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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.

elpaso MWH

MWH

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:

Volume	Location Type
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)

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3R213

EPTPC GROUNDWATER SITES
2009 ANNUAL GROUNDWATER REPORT

Lat 0-21 Line Drip
Meter Code: LD151

SITE DETAILS

Legal Description:	**Town:**	30N	**Range:**	9W	**Sec:** 12	**Unit:**	O
NMOCD Haz Ranking:	40	**Land Type:**	Federal	**Operator:**	Enterprise		

PREVIOUS ACTIVITIES

Site Assessment:	1/95	**Excavation:**	1/95	**Soil Boring:**	10/95
Monitor Well:	10/95	**Geoprobe:**	11/96	**Additional MWs:**	7/00
Downgradient MWs:	7/00	**Replace MW:**	NA	**Quarterly Initiated:**	11/96
ORC Nutrient Injection:	NA	**Re-Excavation:**	NA	**PSH Removal Initiated:**	NA
Annual Initiated:	5/97	**Quarterly Resumed:**	4/08	**PSH Removal in 2009?**	No

SUMMARY OF 2009 ACTIVITIES

MW-1: Quarterly groundwater sampling and water level monitoring was performed through July 2009.

MW-2: Confirmation sampling of the groundwater was performed in July 2009. Quarterly water level monitoring was performed through July 2009.

MW-3: Confirmation sampling of the groundwater was performed in July 2009. Quarterly water level monitoring was performed through 2009.

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

SITE MAPS

Site maps (January, April, and July) are attached as Figures 1, 2, and 3.

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 4 through 6.
- Historic free-product recovery data are summarized in Table 2 and presented graphically in Figures 4 and 6. Free-product has not been recovered from the Site since 2002.

- The 2009 laboratory reports are 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

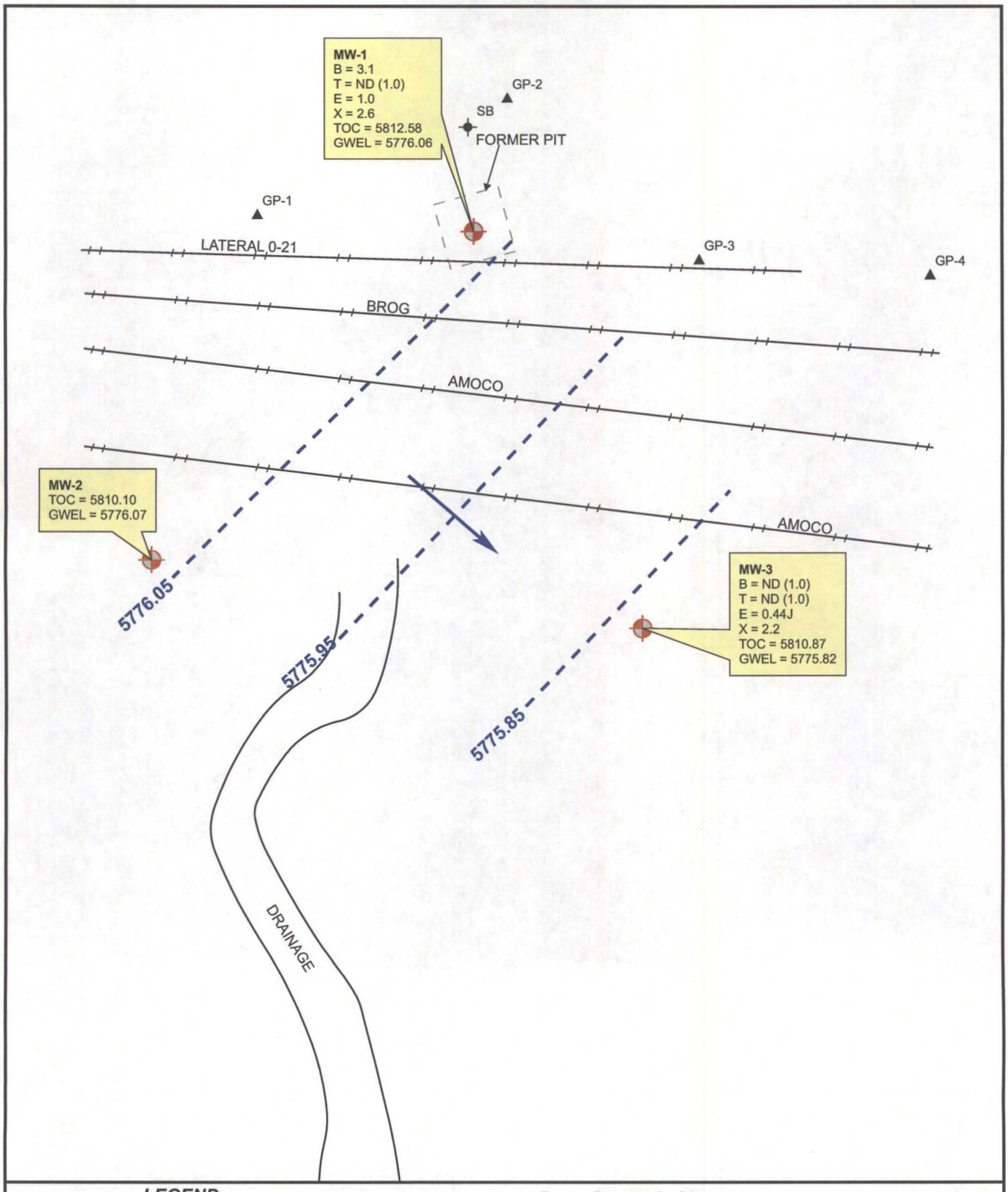
No isoconcentration maps were prepared for this Site; however, the attached Site maps present the water level and analytical data collected during 2009.

RESULTS

- Groundwater flow has historically been to the southeast.
- The three quarterly groundwater samples from MW-1 met the NMWQCC standards. As of July 2009, the groundwater in MW-1 has attained four consecutive clean quarters of sampling.
- The confirmatory samples collected from MW-2 and MW-3 in July 2009 met the NMWQCC standards for BTEX.
- Sustained site-wide decreases in BTEX concentrations provide evidence that natural attenuation has occurred at the Site.

RECOMMENDATIONS

- The groundwater sampling data from MW-1, MW-2, and MW-3 have now met the closure criteria set forth for the site. As reported in the 2006 Annual Report, sampling of the groundwater at location GP-2 showed evidence of residual impacts north of the former El Paso pit (benzene concentration of 206 µg/L). EPTPC recommends installing a temporary monitoring well at the GP-2 location. If the results show that the residual impacts have now attenuated to below the NMWQCC standards, then EPTPC recommends that the site be closed. If the sample results exceed the standards, then EPTPC will propose appropriate additional steps.



LEGEND

MW-4	Existing Monitoring / Observation Well
→	Groundwater Flow Direction
—1275—	Potentiometric Surface Contour (Inferred Where Dashed)
ND	Not Detected; Reporting Limit Shown In Parenthesis

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)
J	Result Flagged as Estimated

