

**3R - 212**

**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)

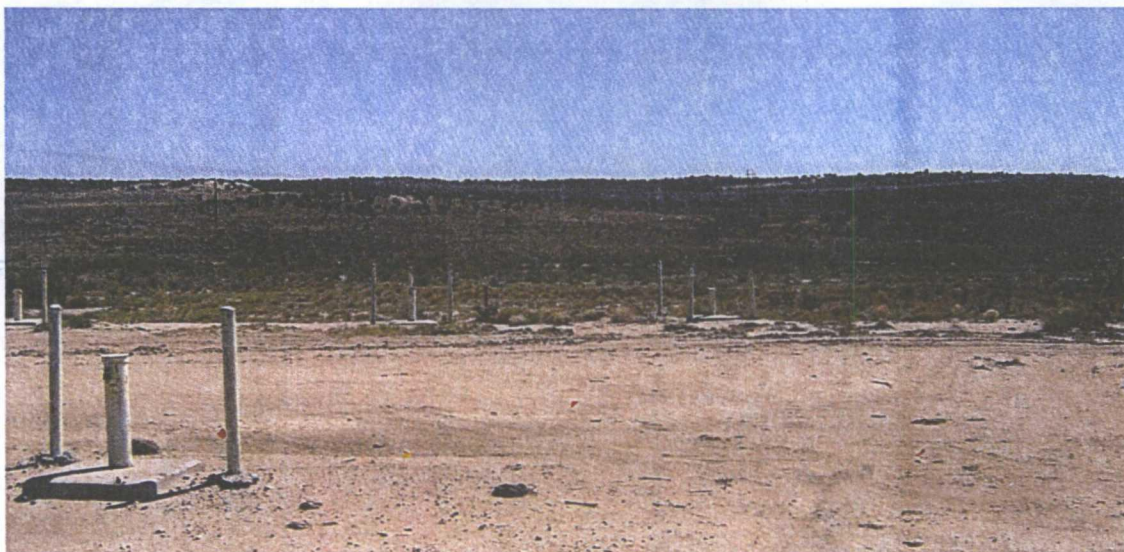
If you have any questions concerning the enclosed reports, please contact either Joe Wiley (representing EPCGP Company) at 713-420-3475 or me at 303-291-2276.

