

**3R - 204**

**ANNUAL  
MONITORING  
REPORT**

**04/02/2008**



**MWH**

**BUILDING A BETTER WORLD**

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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  
FEDERAL SITES VOLUME I  
EL PASO TENNESSEE PIPELINE COMPANY**

**TABLE OF CONTENTS**

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT	
89961	Fields A#7A	32N	11W	34	E	3R170
89232	Johnston Fed #6A	31N	09W	35	F	3R202
94715	James F. Bell #1E	30N	13W	10	P	3R196
89620	Sandoval GC A #1A	30N	09W	35	C	3R235
LD151	Lat 0-21 Line Drip	30N	09W	12	O	3R213
73220	Fogelson 4-1 Com. #14	29N	11W	4	P	3R068
97213	Hamner #9	29N	09W	20	A	3R190
LD174	LAT L 40	28N	04W	13	H	3R212
89894	Hammond #41A	27N	08W	25	O	3R186
94810	Miles Fed 1A	26N	07W	5	F	3R223
LD072	K27 LD072	25N	06W	4	E	3R204
87640	Canada Mesa #2	24N	06W	24	I	3R155
70194	Johnston Fed #4	31N	09W	33	H	3R201



EPTPC GROUNDWATER SITES  
2007 ANNUAL GROUNDWATER REPORT

3R204

K27  
Meter Code: LD072

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**SITE DETAILS**

Legal Description:      Town: 25N      Range: 6W      Sec: 4      Unit: E  
NMOCD Haz Ranking: 40      Land Type: Federal      Operator: Enterprise

**PREVIOUS ACTIVITIES**

Site Assessment:	7/94	Excavation:	8/94	Soil Boring:	9/99
Monitor Well:	9/95	Geoprobe:	9/95	Additional MWs:	12/99
Downgradient MWs:	12/99	Replace MW:	7/00	Quarterly Initiated:	NA
ORC Nutrient Injection:	NA	Re-Excavation:	NA	PSH Removal Initiated:	2/98
Annual Initiated:	NA	Quarterly Resumed:	NA	PSH Removal in 2007?	Yes

**SUMMARY OF 2007 ACTIVITIES**

**MW-1:** Quarterly free-product recovery activities and water level monitoring were performed in 2007.

**MW-2:** Quarterly free-product recovery activities and water level monitoring were performed in 2007.

**MW-3:** Quarterly water level monitoring and annual groundwater sampling (October) were performed in 2007.

**TMW-5:** Quarterly water level monitoring and annual groundwater sampling (October) were performed in 2007.

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

**SITE MAPS**

A Site map (October 2007) is attached as Figure 1.

**SUMMARY TABLES AND GRAPHS**

- Historic BTEX concentrations and groundwater elevations for MW-1, MW-2, MW-3, and TMW-5 are presented graphically in Figures 2 through 5.
- Historic analytical and water level data are also summarized in Table 1.

**EPTPC GROUNDWATER SITES  
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**K27  
Meter Code: LD072**

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- Historic free-product removal data are included in Table 2 and presented graphically in Figures 6 and 7.
  - 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 at this Site during 2007.

**DISPOSITION OF GENERATED WASTES**

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

**ISOCONCENTRATION MAPS**

No isoconcentration maps were prepared for this Site, however, the attached Site map presents the analytical and product recovery data from 2007.

**CONCLUSIONS**

- The groundwater flow direction is approximately to the northwest.
- No free-product was observed in MW-1 in 2007. Thin accumulations of product have been observed at times in this well. The cumulative total of recovered free-product from MW-1 is approximately 2.34 gallons since 2001.
- Approximately 0.2 gallons of free-product were removed from MW-2 during 2007, bringing the cumulative total recovery from this well to 7.86 gallons since 2001.
- New well TMW-5 (installed in 2006) was sampled for the second time in October 2007. As was the case in the original sampling event, no BTEX detections were present. The well appears to be clean.

**RECOMMENDATIONS**

- EPTPC will continue quarterly free-product recovery efforts at MW-1 and MW-2; however, the frequency of monitoring may be adjusted based on the amount of product recovered during the monitoring visits. MW-1 will be sampled annually if free-product does not reappear.
- EPTPC will continue to monitor groundwater levels on a quarterly basis and sample annually at MW-3.