N

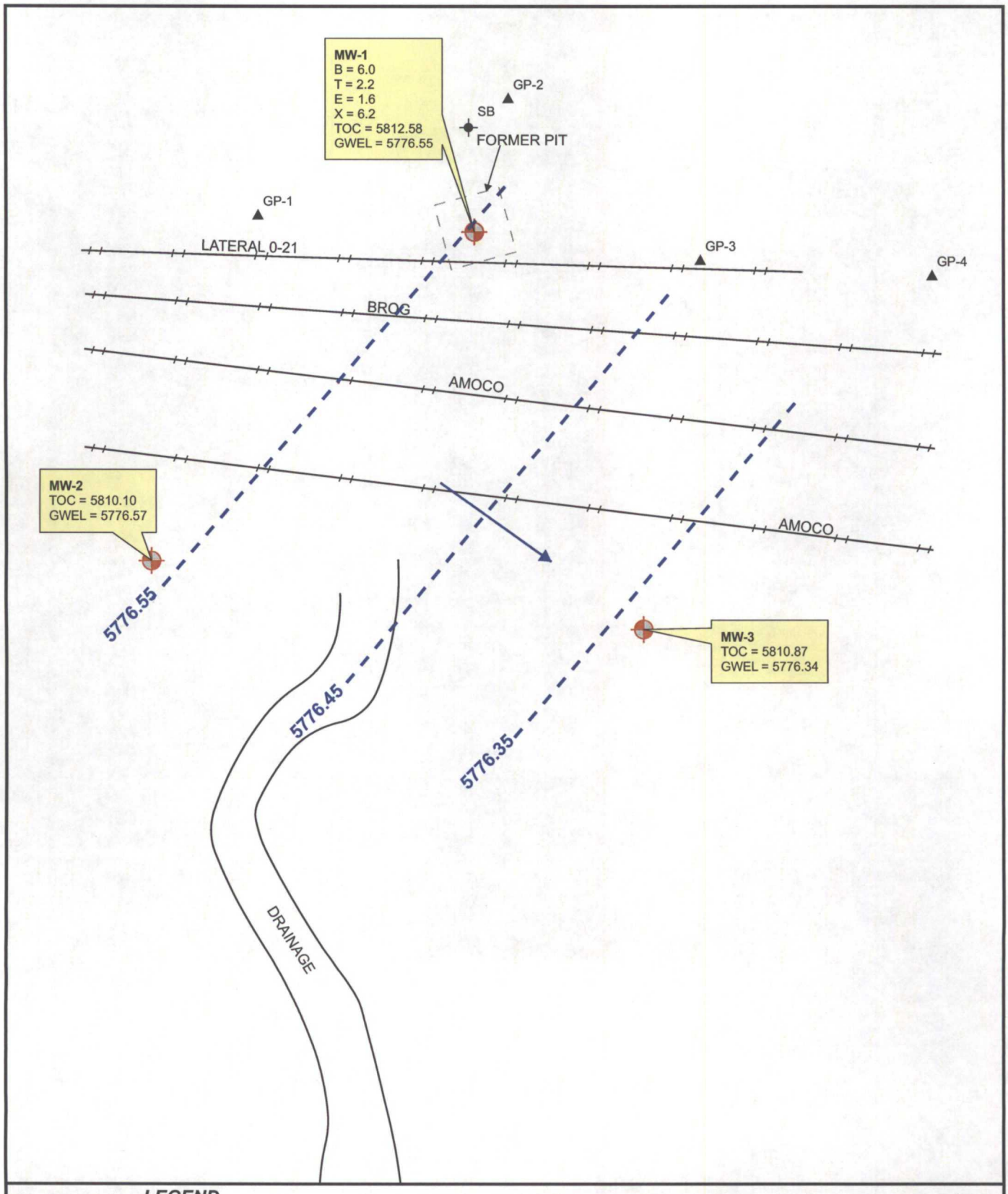
0 30 Feet

MWH elpaso

PROJECT: LATERAL 0-21 Line Drip

TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - January 7, 2009

FIGURE: 1



LEGEND

MW-4	Existing Monitoring / Observation Well	B	Benzene (ug/L)
→	Groundwater Flow Direction	T	Toluene (ug/L)
—1275—	Potentiometric Surface Contour (Inferred Where Dashed)	E	Ethylbenzene (ug/L)
ND	Not Detected; Reporting Limit Shown In Parenthesis	X	Total Xylenes (ug/L)
		TOC	Top of Casing (ft. AMSL)
		GWEL	Groundwater Elevation (ft. AMSL)

N

0 30 Feet

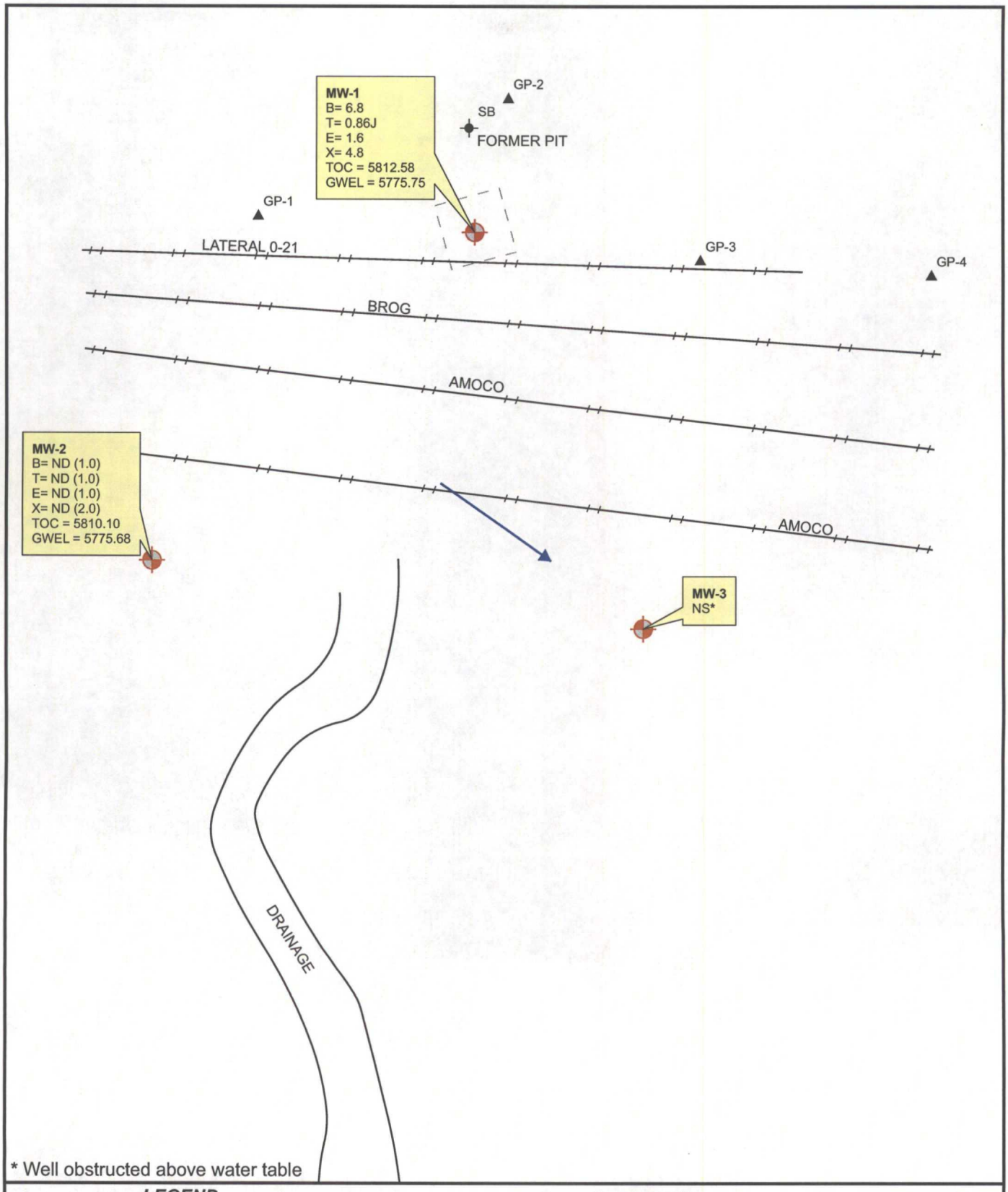
MWH

elpaso

PROJECT: LATERAL 0-21 Line Drip

TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - April 6, 2009

FIGURE: 2



* Well obstructed above water table

LEGEND

MW-4	Existing Monitoring / Observation Well
→	Groundwater Flow Direction (Historic)
ND	Not Detected; Reporting Limit Shown In Parenthesis
NS	Not Sampled

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)
J	Result Flagged as Estimated

