

3R - 205

**ANNUAL
MONITORING
REPORT**

04/02/2008



MWH

BUILDING A BETTER WORLD

RECEIVED

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.

OGRW 227654
181398



EPTPC GROUNDWATER SITES
2007 ANNUAL GROUNDWATER REPORT

3R205

K-31 Line Drip
Meter Code: LD087

SITE DETAILS

Legal Description: Town: 25N Range: 6W Sec: 16 Unit: N
NMOCD Haz Ranking: 40 Land Type: State Operator: Enterprise

PREVIOUS ACTIVITIES

Site Assessment:	7/94	Excavation:	8/94 (90 cy)	Soil Boring:	9/95
Monitor Well:	3/97	Geoprobe:	7/97	Additional MWs:	7/00
Downgradient MWs:	7/00	Replace MW:	NA	Quarterly Initiated:	6/97
ORC Nutrient Injection:	11/02	Re-Excavation:	11/95 (1786 cy)	PSH Removal Initiated:	NA
Annual Initiated:	6/99	Quarterly Resumed:	NA	PSH Removal in 2007?	No

SUMMARY OF 2007 ACTIVITIES

MW-1: Water level monitoring was performed in June and December 2007.

MW-2: Groundwater sampling and water level monitoring were performed during June and December 2007.

MW-3: Water level monitoring was performed in June and December 2007.

MW-4: Groundwater sampling and water level monitoring were performed during June and December 2007.

MW-5: Groundwater sampling and water level monitoring were performed during June and December 2007.

Site-Wide Activities: All wells were surveyed in January 2007, in conjunction with the new well installations in late 2006.

SITE MAP

Site maps (June and December 2007) are attached as Figures 1 and 2.

SUMMARY TABLES AND GRAPHS

- Analytical data are summarized in Table 1 and presented graphically in Figures 3 through 7.

**EPTPC GROUNDWATER SITES
2007 ANNUAL GROUNDWATER REPORT**

**K-31 Line Drip
Meter Code: LD087**

- Laboratory reports are 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 during 2007.

DISPOSITION OF GENERATED WASTES

All purge water was taken to the El Paso Natural Gas Rio Vista Compressor Station.

ISOCONCENTRATION MAPS

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

CONCLUSIONS

- Based on water level data collected between 2001 and 2007, the hydraulic gradient at this Site is extremely flat, and the groundwater flow direction appears to be northerly.
- In November 2002, oxygen releasing compound (ORC) slurry was injected into the subsurface near MW-2. The pre-injection benzene concentrations in MW-2 were 230 and 104 µg/L in March and September 2002, respectively. In 2007, benzene concentrations were 502 µg/L in June and 10.2 µg/L in December 2007. These data indicate that long-term attenuation is continuing; however, wide fluctuations appear to be possible with varying water levels in this well.
- The samples collected from new monitoring well MW-4 had benzene concentrations of 99.8 µg/L and 70.1 µg/L, in June and December 2007, respectively. All other BTEX components were below their respective NMWQCC standards.
- All BTEX compounds in the sample collected from new monitoring well MW-5 in June 2007 were below NMWQCC standards. However, in the December sample results, benzene spiked up to 87.0 µg/L.

