3R204

2010 AGWMR

03/02/2011

MWH

BUILDING A BETTER WORLD

3R204

March 2, 2011

RECEIVED OCD
2011 MAR -4 P 12:24

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

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:

Volume	Location Type
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)

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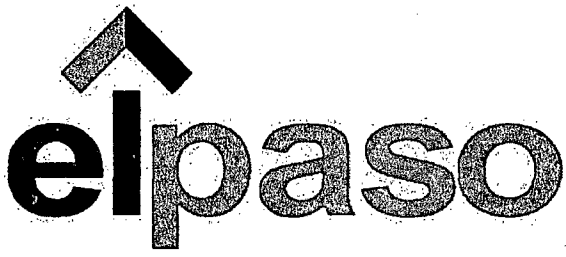


El Paso Tennessee
Pipeline Company

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
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

LEGEND

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

*Closure Request Pending with the NMOCD.

0 2 4 6 8 Miles

MWH

elpaso

PROJECT: SAN JUAN RIVER BASIN

TITLE: Site Locations, February 2011

FIGURE: 1

EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT

K27
Meter Code: LD072

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 2010?**	Yes

SUMMARY OF 2010 ACTIVITIES

MW-1: Annual groundwater sampling (November) and quarterly water level monitoring were performed during 2010.

MW-2: Annual groundwater sampling (November) and quarterly free-product recovery were performed during 2010.

MW-3: Annual groundwater sampling (November) and quarterly water level monitoring were performed during 2010.

TMW-5: Annual groundwater sampling (November) and quarterly water level monitoring were performed during 2010.

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

SITE MAP

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

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 2 through 5. Where applicable, static water level elevations were corrected for measurable thicknesses of free-product (specific gravity of 0.8).
- Historic free-product recovery data are summarized in Table 2 and presented graphically in Figures 2 and 3.

- 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 conducted at this Site during 2010.

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 2010.

RESULTS

- The groundwater flow direction is approximately to the northeast.
- The groundwater sample from MW-1 contained benzene at a concentration of 138 µg/L, which exceeded the NMWQCC standard of 10 µg/L. The other BTEX constituents were detected but were below their respective standards. The highest benzene concentration in MW-1 was 1,690 µg/L, observed in 1997. It appears that passive product recovery coupled with natural attenuation has been effective at this Site.
- Approximately 0.41 gallons of free-product were removed from MW-2 during 2010, bringing the cumulative total recovery from this well to approximately 8.80 gallons since 2001. The annual groundwater sample from this well contained elevated concentrations of benzene (152 µg/L) and total xylenes (2,190 µg/L). These results were similar to those observed in 2009 and show significant attenuation from the higher concentrations observed in the original MW-2 sample, which was collected in August 2000.
- The annual sample from MW-3 was non-detect for BTEX. This well has been sampled 8 times, beginning in September 2000, and the BTEX constituents were only detected on one occasion, at concentrations just above the detection limits. This well appears to be clean.
- Monitor well TMW-5 (installed in 2006) was sampled for the fifth time in November 2010. As was the case in the previous sampling events, there were no detections of BTEX. This well appears to be clean.

EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT

K27
Meter Code: LD072

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 still be achieved:

    1. Recoverable free-product must be removed from the subsurface. Generally, this corresponds with an absence of measurable free-product in the monitor wells. Currently, product recovery efforts are still required at MW-2.

    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, all the monitor wells require additional monitoring. The remaining applicable standards are:

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

RECOMMENDATIONS

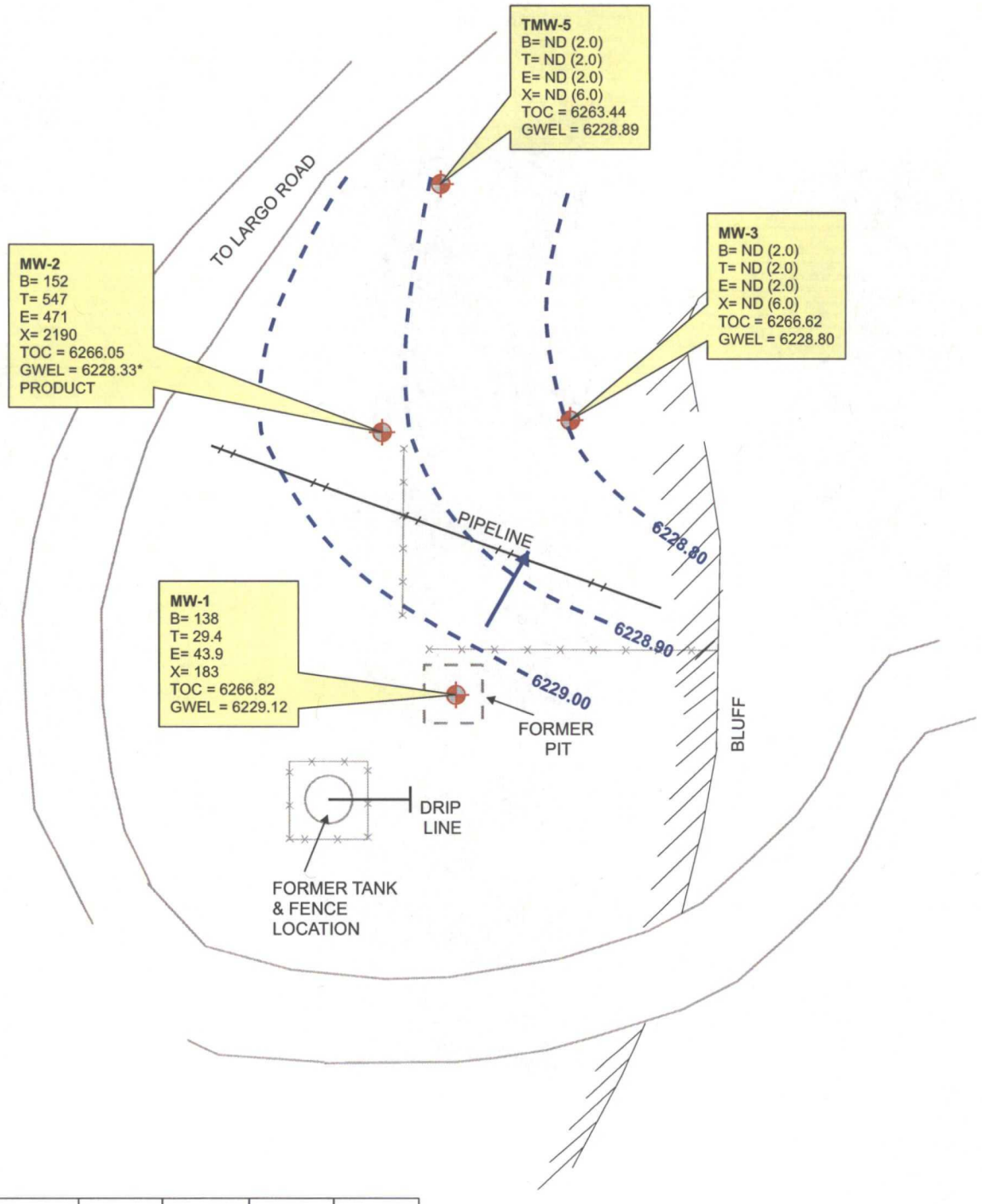
- EPTPC will gauge MW-1 quarterly and sample annually.

- EPTPC will continue quarterly free-product recovery efforts at MW-2; however, the frequency of monitoring may be adjusted based on the amount of product recovered during the monitoring visits. This well will also be sampled annually.

- EPTPC will continue to monitor groundwater levels on a quarterly basis and sample annually at MW-3 in order to provide consistent plume delineation.

- EPTPC will monitor groundwater levels at TMW-5 on a quarterly basis and sample annually in order to provide consistent plume delineation.

- Once free-product recovery efforts are completed at this Site, each well will be sampled on an annual basis until sample results achieve closure criteria. The wells will then be scheduled for quarterly sampling until closure criteria are met.