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**

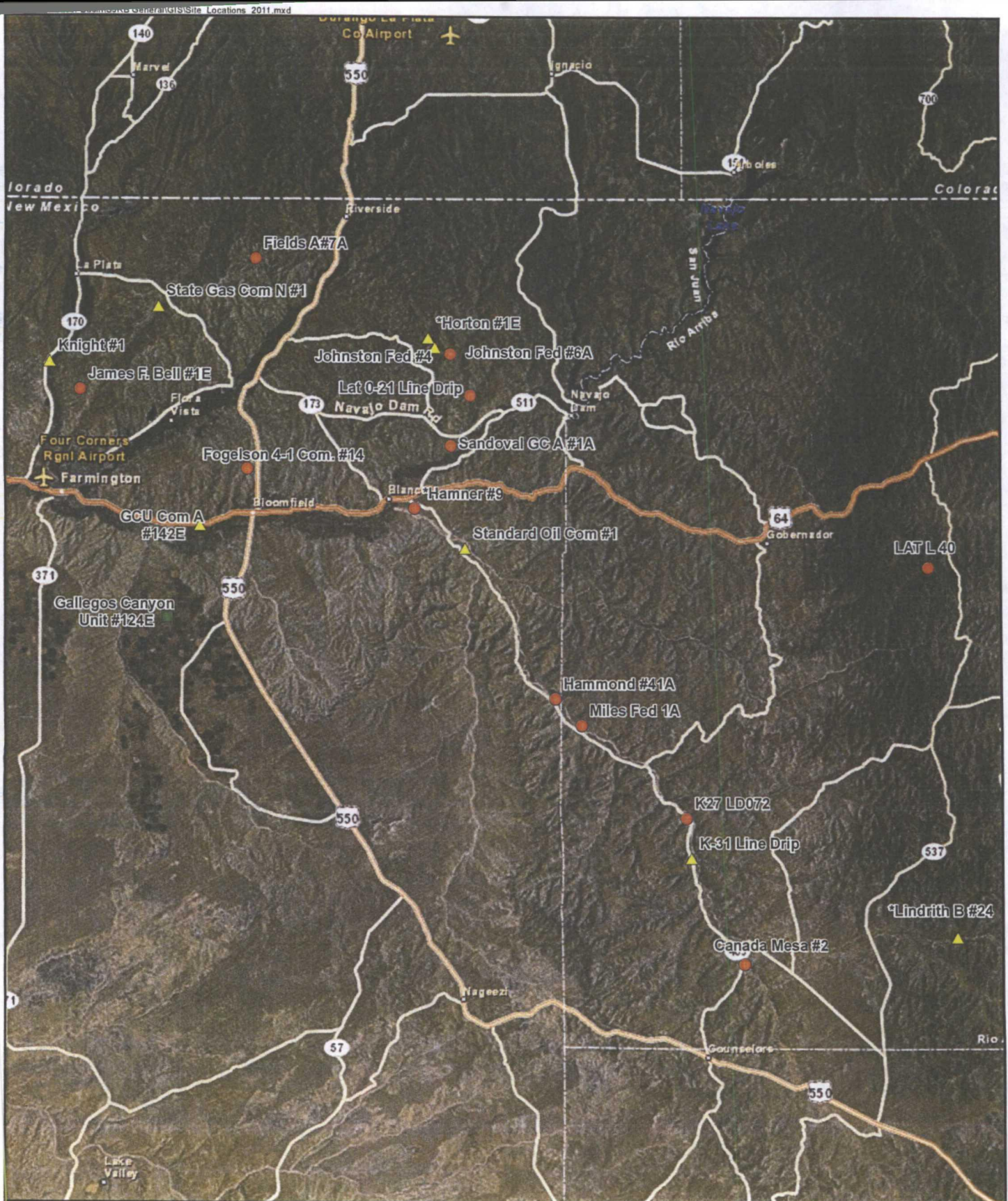
**AUGUST 2012**



# **MWH**

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

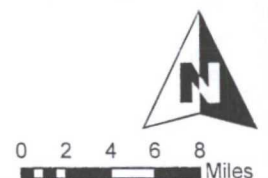




# **LEGEND**

- 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  
TITLE: Site Locations

FIGURE:  
**1**

## **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**

<b>METER or LINE ID</b>	<b>NMOCD CASE NO.</b>	<b>SITE NAME</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>SECTION</b>	<b>UNIT</b>
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.



**EPCGP GROUNDWATER SITES  
2011 ANNUAL GROUNDWATER REPORT  
Lat L-40  
Meter Code: LD174**

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**SITE DETAILS**

<b>Legal Description:</b>	<b>Town:</b> 28N	<b>Range:</b> 4W	<b>Sec:</b> 13	<b>Unit:</b> H
<b>NMOCD Haz Ranking:</b>	20	<b>Land Type:</b> Federal	<b>Operator:</b> Enterprise	

**PREVIOUS ACTIVITIES**

<b>Site Assessment:</b>	2/95	<b>Excavation:</b>	3/95	<b>Soil Boring:</b>	9/95
<b>Monitor Well:</b>	9/95	<b>Geoprobe:</b>	NA	<b>Additional MWs:</b>	*
<b>Downgradient MWs:</b>	*	<b>Replace MW:</b>	NA	<b>Quarterly Initiated:</b>	NA
<b>ORC Nutrient Injection:</b>	NA	<b>Re-Excavation:</b>	NA	<b>PSH Removal Initiated:</b>	1/98
<b>Annual Initiated:</b>	NA	<b>Quarterly Resumed:</b>	NA	<b>PSH Removal in 2011?</b>	Yes

\* Attempts were made to install additional monitoring wells at this Site during July 2000. All efforts were met with refusal.

**SUMMARY OF 2011 ACTIVITIES**

**MW-1:** Annual groundwater sampling (May) and quarterly water level monitoring were performed during 2011.

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

**SITE MAP**

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

**SUMMARY TABLES AND GRAPHS**

- Historical analytical and water level data are summarized in Table 1 and presented graphically in Figure 2. Where applicable, static water level elevations were corrected for measurable thicknesses of free-product (specific gravity of 0.8).
- Historical free-product recovery data are summarized in Table 2 and presented graphically in Figure 2.
- The 2011 laboratory report is presented in Attachment 1 (included on CD).
- The 2011 field documentation is presented in Attachment 2 (included on CD).



**EPCGP GROUNDWATER SITES**  
**2011 ANNUAL GROUNDWATER REPORT**  
**Lat L-40**  
**Meter Code: LD174**

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**GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS**

No subsurface activities were performed at this Site during 2011.

**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 prepared for this Site; however, the attached Site map presents the water level data collected during 2011.

