3R - 190

CLOSURE REQUEST

1/09/2009

3R190

RECEIVED
2009 JAN 13 PM 1 17

Via FedEx

January 9, 2009

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

RE: Closure Request for Hamner #9 Site
NMOCD Case No. 3RP-190

Dear Mr. von Gonten:

El Paso Tennessee Pipeline Company (EPTPC), formerly El Paso Field Services (EPFS), hereby requests regulatory closure of the Hamner #9 site (NMOCD Case No. 3R-190). 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 formally requests closure of Hamner #9 site based on the data obtained and documented herein.

Summary of Project History

The Hamner #9 site was assessed in 1994 and given an NMOCD Hazard Ranking of 30. 70 cubic yards of impacted soil were excavated from the former pit in May 1994, and the first monitoring well (MW-1) was installed in August 1995, in the location of the former pit. The groundwater in MW-1 exceeded the NMWQCC groundwater standards for benzene (198 ug/L), toluene (1,480 ug/L), and total xylenes (2,250 ug/L).

In October 1996, additional site characterization work was conducted. Two piezometers were installed southwest and south of MW-1, along with 2 additional probeholes that were used for one-time gauging and groundwater sampling. As reported in the 1997 Groundwater Annual Report (EPFS, March 1998), the characterization effort indicated that the groundwater gradient was toward the south-southwest and groundwater impacts above the applicable standards were only present southwest of MW-1. The 1998 report also suggested that nutrient injection be utilized to facilitate degradation of the residual site impacts.

In correspondence dated July 8, 1998, the NMOCD required that EPFS install additional permanent groundwater monitoring wells at several sites, including the Hamner #9 site. In response, EPFS installed new wells MW-2 and MW-3 in September 1999 (permanent surface completions installed subsequently in July 2000). MW-2 and MW-3 were

sampled annually from October 1999 through May 2002, with no detections of BTEX encountered. These results suggested that the remaining impacts were located in the more immediate vicinity of the former pit and monitoring well MW-1. Therefore, in November 2002, per previous recommendations made to the NMOCD regarding this site, EPFS injected approximately 92 pounds of oxygen releasing compound into direct push boreholes advanced on the north and east sides of the former pit. This effort was intended to help accelerate the natural attenuation of the remaining hydrocarbon impacts.

In a letter dated April 3, 2003, the NMOCD requested that additional plume delineation be conducted at several EPC sites, including Hamner #9. In response, EPC first re-surveyed the 3 monitoring wells at Hamner #9, finding that the groundwater gradient was directed toward the west, rather than to the south-southwest as originally understood. Following several meetings and project management transitions, EPC installed a new downgradient monitoring well (MW-4) in November 2006. This well was sampled four times between November 2006 and February 2008. The only detections occurred in November 2006, with toluene and total xylenes each being detected at estimated concentrations of less than 1 ug/L.

Monitoring Data

Figure 1 depicts the site layout and the most recent groundwater analytical results (November 2008). For reference, the approximate locations of the 1996 direct push piezometers and probeholes are also shown. Figure 2 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 November 2008, the groundwater quality at the site has now met the applicable New Mexico Water Quality Control Commission standards for 5 consecutive quarters, fulfilling the closure criteria specified in Section 5 of the approved Remediation Plan. Attachment 1 contains the laboratory analytical reports for these 5 quarterly sampling events.

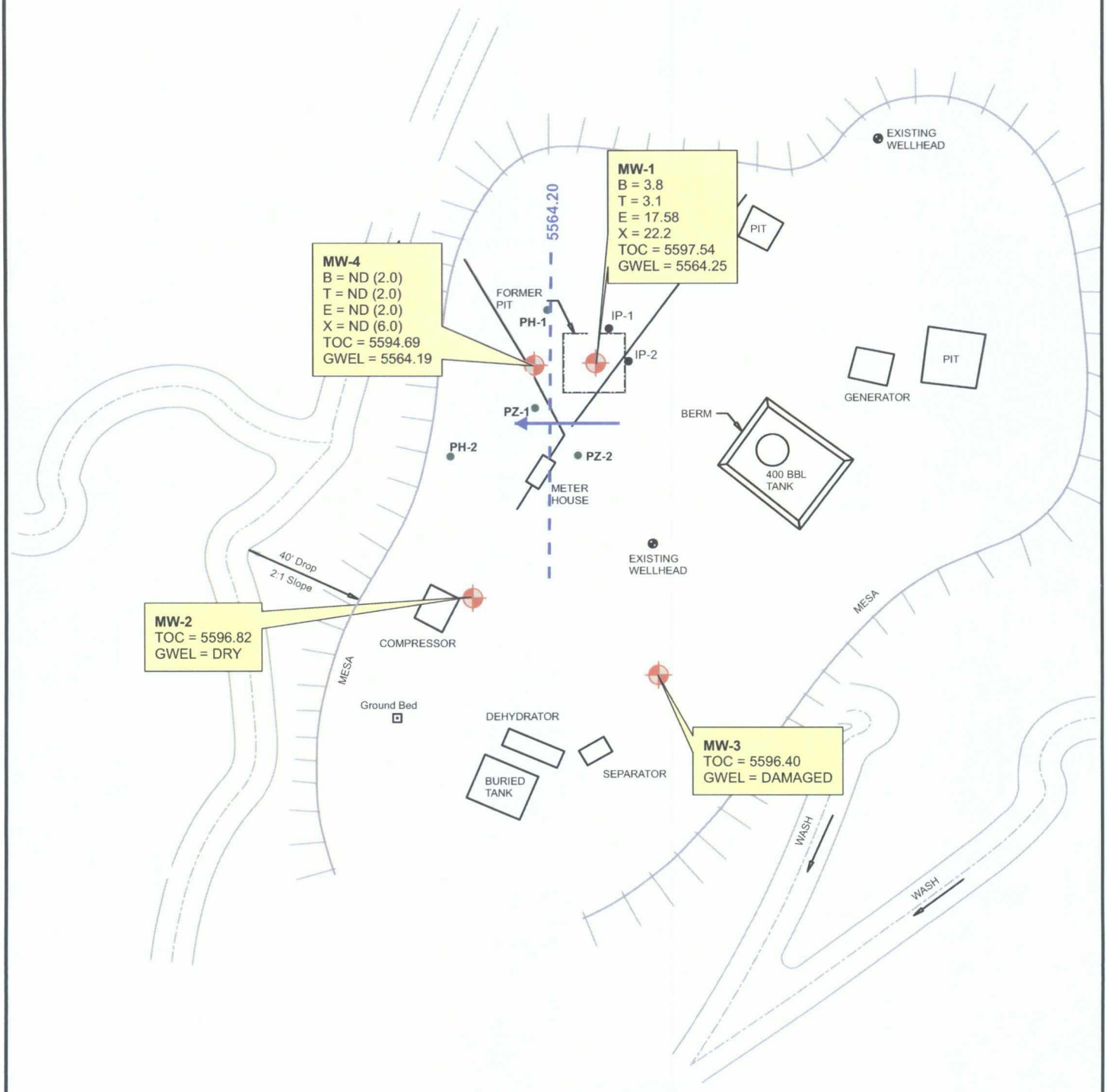
If you have any comments or questions concerning the attached correspondence, please contact me at (713) 420-5150.

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
●	Approx. Location of 1996 Piezometer/ Probehole
●	ORC Injection Point (Nov. 2002)
→	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)

N

0 20 40 60 80 Feet

MWH

elpaso

PROJECT: HAMNER #9

FIGURE: 1

TITLE: Groundwater Potentiometric Surface Map, and BTEX Concentrations - November 6, 2008

FIGURE 2
SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
HAMNER #9 (METER #97213)
MW01

