

3R - 205

2010 AGWMR

03/02/2011



BUILDING A BETTER WORLD

32205

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 OOD
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**

**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; 12/06	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 2010?	No

SUMMARY OF 2010 ACTIVITIES

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

MW-2: Semiannual groundwater sampling (June and November) was performed during 2010.

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

MW-4: Semiannual groundwater sampling (June and November) was performed during 2010.

MW-5: Semiannual groundwater sampling (June and November) was performed during 2010.

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

SITE MAP

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

**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT**

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

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 3 through 7.
- The 2010 laboratory reports are 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 maps present the analytical data collected during 2010.

RESULTS

- The groundwater flow direction appears to be north-northwest.
- In 2010, MW-2 benzene concentrations were 209 µg/L in June and non-detect in November. The data set indicates that long-term attenuation is continuing and that benzene concentrations peak during the seasonal higher water table periods.
- The samples collected from downgradient monitoring well MW-4 had benzene concentrations of 94.1 µg/L and 15.6 µg/L, in June and November 2010, respectively. All other BTEX components were well below their respective NMWQCC standards. As is the case with MW-2, the benzene concentration in MW-4 appears to peak when the water table is elevated.
- The samples collected from downgradient monitoring well MW-5 had benzene concentrations of 47.4 µg/L and 21.2 µg/L, in June and November 2010, respectively. All other BTEX components were well below their respective NMWQCC standards.

**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT**

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

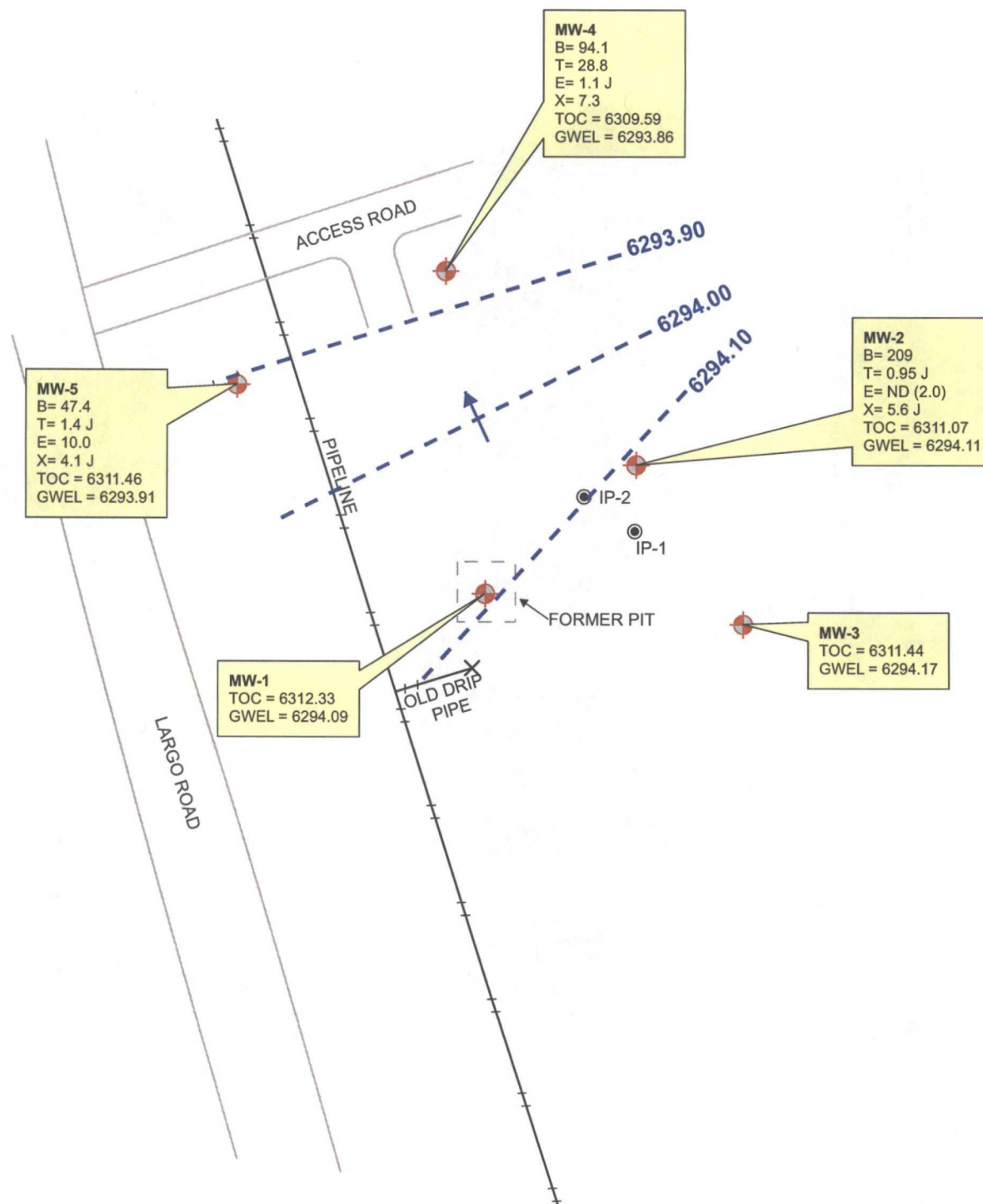
REMAINING CLOSURE REQUIREMENTS

- 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, each monitor well ultimately requires additional monitoring. The remaining applicable standards are:

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


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 again until closure samples are collected.
- EPTPC will continue to sample MW-2 on a semiannual basis until BTEX concentrations meet the 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 again until closure samples are collected.
- EPTPC recommends that downgradient monitoring wells MW-4 and MW-5 be sampled in conjunction with MW-2.



LEGEND

MW-4  Existing Monitoring / Observation Well

PZ-01  Abandoned Monitoring Well

 Groundwater Flow Direction

 Potentiometric Surface Contour (Inferred Where Dashed)

ND Not Detected; Reporting Limit Shown In Parenthesis

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)

J Result Flagged as Estimated



Not To Scale



MWH



PROJECT:

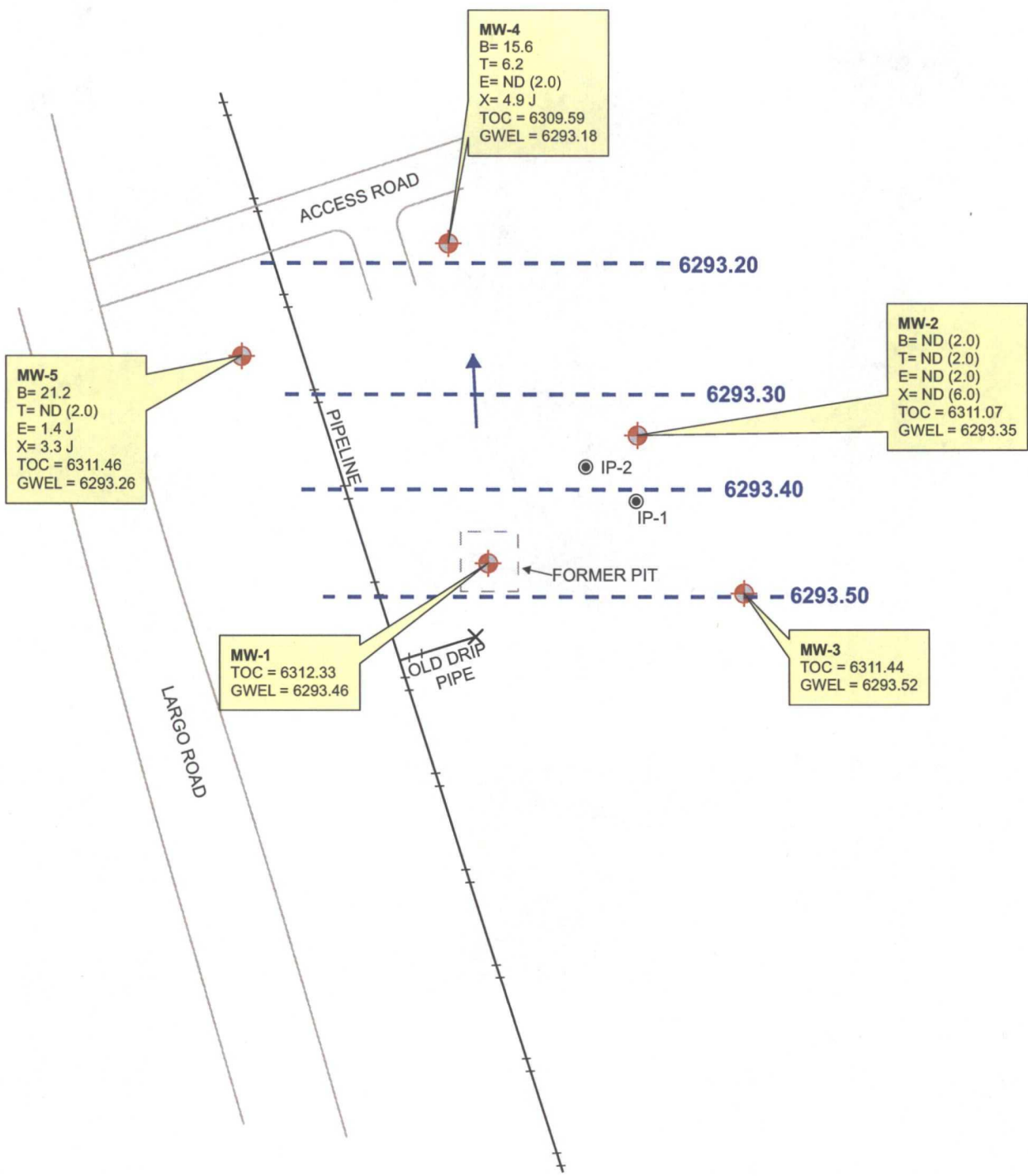
K-31 LINE DRIP

TITLE:

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

FIGURE:

1



LEGEND

- MW-4** Existing Monitoring / Observation Well
PZ-01 Abandoned Monitoring Well
 Groundwater Flow Direction
 —5486— Potentiometric Surface Contour (Inferred Where Dashed)
ND Not Detected; Reporting Limit Shown In Parenthesis

- 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)
J Result Flagged as Estimated



MWH



PROJECT:

K-31 LINE DRIP

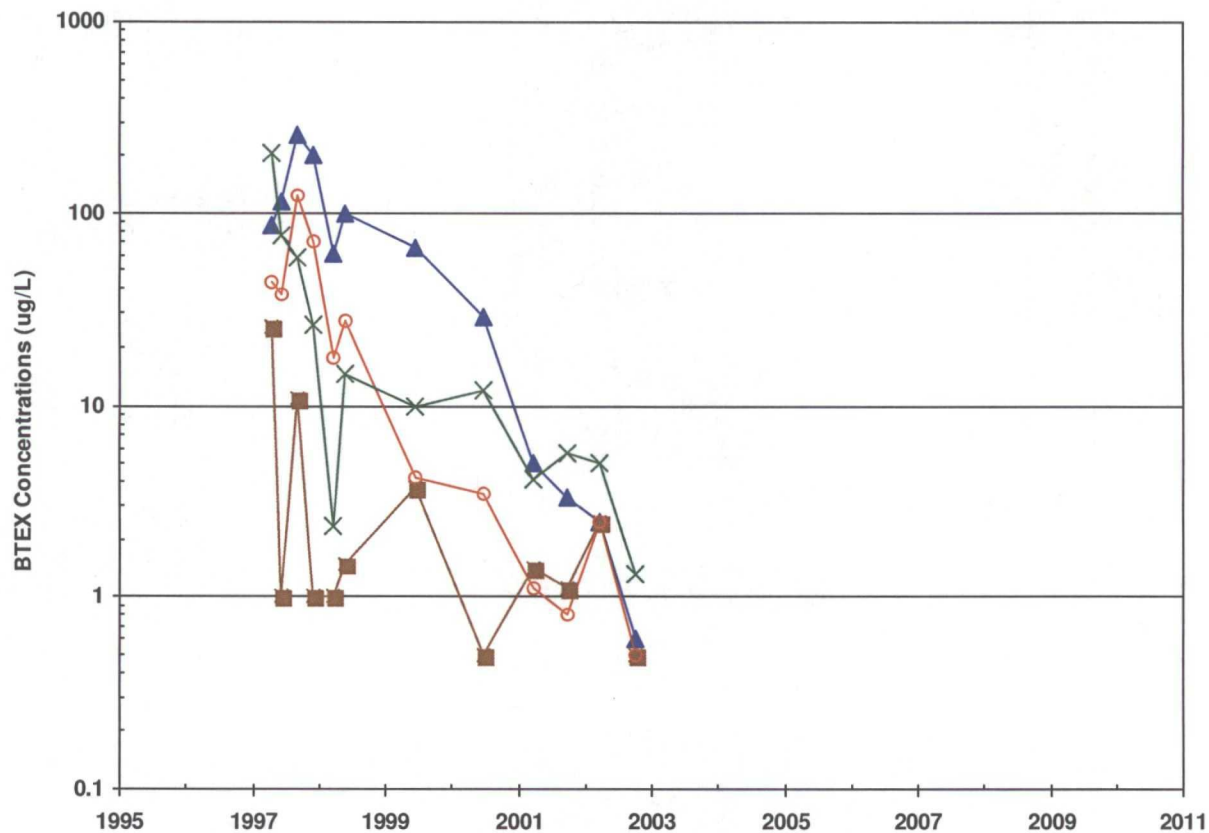
TITLE:

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

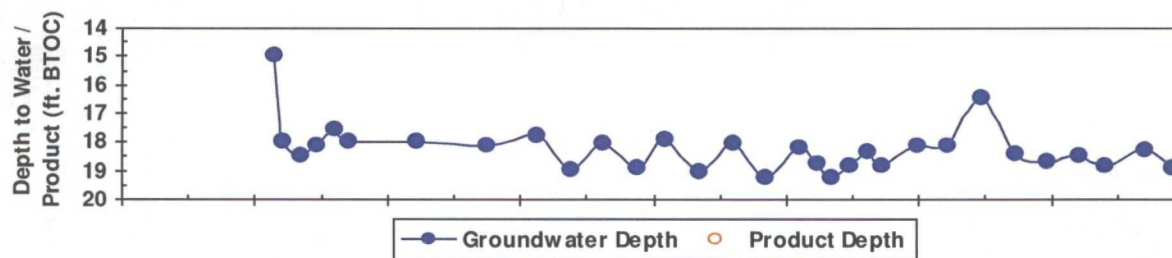
FIGURE:

2

FIGURE 3
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
K-31 LINE DRIP (METER #LD087)
MW01

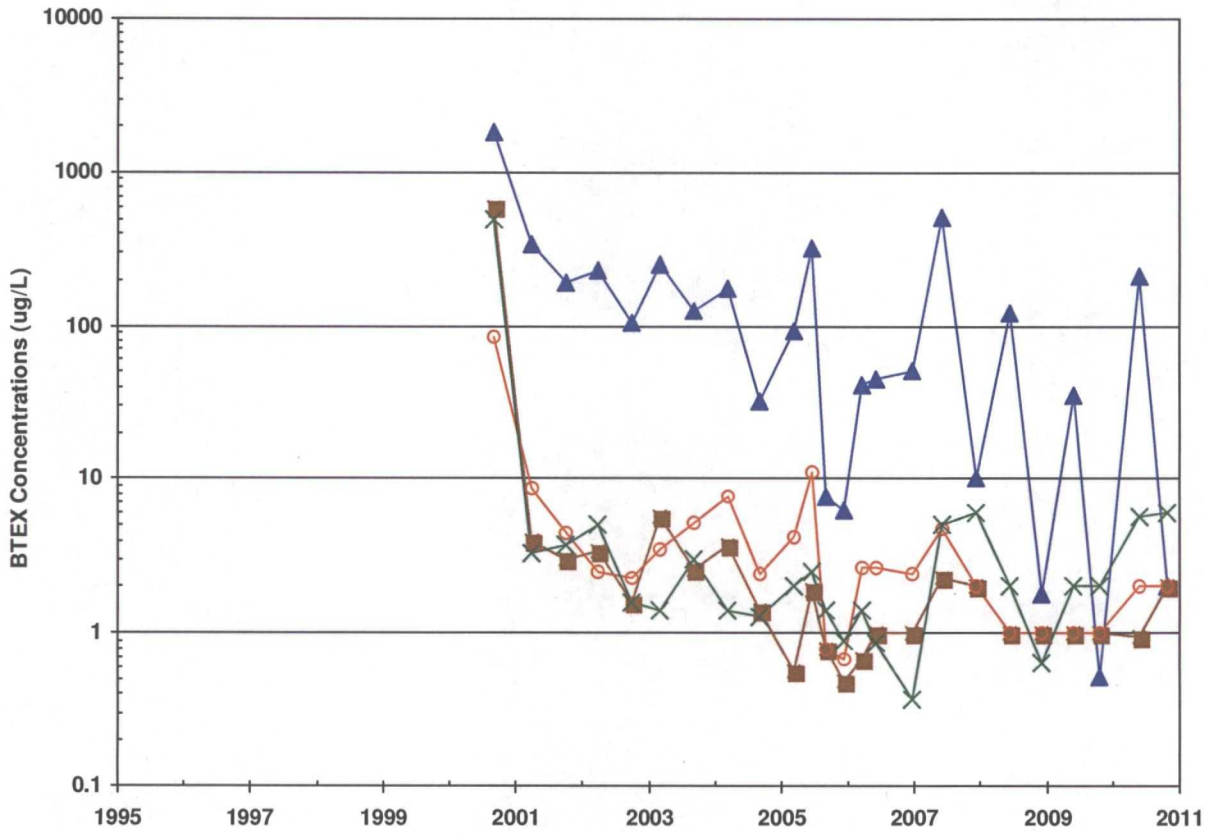


▲ Benzene	■ Toluene	○ Ethylbenzene	× Total Xylenes
NM Std.: (10 ug/L)	(750 ug/L)	(750 ug/L)	(620 ug/L)

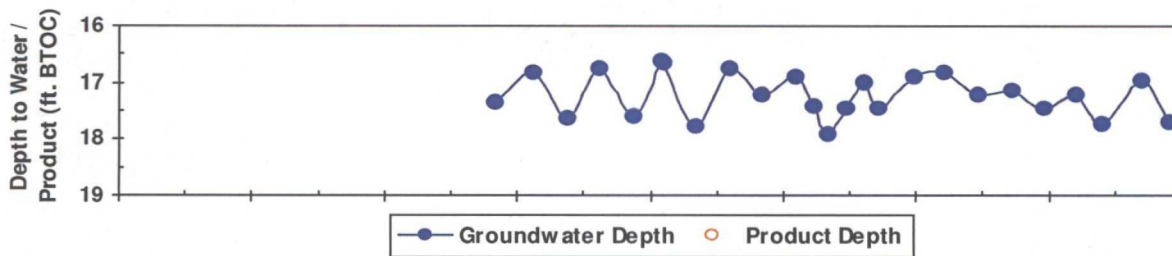


● Groundwater Depth	○ Product Depth
---------------------	-----------------

FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
K-31 LINE DRIP (METER #LD087)
MW02

