

3R186

2010 AGWMR

03/02/2011



BUILDING A BETTER WORLD

3R 186

March 2, 2011

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

RECEIVED OGD
2011 MAR -4 P 12:24

**RE: El Paso Tennessee Pipeline Company Pit Groundwater Remediation Sites
2010 Annual Reports**

Dear Mr. Von Gonten:

MWH Americas, Inc., on behalf of El Paso Tennessee Pipeline Company (EPTPC), is submitting the enclosed 2010 Annual Reports for each of EPTPC's 21 remaining San Juan River Basin pit groundwater remediation sites. The reports present the 2010 sampling and product recovery data and include recommendations for 2011 activities at these sites.

The 2010 Annual Reports are divided into three volumes based on location type. The volumes are as follows:

<u>Volume</u>	<u>Location Type</u>
1	Federal Land
2	Non-Federal Land (Excl. Navajo Nation)
3	Navajo Nation

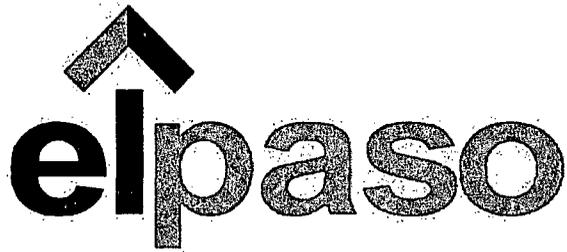
If you have any questions concerning the enclosed reports, please call either Ian Yanagisawa of EPTPC (713-420-7361) or myself (303-291-2276).

Sincerely,

Jed Smith
Project Manager

encl.

- cc: Bill Freeman – NNEPA, Shiprock, NM (Volume 3 Only)
- Bill Liese – BLM, Farmington, NM (Volume 1 Only)
- Brandon Powell – NMOCD, Aztec, NM (Volumes 1, 2, and 3)
- Ian Yanagisawa – EPTPC (Volumes 1, 2, and 3 - Electronic)



El Paso Tennessee
Pipeline Company

San Juan Basin Pit Program
Groundwater Sites Project

Final 2010 Annual Report
Federal Sites (Volume 1)

March 2011



MWH

1801 California Street, Suite 2900
Denver, Colorado 80202

**2010 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I
EL PASO TENNESSEE PIPELINE COMPANY**

TABLE OF CONTENTS

METER or LINE ID	NMOCD CASE NO.	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
87640	3RP-155-0	Canada Mesa #2	24N	06W	24	I
89961	3RP-170-0	Fields A#7A	32N	11W	34	E
73220	3RP-068-0	Fogelson 4-1 Com. #14	29N	11W	4	P
89894	3RP-186-0	Hammond #41A	27N	08W	25	O
97213	3RP-190-0	Hamner #9	29N	09W	20	A
94715	3RP-196-0	James F. Bell #1E	30N	13W	10	P
89232	3RP-202-0	Johnston Fed #6A	31N	09W	35	F
LD072	3RP-204-0	K27 LD072	25N	06W	4	E
LD174	3RP-212-0	LAT L 40	28N	04W	13	H
LD151	3RP-213-0	Lat 0-21 Line Drip	30N	09W	12	O
94810	3RP-223-0	Miles Fed 1A	26N	07W	5	F
89620	3RP-235-0	Sandoval GC A #1A	30N	09W	35	C

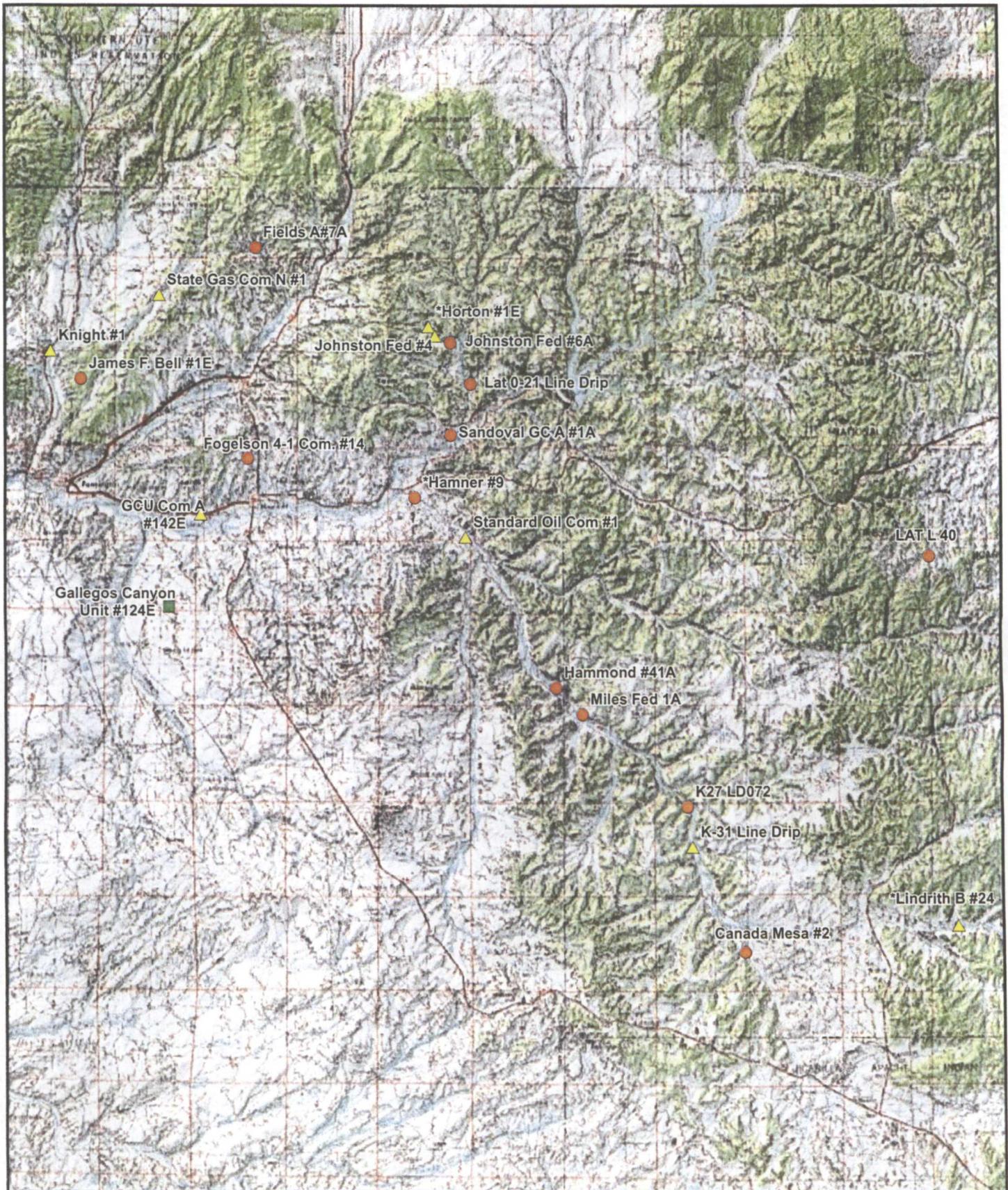
* The Hamner #9 site was submitted for closure in January 2009 and is pending approval from NMOCD. There were no monitoring activities for this site in 2010.



