

3R - 196

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

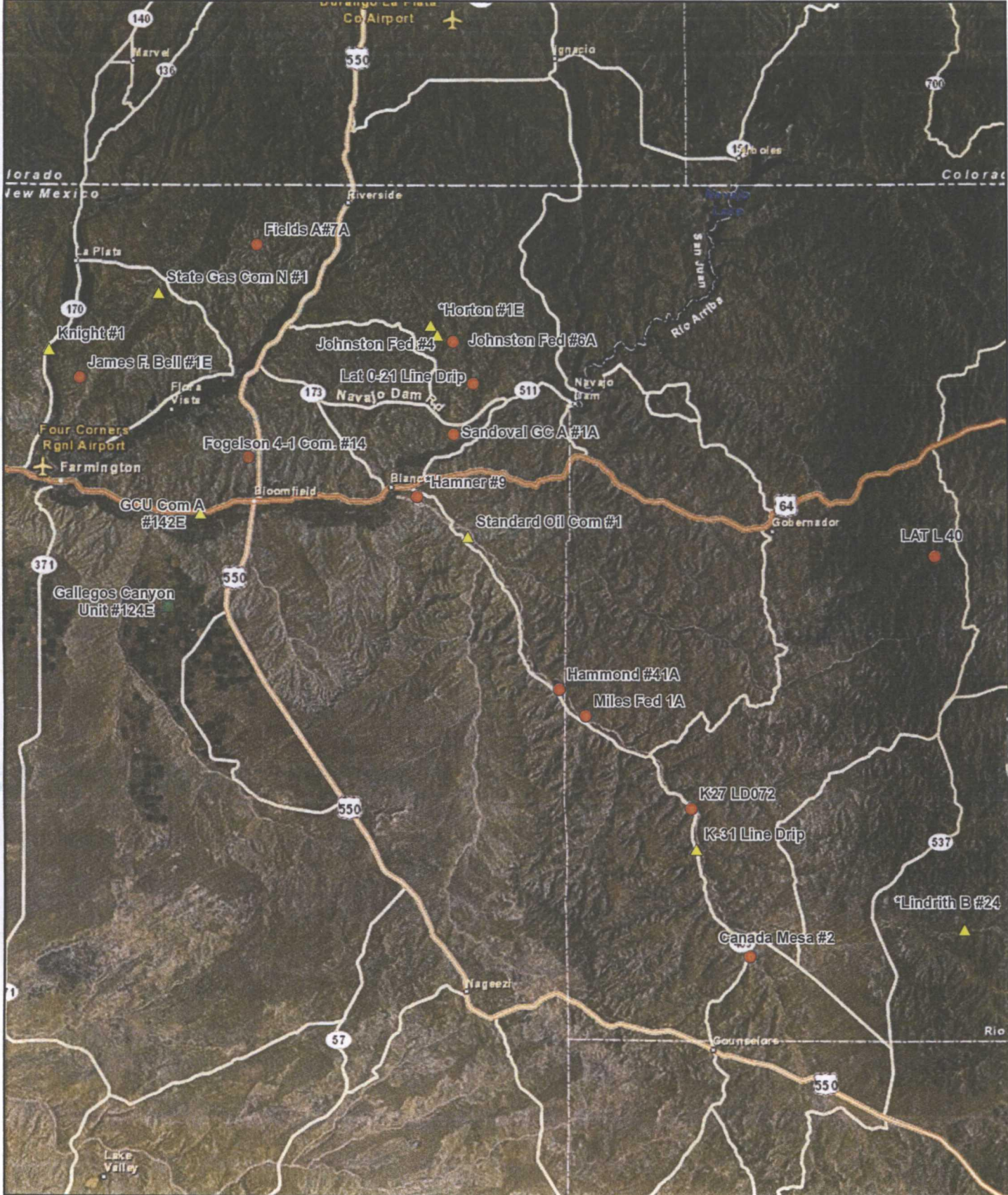
**2011 ANNUAL REPORT
PIT GROUNDWATER REMEDIATION
VOLUME 1: SITES ON FEDERAL LANDS**

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 NMOC.



0 2 4 6 8
Miles



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**

**James F. Bell #1E
Meter Code: 94715**

SITE DETAILS

Legal Description:	Town:	30N	Range:	13W	Sec:	10	Unit:	P
NMOCD Haz Ranking:	40	Land Type:	Federal	Operator:	XTO Energy, Inc.			

PREVIOUS ACTIVITIES

Site Assessment:	3/94	Excavation:	4/94	Soil Boring:	10/95
Monitor Well:	10/95	Geoprobe:	NA	Additional MWs:	6/99
Downgradient MWs:	11/95	Replace MW:	NA	Quarterly Initiated:	NA
ORC Nutrient Injection:	NA	Re-Excavation:	NA	PSH Removal Initiated:	7/97
Annual Initiated:	10/00	Quarterly Resumed:	NA	PSH Removal in 2011?	Yes

* Additional downgradient monitoring wells were attempted in 1995 and in 1999; however, these borings were dry and wells were not installed.

SUMMARY OF 2011 ACTIVITIES

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

MW-2: Quarterly water level monitoring was performed during 2011.

MW-3: Annual groundwater sampling (May) and quarterly water level monitoring were performed during 2011.

MW-4: Quarterly water level monitoring was performed during 2011.

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

SITE MAP

A Site map (May) 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 5. Where applicable, static water level elevations were corrected for measurable thicknesses of free-product (specific gravity of 0.8).

EPCGP GROUNDWATER SITES 2011 ANNUAL GROUNDWATER REPORT

**James F. Bell #1E
Meter Code: 94715**

- Historic free-product recovery data are summarized in Table 2 and presented graphically in Figures 2 and 4.
- 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.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this Site; however, the attached Site map presents the analytical data collected during the May 2011 event.

RESULTS

- Free-product was not measured in MW-1 during the 2011 sampling events. Product was measured in this well in 2010. Groundwater was bailed from the well at the time of May sampling event, and oil-absorbing socks were installed and checked during the remainder of 2011. The total product recovered in 2011 was approximately .39 gallons; bringing the historic cumulative total product recovered from MW-1 to 786.56 gallons.
- MW-1 was sampled in May 2011, and the BTEX concentrations were significantly above the NMWQCC standard, similar to those observed historically.
- Free-product has not been detected in MW-3 since January 2004. Benzene and toluene concentrations (402 µg/L and <10 µg/L) have significantly attenuated over time, though benzene remains above its NMWQCC standard. Ethylbenzene (922 µg/L) and total xylenes concentrations (11,100 µg/L) both exceed their respective standards at concentrations consistent with their historic levels.

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.