Product Removed (Gallons)	2/16/10	5/24/10	9/27/10	11/1/10	11/8/10
MW-2	0.09	0.09	0.09	0.13	0.008

* Water level appears to be anomylous.

LEGEND

MW-4	Existing Monitoring / Observation Well
PZ-01	Abandoned Monitoring Well
→	Groundwater Flow Direction
—1275—	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)

N

0 20 40 Feet

MWH

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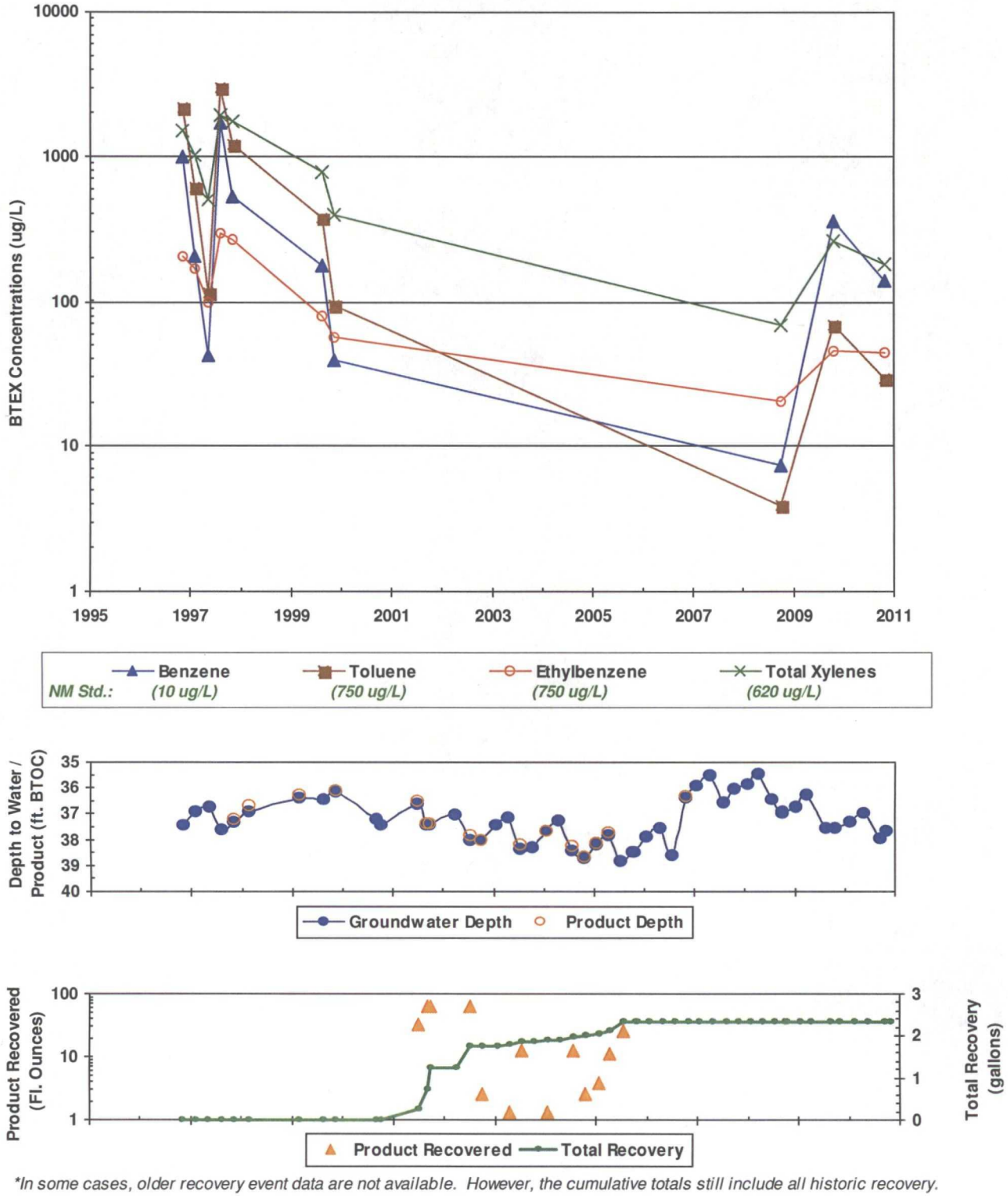
PROJECT: K-27 LD072

TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - November 8, 2010

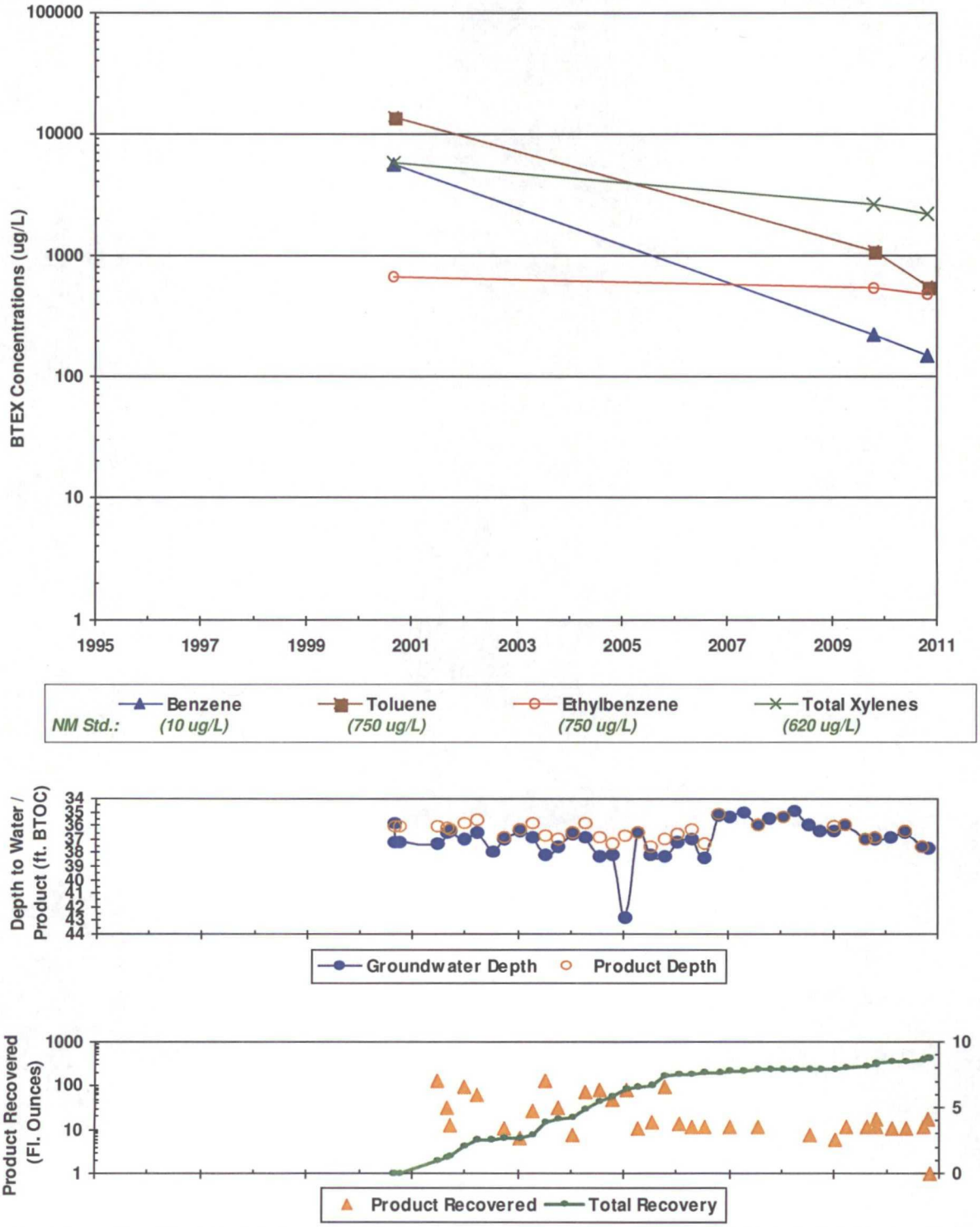
FIGURE: 1

FIGURE 2
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
K27 LD072 (METER #LD072)
MW01