MWH

LIST OF ACRONYMS

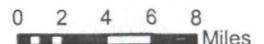
AMSL	above mean sea level
B	benzene
btop	below top of casing
E	ethylbenzene
EPTPC	El Paso Tennessee Pipeline Company
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitor well
NMWQCC	New Mexico Water Quality Control Commission
T	toluene
TOC	top of casing
NA	not applicable
NMOCD	New Mexico Oil Conservation Division
NS	not sampled
ORC	oxygen-releasing compound
µg/L	micrograms per liter
X	total xylenes



LEGEND

- Sites on Federal Land
- Sites on Navajo Nation Land
- ▲ Sites on State/Fee "Non-Federal" Lands

*Closure Request Pending with the NMOCD.



PROJECT: SAN JUAN RIVER BASIN

FIGURE:

TITLE: Site Locations, February 2011

1

**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT**

**Hammond #41A
Meter Code: 89894**

SITE DETAILS

Legal Description:	Town: 27N	Range: 8W	Sec: 25	Unit: O
NMOCD Haz Ranking: 40	Land Type:	Federal	Operator:	M&G Drilling Company

PREVIOUS ACTIVITIES

Site Assessment:	6/94	Excavation:	7/94	Soil Boring:	7/95
Monitor Well:	5/97	Geoprobe:	11/96	Additional MWs:	9/99
Downgradient MWs:	9/99	Replace MW:	NA	Quarterly Initiated:	6/97
ORC Nutrient Injection:	7/98	Re-Excavation:	5/97	PSH Removal Initiated:	NA
Annual Initiated:	9/99	Quarterly Resumed:	NA	PSH Removal in 2010?	No

SUMMARY OF 2010 ACTIVITIES

MW-1: Semiannual water level monitoring (February and September) was performed during 2010.

MW-2: Semiannual water level monitoring (February and September) was performed during 2010.

MW-3: Semiannual water level monitoring (February and September) was performed during 2010.

TMW-1: Semiannual groundwater sampling (February and September) was performed during 2010.

Site-Wide Activities: No other activities were performed at this Site during 2010.

SITE MAPS

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

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 3 through 6.
- The 2010 laboratory reports are presented in Attachment 1 (included on CD).

**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT**

**Hammond #41A
Meter Code: 89894**

- The 2010 field documentation is presented in Attachment 2 (included on CD).

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this Site during 2010.

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 the water level and analytical data collected during 2010.

RESULTS

- Groundwater flow at the Site is generally to the northwest.
- The low-level (i.e., close to or below the NMWQCC standards) BTEX concentrations remain steady in TMW-1. Benzene concentrations at TMW-1 were 13.8 µg/L and 2.7 µg/L in February and September 2010, respectively. These results straddled the NMWQCC benzene standard. Toluene, ethylbenzene, and total xylenes concentrations were below their respective standards during each sample event in 2010.
- As of 2002, wells MW-1, MW-2 and MW-3 have met four consecutive quarters of BTEX concentrations below NMWQCC standards. TMW-1 was installed in 2003, as requested by NMOCD.