**EPCGP GROUNDWATER SITES
2011 ANNUAL GROUNDWATER REPORT**

**James F. Bell #1E
Meter Code: 94715**

- In order to meet the remaining closure requirements at this site, the following conditions must be achieved:
 1. Recoverable free-product must be removed from the subsurface. Generally, this corresponds with an absence of measurable free-product in the monitor wells. Currently, product recovery efforts are required at MW-1.
 2. 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, MW-1, MW-2, 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

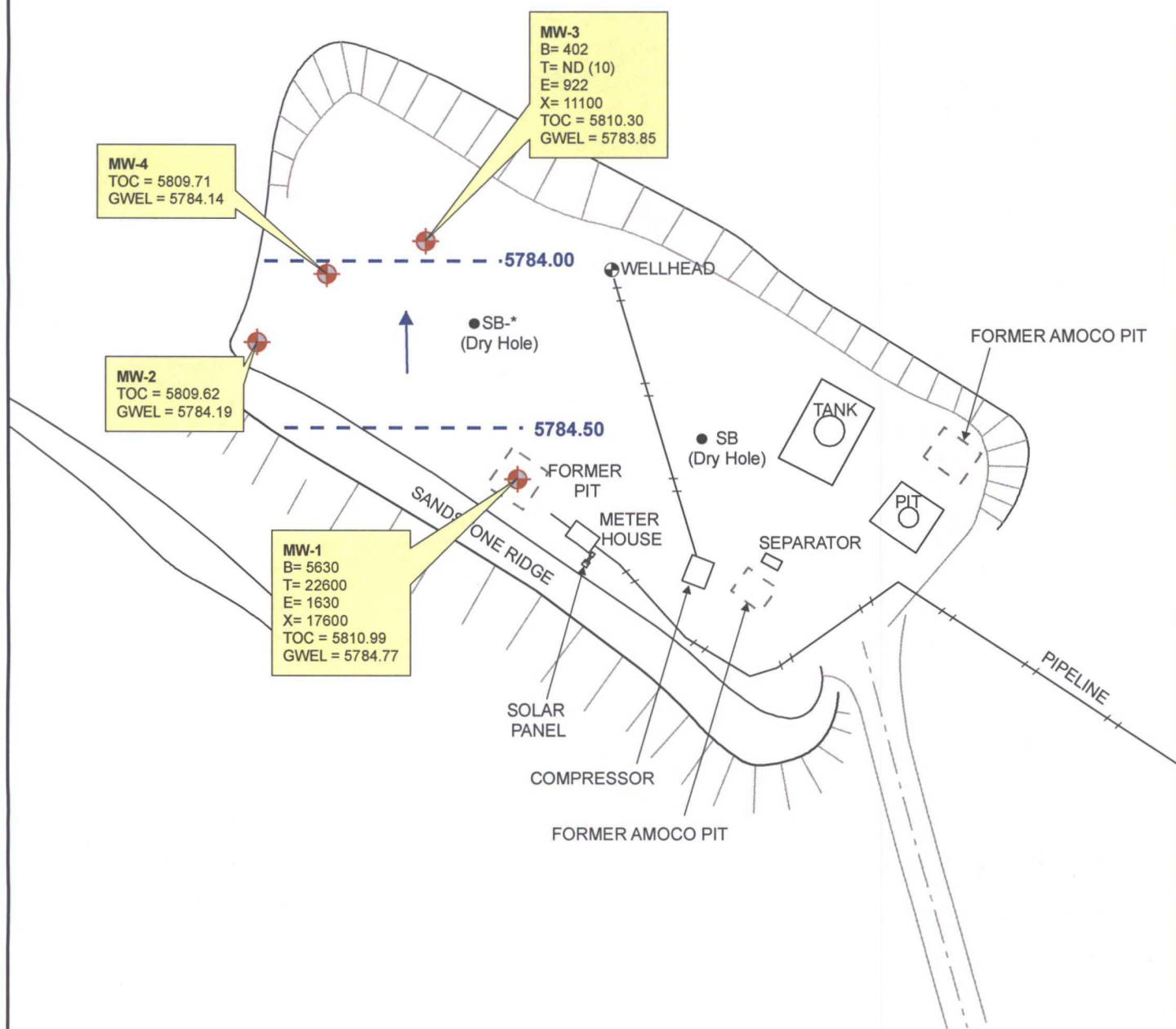
RECOMMENDATIONS

- The dissolved phase BTEX concentrations in MW-1 generally appear to be stable over the last 14 years. EPCGP will continue to sample this well annually and gauge quarterly to check for free-product.
- EPCGP will continue annual groundwater sample collection and quarterly water level monitoring at MW-2.
- EPCGP will continue annual groundwater sample collection and quarterly water level monitoring at MW-3.
- EPCGP will continue annual groundwater sample collection and quarterly water level monitoring at MW-4.
- In 1996, the operator closed a blowdown pit in place with excavation performed for approximately 375 cubic yards. The final pit closure sampling report showed TPH concentrations of 1,530 ppm and 764 ppm at the surface and five feet below ground surface (bgs), respectively. The excavation floor was described as sandstone bedrock. A separator pit was also closed at the same time with a confirmation sample TPH concentrations of 895 ppm eight feet bgs. This was done with the belief that static groundwater was greater than 100 feet deep.

**EPCGP GROUNDWATER SITES
2011 ANNUAL GROUNDWATER REPORT**

**James F. Bell #1E
Meter Code: 94715**

EPCGP will be evaluating potential operator sources and passive remedial alternatives for the site in 2012. EPCGP will present its findings in the 2012 annual report.



Product Removed (Gallons)	2/2/11	5/2/11	9/26/11	11/1/11
MW-1	0.06	0.06	0.23	0.03

LEGEND

- MW-1 Existing Monitoring / Observation Well
- Groundwater Flow Direction
- 5784— 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



Not To Scale



PROJECT:

JAMES F BELL #1E

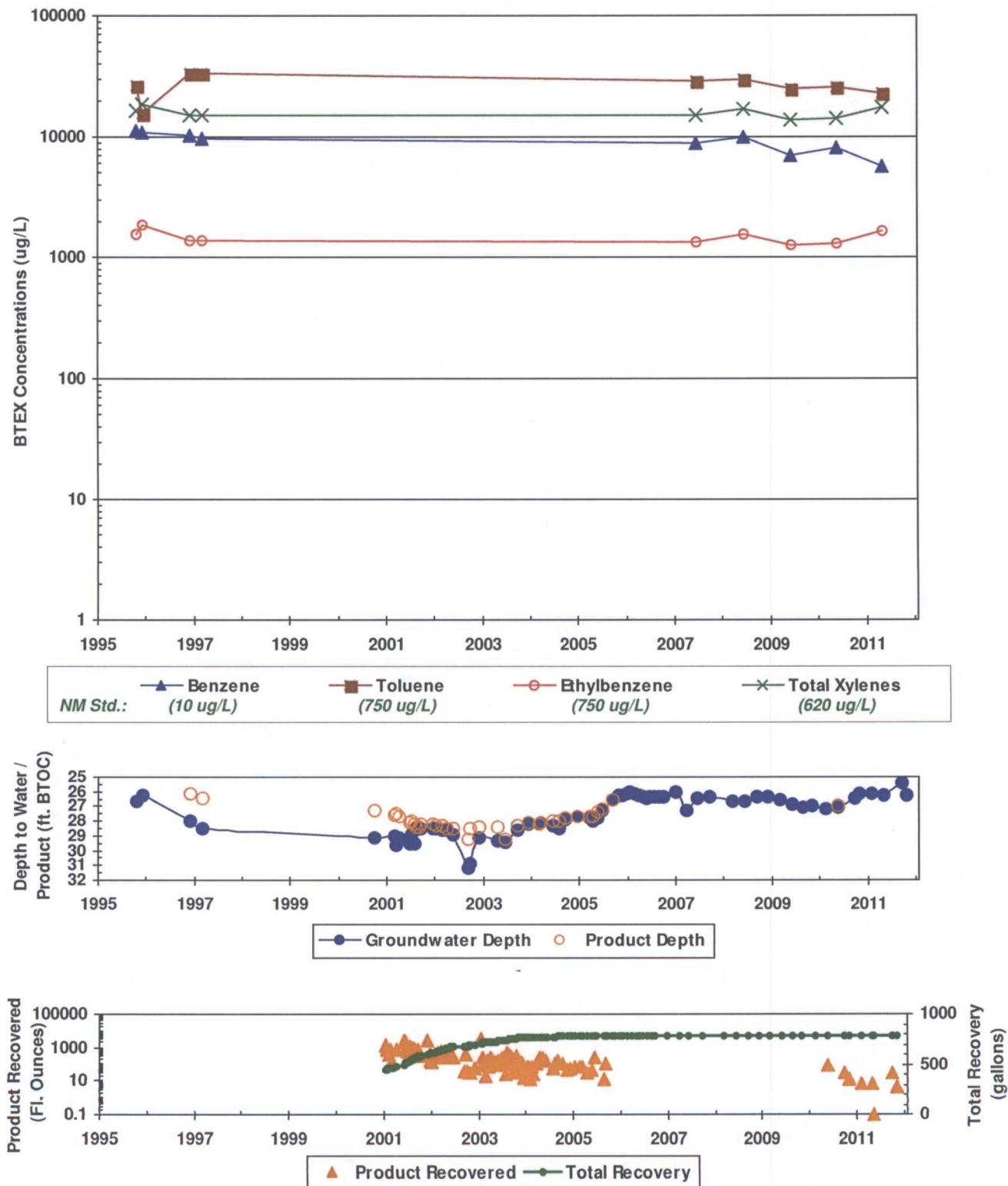
TITLE:

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

FIGURE:

1

FIGURE 2
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
JAMES F. BELL #1E (METER #94715)
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
JAMES F. BELL #1E (METER #94715)
MW-2

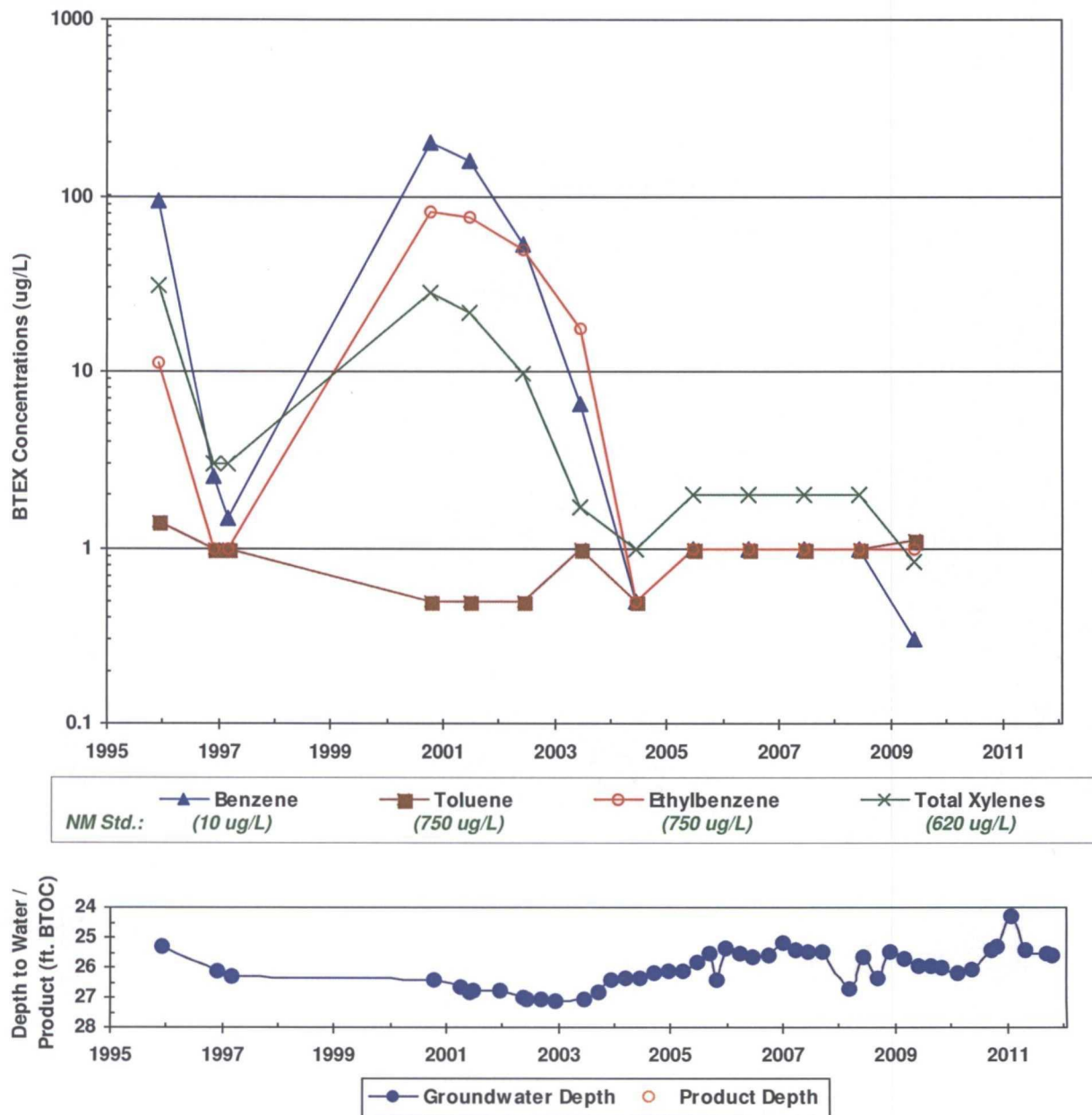
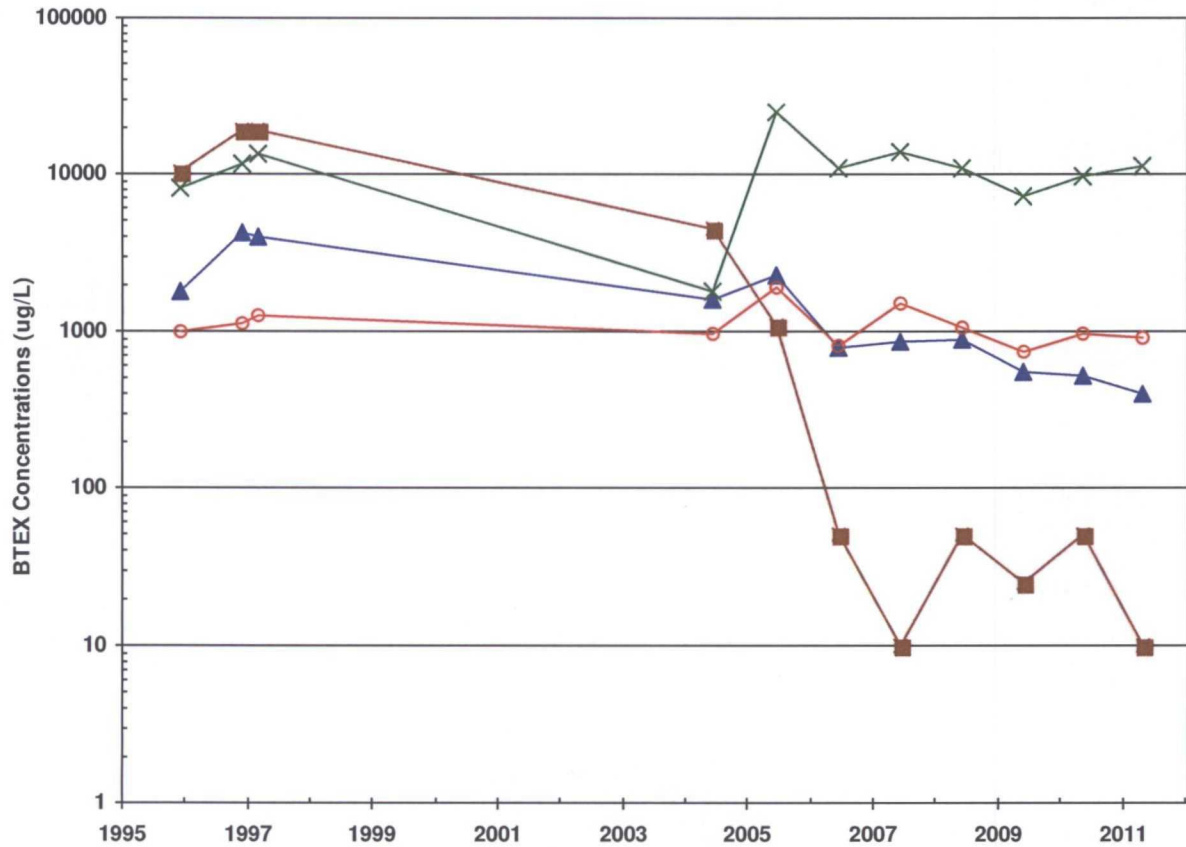
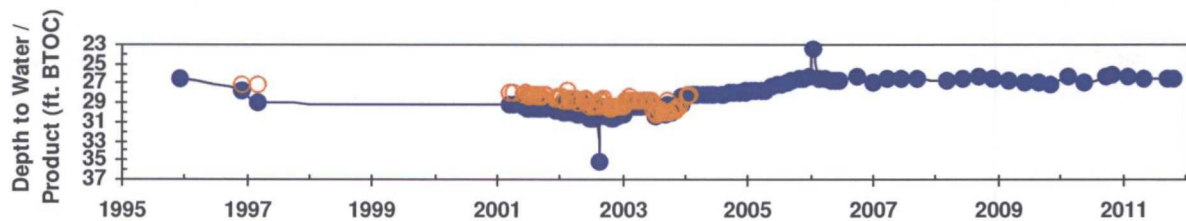


