

3R - 155

2011 AGWMR

8/16/2012

**MWH****BUILDING A BETTER WORLD**

RECEIVED OGD

2012 AUG 20 A 10:48

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)

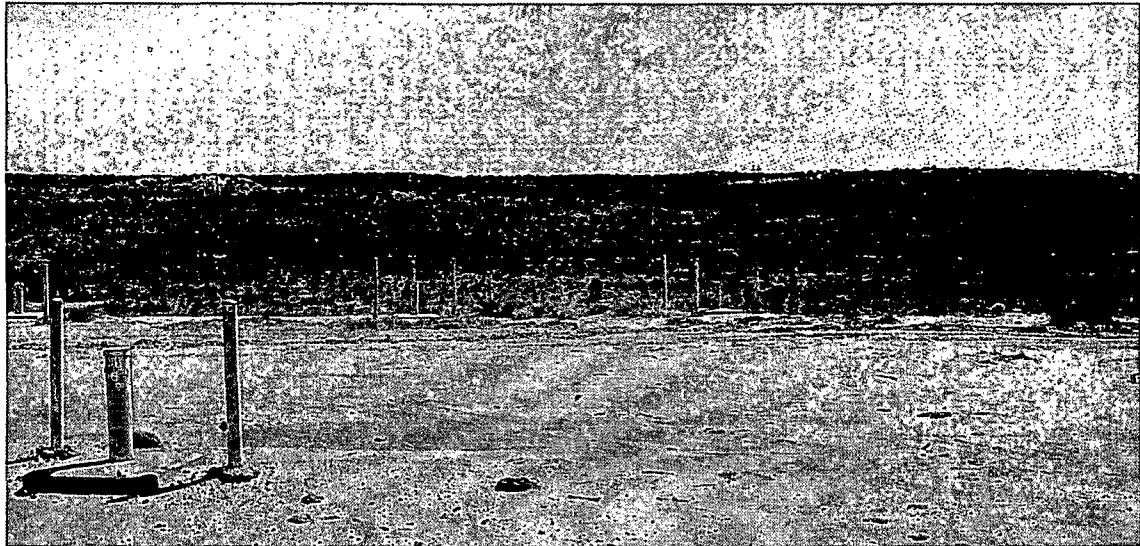
If you have any questions concerning the enclosed reports, please contact either Joe Wiley (representing EPCGP Company) at 713-420-3475 or me at 303-291-2276.

