

3R - 213

2010 AGWMR

03/02/2011

3R213

**EPTPC GROUNDWATER SITES
2010 ANNUAL GROUNDWATER REPORT**

**Lat 0-21 Line Drip
Meter Code: LD151**

SITE DETAILS

Legal Description:	Town: 30N	Range: 9W	Sec: 12	Unit: O
NMOCD Haz Ranking:	40	Land Type:	Federal	Operator: Enterprise

PREVIOUS ACTIVITIES

Site Assessment:	1/95	Excavation:	1/95	Soil Boring:	10/95
Monitor Well:	10/95	Geoprobe:	11/96	Additional MWs:	7/00
Downgradient MWs:	7/00	Replace MW:	NA	Quarterly Initiated:	11/96
ORC Nutrient Injection:	NA	Re-Excavation:	NA	PSH Removal Initiated:	NA
Annual Initiated:	5/97	Quarterly Resumed:	4/08	PSH Removal in 2010?	No

SUMMARY OF 2010 ACTIVITIES

MW-1: No activities were performed at this Site in 2010.

MW-2: No activities were performed at this Site in 2010.

MW-3: No activities were performed at this Site in 2010.

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

SITE MAPS

The most recent Site maps (January, April, and July 2009) are attached as Figures 1, 2, and 3.

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 4 through 6.
- Historic free-product recovery data are summarized in Table 2 and presented graphically in Figures 4 and 6. Free-product has not been recovered from the Site since 2002.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this Site during 2010.

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DISPOSITION OF GENERATED WASTES

No wastes were generated in 2010.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this Site; however, the attached Site maps present the water level and analytical data collected during 2009.

RESULTS

- Groundwater flow has historically been to the southeast.
- The three quarterly groundwater samples from MW-1 met the NMWQCC standards. As of July 2009, the groundwater in MW-1 attained four consecutive clean quarters of sampling.
- The confirmatory samples collected from MW-2 and MW-3 in July 2009 met the NMWQCC standards for BTEX.
- Sustained site-wide decreases in BTEX concentrations provide evidence that natural attenuation has occurred at the Site.

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: the extent of the contaminant plume must be delineated. EPTPC needs to establish the water quality in the area of the 2006 direct push groundwater sample from point GP-2. The remaining applicable standards are:

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

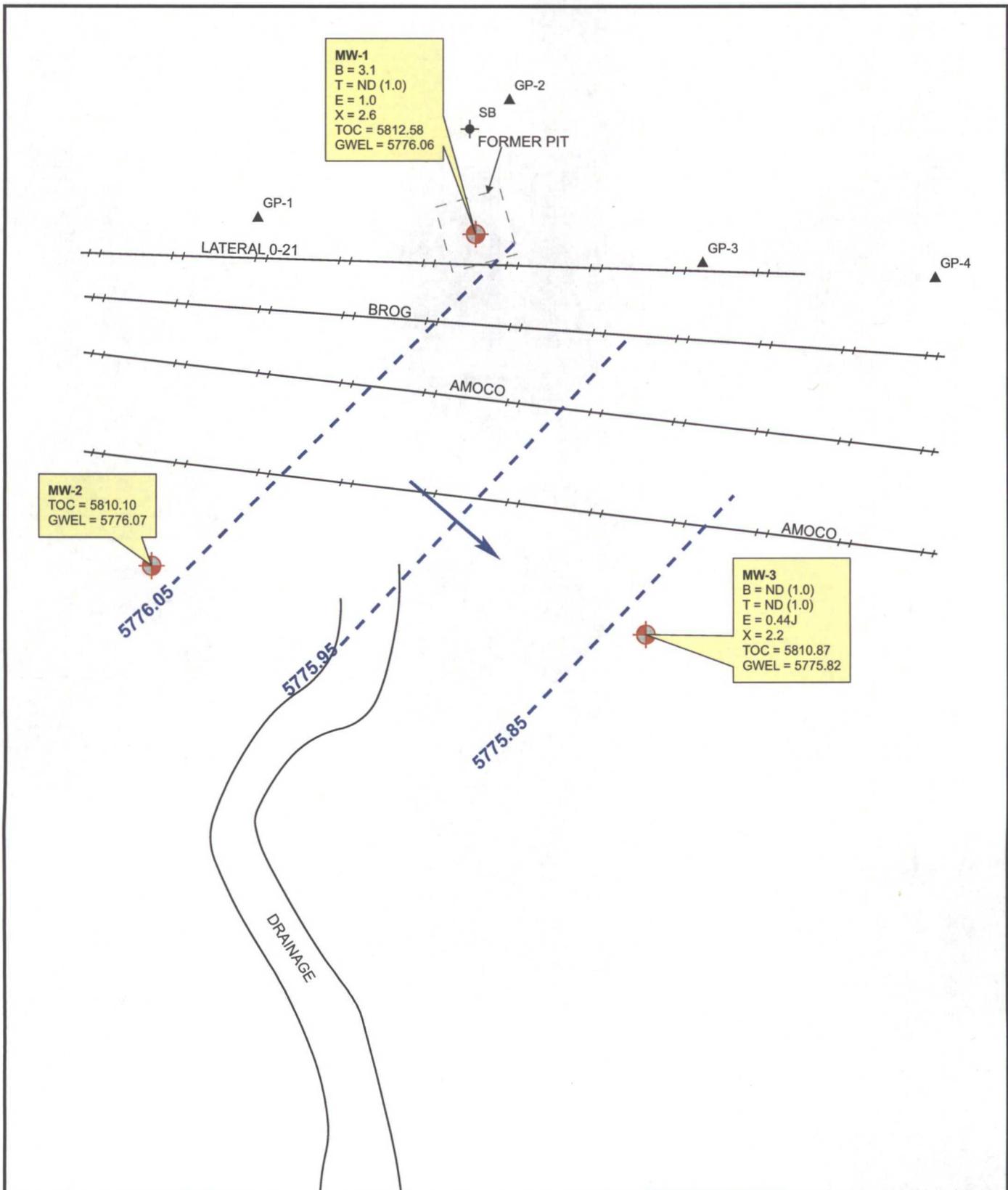
RECOMMENDATIONS

- During the 2009 project year, the groundwater sampling data from MW-1, MW-2, and MW-3 achieved the closure criteria set forth for the site. As reported in the

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2006 Annual Report, sampling of the groundwater at location GP-2 showed evidence of residual impacts north of the former El Paso pit (benzene concentration of 206 µg/L). EPTPC recommends installing a temporary monitoring well at the GP-2 location. If the results show that the residual impacts have now attenuated to below the NMWQCC standards, then EPTPC recommends that the site be closed. If the sample results exceed the standards, then EPTPC will propose appropriate additional steps. EPTPC is still waiting for a response from the OCD regarding this recommendation, which was first presented in the 2009 annual report for the Site.