**RESULTS**

- Free-product was observed during the 2011 quarterly water level monitoring events for the first time since July 2006. A total of 0.17 gallons were removed in 2011 bringing the historical total of MW-1 to 26.28 gallons.
- Monitoring well MW-1 was sampled in May 2011, and the benzene and total xylenes concentrations, 115 µg/L and 2,160 µg/L, respectively exceeded their NMWQCC standards. Toluene concentration was detected at 4.8 µg/L; and ethylbenzene was detected at 430 µg/L, which were both below the standards. The observed BTEX concentrations are well below the highs observed in 1997 prior to the product recovery efforts implemented for this Site, and remain consistent with historical data from the past three years.

**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 well 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 requires additional monitoring. The remaining applicable standards are:



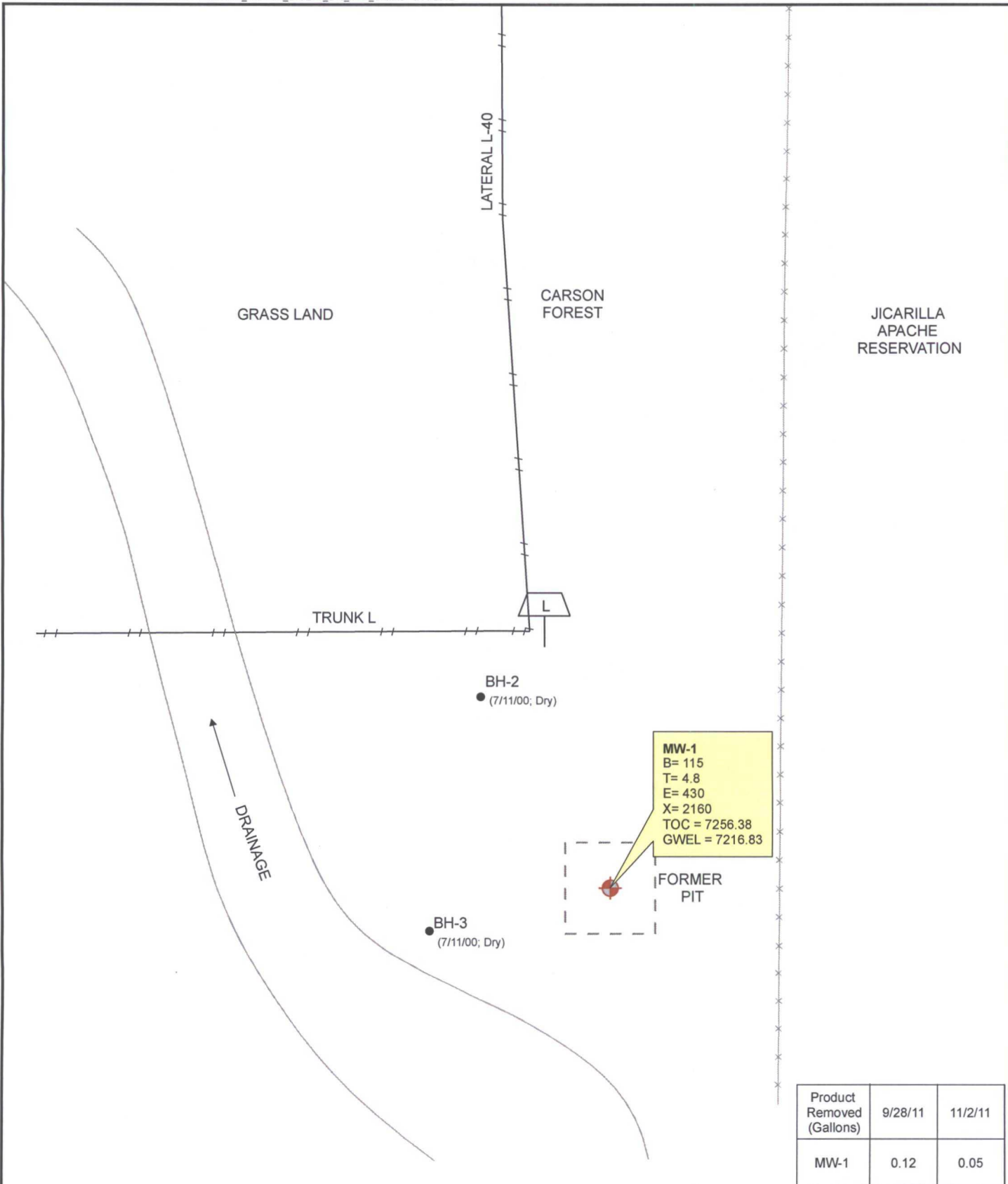
**EPCGP GROUNDWATER SITES**  
**2011 ANNUAL GROUNDWATER REPORT**  
**Lat L-40**  
**Meter Code: LD174**

