3R - 192

CLOSURE REQUEST

10/29/2009

3R 192

elpaso

Via FedEx

October 29, 2009

Mr. Glenn von Gonten
Senior Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RECEIVED OCD
2009 NOV -3 P 1:

RE: Closure Request for Horton #1E Site
NMOCD Case No. 3RP-192

Dear Mr. von Gonten:

El Paso Tennessee Pipeline Company (EPTPC), formerly El Paso Field Services (EPFS), hereby requests regulatory closure of the Horton #1E site (NMOCD Case No. 3RP-192). This correspondence documents the analytical results from site monitoring activities that have been ongoing for several years in accordance with the Remediation Plan approved by the New Mexico Oil Conservation Division (OCD) on November 30, 1995. EPTPC is requesting closure of the Horton #1E site based on the data obtained and documented herein.

Summary of Project History

The Horton #1E pit site was assessed in 1994, and 50 cubic yards of impacted soil were excavated from the former pit in September 1994. The first monitoring well (MW-1) was installed in August 1995, in the location of the former pit. The groundwater in MW-1 exhibited benzene at a concentration of 308 µg/L, which exceeded the NMWQCC groundwater benzene standard of 10 µg/L.

In 1999, additional site characterization work was conducted in order to more fully delineate the hydrocarbon plume in groundwater. Two additional monitoring wells (MW-2 and MW-3) were installed south and east-southeast of MW-1. The hydraulic gradient was found to be toward the southeast; and subsequent sampling of MW-2 and MW-3 throughout the project life has indicated that these wells are unimpacted by BTEX constituents. The focus of the project has thus been to regularly monitor the natural attenuation of benzene concentrations in MW-1.

Monitoring Data

Figures 1 through 4 depict the site layout and the most recent four consecutive quarters of groundwater analytical results (November 2008). Figure 5 is a trend graph of the historical BTEX concentration trends in monitoring well MW-1. Table 1, attached, summarizes the historic monitoring data for the site. As of September 2009, the

El Paso Tennessee Pipeline Company
1001 Louisiana Street
Houston, Texas 77002

groundwater quality at the site has now met the applicable New Mexico Water Quality Control Commission standards for 4 consecutive quarters, fulfilling the closure criteria specified in Section 5 of the approved El Paso Remediation Plan. Attachment 1 contains the laboratory analytical reports for these 4 quarterly sampling events.

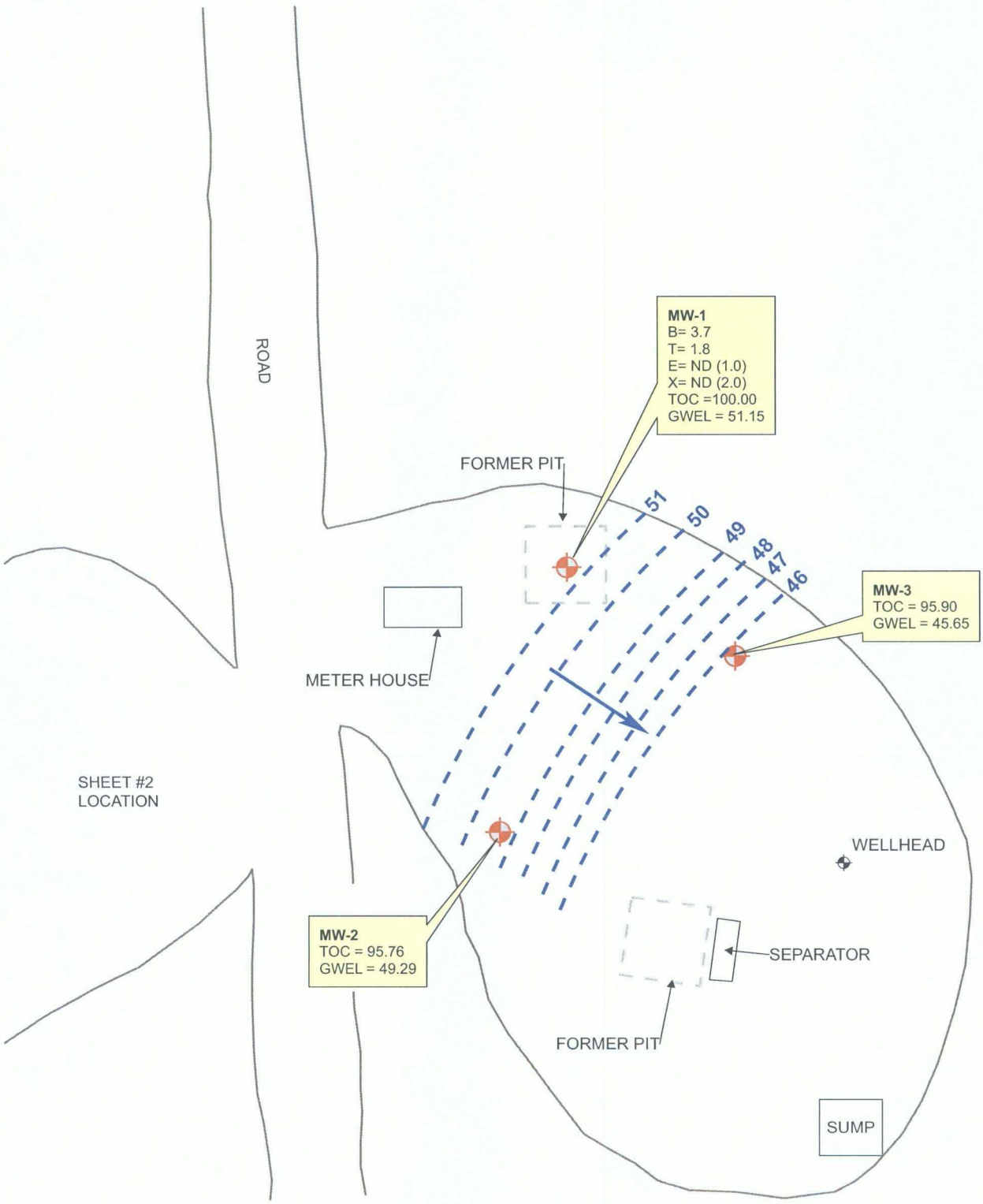
If you have any comments or questions concerning this correspondence, please contact me at (713) 420-5150.

Sincerely,

Doug Stavinoha
Project Manager for El Paso Tennessee Pipeline Co.

cc: Jed Smith – MWH, w / o enclosures
Pit Groundwater Remediation – General File, w / enclosures

El Paso Tennessee Pipeline Company
1001 Louisiana Street
Houston, Texas 77002



LEGEND

MW-4	Existing Monitoring / Observation 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. *)
GWEL	Groundwater Elevation (ft. *)

* = Elevations in feet relative to a 100 ft benchmark.