**EPTPC GROUNDWATER SITES  
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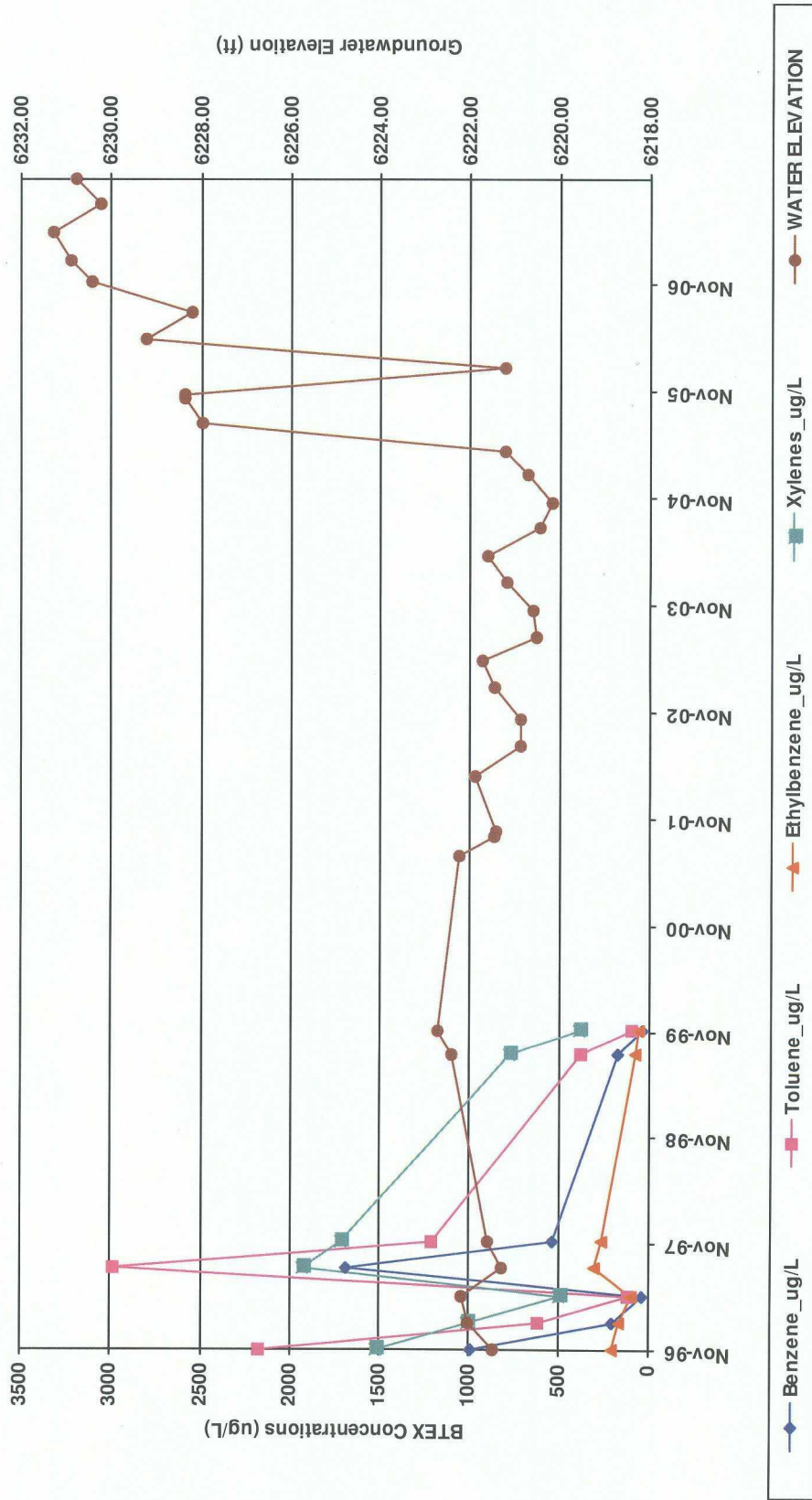
**K27  
Meter Code: LD072**

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- EPTPC will monitor groundwater levels at new well TMW-5 on a quarterly basis and sample annually in conjunction with activities at MW-3.
- Once free-product recovery efforts are completed at this Site, each well will be sampled on an annual basis until sample results approach closure criteria. The wells will then be scheduled for quarterly sampling until closure criteria are met.



