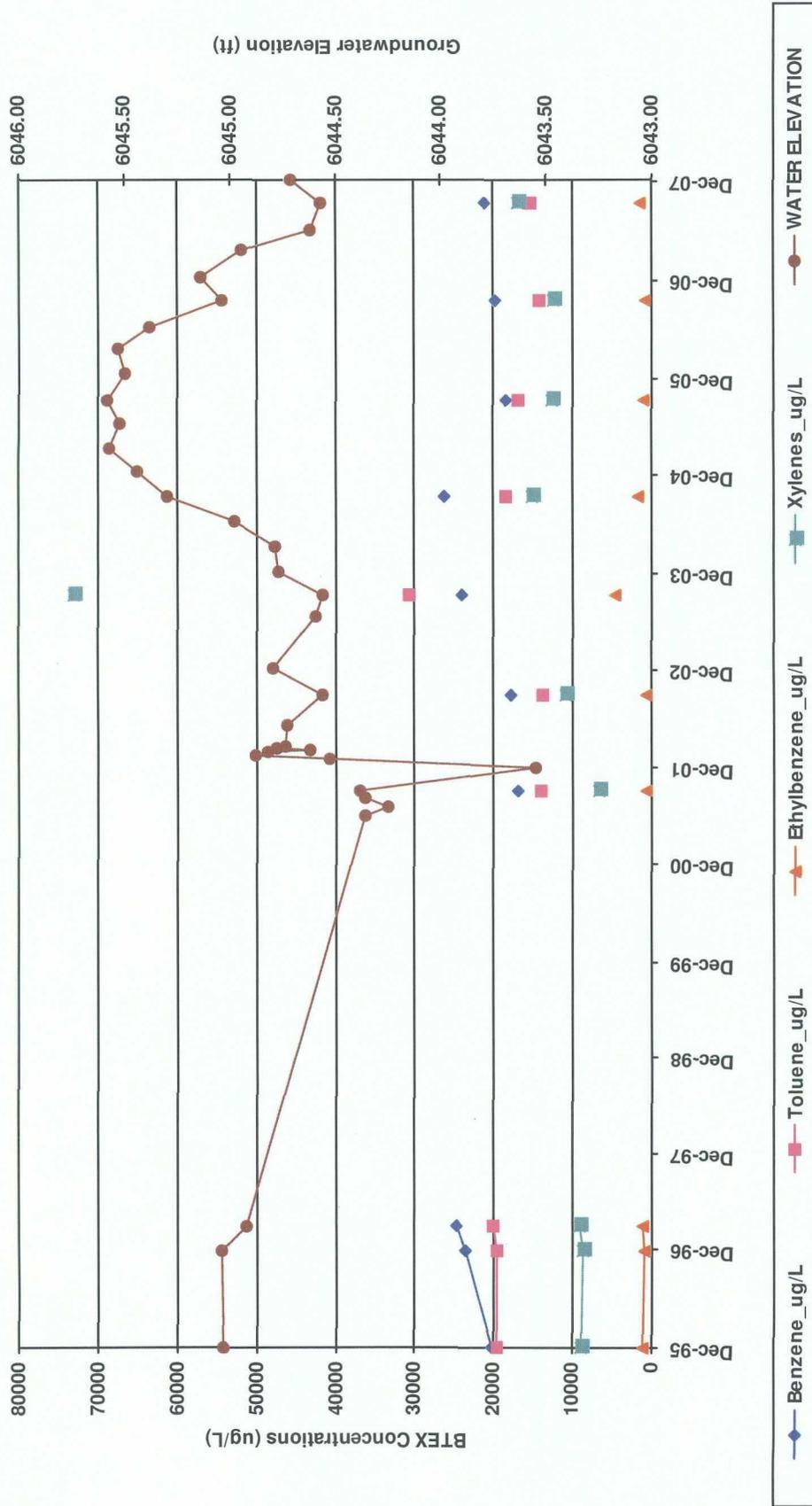
Note: Non Detects are represented by a value of 1.

FIGURE 4
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 STATE GAS COM N #1 (METER #71669)
 MW03



