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AGWMR

2009



El Paso Tennessee
Pipeline Company

San Juan Basin Pit Program
Groundwater Sites Project

Final 2009 Annual Report
Federal Sites (Volume 1)

April 2010



MWH

1801 California Street, Suite 2900
Denver, Colorado 80202

**2009 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I
EL PASO TENNESSEE PIPELINE 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 2009.



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BUILDING A BETTER WORLD

RECEIVED OCD

2010 APR 19 A 10:39

April 16, 2010

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

**RE: El Paso Tennessee Pipeline Company Pit Groundwater Remediation Sites
2009 Annual Reports**

Dear Mr. Von Gonten:

MWH Americas, Inc., on behalf of El Paso Tennessee Pipeline Company (EPTPC), is submitting the enclosed 2009 Annual Reports for each of EPTPC's 21 remaining San Juan River Basin pit groundwater remediation sites. The reports present the 2009 sampling and product recovery data and include recommendations for 2010 activities at these sites.

The 2009 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 Land
2	Non-Federal Land (Excl. Navajo Nation)
3	Navajo Nation

If you have any questions concerning the enclosed reports, please call either Doug Stavinoha of EPTPC (713-420-5150), Ian Yanagisawa of EPTPC (713-420-7361), or me (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)
Doug Stavinoha – EPTPC (Volumes 1, 2, and 3)

LIST OF ACRONYMS

AMSL	above mean sea level
B	benzene
btoc	below top of casing
E	ethylbenzene
EPTPC	El Paso Tennessee Pipeline Company
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitor well
NMWQCC	New Mexico Water Quality Control Commission
T	toluene
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
X	total xylenes

Federal Groundwater Site Map



**EPTPC GROUNDWATER SITES
2009 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:	BP / Amoco Production Company

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 2009?	No

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

SUMMARY OF 2009 ACTIVITIES

MW-1: Annual groundwater sampling (June) and quarterly water level monitoring were performed during 2009.

MW-2: Annual groundwater sampling (June) and quarterly water level monitoring were performed during 2009.

MW-3: Annual groundwater sampling (June) and quarterly water level monitoring were performed during 2009.

MW-4: Quarterly water level monitoring was performed during 2009.

Site-Wide Activities: No other activities were performed at this Site during 2009.

SITE MAP

A Site map (June) 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).

**EPTPC GROUNDWATER SITES
2009 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 2009 laboratory report is presented in Attachment 1 (included on CD).
- The 2009 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 2009.

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 June 2009 event.

RESULTS

- There was no free-product observed in MW-1 in 2009. This well was sampled in June 2009, and the BTEX results were significantly above the NMWQCC standards. The BTEX concentrations are similar to those observed historically.
- The BTEX constituents were detected only at trace levels in MW-2, consistent with the previous groundwater sampling results, which have often been non-detect.
- Free-product has not been detected in MW-3 since January 2004. Benzene and toluene concentrations (549 µg/L and <25 µg/L) have significantly attenuated over time, though benzene remains above its NMWQCC standard. Ethylbenzene (750 µg/L) and total xylenes concentrations (7,320 µg/L) both dropped in 2009, with ethylbenzene concentrations now under the NMWQCC standard. Total xylenes concentrations are still well above the NMWQCC standard.

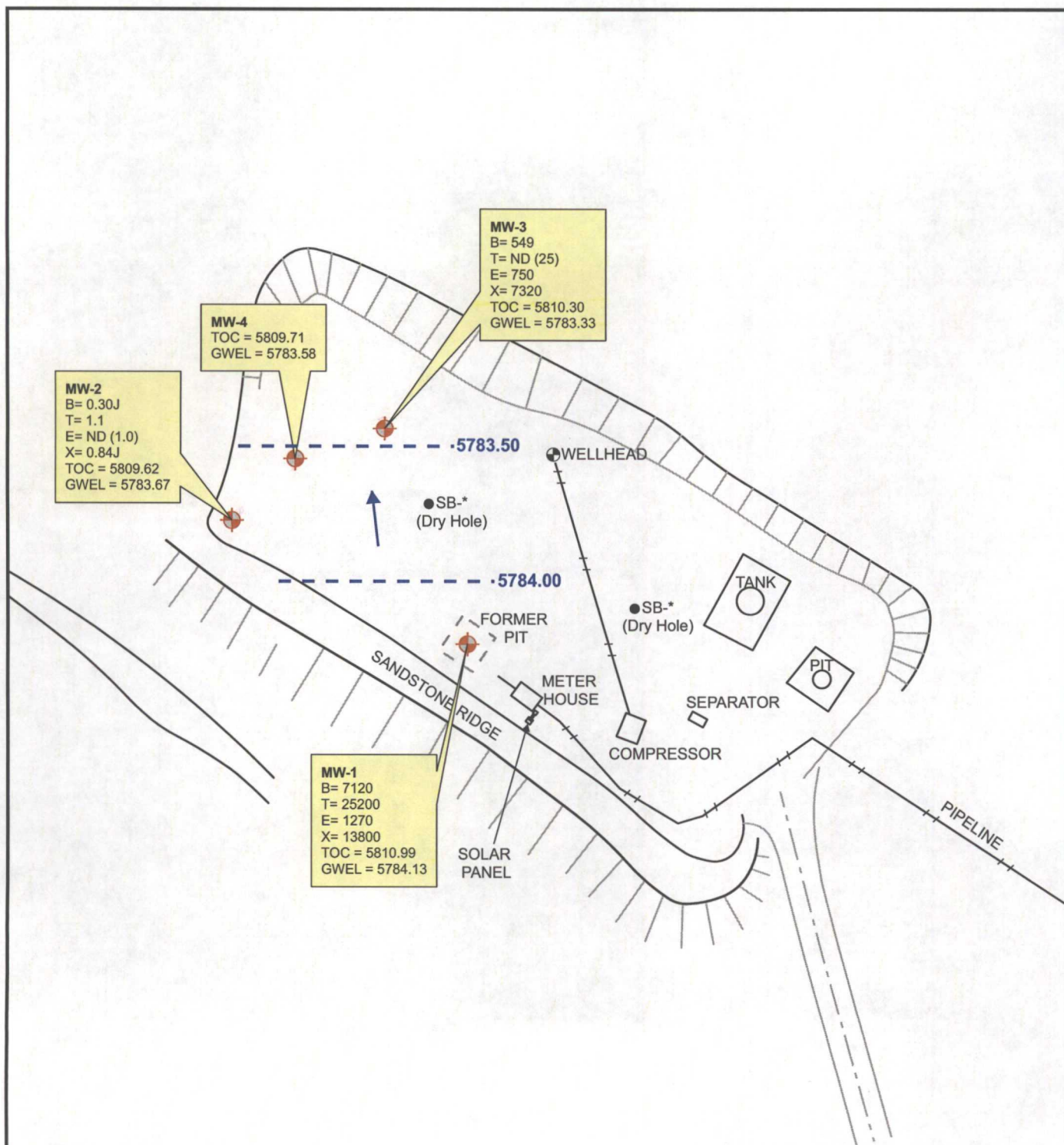
RECOMMENDATIONS

- The dissolved phase BTEX concentrations in MW-1 generally appear to be stable over the last 14 years. EPTPC will continue to sample this well annually in conjunction with MW-3. MW-1 will be gauged quarterly to check for free-product.

**EPTPC GROUNDWATER SITES
2009 ANNUAL GROUNDWATER REPORT**

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

- EPTPC recommends that annual sampling be discontinued at MW-2. This well has been clean during the last 6 annual sampling events. EPTPC will not sample this well until the Site closure samples are collected. Water level monitoring will continue on a quarterly basis.
- EPTPC will continue annual groundwater sample collection and quarterly water level monitoring at MW-3.
- Because historic data collected at MW-4 indicate concentrations of BTEX constituents below analytical detection limits, EPTPC will not sample this well until the Site closure samples are collected. Water level monitoring will continue on a quarterly basis.



LEGEND

MW-4 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



Not To Scale



MWH



PROJECT:

JAMES F BELL #1E

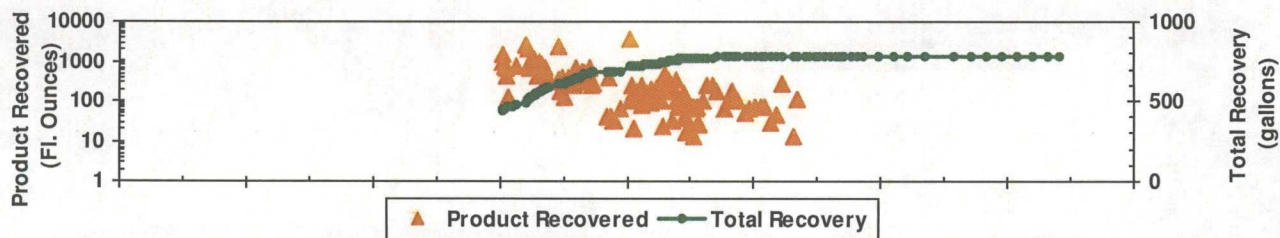
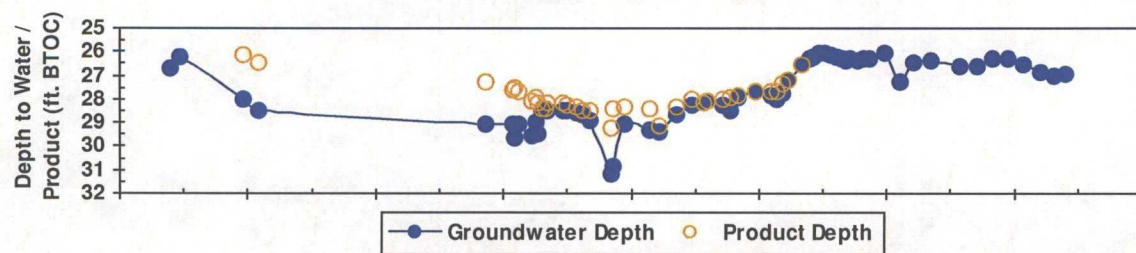
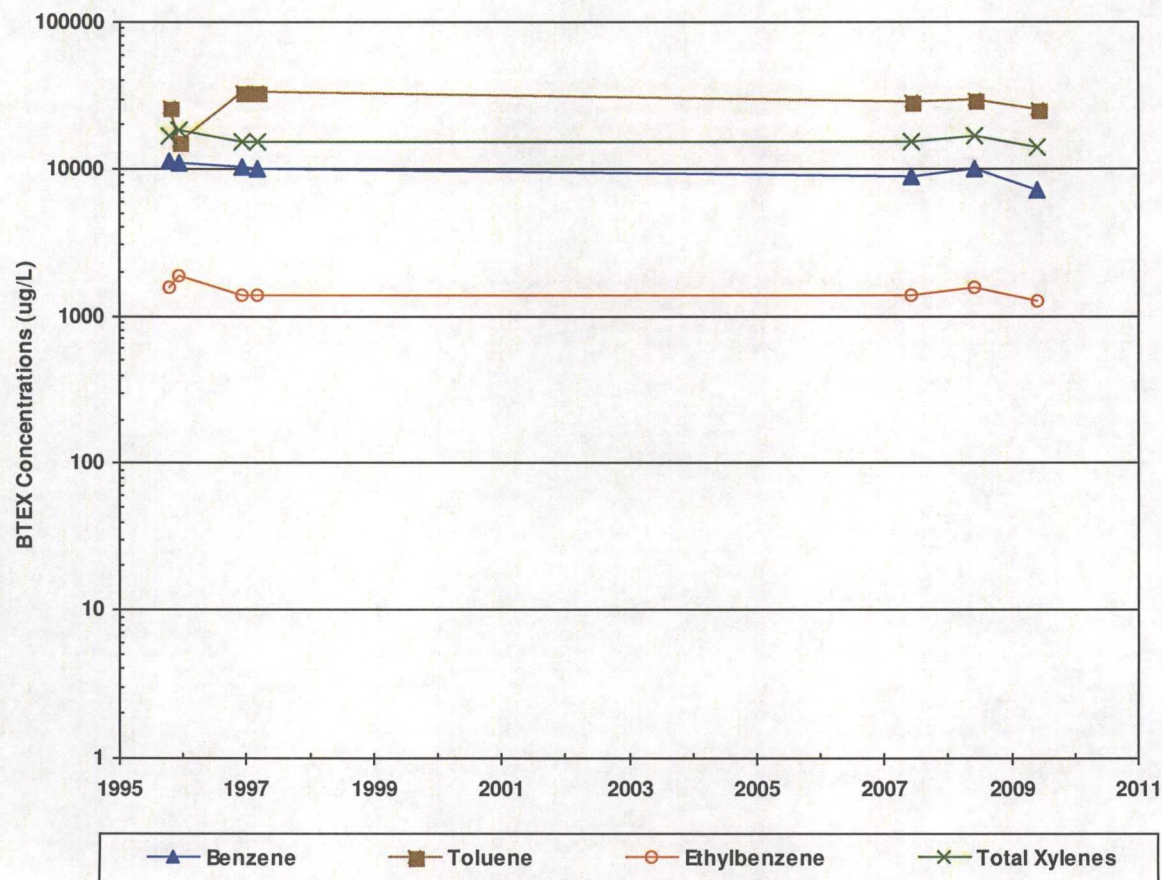
TITLE:

Groundwater Potentiometric Surface Map,
 and BTEX Concentrations - June 3, 2009

FIGURE:

1

FIGURE 2
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
JAMES F. BELL #1E (METER #94715)
MW01



*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)
MW02

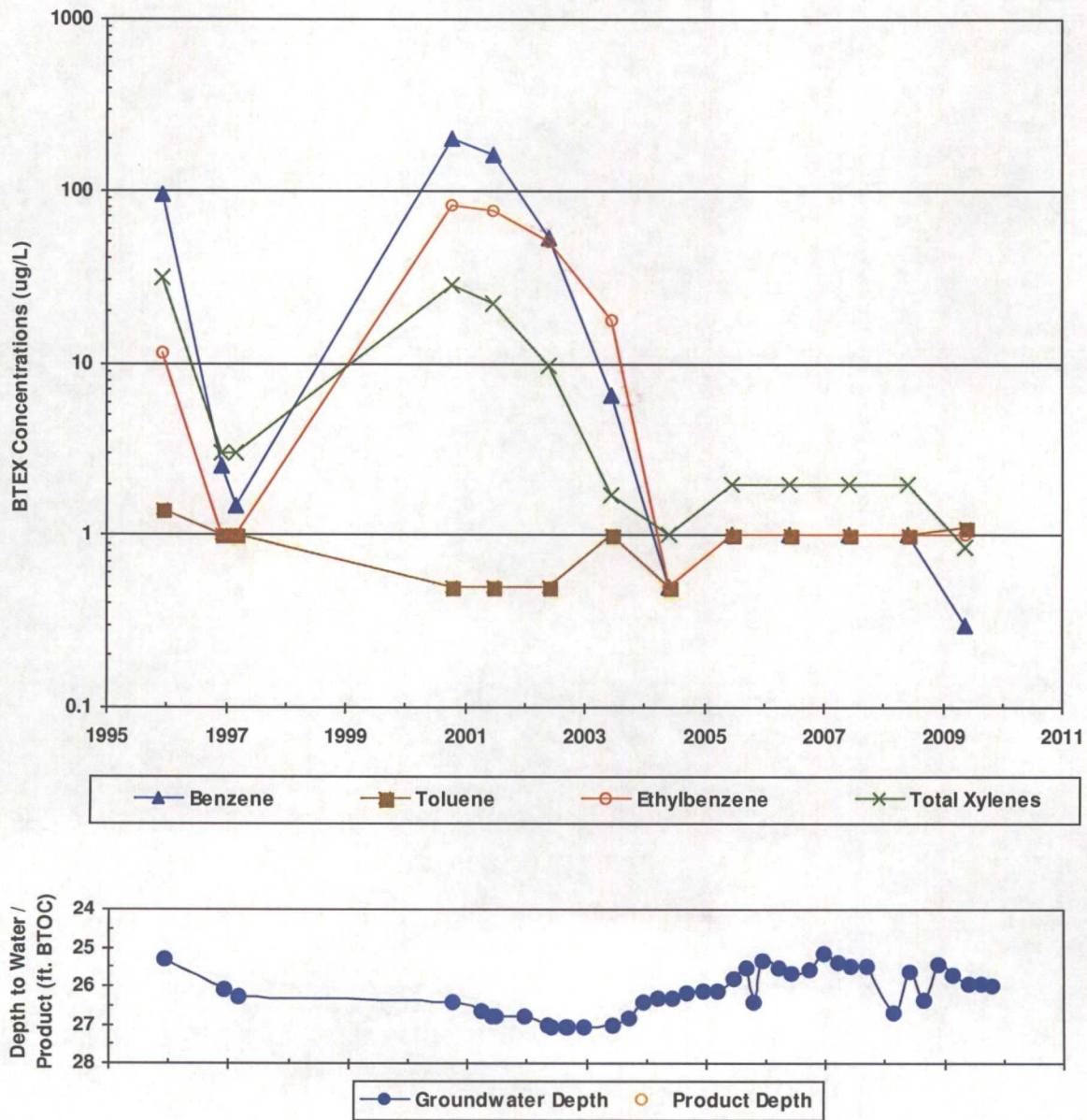
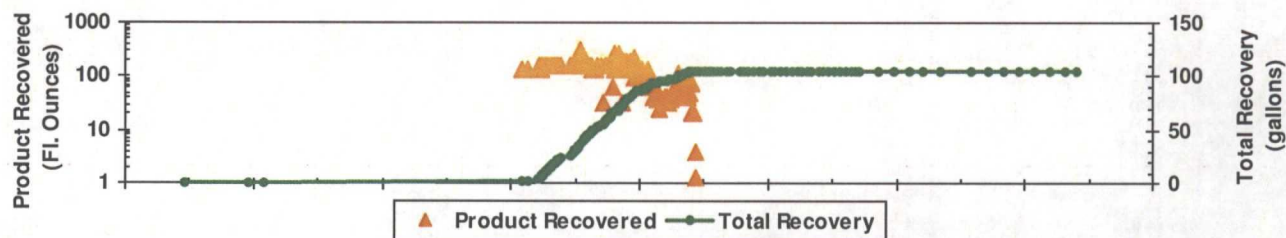
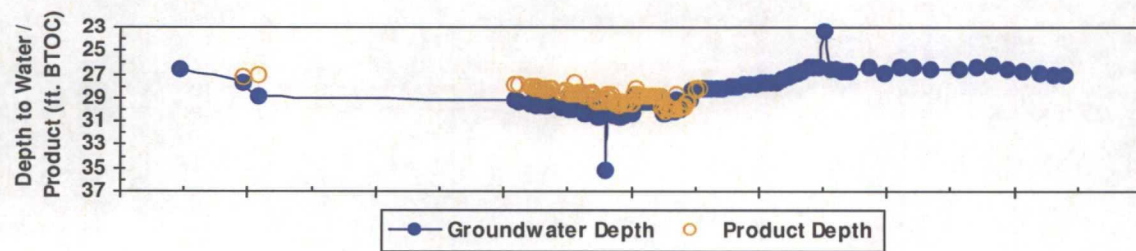
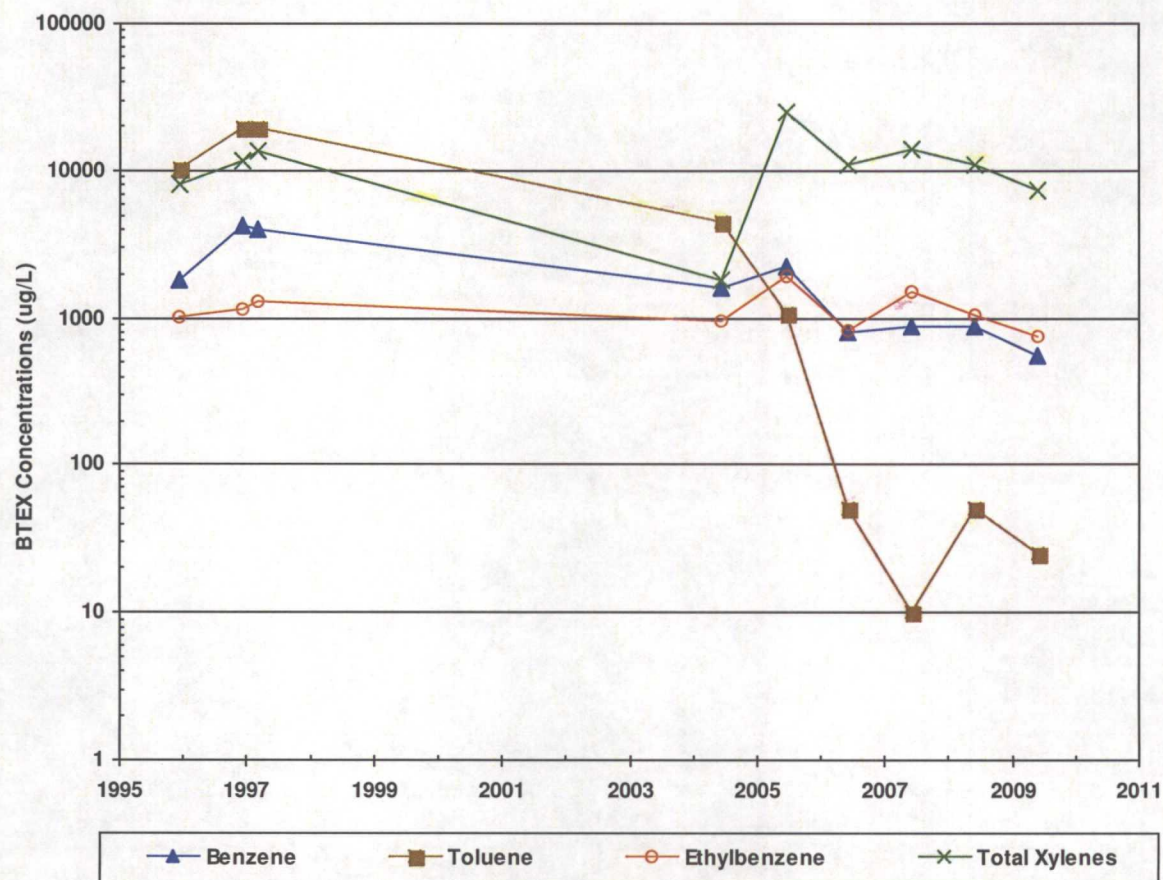


FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
JAMES F. BELL #1E (METER #94715)
MW03



**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)
MW04

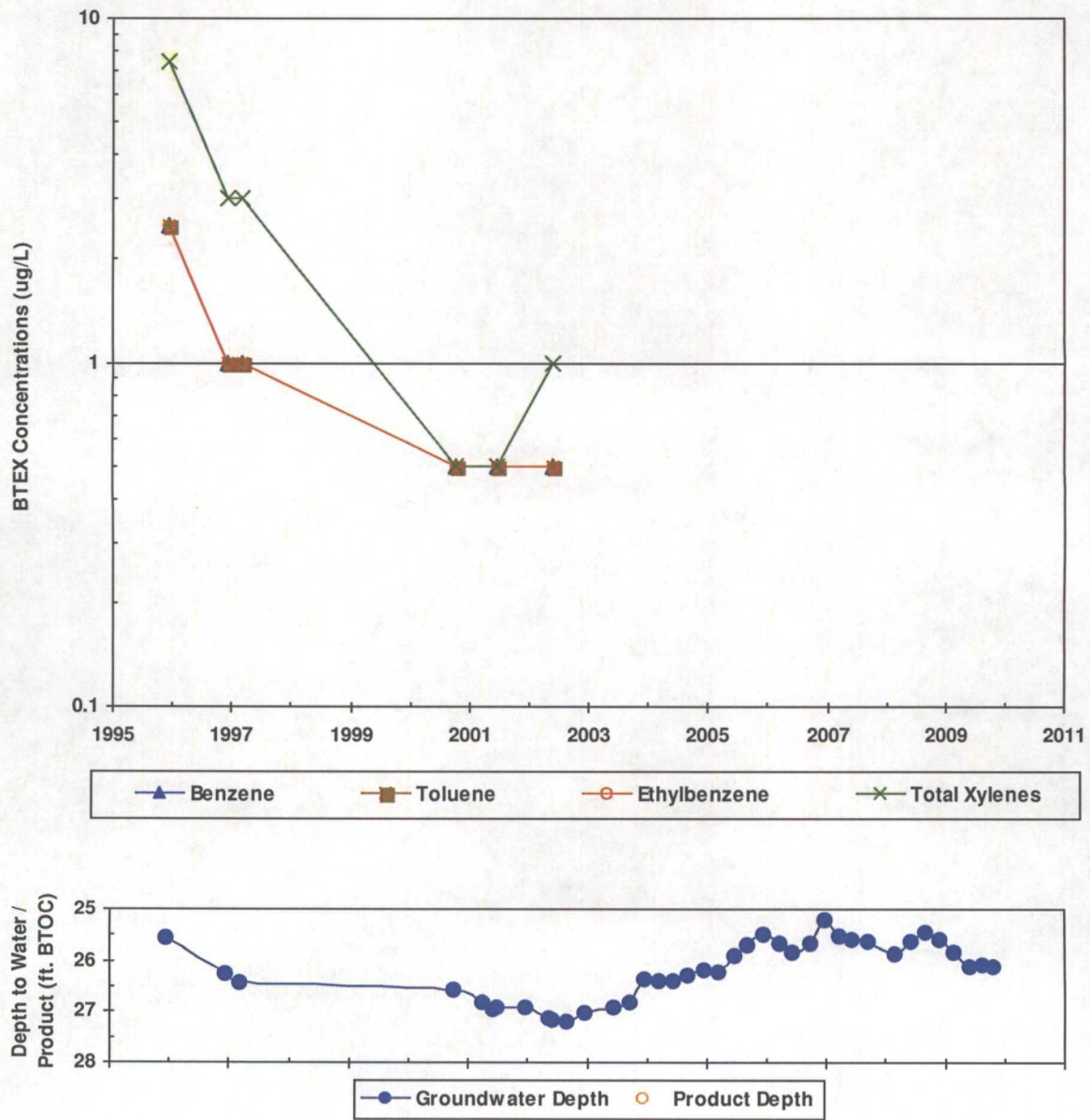


TABLE 1

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

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)	Corrected GW Elevation (ft AMSL)
NMWQCC GW Std.:		10	750	750	620		
MW01	10/17/1995	11200	26400	1540	16500	26.67	5784.32
MW01	12/11/1995	10800	15400	1870	18400	26.23	5784.76
MW01	12/4/1996	10300	33200	1400	15200	28.00	5784.46
MW01	3/5/1997	9850	33400	1370	15200	28.47	5784.12
MW01	6/11/2007	8910	29200	1360	15000	26.47	5784.52
MW01	6/12/2008	10000	29700	1550	16800	26.60	5784.39
MW01	6/3/2009	7120	25200	1270	13800	26.86	5784.13
MW02	12/11/1995	94.7	1.4	11.3	31.1	25.32	5784.30
MW02	12/4/1996	2.52	<1.0	<1.0	<3.0	26.09	5783.53
MW02	3/5/1997	1.49	<1.0	<1.0	<3.0	26.30	5783.32
MW02	10/11/2000	200	<0.5	81	28	26.41	5783.21
MW02	6/25/2001	160	<0.5	77	22	26.79	5782.83
MW02	6/5/2002	53	<0.5	50	9.7	27.06	5782.56
MW02	6/19/2003	6.5	<1.0	17.8	1.7	27.04	5782.58
MW02	6/9/2004	<0.5	<0.5	<0.5	<1.0	26.34	5783.28
MW02	6/23/2005	<1.0	<1.0	<1.0	<2.0	25.81	5783.81
MW02	6/14/2006	<1.0	<1.0	<1.0	<2.0	25.66	5783.96
MW02	6/11/2007	<1.0	<1.0	<1.0	<2.0	25.48	5784.14
MW02	6/12/2008	<1.0	<1.0	<1.0	<2.0	25.62	5784.00
MW02	6/3/2009	0.301	1.1	<1.0	0.841	25.95	5783.67
MW03	12/11/1995	1790	10400	1010	8070	26.52	5783.78
MW03	12/4/1996	4210	19200	1140	11700	27.72	5783.03
MW03	3/5/1997	4000	19200	1280	13600	28.87	5782.85
MW03	6/9/2004	1590	4520	966	1830	28.21	5782.09
MW03	6/23/2005	2260	1090	1920	24800	27.18	5783.11
MW03	6/14/2006	795	<50	818	10900	26.71	5783.59
MW03	6/11/2007	868	<10	1490	13900	26.42	5783.88
MW03	6/12/2008	876	<50	1060	11000	26.42	5783.88
MW03	6/3/2009	549	<25	750	7320	26.97	5783.33
MW04	12/11/1995	<2.5	<2.5	<2.5	<7.5	25.55	5784.16
MW04	12/4/1996	<1.0	<1.0	<1.0	<3.0	26.27	5783.44
MW04	3/5/1997	<1.0	<1.0	<1.0	<3.0	26.44	5783.27
MW04	10/11/2000	<0.5	<0.5	<0.5	<0.5	26.56	5783.15
MW04	6/25/2001	<0.5	<0.5	<0.5	<0.5	26.93	5782.78

TABLE 1

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

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)	Corrected GW Elevation (ft AMSL)
NMWQCC GW Std.:		10	750	750	620		
MW04	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.