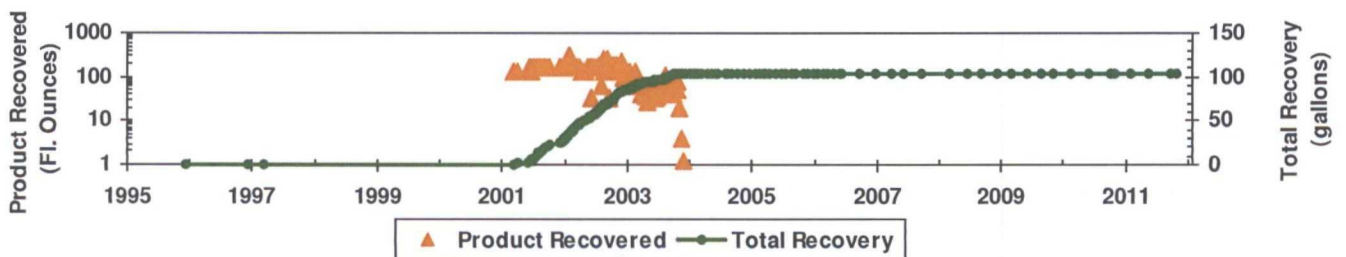
FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
JAMES F. BELL #1E (METER #94715)
MW-3



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



● Groundwater Depth ○ Product Depth



▲ Product Recovered —●— Total Recovery

**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
JAMES F. BELL #1E (METER #94715)
MW-4

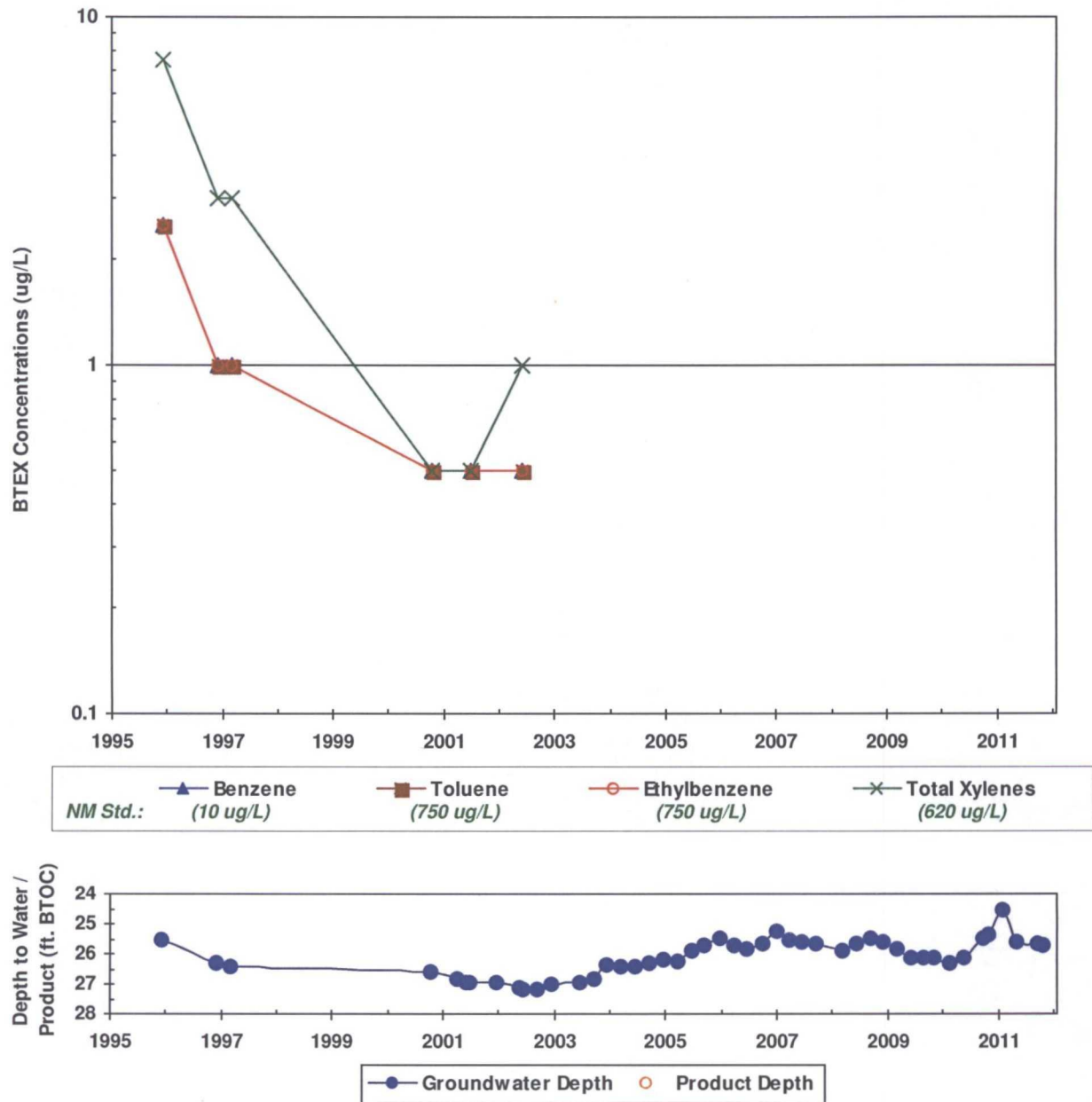


TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER
JAMES F. BELL #1E (METER #94715)**