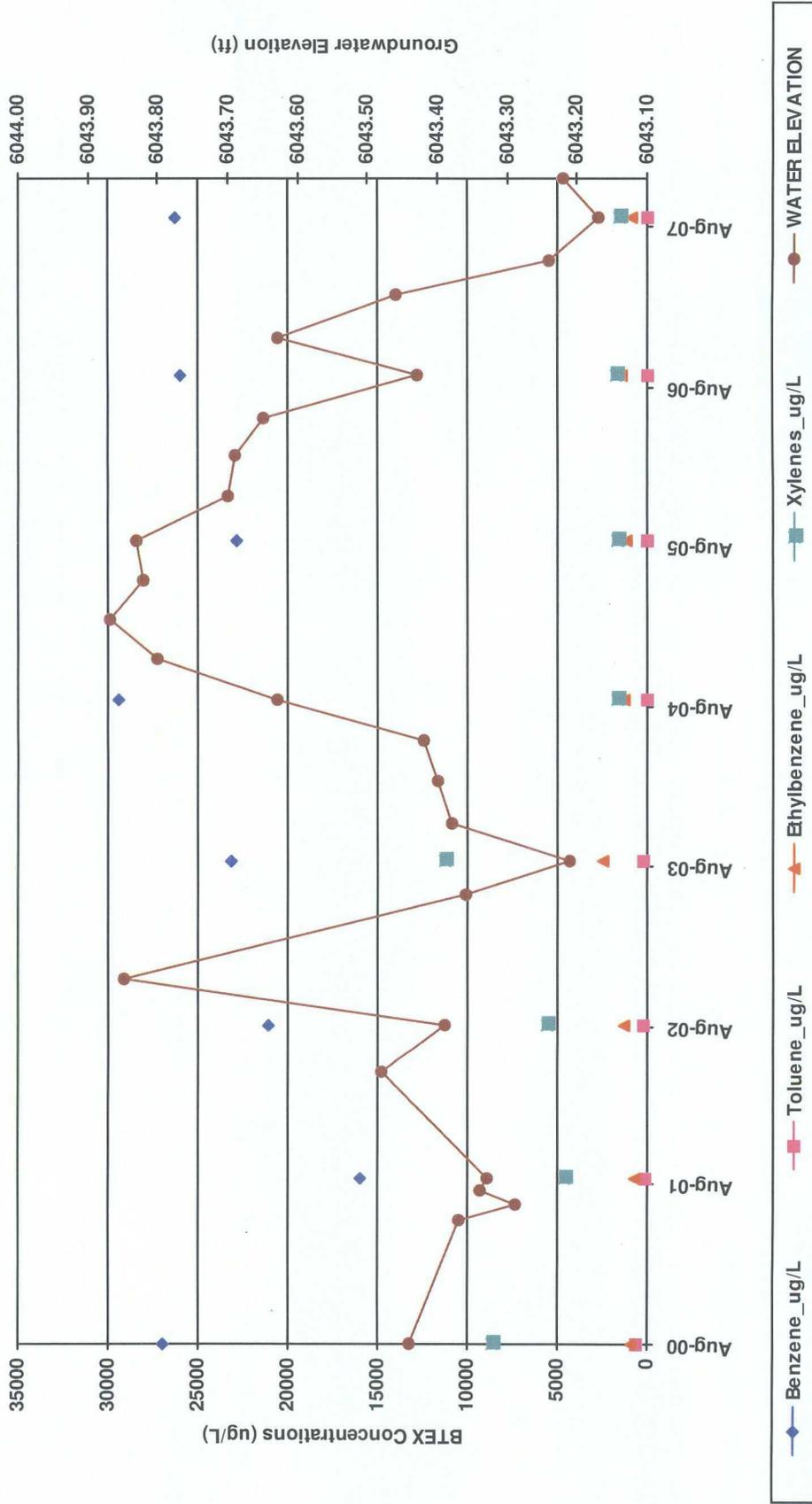
Note: Non Detects are represented by a value of 1.

FIGURE 5
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 STATE GAS COM N #1 (METER #71669)
 MW04