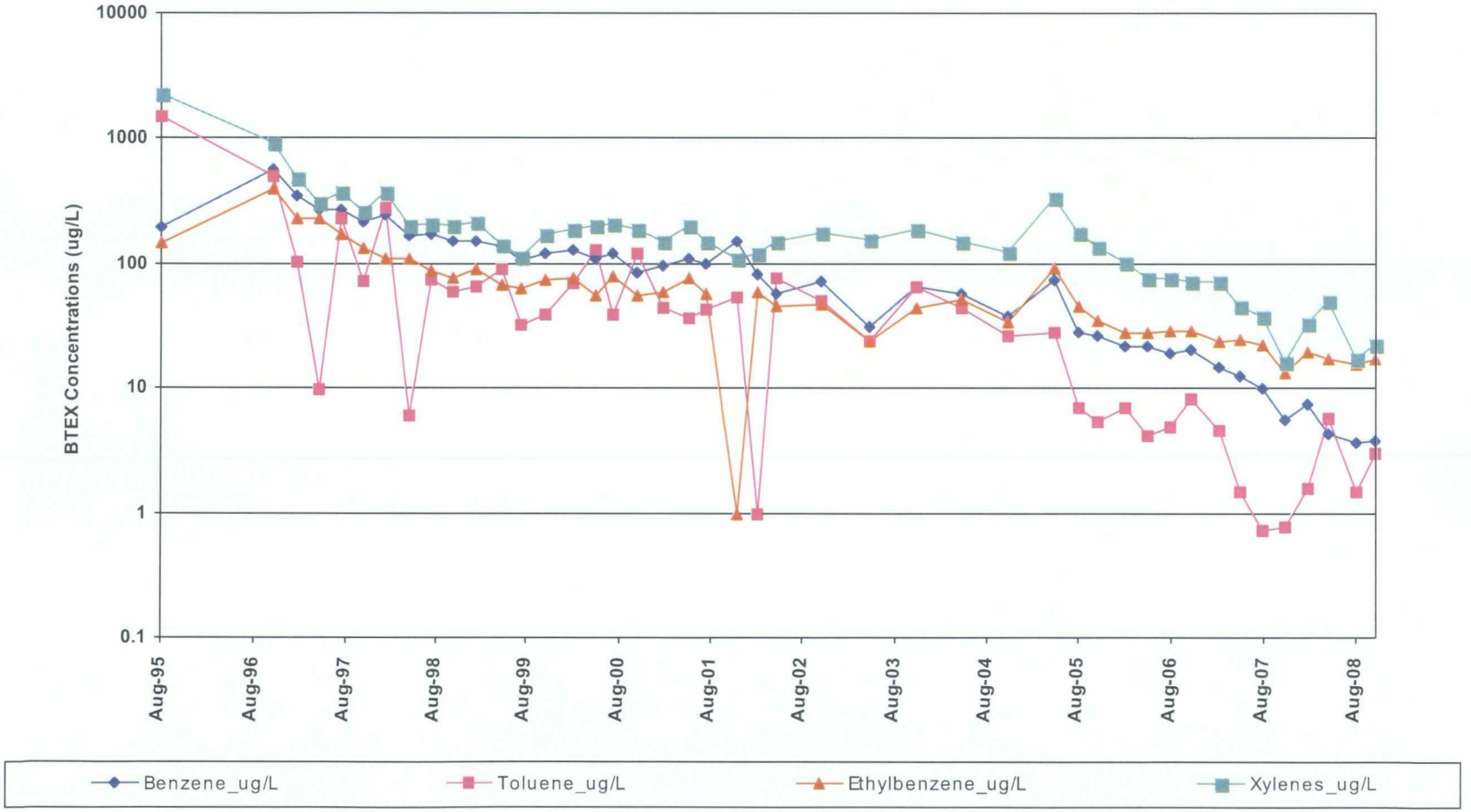


TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
HAMNER #9 (METER #97213)

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW01	8/25/1995	198	1480	146	2250	29.53
	11/8/1996	559	499	395	933	30.30
	2/10/1997	350	101	233	476	30.07
	5/8/1997	266	9.75	230	308	29.99
	8/5/1997	272	228	172	370	30.16
	11/4/1997	216	72.1	133	260	30.21
	2/3/1998	245	276	109	375	32.48
	5/7/1998	166	6.02	110	202	32.38
	8/4/1998	171	74.4	86.1	209	32.54
	11/3/1998	151	58.7	76.4	204	32.62
	2/2/1999	153	64.8	89.7	217	32.42
	5/19/1999	137	89.4	67.3	141	32.28
	8/4/1999	105	32.6	63	113	32.28
	11/9/1999	120	39	75	170	32.19
	2/25/2000	130	70	78	190	32.05
	5/24/2000	110	130	56	200	31.96
	8/1/2000	120	39	80	210	32.08
	11/6/2000	84	120	56	190	32.19
	2/12/2001	95	44	60	150	32.12
	5/30/2001	110	36	78	200	32.06
	8/7/2001	99	43	58	150	32.28
	12/4/2001	150	53	1	110	32.40
	2/25/2002	83	1	59	120	32.39
	5/14/2002	57	78	46	150	32.37
	11/4/2002	72.5	50	47	178.6	32.67
	5/19/2003	31.1	24.4	23.9	158	32.45
	11/15/2003	65.5	65	44.5	190	32.76
	5/11/2004	57.6	44.5	52.1	153	32.61
	11/16/2004	38	26.4	34.7	126	32.88
	5/18/2005	74	27.9	93.1	340	32.67
	8/23/2005	28.6	7	46.3	175	33.05
	11/8/2005	26.2	5.5	35.5	137	32.93
	2/23/2006	22.1	7.1	28.2	102	32.81
	5/23/2006	21.6	4.2	28.3	76.6	32.83
	8/23/2006	18.9	5	29.1	76.7	33.06

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

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
HAMNER #9 (METER #97213)

Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)
MW01	11/8/2006	20.4	8.2	28.8	71.9	33.09
	2/26/2007	14.8	4.7	23.7	72.1	32.94
	5/24/2007	12.5	1.5	24.6	45.1	32.86
	8/21/2007	10.1	0.75	22.2	38	33.13
	11/13/2007	5.7	0.79	13.3	16.5	33.21
	2/12/2008	7.5	1.6	19.6	32.9	33.10
	5/8/2008	4.3	5.8	17.4	51	32.98
	8/26/2008	3.7	1.5	15.6	17.2	33.25
	11/6/2008	3.8	3.1	17.5	22.2	33.29
MW02	10/15/1999	1	1	1	1	29.57
	8/28/2000	1	1	1	1	31.65
	5/30/2001	1	1	1	1	31.57
	5/14/2002	1	1	1	1	31.85
MW03	10/15/1999	1	1	1	1	28.34
	8/28/2000	1	1	1	1	30.96
	5/30/2001	1	1	1	1	30.87
	6/13/2002	1	1	1	1	31.33
MW04	11/8/2006	1	0.28	1	0.36	30.32
	8/21/2007	1	1	1	1	30.31
	11/13/2007	1	1	1	1	30.41
	2/12/2008	1	1	1	1	30.31
	8/26/2008	1	1	1	1	30.42

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

ATTACHMENT A

Analytical Laboratory Reports

MWH

Gulf Coast ACCUTEST Laboratories

LT'S ALL IN THE CHEMISTRY

11/28/07

Technical Report for

Montgomery Watson

EPFS San Juan Basin Groundwater Site

DALAB-GROUNDREM005

Accutest Job Number: T19743

Sampling Date: 11/13/07

Report to:

Danielwade@mwhglobal.com

ATTN: Daniel Wade

Total number of pages in report: **18**

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.

Ron Martino
Laboratory Manager

Client Service contact: Agnes Vicknair 713-271-4700

Sections: 1 2 3 4 5

Table of Contents

-1-

Accutest Laboratories

Sample Summary

Montgomery Watson

Job No: T19743

EPFS San Juan Basin Groundwater Site
Project No: DALAB-GROUNDREM005

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T19743-1	11/13/07	11:25	MN	11/15/07	AQ	Ground Water	HAMNER MW-1
T19743-2	11/13/07	12:39	MN	11/15/07	AQ	Ground Water	HAMNER MW-4
T19743-3	11/13/07	07:00	MN	11/15/07	AQ	Trip Blank Water	131107TB01 TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T19743

Site: EPFS San Juan Basin Groundwater Site **Report Date** 11/28/2007 3:56:09 PM

2 Samples and 1 Trip Blank were collected on 11/13/2007 and were received at Accutest on 11/15/2007 properly preserved, at 1.4 Deg. C and intact. These Samples received an Accutest job number of T19743. 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 GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** VZ1839

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T19770-18MS, T19770-18MSD were used as the QC samples indicated.
- T19743-3 for Toluene: Confirmed by reanalysis.