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

**RECOMMENDATIONS**

- EPCGP recommends quarterly water level monitoring to check for product in MW-1. Use of an oil absorbent sock use will continue as necessary.
- EPCGP will sample MW-1 on an annual basis until sample results meet the closure criteria. Sampling would then proceed at quarterly intervals until the closure criteria are met.
- EPCGP will further evaluate whether this site is a non-beneficial use zone of saturation. The extent of the saturation beneath this former pit is unclear, as several dry holes were encountered during historic attempts to delineate the hydrocarbon plume. It is not clear that there is protectable groundwater at this location.
- In addition, EPCGP will evaluate if this site could be a candidate for passive venting in order to move toward closure.

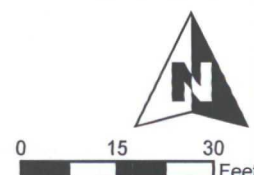


Product Removed (Gallons)	9/28/11	11/2/11
MW-1	0.12	0.05

# **LEGEND**

**MW-1** Existing Monitoring / Observation Well

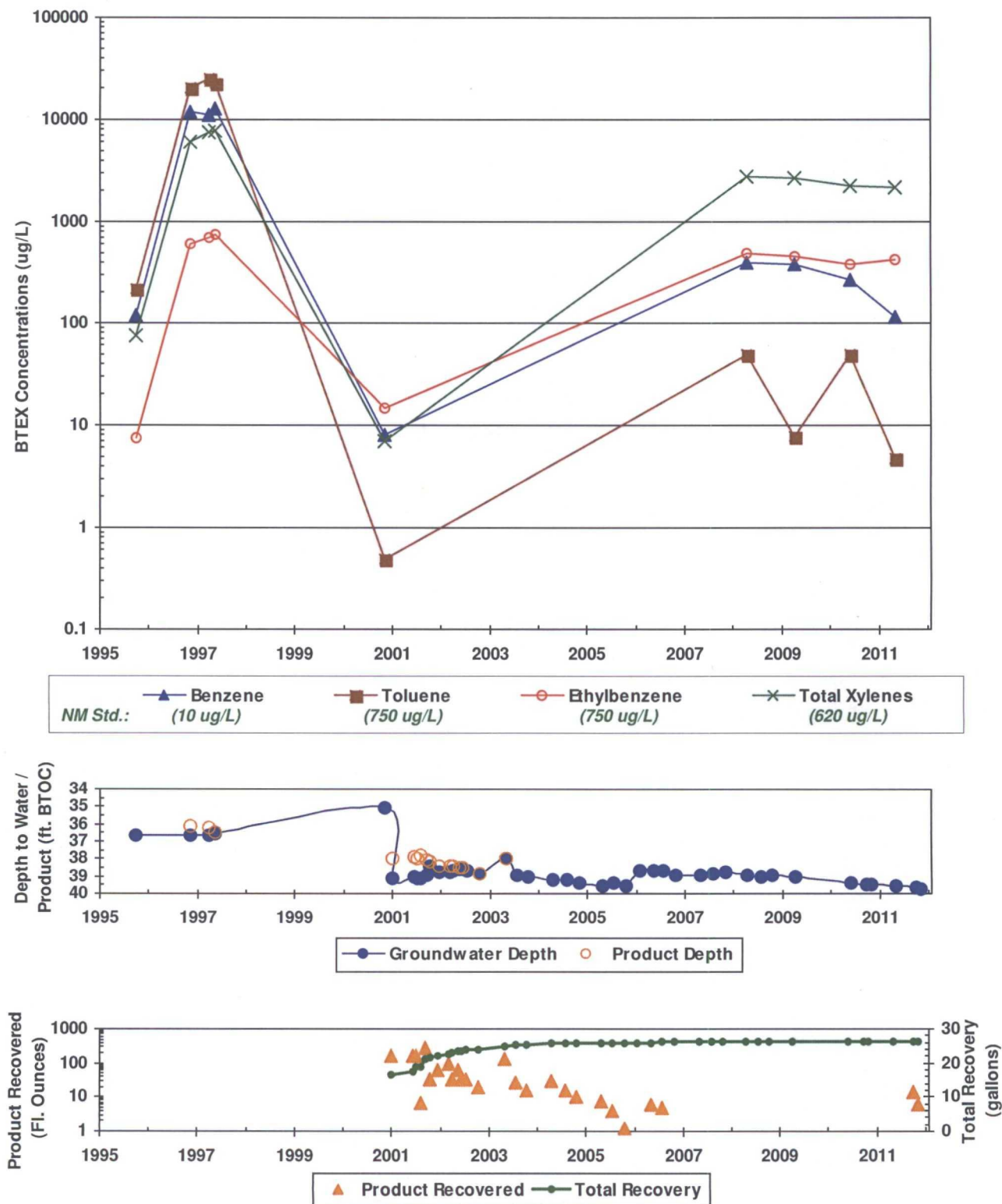
**B** Benzene (ug/L)  
**T** Toluene (ug/L)  
**E** Ethylbenzene (ug/L)  
**X** Total Xylenes (ug/L)  
**TOC** Top of Casing (ft. AMSL)  
**GWEL** Groundwater Elevation (ft. AMSL)



