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AGWMR

2009



El Paso Tennessee
Pipeline Company

San Juan Basin Pit Program
Groundwater Sites Project

Final 2009 Annual Report
Federal Sites (Volume 1)

April 2010



MWH

1801 California Street, Suite 2900
Denver, Colorado 80202

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

TABLE OF CONTENTS

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

* The Hamner #9 site was submitted for closure in January 2009 and is pending approval from NMOCD. There were no monitoring activities for this site in 2009.



MWH

**MWH**

BUILDING A BETTER WORLD

RECEIVED OCD

2010 APR 19 A 10:39

April 16, 2010

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

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

Dear Mr. Von Gonten:

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

The 2009 Annual Reports are divided into three volumes based on location type. The volumes are as follows:

<u>Volume</u>	<u>Location Type</u>
1	Federal Land
2	Non-Federal Land (Excl. Navajo Nation)
3	Navajo Nation

If you have any questions concerning the enclosed reports, please call either Doug Stavinoha of EPTPC (713-420-5150), Ian Yanagisawa of EPTPC (713-420-7361), or me (303-291-2276).

Sincerely,

Jed Smith
Project Manager

encl.

cc: Bill Freeman – NNEPA, Shiprock, NM (Volume 3 Only)
Bill Liese – BLM, Farmington, NM (Volume 1 Only)
Brandon Powell – NMOCD, Aztec, NM (Volumes 1, 2, and 3)
Doug Stavinoha – EPTPC (Volumes 1, 2, and 3)

LIST OF ACRONYMS

AMSL	above mean sea level
B	benzene
btoc	below top of casing
E	ethylbenzene
EPTPC	El Paso Tennessee Pipeline Company
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitor well
NMWQCC	New Mexico Water Quality Control Commission
T	toluene
TOC	top of casing
NA	not applicable
NMOCD	New Mexico Oil Conservation Division
NS	not sampled
ORC	oxygen-releasing compound
µg/L	micrograms per liter
X	total xylenes

Federal Groundwater Site Map



**EPTPC GROUNDWATER SITES
2009 ANNUAL GROUNDWATER REPORT**

**Fogelson 4-1 Com #14
Meter Code: 73220**

SITE DETAILS

Legal Description:	Town: 29N	Range: 11W	Sec: 4	Unit: P
NMOCD Haz Ranking: 10	Land Type:	Federal	Operator:	Burlington Resources

PREVIOUS ACTIVITIES

Site Assessment:	3/94	Excavation:	4/94 (65cy)	Soil Boring:	10/95
Monitor Well:	10/95	Geoprobe:	12/96	Additional MWs:	6/00
Downgradient MWs:	6/00	Replace MW:	NA	Quarterly Initiated:	12/96
ORC Nutrient Injection:	8/01	Re-Excavation:	NA	PSH Removal Initiated:	NA
Annual Initiated:	6/98	Quarterly Resumed:	NA	PSH Removal in 2009?	Yes

SUMMARY OF 2009 ACTIVITIES

MW-1: Annual groundwater sampling (November) and quarterly free-product recovery were performed during 2009.

MW-2: Quarterly water level monitoring was performed during 2009.

MW-3: Quarterly water level monitoring was performed during 2009.

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

SITE MAPS

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

SUMMARY TABLES AND GRAPHS

- Historic analytical and water level data are summarized in Table 1 and presented graphically in Figures 2 through 4. Where applicable, static water level elevations were corrected for measurable thicknesses of free-product (specific gravity of 0.8).
- Historic free-product recovery data are summarized in Table 2 and presented graphically in Figure 2.
- The 2009 laboratory report is presented in Attachment 1 (included on CD).

**EPTPC GROUNDWATER SITES
2009 ANNUAL GROUNDWATER REPORT**

**Fogelson 4-1 Com #14
Meter Code: 73220**

- The 2009 field documentation is presented in Attachment 2 (included on CD).

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this Site during 2009.

DISPOSITION OF GENERATED WASTES

All purge water was taken to the El Paso Natural Gas Rio Vista Compressor Station. Spent absorbent socks were managed as non-hazardous solid waste.

ISOCONCENTRATION MAPS

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

RESULTS

- The groundwater flow direction generally is to the west.
- Water levels at the Site are lower than at any other time in the sampling record (which goes back to 1995). It is typical to see observable accumulations of free-product as more of the smear zone becomes unsaturated. In 2009, a total of 0.27 gallons of free-product was recovered from MW-1 via product-absorbing socks.
- Long-term decreasing BTEX concentrations at the Site indicate that natural attenuation is occurring. Historically, benzene concentrations in MW-1 have decreased significantly from their level of 1,520 µg/L in 1995, when sampling was initiated. In November 2009, the benzene concentration was 230 µg/L, the ethylbenzene concentration was 901 µg/L, and the total xylenes concentration was 3,290 µg/L. Both results were comparable to those of other recent years and exceeded their respective NMWQCC standards. The concentration of toluene was below its standard in 2009.