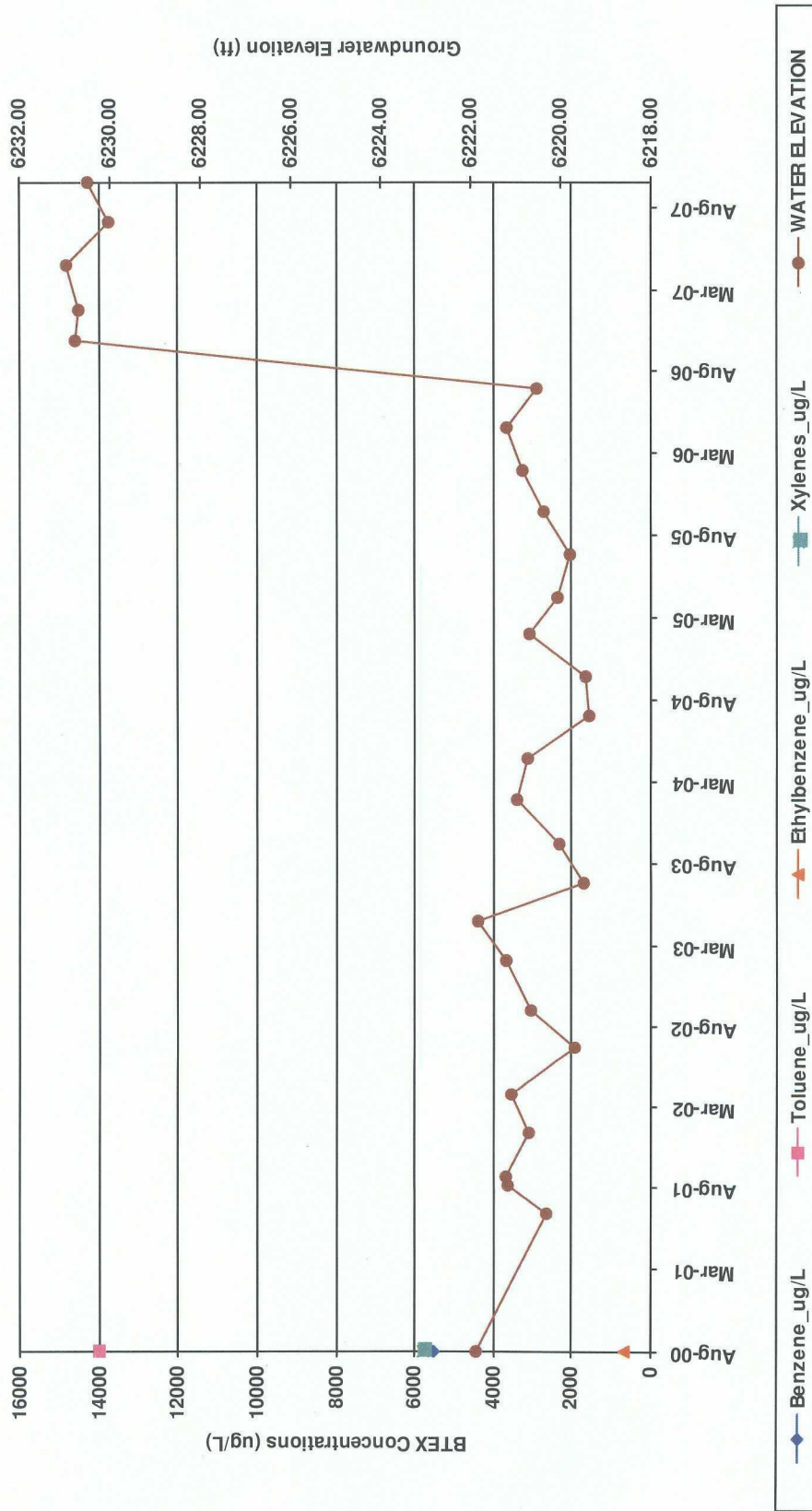
FIGURE 2  
SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES  
K27 LD072 (METER #LD072)  
MW01