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

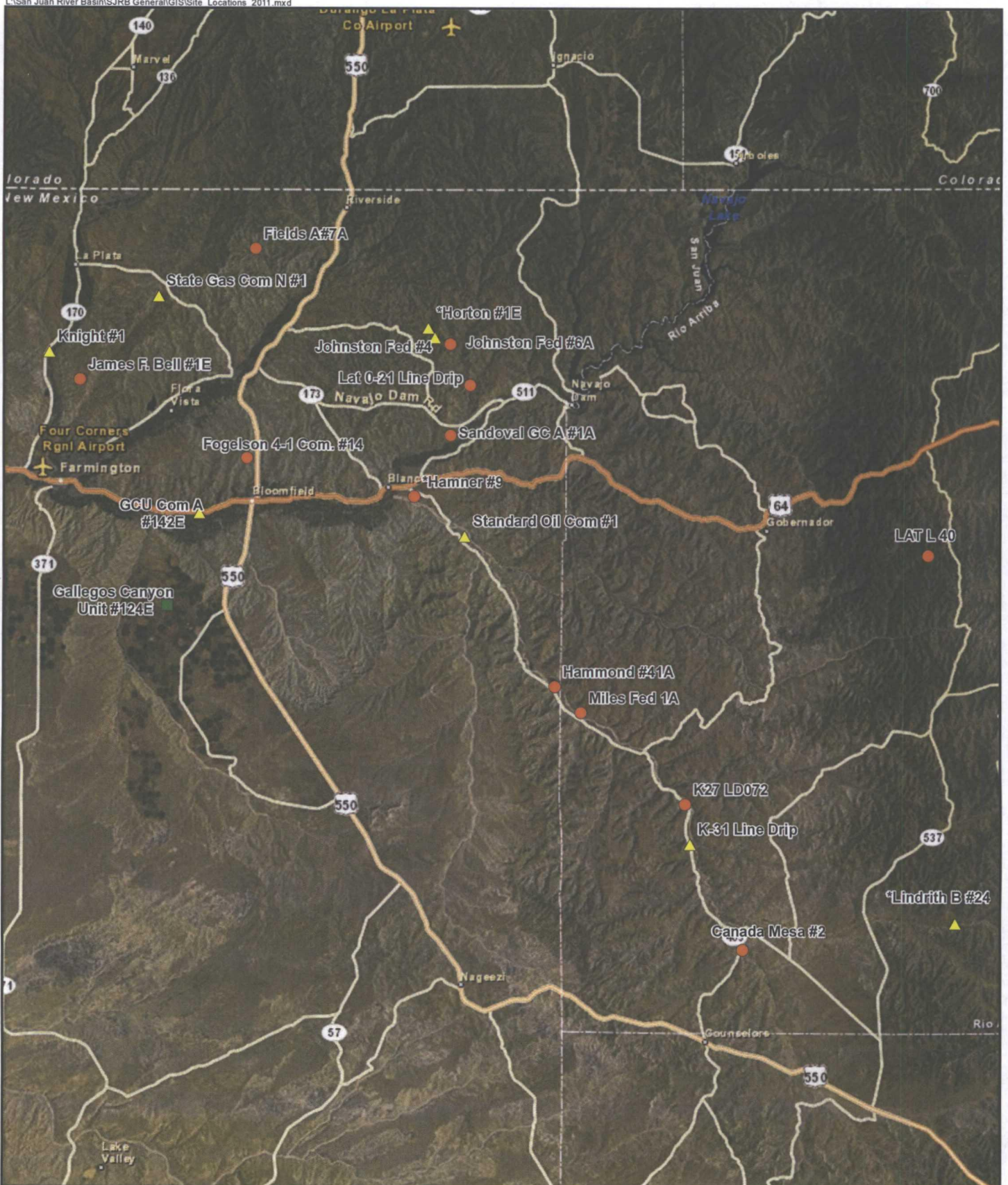
AUGUST 2012

RECEIVED OGD
22 AUG 20 10:49



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

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.



**EPCGP GROUNDWATER SITES
2011 ANNUAL GROUNDWATER REPORT**

**Canada Mesa #2
Meter Code: 87640**

SITE DETAILS

Legal Description:	Town:	24N	Range:	6W	Sec:	24	Unit:	I
NMOCD Haz Ranking:	40	Land Type:	Federal	Operator:	Merrion Oil & Gas Company			

PREVIOUS ACTIVITIES

Site Assessment:	7/94	Excavation:	8/94	Soil Boring:	8/95
Monitor Well:	8/95	Geoprobe:	NA	Additional MWs:	10/00
Downgradient MWs:	10/00	Replace MW:	NA	Quarterly Initiated:	8/95
ORC Nutrient Injection:	NA	Re-Excavation:	NA	PSH Removal Initiated:	8/97
Annual Initiated:	11/00	Quarterly Resumed:	NA	PSH Removal in 2011?	Yes

SUMMARY OF 2011 ACTIVITIES

MW-1: Annual groundwater sampling (November) and quarterly free-product recovery were performed during 2011.

MW-2: Annual groundwater sampling (November) and quarterly water level monitoring were performed during 2011.

MW-3: Annual groundwater sampling (November) 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 (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 4. 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 Figure 2.

**EPCGP GROUNDWATER SITES
2011 ANNUAL GROUNDWATER REPORT**

**Canada Mesa #2
Meter Code: 87640**

- The 2011 laboratory report is presented in Attachment 1 (included on CD).
- The 2011 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 2011.

DISPOSITION OF GENERATED WASTES

All purge water was taken to the El Paso Natural Gas Rio Vista Compressor Station. Spent absorbent socks were managed as non-hazardous solid waste.

ISOCONCENTRATION MAPS

The attached Site map presents both the water level and analytical data collected during the November 2011 annual sampling event.

RESULTS

- The groundwater flow direction is generally to the east-northeast at this Site.
- Approximately 1.19 gallons of free-product was recovered from MW-1 in 2011, bringing the cumulative total recovered to approximately 49.03 gallons. Groundwater concentrations of benzene, toluene, ethylbenzene, and total xylenes remained elevated above the NMWQCC standards in MW-1.
- BTEX constituents were not detected in MW-2 during 2011. The benzene concentration in MW-2 first dropped below the NMWQCC standard in 2006 and has remained in compliance since that time.
- The benzene concentration in MW-3 was 167 µg/L in November 2011. Overall, the benzene concentrations have decreased significantly from a high of 1,430 µg/L in 2002. Toluene, ethylbenzene and total xylenes concentrations remain below their respective NMWQCC standards.