RECOMMENDATIONS

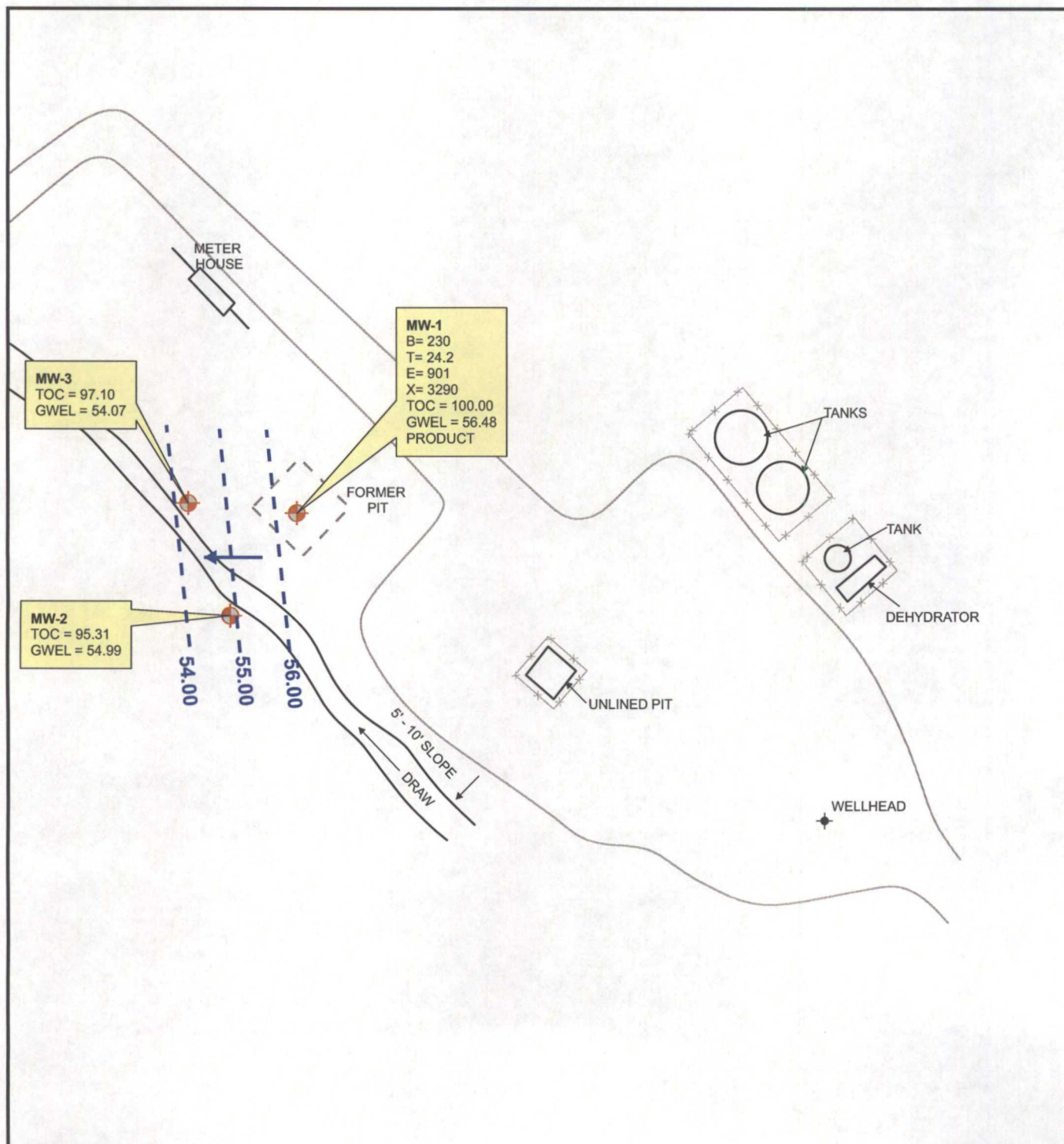
- EPTPC recommends conducting quarterly water level/free-product monitoring for this Site. At this time, EPTPC recommends bailing MW-1 quarterly and installing absorbent socks after each bailing event. These activities should continue until free-product subsides.
- The use of ORC socks in MW-1 to enhance biodegradation of dissolved-phase contaminants may be reinstated once observable free-product in the well has subsided. However, ORC socks are generally not utilized when hydrocarbon product (including residual phase product that cannot seep into a monitoring well)

**EPTPC GROUNDWATER SITES
2009 ANNUAL GROUNDWATER REPORT**

**Fogelson 4-1 Com #14
Meter Code: 73220**

is present, due to the extremely high oxygen demand. EPTPC will evaluate the use of ORC in the future, following the subsidence of free-product.

- EPTPC recommends sampling MW-1 annually.
- Historically, the BTEX concentrations at downgradient / crossgradient monitor wells MW-2 and MW-3 have been less than closure criteria. As such, neither of these wells has been sampled since 2003. Because of the observed free-product in MW-1, EPTPC recommends that MW-2 and MW-3 be gauged quarterly and sampled annually.



Product Removed (Gallons)	2/6/09	5/4/09	8/26/09	11/3/09
MW-1	0.08	0.02	0.13	0.03

LEGEND

- MW-4** Existing Monitoring / Observation Well
- PZ-01** Abandoned Monitoring Well
- Groundwater Flow Direction
- 1275-** Potentiometric Surface Contour (Inferred Where Dashed)

- B** Benzene (ug/L)
T Toluene (ug/L)
E Ethylbenzene (ug/L)
X Total Xylenes (ug/L)
TOC Top of Casing (ft. AMSL)
GWEL Groundwater Elevation (ft. *)
 * = Elevations in feet relative to a 100 ft benchmark.



