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2011 AGWMR

8/16/2012



BUILDING A BETTER WORLD

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August 16, 2012

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

**RE: El Paso CGP Company Pit Groundwater Remediation Sites
2011 Annual Reports**

Dear Mr. Von Gonten:

MWH Americas, Inc., on behalf of El Paso CGP Company (EPCGP), is submitting the enclosed 2011 Annual Reports for 21 of its remaining San Juan River Basin pit groundwater remediation sites (several other sites are handled as different projects with different activity and reporting schedules). The reports present the 2011 sampling and product recovery data and include recommendations for future activities at these sites.

The 2011 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 Lands
2	Fee and State Lands
3	Navajo Nation Lands (1 Site Remains)

If you have any questions concerning the enclosed reports, please contact either Joe Wiley (representing EPCGP Company) at 713-420-3475 or me at 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)
- Joe Wiley – EPCGP Company (Volumes 1, 2, and 3 - Electronic)



EL PASO CGP COMPANY

*1001 LOUISIANA STREET
HOUSTON, TX 77002*

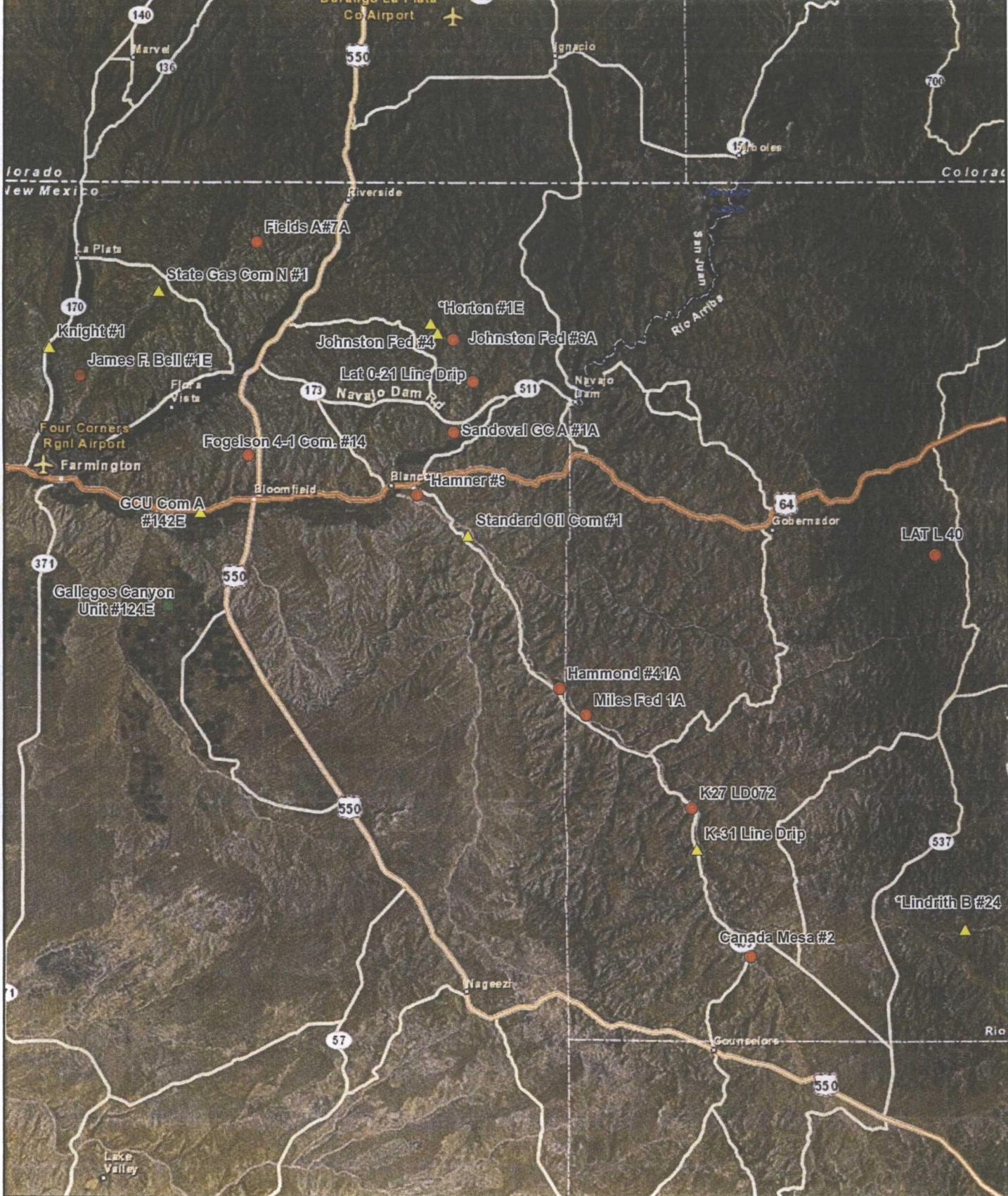
**2011 ANNUAL REPORT
PIT GROUNDWATER REMEDIATION
VOLUME 1: SITES ON FEDERAL LANDS**

AUGUST 2012



MWH

1801 California Street
Suite 2900
Denver, Colorado 80202
303 291 2222



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: 1
	TITLE: Site Locations	

LIST OF ACRONYMS

AMSL	above mean sea level
BTEX	benzene, toluene, ethylbenzene, xylenes
btoc	below top of casing
EPCGP	El Paso CGP Company
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitoring well
NMWQCC	New Mexico Water Quality Control Commission
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

**2011 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I**

EL PASO CGP 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 2011.



