3R - 202

2011 AGWMR

8/16/2012



August 16, 2012

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2012 AUG 20 A. 10: 48

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:

Volume	Location	Tuna
volume	LUCATON	IVDE

- 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.

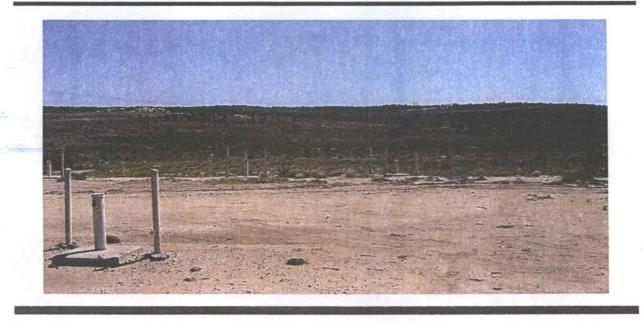
Sincerely,

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)

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EL PASO CGP COMPANY

1001 LOUISIANA STREET HOUSTON, TX 77002

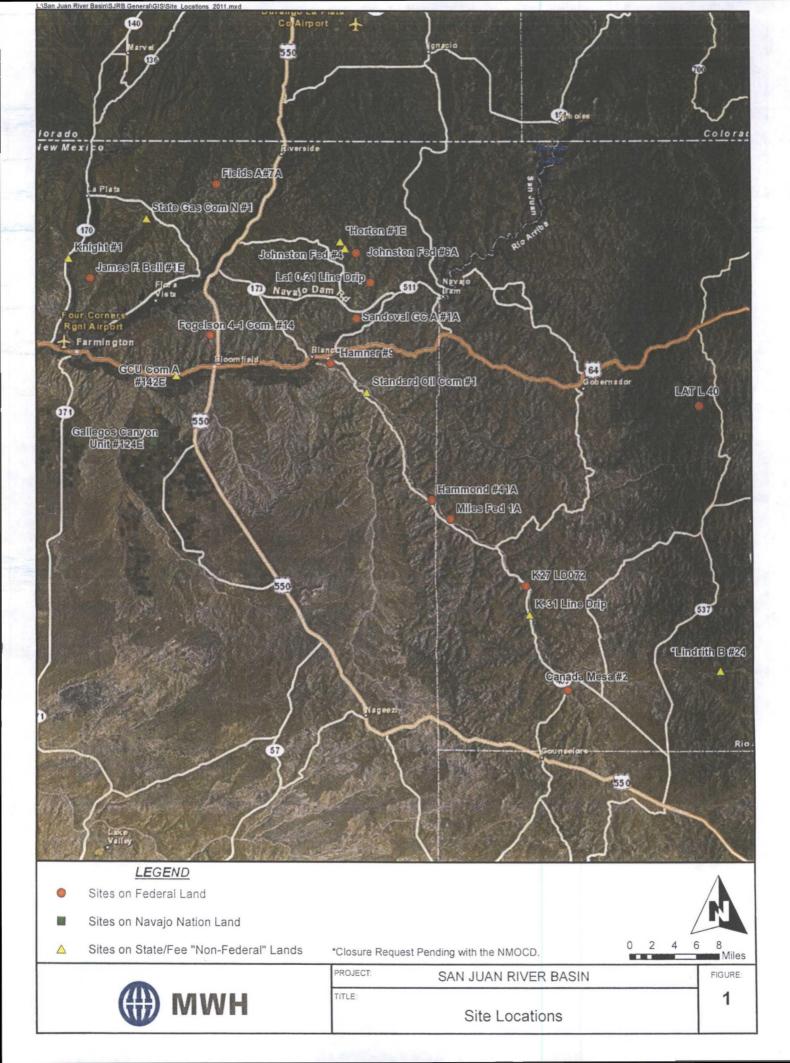
2011 ANNUAL REPORT PIT GROUNDWATER REMEDIATION VOLUME 1: SITES ON FEDERAL LANDS

AUGUST 2012

64 6.