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 closure requirements at this site, the following conditions must be achieved:

**EPCGP GROUNDWATER SITES
2011 ANNUAL GROUNDWATER REPORT**

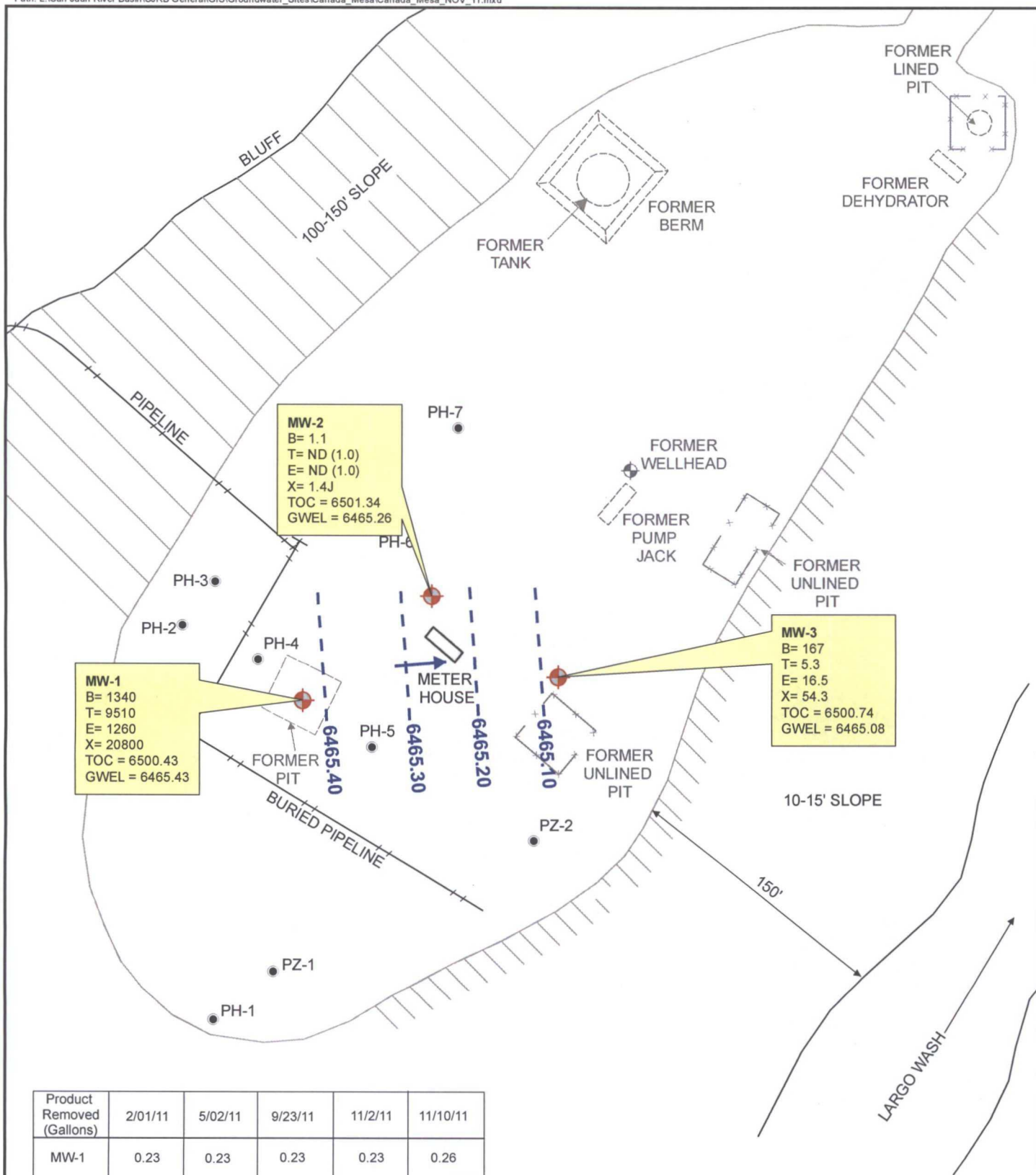
**Canada Mesa #2
Meter Code: 87640**

1. Recoverable free-product must be removed from the subsurface. Generally, this corresponds with an absence of measurable free-product in the monitoring wells. Currently, product recovery efforts are required at MW-1.
2. Groundwater contaminant concentrations in the monitoring 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, MW-1 and MW-3 require additional monitoring. The remaining applicable standards are:

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

RECOMMENDATIONS

- EPCGP will continue quarterly free-product recovery efforts at MW-1. Fluid levels in MW-2 and MW-3 will also be gauged each quarter.
- EPCGP will continue sampling MW-1, MW-2, and MW-3 on an annual basis. Once the results meet the closure criteria, sampling will be conducted on a quarterly basis until the closure criteria are met.
- EPCGP will examine the option of utilizing a passive skimmer to more efficiently determine the amount of product being removed, as well as evaluate this site as a possible candidate for LNAPL solar-powered recovery.