REMAINING CLOSURE REQUIREMENTS

- This site is being managed per the procedures set forth in the document entitled, "Remediation Plan for Groundwater Encountered During Pit Closure Activities" (El Paso Natural Gas Company / El Paso Field Services Company, 1995). This remediation plan was conditionally approved by the New Mexico Oil Conservation Division (OCD) in correspondence dated November 30, 1995; and the OCD approval conditions were adopted into El Paso's program methods.
- In order to meet the remaining closure requirements at this site, the following condition must be achieved: groundwater contaminant concentrations in the monitor wells must meet the NMWQCC standards for at least 4 consecutive quarters. Alternatively, concentrations must be reduced to below background levels; however, there are no established background concentrations for the remaining constituents of concern. Currently, TMW-1 requires additional monitoring. The remaining applicable standards are:

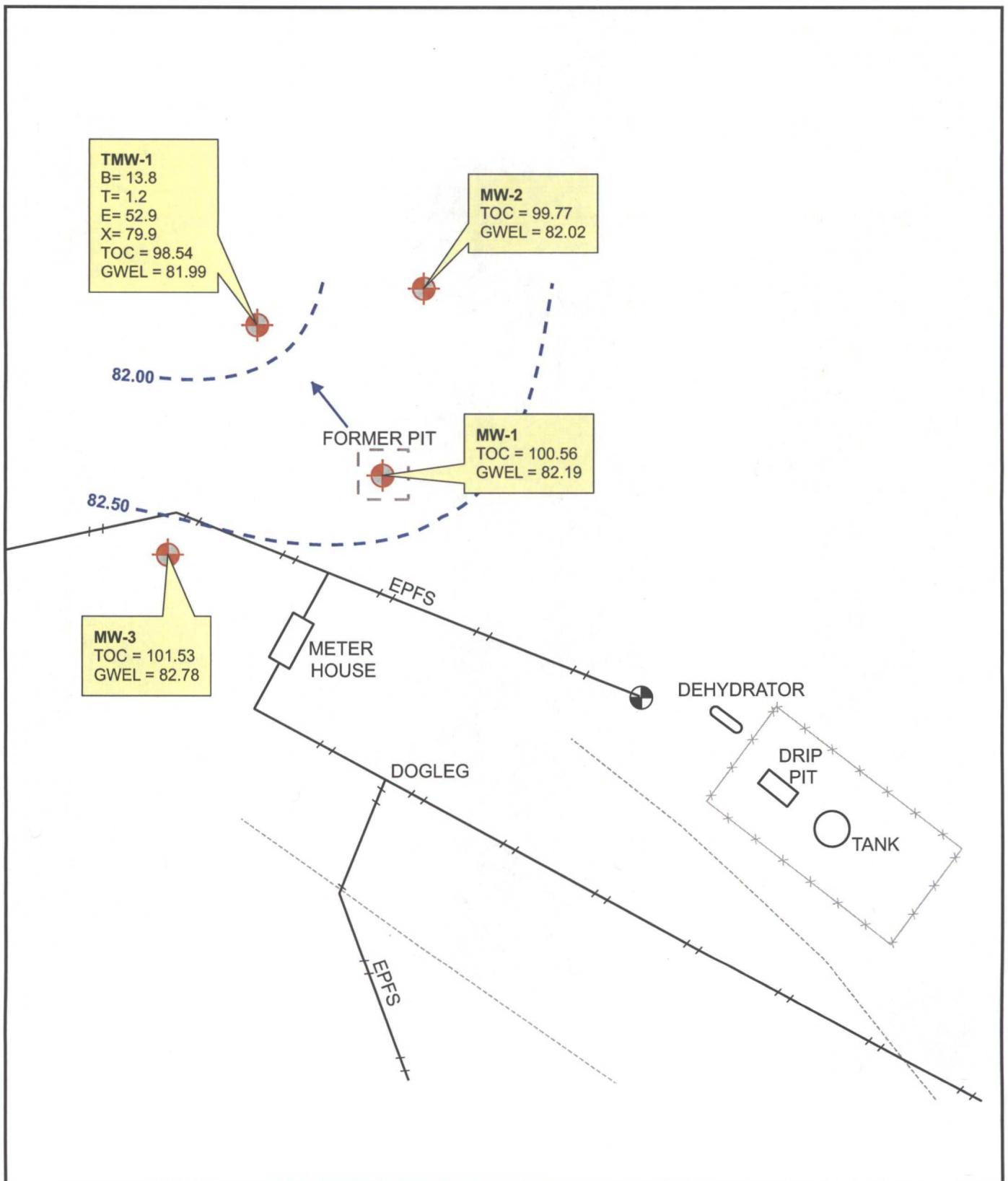
**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT,**

**Hammond #41A
Meter Code: 89894**

Constituent	NMWQCC GW Standard (µg/L)
Benzene	10
Toluene	750
Ethylbenzene	750
Total Xylenes	620

RECOMMENDATIONS

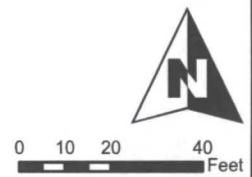
- EPTPC recommends conducting semiannual sampling of TMW-1 until BTEX concentrations fall beneath their respective NMWQCC closure standards. At that time, quarterly sampling will be conducted until four clean quarters have been observed and the Site can be submitted for closure.
- Because historic samples indicated that MW-1, MW-2, and MW-3 have achieved closure standards, these wells will be sampled again only during final closure sampling.