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	10/17/1995	11200	26400	1540	16500	26.67	5784.32
MW-1	12/11/1995	10800	15400	1870	18400	26.23	5784.76
MW-1	12/4/1996	10300	33200	1400	15200	28.00	5784.46
MW-1	3/5/1997	9850	33400	1370	15200	28.47	5784.12
MW-1	6/11/2007	8910	29200	1360	15000	26.47	5784.52
MW-1	6/12/2008	10000	29700	1550	16800	26.60	5784.39
MW-1	6/3/2009	7120	25200	1270	13800	26.86	5784.13
MW-1	5/26/2010	8100	26100	1300	14300	27.07	5784.02
MW-1	5/10/2011	5630	22600	1630	17600	26.22	5784.77
MW-2	12/11/1995	94.7	1.4	11.3	31.1	25.32	5784.30
MW-2	12/4/1996	2.52	<1.0	<1.0	<3.0	26.09	5783.53
MW-2	3/5/1997	1.49	<1.0	<1.0	<3.0	26.30	5783.32
MW-2	10/11/2000	200	<0.5	81	28	26.41	5783.21
MW-2	6/25/2001	160	<0.5	77	22	26.79	5782.83
MW-2	6/5/2002	53	<0.5	50	9.7	27.06	5782.56
MW-2	6/19/2003	6.5	<1.0	17.8	1.7	27.04	5782.58
MW-2	6/9/2004	<0.5	<0.5	<0.5	<1.0	26.34	5783.28
MW-2	6/23/2005	<1.0	<1.0	<1.0	<2.0	25.81	5783.81
MW-2	6/14/2006	<1.0	<1.0	<1.0	<2.0	25.66	5783.96
MW-2	6/11/2007	<1.0	<1.0	<1.0	<2.0	25.48	5784.14
MW-2	6/12/2008	<1.0	<1.0	<1.0	<2.0	25.62	5784.00
MW-2	6/3/2009	0.30J	1.1	<1.0	0.84J	25.95	5783.67
MW-3	12/11/1995	1790	10400	1010	8070	26.52	5783.78
MW-3	12/4/1996	4210	19200	1140	11700	27.72	5783.03
MW-3	3/5/1997	4000	19200	1280	13600	28.87	5782.85
MW-3	6/9/2004	1590	4520	966	1830	28.21	5782.09
MW-3	6/23/2005	2260	1090	1920	24800	27.18	5783.11
MW-3	6/14/2006	795	<50	818	10900	26.71	5783.59
MW-3	6/11/2007	868	<10	1490	13900	26.42	5783.88
MW-3	6/12/2008	876	<50	1060	11000	26.42	5783.88
MW-3	6/3/2009	549	<25	750	7320	26.97	5783.33
MW-3	5/26/2010	517	<50	971	9680	26.87	5783.43
MW-3	5/10/2011	402	<10	922	11100	26.45	5783.85
MW-4	12/11/1995	<2.5	<2.5	<2.5	<7.5	25.55	5784.16

TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER
JAMES F. BELL #1E (METER #94715)**

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-4	12/4/1996	<1.0	<1.0	<1.0	<3.0	26.27	5783.44
MW-4	3/5/1997	<1.0	<1.0	<1.0	<3.0	26.44	5783.27
MW-4	10/11/2000	<0.5	<0.5	<0.5	<0.5	26.56	5783.15
MW-4	6/25/2001	<0.5	<0.5	<0.5	<0.5	26.93	5782.78
MW-4	6/5/2002	<0.5	<0.5	<0.5	<1.0	27.16	5782.55

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
JAMES F. BELL #1E (METER #94715)

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	12/4/1996	26.16	28.00	1.84	NA	NA	5784.46
MW-1	3/5/1997	26.47	28.47	2.00	NA	NA	5784.12
MW-1	9/29/2000	27.29	29.09	1.80	NA	NA	5783.34
MW-1	1/16/2001	NA	NA	NA	11.86	443.26	NA
MW-1	1/24/2001	NA	NA	NA	7.27	450.53	NA
MW-1	1/31/2001	NA	NA	NA	5.93	456.46	NA
MW-1	2/8/2001	NA	NA	NA	3.25	459.71	NA
MW-1	2/16/2001	NA	NA	NA	5.48	465.19	NA
MW-1	2/26/2001	27.61	29.06	1.45	1.00	466.19	5783.09
MW-1	3/14/2001	27.49	29.60	2.11	--	466.19	5783.08
MW-1	4/6/2001	27.67	29.08	1.41	5.93	472.12	5783.04
MW-1	6/5/2001	NA	NA	NA	20.85	492.97	NA
MW-1	6/14/2001	NA	NA	NA	15.50	508.47	NA
MW-1	6/22/2001	28.10	29.57	1.47	7.00	515.47	5782.60
MW-1	6/28/2001	NA	NA	NA	5.00	520.47	NA
MW-1	7/6/2001	NA	NA	NA	5.00	525.47	NA
MW-1	7/11/2001	27.95	28.95	1.00	--	525.47	5782.84
MW-1	7/20/2001	NA	NA	NA	9.00	534.47	NA
MW-1	7/26/2001	28.21	29.51	1.30	5.00	539.47	5782.52
MW-1	8/2/2001	NA	NA	NA	5.40	544.87	NA
MW-1	8/8/2001	NA	NA	NA	3.25	548.12	NA
MW-1	8/16/2001	28.40	28.49	0.09	7.00	555.12	5782.57
MW-1	8/20/2001	NA	NA	NA	3.40	558.52	NA
MW-1	8/31/2001	NA	NA	NA	6.30	564.82	NA
MW-1	9/6/2001	28.41	28.46	0.05	3.80	568.62	5782.57
MW-1	9/17/2001	28.19	28.46	0.27	5.36	573.98	5782.75
MW-1	9/26/2001	NA	NA	NA	5.17	579.15	NA
MW-1	10/3/2001	NA	NA	NA	2.70	581.85	NA
MW-1	10/11/2001	NA	NA	NA	2.70	584.55	NA
MW-1	12/4/2001	NA	NA	NA	19.13	603.68	NA
MW-1	12/13/2001	28.20	28.50	0.30	2.70	606.38	5782.73
MW-1	12/21/2001	NA	NA	NA	1.34	607.72	NA
MW-1	12/28/2001	NA	NA	NA	3.00	610.72	NA
MW-1	1/4/2002	NA	NA	NA	2.49	613.21	NA