LEGEND

MW-1 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)
ND Not Detected; Reporting Limit shown in Parenthesis
J Result Flagged as Estimated



Not To Scale



PROJECT:

CANADA MESA #2

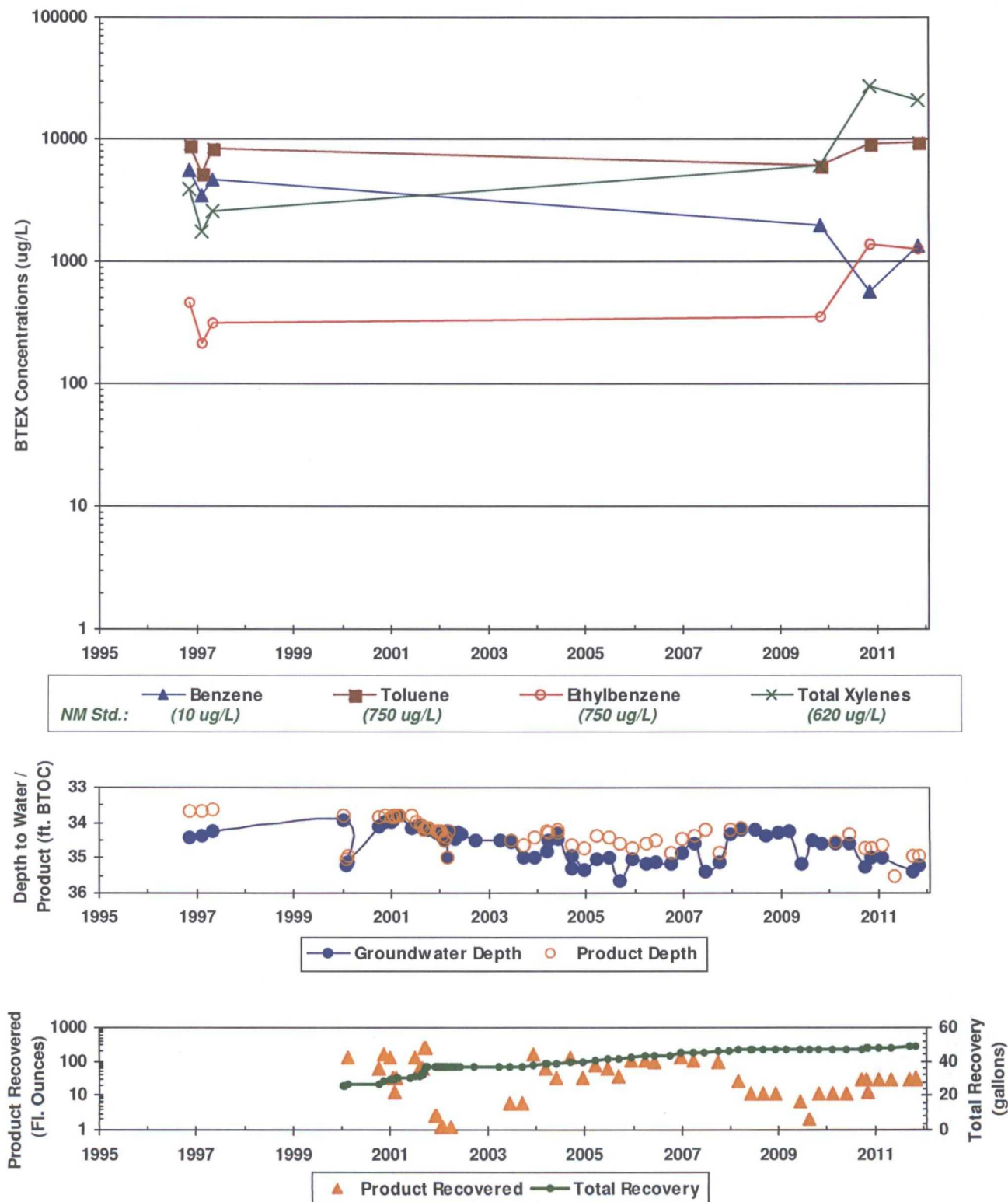
TITLE:

Groundwater Potentiometric Surface Map,
and BTEX Concentrations - November 10, 2011

FIGURE:

1

FIGURE 2
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
CANADA MESA #2 (METER #87640)
MW-1



**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 AND FLUID LEVELS
CANADA MESA #2 (METER #87640)
MW-2

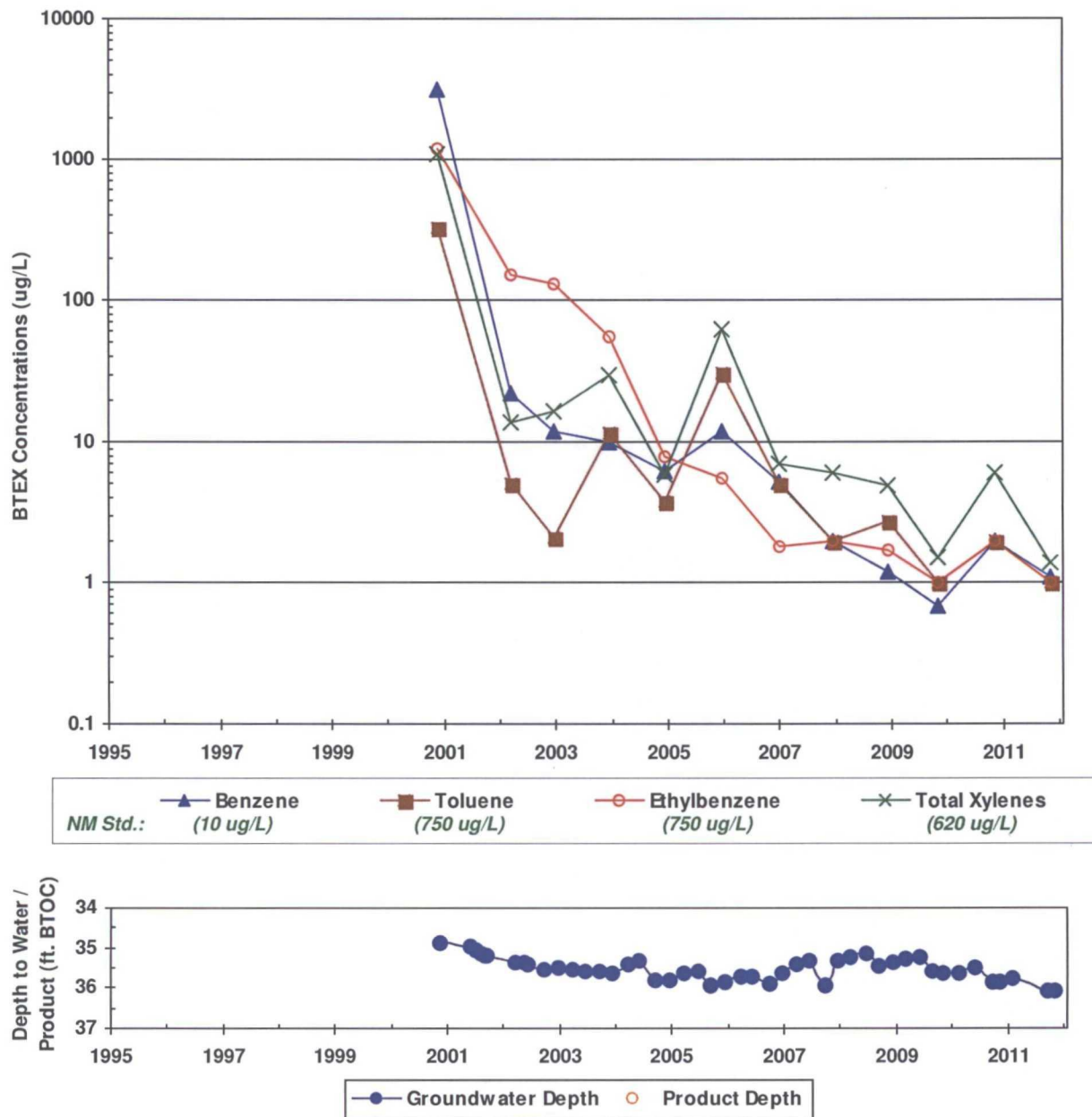


FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
CANADA MESA #2 (METER #87640)
MW-3