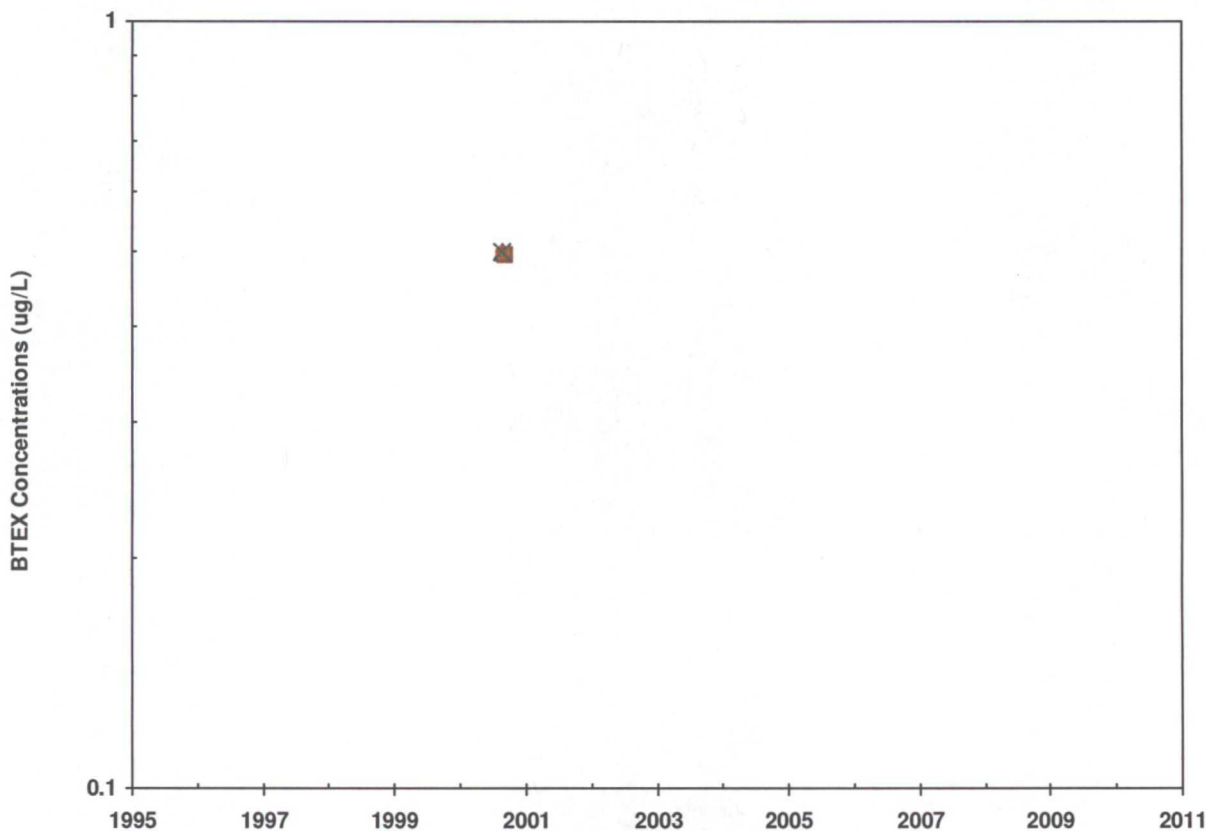


▲ Benzene	■ Toluene	○ Ethylbenzene	× Total Xylenes
NM Std.: (10 ug/L)	(750 ug/L)	(750 ug/L)	(620 ug/L)



● Groundwater Depth	○ Product Depth
---------------------	-----------------

FIGURE 5
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
K-31 LINE DRIP (METER #LD087)
MW03