MWH

**EPCGP GROUNDWATER SITES
2011 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 2011?	No

SUMMARY OF 2010 ACTIVITIES

MW-1: No activities were performed at this Site in 2011.

MW-2: No activities were performed at this Site in 2011.

MW-3: No activities were performed at this Site in 2011.

Site-Wide Activities: No activities were performed at this Site during 2011.

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 2011.

**EPCGP GROUNDWATER SITES
2011 ANNUAL GROUNDWATER REPORT**

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

DISPOSITION OF GENERATED WASTES

No wastes were generated in 2011.

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. EPCGP 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

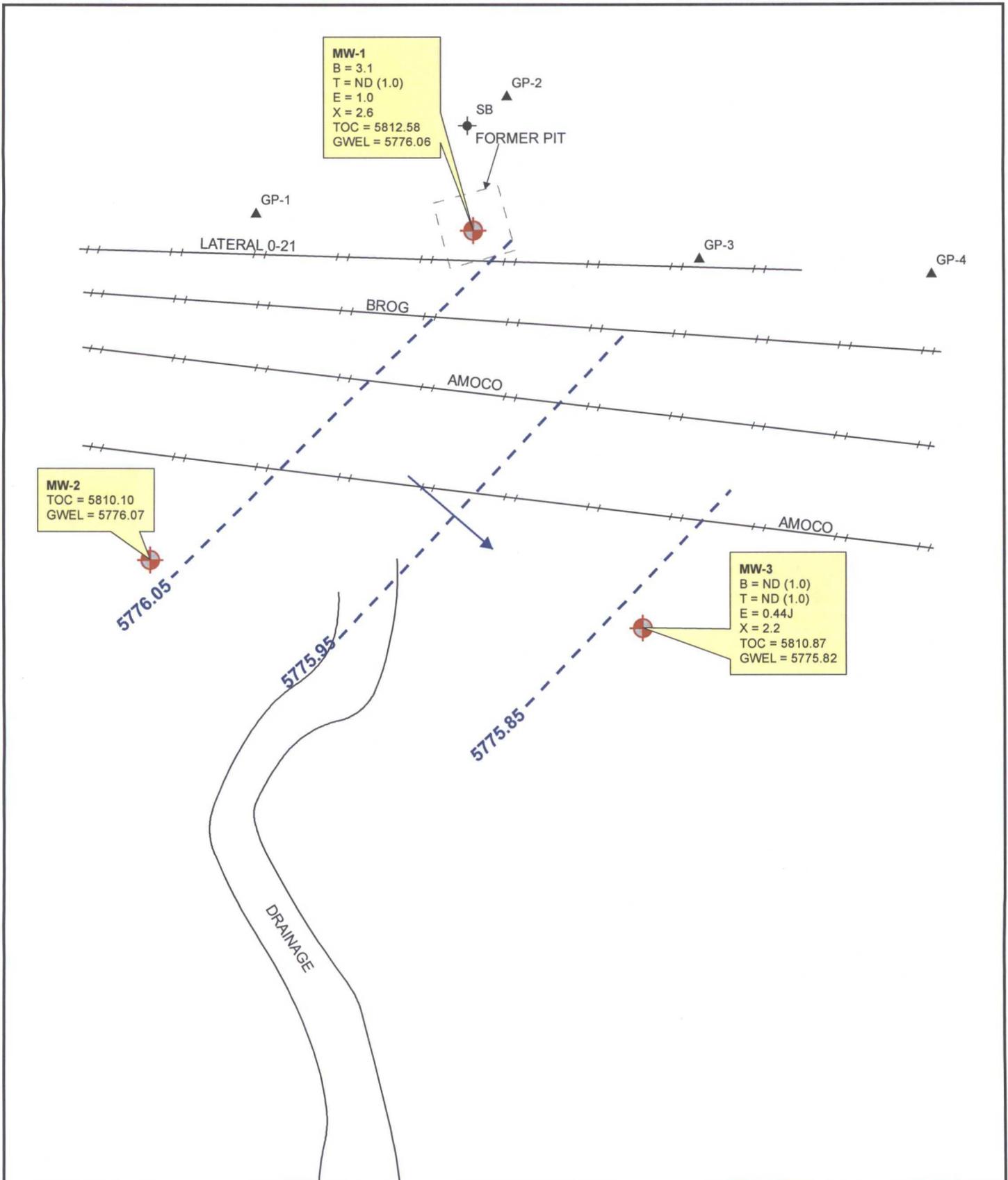
RECOMMENDATIONS

- 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

**EPCGP GROUNDWATER SITES
2011 ANNUAL GROUNDWATER REPORT**

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

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). EPCGP 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 EPCGP recommends that the site be closed. If the sample results exceed the standards, then EPCGP will propose appropriate additional steps. EPCGP is planning to install the temporary monitoring well during the summer of 2012.