Matrix AQ **Batch ID:** VZ1841

- All method blanks for this batch meet method specific criteria.
- Sample(s) T19743-1MS, T19743-1MSD 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

3.1

Client Sample ID:	HAMNER MW-1		
Lab Sample ID:	T19743-1	**Date Sampled:**	11/13/07
Matrix:	AQ - Ground Water	**Date Received:**	11/15/07
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0036259.D	1	11/27/07	LJ	n/a	n/a	VZ1841
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	5.7	2.0	0.23	ug/l	
108-88-3	Toluene	0.79	2.0	0.54	ug/l	J
100-41-4	Ethylbenzene	13.3	2.0	0.48	ug/l	
1330-20-7	Xylene (total)	16.5	6.0	1.1	ug/l	
95-47-6	o-Xylene	0.95	2.0	0.48	ug/l	J
	m,p-Xylene	15.5	4.0	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-125%
17060-07-0	1,2-Dichloroethane-D4	104%		69-128%
2037-26-5	Toluene-D8	112%		80-121%
460-00-4	4-Bromofluorobenzene	104%		69-142%

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:	HAMNER MW-4		
Lab Sample ID:	T19743-2	**Date Sampled:**	11/13/07
Matrix:	AQ - Ground Water	**Date Received:**	11/15/07
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0036260.D	1	11/27/07	LJ	n/a	n/a	VZ1841
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	2.0	0.23	ug/l	
108-88-3	Toluene	ND	2.0	0.54	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.48	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.1	ug/l	
95-47-6	o-Xylene	ND	2.0	0.48	ug/l	
	m,p-Xylene	ND	4.0	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-125%
17060-07-0	1,2-Dichloroethane-D4	102%		69-128%
2037-26-5	Toluene-D8	115%		80-121%
460-00-4	4-Bromofluorobenzene	108%		69-142%

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

3.3 B

Client Sample ID:	131107TB01 TRIP BLANK		
Lab Sample ID:	T19743-3	**Date Sampled:**	11/13/07
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/15/07
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0036235.D	1	11/26/07	LJ	n/a	n/a	VZ1839
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	2.0	0.23	ug/l	
108-88-3	Toluene [a]	1.6	2.0	0.54	ug/l	J
100-41-4	Ethylbenzene	ND	2.0	0.48	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.1	ug/l	
95-47-6	o-Xylene	ND	2.0	0.48	ug/l	
	m,p-Xylene	ND	4.0	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-125%
17060-07-0	1,2-Dichloroethane-D4	89%		69-128%
2037-26-5	Toluene-D8	115%		80-121%
460-00-4	4-Bromofluorobenzene	111%		69-142%

(a) Confirmed by reanalysis.

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 # 8610 9441 0282
Bottle Order Control #
Accutest Quote #
Accutest Job # T19743

Client / Reporting Information

Company Name: MWH AMERICAS
Address: 1801 CALIFORNIA ST STE 200
City: DENVER State: CO Zip: 80202
Project Contact: JED SMITH E-mail:
Phone #: 303 291 2276
Sampler's Name: M NEE

Project Information

Project Name: SAN JUAN BASIN GROUND WATER
Street:
City: State:
Project #:
Fax #:
Client Purchase Order #: DALAB-GROUND REM 005

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 #	Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	BTEX 8021	LAB USE ONLY
1	Hamner mw-1		111307	1125	MN	WG	3	3								3	
2	Hamner mw-4		111307	1239	MN	WG	3	3								3	
3	131107TB01 Trip		111307	0700	MN	WQ	2	2								2 m	

Turnaround Time (Business Days) Approved By: / Date:

- ☑ 10 Day STANDARD
- ☐ 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	Date Time	Received by	Relinquished by	Date Time	Received by
1 Sampler: [signature] 111407	1600	1	2	11-15-07 8:50	2 A. Franco
3		3	4		4
5		5	Custody Seal #	Preserved where applicable ☐ / On Ice ☒	Cooler Temp 1.4°C

4.1

4

T19743: Chain of Custody
Page 1 of 2

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T19743 DATE/TIME RECEIVED: 11-15-07 8:51

CLIENT: MWH INITIALS: AF

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. (Y) N Sample received in undamaged condition.
2. (Y) N Samples received within temp. range.
3. (Y) N Sample received with proper pH.
4. (Y) N Sample received in proper containers.
5. (Y) N Sample volume sufficient for analysis.
6. (Y) N Sample received with chain of custody.
7. (Y) N Chain of Custody matches **sample IDs and analysis** on containers.
8. (Y) N Samples Headspace acceptable
9. (Y) N NA Custody seal received intact and tamper not evident on cooler.
10. Y N (NA) Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1-2	1-3	11-13-07	AQ	40ml	vref	1,~~2~~,3,4,5,6	U, <2, >12, ~~NA~~
3	1-2	NA	↓	↓	↓	1,~~2~~,3,4,5,6	U, <2, >12, ~~NA~~
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

AF 11/15/07

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

~~pH of waters checked excluding volatiles~~

pH of soils N/A

Comments: ______

Delivery method: Courier: FE

COOLER TEMP: 1.4 °C COOLER TEMP: ______

COOLER TEMP: ______ COOLER TEMP: ______

Form: SM012, Rev.07/28/06, QAO

T19743: Chain of Custody

Page 2 of 2

GC/MS 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: T19743
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ1839-MB	Z0036227.D	1	11/26/07	LJ	n/a	n/a	VZ1839

5.1

The QC reported here applies to the following samples: Method: SW846 8260B

T19743-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.48	ug/l	
108-88-3	Toluene	ND	2.0	0.54	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.1	ug/l	
	m,p-Xylene	ND	4.0	1.1	ug/l	
95-47-6	o-Xylene	ND	2.0	0.48	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	76-125%
17060-07-0	1,2-Dichloroethane-D4	89%	69-128%
2037-26-5	Toluene-D8	115%	80-121%
460-00-4	4-Bromofluorobenzene	108%	69-142%

Method Blank Summary

Job Number: T19743
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ1841-MB	Z0036256.D	1	11/27/07	LJ	n/a	n/a	VZ1841

The QC reported here applies to the following samples: Method: SW846 8260B

T19743-1, T19743-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.23	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.48	ug/l	
108-88-3	Toluene	ND	2.0	0.54	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.1	ug/l	
	m,p-Xylene	ND	4.0	1.1	ug/l	
95-47-6	o-Xylene	ND	2.0	0.48	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	76-125%
17060-07-0	1,2-Dichloroethane-D4	95%	69-128%
2037-26-5	Toluene-D8	116%	80-121%
460-00-4	4-Bromofluorobenzene	109%	69-142%

Blank Spike Summary

Job Number: T19743
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ1839-BS	Z0036226.D	1	11/26/07	LJ	n/a	n/a	VZ1839

The QC reported here applies to the following samples: Method: SW846 8260B

T19743-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	21.6	86	73-121
100-41-4	Ethylbenzene	25	22.4	90	75-117
108-88-3	Toluene	25	25.9	104	75-119
1330-20-7	Xylene (total)	75	66.5	89	75-118
	m,p-Xylene	50	44.5	89	75-119
95-47-6	o-Xylene	25	22.0	88	74-117

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	76-125%
17060-07-0	1,2-Dichloroethane-D4	86%	69-128%
2037-26-5	Toluene-D8	114%	80-121%
460-00-4	4-Bromofluorobenzene	109%	69-142%

Blank Spike Summary

Job Number: T19743
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ1841-BS	Z0036255.D	1	11/27/07	LJ	n/a	n/a	VZ1841

The QC reported here applies to the following samples: Method: SW846 8260B

T19743-1, T19743-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.9	100	73-121
100-41-4	Ethylbenzene	25	25.9	104	75-117
108-88-3	Toluene	25	29.3	117	75-119
1330-20-7	Xylene (total)	75	74.7	100	75-118
	m,p-Xylene	50	50.1	100	75-119
95-47-6	o-Xylene	25	24.6	98	74-117

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	76-125%
17060-07-0	1,2-Dichloroethane-D4	94%	69-128%
2037-26-5	Toluene-D8	114%	80-121%
460-00-4	4-Bromofluorobenzene	106%	69-142%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T19743
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T19770-18MS	Z0036246.D	50	11/26/07	LJ	n/a	n/a	VZ1839
T19770-18MSD	Z0036247.D	50	11/26/07	LJ	n/a	n/a	VZ1839
T19770-18	Z0036245.D	50	11/26/07	LJ	n/a	n/a	VZ1839

The QC reported here applies to the following samples: Method: SW846 8260B

T19743-3

CAS No.	Compound	T19770-18 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	4550		1250	5640	87	5570	82	1	74-125/18
100-41-4	Ethylbenzene	2140		1250	3330	95	3240	88	3	77-119/20
108-88-3	Toluene	8180		1250	9340	93	9100	74* [a]	3	79-119/21
1330-20-7	Xylene (total)	16900		3750	20400	93	19600	72* [a]	4	78-119/20
	m,p-Xylene	11900		2500	14300	96	13700	72* [a]	4	79-119/20
95-47-6	o-Xylene	4930		1250	6120	95	5890	77	4	76-118/21