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



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

METER or LINE ID	NMOCD CASE NO:	SITENAME	TOWNSHIP	RANGE	SECTION	UNIIT .
87640	3RP-155-0	Canada Mesa #2	24N	06W	24	Ι
89961	3RP-170-0	Fields A#7A	32N	11W	34	E
73220	3RP-068-0	Fogelson 4-1 Com. #14	29N	11W	4	Р
89894	3RP-186-0	Hammond #41A	27N	08W	25	0
97213	3RP-190-0	Hamner #9	29N	09W	20	А
94715	3RP-196-0	James F. Bell #1E	30N	13W	10	Р
89232	3RP-202-0	Johnston Fed #6A	31N	09W	35	F
LD072	3RP-204-0	K27 LD072	25N	06W	4	Е
LD174	3RP-212-0	LAT L 40	28N	04W	13	Н
LD151	3RP-213-0	Lat 0-21 Line Drip	30N	09W	12	0
94810	3RP-223-0	Miles Fed 1A	26N	07W	5	F
89620	3RP-235-0	Sandoval GC A #1A	30N	09W	35	С

TABLE OF CONTENTS

* 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.



Johnston Fed #6A Meter Code: 89232

<u>SITE DETAILS</u>								
Legal Description:	Town:	31N	Range:	9W	Sec:	35	Unit:	F
NMOCD Haz Ranking:	40	Land Type:	Federal	Operator:	Conoc	coPhill	lips	
PREVIOUS ACTIVIT	<u>TIES</u>							
Site Assessment:	8/94	Excavatio	n:	9/94 (80cy)	Soil B	oring	•	8/95
Monitor Well:	8/95	Geoprobe:		NA	Additional MWs:			11/06
Downgradient MWs:	6/00	Replace N	1W:	NA	Quart Initiat	•		4/96
ORC Nutrient Injection:	NA	Re-Excav	ation:	NA	PSH I Initia	Remov ted:	val	7/97
Annual Initiated:	NA	Quarterly	Resumed:	NA	PSH 2011?		val in	Yes

SUMMARY OF 2011 ACTIVITIES

MW-1: Annual groundwater sampling (February), quarterly free-product recovery and water level monitoring were performed during 2011.

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

- **MW-3:** Annual groundwater sampling (February) and quarterly water level monitoring were performed during 2011.
- MW-4: Quarterly water level monitoring was performed during 2011.
- **MW-5:** Annual groundwater sampling (February) and quarterly water level monitoring were performed during 2011.
- **MW-6:** Annual groundwater sampling (February) and quarterly free-product recovery and water level monitoring was performed during 2011.

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

SITE MAP

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

Johnston Fed #6A Meter Code: 89232

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 2 through 7. 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 Figures 2, 4, and 6.
- 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

No isoconcentration maps were prepared for this Site; however, the attached Site map presents the analytical data collected during 2011, as well as a summary of product recovery volumes.

RESULTS

- The groundwater flow gradient is generally to the northeast.
- Free-product recovery efforts at MW-1 resulted in removal of approximately .98 gallons of free-product, bringing the cumulative total recovered to date to 11.87 gallons.
- The groundwater sample collected from MW-3 met the applicable NMWQCC standards for the third consecutive year.
- BTEX concentrations in the groundwater sample collected from MW-5 rebounded to above the applicable NMWQCC standards. Benzene (11.9 µg/L), toluene (920 µg/L), xylenes (1,870 µg/L) were above their respective standards. Ethylbenzene concentration levels of 177 µg/L were elevated from the previous sampling event, but remained below the NMWQCC standard.

Johnston Fed #6A Meter Code: 89232

- Free-product recovery efforts in MW-5 resulted in removal of approximately 0.07 gallons of free-product, bringing the cumulative total recovered to date to 0.39 gallons.
- Downgradient monitoring well MW-6 was sampled in the February 2011 annual sampling event. MW-6 was not sampled in 2010 due to a blockage in the well which has since been repaired. The groundwater samples collected from MW-6 remained below NMWQCC standards, similar to the historical concentrations.

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 conditions must be achieved:
 - 1. Recoverable free-product must be removed from the subsurface. Generally, this corresponds with an absence of measurable freeproduct in the monitor 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, all the monitor wells ultimately require additional monitoring. The remaining applicable standards are:

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

RECOMMENDATIONS

• EPCGP will continue quarterly free-product recovery efforts at MW-1 and MW-5; however, the frequency of these activities may be adjusted based on the observed

Johnston Fed #6A Meter Code: 89232

product thicknesses and amounts recovered during the monitoring visits. MW-1 will also be added to the annual sampling list.