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

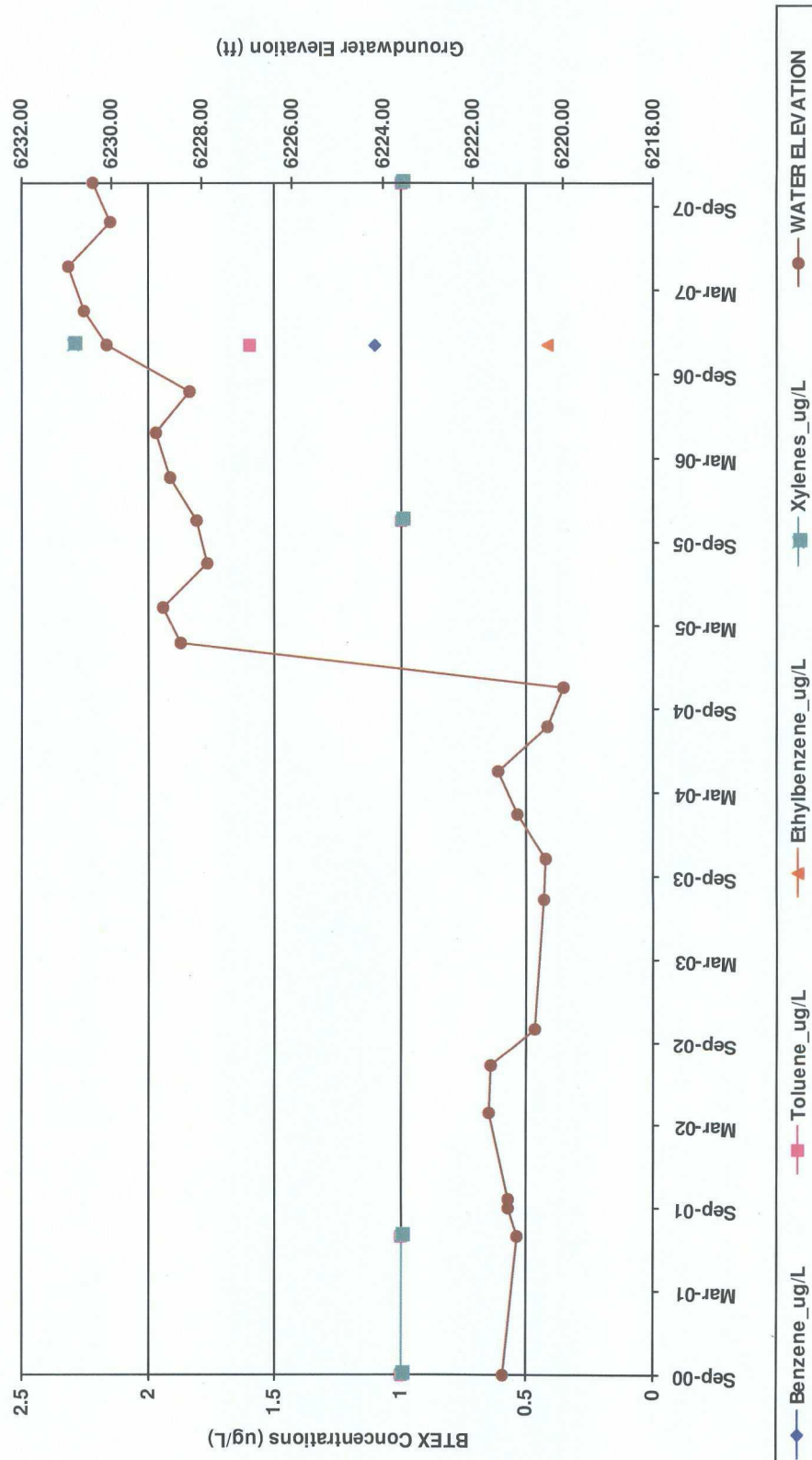


FIGURE 3  
SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES  
K27 LD072 (METER #LD072)  
MW02