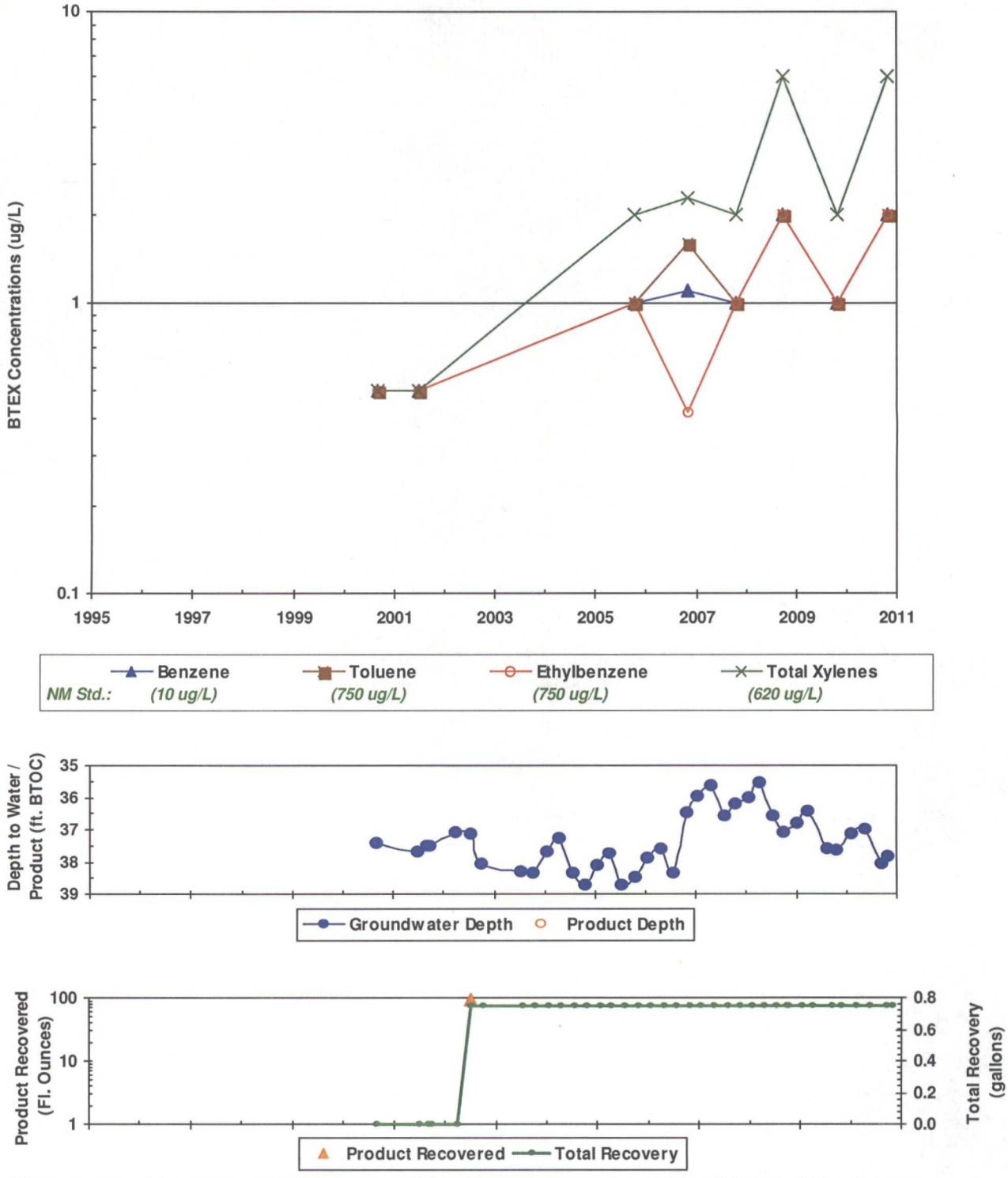
*In some cases, older recovery event data are not available. However, the cumulative totals still include all historic recovery.