MW-1
 B = 3.1
 T = ND (1.0)
 E = 1.0
 X = 2.6
 TOC = 5812.58
 GWEL = 5776.06

MW-2
 TOC = 5810.10
 GWEL = 5776.07

MW-3
 B = ND (1.0)
 T = ND (1.0)
 E = 0.44J
 X = 2.2
 TOC = 5810.87
 GWEL = 5775.82

LEGEND

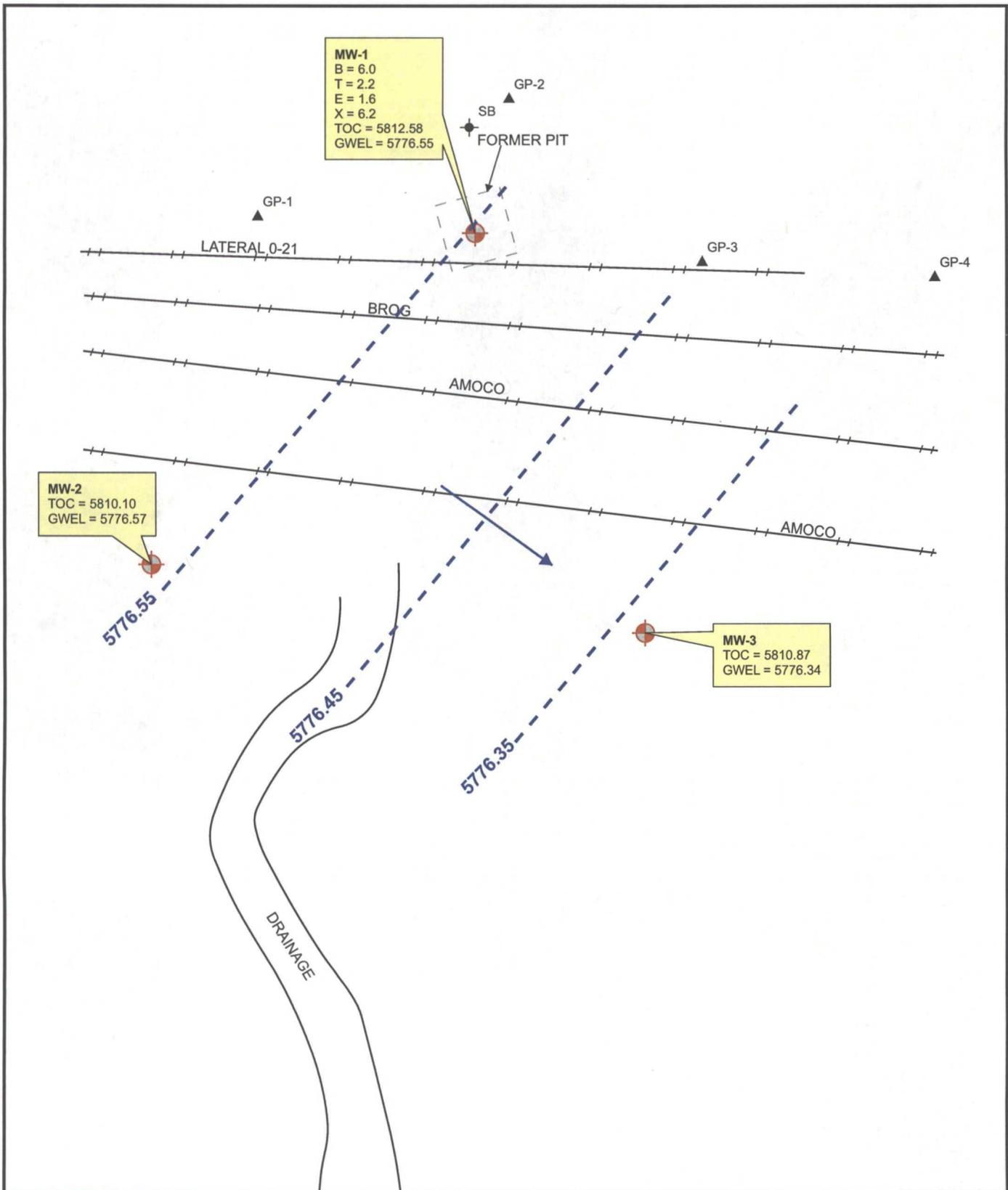
- MW-4 Existing Monitoring / Observation Well
- Groundwater Flow Direction
- Potentiometric Surface Contour (Inferred Where Dashed)
- ND Not Detected; Reporting Limit Shown In Parenthesis

- 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



PROJECT: LATERAL 0-21 Line Drip
 TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - January 7, 2009

FIGURE: 1



LEGEND

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

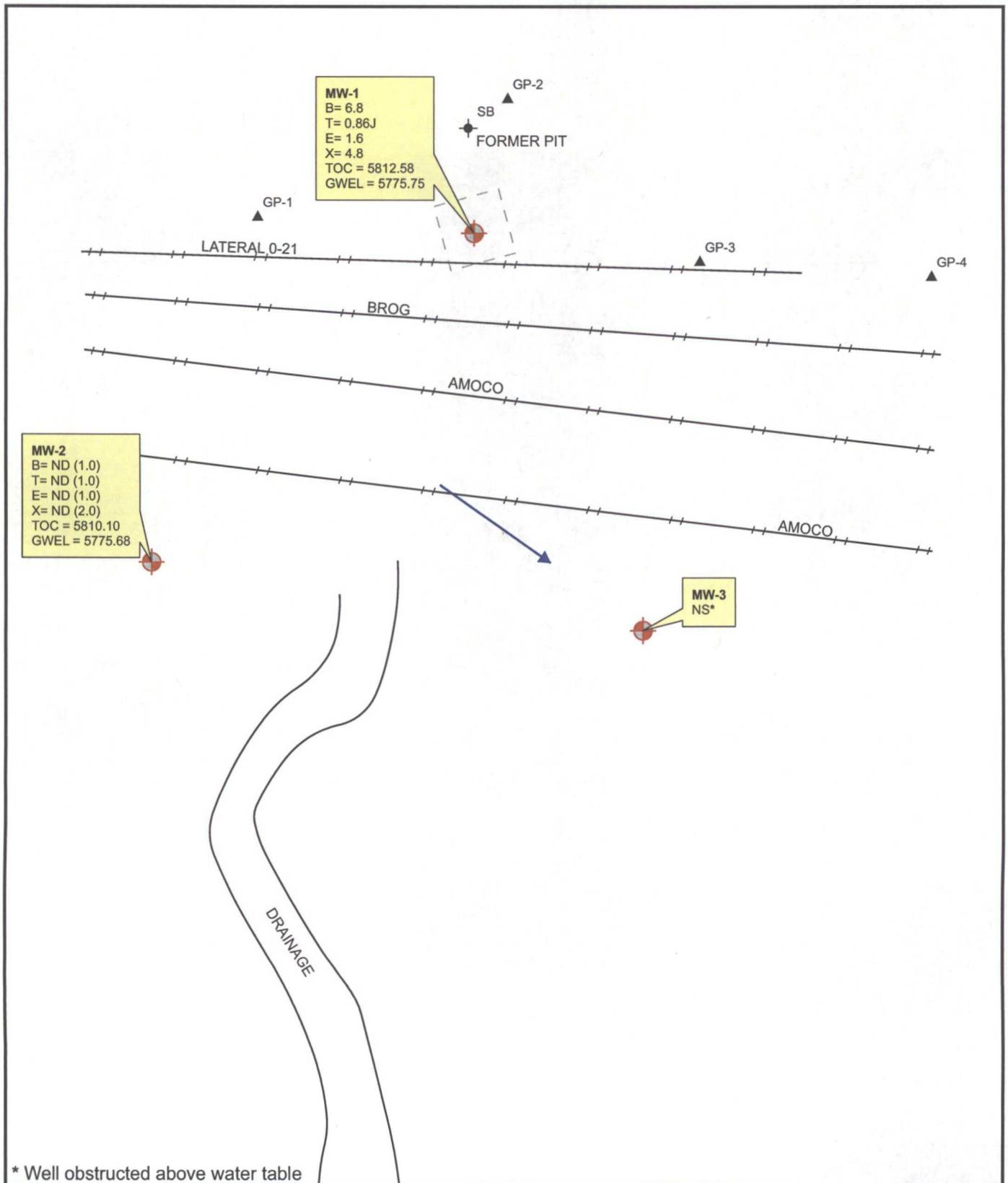
- B** Benzene (ug/L)
- T** Toluene (ug/L)
- E** Ethylbenzene (ug/L)
- X** Total Xylenes (ug/L)
- TOC** Top of Casing (ft. AMSL)
- GWEL** Groundwater Elevation (ft. AMSL)