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

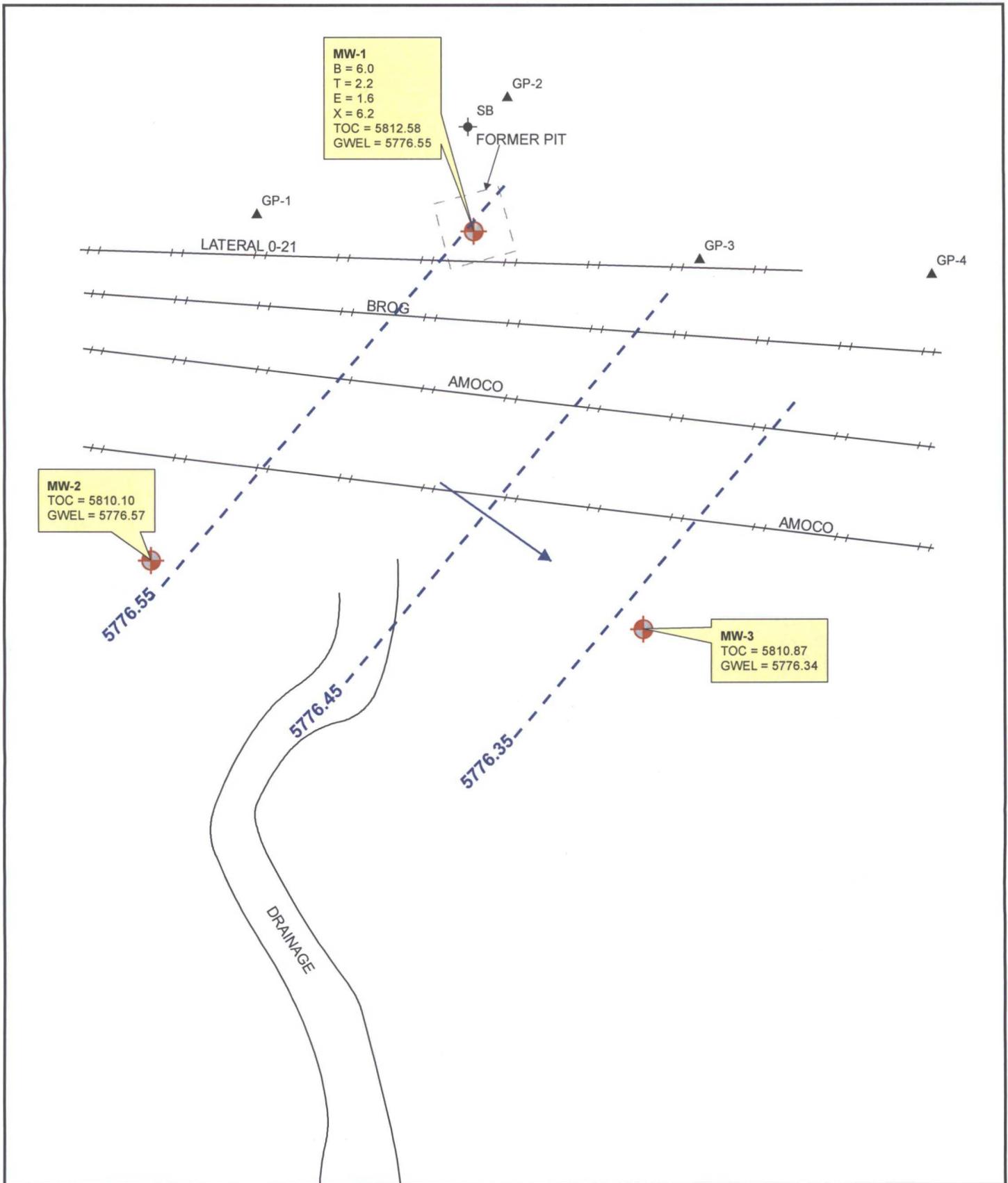


PROJECT: LATERAL 0-21 Line Drip

FIGURE:

TITLE: Groundwater Potentiometric Surface Map,
and BTEX Concentrations - January 7, 2009

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)