TABLE 2
SUMMARY OF FREE-PRODUCT REMOVAL
JAMES F. BELL #1E (METER #94715)

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	1/8/2002	28.25	28.54	0.29	1.00	614.21	5782.68
MW-1	1/17/2002	NA	NA	NA	2.50	616.71	NA
MW-1	1/23/2002	NA	NA	NA	2.50	619.21	NA
MW-1	1/31/2002	NA	NA	NA	3.00	622.21	NA
MW-1	2/7/2002	NA	NA	NA	2.50	624.71	NA
MW-1	2/14/2002	NA	NA	NA	2.50	627.21	NA
MW-1	2/20/2002	NA	NA	NA	2.50	629.71	NA
MW-1	2/28/2002	28.31	28.62	0.31	3.50	633.21	5782.62
MW-1	3/6/2002	NA	NA	NA	3.00	636.21	NA
MW-1	3/11/2002	NA	NA	NA	2.00	638.21	NA
MW-1	3/21/2002	NA	NA	NA	5.00	643.21	NA
MW-1	3/28/2002	28.51	28.64	0.13	3.00	646.21	5782.45
MW-1	4/4/2002	NA	NA	NA	2.50	648.71	NA
MW-1	4/12/2002	NA	NA	NA	3.44	652.15	NA
MW-1	4/19/2002	NA	NA	NA	4.00	656.15	NA
MW-1	4/25/2002	NA	NA	NA	4.37	660.52	NA
MW-1	5/3/2002	NA	NA	NA	4.23	664.75	NA
MW-1	5/15/2002	28.48	28.87	0.39	3.95	668.70	5782.43
MW-1	5/31/2002	NA	NA	NA	5.00	673.70	NA
MW-1	6/7/2002	NA	NA	NA	2.50	676.20	NA
MW-1	6/14/2002	NA	NA	NA	2.00	678.20	NA
MW-1	6/21/2002	NA	NA	NA	2.10	680.30	NA
MW-1	9/10/2002	NA	NA	NA	0.33	680.63	NA
MW-1	9/13/2002	29.20	31.17	1.97	--	680.63	5781.40
MW-1	9/19/2002	28.45	30.82	2.37	3.00	683.63	5782.07
MW-1	10/4/2002	NA	NA	NA	0.33	683.96	NA
MW-1	10/10/2002	NA	NA	NA	0.33	684.29	NA
MW-1	10/15/2002	NA	NA	NA	0.25	684.54	NA
MW-1	10/23/2002	NA	NA	NA	0.25	684.79	NA
MW-1	10/30/2002	NA	NA	NA	0.25	685.04	NA
MW-1	12/4/2002	28.37	29.07	0.70	0.50	685.54	5782.48
MW-1	1/22/2003	NA	NA	NA	28.50	714.04	NA
MW-1	1/29/2003	NA	NA	NA	0.75	714.79	NA
MW-1	2/5/2003	NA	NA	NA	2.00	716.79	NA

TABLE 2
SUMMARY OF FREE-PRODUCT REMOVAL
JAMES F. BELL #1E (METER #94715)

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	2/12/2003	NA	NA	NA	1.38	718.17	NA
MW-1	2/20/2003	NA	NA	NA	0.17	718.34	NA
MW-1	3/6/2003	NA	NA	NA	1.38	719.72	NA
MW-1	3/12/2003	NA	NA	NA	0.98	720.70	NA
MW-1	3/19/2003	NA	NA	NA	1.38	722.08	NA
MW-1	3/26/2003	NA	NA	NA	0.60	722.68	NA
MW-1	4/2/2003	NA	NA	NA	1.96	724.64	NA
MW-1	4/10/2003	NA	NA	NA	1.57	726.21	NA
MW-1	4/18/2003	28.44	29.29	0.85	--	726.21	5782.38
MW-1	4/28/2003	NA	NA	NA	1.18	727.39	NA
MW-1	5/7/2003	NA	NA	NA	1.18	728.57	NA
MW-1	5/13/2003	NA	NA	NA	1.00	729.57	NA
MW-1	5/21/2003	NA	NA	NA	0.69	730.26	NA
MW-1	5/27/2003	NA	NA	NA	1.47	731.73	NA
MW-1	6/3/2003	NA	NA	NA	0.98	732.71	NA
MW-1	6/9/2003	NA	NA	NA	1.18	733.89	NA
MW-1	6/19/2003	29.19	29.41	0.22	--	733.89	5781.76
MW-1	6/23/2003	NA	NA	NA	1.77	735.66	NA
MW-1	7/10/2003	NA	NA	NA	2.00	737.66	NA
MW-1	7/15/2003	NA	NA	NA	0.79	738.45	NA
MW-1	7/21/2003	NA	NA	NA	0.88	739.33	NA
MW-1	7/29/2003	NA	NA	NA	0.19	739.52	NA
MW-1	8/11/2003	NA	NA	NA	3.96	743.48	NA
MW-1	8/18/2003	NA	NA	NA	2.85	746.33	NA
MW-1	8/25/2003	NA	NA	NA	1.57	747.90	NA
MW-1	9/2/2003	NA	NA	NA	2.78	750.68	NA
MW-1	9/8/2003	NA	NA	NA	1.37	752.05	NA
MW-1	9/15/2003	NA	NA	NA	2.16	754.21	NA
MW-1	9/22/2003	28.31	28.64	0.33	0.25	754.46	5782.61
MW-1	9/29/2003	NA	NA	NA	1.77	756.23	NA
MW-1	10/6/2003	NA	NA	NA	1.57	757.80	NA
MW-1	10/13/2003	NA	NA	NA	0.78	758.58	NA
MW-1	10/20/2003	NA	NA	NA	2.55	761.13	NA
MW-1	10/27/2003	NA	NA	NA	0.55	761.68	NA

TABLE 2
SUMMARY OF FREE-PRODUCT REMOVAL
JAMES F. BELL #1E (METER #94715)