Not To Scale



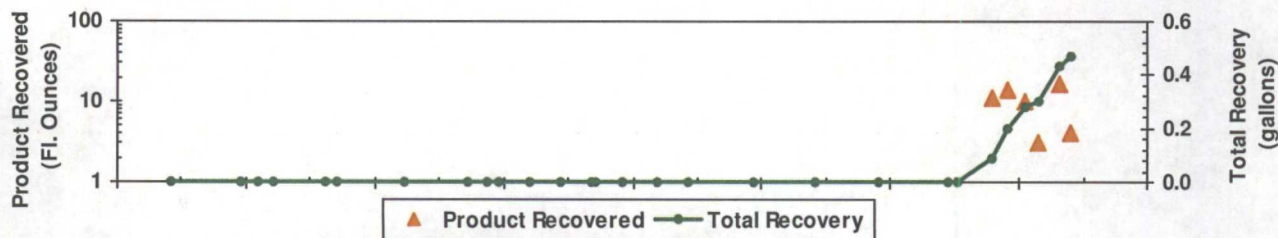
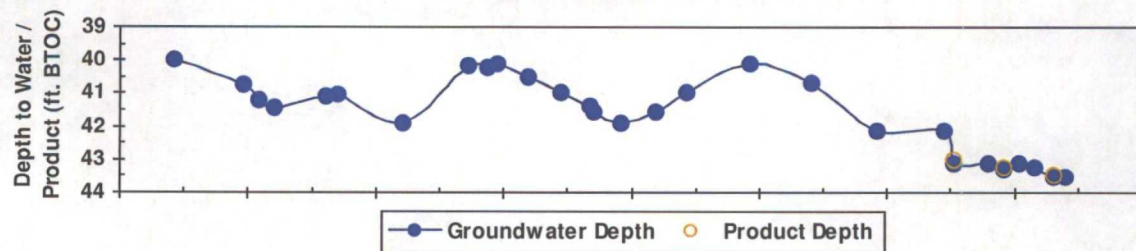
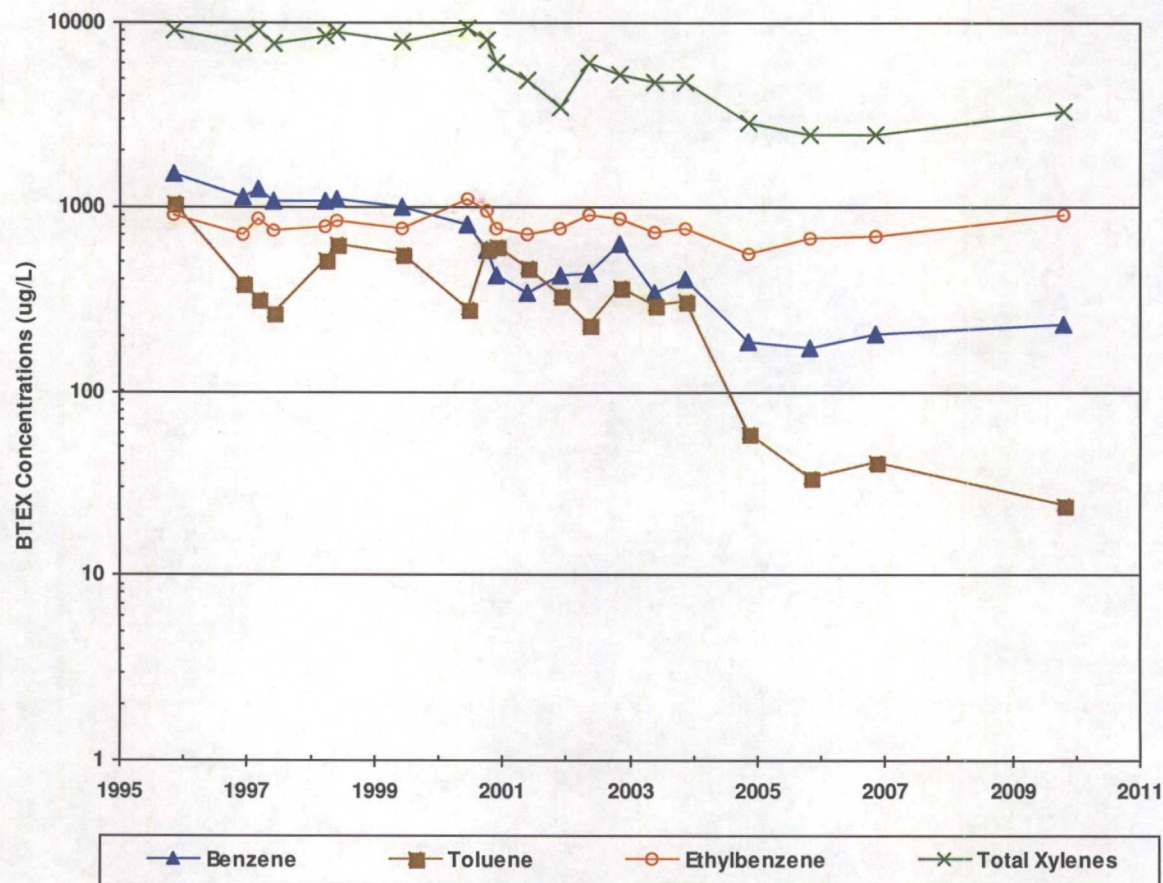
PROJECT: FOGELSON 4-1 COM. #14

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

FIGURE:

1

FIGURE 2
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS, FLUID LEVELS, AND PRODUCT RECOVERY
FOGELSON 4-1 COM. #14 (METER #73220)
MW01



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

FIGURE 3
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
FOGELSON 4-1 COM. #14 (METER #73220)
MW02