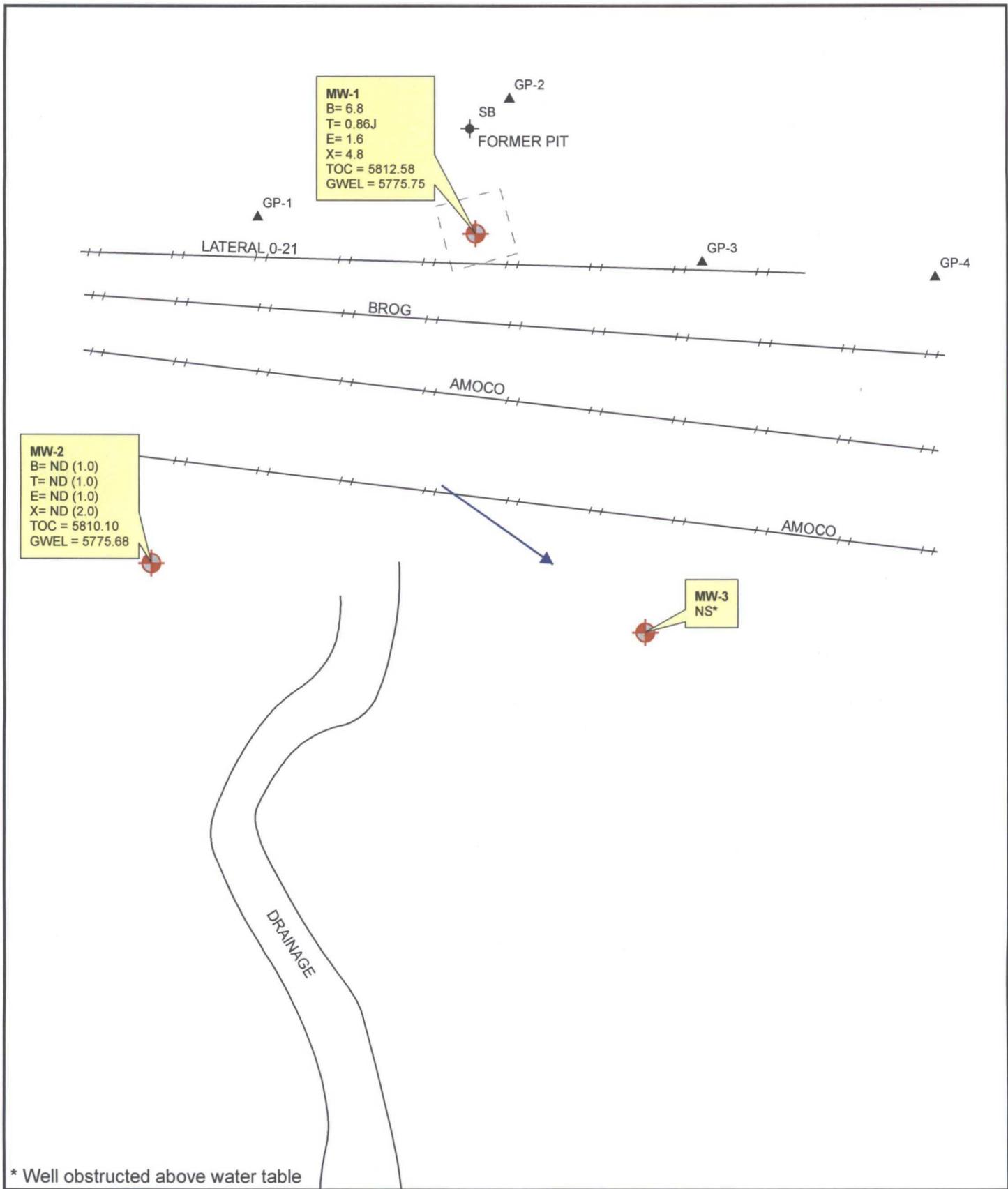


PROJECT: LATERAL 0-21 Line Drip

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