PROJECT: LATERAL 0-21 Line Drip
 TITLE: Groundwater Potentiometric Surface Map,
 and BTEX Concentrations - April 6, 2009

FIGURE:

2

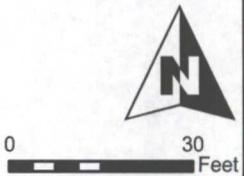


* Well obstructed above water table

LEGEND

- MW-4 Existing Monitoring / Observation Well
- Groundwater Flow Direction (Historic)
- ND Not Detected; Reporting Limit Shown In Parenthesis
- NS Not Sampled

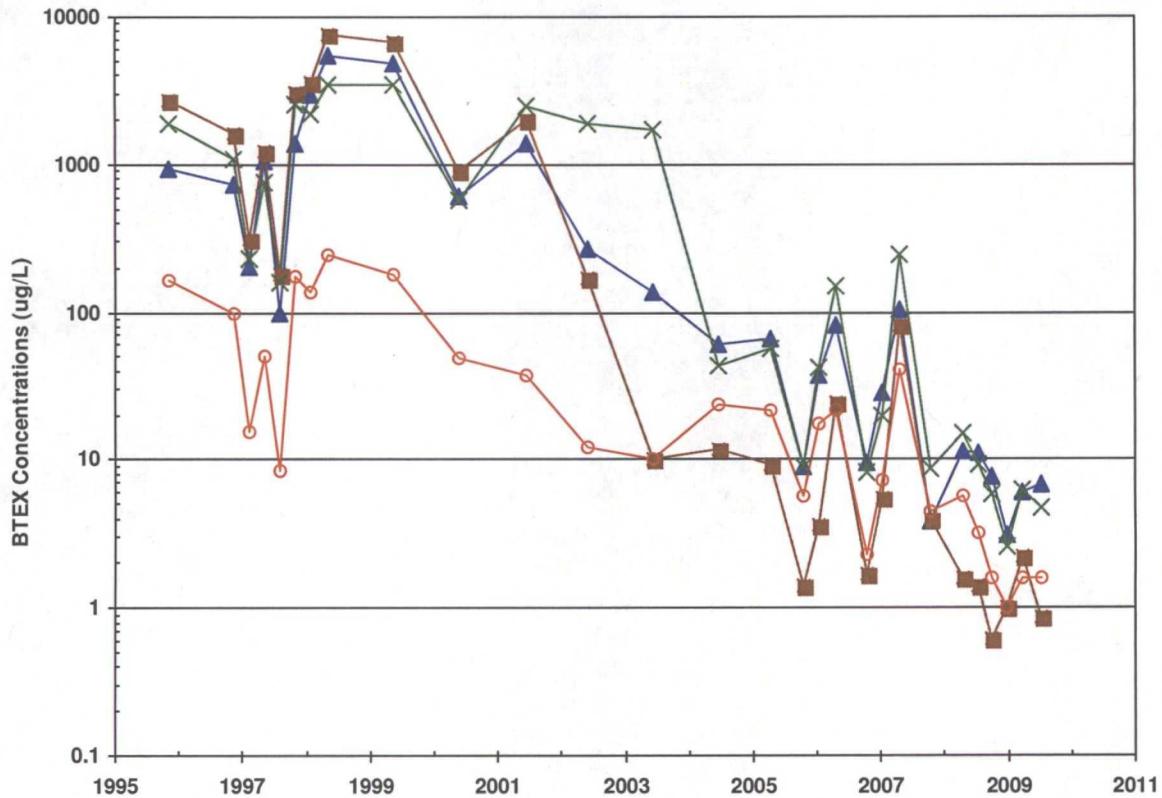
- B Benzene (ug/L)
- T Toluene (ug/L)
- E Ethylbenzene (ug/L)
- X Total Xylenes (ug/L)
- TOC Top of Casing (ft. AMSL)
- GWEL Groundwater Elevation (ft. AMSL)
- J Result Flagged as Estimated