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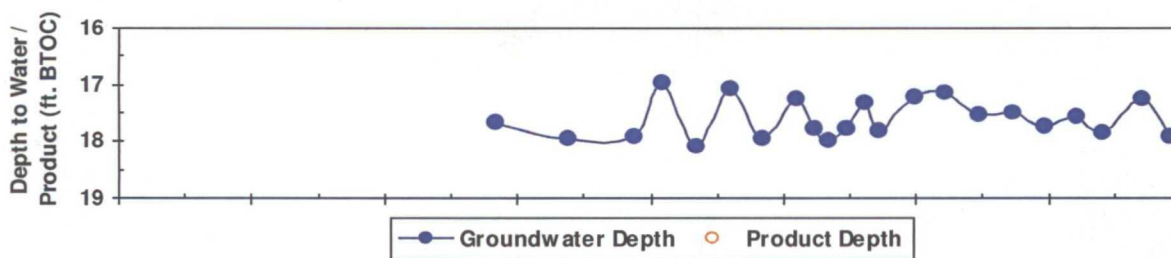
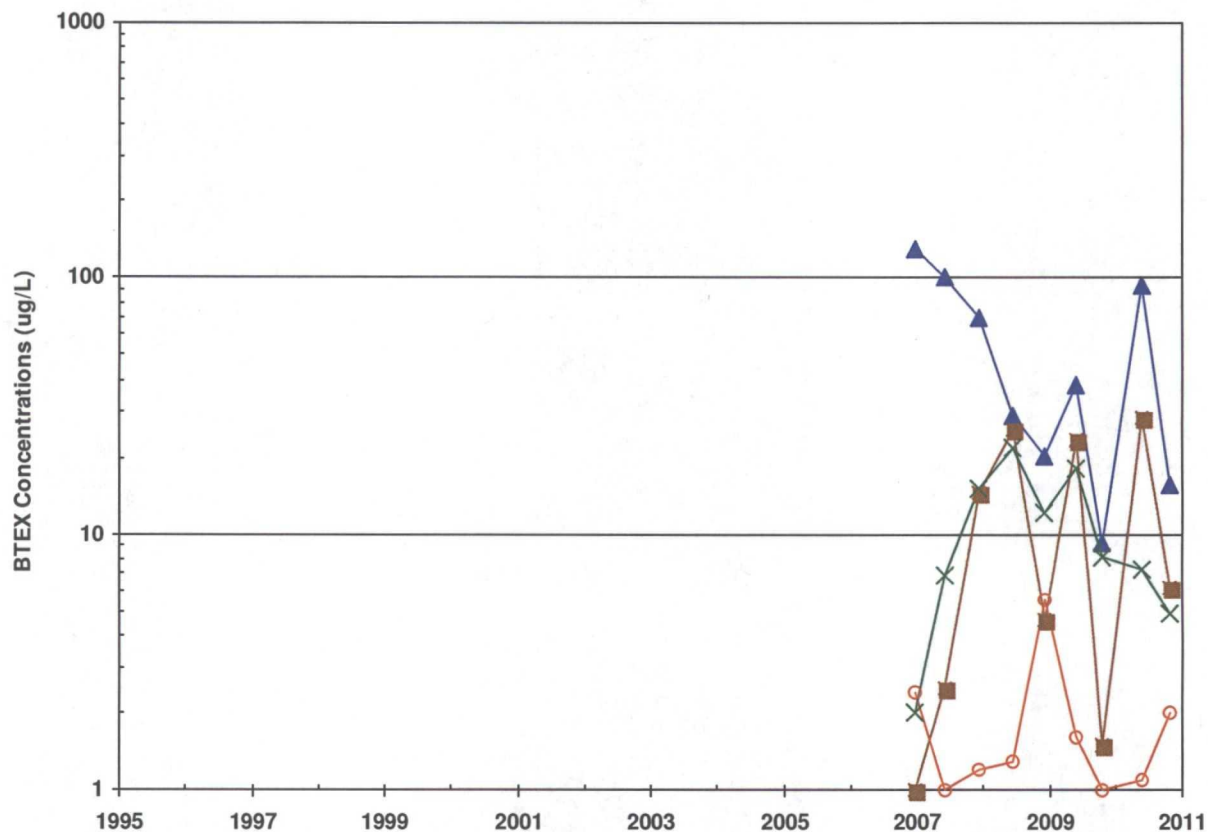
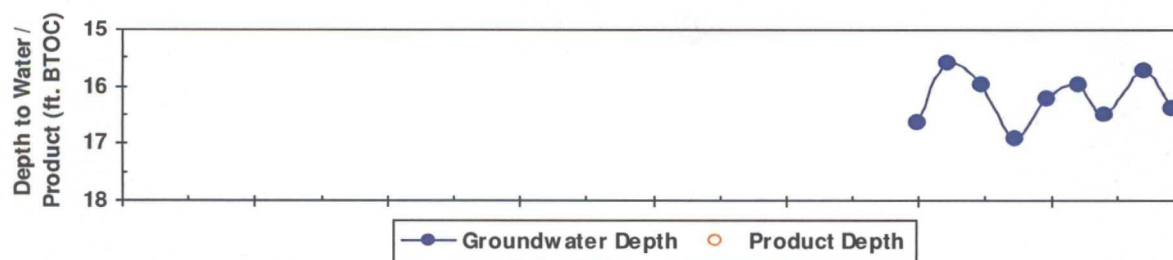


FIGURE 6
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
K-31 LINE DRIP (METER #LD087)
MW04

