

3R - 238

2010 AGWMR

03/02/2011



BUILDING A BETTER WORLD

3R 238

March 2, 2011

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
2010 Annual Reports**

RECEIVED OGD
2011 MAR - 4 P 12:24

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

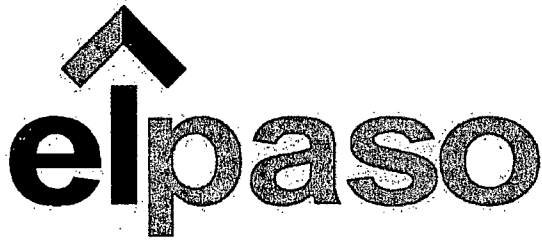
If you have any questions concerning the enclosed reports, please call either Ian Yanagisawa of EPTPC (713-420-7361) or myself (303-291-2276).

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

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San Juan Basin Pit Program
Groundwater Sites Project

Final 2010 Annual Report
Non-Federal Sites (Volume 2)

March 2011



MWH

1801 California Street, Suite 2900
Denver, Colorado 80202

**2010 ANNUAL GROUNDWATER REPORT
NON-FEDERAL SITES VOLUME II
EL PASO TENNESSEE PIPELINE COMPANY**

TABLE OF CONTENTS

METER or LINE ID	NMOCD CASE NO.	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
03906	3RP-179-0	GCU Com A #142E	29N	12W	25	G
93388	3RP-192-0	*Horton #1E	31N	09W	28	H
70194	3RP-201-0	Johnston Fed #4	31N	09W	33	H
LD087	3RP-205-0	K-31 Line Drip	25N	06W	16	N
72556	3RP-207-0	Knight #1	30N	13W	5	A
94967	3RP-214-0	**Lindrith B #24	24N	03W	9	N
70445	3RP-074-0	Standard Oil Com #1	29N	09W	36	N
71669	3RP-239-0	State Gas Com N #1	31N	12W	16	H

*The Horton #1E site was submitted for closure in 2009 and is pending approval from NMOCD. There were no monitoring activities for this site in 2010.

**The Lindrith B#24 site was submitted for closure in 2006 and is pending approval from NMOCD. There were no monitoring activities for this site in 2010.



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LIST OF ACRONYMS

AMSL	above mean sea level
B	benzene
btoc	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

**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT**

**Standard Oil Com #1
Meter Code: 70445**

SITE DETAILS

Legal Description:	Town: 29N	Range: 9W	Sec: 36	Unit: N
NMOCD Haz Ranking:	30	Land Type: State	Operator: Burlington Resources	

PREVIOUS ACTIVITIES

Site Assessment:	5/94	Excavation:	5/94 (60 cy)	Soil Boring:	9/95
Monitor Well:	9/95	Geoprobe:	7/97	Additional MWs:	12/01
Downgradient MWs:	12/01	Replace MW:	NA	Quarterly Initiated:	11/96
ORC Nutrient Injection:	NA	Re-Excavation:	NA	PSH Removal Initiated:	NA
Annual Initiated:	NA	Quarterly Resumed:	NA	PSH Removal in 2010?	No

SUMMARY OF 2010 ACTIVITIES

MW-1: Annual groundwater sampling (June) was performed in 2010.

MW-2: Annual groundwater sampling (June) was performed in 2010.

MW-3: Annual water level monitoring (June) was performed in 2010.

MW-4: Annual water level monitoring (June) was performed in 2010.

MW-5: Annual groundwater sampling (June) was performed in 2010.

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

SITE MAPS

A Site map (June 2010) is attached as Figure 1.

**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT**

**Standard Oil Com #1
Meter Code: 70445**

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 2 through 6.
- The 2010 laboratory report is presented in Attachment 1 (included on CD).
- 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 generated for this Site; however, the attached Site map presents the analytical data collected during 2010.

RESULTS

- The groundwater flow direction at this Site is generally toward the west.
- Benzene in the sample collected from MW-1 was above the NMWQCC standard, at 23.1 µg/L. The remaining BTEX constituents were below their respective standards. As a long-term trend, concentrations have attenuated significantly in this well.
- The benzene and total xylenes concentrations in the sample collected from MW-2 were 421 µg/L and 670 µg/L, respectively, exceeding their NMWQCC standards. The remaining BTEX constituents were below their respective standards. As a long-term trend, BTEX concentrations have attenuated significantly in this well.
- In 1997, temporary piezometer data were collected that indicated other potential sources of contamination at the Site. Piezometer locations are shown on Figure 1. PZ-1, PZ-5, and PZ-6 had benzene concentrations ranging from 1,420 µg/L to 10,400 µg/L; juxtaposed against a benzene concentration of 91.4 µg/L in monitor well MW-1, located in the former El Paso pit.
- Monitoring wells MW-3 and MW-4 have historically had high levels of BTEX constituents that are not believed to be from the former EPTPC pit, based on the 1997 piezometer sampling results. These wells have therefore only been used for water level monitoring.