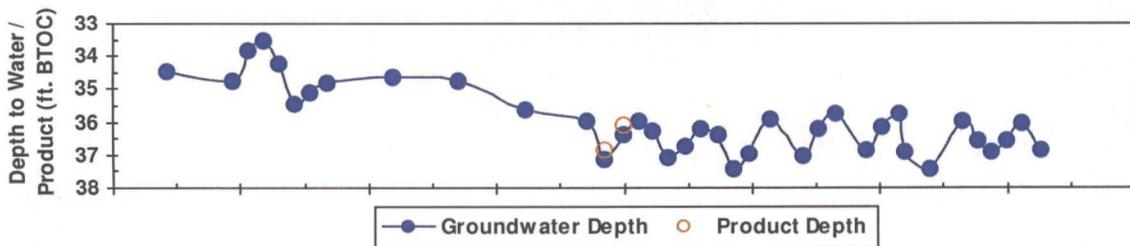
PROJECT: LATERAL 0-21 Line Drip
 TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - July 27, 2009

FIGURE:
3

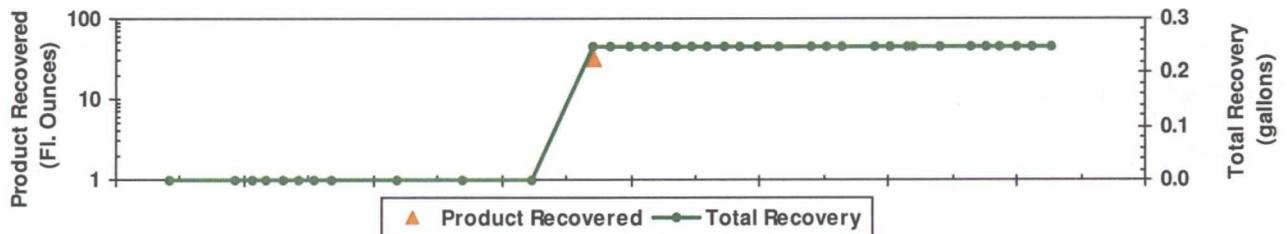
FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
LAT 0-21 LINE DRIP (METER #LD151)
MW01