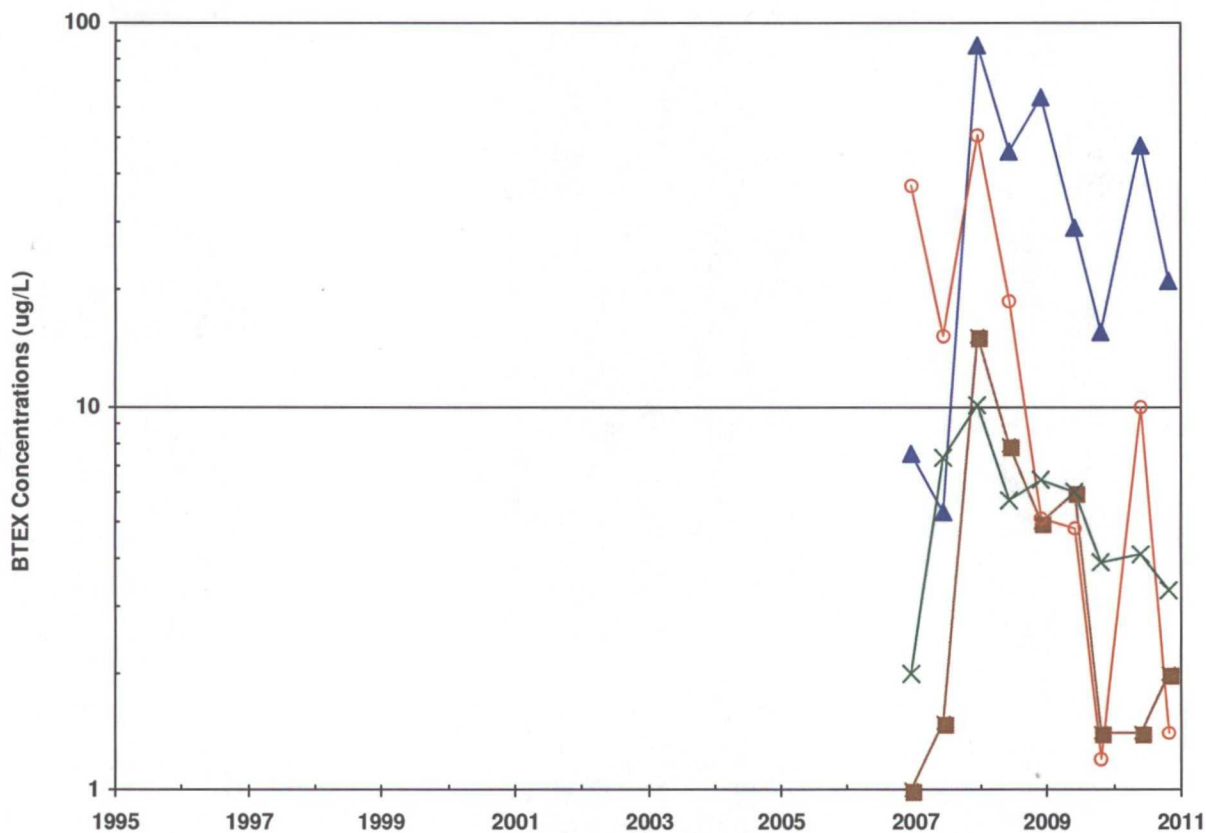


▲ Benzene	■ Toluene	○ Ethylbenzene	× Total Xylenes
NM Std.: (10 ug/L)	(750 ug/L)	(750 ug/L)	(620 ug/L)

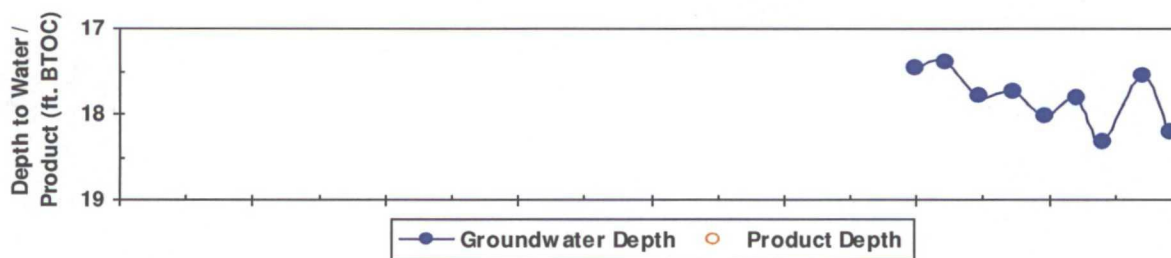


● Groundwater Depth	○ Product Depth
---------------------	-----------------

FIGURE 7
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
K-31 LINE DRIP (METER #LD087)
MW05



▲ 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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TABLE 1