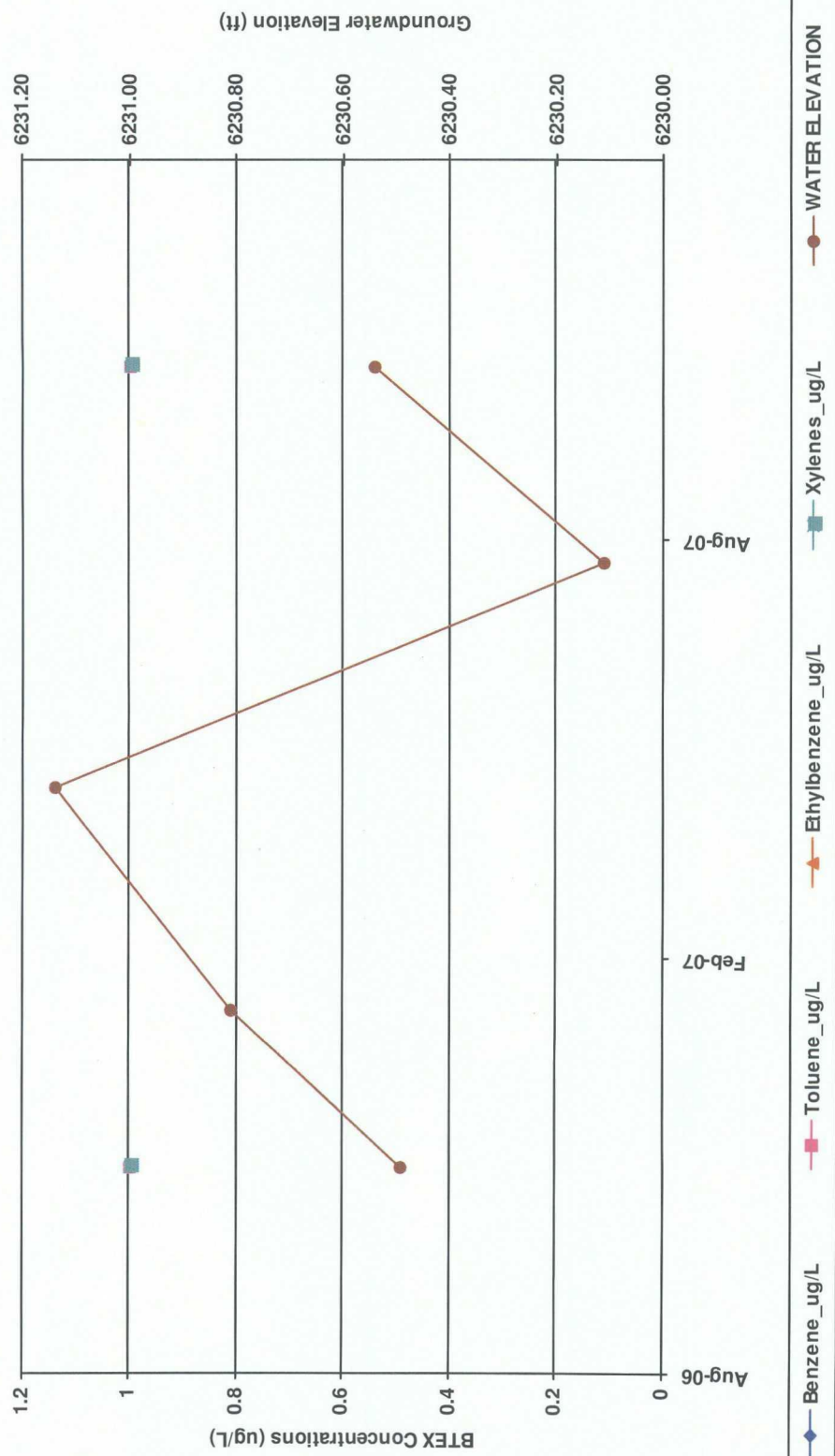
Note: Non Detects are represented by a value of 1.

FIGURE 4  
SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES  
K27 LD072 (METER #LD072)  
MW03



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

FIGURE 5  
SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES  
K27 LD072 (METER #LD072)  
TMW05