N

Not To Scale

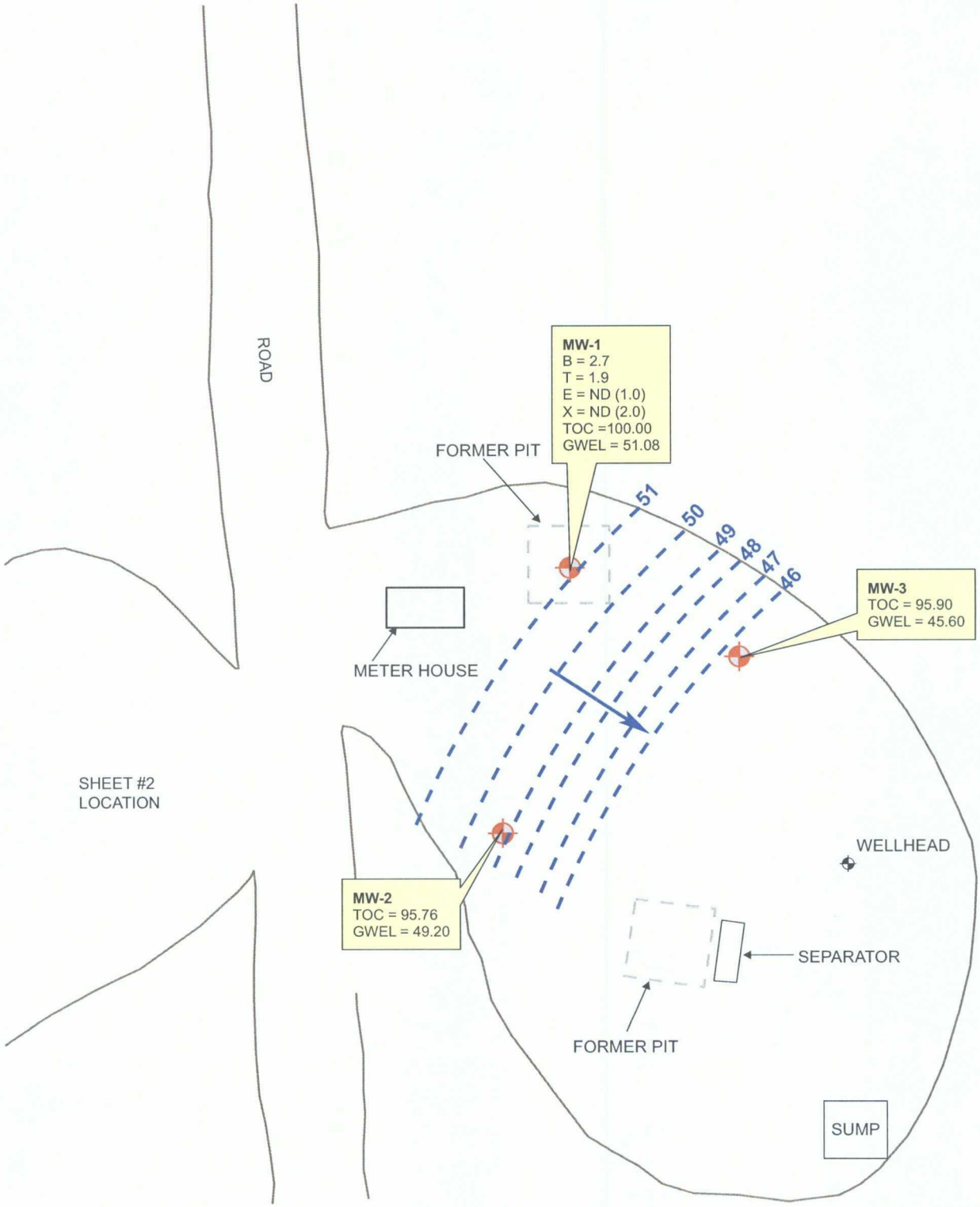
MWH

elpaso

PROJECT: HORTON #1E

TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - December 2, 2008

FIGURE: 1



LEGEND

MW-4 — Existing Monitoring / Observation 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. *)
GWEL	Groundwater Elevation (ft. *)

* = Elevations in feet relative to a 100 ft benchmark.