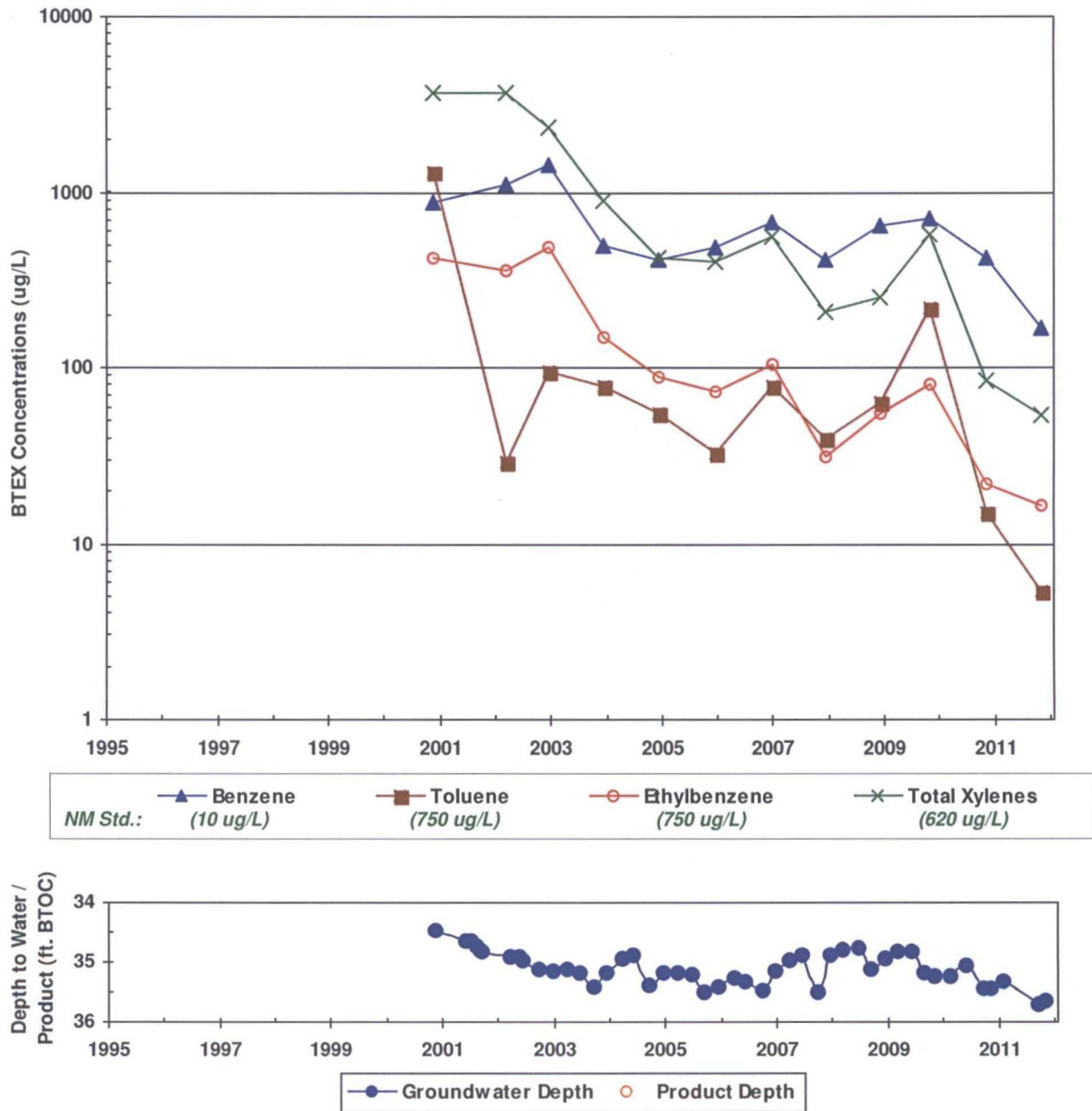


TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER
CANADA MESA #2 (METER #87640)**