CAS No.	Surrogate Recoveries	MS	MSD	T19770-18	Limits
1868-53-7	Dibromofluoromethane	97%	98%	97%	76-125%
17060-07-0	1,2-Dichloroethane-D4	91%	95%	95%	69-128%
2037-26-5	Toluene-D8	114%	113%	117%	80-121%
460-00-4	4-Bromofluorobenzene	104%	106%	115%	69-142%

(a) Outside control limits due to high level in sample relative to spike amount.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T19743
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T19743-1MS	Z0036277.D	1	11/28/07	LJ	n/a	n/a	VZ1841
T19743-1MSD	Z0036278.D	1	11/28/07	LJ	n/a	n/a	VZ1841
T19743-1	Z0036259.D	1	11/27/07	LJ	n/a	n/a	VZ1841

The QC reported here applies to the following samples: **Method:** SW846 8260B

T19743-1, T19743-2

CAS No.	Compound	T19743-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	5.7		25	31.6	104	31.6	104	0	74-125/18
100-41-4	Ethylbenzene	13.3		25	38.7	102	38.8	102	0	77-119/20
108-88-3	Toluene	0.79	J	25	29.7	116	30.0	117	1	79-119/21
1330-20-7	Xylene (total)	16.5		75	88.1	95	90.2	98	2	78-119/20
	m,p-Xylene	15.5		50	63.5	96	64.7	98	2	79-119/20
95-47-6	o-Xylene	0.95	J	25	24.6	95	25.5	98	4	76-118/21

CAS No.	Surrogate Recoveries	MS	MSD	T19743-1	Limits
1868-53-7	Dibromofluoromethane	109%	100%	98%	76-125%
17060-07-0	1,2-Dichloroethane-D4	120%	108%	104%	69-128%
2037-26-5	Toluene-D8	118%	113%	112%	80-121%
460-00-4	4-Bromofluorobenzene	109%	102%	104%	69-142%

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

02/19/08

Technical Report for

Montgomery Watson

EPFS San Juan Basin Groundwater Site

D-ALAM-GROUNDREM006

Accutest Job Number: T20864

Sampling Date: 02/12/08

Report to:

Danielwade@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.

Ron Martino
Laboratory Manager

Client Service contact: Agnes Vicknair 713-271-4700

Sections: 1 2 3 4 5

Table of Contents

-1-

Sample Summary

Montgomery Watson

Job No: T20864

EPFS San Juan Basin Groundwater Site
Project No: D-ALAM-GROUNDREM006

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T20864-1	02/12/08	12:50	TU	02/14/08	AQ	Ground Water	HAMNER MW-1
T20864-2	02/12/08	12:24	TU	02/14/08	AQ	Ground Water	HAMNER MW-4
T20864-3	02/12/08	07:00	TU	02/14/08	AQ	Trip Blank Water	120208TB01

ACCUTEST. Laboratories

2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T20864

Site: EPFS San Juan Basin Groundwater Site **Report Date** 2/19/2008 4:36:23 PM

2 Samples and 1 Trip Blank were collected on 02/12/2008 and were received at Accutest on 02/14/2008 properly preserved, at 5.9 Deg. C and intact. These Samples received an Accutest job number of T20864. 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 GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** VF2876

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T20862-1MS, T20862-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Benzene are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate 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

Report of Analysis

Client Sample ID:	HAMNER MW-1		
Lab Sample ID:	T20864-1	**Date Sampled:**	02/12/08
Matrix:	AQ - Ground Water	**Date Received:**	02/14/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0090212.D	1	02/18/08	LJ	n/a	n/a	VF2876
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	7.5	2.0	0.46	ug/l	
108-88-3	Toluene	1.6	2.0	0.48	ug/l	J
100-41-4	Ethylbenzene	19.6	2.0	0.45	ug/l	
1330-20-7	Xylene (total)	32.9	6.0	1.4	ug/l	
95-47-6	o-Xylene	4.6	2.0	0.42	ug/l	
	m,p-Xylene	28.3	4.0	0.94	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-125%
17060-07-0	1,2-Dichloroethane-D4	100%		69-128%
2037-26-5	Toluene-D8	99%		80-121%
460-00-4	4-Bromofluorobenzene	104%		69-142%

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
3

Client Sample ID:	HAMNER MW-4		
Lab Sample ID:	T20864-2	**Date Sampled:**	02/12/08
Matrix:	AQ - Ground Water	**Date Received:**	02/14/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0090211.D	1	02/18/08	LJ	n/a	n/a	VF2876
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	2.0	0.46	ug/l	
108-88-3	Toluene	ND	2.0	0.48	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.45	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.4	ug/l	
95-47-6	o-Xylene	ND	2.0	0.42	ug/l	
	m,p-Xylene	ND	4.0	0.94	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		76-125%
17060-07-0	1,2-Dichloroethane-D4	98%		69-128%
2037-26-5	Toluene-D8	101%		80-121%
460-00-4	4-Bromofluorobenzene	107%		69-142%

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:	120208TB01		
Lab Sample ID:	T20864-3	**Date Sampled:**	02/12/08
Matrix:	AQ - Trip Blank Water	**Date Received:**	02/14/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0090205.D	1	02/18/08	LJ	n/a	n/a	VF2876
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	2.0	0.46	ug/l	
108-88-3	Toluene	1.5	2.0	0.48	ug/l	J
100-41-4	Ethylbenzene	ND	2.0	0.45	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.4	ug/l	
95-47-6	o-Xylene	ND	2.0	0.42	ug/l	
	m,p-Xylene	ND	4.0	0.94	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		76-125%
17060-07-0	1,2-Dichloroethane-D4	99%		69-128%
2037-26-5	Toluene-D8	101%		80-121%
460-00-4	4-Bromofluorobenzene	105%		69-142%

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 # 8641 5831 7222 | Bottle Order Control #
Accutest Quote # | Accutest Job # T20864

Client / Reporting Information

Company Name: MWH AMERICAS, INC
Address: 1801 California St. Ste. 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 BASIN GW SITES Project
Street:
City State:
Project #:
Fax #:
Client Purchase Order #: D-ALAB - GROUND REM 006

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	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc	H2SO4	MeOH	NaHSO4	HNO3	ENCORE	LAB USE ONLY
1	HAMNER MW-1		021208	1250	TU	WG	3	✓								✓
2	HAMNER MW-4		021208	1224	TU	WG	3	✓								✓
3	120208TB01		021208	0700	TU	WQ	2	✓								

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

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 2/13/08	1320	1	2		2
Relinquished by:	Date Time:	Received by:	Relinquished by	Date Time	Received by:
3	2/14/08 10:50	3 A Vickman	4		4
Relinquished by	Date Time	Received by:	Custody Seal #	Preserved where applicable ☐	On Ice ☒	Cooler Temp 5.9
5		5				

T20864: Chain of Custody
Page 1 of 3

ACCUTEST.

VARIANCE MEMO
SAMPLE LOG-IN

SAMPLE(S) 3
PROJECT San Juan Basin GW Sites project
FILED BY AV
DATE 2/14/08
LAB NO. T20864

VARIANCE - Check applicable items(s):

- ____ Insufficient sample sent for proper analysis; received approx. ____
- ____ Sample bottle received broken and/or cap not intact.
- ____ Samples received without paperwork; paperwork received without samples.
- ____ Samples received without proper refrigeration, when it has been deemed necessary. Temperature at receipt: ____
- ____ Illegible sample number or label missing from bottle.
- ____ Numbers on sample not the same as numbers on paper work.
- ____ Incomplete instructions received with sample(s) ie.,no request for analysis, no chain of custody, incomplete billing instructions, no due date, etc. Temperature at reciept: ____
- ____ Samples received in improper container or lacking proper preservation.
- ____ Physical characteristics different than those on sampling sheets; Describe: ____
- ____ Rush samples on hold because of incomplete paperwork.
- X Other (specify) Sample 3's head space is possibly too large.

CORRECTIVE ACTION TAKEN

- ____ Person Contacted
- ____ Client informed verbally.
- ____ Client informed by memo/letter.
- ____ Samples processed as is.
- ____ Samples preserved by lab.
- ____ Client will resample and resubmit.
- ____ By phone.
- ____ Samples processed for information only and noted on report.
- ____ Samples processed with higher detection limits accepted.
- ____ Samples rejected.