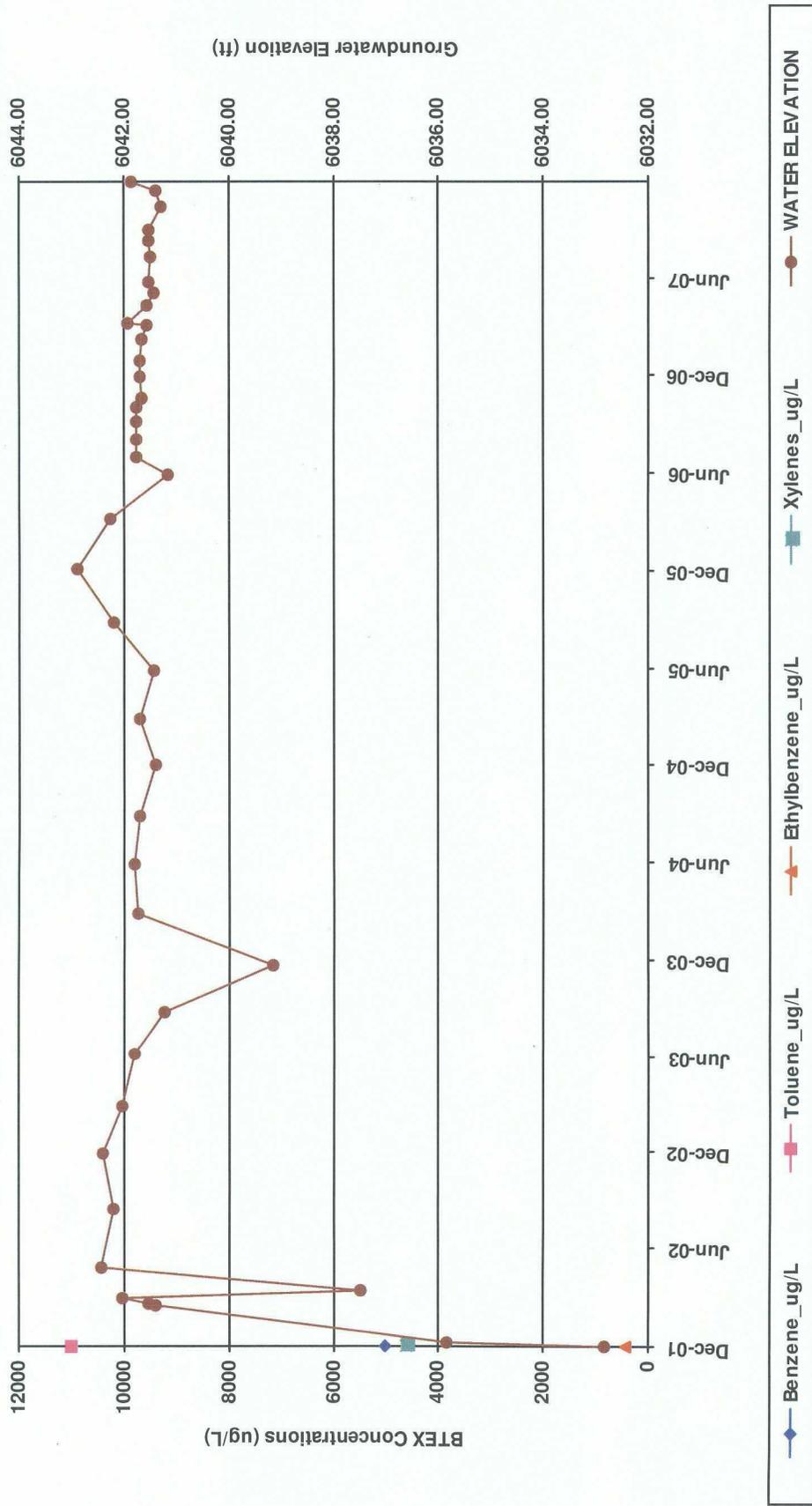
Note: Non Detects are represented by a value of 1.

FIGURE 6
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 STATE GAS COM N #1 (METER #71669)
 MW05



Note: Non Detects are represented by a value of 1.

FIGURE 7
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 STATE GAS COM N #1 (METER #71669)
 MW06



Note: Non Detects are represented by a value of 1.