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	11/3/2003	NA	NA	NA	0.79	762.47	NA
MW-1	11/10/2003	NA	NA	NA	0.79	763.26	NA
MW-1	11/17/2003	NA	NA	NA	0.79	764.05	NA
MW-1	11/26/2003	NA	NA	NA	1.18	765.23	NA
MW-1	12/4/2003	NA	NA	NA	0.30	765.53	NA
MW-1	12/9/2003	NA	NA	NA	0.79	766.32	NA
MW-1	12/15/2003	28.04	28.24	0.20	0.13	766.45	5782.91
MW-1	1/2/2004	NA	NA	NA	0.20	766.65	NA
MW-1	1/11/2004	NA	NA	NA	0.59	767.24	NA
MW-1	1/23/2004	NA	NA	NA	0.59	767.83	NA
MW-1	1/30/2004	NA	NA	NA	0.10	767.93	NA
MW-1	2/6/2004	NA	NA	NA	0.49	768.42	NA
MW-1	2/12/2004	NA	NA	NA	0.20	768.62	NA
MW-1	2/18/2004	NA	NA	NA	0.59	769.21	NA
MW-1	2/27/2004	28.19	28.21	0.02	0.20	769.41	5782.80
MW-1	3/16/2004	28.08	28.13	0.05	0.79	770.20	5782.90
MW-1	4/13/2004	NA	NA	NA	1.87	772.07	NA
MW-1	5/10/2004	NA	NA	NA	1.87	773.94	NA
MW-1	6/2/2004	NA	NA	NA	1.37	775.31	NA
MW-1	6/9/2004	28.03	28.27	0.24	--	775.31	5782.91
MW-1	7/26/2004	27.95	28.48	0.53	0.50	775.81	5782.93
MW-1	8/16/2004	NA	NA	NA	0.79	776.60	NA
MW-1	9/9/2004	NA	NA	NA	1.37	777.97	NA
MW-1	9/10/2004	27.82	27.89	0.07	--	777.97	5783.16
MW-1	10/11/2004	NA	NA	NA	0.79	778.76	NA
MW-1	11/17/2004	NA	NA	NA	0.39	779.15	NA
MW-1	12/13/2004	NA	NA	NA	0.49	779.64	NA
MW-1	12/14/2004	27.67	27.68	0.01	--	779.64	5783.31
MW-1	12/18/2004	27.67	27.71	0.04	--	779.64	5783.31
MW-1	1/17/2005	NA	NA	NA	0.58	780.22	NA
MW-1	2/15/2005	NA	NA	NA	0.58	780.80	NA
MW-1	3/16/2005	NA	NA	NA	0.59	781.39	NA
MW-1	3/17/2005	27.65	27.83	0.18	--	781.39	5783.30
MW-1	4/15/2005	27.72	28.03	0.31	0.22	781.61	5783.21

TABLE 2
SUMMARY OF FREE-PRODUCT REMOVAL
JAMES F. BELL #1E (METER #94715)

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	5/17/2005	27.35	27.78	0.43	0.36	781.97	5783.55
MW-1	6/17/2005	NA	NA	NA	2.15	784.12	NA
MW-1	6/23/2005	27.21	27.23	0.02	--	784.12	5783.78
MW-1	8/22/2005	NA	NA	NA	0.10	784.22	NA
MW-1	9/12/2005	26.52	26.56	0.04	0.88	785.10	5784.46
MW-1	5/26/2010	26.95	27.07	0.12	0.75	785.85	5784.02
MW-1	9/30/2010	--	26.40	0.00	0.23	786.08	5784.59
MW-1	11/1/2010	--	26.14	0.00	0.09	786.17	5784.85
MW-1	2/2/2011	--	26.18	0.00	0.06	786.23	5784.81
MW-1	5/2/2011	NA	NA	NA	0.06	786.29	NA
MW-1	5/10/2011	--	26.22	0.00	0.00	786.29	5784.77
MW-1	9/26/2011	--	25.39	0.00	0.23	786.53	5785.60
MW-1	11/1/2011	--	26.26	0.00	0.03	786.56	5784.73
MW-3	12/4/1996	27.16	27.72	0.56	--	0.00	5783.03
MW-3	3/5/1997	27.09	28.87	1.78	--	0.00	5782.85
MW-3	3/12/2001	27.84	29.18	1.34	1.00	1.00	5782.19
MW-3	4/6/2001	27.86	29.27	1.41	1.00	2.00	5782.16
MW-3	6/5/2001	28.06	29.48	1.42	1.00	3.00	5781.96
MW-3	6/14/2001	27.98	29.41	1.43	1.25	4.25	5782.03
MW-3	6/22/2001	NA	NA	NA	1.00	5.25	NA
MW-3	6/28/2001	28.15	29.57	1.42	1.25	6.50	5781.87
MW-3	7/6/2001	28.06	29.41	1.35	1.25	7.75	5781.97
MW-3	7/11/2001	28.26	29.61	1.35	1.25	9.00	5781.77
MW-3	7/20/2001	28.13	29.43	1.30	1.25	10.25	5781.91
MW-3	7/26/2001	NA	NA	NA	1.25	11.50	NA
MW-3	8/2/2001	28.22	29.50	1.28	1.25	12.75	5781.82
MW-3	8/8/2001	28.16	29.40	1.24	1.25	14.00	5781.89
MW-3	8/16/2001	28.21	29.46	1.25	1.25	15.25	5781.84
MW-3	8/20/2001	28.31	29.61	1.30	1.25	16.50	5781.73
MW-3	8/31/2001	28.17	29.47	1.30	1.25	17.75	5781.87
MW-3	9/6/2001	28.31	29.62	1.31	1.25	19.00	5781.73
MW-3	9/17/2001	28.34	29.62	1.28	1.25	20.25	5781.70
MW-3	9/25/2001	28.22	29.48	1.26	1.25	21.50	5781.83
MW-3	10/3/2001	28.25	29.47	1.22	1.25	22.75	5781.81

TABLE 2
SUMMARY OF FREE-PRODUCT REMOVAL
JAMES F. BELL #1E (METER #94715)

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-3	10/11/2001	28.23	29.50	1.27	1.25	24.00	5781.82
MW-3	12/4/2001	28.55	29.89	1.34	1.25	25.25	5781.48
MW-3	12/13/2001	28.54	29.89	1.35	1.25	26.50	5781.49
MW-3	12/21/2001	28.36	29.63	1.27	1.25	27.75	5781.69
MW-3	12/28/2001	28.43	29.68	1.25	1.25	29.00	5781.62
MW-3	1/4/2002	28.39	29.63	1.24	1.25	30.25	5781.66
MW-3	1/8/2002	28.41	29.59	1.18	1.25	31.50	5781.65
MW-3	1/17/2002	28.70	30.00	1.30	1.25	32.75	5781.34
MW-3	1/23/2002	28.70	28.71	0.01	1.25	34.00	5781.60
MW-3	1/31/2002	28.68	28.70	0.02	2.50	36.50	5781.62
MW-3	2/7/2002	28.70	30.00	1.30	1.25	37.75	5781.34
MW-3	2/14/2002	27.80	28.80	1.00	1.25	39.00	5782.30
MW-3	2/20/2002	28.74	28.76	0.02	1.25	40.25	5781.56
MW-3	2/28/2002	28.64	29.82	1.18	1.25	41.50	5781.42
MW-3	3/6/2002	28.55	29.72	1.17	1.25	42.75	5781.52
MW-3	3/11/2002	28.72	29.90	1.18	1.25	44.00	5781.34
MW-3	3/21/2002	28.61	29.82	1.21	1.25	45.25	5781.45
MW-3	3/28/2002	28.57	29.74	1.17	1.25	46.50	5781.50
MW-3	4/4/2002	28.66	29.84	1.18	1.25	47.75	5781.40
MW-3	4/12/2002	28.93	30.28	1.35	1.00	48.75	5781.10
MW-3	4/19/2002	28.93	30.25	1.32	1.00	49.75	5781.11
MW-3	4/25/2002	28.93	30.24	1.31	1.00	50.75	5781.11
MW-3	5/3/2002	--	28.96	0.00	1.00	51.75	5781.34
MW-3	5/15/2002	28.69	29.86	1.17	1.25	53.00	5781.38
MW-3	5/24/2002	28.53	29.53	1.00	--	53.00	5781.57
MW-3	5/31/2002	28.72	29.96	1.24	1.25	54.25	5781.33
MW-3	6/7/2002	28.72	29.91	1.19	1.25	55.50	5781.34
MW-3	6/14/2002	28.97	30.31	1.34	0.25	55.75	5781.06
MW-3	6/21/2002	29.32	30.54	1.22	1.25	57.00	5780.74
MW-3	6/27/2002	29.30	30.65	1.35	1.25	58.25	5780.73
MW-3	7/2/2002	29.25	30.56	1.31	1.25	59.50	5780.79
MW-3	7/11/2002	29.31	30.66	1.35	1.25	60.75	5780.72
MW-3	7/22/2002	29.17	30.54	1.37	1.50	62.25	5780.86
MW-3	7/25/2002	29.25	30.40	1.15	1.25	63.50	5780.82