Notes: ____

ROUTING

TITLE	DATE	INITIALS	CORRECTED?
Sample Manager:			
Login:			
Project Manager:	2/14/8		
Comments: Noted			

Form: SM006

4.1 4

T20864: Chain of Custody
Page 2 of 3

T20864 ACCUTEST. Laboratories 11 of 16

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T20864 DATE/TIME RECEIVED: 2/14/08 10:50

CLIENT: MWH Americas Inc. INITIALS: AV

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. (Y) N Sample received in undamaged condition. 2. (Y) N Samples received within temp. range.
3. Y N (A) Sample received with proper pH. 4. (Y) N Sample received in proper containers.
5. (Y) N Sample volume sufficient for analysis. 6. (Y) N Sample received with chain of custody.
7. (Y) N Chain of Custody matches **sample IDs and analysis** on containers.
8. Y (N) Samples Headspace acceptable
9. (Y) N NA Custody seal received intact and tamper not evident on cooler.
10. Y N (NA) Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1-2	1-3	2/12/08	AQ	40 ml	vref	1,2,3,4,5,6	U, <2, >12, NA
3	1-2	⊥	⊥	⊥	⊥	1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
		AV				1,2,3,4,5,6	U, <2, >12, NA
		2/14/08				1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: FedEx

COOLER TEMP: 5.9 COOLER TEMP: ____

COOLER TEMP: ____ COOLER TEMP: ____

Form: SM012, Rev.07/28/05, QAO

T20864: Chain of Custody

Page 3 of 3

GC/MS 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: T20864
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF2876-MB	F0090204.D	1	02/18/08	LJ	n/a	n/a	VF2876

The QC reported here applies to the following samples: **Method:** SW846 8260B

T20864-1, T20864-2, T20864-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.46	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.45	ug/l	
108-88-3	Toluene	ND	2.0	0.48	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.4	ug/l	
	m,p-Xylene	ND	4.0	0.94	ug/l	
95-47-6	o-Xylene	ND	2.0	0.42	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	76-125%
17060-07-0	1,2-Dichloroethane-D4	98%	69-128%
2037-26-5	Toluene-D8	100%	80-121%
460-00-4	4-Bromofluorobenzene	106%	69-142%

Blank Spike Summary

Job Number: T20864
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF2876-BS	F0090202.D	1	02/18/08	LJ	n/a	n/a	VF2876

5.2

The QC reported here applies to the following samples: Method: SW846 8260B

T20864-1, T20864-2, T20864-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.3	89	73-121
100-41-4	Ethylbenzene	25	22.6	90	75-117
108-88-3	Toluene	25	22.4	90	75-119
1330-20-7	Xylene (total)	75	66.3	88	75-118
	m,p-Xylene	50	44.6	89	75-119
95-47-6	o-Xylene	25	21.7	87	74-117

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	76-125%
17060-07-0	1,2-Dichloroethane-D4	102%	69-128%
2037-26-5	Toluene-D8	101%	80-121%
460-00-4	4-Bromofluorobenzene	100%	69-142%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T20864
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T20862-1MS	F0090214.D	1	02/18/08	LJ	n/a	n/a	VF2876
T20862-1MSD	F0090215.D	1	02/18/08	LJ	n/a	n/a	VF2876
T20862-1	F0090208.D	1	02/18/08	LJ	n/a	n/a	VF2876

5.3

The QC reported here applies to the following samples: **Method:** SW846 8260B

T20864-1, T20864-2, T20864-3

CAS No.	Compound	T20862-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	6.0		25	50.7	179*	49.1	172*	3	74-125/18
100-41-4	Ethylbenzene	0.71	J	25	24.8	96	23.8	92	4	77-119/20
108-88-3	Toluene	ND		25	23.6	94	22.8	91	3	79-119/21
1330-20-7	Xylene (total)	ND		75	71.8	96	69.3	92	4	78-119/20
	m,p-Xylene	ND		50	48.0	96	46.3	93	4	79-119/20
95-47-6	o-Xylene	ND		25	23.8	95	23.0	92	3	76-118/21

CAS No.	Surrogate Recoveries	MS	MSD	T20862-1	Limits
1868-53-7	Dibromofluoromethane	99%	99%	95%	76-125%
17060-07-0	1,2-Dichloroethane-D4	103%	102%	101%	69-128%
2037-26-5	Toluene-D8	101%	102%	102%	80-121%
460-00-4	4-Bromofluorobenzene	99%	100%	106%	69-142%

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

05/19/08

Technical Report for

Montgomery Watson

EPFS San Juan Basin Groundwater Site

Accutest Job Number: T22128

Sampling Date: 05/08/08

Report to:

Danielwade@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: Agnes Vicknair 713-271-4700

Sections: 1 2 4 5

Table of Contents

-1-

Sample Summary

Montgomery Watson

Job No: T22128

EPFS San Juan Basin Groundwater Site

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T22128-1	05/08/08	08:24	TU	05/09/08	AQ	Ground Water	HAMNER 9 MW-1
T22128-2	05/08/08	08:30	TU	05/09/08	AQ	Ground Water	HAMNER 9 MW-59

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T22128

Site: EPFS San Juan Basin Groundwater Site **Report Date** 5/19/2008 4:16:56 PM

2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 05/08/2008 and were received at Accutest on 05/09/2008 without proper refrigeration, at 8.2 Deg. C and intact. These Samples received an Accutest job number of T22128. 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:** GKK1301

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T22119-6MS, T22119-6MSD 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:	HAMNER 9 MW-1		
Lab Sample ID:	T22128-1	**Date Sampled:**	05/08/08
Matrix:	AQ - Ground Water	**Date Received:**	05/09/08
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK025753.D	1	05/14/08	JH	n/a	n/a	GKK1301
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	4.3	1.0	0.21	ug/l	
108-88-3	Toluene	5.8	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	17.4	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	51.0	2.0	0.55	ug/l	
95-47-6	o-Xylene	12.1	1.0	0.55	ug/l	
	m,p-Xylene	38.9	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		35-148%
98-08-8	aaa-Trifluorotoluene	108%		46-160%

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:	HAMNER 9 MW-59		
Lab Sample ID:	T22128-2	**Date Sampled:**	05/08/08
Matrix:	AQ - Ground Water	**Date Received:**	05/09/08
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK025754.D	1	05/14/08	JH	n/a	n/a	GKK1301
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	4.4	1.0	0.21	ug/l	
108-88-3	Toluene	5.8	1.0	0.23	ug/l	
100-41-4	Ethylbenzene	17.4	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	51.3	2.0	0.55	ug/l	
95-47-6	o-Xylene	12.1	1.0	0.55	ug/l	
	m,p-Xylene	39.2	1.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		35-148%
98-08-8	aaa-Trifluorotoluene	106%		46-160%

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 # 865202078690 | Bottle Order Control # |
Accutest Quote # 865202078690 | Accutest Job # T22128

Client / Reporting Information

Company Name: MWH Americas
Address: 1801 California St, Ste 2900
City: Denver | State: CO | Zip: 80202
Project Contact: Jed Smith | E-mail:
Phone #: 303-291-2176
Sampler's Name: TROY URBAN

Project Information

Project Name: San Juan Basin GW Sites Project
Street:
City: | State:
Project #:
Fax #:
Client Purchase Order #: D-ALAB- Ground REM-006

Requested Analysis

(8021) BTEX

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	NaOH	HNO3	H2SO4	None	Methanol	MEOH	ENCORE	LAB USE ONLY
1	Hamner9 MW-1		05080[illegible]	0814	TU	GW	3	3								
2	Hamner9 MW-59		05080[illegible]	0830	TU	GW	3	3								

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 5/8/07	1315	1	2		2
Relinquished by:	Date Time	Received by:	Relinquished by	Date Time	Received by:
3		3	4		4
Relinquished by:	Date Time	Received by	Custody Seal #	Preserved where applicable	On Ice
5	5/9/07 10:40	5 Cassie Escott		☐	8-2

Cooler Temp.

4.1 4

T22128: Chain of Custody
Page 1 of 4

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T22128 DATE/TIME RECEIVED: 5/9/08 10:40

CLIENT: MWH Americas INITIALS: CNE

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. (Y) N Sample received in undamaged condition.
2. Y (N) Samples received within temp. range.
3. Y (N) Sample received with proper pH.
4. (Y) N Sample received in proper containers.
5. (Y) N Sample volume sufficient for analysis.
6. (Y) N Sample received with chain of custody.
7. (Y) N Chain of Custody matches **sample IDs and analysis** on containers.
8. (Y) N Samples Headspace acceptable
9. (Y) N NA Custody seal received intact and tamper not evident on cooler.
10. Y N (NA) *Custody seal received intact and tamper not evident on bottles.*

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1-2	1-3	5/8/08	AQ	40mL	VREF	1,(2),3,4,5,6	U, (<2), >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
			CNE 5/9/08			1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments: ____

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: FedEx

COOLER TEMP: 8.2 COOLER TEMP: ____

COOLER TEMP: ____ COOLER TEMP: ____

Form: SM012, Rev.07/28/05, QAO

T22128: Chain of Custody

Page 2 of 4

ACCUTEST.