- BTEX concentrations in MW-2 were below closure standards for four sampling events (1997 2002); however, this well will continue to be gauged and sampled along with the other wells at the site.
- EPCGP will continue to sample MW-3 annually and gauge the well quarterly to check for the re-appearance of free-product.
- BTEX concentrations in MW-4 were below closure standards for five sampling events (2003 2008); however, this well will continue to be gauged and sampled along with the other wells at the site.
- EPCGP will continue to sample MW-5 annually and gauge the well quarterly to check for free-product.
- BTEX concentrations in MW-6 have been below closure standards for four consecutive sampling events (2007-2011); however, this well will continue to be gauged and sampled along with the other wells at the site.

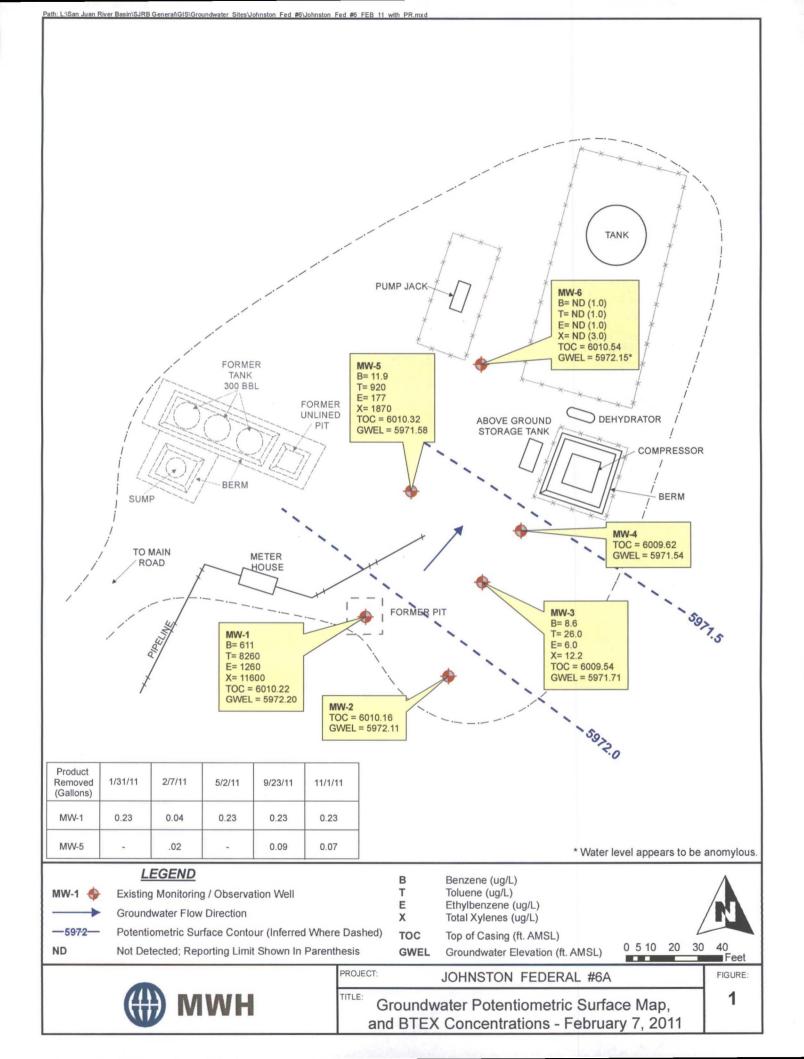
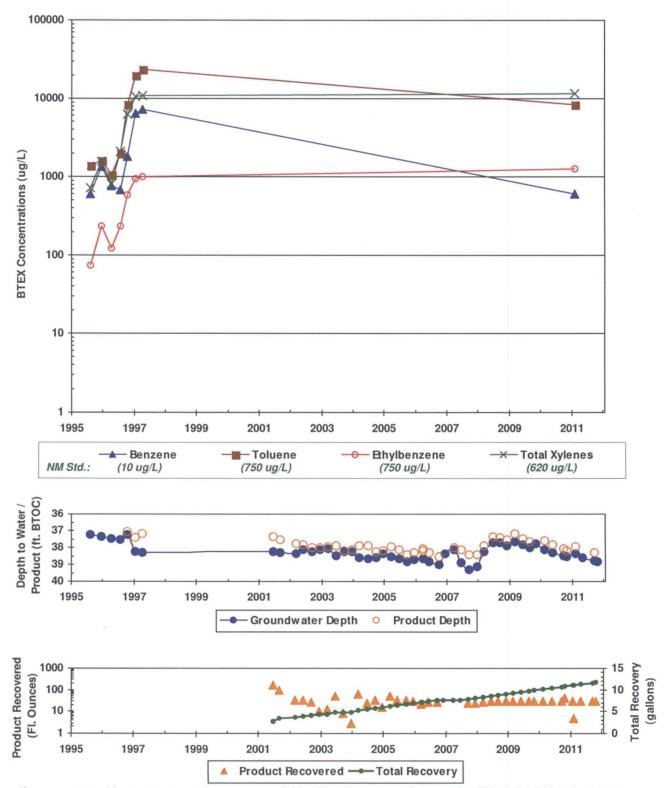