N

Not To Scale

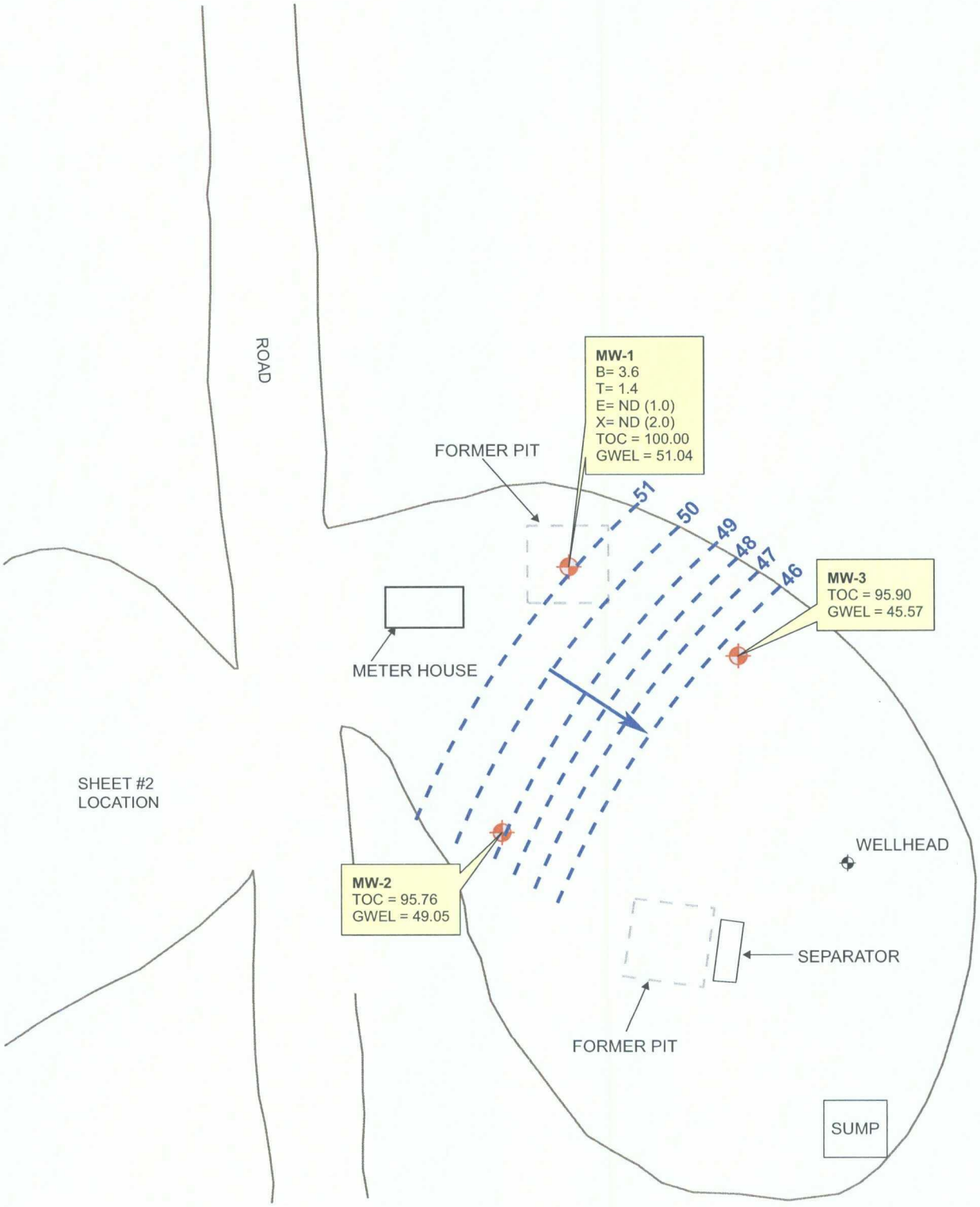
MWH

elpaso

PROJECT: HORTON #1E

TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - March 3, 2009

FIGURE: 2



LEGEND

MW-4	Existing Monitoring / Observation Well
→	Groundwater Flow Direction
—1275—	Potentiometric Surface Contour (Inferred Where Dashed)

* = Elevations in feet relative to a 100 ft benchmark.

B	Benzene (ug/L)
T	Toluene (ug/L)
E	Ethylbenzene (ug/L)
X	Total Xylenes (ug/L)
TOC	Top of Casing (ft. *)
GWEL	Groundwater Elevation (ft. *)
J	Result Flagged as Estimated

Not To Scale

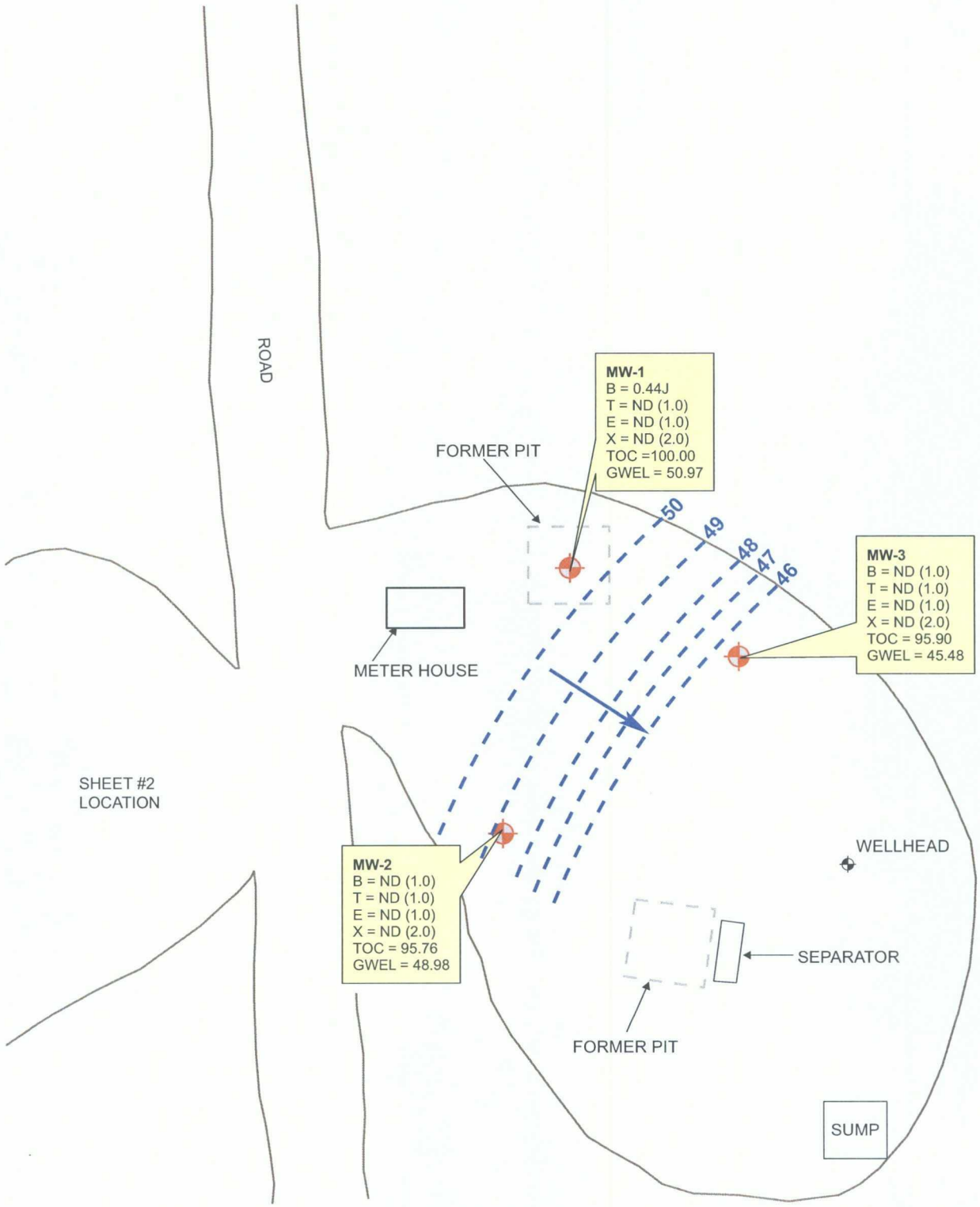
MWH

elpaso

PROJECT: HORTON #1E

TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - June 2, 2009

FIGURE: 3



LEGEND

MW-4	Existing Monitoring / Observation Well
→	Groundwater Flow Direction
—1275—	Potentiometric Surface Contour (Inferred Where Dashed)

* = Elevations in feet relative to a 100 ft benchmark.