VARIANCE MEMO
SAMPLE LOG-IN

SAMPLE(S) All DATE 5/9/08
PROJECT San Juan Basin GW Sites Project
FILED BY CNE LAB NO. T22128

VARIANCE - Check applicable items(s):

- ____ insufficient sample sent for proper analysis; received approx. ____
- ____ Sample bottle received broken and/or cap not intact.
- ____ Samples received without paperwork; paperwork received without samples.
- ✓ Samples received without proper refrigeration, when it has been deemed necessary. Temperature at receipt: 8.2°
- ____ Illegible sample number or label missing from bottle.
- ____ Numbers on sample not the same as numbers on paper work.
- ____ *Incomplete instructions received with sample(s)* ie., no request for analysis, no chain of custody, incomplete billing instructions, no due date, etc. Temperature at reciept: ____
- ____ Samples received in improper container or lacking proper preservation.
- ____ Physical characteristics different than those on sampling sheets; Describe: ____
- ____ Rush samples on hold because of incomplete paperwork.
- ✓ Other (specify) Samples received with very little ice and out of temp Renege to temp: 8.2°C

CORRECTIVE ACTION TAKEN

Jed Smith Person Contacted

- ✓ Client informed ~~verbally~~ V/m
- ____ Client informed by memo/letter.
- ____ Samples processed as is.
- ____ Samples preserved by lab.
- ____ *Client will resample and resubmit.*
- ✓ By phone.
- ____ Samples processed for information only and noted on report.
- ____ Samples processed with higher detection limits accepted.
- ____ Samples rejected.

Notes: Per - Jed Analyze 4x3

ROUTING

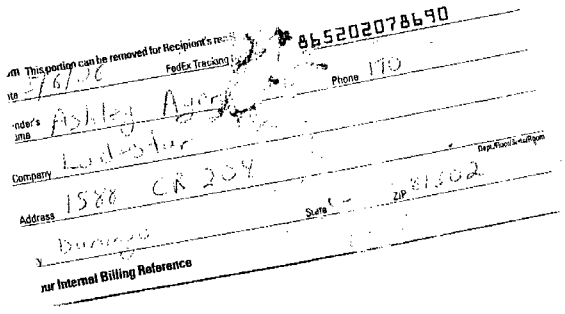
TITLE	DATE	INITIALS	CORRECTED?
Sample Manager:			
Login:			
Project Manager:	5/13/8		
Comments:			

Form: SM005

4.1 4

T22128: Chain of Custody
Page 3 of 4

T22128 ACCUTEST. Laboratories 11 of 16



T22128

ACCUTEST LABORATORIES
CUSTODY SEAL
CUSTODY SEAL
DATE / TIME SEALED: 5/8/08

ACCUTEST LABORATORIES
CUSTODY SEAL
CUSTODY SEAL
INITIALS: JM

T22128: Chain of Custody
Page 4 of 4

GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T22128
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1301-MB	KK025727.D	1	05/14/08	JH	n/a	n/a	GKK1301

5.1

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

T22128-1, T22128-2

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	89%	35-148%
98-08-8	aaa-Trifluorotoluene	96%	46-160%

Blank Spike Summary

Job Number: T22128
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1301-BS	KK025728.D	1	05/14/08	JH	n/a	n/a	GKK1301

5.2

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

T22128-1, T22128-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.6	98	73-126
100-41-4	Ethylbenzene	20	20.6	103	74-120
108-88-3	Toluene	20	20.3	102	77-124
1330-20-7	Xylenes (total)	60	61.9	103	78-123
95-47-6	o-Xylene	20	20.6	103	78-120
	m,p-Xylene	40	41.3	103	75-122

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	93%	35-148%
98-08-8	aaa-Trifluorotoluene	98%	46-160%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T22128
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T22119-6MS	KK025734.D	5	05/14/08	JH	n/a	n/a	GKK1301
T22119-6MSD	KK025735.D	5	05/14/08	JH	n/a	n/a	GKK1301
T22119-6	KK025733.D	5	05/14/08	JH	n/a	n/a	GKK1301

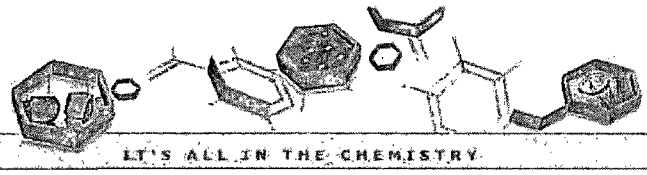
The QC reported here applies to the following samples: **Method:** SW846 8021B

T22128-1, T22128-2

CAS No.	Compound	T22119-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	183		100	273	90	264	81	3	52-152/19
100-41-4	Ethylbenzene	21.6		100	127	105	121	99	5	54-147/19
108-88-3	Toluene	13.5		100	116	103	111	98	4	43-169/24
1330-20-7	Xylenes (total)	37.5		300	360	108	345	103	4	69-139/12
95-47-6	o-Xylene	5.4		100	112	107	107	102	5	60-145/19
	m,p-Xylene	32.0		200	248	108	238	103	4	61-144/17

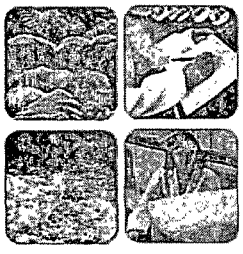
CAS No.	Surrogate Recoveries	MS	MSD	T22119-6	Limits
460-00-4	4-Bromofluorobenzene	97%	97%	94%	35-148%
98-08-8	aaa-Trifluorotoluene	130%	137%	141%	46-160%

Gulf Coast ACCUTEST Laboratories



LT'S ALL IN THE CHEMISTRY

09/09/08



Technical Report for

Montgomery Watson

EPFS San Juan Basin Groundwater Site

D-ALAB-Ground REM-006

Accutest Job Number: T23612

Sampling Date: 08/26/08

Report to:

Danielwade@mwhglobal.com

ATTN: Daniel Wade

Total number of pages in report: **20**

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: Agnes Vicknair 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 6

Table of Contents

-1-

Sample Summary

Montgomery Watson

Job No: T23612

EPFS San Juan Basin Groundwater Site
Project No: D-ALAB-Ground REM-006

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
T23612-1	08/26/08	10:52 TU	08/27/08	AQ	Ground Water	HAMMER #9 MW-4
T23612-2	08/26/08	11:24 TU	08/27/08	AQ	Ground Water	HAMMER #9 MW-1

ACCUTEST. Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T23612

Site: EPFS San Juan Basin Groundwater Site **Report Date** 9/9/2008 6:36:17 PM

2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 08/26/2008 and were received at Accutest on 08/27/2008 properly preserved, at 3.4 Deg. C and intact. These Samples received an Accutest job number of T23612. 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:** F:GQQ1469

- T23612-2: All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando, FL.
- T23612-1: Analysis performed at Accutest Laboratories, Orlando, FL.

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 DELIVERY GROUP CASE NARRATIVE

Client: Accutest Laboratories Gulf Coast, Inc. **Job No:** T23612

Site: MWHSLCUT: EPFS San Juan Basin Groundwater Site. **Report Date** 9/9/2008 10:50:30 AM

2 Samples were collected on 08/26/2008 and received at Accutest on 08/27/2008 properly preserved, at 1.4 Deg. C and intact. These Samples received an Accutest job number of T23612. 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:** GQQ1469

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) T23659-4MS, T23659-4MSD were used as the QC samples indicated.

RPD(s) for MSD for Benzene, Ethylbenzene, Toluene, Xylenes (total) are outside control limits for sample T23659-4MSD. Probable cause due to sample homogeneity.

T23612-2: All hits confirmed by dual column analysis.

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

Narrative prepared by:

Date: September 09, 2008

Svetlana Izosimova, QAO (signature on file)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	HAMMER #9 MW-4		
Lab Sample ID:	T23612-1	**Date Sampled:**	08/26/08
Matrix:	AQ - Ground Water	**Date Received:**	08/27/08
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ038870.D	1	09/05/08	AFL	n/a	n/a	F:GQQ1469
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	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	97%		70-120%
98-08-8	aaa-Trifluorotoluene	99%		73-118%

(a) Analysis performed at Accutest Laboratories, Orlando, FL.