FIGURE 2 SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY JOHNSTON FED #6A (METER #89232) MW-1



^{*}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 JOHNSTON FED #6A (METER #89232) MW-2

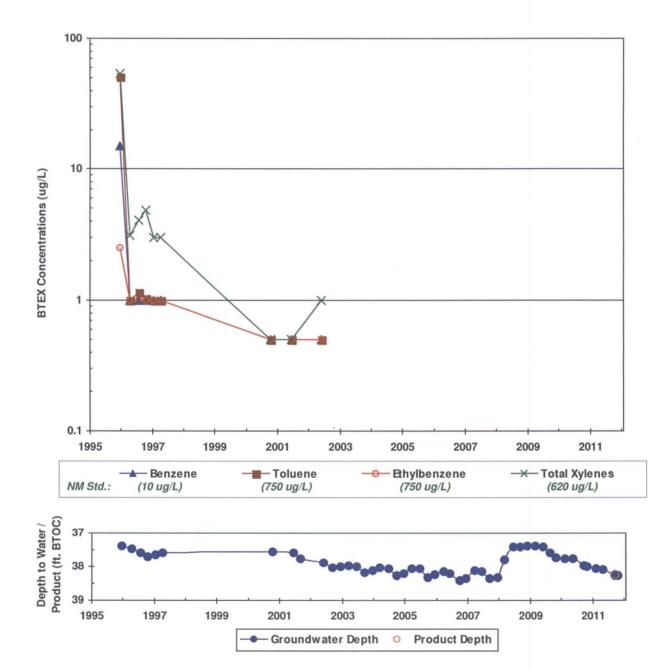
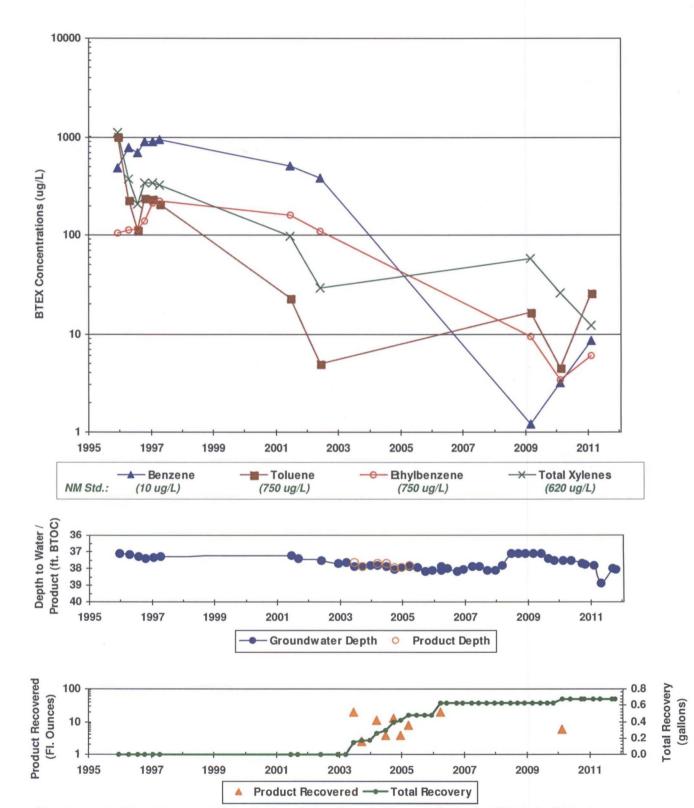