LEGEND

- MW-4 Existing Monitoring / Observation Well
- Groundwater Flow Direction
- Potentiometric Surface Contour (Inferred Where Dashed)

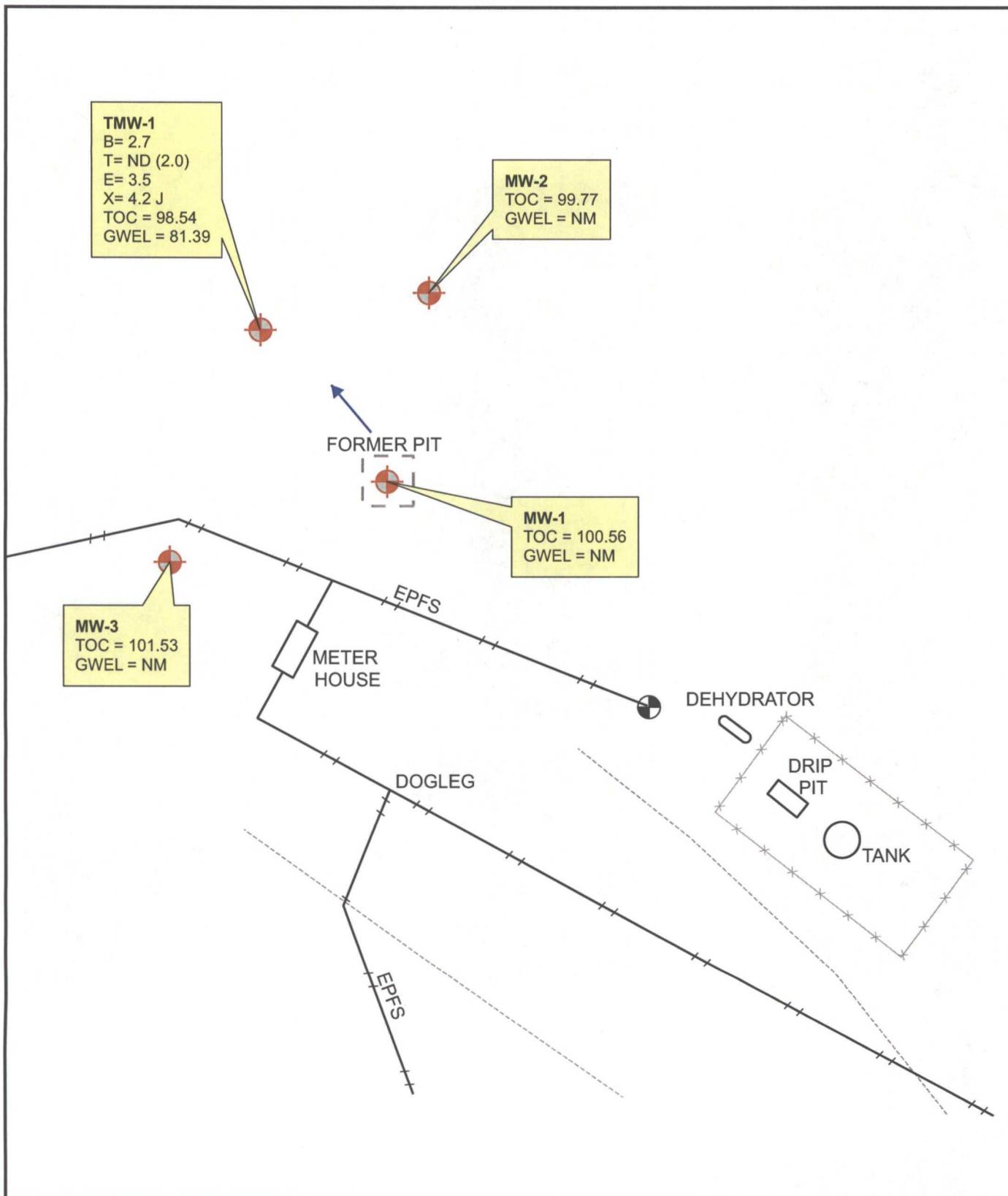
- B** Benzene (ug/L)
 - T** Toluene (ug/L)
 - E** Ethylbenzene (ug/L)
 - X** Total Xylenes (ug/L)
 - TOC** Top of Casing (ft. AMSL)
 - GWEL** Groundwater Elevation (ft. *)
- * = Elevations in feet relative to a 100 ft benchmark.



PROJECT: HAMMOND #41A

TITLE: Groundwater Potentiometric Surface Map,
and BTEX Concentrations - February 16, 2010

FIGURE:
1



LEGEND			
MW-4	Existing Monitoring / Observation Well	B	Benzene (ug/L)
	Historic Groundwater Flow Direction	T	Toluene (ug/L)
NM	Wells were obstructed by roots during gauging activities.	E	Ethylbenzene (ug/L)
ND	Not Detected; Reporting Limit Shown In Parenthesis	X	Total Xylenes (ug/L)
J	Result Flagged as Estimated	TOC	Top of Casing (ft. AMSL)
		GWEL	Groundwater Elevation (ft. *)
		* = Elevations in feet relative to a 100 ft benchmark.	