RECOMMENDATIONS

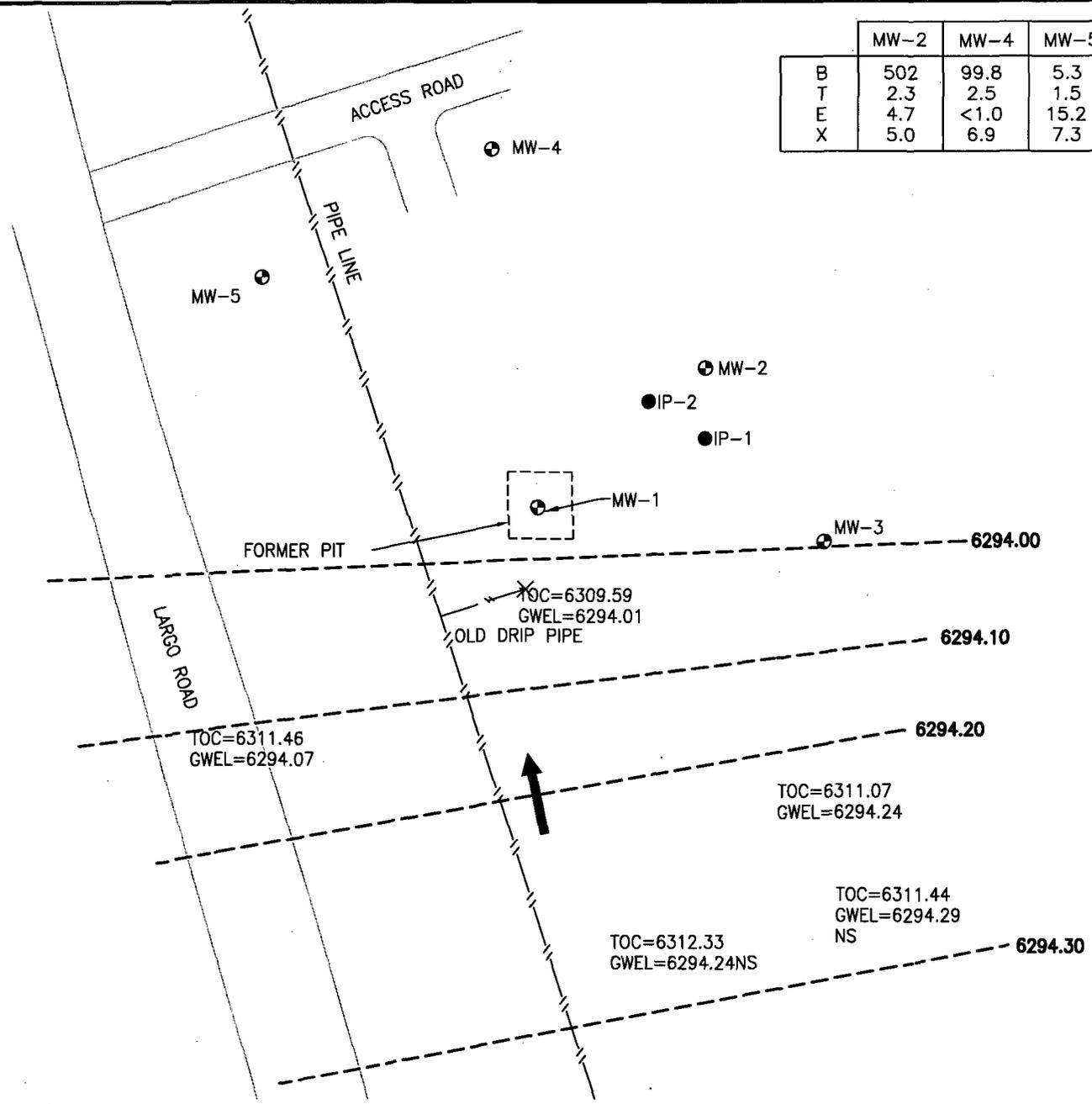
- Because sampling at MW-1 has indicated BTEX concentrations below detection limits for four consecutive quarters, EPTPC recommends that this well not be sampled until closure samples are collected.

**EPTPC GROUNDWATER SITES
2007 ANNUAL GROUNDWATER REPORT**

**K-31 Line Drip
Meter Code: LD087**

- EPTPC will continue to sample MW-2 on a semi-annual basis until BTEX concentrations approach closure standards. Quarterly sampling will then be initiated.
- Because sampling at MW-3 has indicated BTEX concentrations below detection limits, EPTPC recommends that this well not be sampled until closure samples are collected.
- EPTPC recommends that new monitoring wells MW-4 and MW-5 be sampled in conjunction with MW-2.

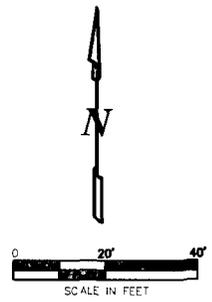
	MW-2	MW-4	MW-5
B	502	99.8	5.3
T	2.3	2.5	1.5
E	4.7	<1.0	15.2
X	5.0	6.9	7.3



LEGEND

- ⊕ MW-1 Monitoring Well Location and Number
- NS Not Sampled.
- TOC Top of Casing, Re-Surveyed January, 2007.
- IP-1 ORC Injection point.
- ➔ Direction of Groundwater Flow
- GWEL Groundwater Elevation, (Ft Above Mean Sea Level)

- Road
- - - - - Pipe Line
- - - - - 6294.00 Potentiometric Surface (Inferred where dashed)
- < Not Detected. Value Shown is Detection Limit.
- B Benzene (µg/L)
- T Toluene (µg/L)
- E Ethylbenzene (µg/L)
- X Total Xylenes (µg/L)



0	Issued to Report	06-07	J.Hurley	N.Day	J.Smith
REV. No.	REVISIONS	REV. DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
PROJECT No.: 1005521.0601					
AutoCAD FILE: K-31-LD					
SCALE: As Shown			FIGURE No: 1		