B	Benzene (ug/L)
T	Toluene (ug/L)
E	Ethylbenzene (ug/L)
X	Total Xylenes (ug/L)
TOC	Top of Casing (ft. *)
GWEL	Groundwater Elevation (ft. *)
J	Result Flagged as Estimated

Not To Scale

MWH

elpaso

PROJECT: HORTON #1E

TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - September 16, 2009

FIGURE: 4

FIGURE 5

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES

HORTON #1E (METER #93388)

MW01

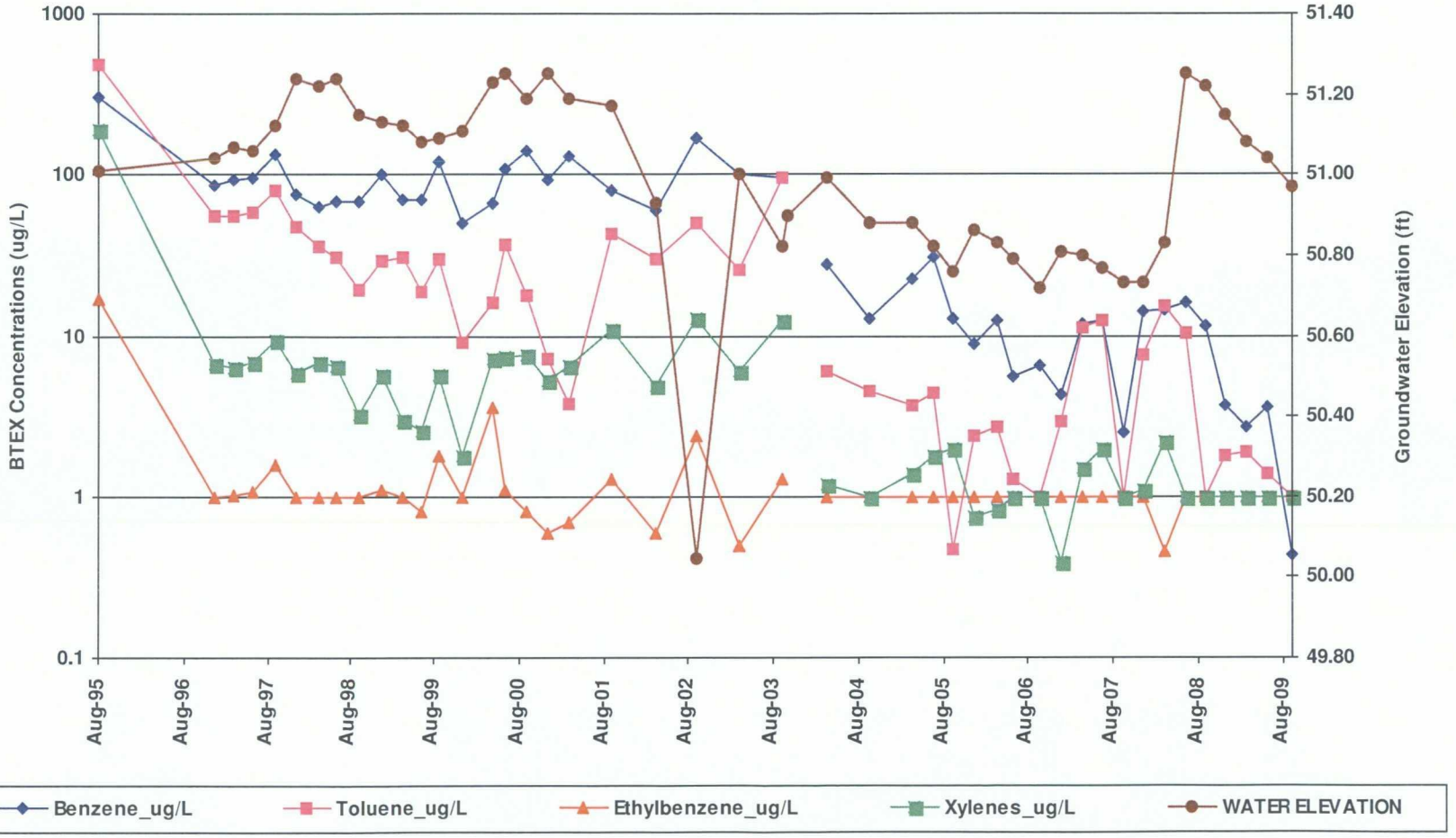


TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
HORTON #1E (METER #93388)

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW01	8/7/1995	308	483	16.9	190	48.99
	12/17/1996	86.8	55.5	1	6.66	48.96
	3/10/1997	93.3	55.3	1.02	6.34	48.93
	6/2/1997	96.1	58.8	1.07	6.82	48.94
	9/8/1997	132	80.7	1.59	9.46	48.88
	12/10/1997	74.9	47.1	1	5.94	48.76
	3/23/1998	63.6	35.9	1	6.93	48.78
	6/4/1998	68.1	30.6	1	6.6	48.76
	9/14/1998	67.7	19.4	1	3.26	48.85
	12/17/1998	100	29	1.1	5.8	48.87
	3/23/1999	70.1	30.6	1	3	48.88
	6/11/1999	71	19	0.8	2.6	48.92
	9/2/1999	120	30	1.8	5.8	48.91
	12/9/1999	50	9.1	1	1.8	48.89
	4/12/2000	67	16	3.6	7.2	48.77
	6/9/2000	110	37	1.1	7.4	48.75
	9/8/2000	140	18	0.8	7.6	48.81
	12/11/2000	93	7.2	0.6	5.3	48.75
	3/13/2001	130	3.8	0.7	6.6	48.81
	9/7/2001	80	43	1.3	11	48.83
	3/20/2002	60	30	0.6	4.9	49.07
	9/10/2002	167	49.9	2.4	12.7	49.96
	3/14/2003	100	25.5	0.5	6.1	49.00
	9/16/2003	95.5	95.8	1.3	12.5	49.18
	3/23/2004	27.8	6.1	1	1.2	49.01
	9/22/2004	12.8	4.5	1	1	49.12
	3/23/2005	22.8	3.7	1	1.4	49.12
	6/23/2005	30.6	4.4	1	1.8	49.18
	9/20/2005	12.8	0.47	1	2	49.24
	12/14/2005	8.8	2.4	1	0.74	49.14
	3/27/2006	12.5	2.7	1	0.82	49.17
	6/7/2006	5.6	1.3	1	1	49.21
	9/25/2006	6.5	1	1	1	49.28
	12/27/2006	4.3	2.9	1	0.39	49.19
	3/28/2007	11.9	11.3	1	1.5	49.20

Note: Non Detects are represented by a value of 1.

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
HORTON #1E (METER #93388)

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW01	6/18/2007	12.6	12.5	1	2	49.23
	9/17/2007	2.5	1	1	1	49.27
	12/17/2007	14.2	7.6	1	1.1	49.27
	3/11/2008	14.7	15.5	0.46	2.2	49.17
	6/17/2008	16.2	10.3	1	0.99	48.75
	9/10/2008	11.6	1	1	1	48.78
	12/2/2008	3.7	1.8	1	1	48.85
	3/3/2009	2.7	1.9	1	1	48.92
	6/2/2009	3.6	1.4	1	1	48.96
	9/16/2009	0.44	1	1	1	49.03
MW02	10/20/1999	1	1	1	1	
	10/9/2000	1	0.7	1	1.1	46.41
	3/13/2001	1	1	1	1	46.47
	3/20/2002	1	1	1	1	46.75
	3/31/2007	1	1	1	1	46.89
	9/16/2009	1	1	1	1	46.78
MW03	10/20/1999	1	1	1	0.8	
	10/10/2000	1	1	1	2	50.12
	3/13/2001	1	1	1	1	50.18
	3/20/2002	1	1	1	1	50.40
	3/31/2007	1	1	1	1	50.52
	9/16/2009	1	1	1	1	50.42

Note: Non Detects are represented by a value of 1.