FIGURE 3
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
K27 LD072 (METER #LD072)
MW02



*In some cases, older recovery event data are not available. However, the cumulative totals still include all historic recovery.

FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
K27 LD072 (METER #LD072)
MW03



*In some cases, older recovery event data are not available. However, the cumulative totals still include all historic recovery.

FIGURE 5
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
K27 LD072 (METER #LD072)
TMW05

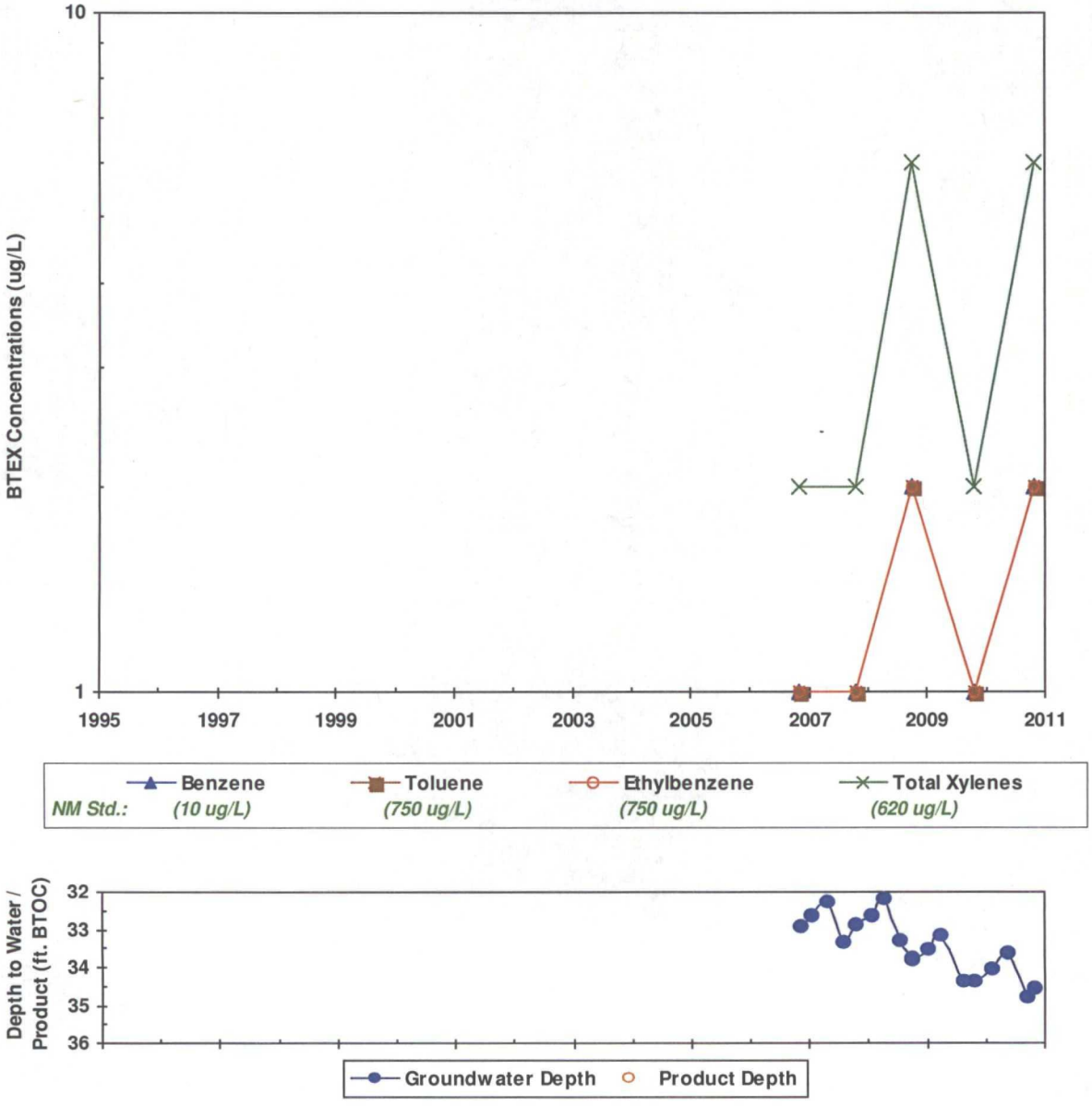


TABLE 1

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

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	11/4/1996	**996**	**2170**	204	**1520**	37.44	6229.38
MW01	2/5/1997	**207**	613	168	**1010**	36.89	6229.93
MW01	5/7/1997	**41.8**	114	97.8	500	36.73	6230.09
MW01	8/8/1997	**1690**	**2980**	298	**1930**	37.61	6229.21
MW01	11/7/1997	**533**	**1210**	267	**1720**	37.33	6229.59
MW01	8/19/1999	**179**	379	79.1	**777**	36.48	6230.34
MW01	11/10/1999	**39**	95	56	390	36.17	6230.71