**PROJECT:** LATERAL L-40  
**TITLE:** Groundwater Potentiometric Surface Map, and BTEX Concentrations - May 3, 2011

**FIGURE:**  
**1**

**FIGURE 2**  
**SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY**  
**LAT L-40 (METER #LD174)**  
**MW-1**



*\*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 L-40 (METER #LD174)**

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-1	9/26/1995	121	218	7.4	75.1	36.68	7219.70
MW-1	11/11/1996	12000	20400	612	6075	36.62	7220.13
MW-1	3/31/1997	11100	24700	702	7440	36.68	7220.10
MW-1	5/9/1997	12900	22900	761	7730	36.57	7219.91
MW-1	11/6/2000	8.2	<0.5	15	6.9	35.06	7221.32
MW-1	4/17/2008	396	<50	484	2770	38.98	7217.40
MW-1	4/8/2009	387	7.9J	466	2680	39.04	7217.34
MW-1	6/3/2010	272	<50	384	2240	39.40	7216.98
MW-1	5/3/2011	115	4.8	430	2160	39.55	7216.83
MW-2	11/6/2000	1	<0.5	1.3	3.1	NA	NA

**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 L-40 (METER #LD174)**

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	11/11/1996	36.16	36.62	0.46	NA	NA	7220.13
MW-1	3/31/1997	36.18	36.68	0.50	NA	NA	7220.10
MW-1	5/9/1997	36.45	36.57	0.12	NA	NA	7219.91
MW-1	1/2/2001	37.95	39.08	1.13	1.25	16.43	7218.20
MW-1	6/8/2001	37.89	39.00	1.11	1.25	17.68	7218.27
MW-1	7/2/2001	37.93	39.14	1.21	1.25	18.93	7218.21
MW-1	8/3/2001	37.83	39.10	1.27	0.05	18.98	7218.30
MW-1	9/12/2001	38.02	38.96	0.94	2.25	21.23	7218.17
MW-1	10/12/2001	38.19	38.43	0.24	0.25	21.48	7218.14
MW-1	12/13/2001	38.40	38.75	0.35	0.50	21.98	7217.91
MW-1	3/12/2002	38.42	38.76	0.34	0.75	22.73	7217.89
MW-1	4/3/2002	38.39	38.66	0.27	0.25	22.98	7217.94
MW-1	5/20/2002	38.46	38.56	0.10	0.50	23.48	7217.90
MW-1	6/10/2002	38.51	38.56	0.05	0.25	23.73	7217.86
MW-1	7/19/2002	--	38.64	0.00	0.25	23.98	7217.74
MW-1	10/11/2002	38.84	38.87	0.03	0.16	24.14	7217.53
MW-1	5/6/2003	37.94	37.97	0.03	1.00	25.14	7218.43
MW-1	7/17/2003	--	38.95	0.00	0.20	25.34	7217.43
MW-1	10/13/2003	--	39.06	0.00	0.13	25.47	7217.32
MW-1	4/20/2004	--	39.18	0.00	0.24	25.71	7217.20
MW-1	7/27/2004	--	39.22	0.00	0.13	25.84	7217.16
MW-1	10/26/2004	--	39.35	0.00	0.08	25.92	7217.03
MW-1	4/22/2005	--	39.52	0.00	0.06	25.98	7216.86
MW-1	7/19/2005	--	39.34	0.00	0.03	26.01	7217.04
MW-1	10/21/2005	--	39.57	0.00	0.01	26.02	7216.81
MW-1	5/10/2006	--	38.72	0.00	0.05	26.07	7217.66
MW-1	7/26/2006	--	38.72	0.00	0.04	26.11	7217.66
MW-1	9/28/2011	--	39.63	0.00	0.12	26.23	7216.75
MW-1	11/2/2011	--	39.73	0.00	0.05	26.28	7216.65

**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.