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	11/4/1996	5520	8880	469	3920	34.42	6466.61
MW-1	2/5/1997	3450	5200	214	1770	34.35	6466.65
MW-1	5/7/1997	4650	8440	317	2580	34.24	6466.69
MW-1	11/3/2009	1970	6020	359	6110	34.57	6465.86
MW-1	11/8/2010	571	9070	1370	27200	34.98	6465.65
MW-1	11/10/2011	1340	9510	1260	20800	35.21	6465.43
MW-2	11/16/2000	3200	330	1200	1100	34.90	6466.44
MW-2	3/19/2002	22	<5.0	150	14	35.36	6465.98
MW-2	12/24/2002	12.1	2.1	129	16.4	35.52	6465.82
MW-2	12/15/2003	10	11.7	55.3	29.7	35.63	6465.71
MW-2	12/15/2004	6.3	3.8	8.0	5.9	35.79	6465.55
MW-2	12/15/2005	12.1	30.9	5.6	61.9	35.85	6465.49
MW-2	12/26/2006	5.3	5.0	1.8	7.1	35.63	6465.71
MW-2	12/18/2007	<2.0	<2.0	<2.0	<6.0	35.32	6466.02
MW-2	12/10/2008	1.2	2.7	1.7	4.9	35.37	6465.97
MW-2	11/3/2009	0.68J	<1.0	<1.0	1.5J	35.65	6465.69
MW-2	11/8/2010	<2.0	<2.0	<2.0	<6.0	35.85	6465.49
MW-2	11/10/2011	1.1	<1.0	<1.0	1.4J	36.08	6465.26
MW-3	11/16/2000	880	1300	420	3700	34.46	6466.28
MW-3	3/19/2002	1100	29	360	3700	34.92	6465.82
MW-3	12/24/2002	1430	95	483	2359	35.15	6465.59
MW-3	12/15/2003	503J	79.7J	148J	891J	35.17	6465.57
MW-3	12/15/2004	410	54.9	88.7	420	35.17	6465.57
MW-3	12/15/2005	482	32.7	74.1	399	35.40	6465.34
MW-3	12/26/2006	679	78.9	106	565	35.16	6465.58
MW-3	12/18/2007	412	39.4	31.5	207	34.88	6465.86
MW-3	12/10/2008	653	63.2	55.5	253	34.95	6465.79
MW-3	11/3/2009	715	220	80.0	570	35.23	6465.51
MW-3	11/8/2010	426	15.0	22.1	85.1	35.43	6465.31
MW-3	11/10/2011	167	5.3	16.5	54.3	35.66	6465.08

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
CANADA MESA #2 (METER #87640)**

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	11/4/1996	33.67	34.42	0.75	NA	NA	6466.61
MW-1	2/5/1997	33.64	34.35	0.71	NA	NA	6466.65
MW-1	5/7/1997	33.61	34.24	0.63	NA	NA	6466.69
MW-1	1/9/2000	33.79	33.93	0.14	--	25.73	6466.61
MW-1	1/26/2000	35.03	35.22	0.19	--	25.73	6465.36
MW-1	2/15/2000	34.93	35.11	0.18	1.00	26.73	6465.46
MW-1	10/6/2000	33.82	34.11	0.29	0.50	27.23	6466.55
MW-1	11/14/2000	33.81	33.98	0.17	1.25	28.48	6466.59
MW-1	1/3/2001	33.83	33.96	0.13	1.00	29.48	6466.57
MW-1	1/15/2001	33.78	33.93	0.15	--	29.48	6466.62
MW-1	1/22/2001	33.81	33.81	0.00	0.25	29.73	6466.62
MW-1	1/30/2001	33.82	33.83	0.01	0.10	29.83	6466.61
MW-1	2/13/2001	33.80	33.80	0.00	0.25	30.08	6466.63
MW-1	2/20/2001	33.81	33.81	0.00	--	30.08	6466.62
MW-1	2/28/2001	33.81	33.81	0.00	--	30.08	6466.62
MW-1	6/4/2001	33.81	34.13	0.32	--	30.08	6466.56
MW-1	7/3/2001	33.96	34.09	0.13	1.00	31.08	6466.44
MW-1	8/6/2001	34.07	34.08	0.01	0.50	31.58	6466.36
MW-1	8/20/2001	34.09	34.10	0.01	0.50	32.08	6466.34
MW-1	8/31/2001	34.17	34.17	0.00	0.50	32.58	6466.26
MW-1	9/14/2001	34.13	34.14	0.01	2.02	34.60	6466.30
MW-1	9/26/2001	34.14	34.15	0.01	2.02	36.62	6466.29
MW-1	10/2/2001	34.15	34.17	0.02	--	36.62	6466.28
MW-1	10/10/2001	34.16	34.18	0.02	--	36.62	6466.27
MW-1	12/5/2001	34.25	34.26	0.01	0.02	36.64	6466.18
MW-1	12/14/2001	34.27	34.27	0.00	0.02	36.66	6466.16
MW-1	12/21/2001	34.24	34.24	0.00	--	36.66	6466.19
MW-1	12/28/2001	34.22	34.22	0.00	--	36.66	6466.21
MW-1	1/2/2002	34.23	34.23	0.00	--	36.66	6466.20
MW-1	1/7/2002	34.23	34.25	0.02	--	36.66	6466.20
MW-1	1/23/2002	34.37	34.42	0.05	0.01	36.67	6466.05
MW-1	1/30/2002	34.50	34.51	0.01	0.01	36.68	6465.93
MW-1	2/7/2002	34.49	34.50	0.01	--	36.68	6465.94
MW-1	2/14/2002	34.41	34.42	0.01	--	36.68	6466.02