ATTACHMENT 1

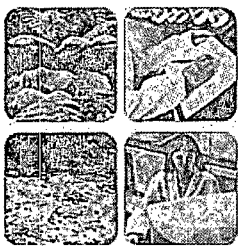
Analytical Laboratory Reports

MWH

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

12/14/08



Technical Report for

Montgomery Watson

San Juan Basin GW Sites Project

Accutest Job Number: T24833

Sampling Date: 12/02/08

Report to:

MWH Americas
1801 California St. Suite 2900
Denver, CO 80202
daniel.a.wade@mwhglobal.com; alyssa.beard@mwhglobal.com;
craig.moore@mwhglobal.com
ATTN: Daniel Wade

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-

Sample Summary

Montgomery Watson

Job No: T24833

San Juan Basin GW Sites Project

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T24833-1	12/02/08	07:00	TU	12/03/08	AQ	Trip Blank Water	120208TB01
T24833-2	12/02/08	09:33	TU	12/03/08	AQ	Ground Water	HORTON #1E MW-1

ACCUTEST Laboratories

2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T24833

Site: San Juan Basin GW Sites Project **Report Date** 12/10/2008 5:20:49 PM

1 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 12/02/2008 and were received at Accutest on 12/03/2008 properly preserved, at 5.2 Deg. C and intact. These Samples received an Accutest job number of T24833. 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:** GKK1389

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T24833-2MS, T24833-2MSD 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

3.1

Client Sample ID:	120208TB01		
Lab Sample ID:	T24833-1	**Date Sampled:**	12/02/08
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/03/08
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	KK028281.D	1	12/08/08	FI	n/a	n/a	GKK1389
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	0.00092	0.0010	0.00023	mg/l	J
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	90%		58-125%
98-08-8	aaa-Trifluorotoluene	104%		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:	HORTON #1E MW-1		
Lab Sample ID:	T24833-2	**Date Sampled:**	12/02/08
Matrix:	AQ - Ground Water	**Date Received:**	12/03/08
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	KK028282.D	1	12/08/08	FI	n/a	n/a	GKK1389
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	0.0037	0.0010	0.00021	mg/l	
108-88-3	Toluene	0.0018	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	91%		58-125%
98-08-8	aaa-Trifluorotoluene	105%		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 Drive, Ste. 150, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 8577 6554 2199 | Bottle Order Control # | Accutest Quote # | Accutest Job # T24833

Client / Reporting Information

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

Project Information

Project Name: San Juan River Basin Groundwater
Street:
City: State:
Project #:
Fax #:
Client Purchase Order #: West - ALAB - Ground Rem - 007

Requested Analysis

BTEX (8021)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	H2SO4	HNO3	NONE	NaOH	MEOH	ZnAcNa	BTEX (8021)	LAB USE ONLY
1	120208TB01		120208	0700		GW	2	✓							X	
2	Horton #1E MW-1		120208	0933	TU	GW	3	✓							X	

Turnaround Time (Business Days)

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

Emergency & Rush T/A data available VIA LabLink

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] TRRP13
- [ ] EDD Format _____

Commercial "A" = Results Only

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 Troy Urban 12/2/08	1350	1	2		2
3	Date Time:	3	4	Date Time:	4
5	Date Time: 12-3-08 0920	5	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 5.2

4.1.4

T24833: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T24833 Client: MWH Americas Project: San Juan River Basin Groundwater

Date/Time Received: 12-5-08 0900 # of Coolers Received: 1 Thermometer #: 110

Cooler Temps: #1: 5.2 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

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

Airbill Numbers: 8577-6777-2199

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: 12.8

INFORMATION AND SAMPLE LABELING VERIFIED BY: 12-3-08

CORRECTIVE ACTIONS

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

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

Client Instructions:

4.1 4

SAMPLE RECEIPT LOG

JOB #: T24833 DATE/TIME RECEIVED: 12-3-08 0900

CLIENT: MWH Americas Inc INITIALS: IT

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	Trip Blank	—	DI	40ml	1-2	VR	1 (2) 3 4 5 6 7 8	<2 >12
↓	2	Horton #12 MW-1	12-02-08 933	GW	↓	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
		IT						1 2 3 4 5 6 7 8	<2 >12
		12.3.08						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
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								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

T24833: 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: T24833
Account: MWHCODE Montgomery Watson
Project: San Juan Basin GW Sites Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1389-MB	KK028278.D	1	12/08/08	FI	n/a	n/a	GKK1389

5.1

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

T24833-1, T24833-2

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	93%	58-125%
98-08-8	aaa-Trifluorotoluene	111%	73-139%

Blank Spike Summary

Job Number: T24833
Account: MWHCODE Montgomery Watson
Project: San Juan Basin GW Sites Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1389-BS	KK028277.D	1	12/08/08	FI	n/a	n/a	GKK1389

5.2

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

T24833-1, T24833-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.2	101	86-121
100-41-4	Ethylbenzene	20	19.5	98	81-116
108-88-3	Toluene	20	19.5	98	87-117
1330-20-7	Xylenes (total)	60	57.8	96	85-115
95-47-6	o-Xylene	20	19.2	96	87-116
	m,p-Xylene	40	38.6	97	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	90%	58-125%
98-08-8	aaa-Trifluorotoluene	109%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T24833
Account: MWHCODE Montgomery Watson
Project: San Juan Basin GW Sites Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T24833-2MS	KK028283.D	1	12/08/08	FI	n/a	n/a	GKK1389
T24833-2MSD	KK028284.D	1	12/08/08	FI	n/a	n/a	GKK1389
T24833-2	KK028282.D	1	12/08/08	FI	n/a	n/a	GKK1389

5.3

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

T24833-1, T24833-2

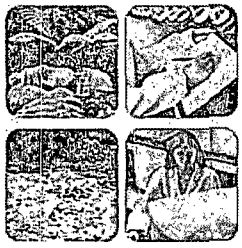
CAS No.	Compound	T24833-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	3.7		20	23.2	98	24.1	102	4	86-121/19
100-41-4	Ethylbenzene	ND		20	19.4	97	19.8	99	2	81-116/14
108-88-3	Toluene	1.8		20	20.6	94	21.3	98	3	87-117/16
1330-20-7	Xylenes (total)	ND		60	57.3	96	58.5	98	2	85-115/12
95-47-6	o-Xylene	ND		20	18.8	94	19.2	96	2	87-116/16
	m,p-Xylene	ND		40	38.4	96	39.3	98	2	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T24833-2	Limits
460-00-4	4-Bromofluorobenzene	88%	92%	91%	58-125%
98-08-8	aaa-Trifluorotoluene	106%	109%	105%	73-139%

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

03/09/09



Technical Report for

Montgomery Watson

San Juan Basin Pit Groundwater Remediation 2008-2009

Accutest Job Number: T25892

Sampling Date: 03/03/09

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
ATTN: Jed Smith

Total number of pages in report: **15**

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: 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.

