3R - 164

REPORTS

DATE:

2003

3R164

elpaso Field Services

Certified Mail: #7002 0510 0000 0307 7497

February 26, 2004

RECEIVED

MAR 03 2004

Oil Conservation Division
Environmental Bureau

Mr. William C. Olson
New Mexico Oil Conservation Division
1220 St. Francis Dr.
Santa Fe, NM 87504

RE: 2003 Pit Project Annual Groundwater Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual reports for the 24 remaining groundwater impacted sites that were identified during our pit closure project of 1994 / 1995.

EPFS has organized the 24 Annual Reports (Volumes 1, 2 and 3) by land type. Volume 1 contains Annual Reports for sites found on Federal land. Volume 2 contains Non Federal sites and Volume 3 contains sites on Navajo land. Of the 24 reports submitted, EPFS is requesting closure of one site located on Navajo lands (Jennepah #1). EPFS understands closure of groundwater sites on Navajo lands falls under jurisdiction of the Navajo Nation Environmental Protection Agency and original documents have been submitted to them for review. Other Navajo sites are included in the report for your information.

If you have any questions concerning the enclosed reports, please call me at (505) 599-2124.

Sincerely,

Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # 7002 0510 0000 0307 7473**
Mr. Bill Liesse, BLM – w / enclosures (federal sites only), **Certified Mail # 7002 0510 0000 0307 7466**