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

FIGURE 6  
SUMMARY OF FREE-PRODUCT REMOVAL  
K27 LD072 (METER #LD072)  
MW01

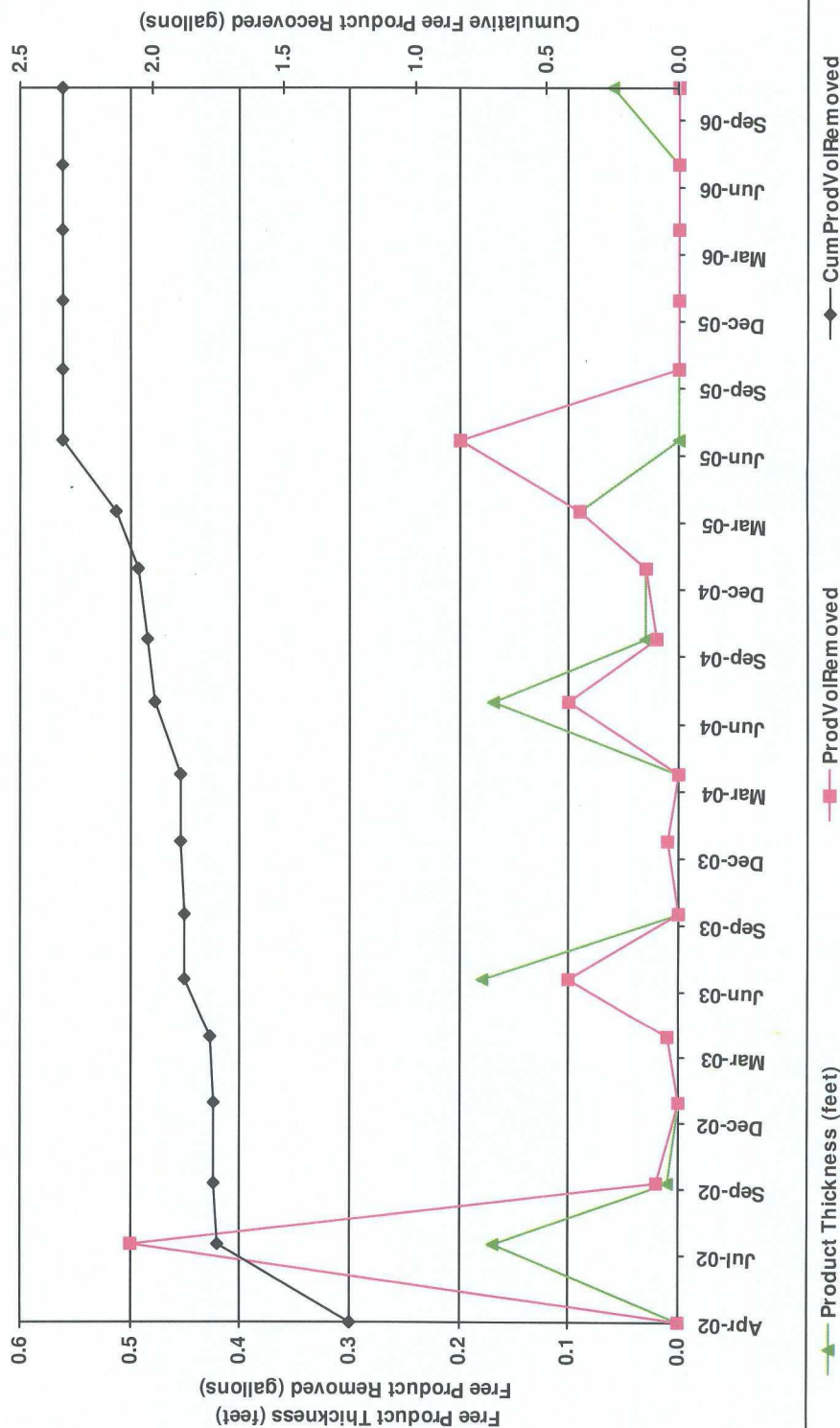


FIGURE 7  
SUMMARY OF FREE-PRODUCT REMOVAL  
K27 LD072 (METER #LD072)  
MW02