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)
MW01	12/4/1996	26.16	28.00	1.84	NA	NA	5784.46
MW01	3/5/1997	26.47	28.47	2.00	NA	NA	5784.12
MW01	9/29/2000	27.29	29.09	1.80	NA	NA	5783.34
MW01	1/16/2001	NA	NA	NA	11.86	443.26	NA
MW01	1/24/2001	NA	NA	NA	7.27	450.53	NA
MW01	1/31/2001	NA	NA	NA	5.93	456.46	NA
MW01	2/8/2001	NA	NA	NA	3.25	459.71	NA
MW01	2/16/2001	NA	NA	NA	5.48	465.19	NA
MW01	2/26/2001	27.61	29.06	1.45	1.00	466.19	5783.09
MW01	3/14/2001	27.49	29.60	2.11	--	466.19	5783.08
MW01	4/6/2001	27.67	29.08	1.41	5.93	472.12	5783.04
MW01	6/5/2001	NA	NA	NA	20.85	492.97	NA
MW01	6/14/2001	NA	NA	NA	15.50	508.47	NA
MW01	6/22/2001	28.10	29.57	1.47	7.00	515.47	5782.60
MW01	6/28/2001	NA	NA	NA	5.00	520.47	NA
MW01	7/6/2001	NA	NA	NA	5.00	525.47	NA
MW01	7/11/2001	27.95	28.95	1.00	--	525.47	5782.84
MW01	7/20/2001	NA	NA	NA	9.00	534.47	NA
MW01	7/26/2001	28.21	29.51	1.30	5.00	539.47	5782.52
MW01	8/2/2001	NA	NA	NA	5.40	544.87	NA
MW01	8/8/2001	NA	NA	NA	3.25	548.12	NA
MW01	8/16/2001	28.40	28.49	0.09	7.00	555.12	5782.57
MW01	8/20/2001	NA	NA	NA	3.40	558.52	NA
MW01	8/31/2001	NA	NA	NA	6.30	564.82	NA
MW01	9/6/2001	28.41	28.46	0.05	3.80	568.62	5782.57
MW01	9/17/2001	28.19	28.46	0.27	5.36	573.98	5782.75
MW01	9/26/2001	NA	NA	NA	5.17	579.15	NA
MW01	10/3/2001	NA	NA	NA	2.70	581.85	NA
MW01	10/11/2001	NA	NA	NA	2.70	584.55	NA
MW01	12/4/2001	NA	NA	NA	19.13	603.68	NA
MW01	12/13/2001	28.20	28.50	0.30	2.70	606.38	5782.73
MW01	12/21/2001	NA	NA	NA	1.34	607.72	NA
MW01	12/28/2001	NA	NA	NA	3.00	610.72	NA
MW01	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)
MW01	1/8/2002	28.25	28.54	0.29	1.00	614.21	5782.68
MW01	1/17/2002	NA	NA	NA	2.50	616.71	NA
MW01	1/23/2002	NA	NA	NA	2.50	619.21	NA
MW01	1/31/2002	NA	NA	NA	3.00	622.21	NA
MW01	2/7/2002	NA	NA	NA	2.50	624.71	NA
MW01	2/14/2002	NA	NA	NA	2.50	627.21	NA
MW01	2/20/2002	NA	NA	NA	2.50	629.71	NA
MW01	2/28/2002	28.31	28.62	0.31	3.50	633.21	5782.62
MW01	3/6/2002	NA	NA	NA	3.00	636.21	NA
MW01	3/11/2002	NA	NA	NA	2.00	638.21	NA
MW01	3/21/2002	NA	NA	NA	5.00	643.21	NA
MW01	3/28/2002	28.51	28.64	0.13	3.00	646.21	5782.45
MW01	4/4/2002	NA	NA	NA	2.50	648.71	NA
MW01	4/12/2002	NA	NA	NA	3.44	652.15	NA
MW01	4/19/2002	NA	NA	NA	4.00	656.15	NA
MW01	4/25/2002	NA	NA	NA	4.37	660.52	NA
MW01	5/3/2002	NA	NA	NA	4.23	664.75	NA
MW01	5/15/2002	28.48	28.87	0.39	3.95	668.70	5782.43
MW01	5/31/2002	NA	NA	NA	5.00	673.70	NA
MW01	6/7/2002	NA	NA	NA	2.50	676.20	NA
MW01	6/14/2002	NA	NA	NA	2.00	678.20	NA
MW01	6/21/2002	NA	NA	NA	2.10	680.30	NA
MW01	9/10/2002	NA	NA	NA	0.33	680.63	NA
MW01	9/13/2002	29.20	31.17	1.97	--	680.63	5781.40
MW01	9/19/2002	28.45	30.82	2.37	3.00	683.63	5782.07
MW01	10/4/2002	NA	NA	NA	0.33	683.96	NA
MW01	10/10/2002	NA	NA	NA	0.33	684.29	NA
MW01	10/15/2002	NA	NA	NA	0.25	684.54	NA
MW01	10/23/2002	NA	NA	NA	0.25	684.79	NA
MW01	10/30/2002	NA	NA	NA	0.25	685.04	NA
MW01	12/4/2002	28.37	29.07	0.70	0.50	685.54	5782.48
MW01	1/22/2003	NA	NA	NA	28.50	714.04	NA
MW01	1/29/2003	NA	NA	NA	0.75	714.79	NA
MW01	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)
MW01	2/12/2003	NA	NA	NA	1.38	718.17	NA
MW01	2/20/2003	NA	NA	NA	0.17	718.34	NA
MW01	3/6/2003	NA	NA	NA	1.38	719.72	NA
MW01	3/12/2003	NA	NA	NA	0.98	720.70	NA
MW01	3/19/2003	NA	NA	NA	1.38	722.08	NA
MW01	3/26/2003	NA	NA	NA	0.60	722.68	NA
MW01	4/2/2003	NA	NA	NA	1.96	724.64	NA
MW01	4/10/2003	NA	NA	NA	1.57	726.21	NA
MW01	4/18/2003	28.44	29.29	0.85	--	726.21	5782.38
MW01	4/28/2003	NA	NA	NA	1.18	727.39	NA
MW01	5/7/2003	NA	NA	NA	1.18	728.57	NA
MW01	5/13/2003	NA	NA	NA	1.00	729.57	NA
MW01	5/21/2003	NA	NA	NA	0.69	730.26	NA
MW01	5/27/2003	NA	NA	NA	1.47	731.73	NA
MW01	6/3/2003	NA	NA	NA	0.98	732.71	NA
MW01	6/9/2003	NA	NA	NA	1.18	733.89	NA
MW01	6/19/2003	29.19	29.41	0.22	--	733.89	5781.76
MW01	6/23/2003	NA	NA	NA	1.77	735.66	NA
MW01	7/10/2003	NA	NA	NA	2.00	737.66	NA
MW01	7/15/2003	NA	NA	NA	0.79	738.45	NA
MW01	7/21/2003	NA	NA	NA	0.88	739.33	NA
MW01	7/29/2003	NA	NA	NA	0.19	739.52	NA
MW01	8/11/2003	NA	NA	NA	3.96	743.48	NA
MW01	8/18/2003	NA	NA	NA	2.85	746.33	NA
MW01	8/25/2003	NA	NA	NA	1.57	747.90	NA
MW01	9/2/2003	NA	NA	NA	2.78	750.68	NA
MW01	9/8/2003	NA	NA	NA	1.37	752.05	NA
MW01	9/15/2003	NA	NA	NA	2.16	754.21	NA
MW01	9/22/2003	28.31	28.64	0.33	0.25	754.46	5782.61
MW01	9/29/2003	NA	NA	NA	1.77	756.23	NA
MW01	10/6/2003	NA	NA	NA	1.57	757.80	NA
MW01	10/13/2003	NA	NA	NA	0.78	758.58	NA
MW01	10/20/2003	NA	NA	NA	2.55	761.13	NA
MW01	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)
MW01	11/3/2003	NA	NA	NA	0.79	762.47	NA
MW01	11/10/2003	NA	NA	NA	0.79	763.26	NA
MW01	11/17/2003	NA	NA	NA	0.79	764.05	NA
MW01	11/26/2003	NA	NA	NA	1.18	765.23	NA
MW01	12/4/2003	NA	NA	NA	0.30	765.53	NA
MW01	12/9/2003	NA	NA	NA	0.79	766.32	NA
MW01	12/15/2003	28.04	28.24	0.20	0.13	766.45	5782.91
MW01	1/2/2004	NA	NA	NA	0.20	766.65	NA
MW01	1/11/2004	NA	NA	NA	0.59	767.24	NA
MW01	1/23/2004	NA	NA	NA	0.59	767.83	NA
MW01	1/30/2004	NA	NA	NA	0.10	767.93	NA
MW01	2/6/2004	NA	NA	NA	0.49	768.42	NA
MW01	2/12/2004	NA	NA	NA	0.20	768.62	NA
MW01	2/18/2004	NA	NA	NA	0.59	769.21	NA
MW01	2/27/2004	28.19	28.21	0.02	0.20	769.41	5782.80
MW01	3/16/2004	28.08	28.13	0.05	0.79	770.20	5782.90
MW01	4/13/2004	NA	NA	NA	1.87	772.07	NA
MW01	5/10/2004	NA	NA	NA	1.87	773.94	NA
MW01	6/2/2004	NA	NA	NA	1.37	775.31	NA
MW01	6/9/2004	28.03	28.27	0.24	--	775.31	5782.91
MW01	7/26/2004	27.95	28.48	0.53	0.50	775.81	5782.93
MW01	8/16/2004	NA	NA	NA	0.79	776.60	NA
MW01	9/9/2004	NA	NA	NA	1.37	777.97	NA
MW01	9/10/2004	27.82	27.89	0.07	--	777.97	5783.16
MW01	10/11/2004	NA	NA	NA	0.79	778.76	NA
MW01	11/17/2004	NA	NA	NA	0.39	779.15	NA
MW01	12/13/2004	NA	NA	NA	0.49	779.64	NA
MW01	12/14/2004	27.67	27.68	0.01	--	779.64	5783.31
MW01	12/18/2004	27.67	27.71	0.04	--	779.64	5783.31
MW01	1/17/2005	NA	NA	NA	0.58	780.22	NA
MW01	2/15/2005	NA	NA	NA	0.58	780.80	NA
MW01	3/16/2005	NA	NA	NA	0.59	781.39	NA
MW01	3/17/2005	27.65	27.83	0.18	--	781.39	5783.30
MW01	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)
MW01	5/17/2005	27.35	27.78	0.43	0.36	781.97	5783.55
MW01	6/17/2005	NA	NA	NA	2.15	784.12	NA
MW01	6/23/2005	27.21	27.23	0.02	--	784.12	5783.78
MW01	8/22/2005	NA	NA	NA	0.10	784.22	NA
MW01	9/12/2005	26.52	26.56	0.04	0.88	785.10	5784.46
MW03	12/4/1996	27.16	27.72	0.56	--	0.00	5783.03
MW03	3/5/1997	27.09	28.87	1.78	--	0.00	5782.85
MW03	3/12/2001	27.84	29.18	1.34	1.00	1.00	5782.19
MW03	4/6/2001	27.86	29.27	1.41	1.00	2.00	5782.16
MW03	6/5/2001	28.06	29.48	1.42	1.00	3.00	5781.96
MW03	6/14/2001	27.98	29.41	1.43	1.25	4.25	5782.03
MW03	6/22/2001	NA	NA	NA	1.00	5.25	NA
MW03	6/28/2001	28.15	29.57	1.42	1.25	6.50	5781.87
MW03	7/6/2001	28.06	29.41	1.35	1.25	7.75	5781.97
MW03	7/11/2001	28.26	29.61	1.35	1.25	9.00	5781.77
MW03	7/20/2001	28.13	29.43	1.30	1.25	10.25	5781.91
MW03	7/26/2001	NA	NA	NA	1.25	11.50	NA
MW03	8/2/2001	28.22	29.50	1.28	1.25	12.75	5781.82
MW03	8/8/2001	28.16	29.40	1.24	1.25	14.00	5781.89
MW03	8/16/2001	28.21	29.46	1.25	1.25	15.25	5781.84
MW03	8/20/2001	28.31	29.61	1.30	1.25	16.50	5781.73
MW03	8/31/2001	28.17	29.47	1.30	1.25	17.75	5781.87
MW03	9/6/2001	28.31	29.62	1.31	1.25	19.00	5781.73
MW03	9/17/2001	28.34	29.62	1.28	1.25	20.25	5781.70
MW03	9/25/2001	28.22	29.48	1.26	1.25	21.50	5781.83
MW03	10/3/2001	28.25	29.47	1.22	1.25	22.75	5781.81
MW03	10/11/2001	28.23	29.50	1.27	1.25	24.00	5781.82
MW03	12/4/2001	28.55	29.89	1.34	1.25	25.25	5781.48
MW03	12/13/2001	28.54	29.89	1.35	1.25	26.50	5781.49
MW03	12/21/2001	28.36	29.63	1.27	1.25	27.75	5781.69
MW03	12/28/2001	28.43	29.68	1.25	1.25	29.00	5781.62
MW03	1/4/2002	28.39	29.63	1.24	1.25	30.25	5781.66
MW03	1/8/2002	28.41	29.59	1.18	1.25	31.50	5781.65
MW03	1/17/2002	28.70	30.00	1.30	1.25	32.75	5781.34