N

0 30 Feet

MWH

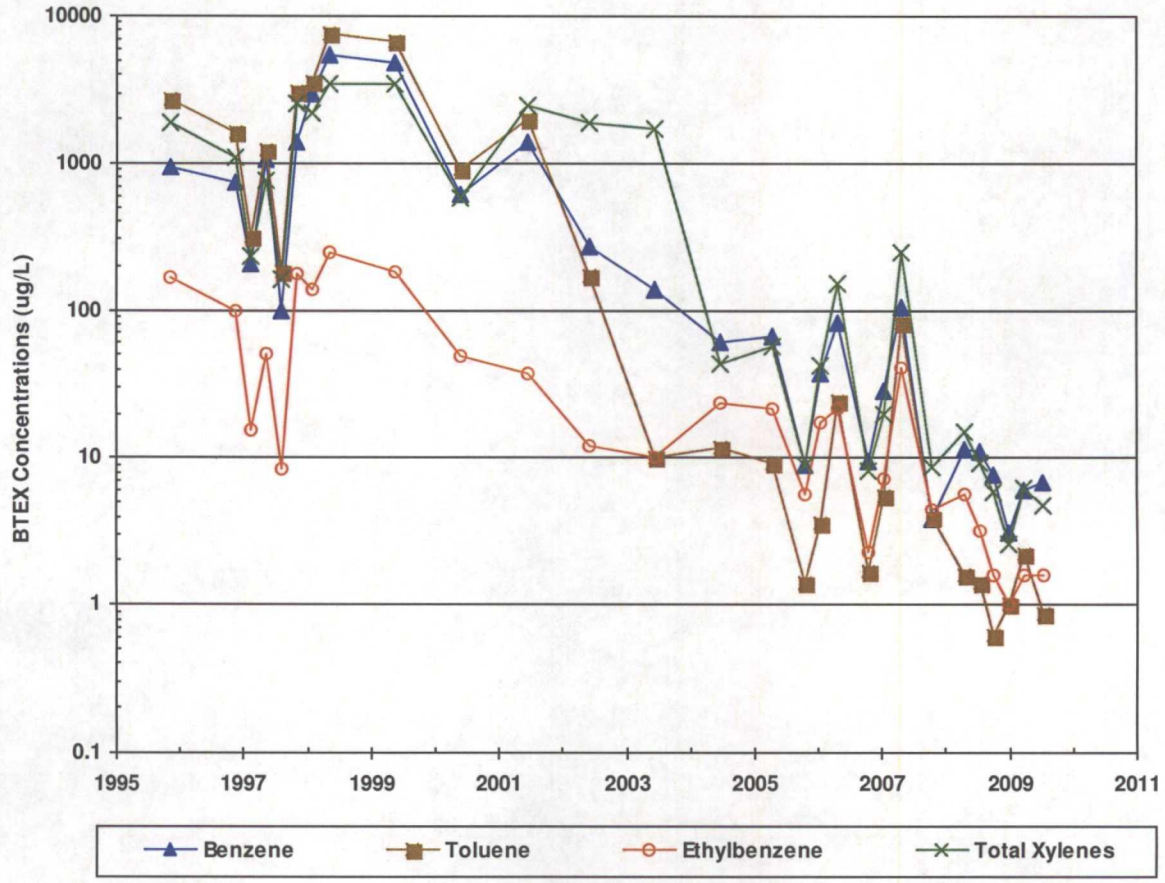
elpaso

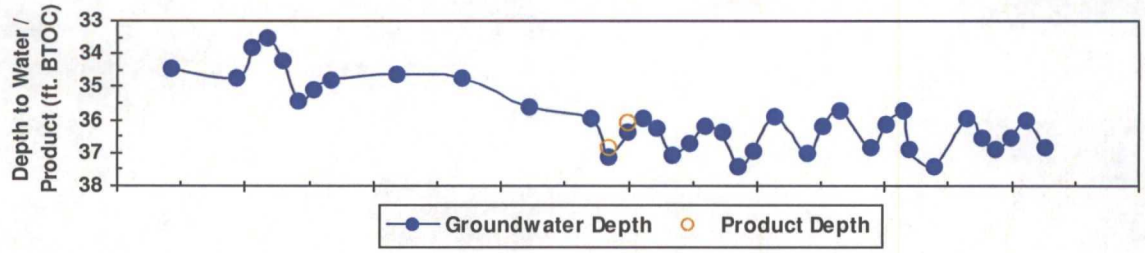
PROJECT: LATERAL 0-21 Line Drip

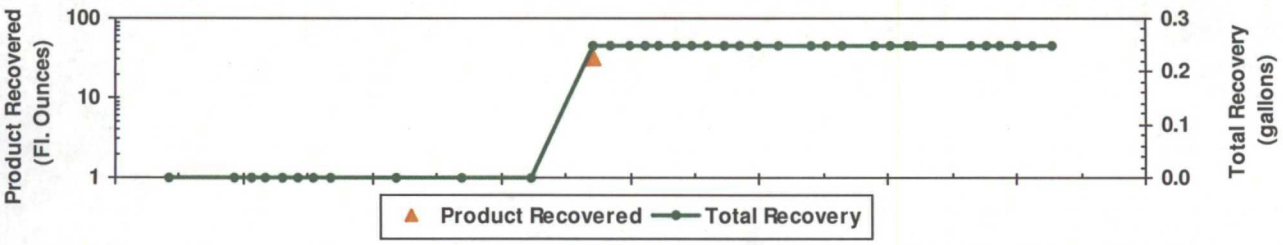
TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - July 27, 2009

FIGURE: 3

FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
LAT 0-21 LINE DRIP (METER #LD151)
MW01







**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
LAT 0-21 LINE DRIP (METER #LD151)
MW02

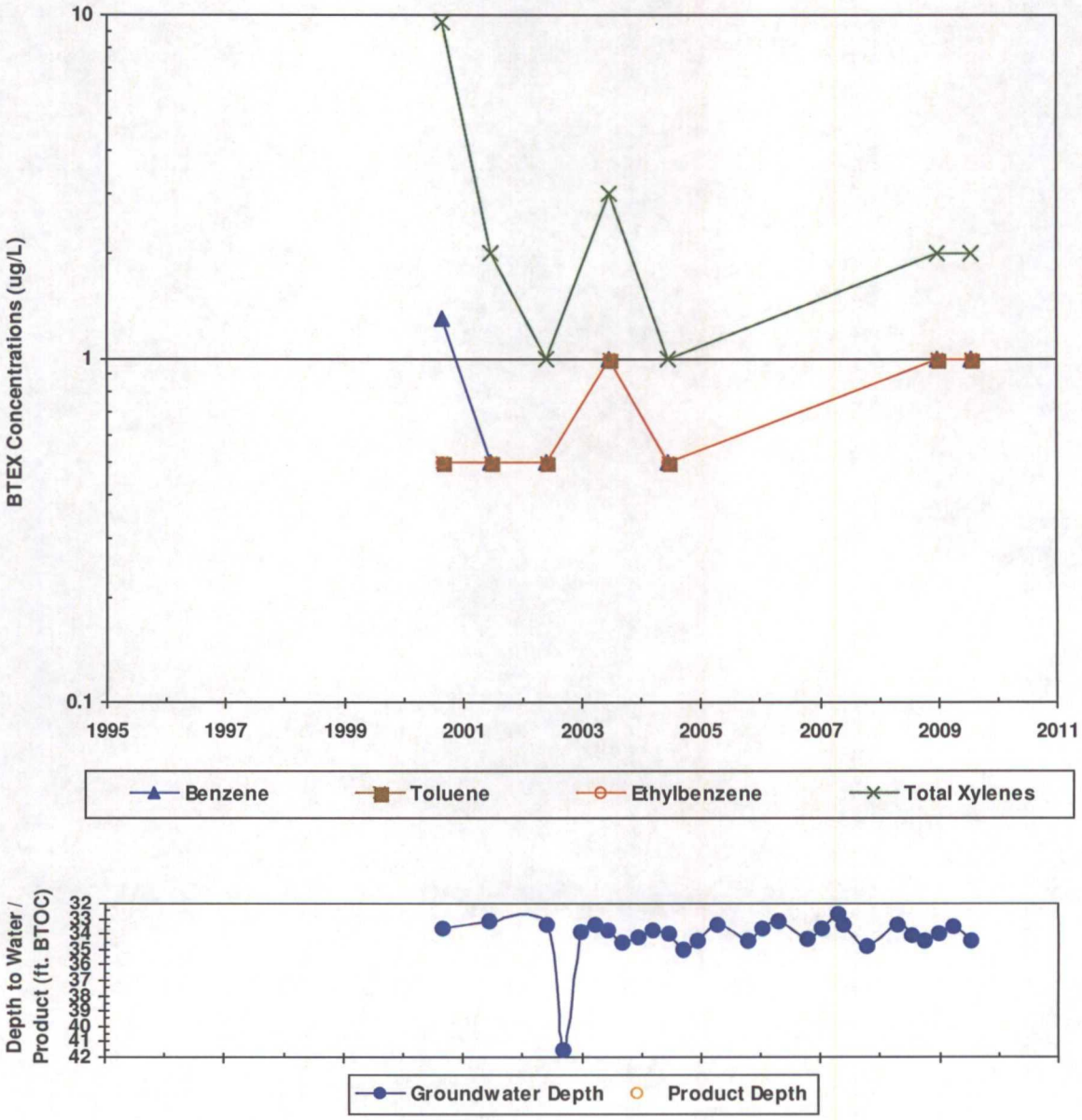
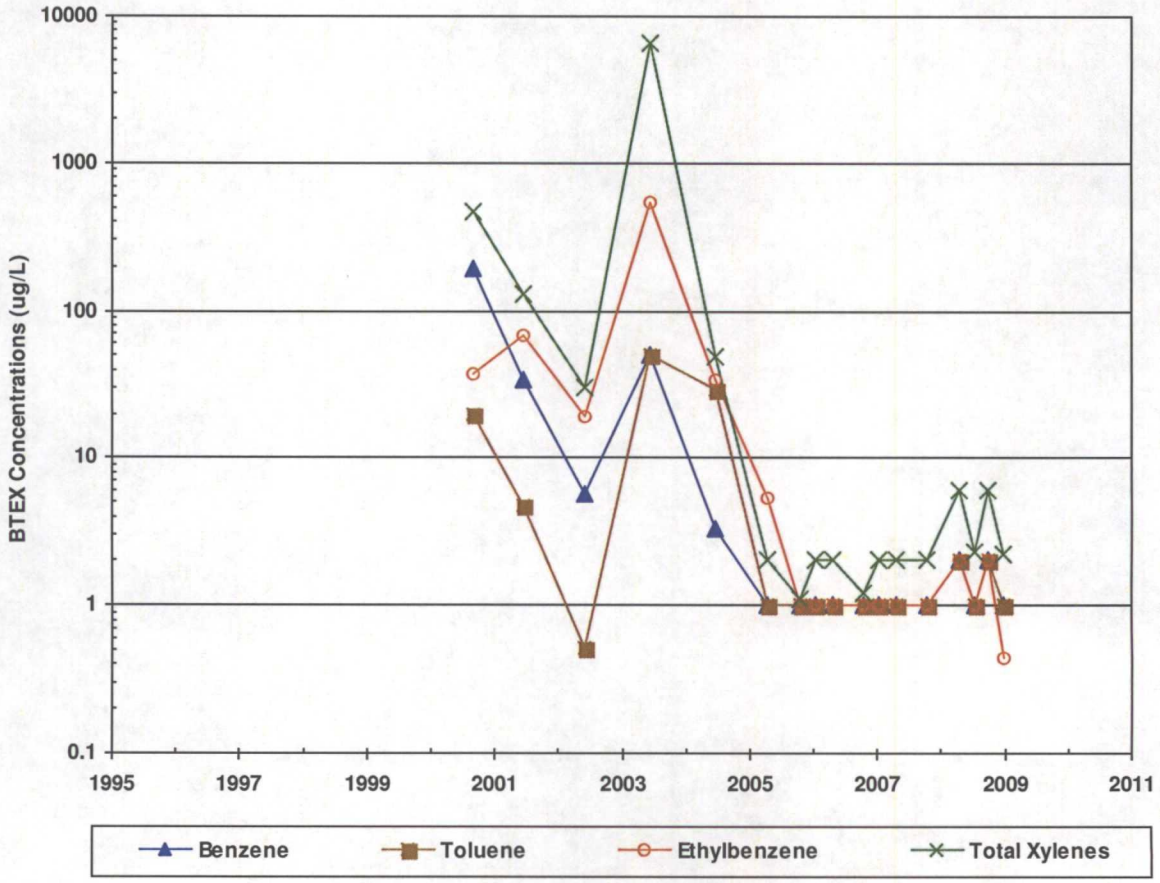
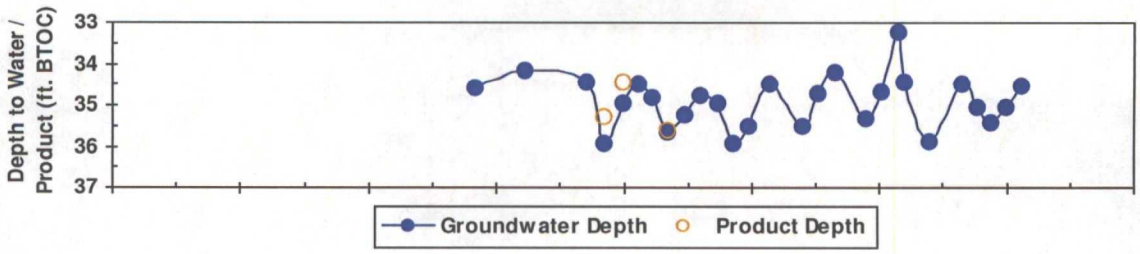
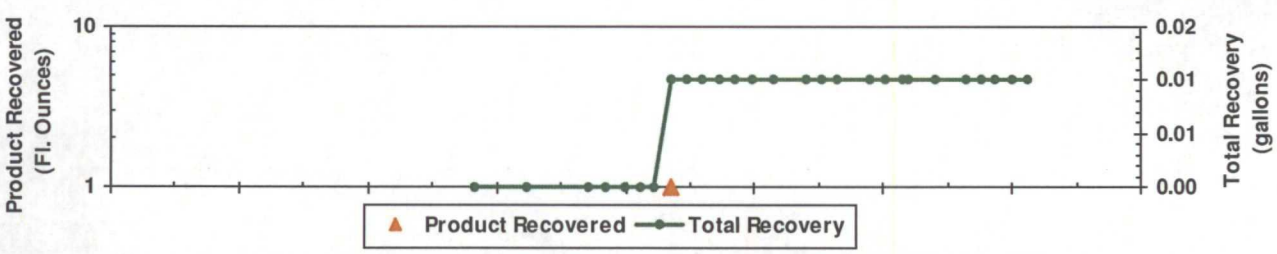