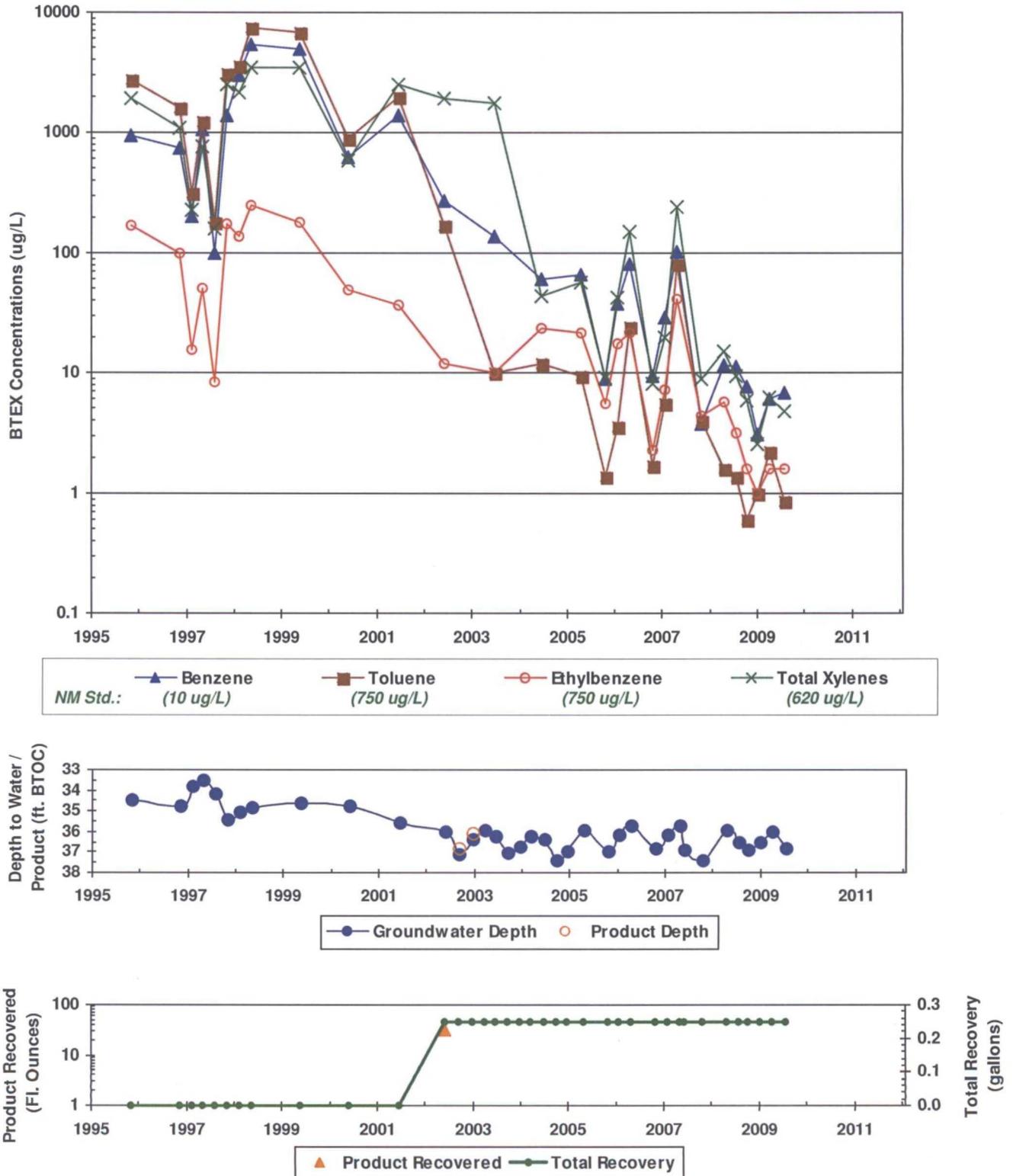
PROJECT: LATERAL 0-21 Line Drip

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)
MW-1