**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT**

**Standard Oil Com #1
Meter Code: 70445**

- The annual samples collected from new monitor well MW-5 in 2007, 2008, 2009, and 2010 have appeared clean with respect to BTEX.

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 conditions must be achieved:
 1. The extent of the contaminant plume must be delineated. Additional site delineation activities have not yet been conducted due to ongoing operations, which are believed to have contributed to the subsurface petroleum hydrocarbon impacts.
 2. 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, MW-1 and MW-2 require additional monitoring. The remaining applicable standards are:

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

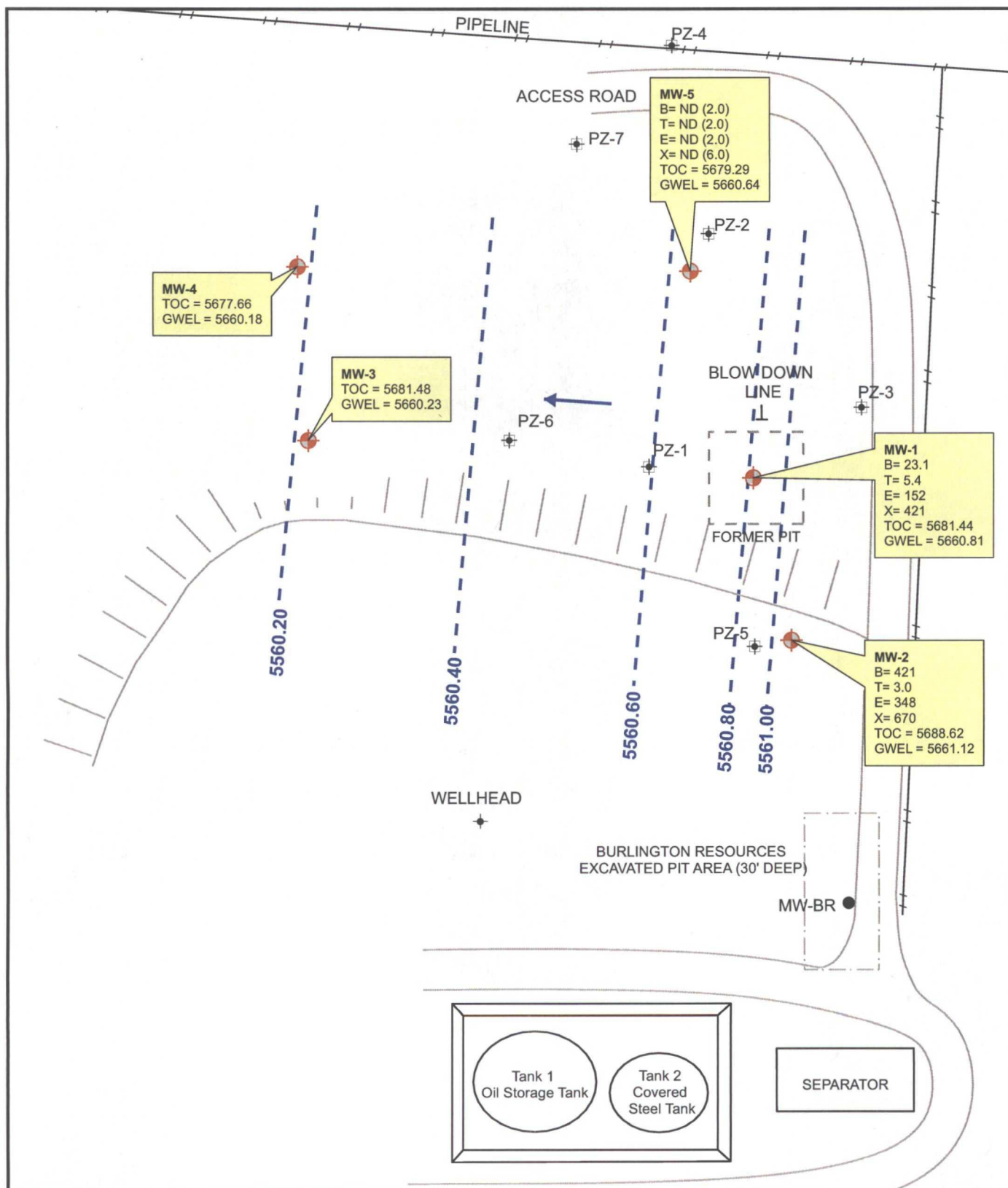
RECOMMENDATIONS

- EPTPC recommends that sampling at MW-1 and MW-2 be performed on an annual basis until BTEX concentrations meet the closure criteria. These wells will then be scheduled for quarterly sampling until four consecutive samples are below closure standards.