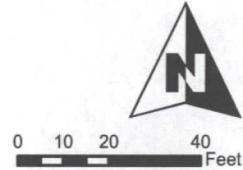
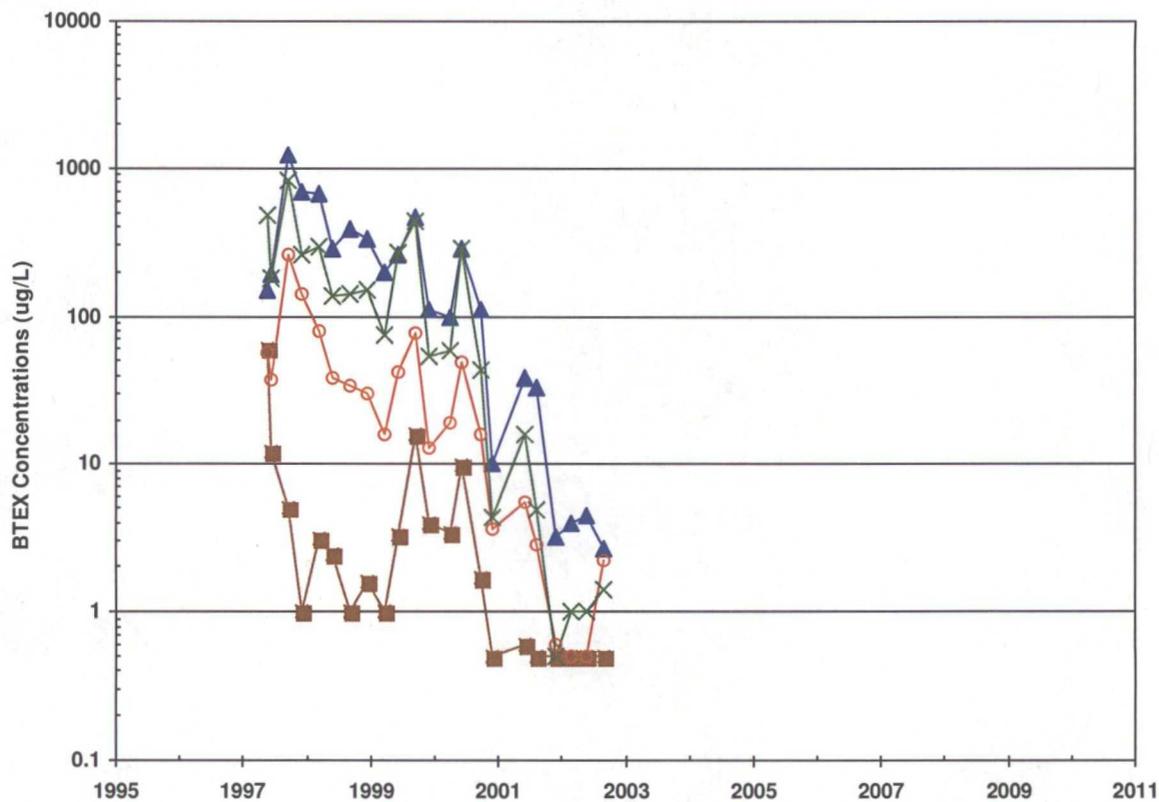
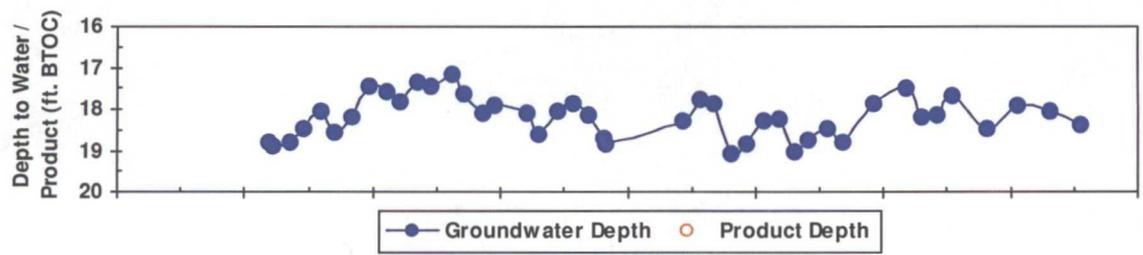


FIGURE 3
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
HAMMOND #41A (METER #89894)
MW01