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)
MW03	1/23/2002	28.70	28.71	0.01	1.25	34.00	5781.60
MW03	1/31/2002	28.68	28.70	0.02	2.50	36.50	5781.62
MW03	2/7/2002	28.70	30.00	1.30	1.25	37.75	5781.34
MW03	2/14/2002	27.80	28.80	1.00	1.25	39.00	5782.30
MW03	2/20/2002	28.74	28.76	0.02	1.25	40.25	5781.56
MW03	2/28/2002	28.64	29.82	1.18	1.25	41.50	5781.42
MW03	3/6/2002	28.55	29.72	1.17	1.25	42.75	5781.52
MW03	3/11/2002	28.72	29.90	1.18	1.25	44.00	5781.34
MW03	3/21/2002	28.61	29.82	1.21	1.25	45.25	5781.45
MW03	3/28/2002	28.57	29.74	1.17	1.25	46.50	5781.50
MW03	4/4/2002	28.66	29.84	1.18	1.25	47.75	5781.40
MW03	4/12/2002	28.93	30.28	1.35	1.00	48.75	5781.10
MW03	4/19/2002	28.93	30.25	1.32	1.00	49.75	5781.11
MW03	4/25/2002	28.93	30.24	1.31	1.00	50.75	5781.11
MW03	5/3/2002		28.96	0.00	1.00	51.75	5781.34
MW03	5/15/2002	28.69	29.86	1.17	1.25	53.00	5781.38
MW03	5/24/2002	28.53	29.53	1.00	--	53.00	5781.57
MW03	5/31/2002	28.72	29.96	1.24	1.25	54.25	5781.33
MW03	6/7/2002	28.72	29.91	1.19	1.25	55.50	5781.34
MW03	6/14/2002	28.97	30.31	1.34	0.25	55.75	5781.06
MW03	6/21/2002	29.32	30.54	1.22	1.25	57.00	5780.74
MW03	6/27/2002	29.30	30.65	1.35	1.25	58.25	5780.73
MW03	7/2/2002	29.25	30.56	1.31	1.25	59.50	5780.79
MW03	7/11/2002	29.31	30.66	1.35	1.25	60.75	5780.72
MW03	7/22/2002	29.17	30.54	1.37	1.50	62.25	5780.86
MW03	7/25/2002	29.25	30.40	1.15	1.25	63.50	5780.82
MW03	7/31/2002	29.04	30.38	1.34	1.50	65.00	5780.99
MW03	8/8/2002	29.13	30.15	1.02	0.50	65.50	5780.97
MW03	8/16/2002	29.30	35.25	5.95	2.00	67.50	5779.81
MW03	8/22/2002	28.74	30.07	1.33	1.00	68.50	5781.29
MW03	8/28/2002	28.78	29.75	0.97	--	68.50	5781.33
MW03	9/6/2002	28.98	30.03	1.06	--	68.50	5781.11
MW03	9/10/2002	NA	NA	NA	2.00	70.50	NA
MW03	9/13/2002	28.63	29.29	0.66	--	70.50	5781.54

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)
MW03	9/19/2002	29.42	30.43	1.01	1.00	71.50	5780.68
MW03	9/25/2002	29.40	30.28	0.88	0.25	71.75	5780.72
MW03	10/4/2002	29.34	30.19	0.85	1.50	73.25	5780.79
MW03	10/10/2002	29.45	30.32	0.86	1.50	74.75	5780.67
MW03	10/15/2002	29.50	30.28	0.79	1.50	76.25	5780.65
MW03	10/23/2002	29.66	30.32	0.66	1.50	77.75	5780.51
MW03	10/30/2002	29.32	30.58	1.26	1.25	79.00	5780.73
MW03	11/8/2002	29.36	30.58	1.22	1.50	80.50	5780.70
MW03	11/21/2002	29.45	30.45	1.00	1.50	82.00	5780.65
MW03	12/4/2002	29.48	30.47	0.99	1.75	83.75	5780.62
MW03	12/10/2002	29.48	30.23	0.75	0.75	84.50	5780.67
MW03	12/18/2002	29.38	30.28	0.90	1.00	85.50	5780.74
MW03	12/27/2002	29.45	30.21	0.76	0.50	86.00	5780.70
MW03	1/7/2003	29.45	30.26	0.81	--	86.00	5780.69
MW03	1/22/2003	28.75	29.46	0.71	1.00	87.00	5781.41
MW03	1/29/2003	28.76	29.34	0.58	0.75	87.75	5781.42
MW03	2/5/2003	28.29	28.77	0.48	0.66	88.41	5781.91
MW03	2/12/2003	28.78	29.33	0.55	0.80	89.21	5781.41
MW03	2/20/2003	28.77	29.33	0.56	1.00	90.21	5781.42
MW03	2/28/2003	28.80	29.31	0.51	0.60	90.81	5781.40
MW03	3/2/2003	28.81	29.27	0.46	0.50	91.31	5781.40
MW03	3/6/2003	28.79	29.31	0.52	0.75	92.06	5781.41
MW03	3/19/2003	28.82	29.30	0.48	0.50	92.56	5781.38
MW03	3/26/2003	28.82	29.33	0.51	0.33	92.89	5781.38
MW03	4/2/2003	28.80	29.33	0.53	0.50	93.39	5781.39
MW03	4/10/2003	28.84	29.32	0.48	0.33	93.72	5781.36
MW03	4/18/2003	28.85	29.29	0.44	0.30	94.02	5781.36
MW03	4/28/2003	28.86	29.19	0.33	0.20	94.22	5781.37
MW03	5/7/2003	28.83	29.25	0.42	0.30	94.52	5781.39
MW03	5/13/2003	28.85	29.27	0.42	0.30	94.82	5781.37
MW03	5/21/2003	28.86	29.29	0.43	0.30	95.12	5781.35
MW03	5/27/2003	28.85	29.21	0.36	0.25	95.37	5781.38
MW03	6/3/2003	28.84	29.23	0.39	0.33	95.70	5781.38
MW03	6/9/2003	28.84	29.20	0.36	0.33	96.03	5781.39