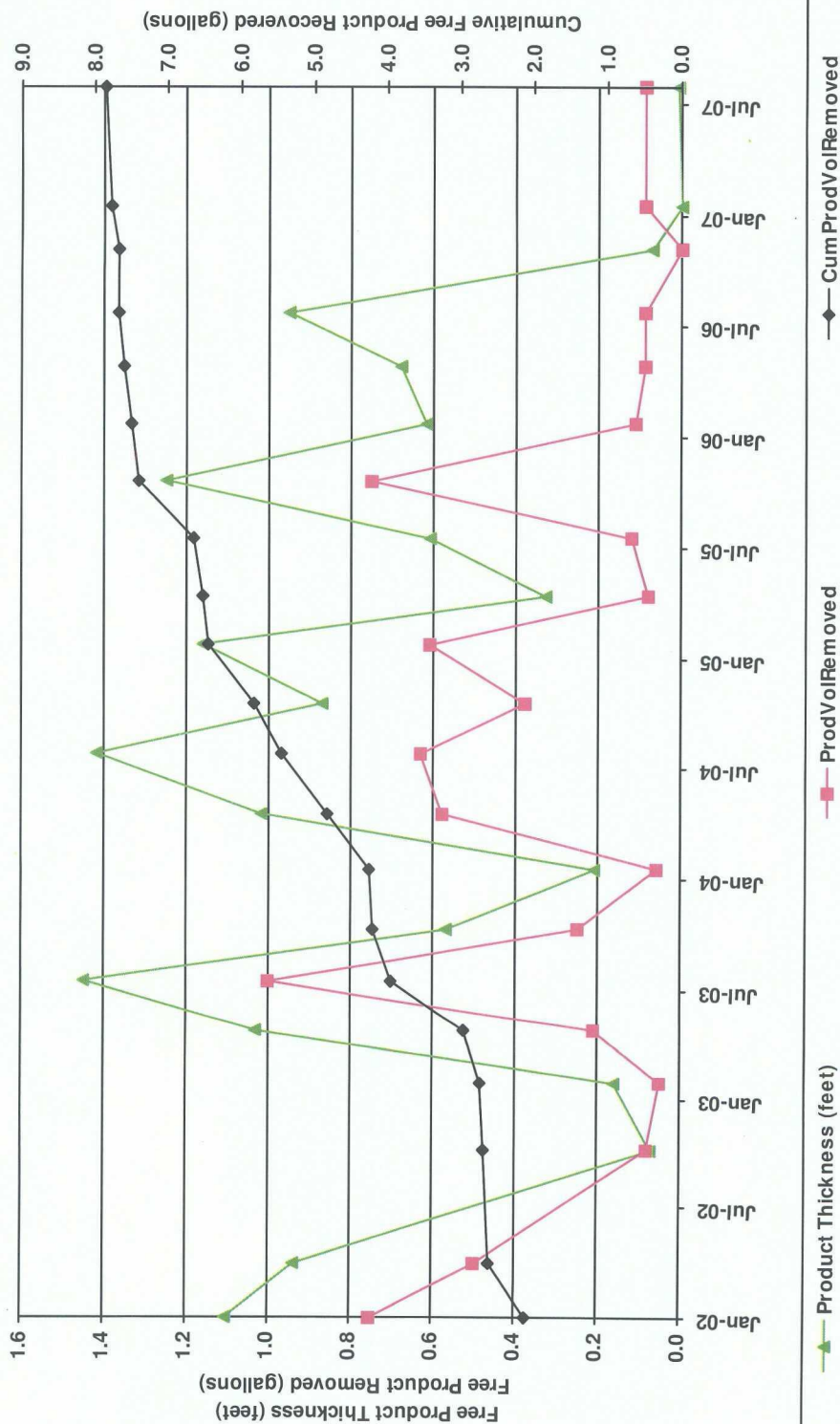




FIGURE 8  
SUMMARY OF FREE-PRODUCT REMOVAL  
K27 LD072 (METER #LD072)  
MW03

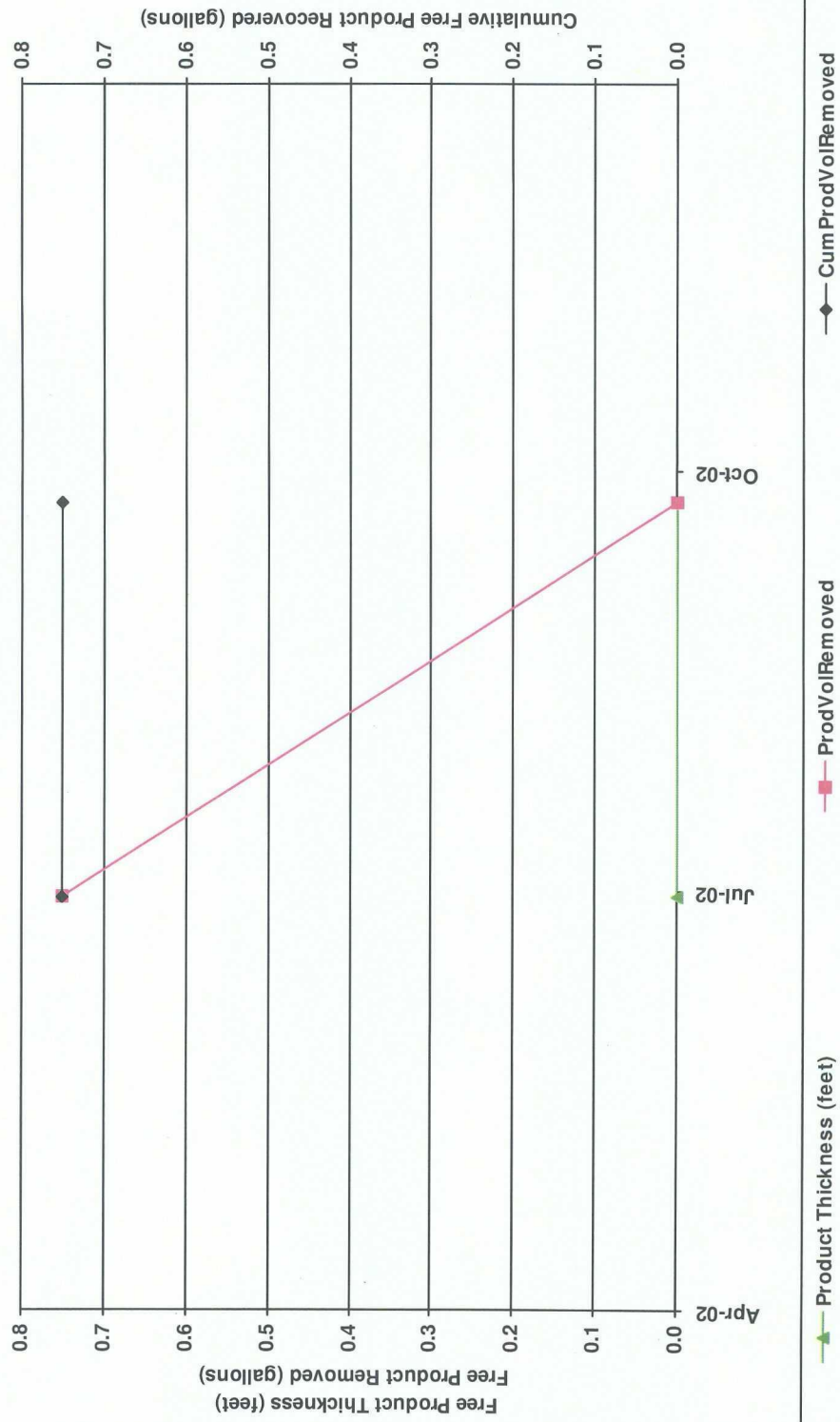


TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES  
K27 LD072 (METER #LD072)**