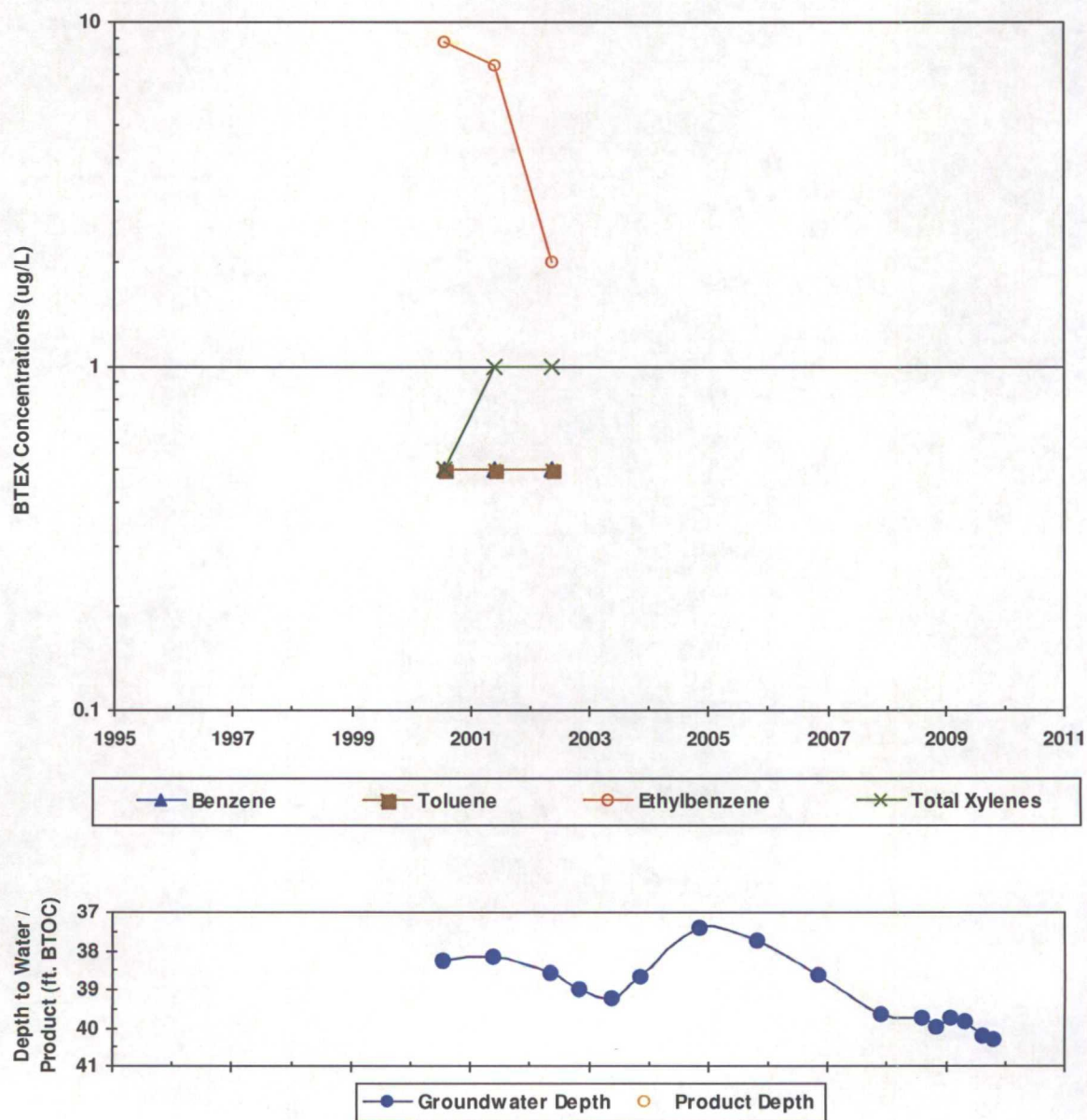


FIGURE 4
SUMMARY OF GROUNDWATER BTEX CONCENTRATIONS AND FLUID LEVELS
FOGELSON 4-1 COM. #14 (METER #73220)
MW03

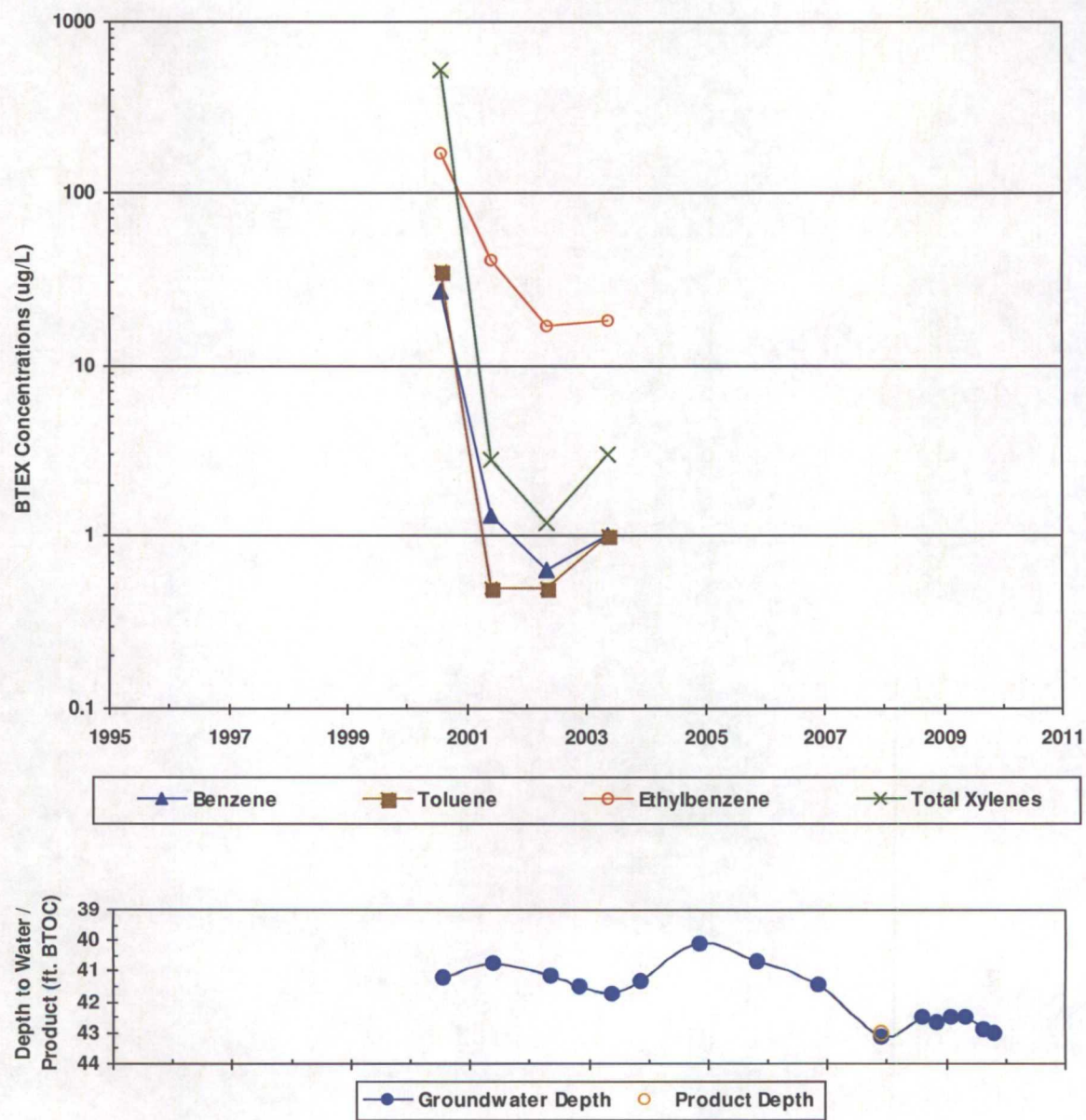


TABLE 1

**SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER SAMPLES
FOGELSON 4-1 COM. #14 (METER #73220)**

Monitor Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft BTOC)	Corrected GW Elevation (Feet*)
NMWQCC GW Std.:		10	750	750	620		
MW01	11/6/1995	1520	1050	907	9180	39.99	60.01
MW01	12/6/1996	1110	388	713	7730	40.74	59.26
MW01	3/10/1997	1240	318	850	9050	41.23	58.77
MW01	6/6/1997	1080	268	747	7700	41.44	58.56
MW01	3/30/1998	1070	522	789	8430	41.08	58.92
MW01	6/4/1998	1090	627	837	8880	41.02	58.98
MW01	6/15/1999	1000	550	770	7800	41.88	58.12
MW01	6/19/2000	790	280	1100	9300	40.17	59.83
MW01	10/2/2000	580	600	950	8000	40.22	59.78
MW01	12/5/2000	420	610	770	6000	40.09	59.91
MW01	5/30/2001	340	470	710	4800	40.54	59.46
MW01	11/26/2001	420	330	760	3400	41.00	59.00
MW01	5/15/2002	430	230	900	6000	41.37	58.63
MW01	11/4/2002	625	370	862	5210	41.90	58.10
MW01	5/21/2003	339	296	723	4730	41.57	58.43
MW01	11/15/2003	401	308	755	4700	41.00	59.00
MW01	11/16/2004	185	59.9	550	2800	40.10	59.90
MW01	11/8/2005	174	34.3	675	2440	40.68	59.32
MW01	11/8/2006	206	41.6	694	2460	42.16	57.84
MW01	11/3/2009	230	24.2	901	3290	43.52	56.48
MW02	7/27/2000	<0.5	<0.5	8.8	<0.5	38.25	57.06