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)
MW03	6/16/2003	28.82	29.20	0.38	0.25	96.28	5781.40
MW03	6/19/2003	28.86	29.16	0.30	--	96.28	5781.38
MW03	6/23/2003	28.83	29.23	0.40	0.25	96.53	5781.39
MW03	7/1/2003	29.78	29.85	0.07	0.30	96.83	5780.51
MW03	7/10/2003	29.96	30.39	0.43	--	96.83	5780.25
MW03	7/15/2003	30.12	30.29	0.17	0.40	97.23	5780.15
MW03	7/21/2003	30.11	30.24	0.13	0.40	97.63	5780.16
MW03	7/29/2003	29.89	30.14	0.25	0.40	98.03	5780.36
MW03	8/4/2003	29.62	29.94	0.32	0.36	98.39	5780.62
MW03	8/11/2003	30.02	30.09	0.07	0.86	99.25	5780.27
MW03	8/18/2003	30.01	30.09	0.08	0.59	99.84	5780.27
MW03	8/25/2003	30.00	30.09	0.09	0.53	100.37	5780.28
MW03	9/2/2003	30.03	30.12	0.09	0.49	100.86	5780.25
MW03	9/8/2003	30.05	30.15	0.10	0.38	101.24	5780.23
MW03	9/15/2003	29.97	30.05	0.08	0.47	101.71	5780.31
MW03	9/22/2003	28.70	29.14	0.44	0.33	102.04	5781.51
MW03	9/29/2003	29.95	29.98	0.03	0.73	102.77	5780.34
MW03	10/6/2003	29.94	30.00	0.06	0.31	103.08	5780.35
MW03	10/13/2003	29.89	29.95	0.06	0.42	103.50	5780.40
MW03	10/20/2003	29.80	29.86	0.06	0.38	103.88	5780.49
MW03	10/27/2003	29.80	29.85	0.05	0.59	104.47	5780.49
MW03	11/3/2003	29.80	29.83	0.03	0.16	104.63	5780.49
MW03	11/10/2003	29.65	29.66	0.01	0.16	104.79	5780.65
MW03	11/17/2003	29.31	29.32	0.01	0.03	104.82	5780.99
MW03	11/26/2003	29.31	29.32	0.01	0.01	104.83	5780.99
MW03	1/11/2004	28.36	28.37	0.01	--	104.83	5781.94
MW03	1/16/2004	28.25	28.25	0.00	--	104.83	5782.05
MW03	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.



Lodestar Services, Incorporated

PO Box 4465, Durango, CO 81302 Office (970) 946-1093

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater
Project Manager: Ashley Ager
Client: MWH
Site Name: JF Bell #1E

Date: 03/02/2009

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	#####	-	26.58	-	-	
MW-2		-	25.7	-	-	
MW-3		-	26.75	-	-	
MW-4		-	25.85	-	-	

Comments

Operator: XTO Energy

Reviewed site map (no changes necessary), made site photos

Signature: Ashley L. Ager

Date: 03/02/2009



Lodestar Services, Incorporated

PO Box 4465, Durango, CO 81302 Office (970) 946-1093

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater

Date: 06/03/2009

Project Manager: Ashley Ager

Client: MWH

Site Name: JF Bell #1E

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	9:05 AM	-	26.86	-	-	sample for BTEX
MW-2		-	25.95	-	-	sample for BTEX; duplicate
MW-3		-	26.97	-	-	sample for BTEX
MW-4		-	26.13	-	-	

Comments

Signature: Ashley L. Ager

Date: 06/04/2009



Lodestar Services, Incorporated

PO Box 4465, Durango, CO 81302 Office (970) 946-1093

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater

Date: 08/27/2009

Project Manager: Ashley Ager

Client: MWH

Site Name: JF Bell #1E

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	2:07 PM	-	27.03	-	-	
MW-2		-	25.97	-	-	
MW-3		-	26.99	-	-	
MW-4		-	26.09	-	-	

Comments

Signature: Ashley L. Ager

Date: 08/27/2009



Lodestar Services, Incorporated

PO Box 4465, Durango, CO 81302 Office (970) 946-1093

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater

Date: 11/02/2009

Project Manager: Ashley Ager

Client: MWH

Site Name: JF Bell #1E

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	2:45 PM	-	26.92	-	-	
MW-2		-	25.99	-	-	
MW-3		-	26.13	-	-	
MW-4		-	27.04	-	-	

Comments

Signature: Ashley L. Ager

Date: 11/03/2009



Lodestar Services, Incorporated
PO Box 4465, Durango, CO 81302 Office (970) 946-1093

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: <u>San Juan Basin</u>	Location: <u>JF Bell</u>	Well No: <u>MW-1</u>
Client: <u>MWH</u>	Date: <u>6/3/2009</u>	Time: <u>9:08</u>
Project Manager: <u>Ashley Ager</u>	Sampler's Name: <u>Troy Urban</u>	

Measuring Point: <u>TOC</u>	Depth to Water: <u>26.86</u> ft	Depth to Product: _____ ft
Well Diameter: <u>4"</u>	Total Depth: <u>32.47</u> ft	Product Thickness: _____ ft
Water Column Height: <u>5.61</u> ft		

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other _____
☒ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☒ 3 to 5 Casing Volumes of Water Removal ☒ Stabilization of Indicator Parameters ☒ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
5.61 x .65	3.64 x 3		10.94 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
9:15	4.76	1.59	58.3				1.25	clear
	4.79	1.64	57.2				2.5	light gray
	4.77	1.72	57.9				3.75	light gray
	4.80	1.81	57.2				5	light gray, bailing down
Final:	4.84	1.85	57.6				7.4	light gray, silty, well bailed dry

COMMENTS: Well bailed dry during purging.

Instrumentation: ☒ pH Meter ☐ DO Monitor ☒ Conductivity Meter ☒ Temperature Meter ☐ Other _____

Water Disposal: Rio Vista

Sample ID: MW-1 Sample Time: 9:40

Analysis Requested: ☒ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other _____

Trip Blank: 030609TB01

Duplicate Sample: _____



Lodestar Services, Incorporated
PO Box 4465, Durango, CO 81302 Office (970) 946-1093

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: <u>San Juan Basin</u>	Location: <u>JF Bell</u>	Well No: <u>MW-2</u>
Client: <u>MWH</u>	Date: <u>6/3/2009</u>	Time: <u>9:52</u>
Project Manager: <u>Ashley Ager</u>	Sampler's Name: <u>Troy Urban</u>	

Measuring Point: <u>TOC</u>	Depth to Water: <u>25.95</u> ft	Depth to Product: _____ ft
Well Diameter: <u>4"</u>	Total Depth: <u>34</u> ft	Product Thickness: _____ ft
	Water Column Height: <u>8.05</u> ft	

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other _____
☒ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☒ 3 to 5 Casing Volumes of Water Removal ☒ Stabilization of Indicator Parameters ☒ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
8.05 x .65	5.23 x .65		15.69 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
9:58	6.90	3.36	58.5				1.25	clear
	6.82	3.60	58.1				2.5	clear
	6.84	3.68	57.7				3.75	clear
	6.84	3.81	57.7				5	clear
	6.85	4.07	57.9				10	light gray, silty
	6.80	4.48	57.9				14.25	light brown, silty
	6.82	4.47	57.6				15.5	light brown, silty
Final:	6.8	4.6	57.9				16.75	light brown, silty

COMMENTS:

Instrumentation: ☒ pH Meter ☐ DO Monitor ☒ Conductivity Meter ☒ Temperature Meter ☐ Other _____

Water Disposal: Rio Vista

Sample ID: MW-2 Sample Time: 10:25

Analysis Requested: ☒ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other _____

Trip Blank: 030609TB01

Duplicate Sample: MW-6 at 10:05



Lodestar Services, Incorporated
PO Box 4465, Durango, CO 81302 Office (970) 946-1093

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: <u>San Juan Basin</u>	Location: <u>JF Bell</u>	Well No: <u>MW-3</u>
Client: <u>MWH</u>	Date: <u>6/3/2009</u>	Time: <u>10:44</u>
Project Manager: <u>Ashley Ager</u>	Sampler's Name: <u>Troy Urban</u>	

Measuring Point: <u>TOC</u>	Depth to Water: <u>26.97</u> ft	Depth to Product: _____ ft
Well Diameter: <u>4"</u>	Total Depth: <u>35.92</u> ft	Product Thickness: _____ ft
	Water Column Height: <u>8.95</u> ft	

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other _____
☒ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☒ 3 to 5 Casing Volumes of Water Removal ☒ Stabilization of Indicator Parameters ☒ Other bail dry

Water Volume in Well			
Gal/ft x ft of water	Gallons	Ounces	Volume to be removed
8.95 x .65	5.82 x 3		17.45 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
10:52	6.74	5.77	60.1				1.25	clear, HC odor
	6.73	5.89	59.7				2.5	light gray, sheen, HC odor
	6.72	5.85	59.2				3.75	light gray, sheen, HC odor
	6.68	5.83	59.5				5	light gray, sheen, HC odor
	6.73	5.91	59.2				10	gray, HC odor, bailing down
Final:	6.83	5.99	59.7				13.6	light brown, silty, dry

COMMENTS: Well bailed dry during purging.