FIGURE 6
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
LAT 0-21 LINE DRIP (METER #LD151)
MW03







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

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
LAT 0-21 LINE DRIP (METER #LD151)

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	11/6/1995	**935**	**2700**	168	**1890**	34.45	5778.13
MW01	11/12/1996	**741**	**1620**	99	**1100**	34.75	5777.83
MW01	2/11/1997	**202**	313	15.6	230	33.82	5778.76
MW01	5/8/1997	**1050**	**1220**	50.8	**764**	33.54	5779.04
MW01	8/5/1997	**99.5**	179	8.42	160	34.20	5778.38
MW01	11/4/1997	**1370**	**3040**	174	**2530**	35.42	5777.16
MW01	2/3/1998	**3000**	**3600**	138	**2180**	35.08	5777.50
MW01	5/7/1998	**5380**	**7500**	247	**3500**	34.83	5777.75
MW01	5/18/1999	**4860**	**6810**	183	**3450**	34.64	5777.94
MW01	5/26/2000	**620**	**900**	49	580	34.76	5777.82
MW01	6/18/2001	**1400**	**2000**	37	**2500**	35.60	5776.98
MW01	6/4/2002	**270**	170	12	**1900**	35.98	5776.60
MW01	6/18/2003	**137**	<10	<10	**1730**	36.26	5776.32
MW01	6/23/2004	**59.9**	11.8	23.8	44.1	36.38	5776.20
MW01	4/18/2005	**66.6**	9.3	21.5	56.5	35.93	5776.65
MW01	10/22/2005	8.9	1.4	5.6	9.1	36.99	5775.59
MW01	1/19/2006	**37.6**	3.6	17.4	42.0	36.18	5776.40
MW01	4/24/2006	**81.4**	24.5	21.8	152	35.71	5776.87
MW01	10/24/2006	9.4	1.7	2.3	8.2	36.81	5775.77
MW01	1/19/2007	**28.7**	5.5	7.3	19.8	36.14	5776.44
MW01	4/24/2007	**104**	82.1	41.0	244	35.73	5776.85
MW01	10/25/2007	3.8	4.0	4.4	8.8	37.39	5775.19
MW01	4/21/2008	**11.6**	1.6J	5.7	15.1	35.97	5776.61
MW01	7/23/2008	**11.2**	1.4	3.2	9.3	36.55	5776.03
MW01	10/8/2008	7.6	0.61J	1.6J	5.8J	36.88	5775.70
MW01	1/7/2009	3.1	<1.0	1.0	2.6	36.52	5776.06
MW01	4/6/2009	6.0	2.2	1.6	6.2	36.03	5776.55
MW01	7/27/2009	6.8	0.86J	1.6	4.8	36.83	5775.75
MW02	8/30/2000	1.3	<0.5	<0.5	9.5	33.62	5776.48
MW02	6/18/2001	<0.5	<0.5	<0.5	2	33.16	5776.94
MW02	6/4/2002	<0.5	<0.5	<0.5	<1.0	33.42	5776.68
MW02	6/18/2003	<1.0	<1.0	<1.0	<3.0	33.80	5776.30
MW02	6/23/2004	<0.5	<0.5	<0.5	<1.0	33.92	5776.18
MW02	1/7/2009	<1.0	<1.0	<1.0	<2.0	34.03	5776.07

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
LAT 0-21 LINE DRIP (METER #LD151)

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		
MW02	7/27/2009	<1.0	<1.0	<1.0	<2.0	34.42	5775.68
MW03	8/30/2000	**190**	20	37	460	34.56	5776.31
MW03	6/18/2001	**34**	4.7	68	130	34.14	5776.73
MW03	6/4/2002	5.7	0.52	19	30	34.42	5776.45
MW03	6/18/2003	<50	<50	540	**6490**	34.80	5776.07
MW03	6/23/2004	3.3	28.9	34	48.4	34.95	5775.92
MW03	4/18/2005	<1.0	<1.0	5.3	<2.0	34.48	5776.39
MW03	10/22/2005	<1.0	<1.0	<1.0	1.1	35.52	5775.35
MW03	1/19/2006	<1.0	<1.0	<1.0	<2.0	34.71	5776.16
MW03	4/24/2006	<1.0	<1.0	<1.0	<2.0	34.23	5776.64
MW03	10/24/2006	<1.0	<1.0	<1.0	1.2J	35.33	5775.54
MW03	1/19/2007	<1.0	<1.0	<1.0	<2.0	34.66	5776.21
MW03	4/24/2007	<1.0	<1.0	<1.0	<2.0	33.25	5777.62
MW03	10/25/2007	<1.0	<1.0	<1.0	<2.0	35.88	5774.99
MW03	4/21/2008	<2.0	<2.0	<2.0	<6.0	34.50	5776.37
MW03	7/23/2008	<1.0	<1.0	<1.0	2.3	35.06	5775.81
MW03	10/8/2008	<2.0	<2.0	<2.0	<6.0	35.41	5775.46
MW03	1/7/2009	<1.0	<1.0	0.44J	2.2	35.05	5775.82