EL PASO TENNESSEE PIPELINE COMPANY
K-31 LINE DRIP, LD087

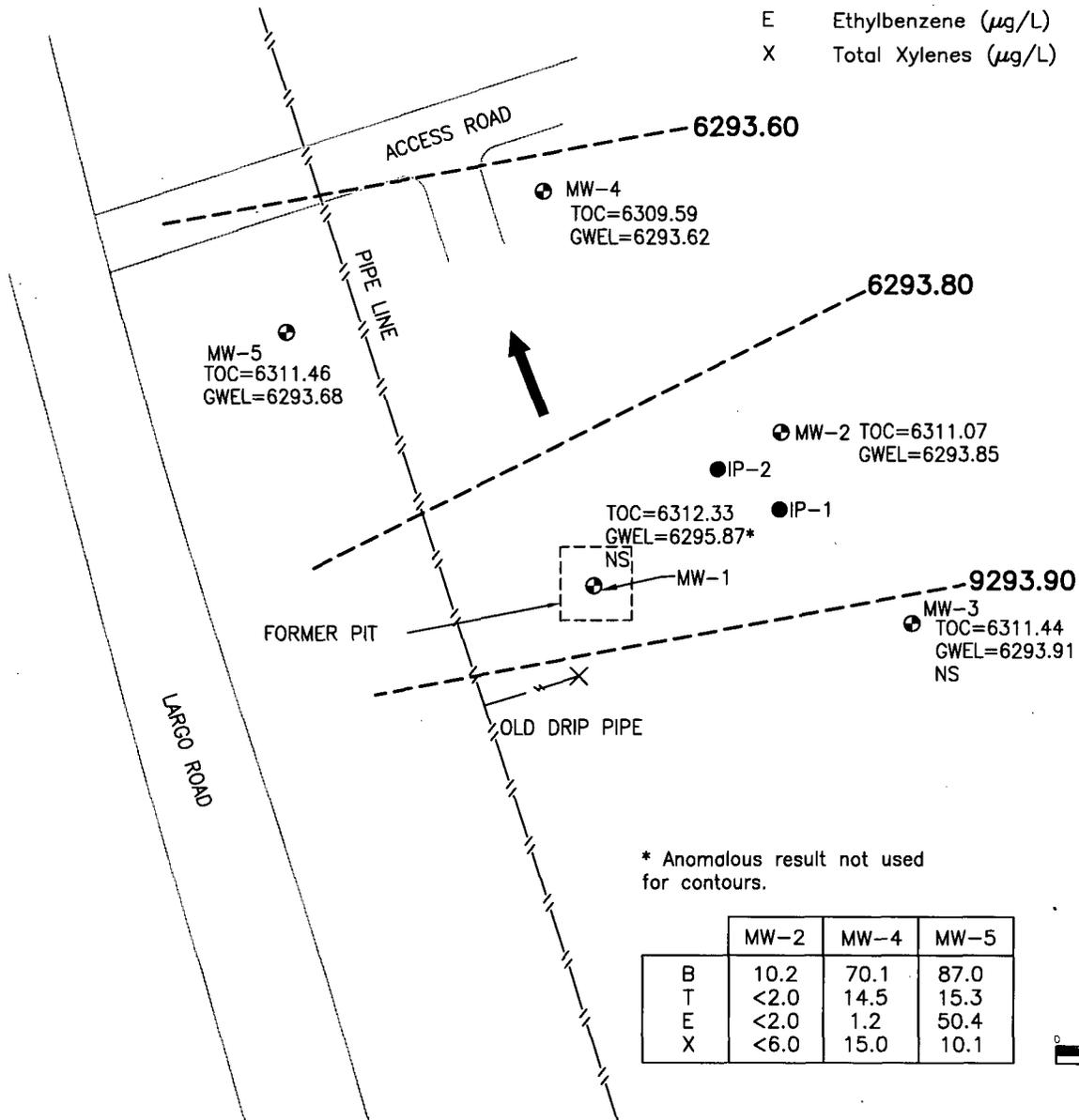
**GROUNDWATER POTENTIOMETRIC SURFACE
CONTOURS AND BTEX CONCENTRATIONS
JUNE 2007**



LEGEND

-  DOG LEG
-  Road
-  Pipe Line
-  Potentiometric Surface (Inferred where dashed)

-  MW-1 Monitoring Well Location and Number
- NS Not Sampled.
- TOC Top of Casing,
-  IP-1 ORC Injection point.
-  Direction of Groundwater Flow
- GWEL Groundwater Elevation, (Ft Above Mean Sea Level)
- < Not Detected. Value Shown is Detection Limit.
- B Benzene ($\mu\text{g/L}$)
- T Toluene ($\mu\text{g/L}$)
- E Ethylbenzene ($\mu\text{g/L}$)
- X Total Xylenes ($\mu\text{g/L}$)