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:	HAMMER #9 MW-1		
Lab Sample ID:	T23612-2	**Date Sampled:**	08/26/08
Matrix:	AQ - Ground Water	**Date Received:**	08/27/08
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	EPFS San Juan Basin Groundwater Site		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ038871.D	1	09/05/08	AFL	n/a	n/a	F:GQQ1469
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	3.7	1.0	0.50	ug/l	
108-88-3	Toluene	1.5	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	15.6	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	17.2	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	104%		70-120%
98-08-8	aaa-Trifluorotoluene	100%		73-118%

(a) All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando, FL.

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 # 8658 9996 3510
Bottle Order Control #
Accutest Quote #
Accutest Job # T23612

Client / Reporting Information

Company Name: MWH Americas
Address: 1801 California St, Ste 2900
City: Denver State: CO Zip: 80202
Project Contact: Matt Rhoades E-mail:
Phone #: 303-291-2118
Sampler's Name: TROY URBAN

Project Information

Project Name: San Juan Basin GWS Sites Project
Street:
City: State:
Project #:
Fax #:
Client Purchase Order #: D-ALAB-Ground REM-006

Requested Analysis

(8021) BTEX

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	HNO3	H2SO4	NONE	NaHSO4	MEOH	DI H2O	LAB USE ONLY
1	Hamner #9 MW-4		082608	1052	TU	GW	3	✓							
2	Hamner #9 MW-1		082608	1124	TU	GW	3	✓							

Turnaround Time (Business Days)

- ☑ 10 Day STANDARD
- ☐ 5 Day RUSH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY
- ☐ Other

Approved By. / Date:

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	[signature] 8/26/08	1515	1	2		2
3			3	4		4
5		8.27.08 9:50	5 [signature]	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 3.4

T23612: Chain of Custody
Page 1 of 4

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 # 8658 7996 3570 | Bottle Order Control #
Accutest Quote # | Accutest Job # T23612

Client / Reporting Information | **Project Information** | **Requested Analysis** | **Matrix Codes**

Company Name: MWH Americas
Address: 1801 California St. Ste 2900
City: Denver State: CO Zip: 80202
Project Contact: Matthew Rhoades E-mail:
Phone #: 303-291-2118
Sampler's Name: TROY URBAN

Project Name: San Juan Basin GW Site Project
Street:
City: State:
Project #:
Fax #:
Client Purchase Order #: D-ALAB-Ground REM-006

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: ID	HCl	HNO3	H2SO4	NaOH	NaHSO4	MEOH	DI/DIW	(8021) BTEX	LAB USE ONLY
3	Hammond 41A TMW-1	Date TA 082608	08/26/08	1305	TA	GW	3	3								✓	
4	Hammond 41A MW-4		08/26/08	1325	TA	GW	3	3								✓	
	~~TB-082608-TA~~																
5	082608TB01		08/26/08	0900	TA	GW	2	2								✓	

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 Taylor 8/26/08	1515	1	2		2
Relinquished by	Date Time	Received by	Relinquished by	Date Time	Received by
3		3	4		4
Relinquished by	Date Time	Received by	Custody Seal #	Preserved where applicable ☐	On Ice ☐	Cooler Temp.
5	8.27.08 950	5				3.4

4.1 4

T23612: Chain of Custody
Page 2 of 4

SAMPLE RECEIPT LOG

JOB #: T23612 DATE/TIME RECEIVED: 8.27.08 9:50

CLIENT: MWH Americas INITIALS: jr

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	Hammer 49 MW-4	8.26.08	GW	40ml	1-5	VRef	1, 2, 3, 4, 5, 6	U, <2, >12, NA
↓	2	Hammer 49 MW-1	↓	↓	↓	↓	↓	1, 2, 3, 4, 5, 6	U, <2, >12, NA
↓	3	Hammond 41A TMW-1	↓	↓	↓	↓	↓	1, 2, 3, 4, 5, 6	U, <2, >12, NA
↓	4	Hammond 41A TMW-4	↓	↓	↓	↓	↓	1, 2, 3, 4, 5, 6	U, <2, >12, NA
↓	5	08.26.08 TB 01	—	TB	↓	1-2	↓	1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
		IT						1, 2, 3, 4, 5, 6	U, <2, >12, NA
		8.27.08						1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA
								1, 2, 3, 4, 5, 6	U, <2, >12, NA

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other
LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

SM 012 Rev 1 7/2/2008

T23612: Chain of Custody
Page 4 of 4

Misc. Forms

Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

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 #: | Bottle Order Control #: T23612
Accutest Quote #: | Accutest Job #:

Subcontract Information	Project Information
Company Name: ALSE-ORLANDO	Send Report to: AgnesV@accutest.com
Project Contact:	Bill to: Accutest Laboratories
Address:	Address: 10165 Harwin Drive, Suite 150
City: ORLANDO State: Zip:	City: Houston, TX 77036 State: Zip:
Phone No.: Fax No.:	Phone No.: 713-271-4700 / 713-271-4770 Fax No.:
	Accutest Purchase Order #

Requested Analyses: V8021BTX

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

	Accutest Sample ID	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	H2SO4	NaOH	ENCORE	NaHSO4	MEOH	NONE	V8021BTX	LAB USE ONLY
	T23612-1	8/26/2008		GW		X							X	
	T23612-2	8/26/2008		GW		X							X	

Turnaround Time (Business days):
- [ ] 10 Day STANDARD — Approved By / Date:
- [ ] 5 Day RUSH
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Data Deliverable Information:
- [ ] Commercial "A"
- [XX] COMMBN"
- [ ] TRRP 13
- [ ] Full Data Package
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

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

Comments / Remarks: Results due 9/8/08

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

	Relinquished by Sampler:	Date Time: 8.28.08 17:20	Received By:	Relinquished By:	Date Time:	Received By:
1			1 FX	2 FX		2 9.3.08 09:10
3	Relinquished By:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished By:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 1-4

5.1 5

T23612: Chain of Custody
Page 1 of 2
Accutest Laboratories Southeast, Inc.

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: T23612 CLIENT: AHC PROJECT: T23612

DATE/TIME RECEIVED: 9.3.08 09:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 1-4

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 7998 9895 8602

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? 0

NUMBER OF 5035 FIELD KITS ? 0

NUMBER OF LAB FILTERED METALS ? 0

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE E.T. 9.3.08 TECHNICIAN SIGNATURE/DATE IC 9-3-08 ASBD 12/17/07

5.1

T23612: Chain of Custody
Page 2 of 2

GC Volatiles

6

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

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

Method Blank Summary

Job Number: T23612
Account: ALGC Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQQ1469-MB	QQ038869.D	1	09/05/08	TD	n/a	n/a	GQQ1469

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

T23612-1, T23612-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	94%	70-120%
98-08-8	aaa-Trifluorotoluene	97%	73-118%

Blank Spike Summary

Job Number: T23612
Account: ALGC Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQQ1469-BS	QQ038868.D	1	09/05/08	TD	n/a	n/a	GQQ1469

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

T23612-1, T23612-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.3	97	80-120
100-41-4	Ethylbenzene	20	19.8	99	79-121
108-88-3	Toluene	20	19.4	97	79-121
1330-20-7	Xylenes (total)	60	59.6	99	80-119

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	101%	70-120%
98-08-8	aaa-Trifluorotoluene	100%	73-118%

6.2

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T23612
Account: ALGC Accutest Laboratories Gulf Coast, Inc.
Project: MWHSLCUT: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T23659-4MS	QQ038898.D	1	09/06/08	TD	n/a	n/a	GQQ1469
T23659-4MSD	QQ038899.D	1	09/06/08	TD	n/a	n/a	GQQ1469
T23659-4	QQ038893.D	1	09/06/08	TD	n/a	n/a	GQQ1469

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

T23612-1, T23612-2

CAS No.	Compound	T23659-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	16.5	83	19.0	95	14*	80-120/10
100-41-4	Ethylbenzene	ND		20	16.8	84	19.3	97	14*	79-121/9
108-88-3	Toluene	ND		20	16.5	83	19.0	95	14*	79-121/10
1330-20-7	Xylenes (total)	ND		60	50.4	84	57.9	97	14*	80-119/8

CAS No.	Surrogate Recoveries	MS	MSD	T23659-4	Limits
460-00-4	4-Bromofluorobenzene	101%	102%	93%	70-120%
98-08-8	aaa-Trifluorotoluene	99%	99%	96%	73-118%