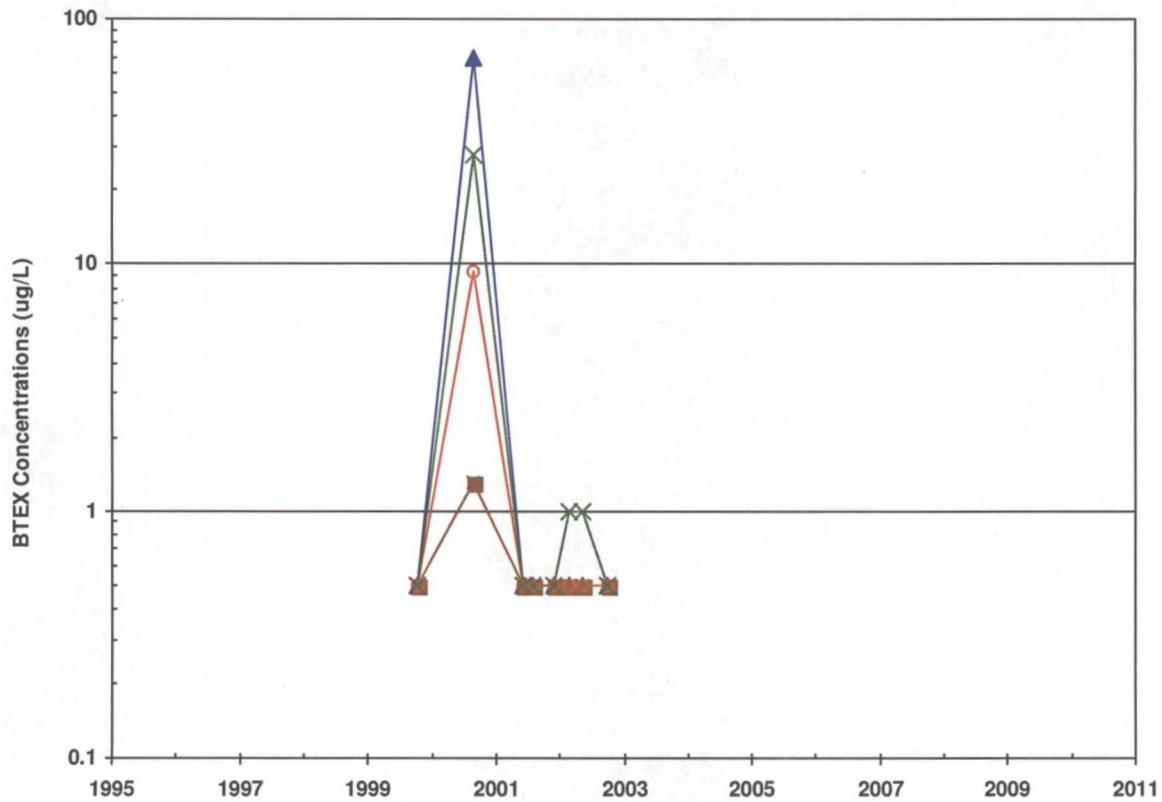


Benzene	Toluene	Ethylbenzene	Total Xylenes
NM Std.: (10 ug/L)	(750 ug/L)	(750 ug/L)	(620 ug/L)

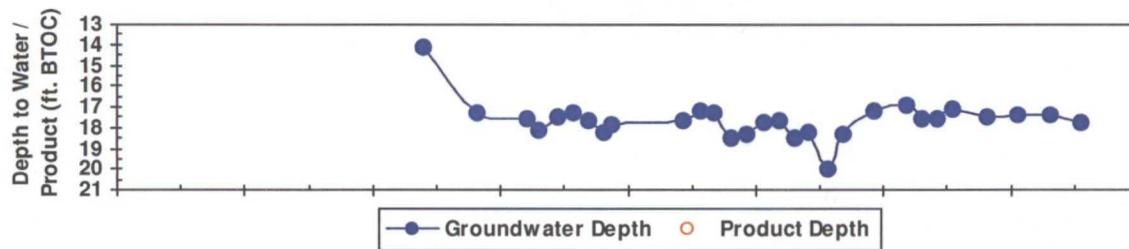


Groundwater Depth	Product Depth
-------------------	---------------

FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
HAMMOND #41A (METER #89894)
MW02

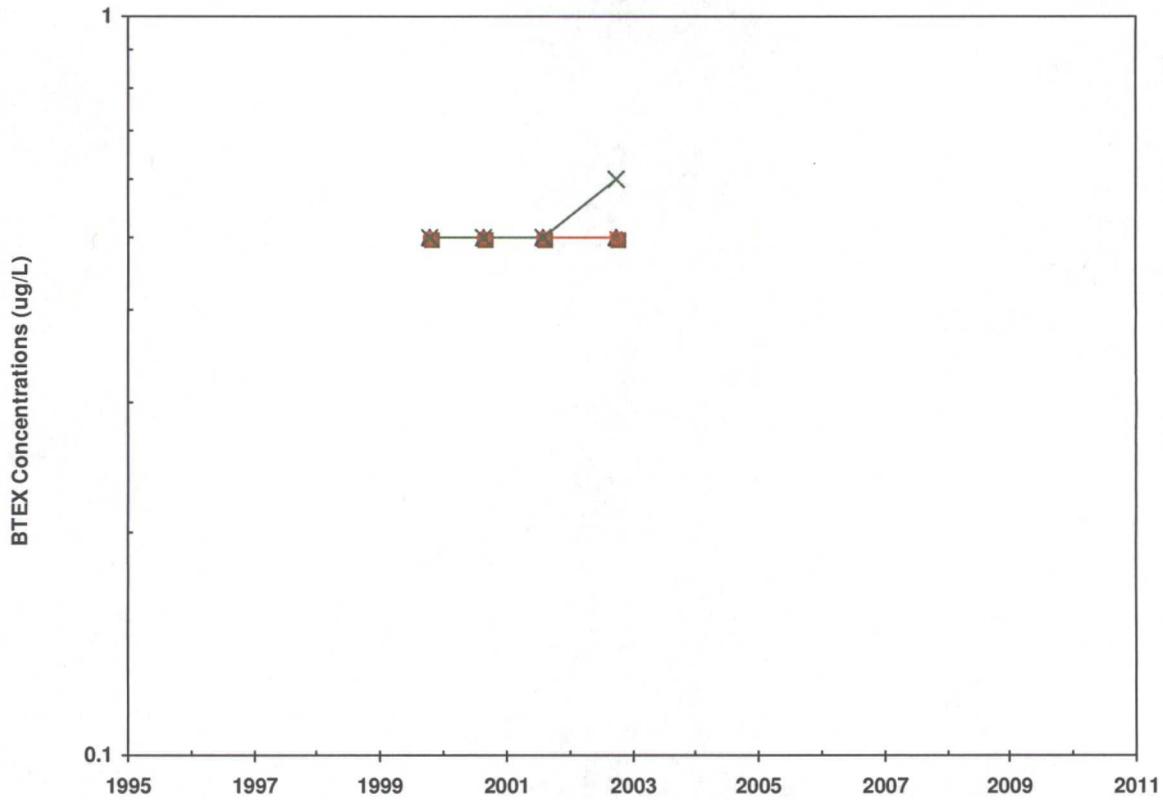


Benzene	Toluene	Ethylbenzene	Total Xylenes
NM Std.: (10 ug/L)	(750 ug/L)	(750 ug/L)	(620 ug/L)