Instrumentation: ☒ pH Meter ☐ DO Monitor ☒ Conductivity Meter ☒ Temperature Meter ☐ Other _____

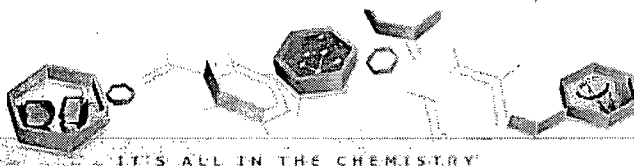
Water Disposal: Rio Vista

Sample ID: MW-3 Sample Time: 11:18

Analysis Requested: ☒ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other _____

Trip Blank: 030609TB01

Duplicate Sample: _____



06/16/09

Technical Report for

Montgomery Watson

San Juan Basin Pit Groundwater Remediation 2008-2009

JF BELL/GCU142

Accutest Job Number: T30413

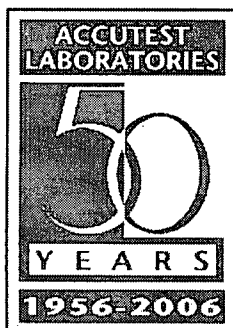
Sampling Dates: 06/02/09 - 06/03/09



Report to:

MWH Americas
1801 California St. Suite 2900
Denver, CO 80202
jed.smith@mwhglobal.com; daniel.a.wade@mwhglobal.com;
craig.moore@mwhglobal.com; ala@lodestarservices.com
ATTN: Jed Smith

Total number of pages in report: 23



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Georgia Jones 713-271-4700

Certifications: TX (T104704220-06-TX) AR (88-0756) FL (E87628), KS (E-10366) LA (85695/04004)
OK (9103) UT(7132714700)

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Test results relate only to samples analyzed.

Table of Contents

Sections:



Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Sample Results	5
3.1: T30413-1: D20609TB01	6
3.2: T30413-2: GCU142E MW-1	7
3.3: T30413-3: JF BELL MW-1	8
3.4: T30413-4: JF BELL MW-6	9
3.5: T30413-5: JF BELL MW-2	10
3.6: T30413-6: JF BELL MW-3	11
Section 4: Misc. Forms	12
4.1: Chain of Custody	13
Section 5: GC Volatiles - QC Data Summaries	17
5.1: Method Blank Summary	18
5.2: Blank Spike Summary	20
5.3: Matrix Spike/Matrix Spike Duplicate Summary	22

Sample Summary

Montgomery Watson

Job No: T30413

San Juan Basin Pit Groundwater Remediation 2008-2009

Project No: JF BELL/GCU142

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T30413-1	06/02/09	06:55 TU	06/04/09	AQ	Trip Blank Water	D20609TB01
T30413-2	06/02/09	11:58 TU	06/04/09	AQ	Ground Water	GCU142E-MW-1
T30413-3	06/03/09	09:40 TU	06/04/09	AQ	Ground Water	JF BELL MW-1
T30413-4	06/03/09	10:05 TU	06/04/09	AQ	Ground Water	JF BELL MW-6
T30413-5	06/03/09	10:25 TU	06/04/09	AQ	Ground Water	JF BELL MW-2
T30413-6	06/03/09	11:18 TU	06/04/09	AQ	Ground Water	JF BELL MW-3

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson

Job No T30413

Site: San Juan Basin Pit Groundwater Remediation 2008-2009

Report Date 6/12/2009 4:58:02 PM

5 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on between 06/02/2009 and 06/03/2009 and were received at Accutest on 06/04/2009 properly preserved, at 2.8 Deg. C and intact. These Samples received an Accutest job number of T30413. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GC By Method SW846 8021B

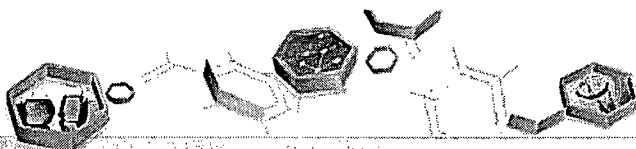
Matrix AQ	Batch ID: GKK1500
------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T30595-IMS, T30595-IMSD were used as the QC samples indicated.
- Sample(s) T30744-IMS, T30744-IMSD have surrogates outside control limits. Probable cause due to matrix interference.

Matrix AQ	Batch ID: GKK1501
------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T30744-IMS, T30744-IMSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Ethylbenzene, Toluene are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Toluene are outside control limits. Probable cause due to matrix interference.
- Sample(s) T30744-IMS, T30744-IMSD have surrogates outside control limits. Probable cause due to matrix interference.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	D20609TB01	Date Sampled:	06/02/09
Lab Sample ID:	T30413-1	Date Received:	06/04/09
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	San Juan Basin Pit Groundwater Remediation 2008-2009		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK031208.D	1	06/09/09	FI	n/a	n/a	GKK1500
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	78%		58-125%
98-08-8	aaa-Trifluorotoluene	86%		73-139%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis



Client Sample ID:	GCU142E MW-1	Date Sampled:	06/02/09
Lab Sample ID:	T30413-2	Date Received:	06/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	San Juan Basin Pit Groundwater Remediation 2008-2009		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK031217.D	1	06/09/09	FI	n/a	n/a	GKK1500
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	35.3	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	0.75	1.0	0.35	ug/l	J
1330-20-7	Xylenes (total)	1.4	2.0	0.55	ug/l	J
95-47-6	o-Xylene	0.67	1.0	0.55	ug/l	J
	m,p-Xylene	0.68	1.0	0.66	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	78%		58-125%
98-08-8	aaa-Trifluorotoluene	88%		73-139%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JF BELL MW-1	Date Sampled:	06/03/09
Lab Sample ID:	T30413-3	Date Received:	06/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	San Juan Basin Pit Groundwater Remediation 2008-2009		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK031221.D	250	06/09/09	FI	n/a	n/a	GKK1500
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	7120	250	52	ug/l	
108-88-3	Toluene	25200	250	56	ug/l	
100-41-4	Ethylbenzene	1270	250	87	ug/l	
1330-20-7	Xylenes (total)	13800	500	140	ug/l	
95-47-6	o-Xylene	3040	250	140	ug/l	
	m,p-Xylene	10700	250	170	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	83%		58-125%
98-08-8	aaa-Trifluorotoluene	89%		73-139%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3

Client Sample ID:	JF BELL MW-6	Date Sampled:	06/03/09
Lab Sample ID:	T30413-4	Date Received:	06/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	San Juan Basin Pit Groundwater Remediation 2008-2009		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK031218.D	1	06/09/09	FI	n/a	n/a	GKK1500
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.45	1.0	0.21	ug/l	J
108-88-3	Toluene	2.1	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	1.5	2.0	0.55	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	1.5	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		58-125%
98-08-8	aaa-Trifluorotoluene	90%		73-139%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JF BELL MW-2	Date Sampled:	06/03/09
Lab Sample ID:	T30413-5	Date Received:	06/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	San Juan Basin Pit Groundwater Remediation 2008-2009		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK031219.D	1	06/09/09	FI	n/a	n/a	GKK1500
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.30	1.0	0.21	ug/l	J
108-88-3	Toluene	1.1	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	0.84	2.0	0.55	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	0.84	1.0	0.66	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	79%		58-125%
98-08-8	aaa-Trifluorotoluene	86%		73-139%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: JF BELL MW-3

Lab Sample ID: T30413-6

Date Sampled: 06/03/09

Matrix: AQ - Ground Water

Date Received: 06/04/09

Method: SW846 8021B

Percent Solids: n/a

Project: San Juan Basin Pit Groundwater Remediation 2008-2009

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK031253.D	25	06/10/09	FI	n/a	n/a	GKK1501
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

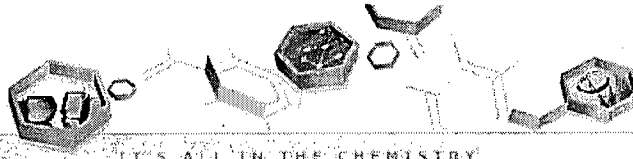
Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	549	25	5.2	ug/l	
108-88-3	Toluene	ND	25	5.6	ug/l	
100-41-4	Ethylbenzene	750	25	8.7	ug/l	
1330-20-7	Xylenes (total)	7320	50	14	ug/l	
95-47-6	o-Xylene	43.7	25	14	ug/l	
	m,p-Xylene	7280	25	17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	88%		58-125%
98-08-8	aaa-Trifluorotoluene	92%		73-139%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