1	Issued for Report	12/07	D.Wade	N.Day	J.Smith
0	Issued to Report	06-07	J.Hurley	N.Day	J.Smith
REV. No.	REVISIONS	REV. DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
PROJECT No.: 1005521.01/01			AutoCAD FILE: k-31-ld-1207		
SCALE: As Shown			FIGURE No: 2		

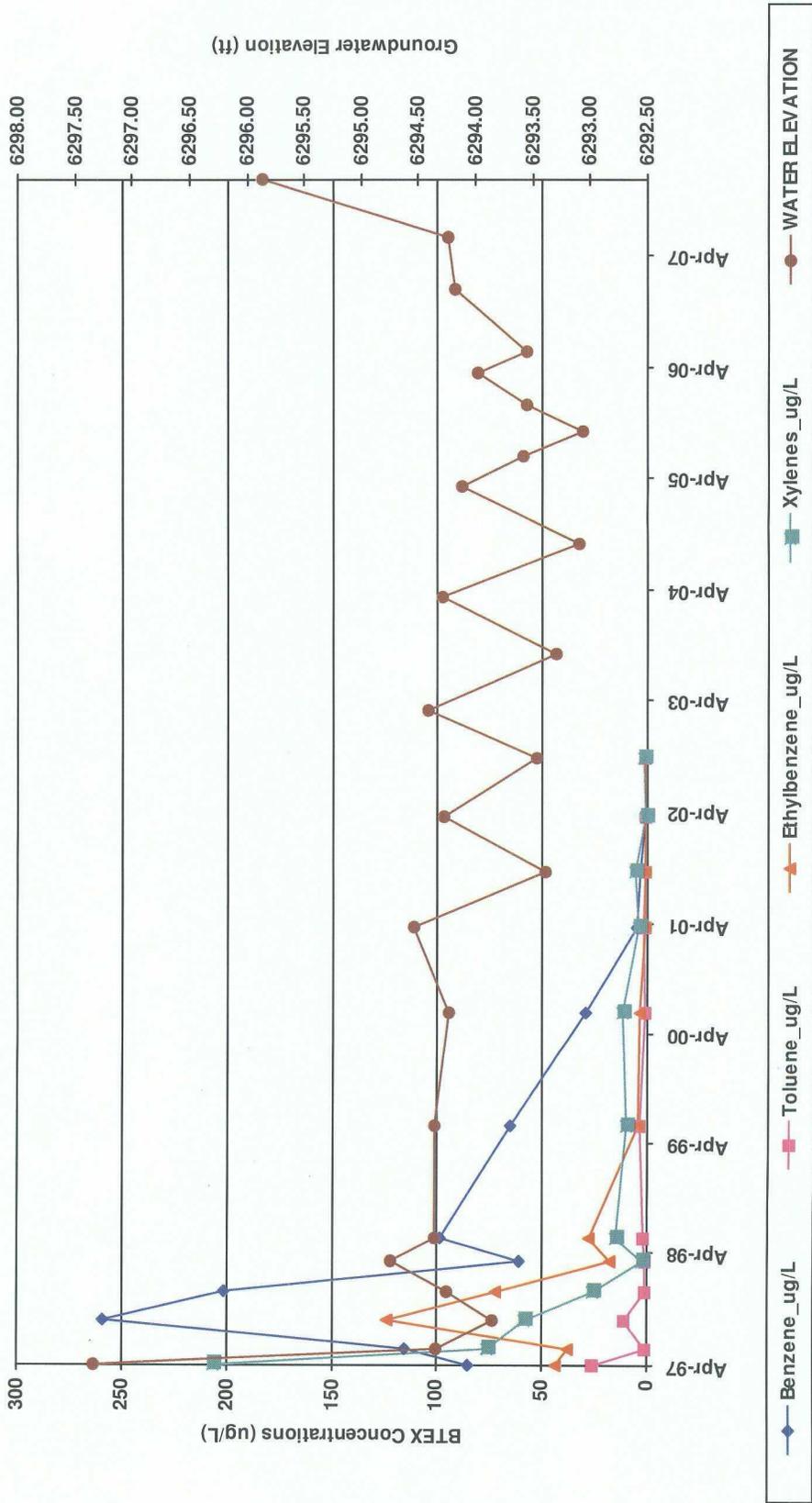


EL PASO TENNESSEE PIPELINE COMPANY
K-31 LINE DRIP, LD087

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

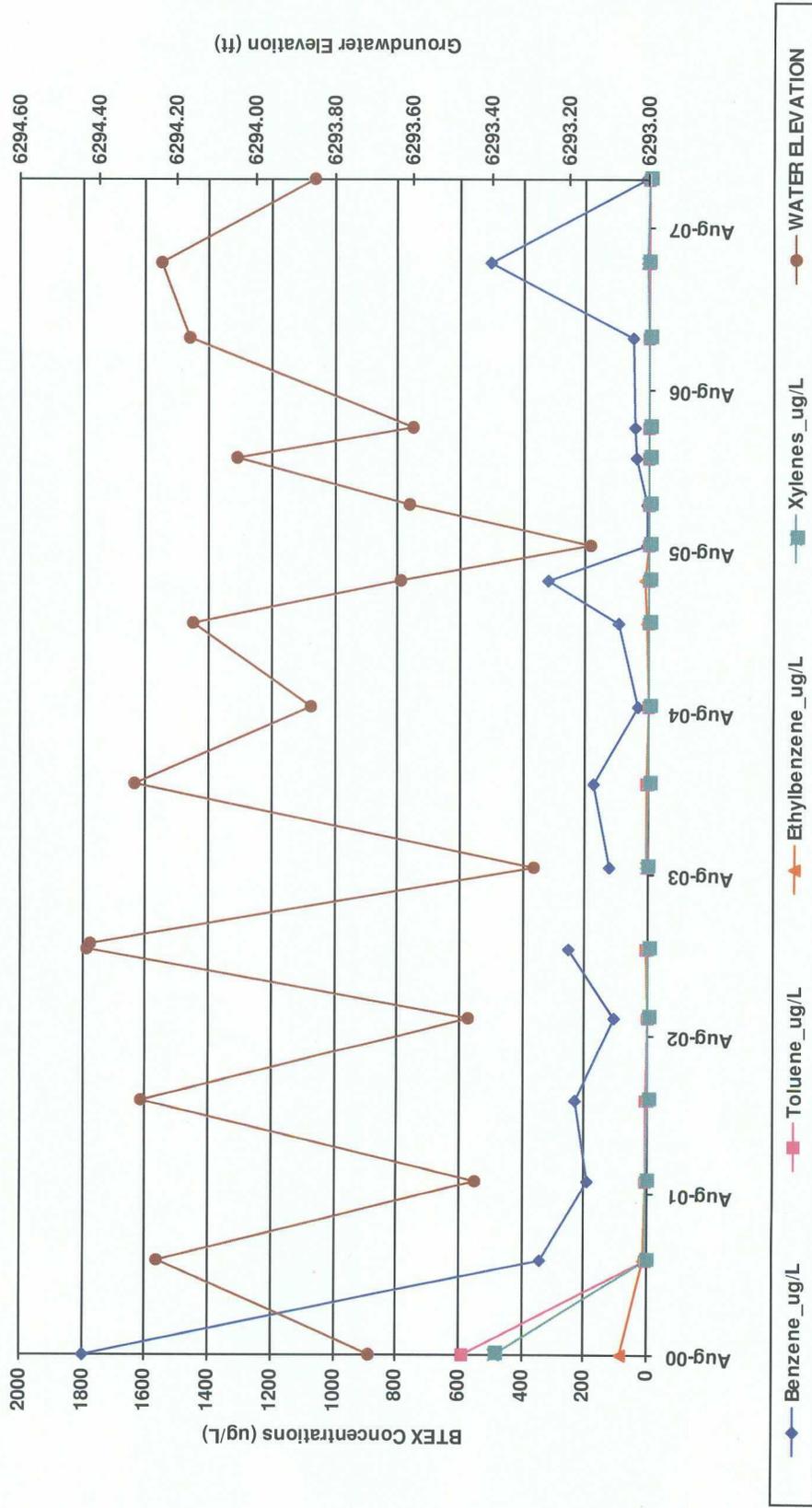


FIGURE 3
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 K-31 LINE DRIP (METER #LD087)
 MW01