FIGURE 8
 SUMMARY OF FREE-PRODUCT REMOVAL
 STATE GAS COM N #1 (METER #71669)
 MW01

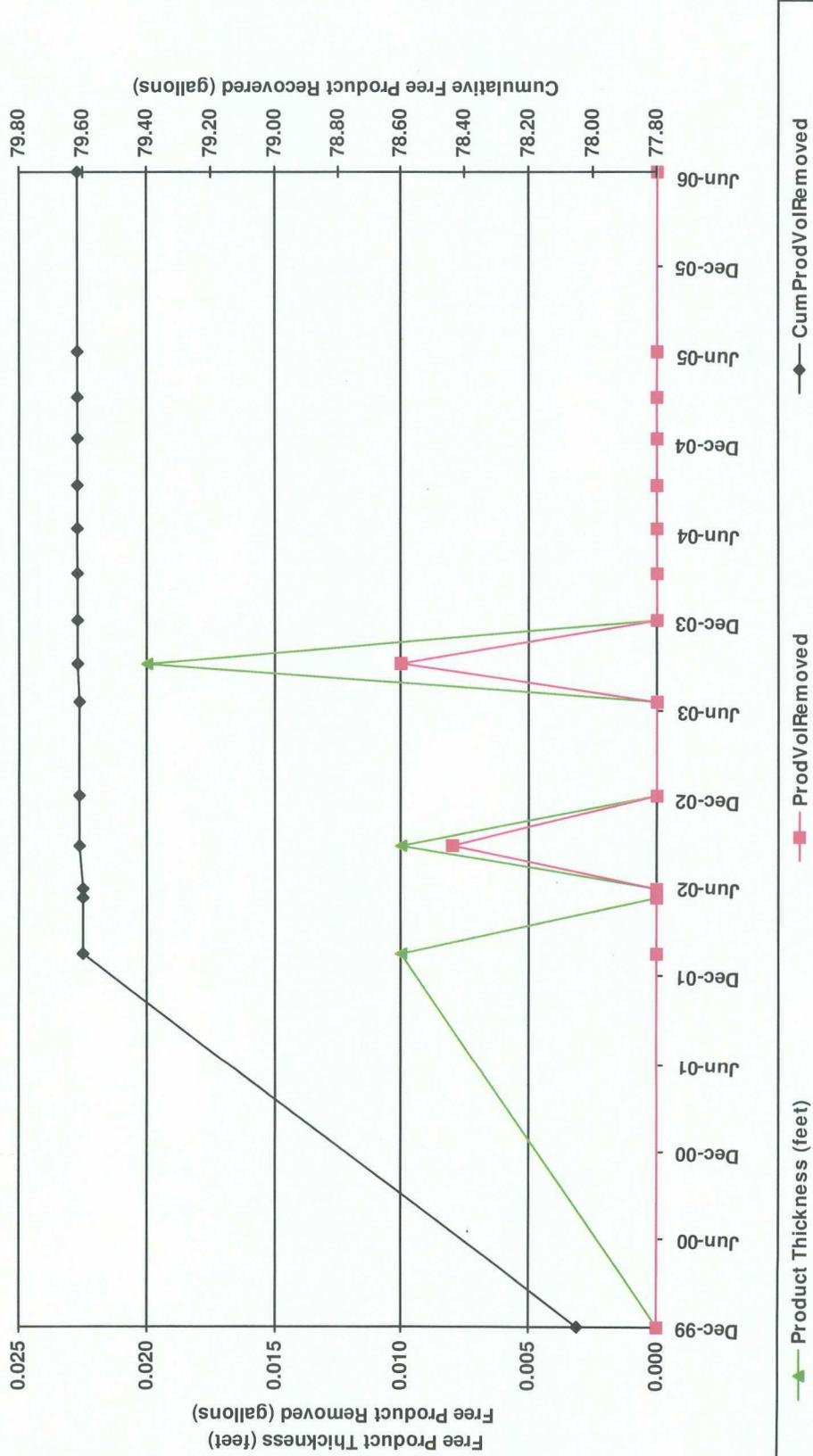


FIGURE 9
 SUMMARY OF FREE-PRODUCT REMOVAL
 STATE GAS COM N #1 (METER #71669)
 MW02

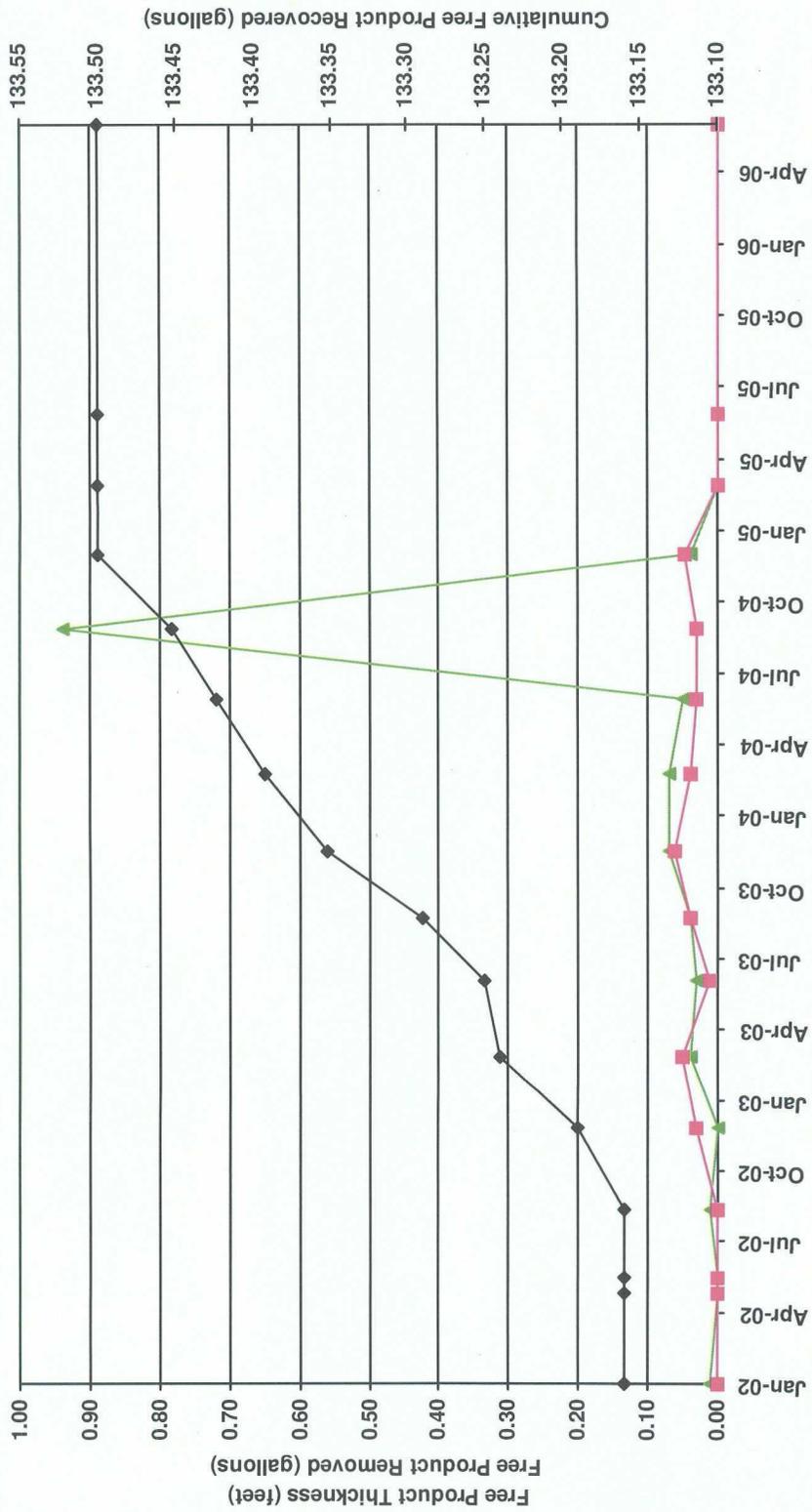


FIGURE 10
 SUMMARY OF FREE-PRODUCT REMOVAL
 STATE GAS COM N #1 (METER #71669)
 MW03

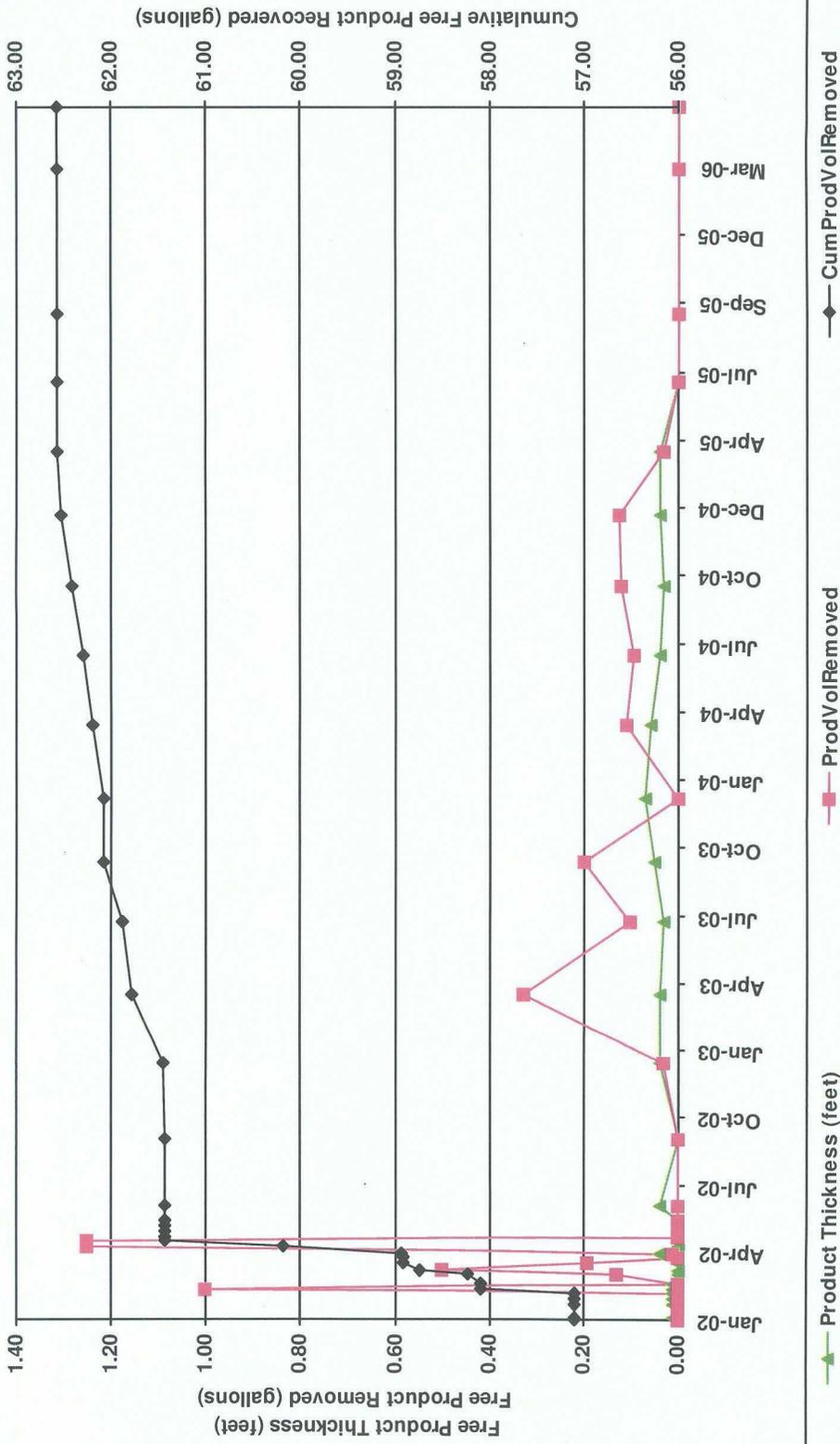


FIGURE 11
 SUMMARY OF FREE-PRODUCT REMOVAL
 STATE GAS COM N #1 (METER #71669)
 MW06

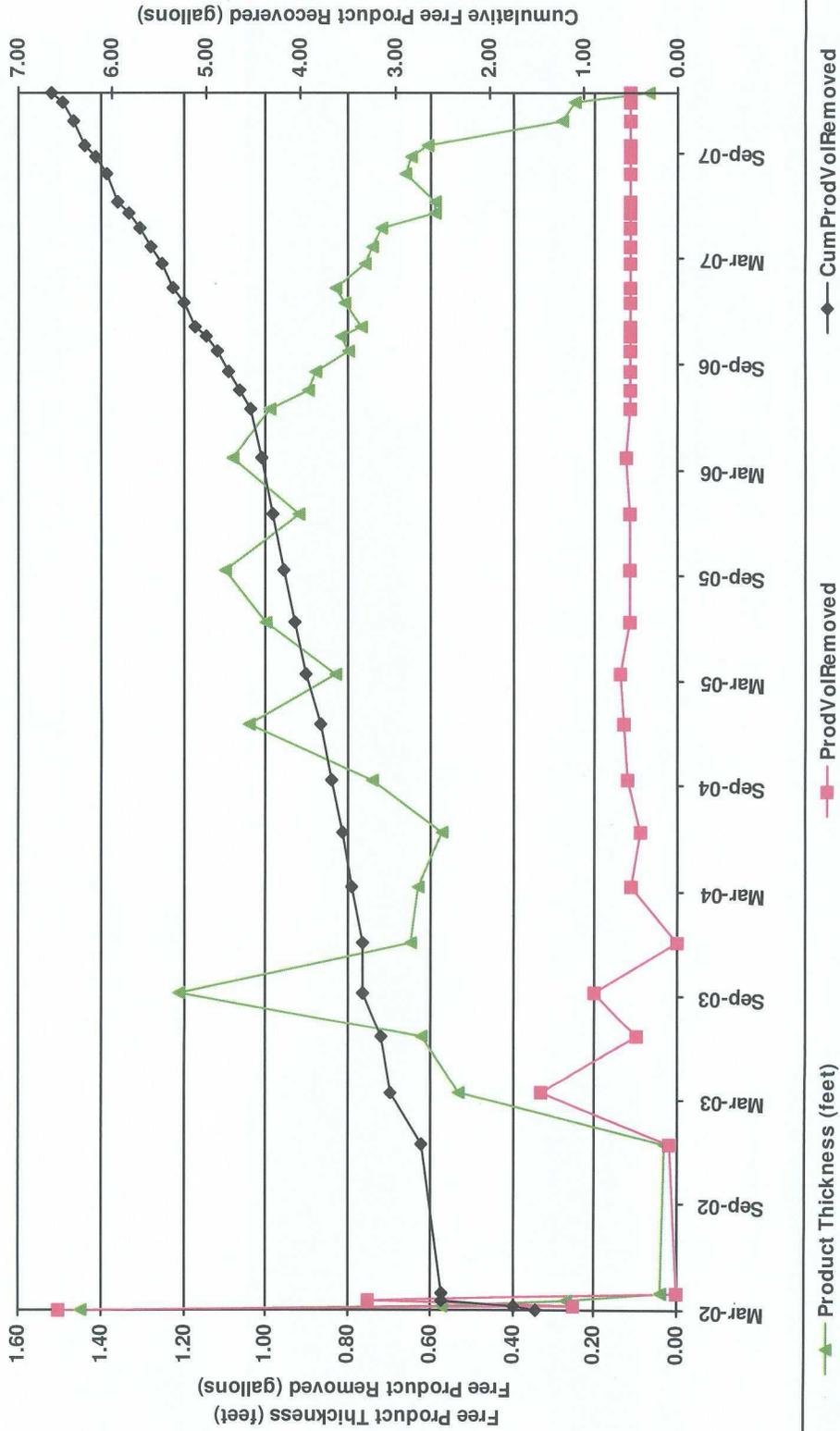


TABLE 1

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

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW01	10/17/1995	14200	15600	1090	11000	76.08
	12/3/1996	17200	15200	673	6670	77.02
	3/7/1997	16900	16600	904	8420	77.20
	9/15/2005	17300	10700	1560	19600	74.09
	9/27/2006	15100	9990	1150	10700	74.65
	9/18/2007	13800	10100	2260	21200	74.92