FIGURE 4 SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY JOHNSTON FED #6A (METER #89232) MW-3



*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 JOHNSTON FED #6A (METER #89232) MW-4

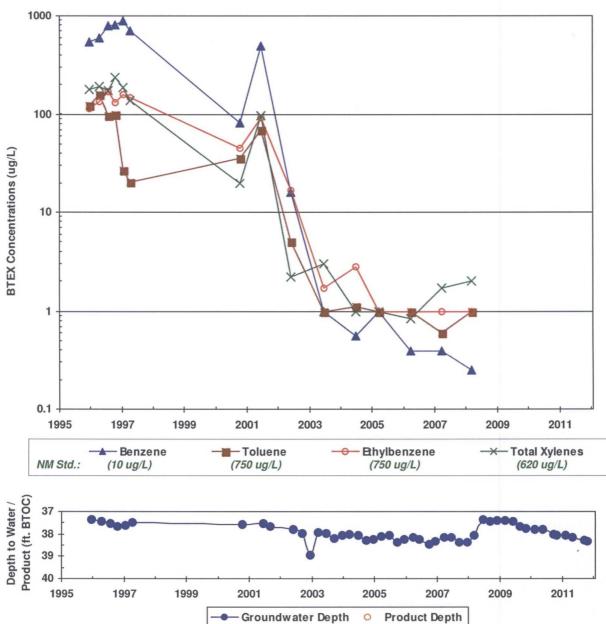
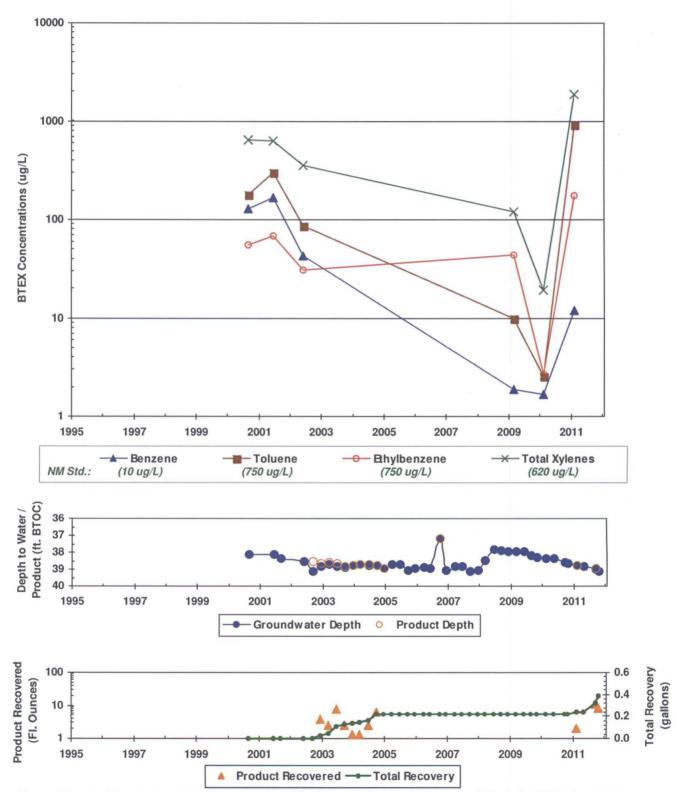
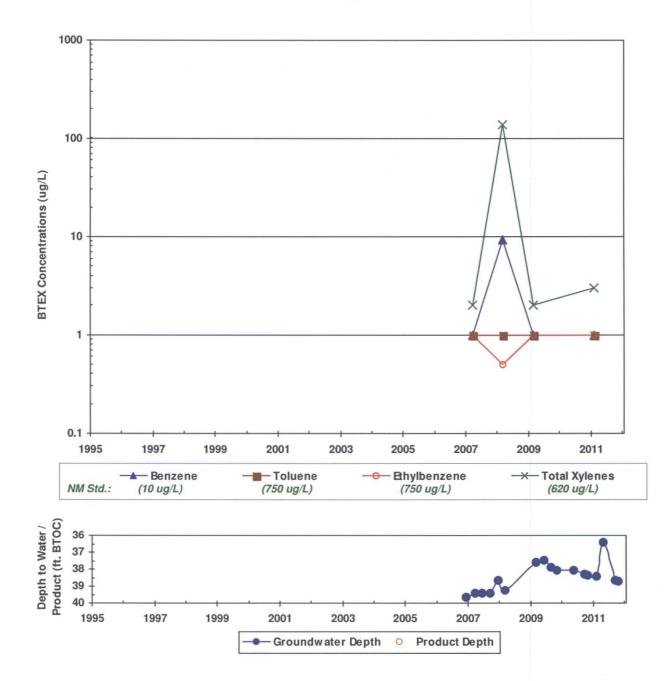