**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)
MW-2

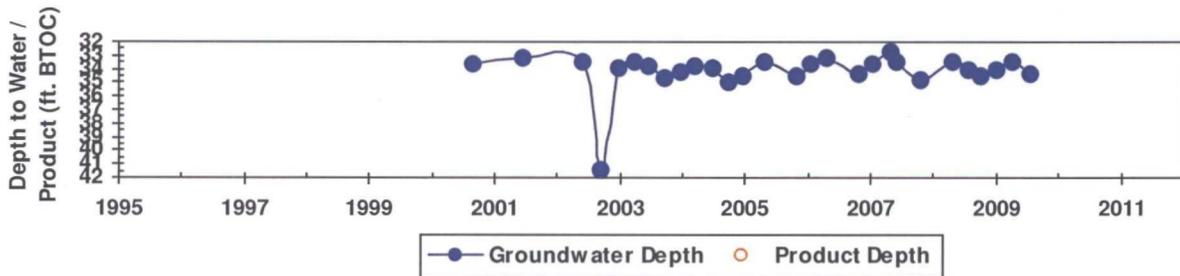
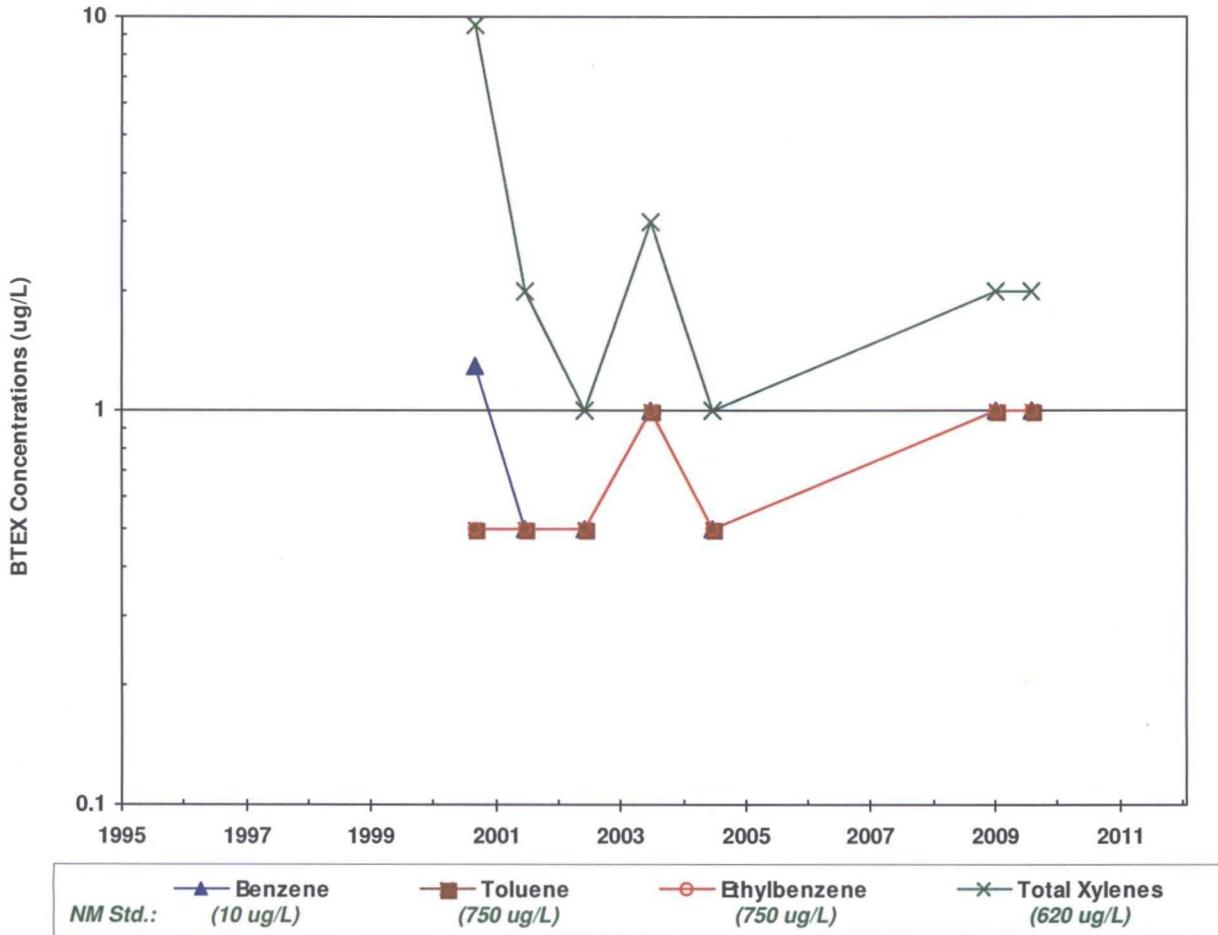