MW02	5/30/2001	<0.5	<0.5	7.5	1	38.17	57.14
MW02	5/15/2002	<0.5	<0.5	2.0	<1.0	38.56	56.75
MW03	7/27/2000	27	35	170	520	41.21	55.89
MW03	5/30/2001	1.3	<0.5	40	2.8	40.77	56.33
MW03	5/15/2002	0.64	<0.5	17	1.2	41.14	55.96
MW03	5/21/2003	<1.0	<1.0	18.2	<3.0	41.71	55.39

Notes:

Results shown in bold typeface exceed their respective New Mexico Water Quality Control Commission standards.

"J" = result is qualified as estimated. See laboratory report and/or supplemental data validation report for further detail.

"<" = analyte was not detected at the indicated reporting limit.

Static groundwater elevations have been corrected for product thickness where applicable. Specific gravity of 0.8 used.

TABLE 2
SUMMARY OF FREE-PRODUCT REMOVAL
FOGELSON 4-1 COM. #14 (METER #73220)

Monitor Well	Removal Date	Depth to Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Removal (gallons)	Corrected GW Elevation (Feet*)
MW01	1/25/2008	43.00	43.10	0.10	--	0.00	56.98
MW01	8/12/2008	--	43.14	0.00	0.09	0.09	56.86
MW01	11/7/2008	43.24	43.32	0.08	0.11	0.20	56.74
MW01	2/6/2009	--	43.12	0.00	0.08	0.28	56.88
MW01	5/4/2009	--	43.22	0.00	0.02	0.30	56.78
MW01	8/26/2009	43.46	43.53	0.07	0.13	0.43	56.53
MW01	11/3/2009	--	43.52	0.00	0.03	0.47	56.48
MW03	11/29/2007	43.01	43.10	0.09	--	0.00	54.07

Notes:

"--" indicates either that product was not measurably detected or that product was not recovered.