TABLE 2
SUMMARY OF FREE-PRODUCT REMOVAL
CANADA MESA #2 (METER #87640)

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	2/20/2002	34.99	35.00	0.01	--	36.68	6465.44
MW-1	3/7/2002	34.24	34.25	0.01	--	36.68	6466.19
MW-1	3/12/2002	34.24	34.25	0.01	--	36.68	6466.19
MW-1	3/28/2002	--	34.27	0.00	0.01	36.69	6466.16
MW-1	6/22/2003	34.48	34.55	0.07	0.05	36.74	6465.94
MW-1	9/15/2003	34.65	34.97	0.32	0.05	36.79	6465.72
MW-1	12/15/2003	34.41	34.98	0.57	1.25	38.04	6465.91
MW-1	3/17/2004	34.24	34.80	0.56	0.50	38.54	6466.08
MW-1	3/22/2004	34.29	34.49	0.20	--	38.54	6466.10
MW-1	6/3/2004	34.30	34.44	0.14	0.25	38.79	6466.10
MW-1	6/4/2004	34.20	34.30	0.10	--	38.79	6466.21
MW-1	9/13/2004	34.64	35.30	0.66	1.00	39.79	6465.66
MW-1	9/14/2004	34.65	34.95	0.30	--	39.79	6465.72
MW-1	12/15/2004	34.74	35.32	0.58	0.25	40.04	6465.57
MW-1	3/22/2005	34.36	35.01	0.65	0.64	40.68	6465.94
MW-1	6/24/2005	34.39	34.97	0.58	0.50	41.18	6465.92
MW-1	9/14/2005	34.60	35.65	1.05	0.30	41.48	6465.62
MW-1	12/14/2005	34.74	35.05	0.31	0.80	42.28	6465.63
MW-1	3/28/2006	34.59	35.14	0.55	0.80	43.08	6465.73
MW-1	6/7/2006	34.52	35.11	0.59	0.75	43.83	6465.79
MW-1	9/29/2006	34.85	35.14	0.29	--	43.83	6465.52
MW-1	12/26/2006	34.44	34.85	0.41	1.00	44.83	6465.91
MW-1	3/26/2007	34.35	34.60	0.25	0.84	45.67	6466.03
MW-1	6/13/2007	34.20	35.39	1.19	--	45.67	6465.99
MW-1	9/28/2007	34.86	35.12	0.26	0.79	46.46	6465.52
MW-1	12/18/2007	34.18	34.34	0.16	--	46.46	6466.22
MW-1	3/5/2008	34.15	34.17	0.02	0.21	46.67	6466.28
MW-1	6/4/2008	NA	NA	NA	0.09	46.76	NA
MW-1	9/10/2008	--	34.35	0.00	0.09	46.85	6466.08
MW-1	12/10/2008	--	34.30	0.00	0.09	46.94	6466.13
MW-1	6/9/2009	NA	NA	NA	0.05	47.00	NA
MW-1	8/25/2009	--	34.50	0.00	0.02	47.01	6465.93
MW-1	11/2/2009	NA	NA	NA	0.09	47.10	NA
MW-1	2/16/2010	34.54	34.57	0.03	0.09	47.18	6465.88

TABLE 2

**SUMMARY OF FREE-PRODUCT REMOVAL
CANADA MESA #2 (METER #87640)**

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	5/24/2010	NA	NA	NA	0.09	47.27	NA
MW-1	6/2/2010	34.34	34.58	0.24	--	47.27	6466.04
MW-1	9/27/2010	34.71	35.26	0.55	0.23	47.50	6465.61
MW-1	11/1/2010	NA	NA	NA	0.23	47.74	NA
MW-1	11/8/2010	34.73	34.98	0.25	0.10	47.84	6465.65
MW-1	2/1/2011	34.63	34.97	0.34	0.23	48.07	6465.73
MW-1	5/2/2011	35.52	NA	NA	0.23	48.31	NA
MW-1	9/23/2011	34.93	35.40	0.47	0.23	48.54	6465.41
MW-1	11/2/2011	NA	NA	NA	0.23	48.78	NA
MW-1	11/10/2011	34.95	35.21	0.26	0.26	49.03	6465.43

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.