<b>Monitoring Well</b>	<b>Sample Date</b>	<b>Benzene (ug/L)</b>	<b>Toluene (ug/L)</b>	<b>Ethylbenzene (ug/L)</b>	<b>Total Xylenes (ug/L)</b>	<b>Depth to Water (ft BTOC)</b>
<b>MW01</b>	11/4/1996	996	2170	204	1520	37.44
	2/5/1997	207	613	168	1010	36.89
	5/7/1997	41.8	114	97.8	500	36.73
	8/8/1997	1690	2980	298	1930	37.61
	11/7/1997	533	1210	267	1720	37.33
	8/19/1999	179	379	79.1	777	36.48
	11/10/1999	39	95	56	390	36.17
<b>MW02</b>	8/31/2000	5500	14000	670	5800	35.81
<b>MW03</b>	9/5/2000	1	1	1	1	37.40
	7/3/2001	1	1	1	1	37.69
	10/21/2005	1	1	1	1	38.48
	11/7/2006	1.1	1.6	0.42	2.3	36.50
	10/25/2007	1	1	1	1	36.20
<b>TMW05</b>	11/8/2006	1	1	1	1	32.95
	10/25/2007	1	1	1	1	32.90

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

**TABLE 2**  
**SUMMARY OF FREE-PRODUCT REMOVAL**  
**K27 LD072 (METER #LD072)**

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	4/1/2002		37.01	0	0	1.25
	7/15/2002	37.85	38.02	0.17	0.5	1.75
	10/8/2002	38	38.01	0.01	0.02	1.77
	1/27/2003		37.42	0	0	1.77
	4/26/2003		37.15	0	0.01	1.78
	7/17/2003	38.18	38.36	0.18	0.1	1.88
	10/13/2003		38.29	0	0	1.88
	1/19/2004	37.68	37.69	0.01	0.01	1.89
	4/20/2004		37.29	0	0	1.89
	7/27/2004	38.28	38.45	0.17	0.1	1.99
	10/20/2004	38.68	38.71	0.03	0.02	2.02
	1/25/2005	38.16	38.18	0.02	0.03	2.05
	4/14/2005	37.75	37.84	0.09	0.09	2.14
	7/19/2005		38.84	0	0.2	2.34
	10/21/2005		38.46	0	0	2.34
	1/23/2006		37.89	0	0	2.34
	4/28/2006		37.57	0	0	2.34
	7/26/2006		38.61	0	0	2.34
	11/7/2006	36.31	36.37	0.06	0	2.34
MW02	1/2/2002	35.87	36.97	1.10	0.75	2.10
	4/1/2002	35.67	36.61	0.94	0.5	2.60
	10/8/2002	36.94	37.01	0.07	0.08	2.68
	1/27/2003	36.31	36.47	0.16	0.05	2.73
	4/26/2003	35.85	36.88	1.03	0.21	2.94
	7/17/2003	36.75	38.2	1.45	1	3.94
	10/13/2003	37.07	37.64	0.57	0.25	4.19
	1/19/2004	36.51	36.72	0.21	0.06	4.25
	4/20/2004	35.91	36.93	1.02	0.58	4.83
	7/27/2004	36.88	38.3	1.42	0.63	5.46
	10/20/2004	37.37	38.23	0.86	0.38	5.83
	1/25/2005	36.77	42.87	6.10	0.61	6.44
	4/14/2005	36.55	36.55	0.00	0.08	6.52
	7/19/2005	37.55	38.16	0.61	0.12	6.64
	10/21/2005	37.06	38.31	1.25	0.75	7.39
	1/23/2006	36.69	37.31	0.62	0.11	7.50
	4/28/2006	36.33	37.01	0.68	0.09	7.59
	7/26/2006	37.42	38.37	0.95	0.09	7.68
	11/7/2006	35.21	35.28	0.07	0	7.68
	1/17/2007		35.35	0	0.09	7.77



TABLE 2

**SUMMARY OF FREE-PRODUCT REMOVAL  
K27 LD072 (METER #LD072)**

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)
MW02	7/31/2007	36.01	36.03	0.02	0.09	7.86
MW03	7/15/2002		37.13	0	0.75	0.75
	10/8/2002		38.085	0	0	0.75