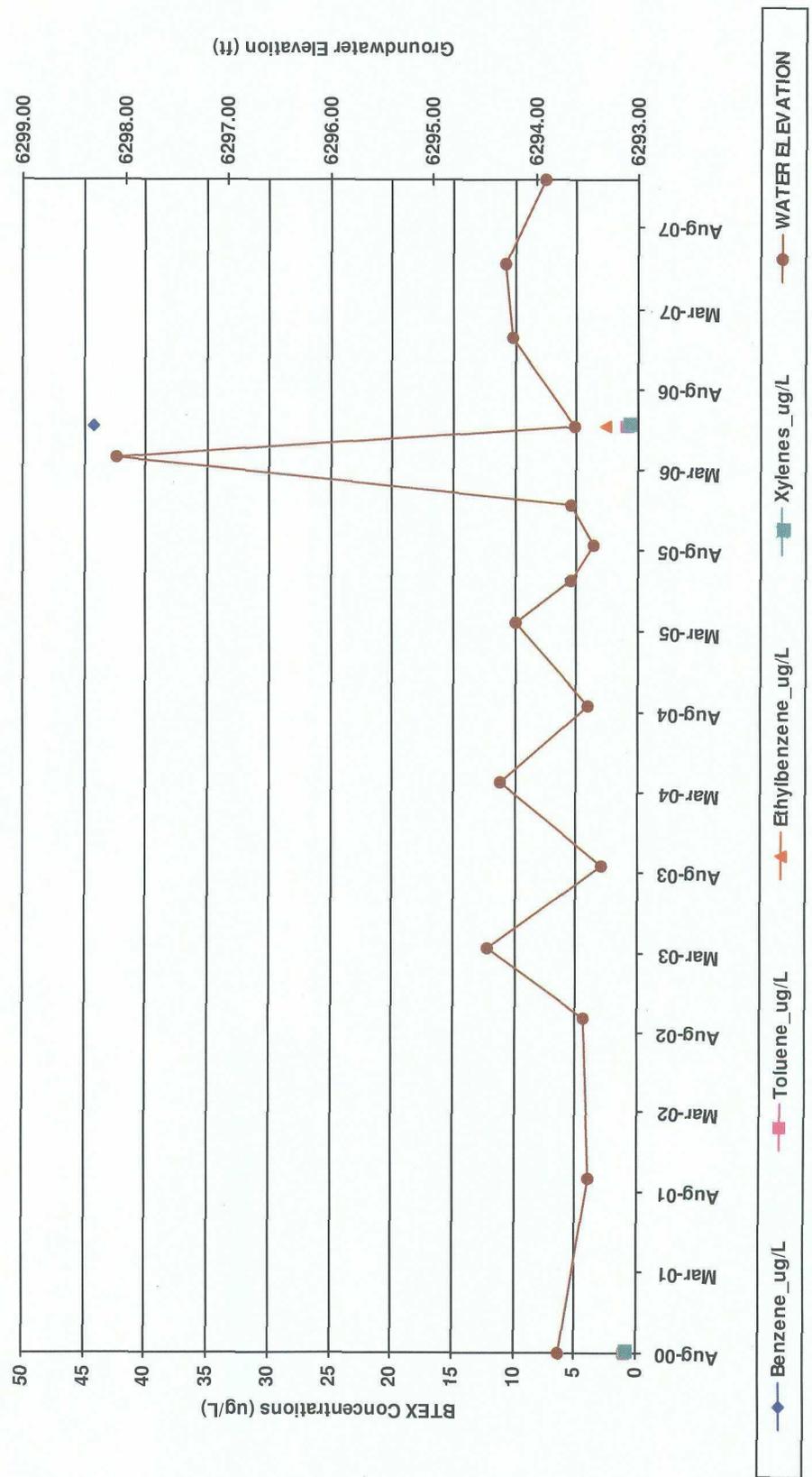
Note: Non Detects are represented by a value of 1.

FIGURE 4
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 K-31 LINE DRIP (METER #LD087)
 MW02