Note: This report is password protected to disallow document modification or assembly.
A password to unlock this report is available from your client service representative.

Sections: 1 2 3 4 5

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Sample Summary

Montgomery Watson

Job No: T25892

San Juan Basin Pit Groundwater Remediation 2008-2009

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T25892-1	03/03/09	09:39	TU	03/04/09	AQ	Ground Water	HORTON 1E MW-1
T25892-2	03/03/09	07:00	TU	03/04/09	AQ	Trip Blank Water	030309TB01

ACCUTEST Laboratories

2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T25892

Site: San Juan Basin Pit Groundwater Remediation 2008-2009 **Report Date** 3/9/2009 3:10:05 PM

1 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 03/03/2009 and were received at Accutest on 03/04/2009 properly preserved, at 4.4 Deg. C and intact. These Samples received an Accutest job number of T25892. 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:** GKK1444

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T25846-2MS, T25846-2MSD 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

3.1

Client Sample ID:	HORTON 1E MW-1		
Lab Sample ID:	T25892-1	Date Sampled:	03/03/09
Matrix:	AQ - Ground Water	Date Received:	03/04/09
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	KK029828.D	1	03/07/09	FI	n/a	n/a	GKK1444
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	2.7	1.0	0.21	ug/l	
108-88-3	Toluene	1.9	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	96%		58-125%
98-08-8	aaa-Trifluorotoluene	84%		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

3.2

Client Sample ID:	030309TB01		
Lab Sample ID:	T25892-2	Date Sampled:	03/03/09
Matrix:	AQ - Trip Blank Water	Date Received:	03/04/09
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	KK029823.D	1	03/06/09	FI	n/a	n/a	GKK1444
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	97%		58-125%
98-08-8	aaa-Trifluorotoluene	83%		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

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

Page 1 of 1

FED-EX Tracking #: 8663 2309 4720
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: T25892

Client / Reporting Information		Project Information	
Company Name: MWH		Project Name / No.: EPTPC San Juan Basin Pit GW Remediation 2008-2009	
Project Contact: Jed Smith	E-Mail: jed.smith@mwhglobal.com	Bill to: El Paso Corp	Invoice Attn.: Norma Ramos
Address: 1801 California Street, Suite 2900		Address: 1001 Louisiana Street, Rm S1904B	
City: Denver State: CO	Zip: 80202	City: Houston State: TX	Zip: 77002
Phone No.: 303-291-2276	Fax No.:	Phone No.:	Fax No.:
Sampler's Name: Troy Urban		Client Purchase Order #:	

Requested Analyses: BTEX (8021B)

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	Date	Time	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	ENCORE	NAHSO4	MEOH	NONE	BTEX (8021B)	LAB USE ONLY
1	Horton 1E MW-1	030309	0939	GW	3	X								X	
2	030309TB01	030309	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

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]	3/3/09 1545	1	2	3-4-9 900	2 [signature]
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐ On Ice ☐	Cooler Temp. 4.4

4.1

4

T25892: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T25892 Client: MWH Date/Time Received: 3-4-9 900

# of Coolers Received: 1 Thermometer #: IR-1 Temperature Adjustment Factor: -0.4

Cooler Temps: #1: 4.4 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

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

Airbill Numbers: 8663-2309-4720

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] 3-4-9

INFORMATION AND SAMPLE LABELING VERIFIED BY: [signature]

CORRECTIVE ACTIONS

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

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

Client Instructions:

I:\mwalker\forms\samplemanagement

4.1 4

T25892: Chain of Custody
Page 2 of 3

SAMPLE RECEIPT LOG

JOB #: T25892 DATE/TIME RECEIVED: 3-4-9 900

CLIENT: MWH INITIALS: GHC

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	Horton 1-E MW-1	030309 0939	W	40ml	1-3	VR	1 (2) 3 4 5 6 7 8	<2 >12
1	2	Trip Blank	—	—	"	1-2	"	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
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12

GHC 3-4-9

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: DI 7: MeOH 8: Other

T25892: 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: T25892
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
GKK1444-MB	KK029812.D	1	03/06/09	FI	n/a	n/a	GKK1444

5.1

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

T25892-1, T25892-2

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	96%	58-125%
98-08-8	aaa-Trifluorotoluene	84%	73-139%

Blank Spike Summary

Job Number: T25892
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
GKK1444-BS	KK029808.D	1	03/06/09	FI	n/a	n/a	GKK1444

5.2

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

T25892-1, T25892-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.2	96	86-121
100-41-4	Ethylbenzene	20	19.5	98	81-116
108-88-3	Toluene	20	19.4	97	87-117
1330-20-7	Xylenes (total)	60	58.6	98	85-115
95-47-6	o-Xylene	20	19.6	98	87-116
	m,p-Xylene	40	39.0	98	84-116

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T25892
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
T25846-2MS	KK029819.D	1	03/06/09	FI	n/a	n/a	GKK1444
T25846-2MSD	KK029820.D	1	03/06/09	FI	n/a	n/a	GKK1444
T25846-2	KK029816.D	1	03/06/09	FI	n/a	n/a	GKK1444

5.3

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

T25892-1, T25892-2

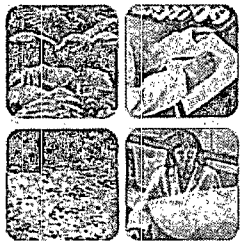
CAS No.	Compound	T25846-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	0.72	J	20	21.2	102	20.5	99	3	86-121/19
100-41-4	Ethylbenzene	ND		20	20.9	105	20.0	100	4	81-116/14
108-88-3	Toluene	ND		20	20.7	104	20.0	100	3	87-117/16
1330-20-7	Xylenes (total)	ND		60	61.7	103	59.4	99	4	85-115/12
95-47-6	o-Xylene	ND		20	20.6	103	19.8	99	4	87-116/16
	m,p-Xylene	ND		40	41.1	103	39.5	99	4	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T25846-2	Limits
460-00-4	4-Bromofluorobenzene	100%	99%	98%	58-125%
98-08-8	aaa-Trifluorotoluene	85%	84%	84%	73-139%