"NA" indicates that the respective data point is not available.

Groundwater elevations may not be static due to removal of equipment. Corrections for product thickness utilize SG of 0.8.

*This site has a benchmark elevation of 100 feet rather than mean sea level.



CHAIN OF CUSTODY

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

Fogelson

Client / Reporting Information

Project Information

Company Name: WH

Object Contact: Ed Smith

E-Mail: ed.smith@mwhglobal.com

Address: 801 California Street, Suite 2900

City: Denver, CO

State: CO

Zip: 80202

Phone No.:

Fax No.:

Client Purchase Order #

03-291-2276

Sample's Name: Fogelson

Field ID / Point of Collection: MW-1

Sample #: 0031109 TB02

Collection Date: 11/03/09

Time: 1552

Matrix: 6W

of bottles: 3

Number of preserved bottles: 3

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

FEDEX Tracking # 8706 6705 1186

Order Control #

Accutest Quote #

Requested Analysis

Matrix Codes

DW - Drinking Water

GW - Ground Water

WW - Wastewater

SO - Soil

SL - Sludge

OL - Oil

LD - Liquid

SO - Other Solid

LAB USE ONLY

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

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

Comments / Remarks

possible production seepage

Real time analytical data available via Lablink

Turnaround Time (Business days)

Approved By/ Date:

10 Day STANDARD

7 Day

4 Day RUSH

3 Day EMERGENCY

2 Day EMERGENCY

1 Day EMERGENCY

Other:

Commercial "A" = Results Only

Commercial "B" = Results & Standard QC

Commercial "A"

Commercial "B"

Reduced Tier 1

Full Data Package

TRRP-13

EDD Format

Other

Received By:

Received By:

Received By:

Received By:

Received By:

Date Time:

Date Time:

Date Time:

Date Time:

Date Time:

Date Time:

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Date Time:

On Ice

Cooler Temp

On Ice

Cooler Temp

On Ice

Cooler Temp

On Ice



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

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater
Project Manager: Ashley Ager
Client: MWH
Site Name: Fogelson

Date: 05/04/2009

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	12:53 PM	-	43.22	-	-	Recovered 3.4 oz of product, reset sock
MW-2		-	39.83	-	-	
MW-3		-	42.50	-	-	

Comments

Signature: Ashley L. Ager

Date: 05/05/2009



Lodestar Services, Incorporated

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

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater
Project Manager: Ashley Ager
Client: MWH
Site Name: Fogelson

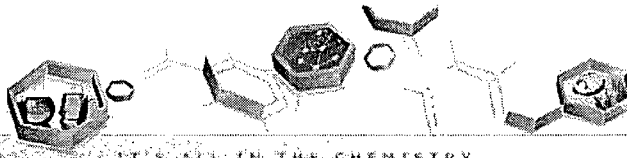
Date: 08/26/2009

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	12:30 PM	43.46	43.53	-	-	Recovered 17 oz of product. Replaced sock
MW-2		-	40.19	-	-	
MW-3		-	42.90	-	-	

Comments

Signature: Ashley L. Ager

Date: 08/27/2009



IT'S ALL IN THE CHEMISTRY

11/13/09

Technical Report for

Montgomery Watson

San Juan Basin Pit Groundwater Remediation

Fogelson/ WO94293

Accutest Job Number: T41512

Sampling Date: 11/03/09

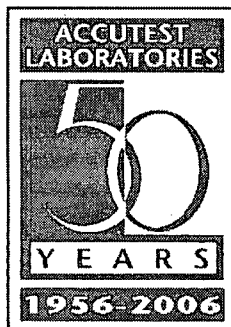


Report to:

MWH Americas
1801 California St. Suite 2900
Denver, CO 80202
jed.smith@mwhglobal.com

ATTN: Jed Smith

Total number of pages in report: 18



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)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Table of Contents

Sections:



-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Sample Results	5
3.1: T41512-1: FOGELSON MW-1	6
3.2: T41512-2: 031109 TB02	7
Section 4: Misc. Forms	8
4.1: Chain of Custody	9
Section 5: GC Volatiles - QC Data Summaries	12
5.1: Method Blank Summary	13
5.2: Blank Spike Summary	15
5.3: Matrix Spike/Matrix Spike Duplicate Summary	17

Sample Summary

Montgomery Watson

Job No: T41512

San Juan Basin Pit Groundwater Remediation
Project No: Fogelson/ WO94293

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
T41512-1	11/03/09	15:52 TU	11/05/09	AQ Ground Water	FOGELSON MW-1
T41512-2	11/03/09	07:00 TU	11/05/09	AQ Trip Blank Water	031109 TB02

SAMPLE DELIVERY GROUP CASE NARRATIVE**Client:** Montgomery Watson**Job No** T41512**Site:** San Juan Basin Pit Groundwater Remediation**Report Date** 11/12/2009 4:33:35 PM

1 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 11/03/2009 and were received at Accutest on 11/05/2009 properly preserved, at 2.4 Deg. C and intact. These Samples received an Accutest job number of T41512. 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:	GKK1581
--------	----	-----------	---------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T41699-6MS, T41699-6MSD were used as the QC samples indicated.