MW01	10/8/2008	7.3	3.9	20.2	68.7	36.95	6229.87
MW01	11/3/2009	**355**	69.3	45.8	259	37.58	6229.24
MW01	11/8/2010	**138**	29.4	43.9	183	37.70	6229.12
MW02	8/31/2000	**5500**	**14000**	670	**5800**	35.81	6230.24
MW02	11/3/2009	**223**	**1070**	532	**2590**	37.00	6229.08
MW02	11/8/2010	**152**	547	471	**2190**	37.72	6228.33
MW03	9/5/2000	<0.5	<0.5	<0.5	<0.5	37.40	6229.22
MW03	7/3/2001	<0.5	<0.5	<0.5	<0.5	37.69	6228.93
MW03	10/21/2005	<1.0	<1.0	<1.0	<2.0	38.48	6228.14
MW03	11/7/2006	1.1	1.6	0.42J	2.3	36.50	6230.12
MW03	10/25/2007	<1.0	<1.0	<1.0	<2.0	36.20	6230.42
MW03	10/8/2008	<2.0	<2.0	<2.0	<6.0	37.09	6229.53
MW03	11/3/2009	<1.0	<1.0	<1.0	<2.0	37.67	6228.95
MW03	11/8/2010	<2.0	<2.0	<2.0	<6.0	37.82	6228.80
TMW05	11/8/2006	<1.0	<1.0	<1.0	<2.0	32.95	6230.49
TMW05	10/25/2007	<1.0	<1.0	<1.0	<2.0	32.90	6230.54
TMW05	10/8/2008	<2.0	<2.0	<2.0	<6.0	33.79	6229.65
TMW05	11/3/2009	<1.0	<1.0	<1.0	<2.0	34.35	6229.09
TMW05	11/8/2010	<2.0	<2.0	<2.0	<6.0	34.55	6228.89

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
K27 LD072 (METER #LD072)