- EPTPC recommends sampling monitoring wells MW-3 and MW-4 during the 2011 annual sampling event. These wells have not been sampled since 2001. While EPTPC does not hold that these wells were impacted by its pit, the sampling results will be helpful in further evaluation of this site and in development of future recommendations regarding either potential delineation or Site remediation.

**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT**

**Standard Oil Com #1
Meter Code: 70445**

- New well MW-5 helped to clarify the gradient direction at the Site. This well has been clean over four annual sampling events. EPTPC recommends not sampling this well again until closure samples are collected.
- EPTPC will evaluate this Site further, and particularly the impacts observed in monitoring wells MW-3 and MW-4, and present any additional recommendations in future annual reports.



LEGEND

MW-4 Existing Monitoring / Observation Well

PZ-01 Abandoned Temporary Piezometer

Groundwater Flow Direction

—5561— 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. AMSL)

0 15 30 Feet



MWH



PROJECT:

STANDARD OIL COM #1

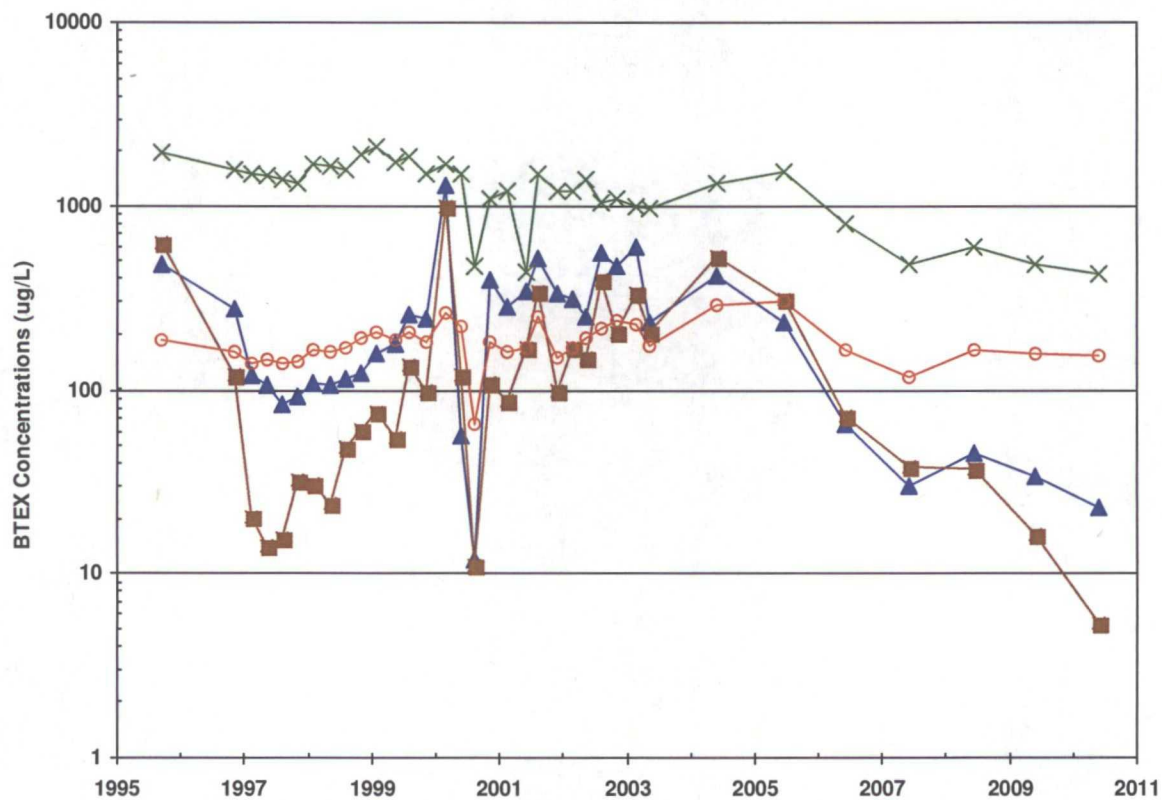
TITLE:

Groundwater Potentiometric Surface Map,
and BTEX Concentrations - June 2, 2010

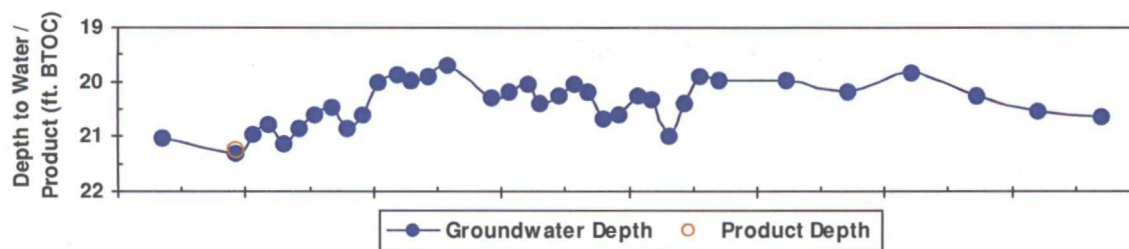
FIGURE:

1

FIGURE 2
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
STANDARD OIL COM #1 (METER #70445)
MW01



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



● Groundwater Depth	○ Product Depth
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FIGURE 3
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
STANDARD OIL COM #1 (METER #70445)
MW02

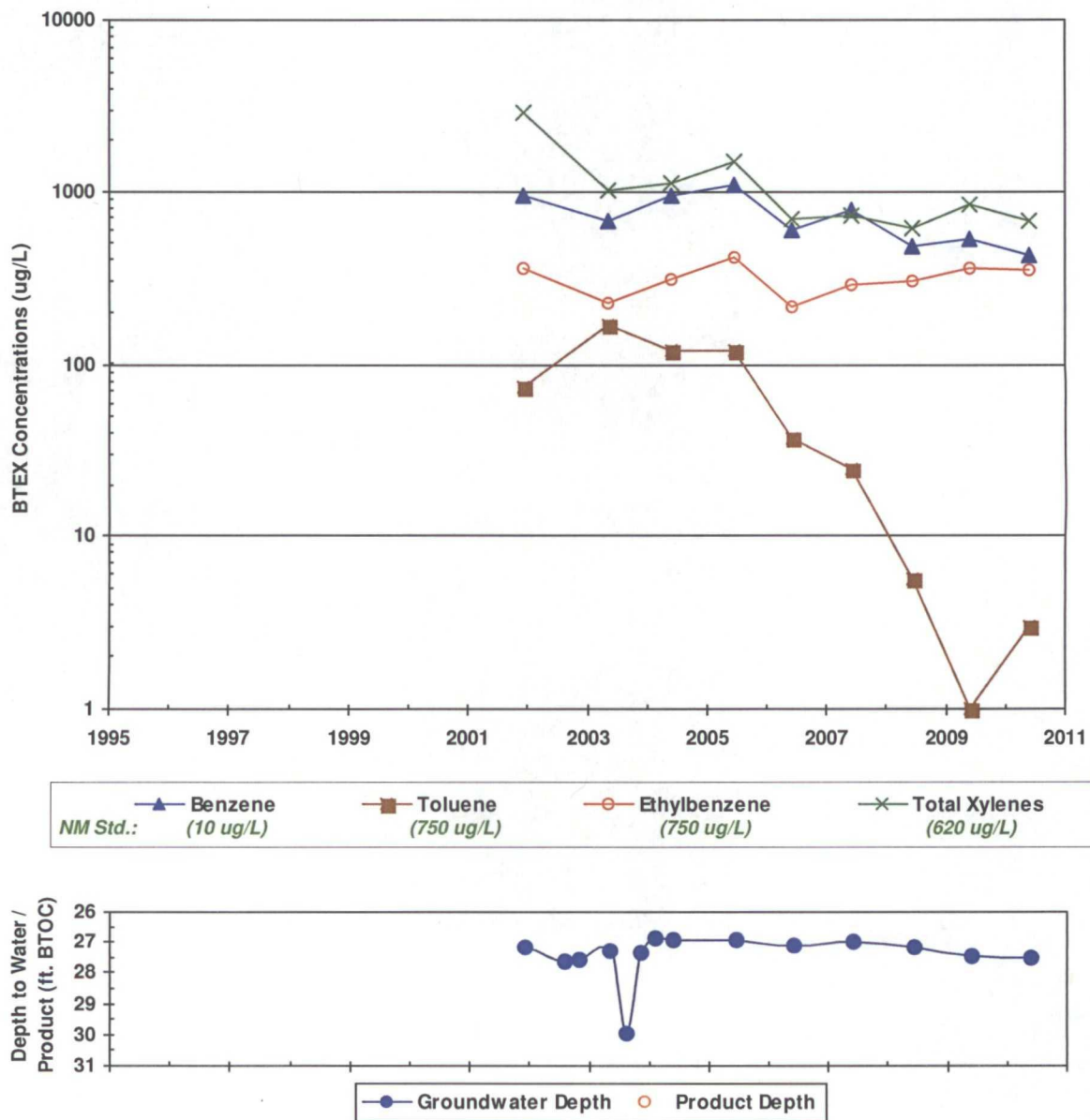


FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
STANDARD OIL COM #1 (METER #70445)
MW03

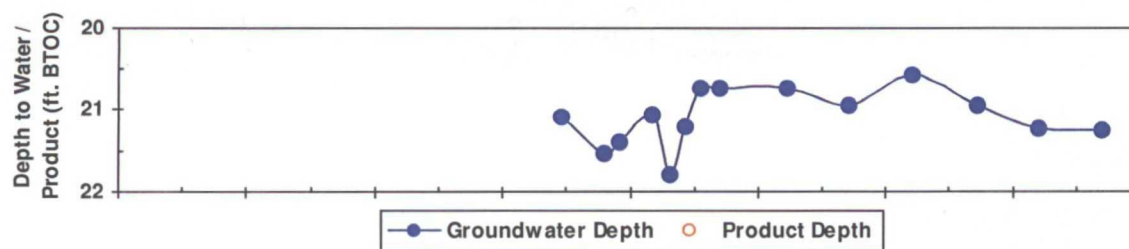
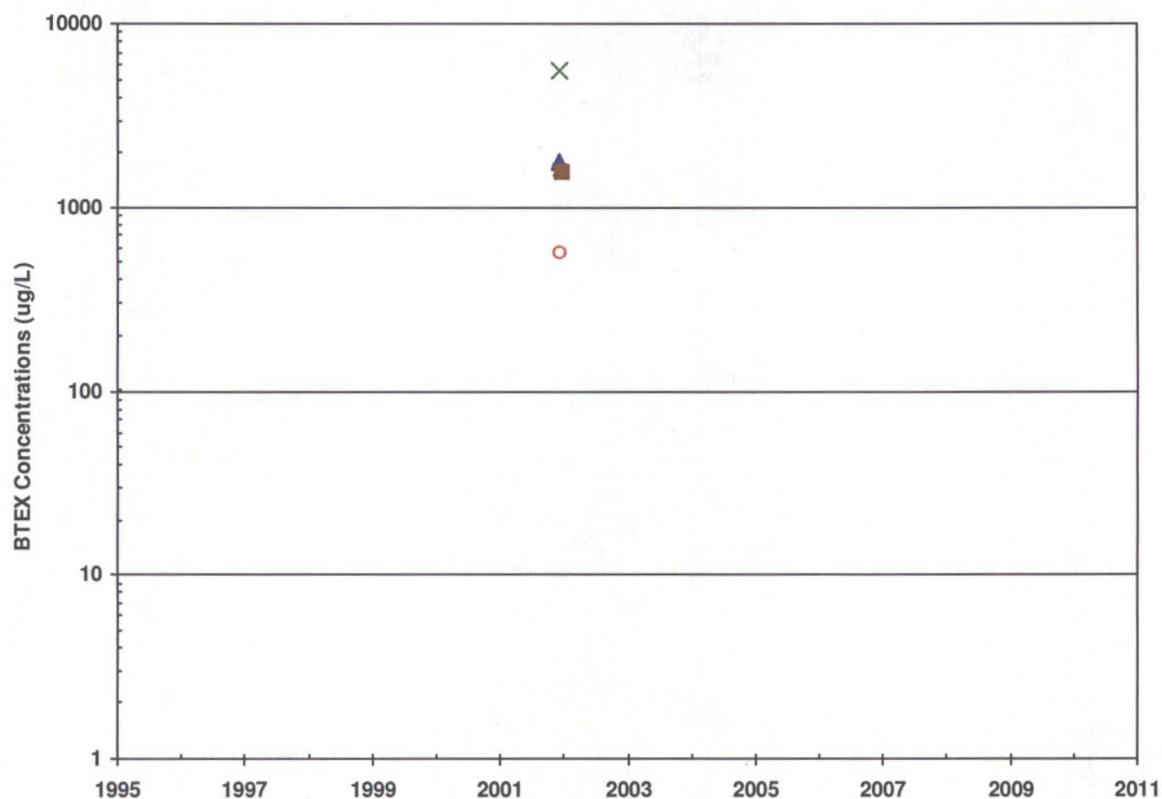