FIGURE 6 SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY JOHNSTON FED #6A (METER #89232) MW-5



*In some cases, older recovery event data are not available. However, the cumulative totals still include all historic recovery.

FIGURE 7 SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS JOHNSTON FED #6A (METER #89232) MW-6



SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER JOHNSTON FED #6A (METER #89232)

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes	Depth to Water (ft	Corr. GW Elevation (ft
NMWQCC	C GW Std.:	10	750	750	620	BTOC)	AMSL)
B1(33-37)	1/6/2006	<1.0	0.55J	<1.0	1.3J	NA	NA
B2(34-38)	1/6/2006	<1.0	0.89J	<1.0	2.2	NA	NA
MW-1	8/10/1995	605	1380	74.6	718	37.24	5972.98
MW-1	12/13/1995	1330	1610	235	1540	37.35	5972.87
MW-1	4/11/1996	775	1070	124	810	37.48	5972.74
MW-1	7/23/1996	676	1980	233	2090	37.55	5972.67
MW-1	10/14/1996	1790	8350	580	6200	37.22	5973.12
MW-1	1/22/1997	6420	19800	934	10700	38.26	5972.62
MW-1	4/11/1997	7310	23500	1010	10800	38.31	5972.80
MW-1	2/7/2011	611	8260	1260	11600	38.37	5972.20
MW-2	12/13/1995	15.1	50.8	<2.5	53.8	37.39	5972.77
MW-2	4/11/1996	<1.0	<1.0	<1.0	3.13	37.47	5972.69
MW-2	7/23/1996	<1.0	1.15	<1.0	4.06	37.60	5972.56
MW-2	10/14/1996	<1.0	1.04	<1.0	4.85	37.70	5972.46
MW-2	1/22/1997	<1.0	<1.0	<1.0	<3.0	37.66	5972.50
MW-2	4/11/1997	<1.0	<1.0	<1.0	<3.0	37.58	5972.58
MW-2	10/9/2000	<0.5	<0.5	<0.5	< 0.5	37.56	5972.60
MW-2	6/18/2001	<0.5	<0.5	<0.5	<0.5	37.58	5972.58
MW-2	6/3/2002	< 0.5	<0.5	<0.5	<1.0	37.88	5972.28
MW-3	12/13/1995	488	1020	104	1120	37.11	5972.43
MW-3	4/11/1996	772	231	113	379	37.17	5972.37
MW-3	7/25/1996	687	112	115	209	37.30	5972.24
MW-3	10/14/1996	900	240	140	340	37.40	5972.14
MW-3	1/22/1997	907	234	215	340	37.35	5972.19
MW-3	4/11/1997	944	209	223	322	37.29	5972.25
MW-3	6/18/2001	510	23	160	98	37.26	5972.28
MW-3	6/3/2002	380	<5.0	110	29	37.55	5971.99
MW-3	3/5/2009	1.2	16.5	9.4	58.2	37.14	5972.40
MW-3	2/17/2010	3.2	4.5	3.4	25.9	37.53	5972.01
MW-3	2/7/2011	8.6	26.0	6.0	12.2	37.83	5971.71
MW-4	12/13/1995	545	121	114	177	37.34	5972.28
MW-4	4/11/1996	591	160	133	193	37.42	5972.20
MW-4	7/25/1996	793	96.4	172	174	37.54	5972.08
MW-4	10/14/1996	800	100	130	235	37.64	5971.98