MW02	12/7/1995	8540	18900	6230	9240	75.50
	12/3/1996	21700	5000	967	8310	76.66
	3/7/1997	22100	5680	992	8360	76.88
	9/15/2005	13700	2770	762	8610	75.38
	9/27/2006	13800	2150	880	8130	75.85
	9/18/2007	10100	1730	1200	12700	76.24
MW03	12/7/1995	18000	3760	1050	7070	75.03
	12/3/1996	17700	7310	983	7200	76.10
	3/7/1997	17700	7780	1020	7550	75.42
MW04	12/7/1995	20300	19600	1040	8880	75.81
	12/3/1996	23600	19600	1000	8600	75.80
	3/7/1997	24800	20100	1040	9080	75.92
	9/10/2001	17000	14000	610	6700	76.45
	9/4/2002	17800	13900	750	10870	76.28
	9/14/2003	24000	30800	4670	73200	76.28
	9/16/2004	26300	18500	1870	15200	75.54
	9/15/2005	18600	16900	1120	12800	75.26
	9/27/2006	19800	14200	978	12500	75.80
9/18/2007	21100	15400	1560	17000	76.27	
MW05	8/30/2000	27000	570	930	8600	74.19
	9/10/2001	16000	100	720	4600	74.30
	9/4/2002	21100	190	1310	5560	74.24
	9/14/2003	23100	157	2480	11300	74.42