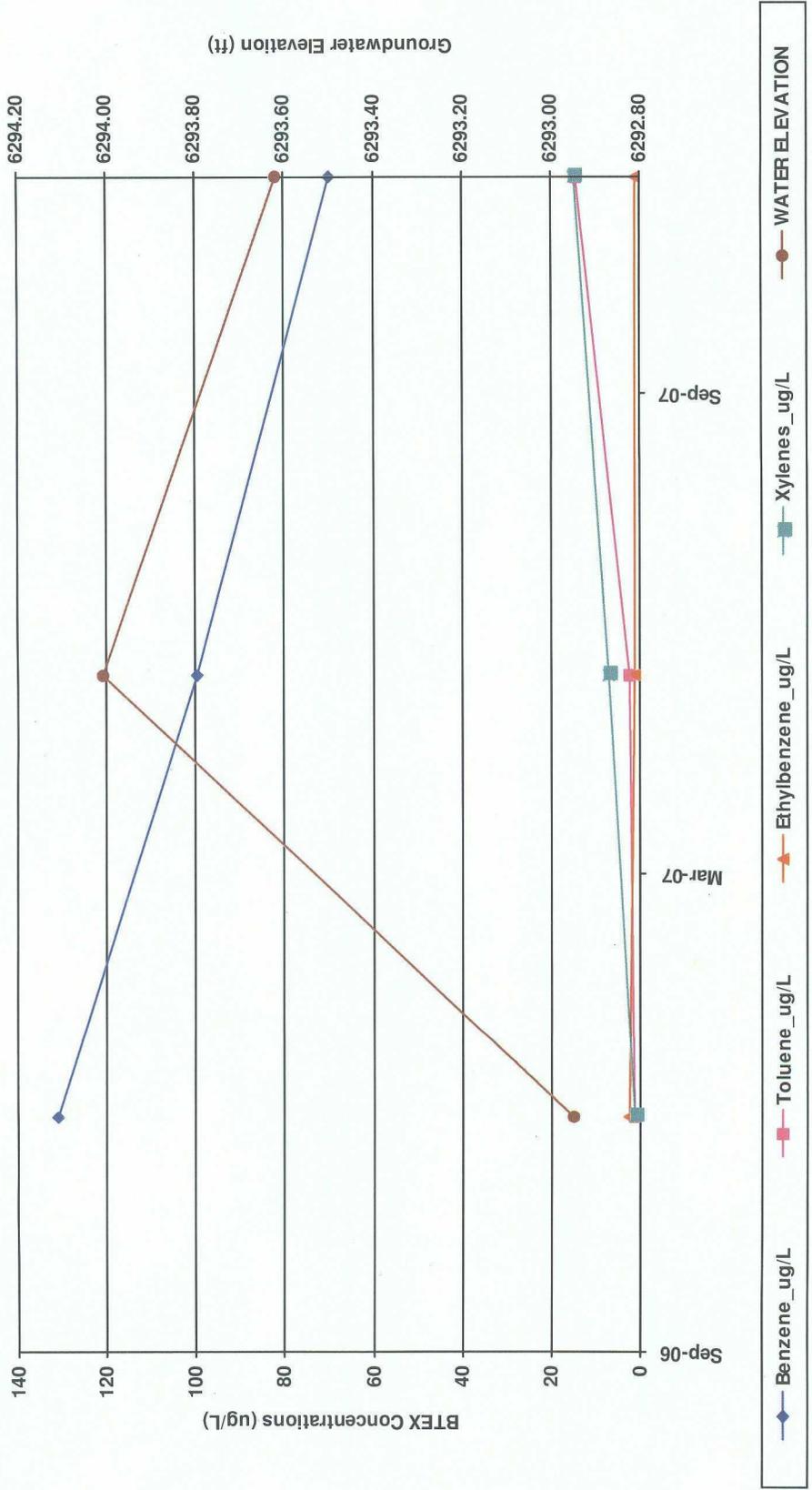
Note: Non Detects are represented by a value of 1.

FIGURE 5
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 K-31 LINE DRIP (METER #LD087)
 MW03



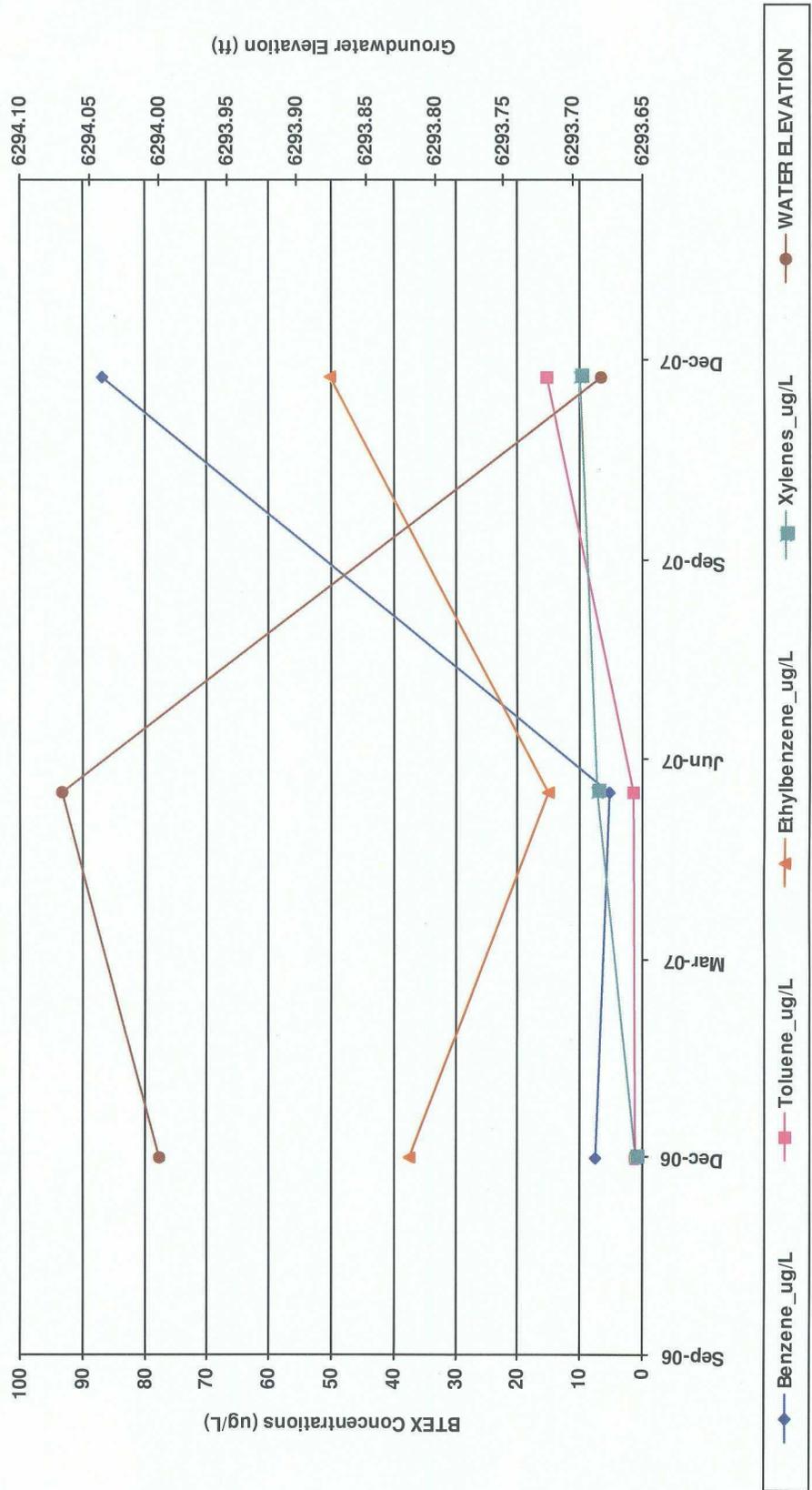
Note: Non Detects are represented by a value of 1.