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
LAT 0-21 LINE DRIP (METER #LD151)

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	6/4/2002	--	35.98	0.00	0.25	0.25	5776.60
MW01	9/10/2002	36.85	37.15	0.30	--	0.25	5775.67
MW01	12/30/2002	36.08	36.39	0.31	--	0.25	5776.44
MW03	9/10/2002	35.28	35.92	0.63	--	0.00	5775.46
MW03	12/30/2002	34.42	34.97	0.55	--	0.00	5776.34
MW03	9/16/2003	35.62	35.64	0.02	0.01	0.01	5775.25

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 **Date:** 04/06/2009
Project Manager: Ashley Ager
Client: MWH
Site Name: Lat O-21

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	1:00 PM	-	36.03	-	-	sampled for BTEX
MW-2		-	33.53	-	-	
MW-3		-	34.53	-	-	

Comments
Took pictures and checked site map (no revisions required)

Signature: *Ashley L. Ager* Date: 04/06/2009

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Lat O-21 | Well No: MW-1
Client: MWH | Date: 4/6/2009 | Time: 13:18
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 36.03 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 46.46 ft | Product Thickness: ft
Water Column Height: 10.43 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
10.43 x .65	6.78 x 3		20.3 gal

Time (military)	pH (su)	SC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
13:28	6.87	2.37	61.0				1.25	clear
	6.91	2.52	60.6				2.5	clear
	7.01	2.54	60.6				3.75	clear
	7.01	2.70	60.4				5	clear
	7.06	2.68	60.4				10	clear
	7.03	2.70	60.4				15	clear
	7.10	2.66	60.4				18.5	clear
	7.11	2.77	60.4				19.75	
Final:	7.11	2.71	60.6				21	clear

COMMENTS:

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-1 | Sample Time: 13:50

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

Trip Blank: 06042009TB02 | Duplicate Sample:

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: SJB Groundwater Client: MWH/EL Paso
Location: Lat O-21 Well No: MW-3 Development **Sampling**
Project Manager ALA Date 01/07/09 Start Time 1002 Weather foggy, 20
Depth to Water 35.05 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 1.20 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

	Water Volume in Well		
Gal/ft x ft of water	Gallons	Ounces	**Gal**/oz to be removed
1.20 x .16	0.19 x 3		0.57

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal)	Comments/ Flow rate
1011	**7.10**	**1616**	**51.9**				**0.2**	**Dark gray, roots**
	7.12	**1591**	**55.7**				**0.4**	
	7.14	**1652**	**56.2**				**0.6**	
	7.12	**1690**	**56.3**				**0.8**	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1023	**7.10**	**1737**	**56.3**					**1.1 g**	**Dark gray, roots**

COMMENTS: *well is obstructed – water level meter and bailer do not reach total depth.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____
Water Disposal Rio Vista Sample ID Lat O-21 MW-3 Sample Time 1027
BTEX VOCs Alkalinity TDS Cations · Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB 010709TB02

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Lat O-21 | Well No: MW-1
Client: MWH | Date: 7/27/2009 | Time: 9:25
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 36.83 ft | Depth to Product: ft
Well Diameter: 4" | Total Depth: 46.47 ft | Product Thickness: ft
Water Column Height: 9.64 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
9.64 x .65	6.26 x 3		18.79 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
9:32	6.90	1.65	63.1				1.25	clear
	6.96	1.82	62.4				2.5	clear
	6.98	1.85	61.9				3.75	clear
	7.05	1.89	62.1				5	clear
	7.04	1.90	62.8				10	clear
	7.02	1.90	62.8				15	clear
	7.11	1.92	62.1				17.5	clear
	7.11	1.92	61.9				18.75	
Final:	7.11	1.94	62.1				20	clear

COMMENTS:

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-1 | Sample Time: 9:58

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

Trip Blank: 270709TB01 | Duplicate Sample:

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

WELL DEVELOPMENT AND SAMPLING LOG

Project Name: San Juan Basin | Location: Lat O-21 | Well No: MW-2
Client: MWH | Date: 7/27/2009 | Time: 10:07
Project Manager: Ashley Ager | Sampler's Name: Troy Urban

Measuring Point: TOC | Depth to Water: 34.42 ft | Depth to Product: ft
Well Diameter: 2" | Total Depth: 41.48 ft | Product Thickness: ft
Water Column Height: 7.06 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
7.06 x .16	1.13 x 3		3.38 gal

Time (military)	pH (su)	SC (ms)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
10:15	7.05	1.67	60.3				0.25	light brown, silty
	7.08	1.67	60.1				0.5	light brown, silty
	7.13	1.66	59.7				0.75	light brown, silty
	7.13	1.66	59.4				1	brown, silty
	7.14	1.65	59.4				2	brown, silty
	7.16	1.68	58.8				3	brown, silty
	7.19	1.66	58.5				3.25	brown, silty
Final:	7.18	1.67	58.6				3.5	brown, silty

COMMENTS:

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: Rio Vista

Sample ID: MW-2 Sample Time: 10:40

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

Trip Blank: 270709TB01 Duplicate Sample:

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

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater **Date:** 07/27/2009
Project Manager: Ashley Ager
Client: MWH
Site Name: Lat O-21

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	8:25 AM	-	36.83	-	-	sampled for BTEX
MW-2		-	34.42	-	-	sampled for BTEX
MW-3		-	DRY	-	-	obstructed by weeds/roots at 34.64. Unable to bail any water

Comments

Signature: *Ashley L. Ager* Date: 07/27/2009

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: SJB Groundwater Client: MWH/EL Paso
Location: Lat O-21 Well No: MW-1 Development **Sampling**
Project Manager ALA Date 01/07/09 Start Time 0803 Weather foggy, 20
Depth to Water 36.52 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 9.94 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

	Water Volume in Well		
Gal/ft x ft of water	Gallons	Ounces	**Gal**/oz to be removed
9.94 x .65	6.46 x 3		19.38

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal)	Comments/ Flow rate
0822	**6.96**	**1540**	**55.1**				**1.25**	**Clear**
	7.06	**1645**	**55.5**				**2.5**	**Clear**
	7.11	**1698**	**56.4**				**3.15**	**Clear**
	7.05	**1728**	**56.8**				**5**	**Clear**
	7.08	**1771**	**56.9**				**10**	**Clear**
	7.12	**1841**	**56.9**				**15**	**Clear**
	7.15	**1811**	**56.9**				**19**	**clear**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
0855	**7.16**	**1826**	**56.9**					**20.25 g**	**clear**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____
Water Disposal Rio Vista Sample ID Lat O-21 MW-1 Sample Time 0855
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD _____ BD _____ BD Name/Time _____ TB 010709TB02

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

WATER LEVEL DATA

Project Name_	**San Juan Basin Ground Water**	**Project No.**	**30001.0**
Project Manager	**Ashley Ager**		
Client Company	**MWH**	**Date**	**01/07/09**
Site Name	**Lat O-21**		

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed
MW-1	1454	-	36.52	-	
MW-2		-	34.03	-	
MW-3		-	35.05	-	

Comments

MW-3 is obstructed. Water level meter does not reach total depth. Well is full of weeds.

Signature: *Ashley Ager* Date: 01/08/09

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30001.0 Project Name: SJB Groundwater Client: MWH/EL Paso
Location: Lat O-21 Well No: MW-2 Development **Sampling**
Project Manager ALA Date 01/07/09 Start Time 0912 Weather foggy, 20
Depth to Water 34.03 Depth to Product na Product Thickness na Measuring Point TOC
Water Column Height 7.45 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐
Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

	Water Volume in Well		
Gal/ft x ft of water	Gallons	Ounces	**Gal**/oz to be removed
7.45 x .16	1.19 x 3		3.57

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal)	Comments/ Flow rate
0916	**7.24**	**1475**	**53.9**				**0.25**	**Light brown, roots**
	7.14	**1496**	**55.0**				**0.5**	
	7.15	**1478**	**54.4**				**0.75**	**Tan, silty**
	7.15	**1467**	**54.5**				**1**	
	7.17	**1472**	**53.9**				**2**	
	7.18	**1471**	**53.2**				**2.5**	
	7.12	**1400**	**53.3**				**3**	
	7.16	**1458**	**53.0**				**3.25**	**Bailing down**
	7.16	**1461**	**53.1**				**3.5**	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
0940	**7.16**	**1463**	**53.4**					**3.75 g**	**Tan, silty**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____
Water Disposal Rio Vista Sample ID Lat O-21 MW-2 Sample Time 0948
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB 010709TB02

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

01/19/09

Technical Report for

Montgomery Watson

San Juan Basin Pit Groundwater Remediation 2008-2009

West-ALAB-Ground Rem-007

Accutest Job Number: T25284

Sampling Date: 01/07/09

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
ATTN: Jed Smith

Total number of pages in report: 17

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

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: William Reeves 713-271-4700