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Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes	Depth to Water (ft	Corr. GW Elevation (ft
NMWQCC	C GW Std.:	10	750	750	620	BTOC)	AMSL)
MW-4	1/22/1997	899	26.7	157	186	37.60	5972.02
MW-4	4/11/1997	703	20.1	149	138	37.47	5972.15
MW-4	10/9/2000	81	36	45	20	37.56	5972.06
MW-4	6/18/2001	490	70	91	96	37.53	5972.09
MW-4	6/3/2002	16	<5.0	17	2.2	37.80	5971.82
MW-4	6/18/2003	<1.0	<1.0	1.7	<3.0	37.95	5971.67
MW-4	6/22/2004	0.56J	1.1	2.8	<1.0	38.04	5971.58
MW-4	3/23/2005	<1.0	<1.0	<1.0	0.99	38.11	5971.51
MW-4	3/27/2006	0.39J	<1.0	<1.0	0.83J	38.16	5971.46
MW-4	3/28/2007	0.39J	0.60J	<1.0	1.7J	38.16	5971.46
MW-4	3/10/2008	0.25J	<1.0	<1.0	<2.0	38.05	5971.57
MW-5	8/30/2000	130	180	56	650	38.11	5972.21
MW-5	6/18/2001	170	300	68	630	38.13	5972.19
MW-5	6/4/2002	43	87	31	360	38.51	5971.81
MW-5	3/5/2009	1.9	9.8	44.0	120	37.93	5972.39
MW-5	2/17/2010	1.7	2.6	2.7	19.2	38.38	5971.94
MW-5	2/7/2011	11.9	920	177	1870	38.74	5971.58
MW-6	3/28/2007	<1.0	<1.0	<1.0	<2.0	39.43	5971.11
MW-6	3/10/2008	9.4	<1.0	0.50J	139	39.21	5971.33
MW-6	3/5/2009	<1.0	<1.0	<1.0	<2.0	37.61	5972.93
MW-6	2/7/2011	<1.0	<1.0	<1.0	<3.0	38.39	5972.15

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER JOHNSTON FED #6A (METER #89232)

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

SUMMARY OF FREE-PRODUCT REMOVAL JOHNSTON FED #6A (METER #89232)

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	10/14/1996	37.07	37.22	0.15	NA	NA	5973.12
MW-1	1/22/1997	37.43	38.26	0.83	NA	NA	5972.62
MW-1	4/11/1997	37.20	38.31	1.11	NA	NA	5972.80
MW-1	6/18/2001	37.34	38.21	0.87	1.25	2.75	5972.71
MW-1	9/4/2001	37.54	38.27	0.73	0.75	3.50	5972.53
MW-1	3/4/2002	37.74	38.35	0.61	0.25	3.75	5972.36
MW-1	6/4/2002	37.81	38.14	0.33	0.25	4.00	5972.34
MW-1	9/10/2002	38.00	38.24	0.24	0.20	4.20	5972.17
MW-1	12/12/2002	38.01	38.11	0.10	0.08	4.28	5972.19
MW-1	3/14/2003	37.95	38.08	0.13	0.10	4.38	5972.24
MW-1	6/18/2003	37.88	38.47	0.59	0.40	4.78	5972.22
MW-1	9/16/2003	38.17	38.25	0.08	0.06	4.84	5972.03
MW-1	12/17/2003	38.13	38.23	0.10	0.02	4.87	5972.07
MW-1	3/16/2004	37.90	38.57	0.67	0.47	5.33	5972.19
MW-1	6/22/2004	37.90	38.65	0.75	0.19	5.52	5972.17
MW-1	9/22/2004	38.21	38.60	0.39	0.25	5.77	5971.93
MW-1	12/21/2004	38.20	38.38	0.18	0.13	5.90	5971.98
MW-1	3/23/2005	37.95	38.50	0.55	0.39	6.29	5972.16
MW-1	6/17/2005	38.13	38.62	0.49	0.25	6.54	5971.99
MW-1	9/20/2005	38.40	38.83	0.43	0.25	6.79	5971.73
MW-1	12/14/2005	38.31	38.72	0.41	0.23	7.02	5971.83
MW-1	3/25/2006	38.15	38.66	0.51	0.17	7.19	5971.97
MW-1	3/27/2006	38.05	38.62	0.57		7.19	5972.06
MW-1	6/6/2006	38.29	38.84	0.55	0.22	7.41	5971.82
MW-1	9/25/2006	38.51	39.01	0.50	0.22	7.63	5971.61
MW-1	3/28/2007	38.02	38.09	0.07		7.63	5972.19
MW-1	6/18/2007	38.09	38.86	0.77		7.63	5971.98
MW-1	9/17/2007	38.40	39.32	0.92	0.19	7.82	5971.64
MW-1	12/17/2007	38.42	39.13	0.71	0.19	8.01	5971.66
MW-1	3/10/2008	37.90	38.24	0.34	0.22	8.22	5972.25
MW-1	6/17/2008	37.38	37.71	0.33	0.23	8.45	5972.77
MW-1	9/10/2008	37.41	37.72	0.31	0.23	8.68	5972.75
MW-1	12/2/2008	37.51	37.89	0.38	0.23	8.91	5972.63
MW-1	3/5/2009	37.20	37.63	0.43	0.23	9.15	5972.93