Matrix	AQ	Batch ID:	GKK1583
--------	----	-----------	---------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T41699-9MS, T41699-9MSD 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 Quality Objectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used



IT'S ALL IN THE CHEMISTRY



Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

3.1

Client Sample ID:	FOGELSON MW-1	Date Sampled:	11/03/09
Lab Sample ID:	T41512-1	Date Received:	11/05/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	San Juan Basin Pit Groundwater Remediation		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK033116.D	50	11/11/09	FI	n/a	n/a	GKK1583
Run #2							

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

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	230	50	18	ug/l	
108-88-3	Toluene	24.2	50	14	ug/l	J
100-41-4	Ethylbenzene	901	50	13	ug/l	
1330-20-7	Xylenes (total)	3290	100	46	ug/l	
95-47-6	o-Xylene	901	50	18	ug/l	
	m,p-Xylene	2390	50	28	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		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:	031109 TB02	Date Sampled:	11/03/09
Lab Sample ID:	T41512-2	Date Received:	11/05/09
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	San Juan Basin Pit Groundwater Remediation		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK033074.D	1	11/10/09	FI	n/a	n/a	GKK1581
Run #2							

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

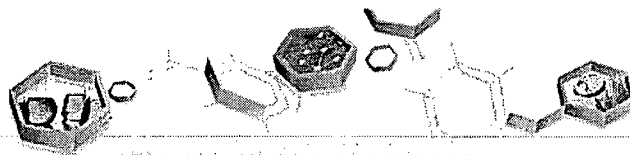
Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.36	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	91%		58-125%
98-08-8	aaa-Trifluorotoluene	112%		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



IT'S ALL IN THE CHEMISTRY

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

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

Page 1 of 2

FED-EX Tracking # 8706 6705 1186	Bottle Order Control #
Accutest Quote #	Accutest Job # T41512

Fogelson

Client / Reporting Information		Project Information		Requested Analyses		Matrix Codes	
Company Name MWH	Project Name / No. Pit G-W Remediation Fogelson	Project Contact Jed Smith	Project Address 1801 California Street, Suite 2900	City Denver	State CO	Zip 80202	Phone No. 303-291-2276
E-Mail jed.smith@mwhglobal.com	Bill to El Paso Corp	Invoice Attn. Noma Ramos	Address 1001 Louisiana Street, Rm S1904B	City Denver	State TX	Zip 77002	Phone No. 303-291-2276
Client Purchase Order # W094293		Client Purchase Order # W094293		Client Purchase Order # W094293		Client Purchase Order # W094293	
Accutest Sample #	Field ID / Point of Collection	Date	Time	Matrix	# of bottles	Number of preserved bottles	LAB USE ONLY
	Fogelson MW-1	11/03/09	1552	GW	3	X	
	031109 TBØ2	11/03/09	0700	GW	2	X	
Turnaround Time (Business days)							
Approved By / Date:		Date Deliverable Information		Comments / Remarks			
<input checked="" type="checkbox"/> 10 Day STANDARD		<input type="checkbox"/> Commercial "A"		<input type="checkbox"/> TRAP-13			
<input type="checkbox"/> 7 Day		<input checked="" type="checkbox"/> Commercial "B"		<input type="checkbox"/> EDD Format			
<input type="checkbox"/> 4 Day RUSH		<input type="checkbox"/> Reduced Tier 1		<input type="checkbox"/> Other			
<input type="checkbox"/> 3 Day EMERGENCY		<input type="checkbox"/> Full Data Package					
<input type="checkbox"/> 2 Day EMERGENCY							
<input type="checkbox"/> 1 Day EMERGENCY							
<input type="checkbox"/> Other							
Real time analytical data available via Lablink							
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY							
Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1 <i>Jed Smith</i>	11/4/09 1620	1		2 <i>FedEx</i>	11/05/09 900	2	
Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
3		3		4		4	
Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Preserved when applicable	On Ice	Cooler Temp.
5		5			<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.4

T41512: Chain of Custody

Page 1 of 3

SAMPLE INSPECTION FORM

4.1
4

Accutest Job Number: T41512 Client: MWH Date/Time Received: 11/05/09 9:00
 # of Coolers Received: 1 Thermometer #: 121 Temperature Adjustment Factor: +0.4
 Cooler Temps: #1: 2.4 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____
 Method of Delivery: FEDEX UPS Accutest Courier Greyhound Delivery Other
 Airbill Numbers: 8706-6705-1186

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 Idts? _____
 Number of lab-filtered metals? _____

Summary of Discrepancies:

TECHNICIAN SIGNATURE/DATE: T Clavich 11/5/09
 INFORMATION AND SAMPLE LABELING VERIFIED BY: GC 11/5/09

CORRECTIVE ACTIONS

Client Representative Notified: _____ Date: _____

By Accutest Representative: _____ Via: Phone Email

Client Instructions:

T41512: Chain of Custody

Page 2 of 3

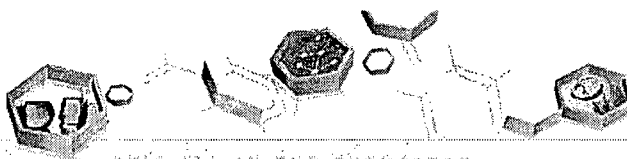
JOB #: T41512 DATE/TIME RECEIVED: 11/2/09 9:00
 CLIENT: MWH INITIALS: TC

[illegible]

LOCATION: 1: Walk-In #1 (Walters) 2: Walk-In #2 (Solls) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

Rev 8/13/01 ewa

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

Page 1 of 1

Job Number: T41512
Account: MWHCODE Montgomery Watson
Project: San Juan Basin Pit Groundwater Remediation

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1581-MB	KK033063.D	1	11/10/09	FI	n/a	n/a	GKK1581

The QC reported here applies to the following samples:

Method: SW846 8021B

T41512-2

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	91% 58-125%
98-08-8	aaa-Trifluorotoluene	113% 73-139%

5.1.1

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Method Blank Summary

Page 1 of 1

Job Number: T41512
Account: MWHCODE Montgomery Watson
Project: San Juan Basin Pit Groundwater Remediation

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1583-MB	KK033111.D1		11/11/09	FI	n/a	n/a	GKK1583

The QC reported here applies to the following samples:

Method: SW846 8021B

T41512-1

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	92% 58-125%
98-08-8	aaa-Trifluorotoluene	114% 73-139%

Blank Spike Summary

Page 1 of 1

Job Number: T41512
Account: MWHCODE Montgomery Watson
Project: San Juan Basin Pit Groundwater Remediation

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1581-BS	KK033059.D 1		11/10/09	FI	n/a	n/a	GKK1581

The QC reported here applies to the following samples:

Method: SW846 8021B

T41512-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	21.8	109	86-121
100-41-4	Ethylbenzene	20	20.7	104	81-116
108-88-3	Toluene	20	20.9	105	87-117
1330-20-7	Xylenes (total)	60	62.4	104	85-115
95-47-6	o-Xylene	20	20.9	105	87-116
	m,p-Xylene	40	41.5	104	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	91%	58-125%
98-08-8	aaa-Trifluorotoluene	115%	73-139%

5.2.1

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Blank Spike Summary

Page 1 of 1

Job Number: T41512
Account: MWHCODE Montgomery Watson
Project: San Juan Basin Pit Groundwater Remediation

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK1583-BS	KK033107.D1		11/11/09	FI	n/a	n/a	GKK1583

The QC reported here applies to the following samples:

Method: SW846 8021B

T41512-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	22.1	111	86-121
100-41-4	Ethylbenzene	20	20.8	104	81-116
108-88-3	Toluene	20	22.3	112	87-117
1330-20-7	Xylenes (total)	60	64.3	107	85-115
95-47-6	o-Xylene	20	21.1	106	87-116
	m,p-Xylene	40	43.3	108	84-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	91%	58-125%
98-08-8	aaa-Trifluorotoluene	116%	73-139%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T41512
Account: MWHCODE Montgomery Watson
Project: San Juan Basin Pit Groundwater Remediation

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T41699-6MS	KK033070.D	1	11/10/09	FI	n/a	n/a	GKK1581
T41699-6MSD	KK033071.D	1	11/10/09	FI	n/a	n/a	GKK1581
T41699-6	KK033068.D	1	11/10/09	FI	n/a	n/a	GKK1581

The QC reported here applies to the following samples:

Method: SW846 8021B

T41512-2

CAS No.	Compound	T41699-6 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	23.7	119	23.3	117	2	86-121/19
100-41-4	Ethylbenzene	ND	20	22.5	113	22.0	110	2	81-116/14
108-88-3	Toluene	ND	20	22.8	114	22.1	111	3	87-117/16
1330-20-7	Xylenes (total)	ND	60	66.9	112	65.7	110	2	85-115/12
95-47-6	o-Xylene	ND	20	22.2	111	21.8	109	2	87-116/16
	m,p-Xylene	ND	40	44.7	112	43.8	110	2	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T41699-6	Limits
460-00-4	4-Bromofluorobenzene	94%	94%	95%	58-125%
98-08-8	aaa-Trifluorotoluene	119%	119%	118%	73-139%

5.3.1

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Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T41512

Account: MWHCODE Montgomery Watson

Project: San Juan Basin Pit Groundwater Remediation

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T41699-9MS	KK033118.D 20		11/11/09	FI	n/a	n/a	GKK1583
T41699-9MSD	KK033119.D 20		11/11/09	FI	n/a	n/a	GKK1583
T41699-9	KK033114.D 20		11/11/09	FI	n/a	n/a	GKK1583

The QC reported here applies to the following samples:

Method: SW846 8021B

T41512-1

CAS No.	Compound	T41699-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	328		400	778	113	761	108	2	86-121/19
100-41-4	Ethylbenzene	597		400	1020	106	1010	103	1	81-116/14
108-88-3	Toluene	5.6	J	400	424	105	414	102	2	87-117/16
1330-20-7	Xylenes (total)	926		1200	2190	105	2170	104	1	85-115/12
95-47-6	o-Xylene	ND		400	433	108	429	107	1	87-116/16
	m,p-Xylene	926		800	1760	104	1740	102	1	84-116/13

CAS No.	Surrogate Recoveries	MS	MSD	T41699-9	Limits
460-00-4	4-Bromofluorobenzene	95%	97%	95%	58-125%
98-08-8	aaa-Trifluorotoluene	115%	115%	115%	73-139%



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

WATER LEVEL DATA

Project Name: San Juan Basin Groundwater
Project Manager: Ashley Ager
Client: MWH
Site Name: Fogelson

Date: 11/03/2009

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	3:19 PM	-	43.52	-	-	Recovered 3.5 oz of product, reset sock, purged 3 gallons and sampled. No parameters measured due to presence of product
MW-2		-	40.32	-	-	
MW-3		-	43.03	-	-	

Comments

Signature: Ashley L. Ager

Date: 11/06/2009

PRODUCT RECOVERY/WATER LEVEL DATA

Project Name San Juan Basin Ground Water Project No. 30001.0
Project Manager ALA
Client Company MWH Date 02/06/09
Site Name Fogelson

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed
MW-1	1210	-	43.12	-	Replaced sock, 10 oz recovered
MW-2		-	39.73	-	-
MW-3		-	42.47	-	-

Comments

Signature: Ashley Ager Date: 02/06/09