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

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results **5**
3.1: T25284-1: 070109TB01 6
3.2: T25284-2: LAT 021 MW-1 7
3.3: T25284-3: LAT 021 MW-2 8
3.4: T25284-4: LAT 021 MW-3 9
Section 4: Misc. Forms **10**
4.1: Chain of Custody 11
Section 5: GC Volatiles - QC Data Summaries **14**
5.1: Method Blank Summary 15
5.2: Blank Spike Summary 16
5.3: Matrix Spike/Matrix Spike Duplicate Summary 17

Sample Summary

Montgomery Watson

Job No: T25284

San Juan Basin Pit Groundwater Remediation 2008-2009
Project No: West-ALAB-Ground Rem-007

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T25284-1	01/07/09	07:00	TU	01/08/09	AQ	Trip Blank Water	070109TB01
T25284-2	01/07/09	08:55	TU	01/08/09	AQ	Ground Water	LAT-021 MW-1
T25284-3	01/07/09	09:48	TU	01/08/09	AQ	Ground Water	LAT-021 MW-2
T25284-4	01/07/09	10:27	TU	01/08/09	AQ	Ground Water	LAT-021 MW-3

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Montgomery Watson	**Job No**	T25284
Site:	San Juan Basin Pit Groundwater Remediation 2008-2009	**Report Date**	1/19/2009 10:47:43 AM

3 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 01/07/2009 and were received at Accutest on 01/08/2009 properly preserved, at 3.2 Deg. C and intact. These Samples received an Accutest job number of T25284. 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:** GKK1406

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T25284-4MS, T25284-4MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Benzene are 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 QualityObjectives 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

Accutest Laboratories

Report of Analysis

3.1

Client Sample ID:	070109TB01		
Lab Sample ID:	T25284-1	Date Sampled:	01/07/09
Matrix:	AQ - Trip Blank Water	Date Received:	01/08/09
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	KK028671.D	1	01/09/09	FI	n/a	n/a	GKK1406
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	ND	0.0010	0.00021	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00035	mg/l	
1330-20-7	Xylenes (total)	ND	0.0020	0.00055	mg/l	
95-47-6	o-Xylene	ND	0.0010	0.00055	mg/l	
	m,p-Xylene	ND	0.0010	0.00066	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	106%		58-125%
98-08-8	aaa-Trifluorotoluene	76%		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

Accutest Laboratories

Report of Analysis

Client Sample ID:	LAT 021 MW-1		
Lab Sample ID:	T25284-2	Date Sampled:	01/07/09
Matrix:	AQ - Ground Water	Date Received:	01/08/09
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	KK028672.D	1	01/09/09	FI	n/a	n/a	GKK1406
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	0.0031	0.0010	0.00021	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
100-41-4	Ethylbenzene	0.0010	0.0010	0.00035	mg/l	
1330-20-7	Xylenes (total)	0.0026	0.0020	0.00055	mg/l	
95-47-6	o-Xylene	ND	0.0010	0.00055	mg/l	
	m,p-Xylene	0.0021	0.0010	0.00066	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	108%		58-125%
98-08-8	aaa-Trifluorotoluene	77%		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:	LAT 021 MW-2		
Lab Sample ID:	T25284-3	Date Sampled:	01/07/09
Matrix:	AQ - Ground Water	Date Received:	01/08/09
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	KK028673.D	1	01/09/09	FI	n/a	n/a	GKK1406
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	ND	0.0010	0.00021	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00035	mg/l	
1330-20-7	Xylenes (total)	ND	0.0020	0.00055	mg/l	
95-47-6	o-Xylene	ND	0.0010	0.00055	mg/l	
	m,p-Xylene	ND	0.0010	0.00066	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		58-125%
98-08-8	aaa-Trifluorotoluene	76%		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

Accutest Laboratories

Report of Analysis

Client Sample ID:	LAT 021 MW-3		
Lab Sample ID:	T25284-4	Date Sampled:	01/07/09
Matrix:	AQ - Ground Water	Date Received:	01/08/09
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	KK028674.D	1	01/09/09	FI	n/a	n/a	GKK1406
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	ND	0.0010	0.00021	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
100-41-4	Ethylbenzene	0.00044	0.0010	0.00035	mg/l	J
1330-20-7	Xylenes (total)	0.0022	0.0020	0.00055	mg/l	
95-47-6	o-Xylene	0.0014	0.0010	0.00055	mg/l	
	m,p-Xylene	0.00078	0.0010	0.00066	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	106%		58-125%
98-08-8	aaa-Trifluorotoluene	77%		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

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

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

Page ___ of

FED-EX Tracking # 8663 2309 4097 | Bottle Order Control #

Accutest Quote # | Accutest Job # T25284

Client / Reporting Information

Company Name: MWH

Project Contact: Jed Smith | E-Mail: jed.smith@mwhglobal.com

Address: 1801 California Street, Suite 2900

City: Denver | State: CO | Zip: 80202

Phone No.: 303-291-2276 | Fax No.:

Samplers's Name: Troy Urban

Project Information

Project Name / No.: EPTPC San Juan Basin Plt GW Remediation 2008-2009

Bill to: El Paso Corp | Invoice Attn.: Norma Ramos

Address: 1001 Louisiana Street, Rm S1904B

City: Houstor | State: TX | Zip: 77002

Phone No.: | Fax No.:

Client Purchase Order #: West-ALAB-Ground Ren-007

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Wastewater; SO - Soil; SL - Sludge; OI - Oil; LIQ - Liquid; SOL - Other Solid

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	MeOH	HNO3	H2SO4	EnCore	NaHSO4	MEOH	NONE	BTEX (8021B)	LAB USE ONLY
1	D701097TB01	010709	0700	GW	2	X								X	
2	Lat 021 MW-1	010709	0855	GW	3	X								X	
3	Lat 021 MW-2	010709	0948	GW	3	X								X	
4	Lat 021 MW-3	010709	1027	GW	3	X								X	

Turnaround Time (Business days)

- [X] 10 Day STANDARD — Approved By/ Date:
- [ ] 7 Day
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Real time analytical data available via Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Data Package
- [ ] TRRP-13
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only

Commercial "B" = Results & Standard QC

Comments / Remarks

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished By/Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	[signature] 1/7/09	1650	1	2		2
3	Relinquished By:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished By:	Date Time: 1-8-09 1015	Received By: 5 [signature]	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 3.2

4.1 4

T25284: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T25284 Client: MWH Date/Time Received: 1.8.09 1015

# of Coolers Received: 1 Thermometer #: 110 Temperature Adjustment Factor: -.3

Cooler Temps: #1: 3.2 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

Method of Delivery: (FEDEX) UPS Accutest Courier Greyhound Delivery Other

Airbill Numbers: 866323094077

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 rcvd 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] 1.8.09

INFORMATION AND SAMPLE LABELING VERIFIED BY: [signature] 1.8.09

CORRECTIVE ACTIONS

Client Representative Notified: _____ **Date:** _____

By Accutest Representative: _____ **Via:** Phone Email

Client Instructions:

I:\mwalker\form\samplemanagement

4.1 4

T25284: Chain of Custody
Page 2 of 3

SAMPLE RECEIPT LOG

JOB #: T25284 DATE/TIME RECEIVED: 1.8.09 1015

CLIENT: MWH INITIALS: IT

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	TripBlank	–	DI	40ml	1-2	VR	1 2 3 4 5 6 7 8	<2 >12
↓	2	MW-1	1.7.09 855	GW	↓	1-3	↓	1 2 3 4 5 6 7 8	<2 >12
	3	MW-2	↓ 948	↓		↓		1 2 3 4 5 6 7 8	<2 >12
↓	4	MW-3	1027		↓			1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
		IT 1.8.09						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
								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
								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
								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
								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
								1 2 3 4 5 6 7 8	<2 >12
								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

4.1

4

T25284: Chain of Custody

Page 3 of 3

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

Job Number: T25284
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
GKK1406-MB	KK028670.D	1	01/09/09	FI	n/a	n/a	GKK1406

The QC reported here applies to the following samples: Method: SW846 8021B

T25284-1, T25284-2, T25284-3, T25284-4

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	105%	58-125%
98-08-8	aaa-Trifluorotoluene	76%	73-139%

Blank Spike Summary

Job Number: T25284
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
GKK1406-BS	KK028667.D	1	01/09/09	FI	n/a	n/a	GKK1406

The QC reported here applies to the following samples: Method: SW846 8021B

T25284-1, T25284-2, T25284-3, T25284-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	22.1	111	86-121
100-41-4	Ethylbenzene	20	20.7	104	81-116
108-88-3	Toluene	20	21.1	106	87-117
1330-20-7	Xylenes (total)	60	62.1	104	85-115
95-47-6	o-Xylene	20	20.7	104	87-116
	m,p-Xylene	40	41.4	104	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	109%	58-125%
98-08-8	aaa-Trifluorotoluene	79%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T25284
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
T25284-4MS	KK028677.D	1	01/09/09	FI	n/a	n/a	GKK1406
T25284-4MSD	KK028678.D	1	01/09/09	FI	n/a	n/a	GKK1406
T25284-4	KK028674.D	1	01/09/09	FI	n/a	n/a	GKK1406

The QC reported here applies to the following samples: Method: SW846 8021B

T25284-1, T25284-2, T25284-3, T25284-4

CAS No.	Compound	T25284-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	24.3	122* [a]	23.4	117	4	86-121/19
100-41-4	Ethylbenzene	0.44	J	20	22.9	112	21.9	107	4	81-116/14
108-88-3	Toluene	ND		20	23.0	115	21.9	110	5	87-117/16
1330-20-7	Xylenes (total)	2.2		60	69.4	112	66.4	107	4	85-115/12
95-47-6	o-Xylene	1.4		20	23.6	111	22.7	107	4	87-116/16
	m,p-Xylene	0.78	J	40	45.8	113	43.6	107	5	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T25284-4	Limits
460-00-4	4-Bromofluorobenzene	107%	107%	106%	58-125%
98-08-8	aaa-Trifluorotoluene	75%	77%	77%	73-139%

(a) Outside control limits, biased high.