FIGURE 6
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 K-31 LINE DRIP (METER #LD087)
 MW04



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

FIGURE 7
 SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
 K-31 LINE DRIP (METER #LD087)
 MW05



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

TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
K-31 LINE DRIP (METER #LD087)**

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW01	4/16/1997	84.9	25.7	43.6	206	15.00
	6/6/1997	115	1	37.8	76.1	17.99
	9/11/1997	259	10.8	124	58.4	18.48
	12/9/1997	201	1	71.5	25.8	18.09
	3/19/1998	61.2	1	17.8	2.35	17.59
	6/2/1998	98.3	1.48	27.2	14.7	17.98
	6/14/1999	65	3.7	4.2	10	17.98
	6/27/2000	29	1	3.5	12	18.10
	4/3/2001	5	1.4	1.1	4.1	17.79
	10/1/2001	3.3	1.1	0.8	5.6	18.94
	4/1/2002	1	1	1	1	18.05
	10/8/2002	0.6	1	1	1.3	18.86
	MW02	8/31/2000	1800	590	86	490
4/3/2001		340	4	8.7	3.3	16.82
10/1/2001		190	3	4.5	3.7	17.63
4/1/2002		230	3.4	1	1	16.78
10/8/2002		104	1.6	2.3	1.6	17.61
3/13/2003		254	5.6	3.5	1.4	16.64
9/15/2003		125	2.6	5.2	3	17.78
3/22/2004		176	3.7	7.7	1.4	16.76
9/14/2004		32.2	1.4	2.4	1.3	17.21
3/22/2005		93.7	0.56	4.2	2	16.91
6/24/2005		322	1.9	11	2.5	17.44
9/14/2005		7.6	0.79	0.78	1.4	17.92
12/14/2005		6.3	0.48	0.68	0.89	17.46
3/28/2006		40.8	0.68	2.7	1.4	17.02
6/7/2006		44.3	1	2.7	0.86	17.47
12/26/2006		50.8	1	2.4	0.37	16.90
6/12/2007	502	2.3	4.7	5	16.83	
12/18/2007	10.2	1	1	1	17.22	
MW03	8/31/2000	1	1	1	1	17.69
	6/7/2006	44.3	1	2.7	0.86	17.82
MW04	12/26/2006	131	1	2.4	1	16.64
	6/12/2007	99.8	2.5	1	6.9	15.58

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

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
K-31 LINE DRIP (METER #LD087)

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW04	12/18/2007	70.1	14.5	1.2	15	15.97
MW05	12/26/2006	7.5	1	37.3	1	17.46
	6/12/2007	5.3	1.5	15.2	7.3	17.39
	12/18/2007	87	15.3	50.4	10.1	17.78

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