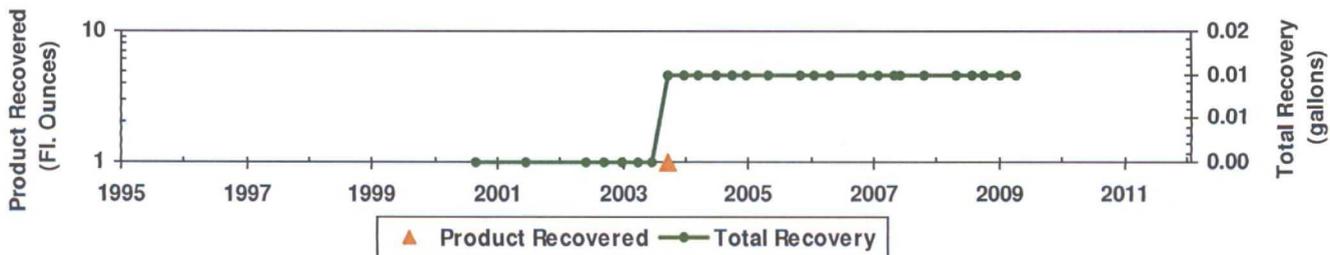
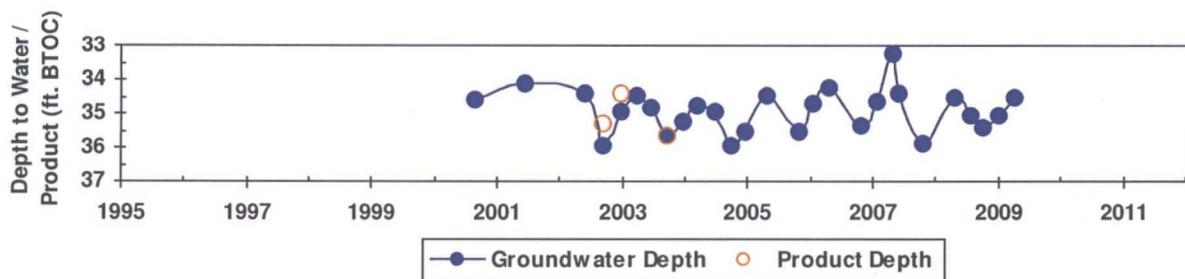
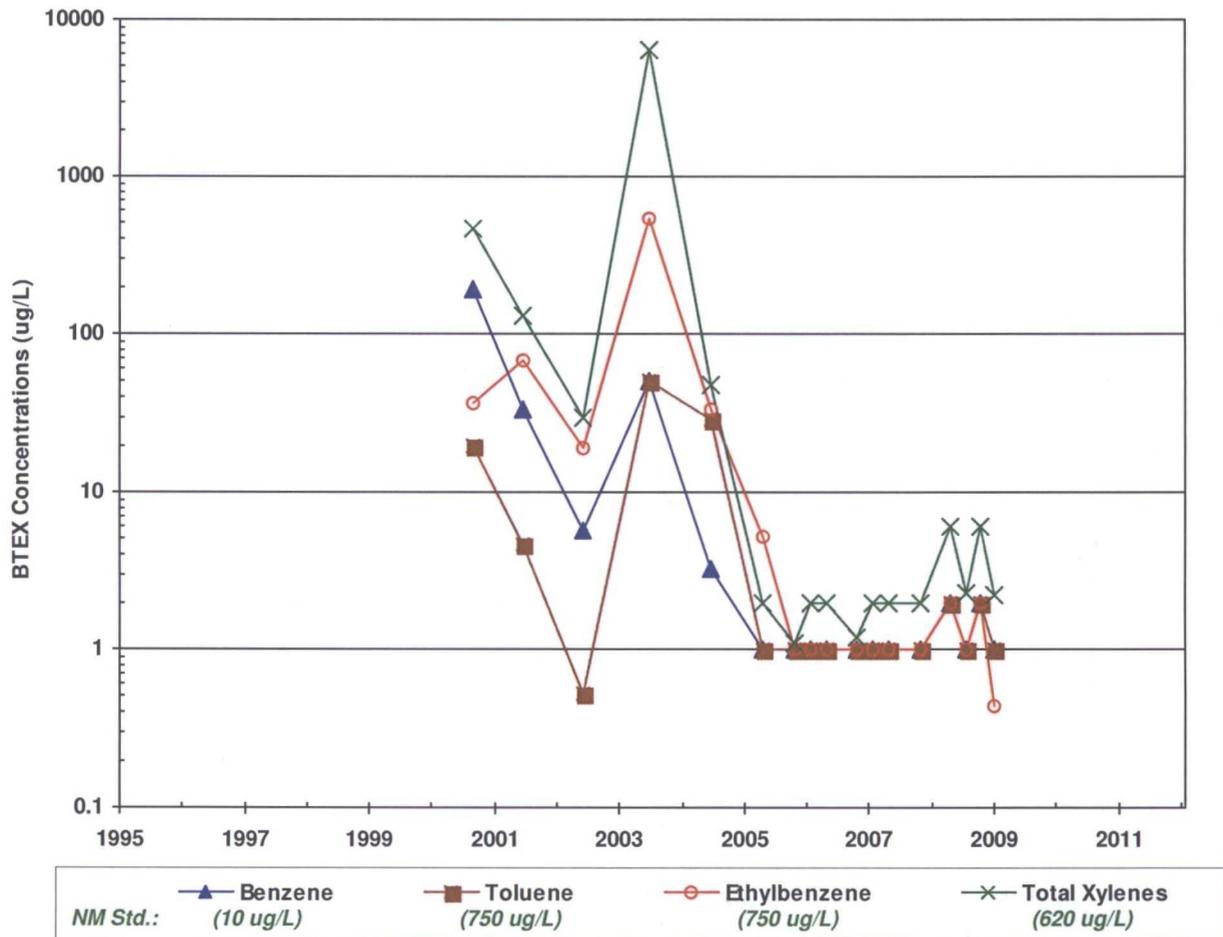