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

04/10/09

Technical Report for

Montgomery Watson

San Juan Basin Pit Groundwater Remediation 2008-2009

WEST-ALAB-GROUNDREM-007

Accutest Job Number: T26713

Sampling Date: 04/06/09

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: 15

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

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: William Reeves 713-271-4700

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

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results 5
3.1: T26713-1: LAT 0 21 MW-1 6
3.2: T26713-2: 060409TB01 7
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
Section 5: GC Volatiles - QC Data Summaries **12**
5.1: Method Blank Summary 13
5.2: Blank Spike Summary 14
5.3: Matrix Spike/Matrix Spike Duplicate Summary 15

Sample Summary

Montgomery Watson

Job No: T26713

San Juan Basin Pit Groundwater Remediation 2008-2009
Project No: WEST-ALAB-GROUNDREM-007

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T26713-1	04/06/09	13:50	TU	04/07/09	AQ	Ground Water	LAT-021-MW-1
T26713-2	04/06/09	07:00	TU	04/07/09	AQ	Ground Water	060409TB01

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Montgomery Watson	**Job No**	T26713
Site:	San Juan Basin Pit Groundwater Remediation 2008-2009	**Report Date**	4/9/2009 5:08:06 PM

2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 04/06/2009 and were received at Accutest on 04/07/2009 properly preserved, at 1.4 Deg. C and intact. These Samples received an Accutest job number of T26713. 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:** GKK1469

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T26715-1MS, T26715-1MSD were used as the QC samples indicated.

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 QualityObjectives 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

Accutest Laboratories

Report of Analysis

Client Sample ID:	LAT 0 21 MW-1		
Lab Sample ID:	T26713-1	Date Sampled:	04/06/09
Matrix:	AQ - Ground Water	Date Received:	04/07/09
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	KK030465.D	1	04/08/09	FI	n/a	n/a	GKK1469
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	6.0	1.0	0.21	ug/l	
108-88-3	Toluene	2.2	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	1.6	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	6.2	2.0	0.55	ug/l	
95-47-6	o-Xylene	1.6	1.0	0.55	ug/l	
	m,p-Xylene	4.6	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		58-125%
98-08-8	aaa-Trifluorotoluene	74%		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

Accutest Laboratories

Report of Analysis

Client Sample ID:	060409TB01		
Lab Sample ID:	T26713-2	Date Sampled:	04/06/09
Matrix:	AQ - Ground Water	Date Received:	04/07/09
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	KK030464.D	1	04/08/09	FI	n/a	n/a	GKK1469
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	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	85%		58-125%
98-08-8	aaa-Trifluorotoluene	75%		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

ACCUTEST Laboratories

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

Page ___ of

FED-EX Tracking # 869385512616 | Bottle Order Control # | Accutest Quote # | Accutest Job # T26713

Client / Reporting Information

Company Name: MWH
Project Contact: Jed Smith | E-Mail: jed.smith@mwhglobal.com
Address: 1801 California Street, Suite 2900
City: Denver | State: CO | Zip: 80202
Phone No.: 303-291-2276 | Fax No.:
Samplers's Name: Troy Urban

Project Information

Project Name / No.: EPTPC San Juan Basin Pit GW Remediation 2008-2009
Bill to: El Paso Corp | Invoice Attn.: Norma Ramos
Address: 1001 Louisiana Street, Rm S1904B
City: Houstor | State: TX | Zip: 77002
Phone No.: | Fax No.:
Client Purchase Order #: West-ALAB-Ground Rem-007

Requested Analyses

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Wastewater
SO - Soil
SL - Sludge
OI - Oil
LIQ - Liquid
SOL - Other Solid

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	H2SO4	HNO3	NaOH	ENCORE	NaHSO4	MEOH	NONE	BTEX (8021B)	LAB USE ONLY
1	Lat 0 21 MW-1	040609	1350	GW	3	X								X	
2	060409 TB #01	040609	0700	GW	2	X								X	

Turnaround Time (Business days)

- [X] 10 Day *STANDARD*
- [ ] 7 Day
- [ ] 4 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [ ] Other

Approved By:/ Date:

Real time analytical data available via Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Data Package
- [ ] TRRP-13
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results & Standard QC

Comments / Remarks

please copy results to
ala@lodestarservices.com

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	[signature] 1555 4/6/09	1555 4/6/09	1	2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by: FEDEX	Date Time: 4.7.09 915	Received By: 5 [signature]	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 1.4

4.1

T26713: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T26713 Client: MWH Date/Time Received: 4.7.09 915

# of Coolers Received: 1 Thermometer #: 110 Temperature Adjustment Factor: -.3

Cooler Temps: #1: 1.4 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

Method of Delivery: FEDEX UPS Accutest Courier Greyhound Delivery Other

Airbill Numbers: 869385512616

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 rcvd 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
- [x] 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] 4.7.09

INFORMATION AND SAMPLE LABELING VERIFIED BY: EC 4/7/09

CORRECTIVE ACTIONS

Client Representative Notified: _____ **Date:** _____

By Accutest Representative: _____ **Via:** Phone Email

Client Instructions:

i:\mwalker\forms\samplemanagement

4.1 4

SAMPLE RECEIPT LOG

JOB #: T26713 DATE/TIME RECEIVED: 4.7.09 915

CLIENT: MWH INITIALS: IT

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	MW-1	4.6.09 1350	GW	40mL	1-3	VR	1 (2) 3 4 5 6 7 8	<2 >12
1	2	Trip Blank	–	DI	40mL	1-2	VL	1 (2) 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
		4.7.09 915						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
								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
								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
								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
								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
								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
								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

T26713: Chain of Custody
Page 3 of 3

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T26713
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
GKK1469-MB	KK030451.D	1	04/08/09	FI	n/a	n/a	GKK1469

The QC reported here applies to the following samples: Method: SW846 8021B

T26713-1, T26713-2

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	83%	58-125%
98-08-8	aaa-Trifluorotoluene	75%	73-139%

Blank Spike Summary

Job Number: T26713
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
GKK1469-BS	KK030447.D	1	04/08/09	FI	n/a	n/a	GKK1469

The QC reported here applies to the following samples: Method: SW846 8021B

T26713-1, T26713-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.0	100	86-121
100-41-4	Ethylbenzene	20	19.2	96	81-116
108-88-3	Toluene	20	19.8	99	87-117
1330-20-7	Xylenes (total)	60	57.4	96	85-115
95-47-6	o-Xylene	20	19.0	95	87-116
	m,p-Xylene	40	38.4	96	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	96%	58-125%
98-08-8	aaa-Trifluorotoluene	78%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T26713
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
T26715-1MS	KK030457.D	1	04/08/09	FI	n/a	n/a	GKK1469
T26715-1MSD	KK030458.D	1	04/08/09	FI	n/a	n/a	GKK1469
T26715-1	KK030452.D	1	04/08/09	FI	n/a	n/a	GKK1469

The QC reported here applies to the following samples: Method: SW846 8021B

T26713-1, T26713-2

CAS No.	Compound	T26715-1 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	22.6	113	22.0	110	3	86-121/19
100-41-4	Ethylbenzene	1.0	U	20	21.7	109	21.2	106	2	81-116/14
108-88-3	Toluene	1.0	U	20	22.1	111	21.6	108	2	87-117/16
1330-20-7	Xylenes (total)	2.0	U	60	63.9	107	62.7	105	2	85-115/12
95-47-6	o-Xylene	1.0	U	20	21.0	105	20.6	103	2	87-116/16
	m,p-Xylene	1.0	U	40	42.9	107	42.1	105	2	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T26715-1	Limits
460-00-4	4-Bromofluorobenzene	91%	91%	80%	58-125%
98-08-8	aaa-Trifluorotoluene	75%	75%	74%	73-139%