TABLE 2
SUMMARY OF FREE-PRODUCT REMOVAL
JAMES F. BELL #1E (METER #94715)

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-3	7/31/2002	29.04	30.38	1.34	1.50	65.00	5780.99
MW-3	8/8/2002	29.13	30.15	1.02	0.50	65.50	5780.97
MW-3	8/16/2002	29.30	35.25	5.95	2.00	67.50	5779.81
MW-3	8/22/2002	28.74	30.07	1.33	1.00	68.50	5781.29
MW-3	8/28/2002	28.78	29.75	0.97	--	68.50	5781.33
MW-3	9/6/2002	28.98	30.03	1.06	--	68.50	5781.11
MW-3	9/10/2002	NA	NA	NA	2.00	70.50	NA
MW-3	9/13/2002	28.63	29.29	0.66	--	70.50	5781.54
MW-3	9/19/2002	29.42	30.43	1.01	1.00	71.50	5780.68
MW-3	9/25/2002	29.40	30.28	0.88	0.25	71.75	5780.72
MW-3	10/4/2002	29.34	30.19	0.85	1.50	73.25	5780.79
MW-3	10/10/2002	29.45	30.32	0.86	1.50	74.75	5780.67
MW-3	10/15/2002	29.50	30.28	0.79	1.50	76.25	5780.65
MW-3	10/23/2002	29.66	30.32	0.66	1.50	77.75	5780.51
MW-3	10/30/2002	29.32	30.58	1.26	1.25	79.00	5780.73
MW-3	11/8/2002	29.36	30.58	1.22	1.50	80.50	5780.70
MW-3	11/21/2002	29.45	30.45	1.00	1.50	82.00	5780.65
MW-3	12/4/2002	29.48	30.47	0.99	1.75	83.75	5780.62
MW-3	12/10/2002	29.48	30.23	0.75	0.75	84.50	5780.67
MW-3	12/18/2002	29.38	30.28	0.90	1.00	85.50	5780.74
MW-3	12/27/2002	29.45	30.21	0.76	0.50	86.00	5780.70
MW-3	1/7/2003	29.45	30.26	0.81	--	86.00	5780.69
MW-3	1/22/2003	28.75	29.46	0.71	1.00	87.00	5781.41
MW-3	1/29/2003	28.76	29.34	0.58	0.75	87.75	5781.42
MW-3	2/5/2003	28.29	28.77	0.48	0.66	88.41	5781.91
MW-3	2/12/2003	28.78	29.33	0.55	0.80	89.21	5781.41
MW-3	2/20/2003	28.77	29.33	0.56	1.00	90.21	5781.42
MW-3	2/28/2003	28.80	29.31	0.51	0.60	90.81	5781.40
MW-3	3/2/2003	28.81	29.27	0.46	0.50	91.31	5781.40
MW-3	3/6/2003	28.79	29.31	0.52	0.75	92.06	5781.41
MW-3	3/19/2003	28.82	29.30	0.48	0.50	92.56	5781.38
MW-3	3/26/2003	28.82	29.33	0.51	0.33	92.89	5781.38
MW-3	4/2/2003	28.80	29.33	0.53	0.50	93.39	5781.39
MW-3	4/10/2003	28.84	29.32	0.48	0.33	93.72	5781.36

TABLE 2
SUMMARY OF FREE-PRODUCT REMOVAL
JAMES F. BELL #1E (METER #94715)

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-3	4/18/2003	28.85	29.29	0.44	0.30	94.02	5781.36
MW-3	4/28/2003	28.86	29.19	0.33	0.20	94.22	5781.37
MW-3	5/7/2003	28.83	29.25	0.42	0.30	94.52	5781.39
MW-3	5/13/2003	28.85	29.27	0.42	0.30	94.82	5781.37
MW-3	5/21/2003	28.86	29.29	0.43	0.30	95.12	5781.35
MW-3	5/27/2003	28.85	29.21	0.36	0.25	95.37	5781.38
MW-3	6/3/2003	28.84	29.23	0.39	0.33	95.70	5781.38
MW-3	6/9/2003	28.84	29.20	0.36	0.33	96.03	5781.39
MW-3	6/16/2003	28.82	29.20	0.38	0.25	96.28	5781.40
MW-3	6/19/2003	28.86	29.16	0.30	--	96.28	5781.38
MW-3	6/23/2003	28.83	29.23	0.40	0.25	96.53	5781.39
MW-3	7/1/2003	29.78	29.85	0.07	0.30	96.83	5780.51
MW-3	7/10/2003	29.96	30.39	0.43	--	96.83	5780.25
MW-3	7/15/2003	30.12	30.29	0.17	0.40	97.23	5780.15
MW-3	7/21/2003	30.11	30.24	0.13	0.40	97.63	5780.16
MW-3	7/29/2003	29.89	30.14	0.25	0.40	98.03	5780.36
MW-3	8/4/2003	29.62	29.94	0.32	0.36	98.39	5780.62
MW-3	8/11/2003	30.02	30.09	0.07	0.86	99.25	5780.27
MW-3	8/18/2003	30.01	30.09	0.08	0.59	99.84	5780.27
MW-3	8/25/2003	30.00	30.09	0.09	0.53	100.37	5780.28
MW-3	9/2/2003	30.03	30.12	0.09	0.49	100.86	5780.25
MW-3	9/8/2003	30.05	30.15	0.10	0.38	101.24	5780.23
MW-3	9/15/2003	29.97	30.05	0.08	0.47	101.71	5780.31
MW-3	9/22/2003	28.70	29.14	0.44	0.33	102.04	5781.51
MW-3	9/29/2003	29.95	29.98	0.03	0.73	102.77	5780.34
MW-3	10/6/2003	29.94	30.00	0.06	0.31	103.08	5780.35
MW-3	10/13/2003	29.89	29.95	0.06	0.42	103.50	5780.40
MW-3	10/20/2003	29.80	29.86	0.06	0.38	103.88	5780.49
MW-3	10/27/2003	29.80	29.85	0.05	0.59	104.47	5780.49
MW-3	11/3/2003	29.80	29.83	0.03	0.16	104.63	5780.49
MW-3	11/10/2003	29.65	29.66	0.01	0.16	104.79	5780.65
MW-3	11/17/2003	29.31	29.32	0.01	0.03	104.82	5780.99
MW-3	11/26/2003	29.31	29.32	0.01	0.01	104.83	5780.99
MW-3	1/11/2004	28.36	28.37	0.01	--	104.83	5781.94

TABLE 2

SUMMARY OF FREE-PRODUCT REMOVAL
JAMES F. BELL #1E (METER #94715)

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-3	1/16/2004	28.25	28.25	0.00	--	104.83	5782.05
MW-3	1/30/2004	28.22	28.22	0.00	--	104.83	5782.08

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.