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



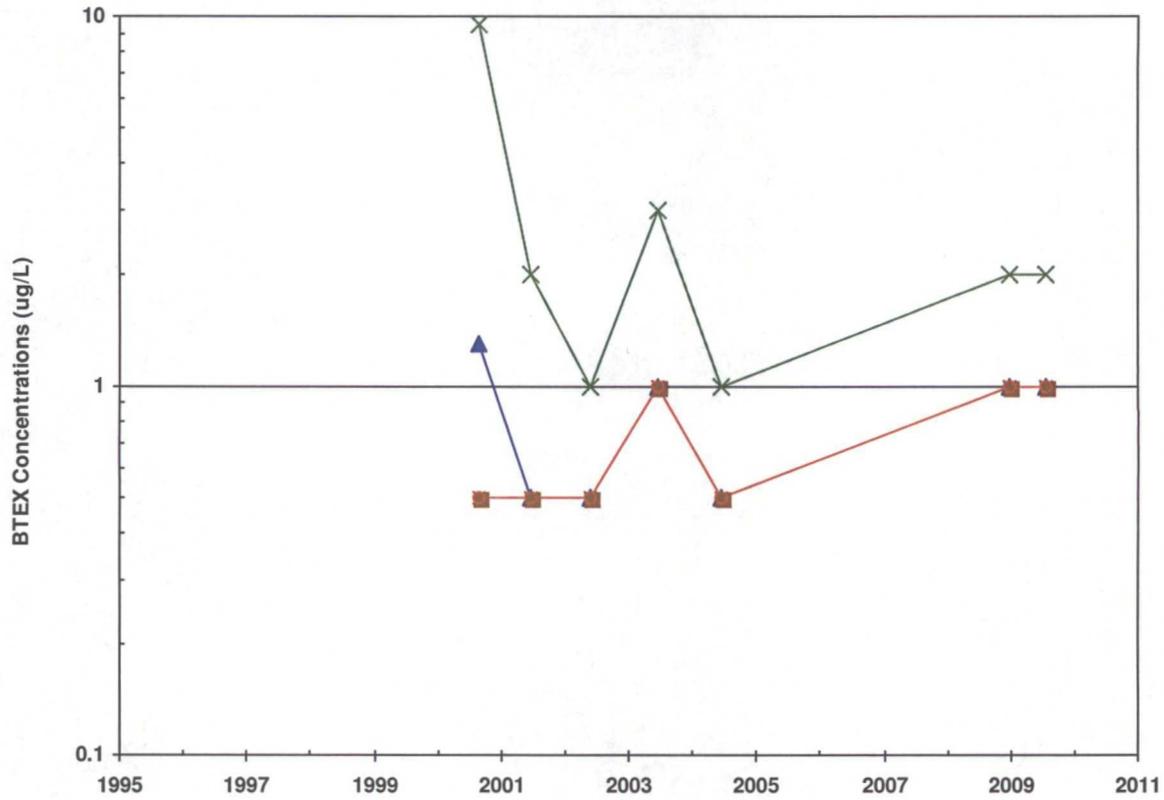
● Groundwater Depth	○ Product Depth
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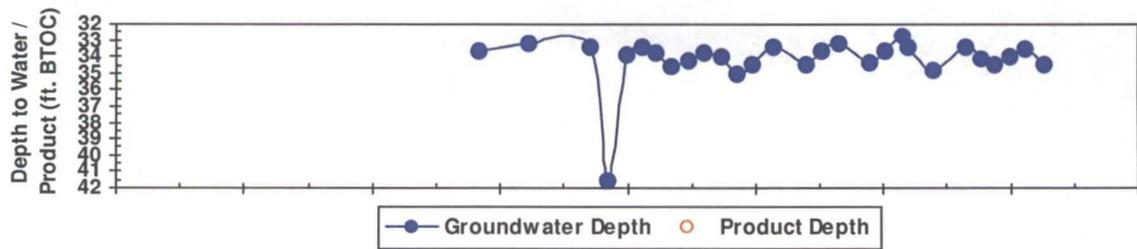
▲ Product Recovered	● Total Recovery
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*In some cases, older recovery event data are not available. However, the cumulative totals still include all historic recovery.

FIGURE 5
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
LAT 0-21 LINE DRIP (METER #LD151)
MW02