FIGURE 5
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
STANDARD OIL COM #1 (METER #70445)
MW04

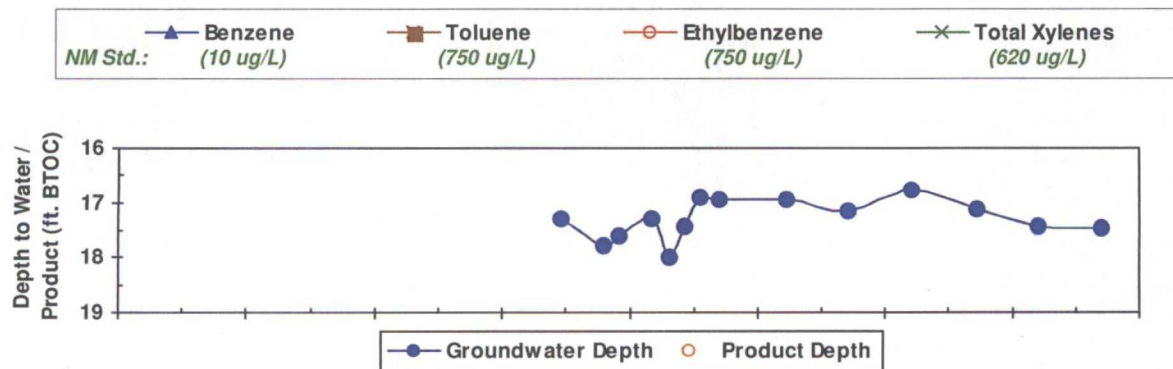
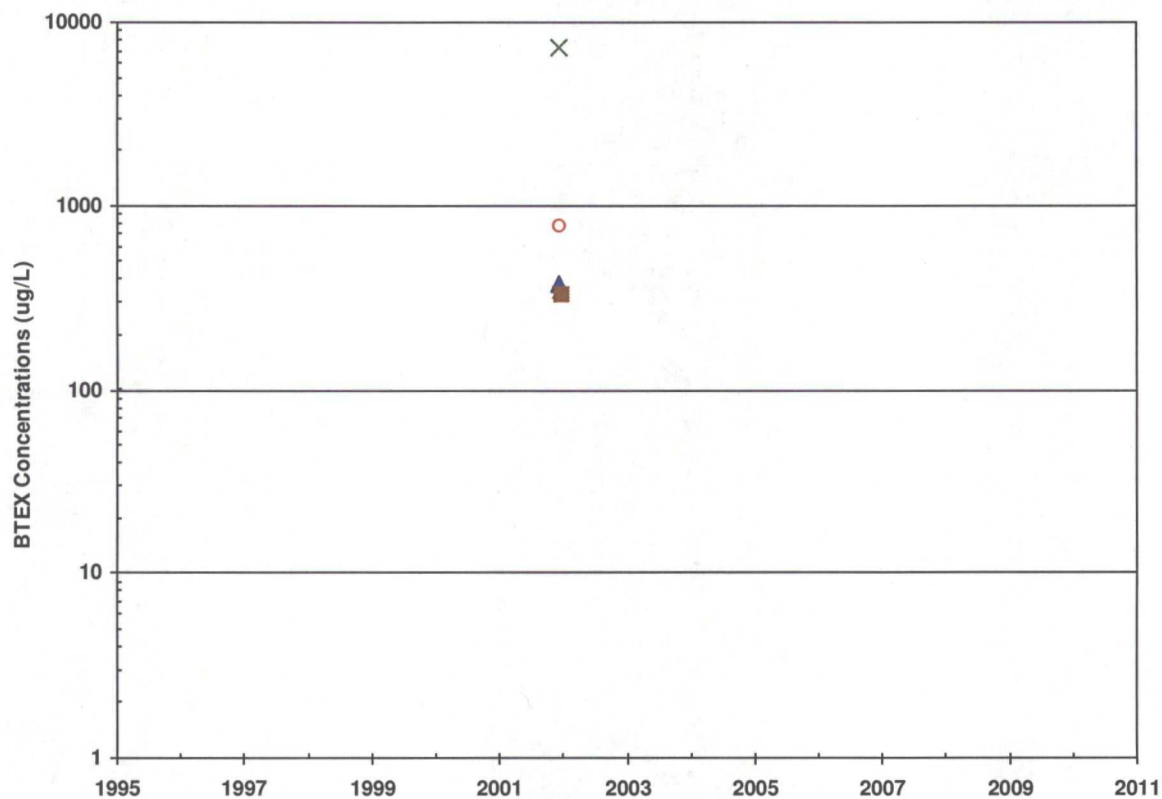