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

08/04/09

Technical Report for

Montgomery Watson

San Juan Basin GW Sites Project

Accutest Job Number: T34151

Sampling Date: 07/27/09

Report to:

MWH Americas
1801 California St. Suite 2900
Denver, CO 80202
daniel.a.wade@mwhglobal.com; craig.moore@mwhglobal.com

ATTN: Daniel Wade

Total number of pages in report: **16**

ACCREDITED IN ACCORDANCE WITH nelac

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

ACCUTEST LABORATORIES 50 YEARS 1956-2006

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)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Sample Results 5
3.1: T34151-1: 270709 TB01 6
3.2: T34151-2: LAT021 MW-1 7
3.3: T34151-3: LAT021 MW-2 8
Section 4: Misc. Forms **9**
4.1: Chain of Custody 10
Section 5: GC Volatiles - QC Data Summaries **13**
5.1: Method Blank Summary 14
5.2: Blank Spike Summary 15
5.3: Matrix Spike/Matrix Spike Duplicate Summary 16

Sample Summary

Montgomery Watson

Job No: T34151

San Juan Basin GW Sites Project

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T34151-1	07/27/09	07:00	TU	07/28/09	AQ	Trip Blank Water	270709 TB01
T34151-2	07/27/09	09:58	TU	07/28/09	AQ	Ground Water	LAT021 MW-1
T34151-3	07/27/09	10:40	TU	07/28/09	AQ	Ground Water	LAT021 MW-2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Montgomery Watson	**Job No**	T34151
Site:	San Juan Basin GW Sites Project	**Report Date**	8/4/2009 4:44:32 PM

2 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 07/27/2009 and were received at Accutest on 07/28/2009 properly preserved, at 2.6 Deg. C and intact. These Samples received an Accutest job number of T34151. 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:** GKK1530

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T34504-3MS, T34504-3MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Ethylbenzene, m,p-Xylene, o-Xylene, Toluene, Xylenes (total) are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Ethylbenzene, m,p-Xylene, o-Xylene, Toluene, Xylenes (total) are 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 QualityObjectives 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:	270709 TB01		
Lab Sample ID:	T34151-1	Date Sampled:	07/27/09
Matrix:	AQ - Trip Blank Water	Date Received:	07/28/09
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan Basin GW Sites Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK031855.D	1	07/31/09	FI	n/a	n/a	GKK1530
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	ND	1.0	0.36	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	117%		58-125%
98-08-8	aaa-Trifluorotoluene	122%		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:	LAT021 MW-1		
Lab Sample ID:	T34151-2	Date Sampled:	07/27/09
Matrix:	AQ - Ground Water	Date Received:	07/28/09
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan Basin GW Sites Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK031856.D	1	07/31/09	FI	n/a	n/a	GKK1530
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	6.8	1.0	0.36	ug/l	
108-88-3	Toluene	0.86	1.0	0.28	ug/l	J
100-41-4	Ethylbenzene	1.6	1.0	0.25	ug/l	
1330-20-7	Xylenes (total)	4.8	2.0	0.93	ug/l	
95-47-6	o-Xylene	1.1	1.0	0.36	ug/l	
	m,p-Xylene	3.7	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	121%		58-125%
98-08-8	aaa-Trifluorotoluene	122%		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:	LAT021 MW-2		
Lab Sample ID:	T34151-3	Date Sampled:	07/27/09
Matrix:	AQ - Ground Water	Date Received:	07/28/09
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan Basin GW Sites Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK031857.D	1	07/31/09	FI	n/a	n/a	GKK1530
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	ND	1.0	0.36	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	114%		58-125%
98-08-8	aaa-Trifluorotoluene	122%		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

ACCUTEST Laboratories

CHAIN OF CUSTODY

PAGE 1 OF 1

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 8693 5905 3031 | Bottle Order Control #
Accutest Quote # | Accutest Job # T34151

Client / Reporting Information

Company Name: MWH Americas
Street Address: 1801 California St Suite 2900
City: Denver State: CO Zip: 80202
Project Contact: Jed Smith E-mail:
Phone #: 303-291-2276 Fax #:
Sampler(s) Name(s): Troy Urban Phone #:

Project Information

Project Name: San Juan Basin GW Sites Project
Street:
City: State:
Company Name:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (If different from Report to)

Street Address:
City: State: Zip:
Attention:

Requested Analyses

BTEX

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	MeOH	ZnAcet+NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	BTEX	LAB USE ONLY
1	270709TB01	072709	0700	TU	GW	2	X												X	
2	Lat 021 MW-1	072709	0958	TU	GW	3	X												X	
3	Lat 021 MW-2	072709	1040	TU	GW	3	X												X	

Turnaround Time (Business days)

- [X] Standard
- [ ] 6 Day RUSH
- [ ] 4 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM) / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [X] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Troy Urban	7/27/09 1315	1	2 Jed Smith	7/28/09 0930	2
3		3	4		4
5		5			

Custody Seal # | [ ] Intact [ ] Not Intact | Preserved where applicable [ ] | On Ice | Cooler Temp. 4 4.6

4.1

T34151: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T34151 Client: MWH Americas Date/Time Received: 7-28-9 930

# of Coolers Received: 1 Thermometer #: IR-1 Temperature Adjustment Factor: +.4

Cooler Temps: #1: 2.6 °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 rcvd 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] 7-28-9

INFORMATION AND SAMPLE LABELING VERIFIED BY: [signature]

CORRECTIVE ACTIONS

Client Representative Notified: _____ **Date:** _____

By Accutest Representative: _____ **Via:** Phone Email

Client Instructions:

4.1 4

SAMPLE RECEIPT LOG

JOB #: T34151 DATE/TIME RECEIVED: 7-28-9 930

CLIENT: MWH Americas INITIALS: EC

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	Trip Blank	—	—	40ml	1-2	VR	1 (2) 3 4 5 6 7 8	<2 >12
1	2	Cat 021 MW-1	7-27-09 958	W	|	1-3	|	1 (2) 3 4 5 6 7 8	<2 >12
|	3	" " MW-2	" 1042	W	|	1-3	|	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
								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
								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
			EC 7-28-9					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
								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
								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
								1 2 3 4 5 6 7 8	<2 >12
								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

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

Job Number: T34151
Account: MWHCODE Montgomery Watson
Project: San Juan Basin GW Sites Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1530-MB	KK031846.D	1	07/31/09	FI	n/a	n/a	GKK1530

The QC reported here applies to the following samples: Method: SW846 8021B

T34151-1, T34151-2, T34151-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	1.0	0.28	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.93	ug/l	
95-47-6	o-Xylene	ND	1.0	0.36	ug/l	
	m,p-Xylene	ND	1.0	0.57	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	115%	58-125%
98-08-8	aaa-Trifluorotoluene	122%	73-139%

Blank Spike Summary

Job Number: T34151
Account: MWHCODE Montgomery Watson
Project: San Juan Basin GW Sites Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1530-BS	KK031842.D	1	07/31/09	FI	n/a	n/a	GKK1530

The QC reported here applies to the following samples: Method: SW846 8021B

T34151-1, T34151-2, T34151-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	21.9	110	86-121
100-41-4	Ethylbenzene	20	22.3	112	81-116
108-88-3	Toluene	20	21.8	109	87-117
1330-20-7	Xylenes (total)	60	66.8	111	85-115
95-47-6	o-Xylene	20	22.4	112	87-116
	m,p-Xylene	40	44.4	111	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	118%	58-125%
98-08-8	aaa-Trifluorotoluene	123%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T34151
Account: MWHCODE Montgomery Watson
Project: San Juan Basin GW Sites Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T34504-3MS	KK031851.D	1	07/31/09	FI	n/a	n/a	GKK1530
T34504-3MSD	KK031852.D	1	07/31/09	FI	n/a	n/a	GKK1530
T34504-3	KK031848.D	1	07/31/09	FI	n/a	n/a	GKK1530

The QC reported here applies to the following samples: Method: SW846 8021B

T34151-1, T34151-2, T34151-3

CAS No.	Compound	T34504-3 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	24.0	120	23.9	120	0	86-121/19
100-41-4	Ethylbenzene	1.0	U	20	24.4	122*	24.3	122*	0	81-116/14
108-88-3	Toluene	1.0	U	20	23.7	119*	23.6	118*	0	87-117/16
1330-20-7	Xylenes (total)	2.0	U	60	73.0	122*	72.5	121*	1	85-115/12
95-47-6	o-Xylene	1.0	U	20	24.4	122*	24.3	122*	0	87-116/16
	m,p-Xylene	1.0	U	40	48.6	122*	48.3	121*	1	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T34504-3	Limits
460-00-4	4-Bromofluorobenzene	121%	122%	118%	58-125%
98-08-8	aaa-Trifluorotoluene	122%	123%	122%	73-139%