Page 2 of 2

10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

FED-EX Tracking # 8693 8850 8197		Bottle Order Control #	
Accutest Quote #		Accutest Job #	
Client / Reporting Information		Project Information	
Company Name MWH		Project Name / No. JF Bell / GCUP#2	
Project Contact Jed Smith E-Mail jed.smith@mwhglobal.com		Bill to Ei Paso Corp Invoice Attn. Norma Ramos	
Address 1801 California Street, Suite 2900 City Denver State CO Zip 80202		Address 1001 Louisiana Street, Rm S1904B City Hou State TX Zip 77002	
Phone No. 303-291-2276 Fax No.		Phone No. Fax No.	
Sampler's Name Troy Urban		Client Purchase Order # West-ALAB-Ground Rem-007	
Collection		Number of preserved bottles	
Accutest Sample #	Field ID / Point of Collection	Date	Time
3	JF Bell MW-1	060309	0940 GW
4	JF Bell MW-6	060309	1005 GW
5	JF Bell MW-2	060309	1025 GW
6	JF Bell MW-3	060309	1118 GW
		Matrix	# of bottles
		GW	3
		SL	3
		LIQ	3
		Other	3
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		GW	3
		SL	3
		LIQ	3
		Other	3
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		LIQ	3
		Other	3
		Matrix	# of bottles
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		Matrix	# of bottles
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		SL	3
		LIQ	3
		Other	3
		Matrix	# of bottles
		GW	3
		SL	3

SAMPLE INSPECTION FORM

Accutest Job Number: T30413 Client: MWH Date/Time Received: 6-4-9 9:15
 # of Coolers Received: 1 Thermometer #: 110 Temperature Adjustment Factor: -0.3
 Cooler Temps: #1: 2.8°C #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____
 Method of Delivery: FEDEX UPS Accutest Courier Greyhound Delivery Other _____
 Airbill Numbers: _____

COOLER INFORMATION
☐ Custody seal missing or not intact
☐ Temperature criteria not met
☐ Wet ice received in cooler

CHAIN OF CUSTODY
☐ Chain of Custody not received
☐ Sample D/T unclear or missing
☐ Analyses unclear or missing
☐ COC not properly executed

SAMPLE INFORMATION
☐ Sample containers received broken
☐ VOC vials have headspace
☐ Sample labels missing or illegible
☐ ID on COC does not match label(s)
☐ D/T on COC does not match label(s)
☐ Sample/Bottles recd but no analysis on COC
☐ Sample listed on COC, but not received
☐ Bottles missing for requested analysis
☐ Insufficient volume for analysis
☐ Sample received improperly preserved

TRIP BLANK INFORMATION
☐ Trip Blank on COC but not received
☐ Trip Blank received but not on COC
☐ Trip Blank not intact
☐ Received Water Trip Blank
☐ Received Soil TB

Number of Encores? _____
 Number of 5035 kits? _____
 Number of lab-filtered metals? _____

Summary of Discrepancies:

TECHNICIAN SIGNATURE/DATE: [Signature] 6-4-9

INFORMATION AND SAMPLE LABELING VERIFIED BY: [Signature] 06/04/09

CORRECTIVE ACTIONS

Client Representative Notified: _____

Date: _____

By Accutest Representative: _____

Via: _____

Phone _____

Email _____

Client Instructions:

L:\nw\en\enforms\samplemanagement

T30413: Chain of Custody

Page 3 of 4

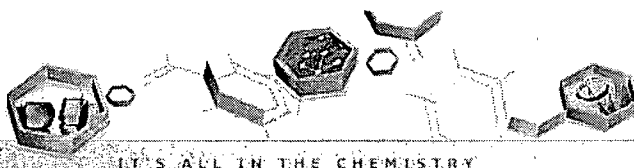
CHAIN OF CUSTODY LOG

JOB #: T30413 DATE/TIME RECEIVED: 6-4-9 9:15
 CLIENT: MWH INITIALS: EC

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	Trip Blank	—	—	4m1	1-2	VR	1 2 3 4 5 6 7 8	<2 >12
	2	GCW 142 E MW-1	6-2-9 1158	w	4m1	1-3	VR	1 2 3 4 5 6 7 8	<2 >12
	3	JF BELL MW-1	6-2-9 949				VR	1 2 3 4 5 6 7 8	<2 >12
	4		-6	1025				1 2 3 4 5 6 7 8	<2 >12
	5		-2	1025				1 2 3 4 5 6 7 8	<2 >12
	6		-3	1110				1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
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								1 2 3 4 5 6 7 8	<2 >12
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								1 2 3 4 5 6 7 8	<2 >12

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NaOH 6: DI 7: MeOH 8: Other
 LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer
 Rev 8/13/01 ewp

4.1
4



GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: T30413

Account: MWHCODE Montgomery Watson

Project: San Juan Basin Pit Groundwater Remediation 2008-2009

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1500-MB	KK031207.D 1		06/09/09	FI	n/a	n/a	GKK1500

The QC reported here applies to the following samples:

Method: SW846 8021B

T30413-1, T30413-2, T30413-3, T30413-4, T30413-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	78% 58-125%
98-08-8	aaa-Trifluorotoluene	85% 73-139%

Method Blank Summary

Page 1 of 1

Job Number: T30413

Account: MWHCODE Montgomery Watson

Project: San Juan Basin Pit Groundwater Remediation 2008-2009

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1501-MB	KK031240.D 1		06/10/09	FI	n/a	n/a	GKK1501

The QC reported here applies to the following samples:

Method: SW846 8021B

T30413-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.55	ug/l	
95-47-6	o-Xylene	ND	1.0	0.55	ug/l	
	m,p-Xylene	ND	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	77% 58-125%
98-08-8	aaa-Trifluorotoluene	85% 73-139%

Blank Spike Summary

Page 1 of 1

Job Number: T30413

Account: MWHCODE Montgomery Watson

Project: San Juan Basin Pit Groundwater Remediation 2008-2009

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1500-BS	KK031203.D 1		06/09/09	FI	n/a	n/a	GKK1500

The QC reported here applies to the following samples:

Method: SW846 8021B

T30413-1, T30413-2, T30413-3, T30413-4, T30413-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	18.9	95	86-121
100-41-4	Ethylbenzene	20	18.4	92	81-116
108-88-3	Toluene	20	18.9	95	87-117
1330-20-7	Xylenes (total)	60	54.4	91	85-115
95-47-6	o-Xylene	20	18.2	91	87-116
	m,p-Xylene	40	36.2	91	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	81%	58-125%
98-08-8	aaa-Trifluorotoluene	87%	73-139%

5.2.1

5

Blank Spike Summary

Page 1 of 1

Job Number: T30413

Account: MWHCODE Montgomery Watson

Project: San Juan Basin Pit Groundwater Remediation 2008-2009

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1501-BS	KK031236.D 1		06/10/09	FI	n/a	n/a	GKK1501

The QC reported here applies to the following samples:

Method: SW846 8021B

T30413-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	17.6	88	86-121
100-41-4	Ethylbenzene	20	17.5	88	81-116
108-88-3	Toluene	20	17.7	89	87-117
1330-20-7	Xylenes (total)	60	51.9	87	85-115
95-47-6	o-Xylene	20	17.3	87	87-116
	m,p-Xylene	40	34.6	87	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	81%	58-125%
98-08-8	aaa-Trifluorotoluene	85%	73-139%

5.2.2

5

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T30413

Account: MWHCODE Montgomery Watson

Project: San Juan Basin Pit Groundwater Remediation 2008-2009

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T30595-1MS	KK031213.D1		06/09/09	FI	n/a	n/a	GKK1500
T30595-1MSD	KK031214.D1		06/09/09	FI	n/a	n/a	GKK1500
T30595-1	KK031209.D1		06/09/09	FI	n/a	n/a	GKK1500

The QC reported here applies to the following samples:

Method: SW846 8021B

T30413-1, T30413-2, T30413-3, T30413-4, T30413-5

CAS No.	Compound	T30595-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.0 U		20	20.4	102	20.3	102	0	86-121/19
100-41-4	Ethylbenzene	1.0 U		20	20.1	101	20.3	102	1	81-116/14
108-88-3	Toluene	1.0 U		20	20.6	103	20.5	103	0	87-117/16
1330-20-7	Xylenes (total)	2.0 U		60	59.0	98	59.7	100	1	85-115/12
95-47-6	o-Xylene	1.0 U		20	19.5	98	19.8	99	2	87-116/16
	m,p-Xylene	1.0 U		40	39.5	99	39.9	100	1	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T30595-1	Limits
460-00-4	4-Bromofluorobenzene	84%	82%	80%	58-125%
98-08-8	aaa-Trifluorotoluene	90%	86%	87%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T30413

Account: MWHCODE Montgomery Watson

Project: San Juan Basin Pit Groundwater Remediation 2008-2009

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T30744-1MS	KK031246.D 1		06/10/09	FI	n/a	n/a	GKK1501
T30744-1MSD	KK031247.D 1		06/10/09	FI	n/a	n/a	GKK1501
T30744-1	KK031241.D 1		06/10/09	FI	n/a	n/a	GKK1501

The QC reported here applies to the following samples:

Method: SW846 8021B

T30413-6

CAS No.	Compound	T30744-1 ug/l	Spike Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	4.1	20	26.9	114	26.0	110	3		86-121/19
100-41-4	Ethylbenzene	1.7	20	26.2	123*	24.8	116	5		81-116/14
108-88-3	Toluene	1.0 U	20	24.7	124*	24.2	121*	2		87-117/16
1330-20-7	Xylenes (total)	3.5	60	70.1	111	69.2	110	1		85-115/12
95-47-6	o-Xylene	1.7	20	23.9	111	23.7	110	1		87-116/16
	m,p-Xylene	1.8	40	46.2	111	45.5	109	2		84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T30744-1	Limits
460-00-4	4-Bromofluorobenzene	91%	91%	88%	58-125%
98-08-8	aaa-Trifluorotoluene	156%* a	153%* a	133%	73-139%

(a) Outside control limits due to matrix interference.