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	11/7/1997	37.21	37.33	0.12	--	0.00	6229.59
MW01	2/26/1998	36.71	36.89	0.18	--	0.00	6230.07
MW01	2/24/1999	36.27	36.39	0.12	--	0.00	6230.53
MW01	11/10/1999	36.10	36.17	0.07	--	0.00	6230.71
MW01	7/3/2001	36.49	36.64	0.15	0.25	0.25	6230.30
MW01	9/4/2001	37.39	37.43	0.04	0.50	0.75	6229.42
MW01	9/24/2001	37.40	37.45	0.05	0.50	1.25	6229.41
MW01	7/15/2002	37.85	38.02	0.17	0.50	1.75	6228.94
MW01	10/8/2002	38.00	38.01	0.01	0.02	1.77	6228.82
MW01	4/26/2003	--	37.15	0.00	0.01	1.78	6229.67
MW01	7/17/2003	38.18	38.36	0.18	0.10	1.88	6228.60
MW01	1/19/2004	37.68	37.69	0.01	0.01	1.89	6229.14
MW01	7/27/2004	38.28	38.45	0.17	0.10	1.99	6228.51
MW01	10/20/2004	38.68	38.71	0.03	0.02	2.01	6228.13
MW01	1/25/2005	38.16	38.18	0.02	0.03	2.04	6228.66
MW01	4/14/2005	37.75	37.84	0.09	0.09	2.13	6229.05
MW01	7/19/2005	--	38.84	0.00	0.20	2.33	6227.98
MW01	11/7/2006	36.31	36.37	0.06	--	2.33	6230.50
MW02	9/5/2000	36.11	37.28	1.17	--	0.00	6229.71
MW02	10/6/2000	36.04	37.31	1.27	--	0.00	6229.76
MW02	7/3/2001	36.12	37.37	1.25	1.00	1.00	6229.68
MW02	9/4/2001	36.25	36.52	0.27	0.25	1.25	6229.75
MW02	9/24/2001	36.27	36.46	0.19	0.10	1.35	6229.74
MW02	1/2/2002	35.87	36.97	1.10	0.75	2.10	6229.96
MW02	4/1/2002	35.67	36.61	0.94	0.50	2.60	6230.19
MW02	10/8/2002	36.94	37.01	0.07	0.08	2.68	6229.10
MW02	1/27/2003	36.31	36.47	0.16	0.05	2.73	6229.71
MW02	4/26/2003	35.85	36.88	1.03	0.21	2.94	6229.99
MW02	7/17/2003	36.75	38.20	1.45	1.00	3.94	6229.01
MW02	10/13/2003	37.07	37.64	0.57	0.25	4.19	6228.87
MW02	1/19/2004	36.51	36.72	0.21	0.06	4.25	6229.50
MW02	4/20/2004	35.91	36.93	1.02	0.58	4.83	6229.94
MW02	7/27/2004	36.88	38.30	1.42	0.63	5.46	6228.89
MW02	10/20/2004	37.37	38.23	0.86	0.38	5.84	6228.51

TABLE 2

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

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)
MW02	1/25/2005	36.77	42.87	6.10	0.61	6.45	6228.06
MW02	4/14/2005	36.55	36.55	0.00	0.08	6.53	6229.50
MW02	7/19/2005	37.55	38.16	0.61	0.12	6.65	6228.38
MW02	10/21/2005	37.06	38.31	1.25	0.75	7.40	6228.74
MW02	1/23/2006	36.69	37.31	0.62	0.11	7.51	6229.24
MW02	4/28/2006	36.33	37.01	0.68	0.09	7.60	6229.58
MW02	7/26/2006	37.42	38.37	0.95	0.09	7.69	6228.44
MW02	11/7/2006	35.21	35.28	0.07	--	7.69	6230.83
MW02	1/17/2007	--	35.35	0.00	0.09	7.78	6230.70
MW02	7/31/2007	36.01	36.03	0.02	0.09	7.87	6230.04
MW02	1/25/2008	35.34	35.37	0.03	--	7.87	6230.70
MW02	7/23/2008	--	35.95	0.00	0.06	7.93	6230.10
MW02	1/16/2009	36.14	36.39	0.25	0.05	7.98	6229.86
MW02	4/2/2009	NA	NA	NA	0.09	8.07	NA
MW02	4/6/2009	35.94	35.98	0.04	--	8.07	6230.10
MW02	8/25/2009	36.97	37.03	0.06	0.09	8.16	6229.07
MW02	11/2/2009	NA	NA	NA	0.13	8.30	NA
MW02	11/3/2009	36.96	37.00	0.04	0.09	8.39	6229.08
MW02	2/16/2010	--	36.96	0.00	0.09	8.48	6229.09
MW02	5/24/2010	36.48	36.55	0.07	0.09	8.56	6229.56
MW02	9/27/2010	37.57	37.58	0.01	0.09	8.66	6228.48
MW02	11/1/2010	NA	NA	NA	0.13	8.79	NA
MW02	11/8/2010	--	37.72	0.00	0.01	8.80	6228.33
MW03	7/15/2002	--	37.13	0.00	0.75	0.75	6229.49

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.