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SUMMARY OF FREE-PRODUCT REMOVAL JOHNSTON FED #6A (METER #89232)

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	6/2/2009	37.49	37.83	0.34	0.23	9.38	5972.66
MW-1	8/28/2009	37.65	37.99	0.34	0.23	9.62	5972.50
MW-1	11/4/2009	-	37.77	0.00	0.23	9.85	5972.45
MW-1	2/11/2010	NA	NA	NA	0.23	10.09	NA
MW-1	2/17/2010	37.60	38.11	0.51		10.09	5972.52
MW-1	5/24/2010	37.81	38.27	0.46	0.23	10.32	5972.32
MW-1	9/24/2010	38.05	38.46	0.41	0.23	10.55	5972.09
MW-1	11/2/2010	38.16	38.55	0.39	0.33	10.89	5971.98
MW-1	1/31/2011	NA	NA	NA	0.23	11.12	NA
MW-1	2/7/2011	37.93	38.37	0.44	0.04	11.16	5972.20
MW-1	5/2/2011	-	38.57	0.00	0.23	11.40	5971.65
MW-1	9/23/2011	38.32	38.75	0.43	0.23	11.63	5971.81
MW-1	11/1/2011	-	38.80	0.00	0.23	11.87	5971.42
MW-2	9/23/2011	38.23	38.25	0.02	2.50 S	0.00	5971.93
MW-3	6/18/2003	37.63	37.87	0.24	0.15	0.15	5971.86
MW-3	9/16/2003	37.87	37.88	0.01	0.02	0.17	5971.67
MW-3	3/16/2004	37.72	37.85	0.13	0.09	0.26	5971.79
MW-3	6/22/2004	37.72	37.88	0.16	0.03	0.29	5971.79
MW-3	9/22/2004	37.96	38.07	0.11	0.10	0.39	5971.56
MW-3	12/21/2004	37.93	37.96	0.03	0.03	0.42	5971.60
MW-3	3/23/2005	37.80	37.88	0.08	0.06	0.48	5971.72
MW-3	3/25/2006		38.09	0.00	0.15	0.63	5971.45
MW-3	2/11/2010	NA	NA	NA	0.05	0.68	NA
MW-5	9/10/2002	38.54	39.13	0.58		0.00	5971.66
MW-5	12/12/2002	38.62	38.83	0.21	0.03	0.03	5971.66
MW-5	3/14/2003	38.60	38.70	0.10	0.02	0.05	5971.70
MW-5	6/18/2003	38.62	38.85	0.23	0.06	0.11	5971.65
MW-5	9/16/2003	38.83	38.88	0.05	0.02	0.13	5971.48
MW-5	12/17/2003	38.74	38.75	0.01	0.01	0.14	5971.58
MW-5	3/16/2004	38.68	38.72	0.04	0.01	0.15	5971.63
MW-5	6/22/2004	38.70	38.74	0.04	0.02	0.17	5971.61
MW-5	9/22/2004	38.74	38.74	0.00	0.05	0.22	5971.58
MW-5	12/21/2004	38.92	38.93	0.01		0.22	5971.40
MW-5	9/25/2006	37.18	37.20	0.02		0.22	5973.14

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SUMMARY OF FREE-PRODUCT REMOVAL JOHNSTON FED #6A (METER #89232)

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-5	2/7/2011	38.74	38.74	0.00	0.02	0.24	5971.58
MW-5	9/23/2011	38.97	38.99	0.02	0.09	0.32	5971.35
MW-5	11/1/2011		39.09	0.00	0.07	0.39	5971.23

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.