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

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	4/16/1997	84.9	25.7	43.6	206	15.00	6297.33
MW01	6/6/1997	115	<1.0	37.8	76.1	17.99	6294.34
MW01	9/11/1997	259	10.8	124	584	18.48	6293.85
MW01	12/9/1997	201	<1.0	71.5	25.8	18.09	6294.24
MW01	3/19/1998	61.2	<1.0	17.8	2.35	17.59	6294.74
MW01	6/2/1998	98.3	1.48	27.2	14.7	17.98	6294.35
MW01	6/14/1999	65	3.7	4.2	10	17.98	6294.35
MW01	6/27/2000	29	<0.5	3.5	12	18.10	6294.23
MW01	4/3/2001	5	1.4	1.1	4.1	17.79	6294.54
MW01	10/1/2001	3.3	1.1	0.8	5.6	18.94	6293.39
MW01	4/1/2002	<2.5	<2.5	<2.5	<5.0	18.05	6294.28
MW01	10/8/2002	0.6	<0.5	<0.5	1.3	18.86	6293.47
MW02	8/31/2000	1800	590	86	490	17.36	6293.71
MW02	4/3/2001	340	4	8.7	3.3	16.82	6294.25
MW02	10/1/2001	190	3.0	4.5	3.7	17.63	6293.44
MW02	4/1/2002	230	3.4	<2.5	<5.0	16.78	6294.29
MW02	10/8/2002	104	1.6	2.3	1.6	17.61	6293.45
MW02	3/13/2003	254	5.6	3.5	1.4	16.64	6294.43
MW02	9/15/2003	125	2.6	5.2	3	17.78	6293.29
MW02	3/22/2004	176	3.7	7.7	1.4	16.76	6294.31
MW02	9/14/2004	32.2	1.4	2.4	1.3J	17.21	6293.86
MW02	3/22/2005	93.7	0.56	4.2	<2.0	16.91	6294.16
MW02	6/24/2005	322	1.9	11.0	2.5	17.44	6293.63
MW02	9/14/2005	7.6	0.79J	0.78J	1.4J	17.92	6293.15
MW02	12/14/2005	6.3J	0.48J	0.68J	0.89J	17.46	6293.61
MW02	3/28/2006	40.8	0.68J	2.7	1.4J	17.02	6294.05
MW02	6/7/2006	44.3	<1.0	2.7	0.86J	17.47	6293.60
MW02	12/26/2006	50.8	<1.0	2.4	0.37J	16.90	6294.17
MW02	6/12/2007	502	2.3	4.7	5.0	16.83	6294.24
MW02	12/18/2007	10.2	<2.0	<2.0	<6.0	17.22	6293.85
MW02	6/16/2008	123	<1.0	<1.0	<2.0	17.15	6293.92
MW02	12/10/2008	1.8	<1.0	<1.0	0.64J	17.45	6293.62
MW02	6/10/2009	34.7	<1.0	<1.0	<2.0	17.22	6293.85
MW02	11/2/2009	0.51J	<1.0	<1.0	<2.0	17.76	6293.31

TABLE 1

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

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		
MW02	6/2/2010	209	0.95J	<2.0	5.6J	16.96	6294.11
MW02	11/8/2010	<2.0	<2.0	<2.0	<6.0	17.72	6293.35
MW03	8/31/2000	<0.5	<0.5	<0.5	<0.5	17.69	6293.75
MW04	12/26/2006	131	<1.0	2.4	<2.0	16.64	6292.95
MW04	6/12/2007	99.8	2.5 J	<1.0	6.9	15.58	6294.01
MW04	12/18/2007	70.1	14.5	1.2J	15.0	15.97	6293.62
MW04	6/16/2008	28.9	25.8	1.3	21.6	16.92	6292.67
MW04	12/10/2008	20.4	4.6	5.5	12.1	16.22	6293.37
MW04	6/10/2009	38.5	23.2	1.6	18.3	15.97	6293.62
MW04	11/2/2009	9.3	1.5	<1.0	8.1	16.50	6293.09
MW04	6/2/2010	94.1	28.8	1.1J	7.3	15.73	6293.86
MW04	11/8/2010	15.6	6.2	<2.0	4.9J	16.41	6293.18
MW05	12/26/2006	7.5	<1.0	37.3	<2.0	17.46	6294.00
MW05	6/12/2007	5.3	1.5	15.2	7.3	17.39	6294.07
MW05	12/18/2007	87.0	15.3	50.4	10.1	17.78	6293.68
MW05	6/16/2008	45.7	7.9	18.7	5.7	17.75	6293.71
MW05	12/10/2008	63.5	5	5.1	6.4	18.02	6293.44
MW05	6/10/2009	29.0	6.0	4.8	6.0	17.81	6293.65
MW05	11/2/2009	15.5	1.4	1.2	3.9	18.33	6293.13
MW05	6/2/2010	47.4	1.4J	10.0	4.1J	17.55	6293.91
MW05	11/8/2010	21.2	<2.0	1.4J	3.3J	18.20	6293.26

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.