6.3

Gulf Coast ACCUTEST Laboratories

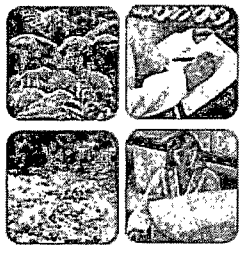
IT'S ALL IN THE CHEMISTRY

11/20/08

Technical Report for

Montgomery Watson

San Juan Basin GW Sites Project



Accutest Job Number: T24558

Sampling Date: 11/06/08

Report to:

daniel.a.wade@mwhglobal.com

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: Paul Canevaro 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-

Accutest Laboratories

Sample Summary

Montgomery Watson

Job No: T24558

San Juan Basin GW Sites Project

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
T24558-1	11/06/08	12:54 TU	11/07/08	AQ	Ground Water	HAMNER 9 MW-1
T24558-2	11/06/08	07:00 TU	11/07/08	AQ	Trip Blank Water	110608TB02

ACCUTEST. Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Montgomery Watson **Job No** T24558

Site: EPFS San Juan Basin Groundwater Site **Report Date** 11/17/2008 9:11:54 AM

1 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 11/06/2008 and were received at Accutest on 11/07/2008 properly preserved, at 1 Deg. C and intact. These Samples received an Accutest job number of T24558. 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 GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** VF3197

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

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:	HAMNER 9 MW-1		
Lab Sample ID:	T24558-1	**Date Sampled:**	11/06/08
Matrix:	AQ - Ground Water	**Date Received:**	11/07/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	San Juan Basin GW Sites Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F012005.D	1	11/16/08	RR	n/a	n/a	VF3197
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	3.8	2.0	0.46	ug/l	
108-88-3	Toluene	3.1	2.0	0.48	ug/l	
100-41-4	Ethylbenzene	17.5	2.0	0.45	ug/l	
1330-20-7	Xylene (total)	22.2	6.0	1.4	ug/l	
95-47-6	o-Xylene	2.9	2.0	0.42	ug/l	
	m,p-Xylene	19.3	4.0	0.94	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		79-122%
17060-07-0	1,2-Dichloroethane-D4	102%		75-121%
2037-26-5	Toluene-D8	111%		87-119%
460-00-4	4-Bromofluorobenzene	111%		80-133%

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:	110608TB02		
Lab Sample ID:	T24558-2	**Date Sampled:**	11/06/08
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/07/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	San Juan Basin GW Sites Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F012004.D	1	11/16/08	RR	n/a	n/a	VF3197
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	2.0	0.46	ug/l	
108-88-3	Toluene	ND	2.0	0.48	ug/l	
100-41-4	Ethylbenzene	0.81	2.0	0.45	ug/l	J
1330-20-7	Xylene (total)	ND	6.0	1.4	ug/l	
95-47-6	o-Xylene	ND	2.0	0.42	ug/l	
	m,p-Xylene	ND	4.0	0.94	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		79-122%
17060-07-0	1,2-Dichloroethane-D4	93%		75-121%
2037-26-5	Toluene-D8	111%		87-119%
460-00-4	4-Bromofluorobenzene	105%		80-133%

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
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FED-EX Tracking # 8670 4797 9009 | Bottle Order Control #
Accutest Quote # | Accutest Job # T24558

Client / Reporting Information

Company Name: MWH Americas
Address: 1801 California St Suite 2900
City: Denver State: CO Zip: 80202
Project Contact: Matt Rhoades E-mail:
Phone #: 303-291-2118
Sampler's Name: Troy Urban

Project Information

Project Name: San Juan Basin GW Sites Project
Street:
City: State:
Project #:
Fax #:
Client Purchase Order #: West-ALAB-GroundRem 007

Requested Analysis

8260

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

LAB USE ONLY

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: 0	HCl	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	Requested Analysis	LAB USE ONLY
1	Hamner 9 MW-1		110608	1254	TU	GW	3	✓								✓	
2	110608TB02		110608	0700	"	GW	2	✓								✓	

Turnaround Time (Business Days)

☑ 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" ☐ EDD Format
☐ Commercial "B"
☐ Reduced Tier 1
☐ Full Tier 1
☐ TRRP13

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 11/6/08	1420	1	2		2
Relinquished by	Date Time	Received by	Relinquished by	Date Time	Received by
3		3	4		4
Relinquished by:	Date Time 0900	Received by:	Custody Seal #	Preserved where applicable ☐	On Ice ☑	Cooler Temp 1.0
5	11.07.08	5				

4.1 4

T24558: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T24558 Client: MWH Americas Project: San Juan Basin G-W Sites

Date/Time Received: 11.07.08 0900 # of Coolers Received: 1 Thermometer #: 110

Cooler Temps: #1: 1.0 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

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

Airbill Numbers: 8670 4797 9009

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] 11.07.08

INFORMATION AND SAMPLE LABELING VERIFIED BY: Susan Hail 11.7.08

CORRECTIVE ACTIONS

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

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

Client Instructions:

4.1 4

T24558: Chain of Custody
Page 2 of 3

SAMPLE RECEIPT LOG

JOB #: T24558 DATE/TIME RECEIVED: 11.07.08

CLIENT: INITIALS: DB

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	HAMNER 9 MW-1	11.06 1254	W	40ml	1-3	VR	1 (2) 3 4 5 6 7 8	<2 >12
↓	2	TRIP BLANK (WATER)	10/31 1730	DI	↓	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

DB 11.07.08

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

T24558: Chain of Custody
Page 3 of 3

GC/MS 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: T24558
Account: MWHCODE Montgomery Watson
Project: San Juan Basin GW Sites Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3197-MB	F011990.D	1	11/15/08	RR	n/a	n/a	VF3197

5.1

The QC reported here applies to the following samples: Method: SW846 8260B

T24558-1, T24558-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.46	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.45	ug/l	
108-88-3	Toluene	ND	2.0	0.48	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.4	ug/l	
	m,p-Xylene	ND	4.0	0.94	ug/l	
95-47-6	o-Xylene	ND	2.0	0.42	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	111%	79-122%
17060-07-0	1,2-Dichloroethane-D4	112%	75-121%
2037-26-5	Toluene-D8	105%	87-119%
460-00-4	4-Bromofluorobenzene	107%	80-133%

Blank Spike Summary

Job Number: T24558
Account: MWHCODE Montgomery Watson
Project: San Juan Basin GW Sites Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3197-BS	F011986.D	1	11/15/08	RR	n/a	n/a	VF3197

5.2

The QC reported here applies to the following samples: Method: SW846 8260B

T24558-1, T24558-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.9	100	76-118
100-41-4	Ethylbenzene	25	22.4	90	75-112
108-88-3	Toluene	25	22.2	89	77-114
1330-20-7	Xylene (total)	75	68.0	91	75-111
	m,p-Xylene	50	45.1	90	75-112
95-47-6	o-Xylene	25	22.8	91	74-110

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	79-122%
17060-07-0	1,2-Dichloroethane-D4	116%	75-121%
2037-26-5	Toluene-D8	102%	87-119%
460-00-4	4-Bromofluorobenzene	100%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T24558
Account: MWHCODE Montgomery Watson
Project: San Juan Basin GW Sites Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T24527-3MS	F012007.D	1	11/16/08	RR	n/a	n/a	VF3197
T24527-3MSD	F012008.D	1	11/16/08	RR	n/a	n/a	VF3197
T24527-3	F012003.D	1	11/16/08	RR	n/a	n/a	VF3197

The QC reported here applies to the following samples: **Method:** SW846 8260B

T24558-1, T24558-2

CAS No.	Compound	T24527-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	0.98	J	25	23.6	90	23.8	91	1	76-118/16
100-41-4	Ethylbenzene	1.9	J	25	22.9	84	22.7	83	1	75-112/12
108-88-3	Toluene	ND		25	22.8	91	22.7	91	0	77-114/12
1330-20-7	Xylene (total)	ND		75	67.9	91	67.9	91	0	75-111/12
	m,p-Xylene	1.0	J	50	45.1	88	45.3	89	0	75-112/12
95-47-6	o-Xylene	ND		25	22.8	91	22.6	90	1	74-110/11

CAS No.	Surrogate Recoveries	MS	MSD	T24527-3	Limits
1868-53-7	Dibromofluoromethane	110%	110%	102%	79-122%
17060-07-0	1,2-Dichloroethane-D4	104%	105%	86%	75-121%
2037-26-5	Toluene-D8	110%	109%	111%	87-119%
460-00-4	4-Bromofluorobenzene	108%	108%	105%	80-133%