	9/16/2004	29400	25	1320	1690	74.00
	9/15/2005	22800	14	1160	1620	73.80
	9/27/2006	26000	1	1440	1800	74.20
	9/18/2007	26300	1	914	1590	74.46
MW06	12/20/2001	5000	11000	420	4600	80.63

Note: Non Detects are represented by a value of 1.

TABLE 2

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

Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Volume of Product Removed (gallons)
MW01	12/8/1999	0	0	0	0.00	78.05
	1/23/2002	76.07	76.08	0.01	0.00	79.60
	5/17/2002	0	76.17	0	0.00	79.60
	6/7/2002	0	76.21	0	0.00	79.60
	9/4/2002	76.2	76.21	0.01	0.01	79.61
	12/17/2002	0	76.63	0	0.00	79.61
	6/26/2003	0	75.76	0	0.00	79.61
	9/14/2003	75.77	75.79	0.02	0.01	79.62
	12/9/2003	0	75.62	0	0.00	79.62
	3/15/2004	0	75.22	0	0.00	79.62
	6/17/2004	0	74.84	0	0.00	79.62
	9/16/2004	0	74.43	0	0.00	79.62
	12/20/2004	0	74.21	0	0.00	79.62
	3/17/2005	0	74.225	0	0.00	79.62
	6/17/2005	0	74.15	0	0.00	79.62
	6/19/2006	0	74.34	0	0.00	79.62
MW02	1/23/2002	76.07	76.08	0.01	0.00	133.16
	5/17/2002	0	76.17	0	0.00	133.16
	6/7/2002	0	76.21	0	0.00	133.16
	9/4/2002	76.2	76.21	0.01	0.00	133.16
	12/17/2002	0	76.63	0	0.03	133.19
	3/20/2003	76.28	76.32	0.04	0.05	133.24
	6/26/2003	76.19	76.22	0.03	0.01	133.25
	9/14/2003	76.31	76.35	0.04	0.04	133.29
	12/9/2003	76.15	76.22	0.07	0.06	133.35
	3/15/2004	76.07	76.14	0.07	0.04	133.39
	6/17/2004	75.93	75.98	0.05	0.03	133.42
	9/16/2004	75.72	76.66	0.94	0.03	133.45
	12/20/2004	75.46	75.5	0.04	0.05	133.50
	3/17/2005	0	75.37	0	0.00	133.50
	6/17/2005	0	75.72	0	0.00	133.50
	6/19/2006	0	75.56	0	0.00	133.50
MW03	1/4/2002	0	77.03	0	0.00	57.10
	1/7/2002	77.14	77.15	0.01	0.00	57.10
	1/23/2002	76.93	76.94	0.01	0.00	57.10
	1/31/2002	77	77.01	0.01	0.00	57.10
	2/7/2002	77.16	77.17	0.01	0.00	57.10
	2/14/2002	77.02	77.03	0.01	1.00	58.10