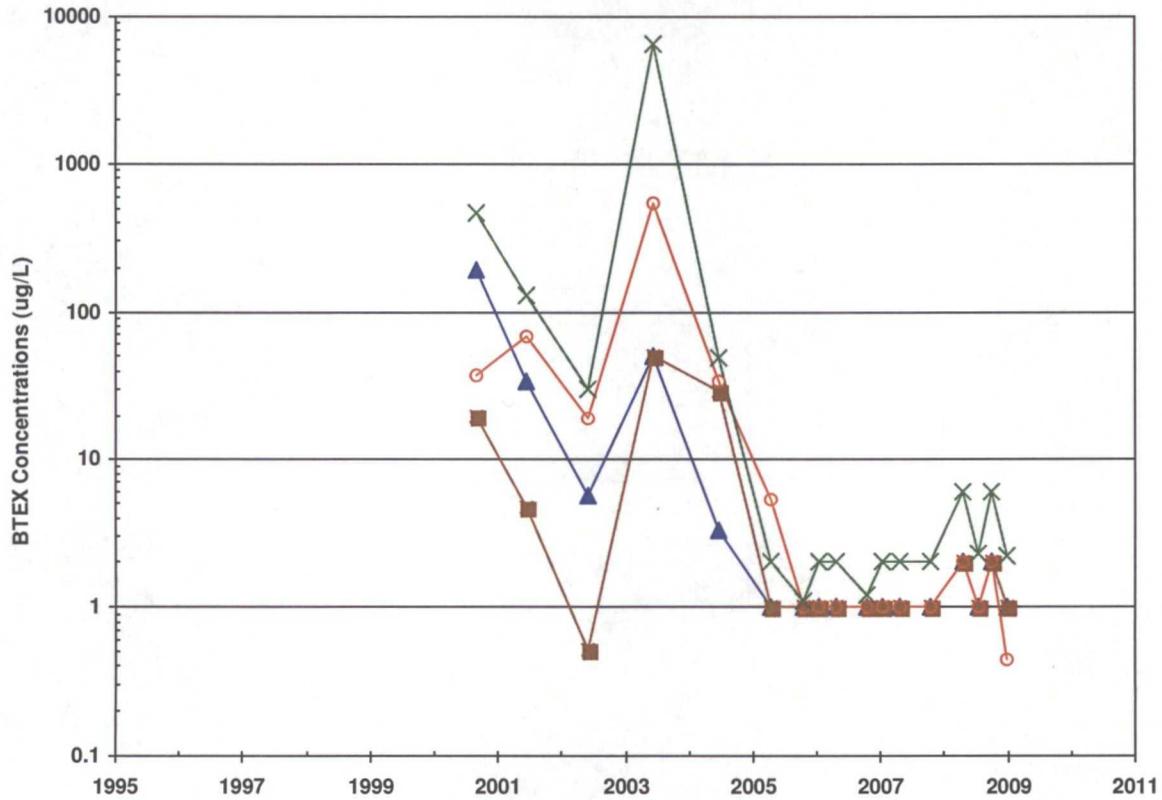


Benzene	Toluene	Ethylbenzene	Total Xylenes
NM Std.: (10 ug/L)	(750 ug/L)	(750 ug/L)	(620 ug/L)

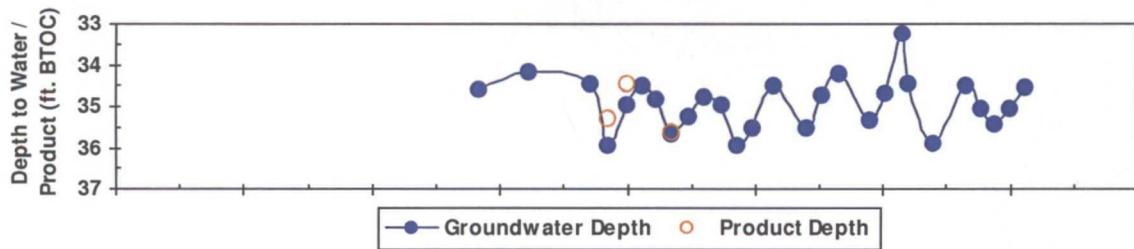


Groundwater Depth	Product Depth
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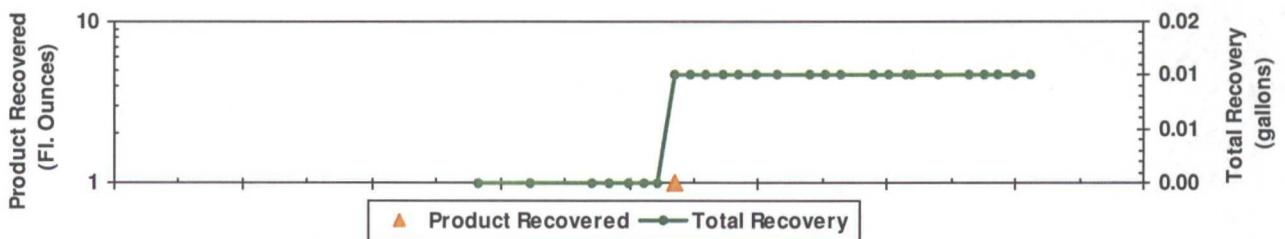
FIGURE 6
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
LAT 0-21 LINE DRIP (METER #LD151)
MW03



▲ Benzene NM Std.: (10 ug/L)	■ Toluene (750 ug/L)	○ Ethylbenzene (750 ug/L)	× Total Xylenes (620 ug/L)
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● Groundwater Depth	○ Product Depth
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▲ Product Recovered	● Total Recovery
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*In some cases, older recovery event data are not available. However, the cumulative totals still include all historic recovery.

TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
LAT 0-21 LINE DRIP (METER #LD151)**

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	11/6/1995	935	2700	168	1890	34.45	5778.13
MW01	11/12/1996	741	1620	99	1100	34.75	5777.83
MW01	2/11/1997	202	313	15.6	230	33.82	5778.76
MW01	5/8/1997	1050	1220	50.8	764	33.54	5779.04
MW01	8/5/1997	99.5	179	8.42	160	34.20	5778.38
MW01	11/4/1997	1370	3040	174	2530	35.42	5777.16
MW01	2/3/1998	3000	3600	138	2180	35.08	5777.50
MW01	5/7/1998	5380	7500	247	3500	34.83	5777.75
MW01	5/18/1999	4860	6810	183	3450	34.64	5777.94
MW01	5/26/2000	620	900	49	580	34.76	5777.82
MW01	6/18/2001	1400	2000	37	2500	35.60	5776.98
MW01	6/4/2002	270	170	12	1900	35.98	5776.60
MW01	6/18/2003	137	<10	<10	1730	36.26	5776.32
MW01	6/23/2004	59.9	11.8	23.8	44.1	36.38	5776.20
MW01	4/18/2005	66.6	9.3	21.5	56.5	35.93	5776.65
MW01	10/22/2005	8.9	1.4	5.6	9.1	36.99	5775.59
MW01	1/19/2006	37.6	3.6	17.4	42.0	36.18	5776.40
MW01	4/24/2006	81.4	24.5	21.8	152	35.71	5776.87
MW01	10/24/2006	9.4	1.7	2.3	8.2	36.81	5775.77
MW01	1/19/2007	28.7	5.5	7.3	19.8	36.14	5776.44
MW01	4/24/2007	104	82.1	41.0	244	35.73	5776.85
MW01	10/25/2007	3.8	4.0	4.4	8.8	37.39	5775.19
MW01	4/21/2008	11.6	1.6J	5.7	15.1	35.97	5776.61
MW01	7/23/2008	11.2	1.4	3.2	9.3	36.55	5776.03
MW01	10/8/2008	7.6	0.61J	1.6J	5.8J	36.88	5775.70
MW01	1/7/2009	3.1	<1.0	1.0	2.6	36.52	5776.06
MW01	4/6/2009	6.0	2.2	1.6	6.2	36.03	5776.55
MW01	7/27/2009	6.8	0.86J	1.6	4.8	36.83	5775.75
MW02	8/30/2000	1.3	<0.5	<0.5	9.5	33.62	5776.48
MW02	6/18/2001	<0.5	<0.5	<0.5	2	33.16	5776.94
MW02	6/4/2002	<0.5	<0.5	<0.5	<1.0	33.42	5776.68
MW02	6/18/2003	<1.0	<1.0	<1.0	<3.0	33.80	5776.30
MW02	6/23/2004	<0.5	<0.5	<0.5	<1.0	33.92	5776.18
MW02	1/7/2009	<1.0	<1.0	<1.0	<2.0	34.03	5776.07

TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
LAT 0-21 LINE DRIP (METER #LD151)**

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	7/27/2009	<1.0	<1.0	<1.0	<2.0	34.42	5775.68
MW03	8/30/2000	190	20	37	460	34.56	5776.31
MW03	6/18/2001	34	4.7	68	130	34.14	5776.73
MW03	6/4/2002	5.7	0.52	19	30	34.42	5776.45
MW03	6/18/2003	<50	<50	540	6490	34.80	5776.07
MW03	6/23/2004	3.3	28.9	34	48.4	34.95	5775.92
MW03	4/18/2005	<1.0	<1.0	53	<2.0	34.48	5776.39
MW03	10/22/2005	<1.0	<1.0	<1.0	1.1	35.52	5775.35
MW03	1/19/2006	<1.0	<1.0	<1.0	<2.0	34.71	5776.16
MW03	4/24/2006	<1.0	<1.0	<1.0	<2.0	34.23	5776.64
MW03	10/24/2006	<1.0	<1.0	<1.0	1.2J	35.33	5775.54
MW03	1/19/2007	<1.0	<1.0	<1.0	<2.0	34.66	5776.21
MW03	4/24/2007	<1.0	<1.0	<1.0	<2.0	33.25	5777.62
MW03	10/25/2007	<1.0	<1.0	<1.0	<2.0	35.88	5774.99
MW03	4/21/2008	<2.0	<2.0	<2.0	<6.0	34.50	5776.37
MW03	7/23/2008	<1.0	<1.0	<1.0	2.3	35.06	5775.81
MW03	10/8/2008	<2.0	<2.0	<2.0	<6.0	35.41	5775.46
MW03	1/7/2009	<1.0	<1.0	0.44J	2.2	35.05	5775.82

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
LAT 0-21 LINE DRIP (METER #LD151)

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	6/4/2002	35.98	35.98	0.00	0.25	0.25	5776.60
MW01	9/10/2002	36.85	37.15	0.30	--	0.25	5775.67
MW01	12/30/2002	36.08	36.39	0.31	--	0.25	5776.44
MW03	9/10/2002	35.28	35.92	0.63	--	0.00	5775.46
MW03	12/30/2002	34.42	34.97	0.55	--	0.00	5776.34
MW03	9/16/2003	35.62	35.64	0.02	0.01	0.01	5775.25

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.