FIGURE 6
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
STANDARD OIL COM #1 (METER #70445)
MW05

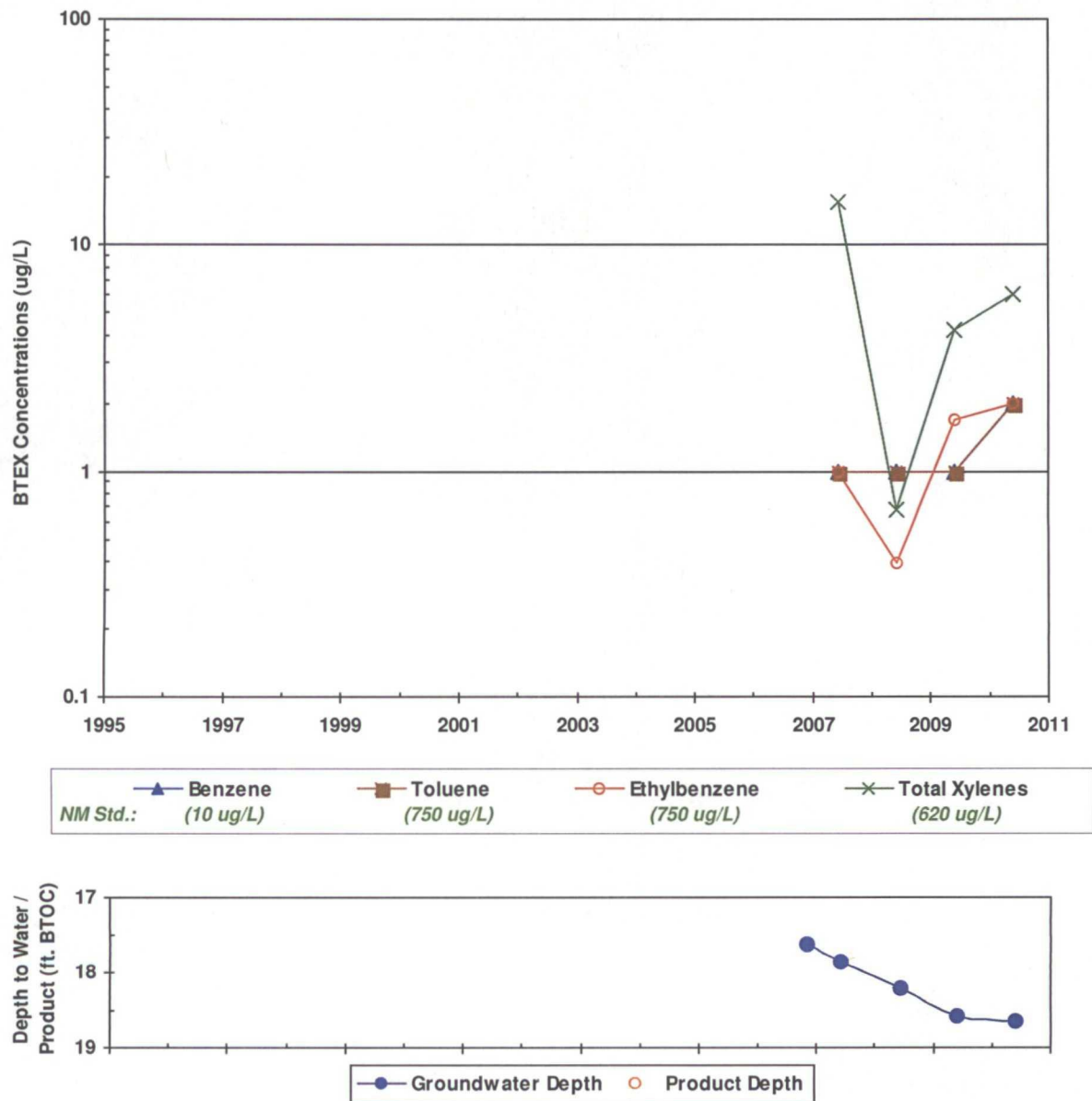


TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
STANDARD OIL COM #1 (METER #70445)**