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

06/11/09



Technical Report for

Montgomery Watson

San Juan Basin Pit Groundwater Remediation 2008-2009

Horton

Accutest Job Number: T30414

Sampling Date: 06/02/09

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: 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

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Sample Summary

Montgomery Watson

Job No: T30414

San Juan Basin Pit Groundwater Remediation 2008-2009
Project No: Horton

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T30414-1	06/02/09	06:55	TU	06/04/09	AQ	Trip Blank Water	020609TB02
T30414-2	06/02/09	08:52	TU	06/04/09	AQ	Ground Water	HORTON 1E MW-1

ACCUTEST Laboratories

2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Montgomery Watson	**Job No**	T30414
Site:	San Juan Basin Pit Groundwater Remediation 2008-2009	**Report Date**	6/8/2009 3:24:25 PM

1 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 06/02/2009 and were received at Accutest on 06/04/2009 properly preserved, at 4 Deg. C and intact. These Samples received an Accutest job number of T30414. 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:** GKK1498

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T30414-2MS, T30414-2MSD 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

3.1

Client Sample ID:	020609TB02		
Lab Sample ID:	T30414-1	Date Sampled:	06/02/09
Matrix:	AQ - Trip Blank 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	KK031128.D	1	06/05/09	FI	n/a	n/a	GKK1498
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	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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HORTON 1E MW-1		
Lab Sample ID:	T30414-2	Date Sampled:	06/02/09
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	KK031118.D	1	06/05/09	FI	n/a	n/a	GKK1498
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	3.6	1.0	0.21	ug/l	
108-88-3	Toluene	1.4	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	84%		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

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 1 of 1

FED-EX Tracking # 8693 8850 8201 | Bottle Order Control # | Accutest Quote # | Accutest Job # T30414

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.:
Sampler's Name: Troy Urban

Project Information

Project Name / No.: Horton 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: Hou | State: TX | Zip: 77002
Phone No.: | Fax No.:
Client Purchase Order #: West-ALAB-GroundRem-007

Requested Analyses

BTEX (8021B) Include m,p, & o-xylene

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	HNO3	H2SO4	EnCore	NaHSO4	MEOH	NONE	BTEX (8021B) Include m,p, & o-xylene	LAB USE ONLY
	020609TB02	060209	0655	GW	2	X							X	
	Horton IE MW-1	060209	0852	GW	3	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

If samples are received unpreserved, please notify MWH regarding holding time!!

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	6/3/09 1640	1			
2			2	FedEx	6-4-9 9:5	2
3	Relinquished by:	Date Time:	3	4	Date Time:	4
5	Relinquished by:	Date Time:	5	Custody Seal #	Preserved where applicable ☐	On Ice: X Cooler Temp.: 4.0°C

T30414: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T30414 Client: MWH Date/Time Received: 6-4-9 915

# of Coolers Received: 1 Thermometer #: 110 Temperature Adjustment Factor: -0.3

Cooler Temps: #1: 4.0°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: 6-4-9

INFORMATION AND SAMPLE LABELING VERIFIED BY: 06/4/09

CORRECTIVE ACTIONS

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

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

Client Instructions:

I:\mwalker\forms\samplemanagement

4.1 4

T30414: Chain of Custody
Page 2 of 3

SAMPLE RECEIPT LOG

JOB #: T30414 DATE/TIME RECEIVED: 6-4-9 9:15

CLIENT: MWH INITIALS: GC

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	Horton 1E MW-1	6-2-9	W	"	1-3	"	1 (2) 3 4 5 6 7 8	<2 >12

GC 6-4-9

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

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T30414: 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: T30414
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
GKK1498-MB	KK031117.D	1	06/05/09	FI	n/a	n/a	GKK1498

5.1.1

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

T30414-1, T30414-2

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	86%	58-125%
98-08-8	aaa-Trifluorotoluene	88%	73-139%

Blank Spike Summary

Job Number: T30414
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
GKK1498-BS	KK031113.D	1	06/05/09	FI	n/a	n/a	GKK1498

5.2.1

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

T30414-1, T30414-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.1	96	86-121
100-41-4	Ethylbenzene	20	19.3	97	81-116
108-88-3	Toluene	20	19.3	97	87-117
1330-20-7	Xylenes (total)	60	57.7	96	85-115
95-47-6	o-Xylene	20	19.2	96	87-116
	m,p-Xylene	40	38.5	96	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	88%	58-125%
98-08-8	aaa-Trifluorotoluene	91%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T30414
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
T30414-2MS	KK031124.D	1	06/05/09	FI	n/a	n/a	GKK1498
T30414-2MSD	KK031125.D	1	06/05/09	FI	n/a	n/a	GKK1498
T30414-2	KK031118.D	1	06/05/09	FI	n/a	n/a	GKK1498

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

T30414-1, T30414-2

CAS No.	Compound	T30414-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	3.6		20	24.5	105	24.4	104	0	86-121/19
100-41-4	Ethylbenzene	ND		20	21.4	107	21.3	107	0	81-116/14
108-88-3	Toluene	1.4		20	22.4	105	22.3	105	0	87-117/16
1330-20-7	Xylenes (total)	ND		60	63.4	106	63.1	105	0	85-115/12
95-47-6	o-Xylene	ND		20	21.1	106	21.0	105	0	87-116/16
	m,p-Xylene	ND		40	42.3	106	42.2	106	0	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T30414-2	Limits
460-00-4	4-Bromofluorobenzene	89%	89%	84%	58-125%
98-08-8	aaa-Trifluorotoluene	91%	91%	90%	73-139%

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

09/29/09

Technical Report for

Montgomery Watson

San Juan Basin Pit Groundwater Remediation

HORTON #E

Accutest Job Number: T37836

Sampling Date: 09/16/09

Report to:

Montgomery Watson

Jed.Smith@us.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: 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

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Sample Summary

Montgomery Watson

Job No: T37836

San Juan Basin Pit Groundwater Remediation
Project No: HORTON #E

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T37836-1	09/16/09	09:35	TU	09/17/09	AQ	Ground Water	HORTON 1E MW-1
T37836-2	09/16/09	10:43	TU	09/17/09	AQ	Ground Water	HORTON 1E MW-2
T37836-3	09/16/09	11:28	TU	09/17/09	AQ	Ground Water	HORTON 1E MW-3
T37836-4	09/16/09	07:00	TU	09/17/09	AQ	Trip Blank Water	160909 TB01

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Montgomery Watson	**Job No**	T37836
Site:	San Juan Basin Pit Groundwater Remediation	**Report Date**	9/22/2009 4:48:45 PM