TABLE 2

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

Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Volume of Product Removed (gallons)
MW03	2/20/2002	77.11	77.12	0.01	0.00	58.10
	3/6/2002	0	76.97	0	0.13	58.23
	3/11/2002	0	76.94	0	0.50	58.73
	3/21/2002	0	77.15	0	0.19	58.92
	3/28/2002	0	77.04	0	0.00	58.92
	4/3/2002	75.95	75.99	0.04	0.01	58.93
	4/12/2002	0	77.15	0	1.25	60.18
	4/19/2002	0	77.09	0	1.25	61.43
	4/25/2002	0	77.08	0	0.00	61.43
	5/3/2002	0	77.18	0	0.00	61.43
	5/10/2002	0	77.12	0	0.00	61.43
	5/17/2002	0	77.1	0	0.00	61.43
	6/7/2002	76.03	76.07	0.04	0.00	61.43
	9/4/2002	0	76.33	0	0.00	61.43
	12/17/2002	75.81	75.85	0.04	0.03	61.46
	3/20/2003	76.28	76.32	0.04	0.33	61.79
	6/26/2003	76.19	76.22	0.03	0.10	61.89
	9/14/2003	76.31	76.36	0.05	0.20	62.09
	12/9/2003	76.15	76.22	0.07	0.00	62.09
	3/15/2004	76.07	76.13	0.06	0.11	62.20
	6/17/2004	75.98	76.02	0.04	0.09	62.29
	9/16/2004	75.72	75.75	0.03	0.12	62.41
	12/20/2004	75.46	75.5	0.04	0.13	62.54
	3/17/2005	75.39	75.43	0.04	0.03	62.57
	6/17/2005	0	75.43	0	0.00	62.57
	9/15/2005	0	75.49	0	0.00	62.57
	3/27/2006	0	75.54	0	0.00	62.57
6/19/2006	0	75.63	0	0.00	62.57	
MW06	3/6/2002	70.64	72.09	1.45	1.50	1.50
	3/11/2002	71.38	71.95	0.57	0.25	1.75
	3/21/2002	71.17	71.44	0.27	0.75	2.50
	4/3/2002	75.95	75.99	0.04	0.00	2.50
	12/17/2002	71.03	71.06	0.03	0.02	2.72
	3/20/2003	70.9	71.43	0.53	0.33	3.05
	6/26/2003	71.04	71.66	0.62	0.10	3.15
	9/14/2003	71.04	72.25	1.21	0.20	3.35
	12/9/2003	71.1	71.75	0.65	0.00	3.35
	3/15/2004	71.11	71.74	0.63	0.11	3.46
	6/17/2004	71.11	71.68	0.57	0.09	3.55

TABLE 2

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

Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Volume of Product Removed (gallons)
MW06	9/16/2004	71.05	71.79	0.74	0.12	3.67
	12/20/2004	71.05	72.09	1.04	0.13	3.80
	3/17/2005	70.96	71.79	0.83	0.14	3.94
	6/17/2005	71.05	72.05	1.00	0.12	4.06
	9/15/2005	71.04	72.14	1.10	0.12	4.17
	12/22/2005	71.3	72.22	0.92	0.12	4.29
	3/27/2006	71.02	72.1	1.08	0.13	4.42
	6/19/2006	71.34	72.33	0.99	0.12	4.53
	7/21/2006	71.54	72.44	0.90	0.12	4.65
	8/24/2006	71.54	72.42	0.88	0.12	4.77
	9/27/2006	71.57	72.37	0.80	0.12	4.89
	10/22/2006	71.53	72.35	0.82	0.12	5.00
	11/7/2006	71.66	72.43	0.77	0.12	5.12
	12/20/2006	71.6	72.41	0.81	0.12	5.24
	1/16/2007	71.62	72.45	0.83	0.12	5.35
	2/26/2007	71.65	72.41	0.76	0.12	5.47
	3/26/2007	71.76	72.5	0.74	0.12	5.59
	4/30/2007	71.77	72.49	0.72	0.12	5.71
	5/24/2007	71.91	72.5	0.59	0.12	5.82
	6/14/2007	71.83	72.42	0.59	0.12	5.94
	7/31/2007	71.83	72.49	0.66	0.12	6.06
	8/29/2007	71.82	72.47	0.65	0.12	6.17
	9/18/2007	71.82	72.43	0.61	0.12	6.29
	10/31/2007	72.12	72.4	0.28	0.12	6.41
11/30/2007	72.02	72.27	0.25	0.12	6.53	
12/17/2007	72.11	72.18	0.07	0.12	6.64	