FIGURE 6
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
LAT 0-21 LINE DRIP (METER #LD151)
MW-3



*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
LAT 0-21 LINE DRIP (METER #LD151)**

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes	Depth to Water (ft BTOC)	Corr. GW Elevation (ft AMSL)
NMWQCC GW Std.:		10	750	750	620		
B1(31-35)	1/5/2006	0.61J	3.4	0.73J	5.5	NA	NA
B2(31-35)	1/5/2006	206	98.6	55.5	213	NA	NA
B3(31-35)	1/5/2006	<1.0	6.9	8.7	26.2	NA	NA
B4(31-35)	1/5/2006	0.56J	2.1	0.39J	2.4	NA	NA
MW-1	11/6/1995	935	2700	168	1890	34.45	5778.13
MW-1	11/12/1996	741	1620	99	1100	34.75	5777.83
MW-1	2/11/1997	202	313	15.6	230	33.82	5778.76
MW-1	5/8/1997	1050	1220	50.8	764	33.54	5779.04
MW-1	8/5/1997	99.5	179	8.42	160	34.20	5778.38
MW-1	11/4/1997	1370	3040	174	2530	35.42	5777.16
MW-1	2/3/1998	3000	3600	138	2180	35.08	5777.50
MW-1	5/7/1998	5380	7500	247	3500	34.83	5777.75
MW-1	5/18/1999	4860	6810	183	3450	34.64	5777.94
MW-1	5/26/2000	620	900	49	580	34.76	5777.82
MW-1	6/18/2001	1400	2000	37	2500	35.60	5776.98
MW-1	6/4/2002	270	170	12	1900	35.98	5776.60
MW-1	6/18/2003	137	<10	<10	1730	36.26	5776.32
MW-1	6/23/2004	59.9	11.8	23.8	44.1	36.38	5776.20
MW-1	4/18/2005	66.6	9.3	21.5	56.5	35.93	5776.65
MW-1	10/22/2005	8.9	1.4	5.6	9.1	36.99	5775.59
MW-1	1/19/2006	37.6	3.6	17.4	42.0	36.18	5776.40
MW-1	4/24/2006	81.4	24.5	21.8	152	35.71	5776.87
MW-1	10/24/2006	9.4	1.7	2.3	8.2	36.81	5775.77
MW-1	1/19/2007	28.7	5.5	7.3	19.8	36.14	5776.44
MW-1	4/24/2007	104	82.1	41.0	244	35.73	5776.85
MW-1	10/25/2007	3.8	4.0	4.4	8.8	37.39	5775.19
MW-1	4/21/2008	11.6	1.6J	5.7	15.1	35.97	5776.61
MW-1	7/23/2008	11.2	1.4	3.2	9.3	36.55	5776.03
MW-1	10/8/2008	7.6	0.61J	1.6J	5.8J	36.88	5775.70
MW-1	1/7/2009	3.1	<1.0	1.0	2.6	36.52	5776.06
MW-1	4/6/2009	6.0	2.2	1.6	6.2	36.03	5776.55
MW-1	7/27/2009	6.8	0.86J	1.6	4.8	36.83	5775.75
MW-2	8/30/2000	1.3	<0.5	<0.5	9.5	33.62	5776.48
MW-2	6/18/2001	<0.5	<0.5	<0.5	2	33.16	5776.94

TABLE 1

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

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes	Depth to Water (ft BTOC)	Corr. GW Elevation (ft AMSL)
NMWQCC GW Std.:		10	750	750	620		
MW-2	6/4/2002	<0.5	<0.5	<0.5	<1.0	33.42	5776.68
MW-2	6/18/2003	<1.0	<1.0	<1.0	<3.0	33.80	5776.30
MW-2	6/23/2004	<0.5	<0.5	<0.5	<1.0	33.92	5776.18
MW-2	1/7/2009	<1.0	<1.0	<1.0	<2.0	34.03	5776.07
MW-2	7/27/2009	<1.0	<1.0	<1.0	<2.0	34.42	5775.68
MW-3	8/30/2000	190	20	37	460	34.56	5776.31
MW-3	6/18/2001	34	4.7	68	130	34.14	5776.73
MW-3	6/4/2002	5.7	0.52	19	30	34.42	5776.45
MW-3	6/18/2003	<50	<50	540	6490	34.80	5776.07
MW-3	6/23/2004	3.3	28.9	34	48.4	34.95	5775.92
MW-3	4/18/2005	<1.0	<1.0	5.3	<2.0	34.48	5776.39
MW-3	10/22/2005	<1.0	<1.0	<1.0	1.1	35.52	5775.35
MW-3	1/19/2006	<1.0	<1.0	<1.0	<2.0	34.71	5776.16
MW-3	4/24/2006	<1.0	<1.0	<1.0	<2.0	34.23	5776.64
MW-3	10/24/2006	<1.0	<1.0	<1.0	1.2J	35.33	5775.54
MW-3	1/19/2007	<1.0	<1.0	<1.0	<2.0	34.66	5776.21
MW-3	4/24/2007	<1.0	<1.0	<1.0	<2.0	33.25	5777.62
MW-3	10/25/2007	<1.0	<1.0	<1.0	<2.0	35.88	5774.99
MW-3	4/21/2008	<2.0	<2.0	<2.0	<6.0	34.50	5776.37
MW-3	7/23/2008	<1.0	<1.0	<1.0	2.3	35.06	5775.81
MW-3	10/8/2008	<2.0	<2.0	<2.0	<6.0	35.41	5775.46
MW-3	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 (some historic data were reported at the detection 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)
MW-1	6/4/2002	--	35.98	0.00	0.25	0.25	5776.60
MW-1	9/10/2002	36.85	37.15	0.30	--	0.25	5775.67
MW-1	12/30/2002	36.08	36.39	0.31	--	0.25	5776.44
MW-3	9/10/2002	35.28	35.92	0.63	--	0.00	5775.46
MW-3	12/30/2002	34.42	34.97	0.55	--	0.00	5776.34
MW-3	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.