3 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 09/16/2009 and were received at Accutest on 09/17/2009 properly preserved, at 2 Deg. C and intact. These Samples received an Accutest job number of T37836. 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:** GKK1554

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T37878-3MS, T37878-3MSD 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, 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:	HORTON 1E MW-1		
Lab Sample ID:	T37836-1	Date Sampled:	09/16/09
Matrix:	AQ - Ground Water	Date Received:	09/17/09
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan Basin Pit Groundwater Remediation		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK032485.D	1	09/21/09	FI	n/a	n/a	GKK1554
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	0.44	1.0	0.36	ug/l	J
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	101%		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:	HORTON 1E MW-2		
Lab Sample ID:	T37836-2	Date Sampled:	09/16/09
Matrix:	AQ - Ground Water	Date Received:	09/17/09
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan Basin Pit Groundwater Remediation		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK032495.D	1	09/21/09	FI	n/a	n/a	GKK1554
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	96%		58-125%
98-08-8	aaa-Trifluorotoluene	120%		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:	HORTON 1E MW-3		
Lab Sample ID:	T37836-3	Date Sampled:	09/16/09
Matrix:	AQ - Ground Water	Date Received:	09/17/09
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan Basin Pit Groundwater Remediation		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK032496.D	1	09/21/09	FI	n/a	n/a	GKK1554
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	99%		58-125%
98-08-8	aaa-Trifluorotoluene	121%		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:	160909 TB01		
Lab Sample ID:	T37836-4	Date Sampled:	09/16/09
Matrix:	AQ - Trip Blank Water	Date Received:	09/17/09
Method:	SW846 8021B	Percent Solids:	n/a
Project:	San Juan Basin Pit Groundwater Remediation		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK032484.D	1	09/21/09	FI	n/a	n/a	GKK1554
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	99%		58-125%
98-08-8	aaa-Trifluorotoluene	120%		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

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

Page 1 of 1

FED-EX Tracking # 8706 6705 7162 | Bottle Order Control # | Accutest Quote # | Accutest Job # T37836

Client / Reporting Information		Project Information	
Company Name: MWH		Project Name / No.: HORTON #E — EPTPC San Juan Basin Pit GW Remediation 2009-2010	
Project Contact: Jed Smith	E-Mail: jed.smith@mwhglobal.com	Bill to: El Paso Corp	Invoice Attn.: Norma Ramos
Address: 1801 California Street, Suite 2900		Address: 1001 Louisiana Street, Rm S1904B	
City: Denver, State: CO	Zip: 80202	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 #	

Requested Analyses: BTEX (8021B) include m, p, & o-xylene

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	Date	Time	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	ENCORE	NaHSO4	MEOH	NONE	BTEX (8021B)	LAB USE ONLY
	Horton 1E MW-1	091609	0935	GW	3	X								X	
	Horton 1E MW-2	091609	1043	GW	3	X								X	
	Horton 1E MW-3	091609	1128	GW	3	X								X	
	160909TBØ1	091609	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

If samples are received unpreserved, please notify MWH regarding holding time!!!

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] 9/16/09	1440	1	2 FedEx	9/17/09 950	2 [signature]
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 2.0 °C

4.1

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T37836: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T37836 Client: MWH Date/Time Received: 9-17-9 930

# of Coolers Received: 1 Thermometer #: IR1 Temperature Adjustment Factor: +.4

Cooler Temps: #1: 2.0°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: 9/17/9

INFORMATION AND SAMPLE LABELING VERIFIED BY: _____

CORRECTIVE ACTIONS

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

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

Client Instructions:

I:\mwalker\forms\samplemanagement

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T37836: Chain of Custody
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SAMPLE RECEIPT LOG

JOB #: T37836 DATE/TIME RECEIVED: 9-17-9 930

CLIENT: MWH INITIALS: EC

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH	
1	1	Horton 1E mw-1	9-16-9 935	W	40ml	1-3	VR	1 (2) 3 4 5 6 7 8	<2	>12
↓	2	↓ -2	↓ 1043	↓	↓	↓	↓	1 (2) 3 4 5 6 7 8	<2	>12
↓	3	↓ -3	↓ 1123	↓	↓	↓	↓	1 (2) 3 4 5 6 7 8	<2	>12
↓	4	Trip Blank	—	—	↓	1-2	↓	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

EC 9-17-9

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

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T37836: Chain of Custody

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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: T37836
Account: MWHCODE Montgomery Watson
Project: San Juan Basin Pit Groundwater Remediation

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1554-MB	KK032483.D	1	09/21/09	FI	n/a	n/a	GKK1554

5.1.1

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

T37836-1, T37836-2, T37836-3, T37836-4

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	99%	58-125%
98-08-8	aaa-Trifluorotoluene	120%	73-139%

Blank Spike Summary

Job Number: T37836
Account: MWHCODE Montgomery Watson
Project: San Juan Basin Pit Groundwater Remediation

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1554-BS	KK032479.D	1	09/21/09	FI	n/a	n/a	GKK1554

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

T37836-1, T37836-2, T37836-3, T37836-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.3	97	86-121
100-41-4	Ethylbenzene	20	21.3	107	81-116
108-88-3	Toluene	20	20.6	103	87-117
1330-20-7	Xylenes (total)	60	63.1	105	85-115
95-47-6	o-Xylene	20	21.3	107	87-116
	m,p-Xylene	40	41.8	105	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	102%	58-125%
98-08-8	aaa-Trifluorotoluene	122%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T37836
Account: MWHCODE Montgomery Watson
Project: San Juan Basin Pit Groundwater Remediation

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T37878-3MS	KK032489.D	1	09/21/09	FI	n/a	n/a	GKK1554
T37878-3MSD	KK032490.D	1	09/21/09	FI	n/a	n/a	GKK1554
T37878-3	KK032488.D	1	09/21/09	FI	n/a	n/a	GKK1554

5.3.1

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

T37836-1, T37836-2, T37836-3, T37836-4

CAS No.	Compound	T37878-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	2.4		20	24.4	110	24.2	109	1	86-121/19
100-41-4	Ethylbenzene	1.0 U		20	24.8	124*	24.9	125*	0	81-116/14
108-88-3	Toluene	0.82	J	20	24.5	118*	24.3	117	1	87-117/16
1330-20-7	Xylenes (total)	11.7		60	84.1	121*	83.9	120*	0	85-115/12
95-47-6	o-Xylene	6.0		20	30.2	121*	30.2	121*	0	87-116/16
	m,p-Xylene	5.8		40	53.9	120*	53.8	120*	0	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T37878-3	Limits
460-00-4	4-Bromofluorobenzene	103%	106%	101%	58-125%
98-08-8	aaa-Trifluorotoluene	124%	124%	123%	73-139%