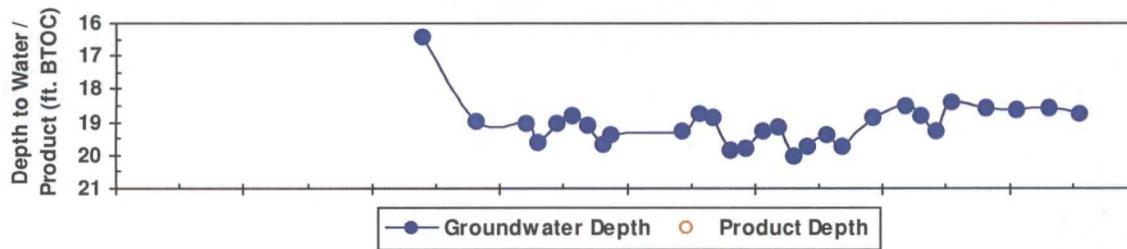


Groundwater Depth	Product Depth
-------------------	---------------

FIGURE 5
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
HAMMOND #41A (METER #89894)
MW03



Benzene NM Std.: (10 ug/L)	Toluene (750 ug/L)	Ethylbenzene (750 ug/L)	Total Xylenes (620 ug/L)
-------------------------------	-----------------------	----------------------------	-----------------------------



Groundwater Depth	Product Depth
-------------------	---------------

FIGURE 6
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
HAMMOND #41A (METER #89894)
TMW01

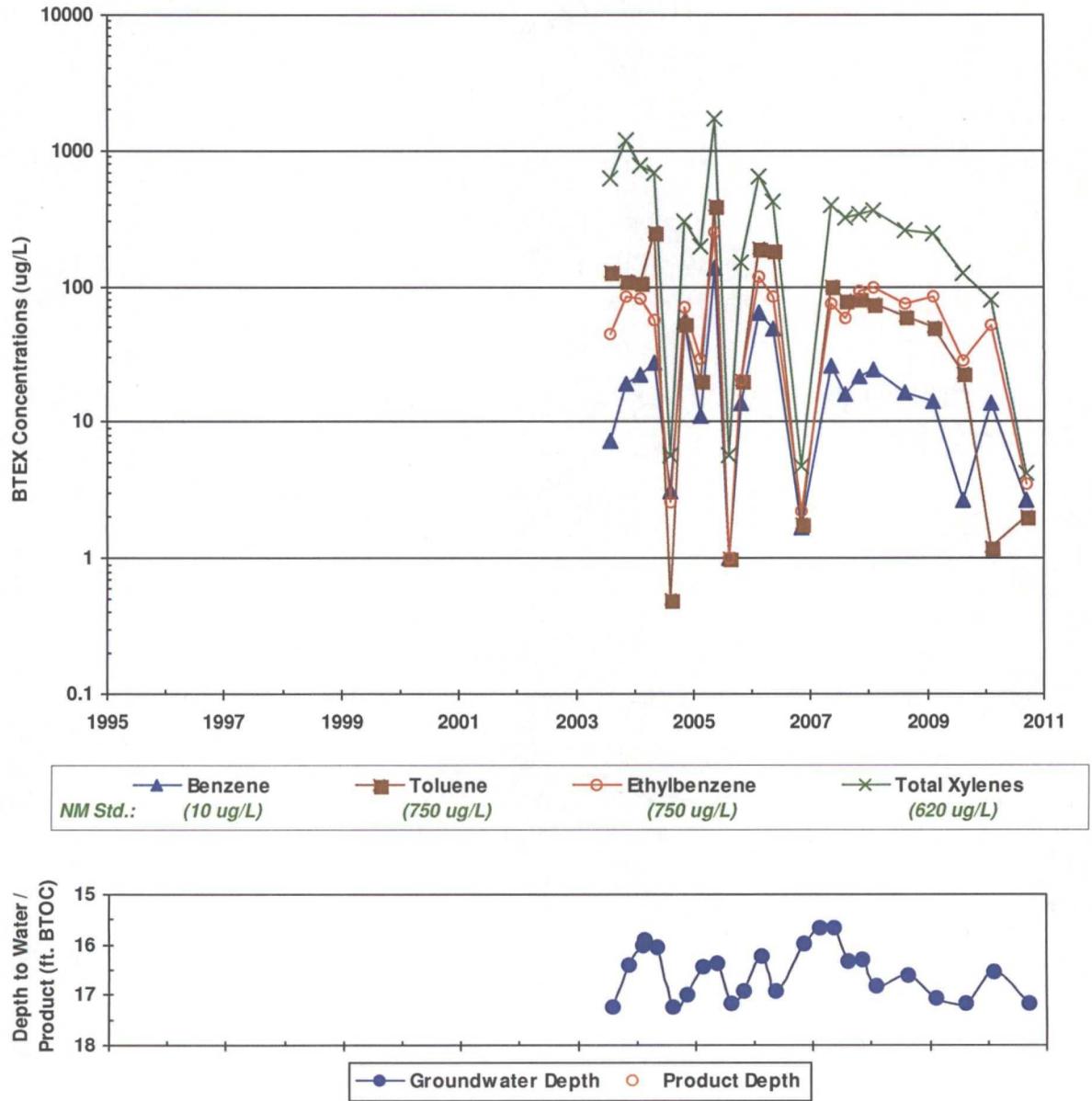


TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
HAMMOND #41A (METER #89894)**