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 (ft AMSL)
NMWQCC GW Std.:		10	750	750	620		
MW01	9/12/1995	482	629	188	1980	21.03	5660.41
MW01	11/7/1996	277	121	161	1590	21.30	5660.19
MW01	2/7/1997	119	20.2	139	1490	20.96	5660.48
MW01	5/9/1997	105	14.2	145	1480	20.78	5660.66
MW01	8/8/1997	82.6	15.6	140	1400	21.13	5660.31
MW01	11/4/1997	91.4	32.4	141	1320	20.86	5660.58
MW01	2/3/1998	109	31	163	1680	20.61	5660.83
MW01	5/7/1998	107	24.2	161	1640	20.47	5660.97
MW01	8/4/1998	113	48.7	167	1580	20.85	5660.59
MW01	11/3/1998	122	61.3	190	1930	20.62	5660.82
MW01	2/2/1999	157	75.8	204	2100	20.02	5661.42
MW01	5/19/1999	178	55.2	184	1730	19.86	5661.58
MW01	8/4/1999	252	136	203	1890	19.98	5661.46
MW01	11/9/1999	240	98	180	1500	19.91	5661.53
MW01	2/25/2000	1300	1000	260	1700	19.69	5661.75
MW01	5/24/2000	56	120	220	1500	NA	NA
MW01	8/8/2000	12	11	66	470	NA	NA
MW01	11/6/2000	390	110	180	1100	20.29	5661.15
MW01	2/15/2001	280	88	160	1200	20.18	5661.26
MW01	6/4/2001	340	170	170	430	20.05	5661.39
MW01	8/7/2001	510	340	250	1500	20.41	5661.03
MW01	12/4/2001	330	98	150	1200	20.26	5661.18
MW01	2/25/2002	310	170	170	1200	20.06	5661.38
MW01	5/14/2002	250	150	190	1400	20.17	5661.27
MW01	8/6/2002	551	398	214	1041	20.69	5660.75
MW01	11/4/2002	464	207	235	1085	20.60	5660.83
MW01	2/27/2003	600	330	225	993	20.24	5661.20
MW01	5/19/2003	230	206	172	977	20.31	5661.13
MW01	6/2/2004	416	534	287	1330	19.99	5661.46
MW01	6/24/2005	234	310	305	1530	19.98	5661.46
MW01	6/7/2006	66.0	71.9	165	804	20.18	5661.26
MW01	6/12/2007	29.8	38.2	116	477	19.85	5661.59
MW01	6/16/2008	45.4	37.7	164	598	20.24	5661.20
MW01	6/10/2009	33.7	16.4	156	484	20.52	5660.92

TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
STANDARD OIL COM #1 (METER #70445)**

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 (ft AMSL)
NMWQCC GW Std.:		10	750	750	620		
MW01	6/2/2010	23.1	5.4	152	421	20.63	5660.81
MW02	12/13/2001	940	74	360	2900	27.15	5661.47
MW02	5/19/2003	673	167	228	1010	27.29	5661.33
MW02	6/2/2004	943	120	309	1130	26.94	5661.68
MW02	6/24/2005	1090	120	418	1510	26.92	5661.70
MW02	6/7/2006	592	37.7	216	692	27.12	5661.50
MW02	6/12/2007	781	<25	286	733	26.96	5661.66
MW02	6/16/2008	480	5.6J	299	614	27.17	5661.45
MW02	6/10/2009	532	<1.0	356	836	27.45	5661.17
MW02	6/2/2010	421	3.0	348	670	27.50	5661.12
MW03	12/13/2001	1800	1600	570	5600	21.10	5660.38
MW04	12/13/2001	380	340	780	7300	17.30	5660.36
MW05	6/12/2007	<1.0	<1.0	<1.0	15.6	17.85	5661.44
MW05	6/16/2008	<1.0	<1.0	0.39J	0.68J	18.20	5661.09
MW05	6/10/2009	<1.0	<1.0	1.7	4.2	18.58	5660.71
MW05	6/2/2010	<2.0	<2.0	<2.0	<6.0	18.65	5660.64

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.

TABLE 2

**SUMMARY OF FREE-PRODUCT REMOVAL
STANDARD OIL COM #1 (METER #70445)**

Monitor Well	Removal Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Removal (gallons)	Corrected GW Elevation (ft AMSL)
MW01	11/7/1996	21.24	21.30	0.06	--	0.00	5660.19

Notes:

"--" indicates either that product was not measurably detected or that product was not recovered.

"NA" indicates that the respective data point is not available.

Groundwater elevations may not be static due to removal of equipment. Corrections for product thickness utilize SG of 0.8.