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)	Corrected GW Elevation (Feet*)
NMQCC GW Std.:		10	750	750	620		
MW01	5/21/1997	150	60.1	56.7	484	18.79	81.77
MW01	6/9/1997	190	12.3	36.9	181	18.89	81.67
MW01	9/17/1997	1230	<5.0	263	830	18.79	81.77
MW01	12/9/1997	685	<1.0	141	261	18.47	82.09
MW01	3/20/1998	662	3.06	78.7	292	18.05	82.51
MW01	6/4/1998	286	2.43	38.4	140	18.54	82.02
MW01	9/10/1998	391	<1.0	34.0	144	18.19	82.37
MW01	12/17/1998	330	1.6	30	150	17.42	83.14
MW01	3/23/1999	197	<1.0	15.8	74.1	17.56	83.00
MW01	6/11/1999	260	3.3	42.0	270	17.80	82.76
MW01	9/20/1999	460	16	78.0	440	17.36	83.20
MW01	12/9/1999	110	3.9	13.0	53	17.42	83.14
MW01	3/31/2000	98	3.4	19.0	59	17.15	83.41
MW01	6/9/2000	290	9.7	49.0	290	17.64	82.92
MW01	9/21/2000	110	1.7	16.0	44	18.10	82.46
MW01	12/5/2000	10	<0.5	3.6	4.3	17.91	82.65
MW01	6/4/2001	39	0.6	5.5	16	18.09	82.47
MW01	8/7/2001	33	<0.5	2.8	4.9	18.62	81.94
MW01	11/27/2001	3.2	<0.5	0.6	<0.5	18.06	82.50
MW01	2/25/2002	3.9	<0.5	0.5	<1.0	17.86	82.70
MW01	5/21/2002	4.4	<0.5	<0.5	<1.0	18.16	82.40
MW01	9/5/2002	2.7	0.5	2.2	1.4	18.82	81.74
MW02	10/15/1999	<0.5	<0.5	<0.5	<0.5	14.12	85.65
MW02	8/28/2000	69	1.3	9.4	28	17.32	82.45
MW02	6/4/2001	<0.5	<0.5	<0.5	<0.5	17.54	82.23
MW02	8/7/2001	<0.5	<0.5	<0.5	<0.5	18.08	81.69
MW02	11/27/2001	<0.5	<0.5	<0.5	<0.5	17.47	82.30
MW02	2/25/2002	<0.5	<0.5	<0.5	<1.0	17.30	82.47
MW02	5/21/2002	<0.5	<0.5	<0.5	<1.0	17.62	82.15
MW02	10/8/2002	<0.5	<0.5	<0.5	0.5	17.80	81.97
MW03	10/15/1999	<0.5	<0.5	<0.5	<0.5	16.43	85.10
MW03	8/28/2000	<0.5	<0.5	<0.5	<0.5	18.96	82.57
MW03	8/7/2001	<0.5	<0.5	<0.5	<0.5	19.58	81.95
MW03	10/8/2002	<0.5	<0.5	<0.5	0.6	19.38	82.15

TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
HAMMOND #41A (METER #89894)**

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)	Corrected GW Elevation (Feet*)
NMWQCC GW Std.:		10	750	750	620		
TMW01	8/13/2003	73	128	44.8	625	17.22	81.32
TMW01	11/15/2003	19.2	113	84.6	1200	16.40	82.14
TMW01	2/17/2004	22.3	109	83.2	774	16.01	82.53
TMW01	5/11/2004	27.2	255	56.6	685	16.03	82.51
TMW01	8/19/2004	3.1	<0.5	2.6	5.6	17.24	81.30
TMW01	11/16/2004	55.2	53.3	70.7	306	17.00	81.54
TMW01	2/21/2005	11.2	20.2	28.9	196	16.43	82.11
TMW01	5/18/2005	140	398	252	1710	16.35	82.19
TMW01	8/23/2005	<1.0	<1.0	<1.0	5.6	17.18	81.36
TMW01	11/8/2005	13.9	20.1	20.1	149	16.91	81.63
TMW01	2/23/2006	64.2	195	118	641	16.23	82.31
TMW01	5/23/2006	49.2	188	85.1	429	16.92	81.62
TMW01	11/8/2006	1.7	1.8	2.2	4.7	15.97	82.57
TMW01	5/24/2007	25.8	103	74.3	399	15.66	82.88
TMW01	8/21/2007	15.9	81.0	59.6	322	16.33	82.21
TMW01	11/13/2007	21.7	83.0	93.4	343	16.30	82.24
TMW01	2/12/2008	24.2	74.5	99.1	362	16.81	81.73
TMW01	8/26/2008	16.7	60.6	74.7	258	16.62	81.92
TMW01	2/17/2009	14.3	50.6	85.3	246	17.06	81.48
TMW01	8/25/2009	2.7	23.1	28.3	127	17.17	81.37
TMW01	2/16/2010	13.8	1.2	52.9	79.9	16.55	81.99
TMW01	9/27/2010	2.7	<2.0	3.5	4.2J	17.15	81.39

Notes:

Results shown in bold typeface exceed their respective New Mexico Water Quality Control Commission standards.

"J" = result is qualified as estimated. See laboratory report and/or supplemental data validation report for further detail.

"<" = analyte was not detected at the indicated reporting limit.

Static groundwater elevations have been corrected for product thickness where applicable. Specific gravity of 0.8 used.