2003 ANNUAL GROUNDWATER REPORT
NON-FEDERAL SITES VOLUME II

EL PASO FIELD SERVICES

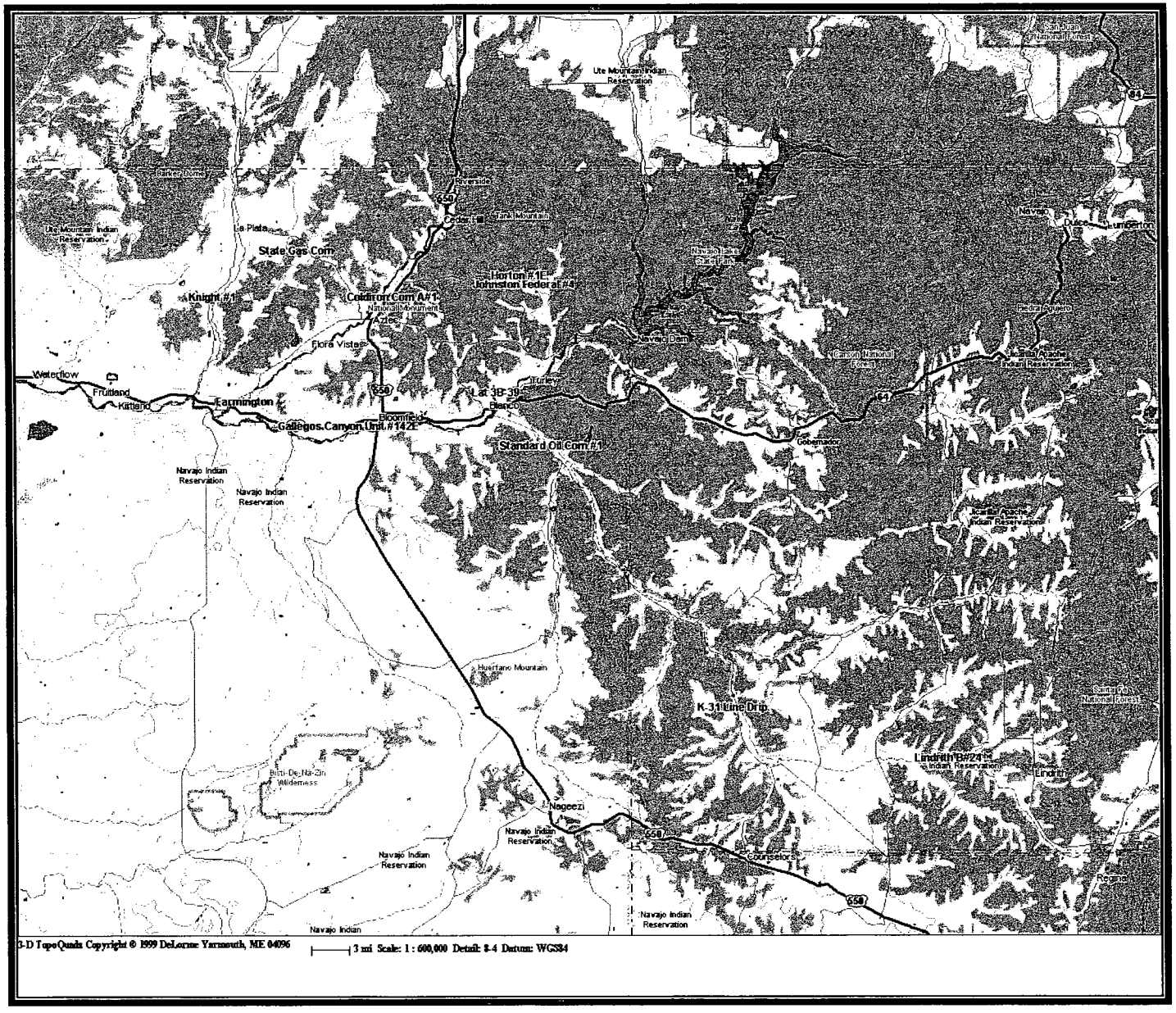
TABLE OF CONTENTS

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
71669	State Gas Com N #1	31N	12W	16	H
70194	Johnston Fed #4	31N	09W	33	H
93388	Horton #1E	31N	09W	28	H
72556	Knight #1	30N	13W	5	A
73551	Coldiron A #1	30N	11W	2	K
03906	GCU Com A #142E	29N	12W	25	G
70445	Standard Oil Com #1	29N	09W	36	N
LD087	K-31 Line Drip	25N	06W	16	N
94967	Lindrith B #24	24N	03W	9	N

elpaso

MWH
MONTGOMERY WATSON HARZA

Non - Federal Groundwater Site Map



LIST OF ACRONYMS

B	benzene
btoc	below top of casing
E	ethylbenzene
EPFS	El Paso Field Services
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitoring well
PSH	phase-separated hydrocarbons
NMWQCC	New Mexico Water Quality Control Commission
T	toluene
TOC	top of casing
NA	not applicable
NE	not established
NM	not measured
NMOCD	New Mexico Oil Conservation Division
NS	not sampled
ORC	oxygen-releasing compound
ppb	parts per billion
µg/L	micrograms per liter
X	total xylenes

EPFS GROUNDWATER SITES
2003 ANNUAL GROUNDWATER REPORT

Coldiron A #1
Meter Code: 73551

SITE DETAILS

Legal Description:	**Town:**	30N	**Range:**	11W	**Sec:**	2	**Unit:** K
NMOCD Haz Ranking:	40	**Land Type:**	Fee	**Operator:**	Amoco Production Company		

PREVIOUS ACTIVITIES

Site Assessment:	3/94	**Excavation:**	4/94 (50 cy)	**Soil Boring:**	10/95
Monitor Well:	10/95	**Geoprobe:**	NA	**Additional MWs:**	NA
Downgradient MWs:	NA	**Replace MW:**	NA	**Quarterly Initiated:**	4/96
ORC Nutrient Injection:	NA	**Re-Excavation:**	NA	**PSH Removal Initiated:**	NA
Annual Initiated:	NA	**Quarterly Resumed:**	NA		

SUMMARY OF 2003 ACTIVITIES

MW-1: Quarterly groundwater sampling was performed during 2003.

Site-Wide Activities: No other activities were performed at this site during 2003.

SITE MAP

A site map (January) is attached in Figure 1.

SUMMARY TABLES AND GRAPHS

- Analytical data from 2003 are summarized on Table 1, and historic data are presented graphically in Figure 2.
- Laboratory reports are presented in Attachment 1.
- Field documentation is presented in Attachment 2.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this site during 2003.

Coldiron A #1
Meter Code: 73551

DISPOSITION OF GENERATED WASTES

No wastes were generated at this site during 2003.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this site.

CONCLUSIONS

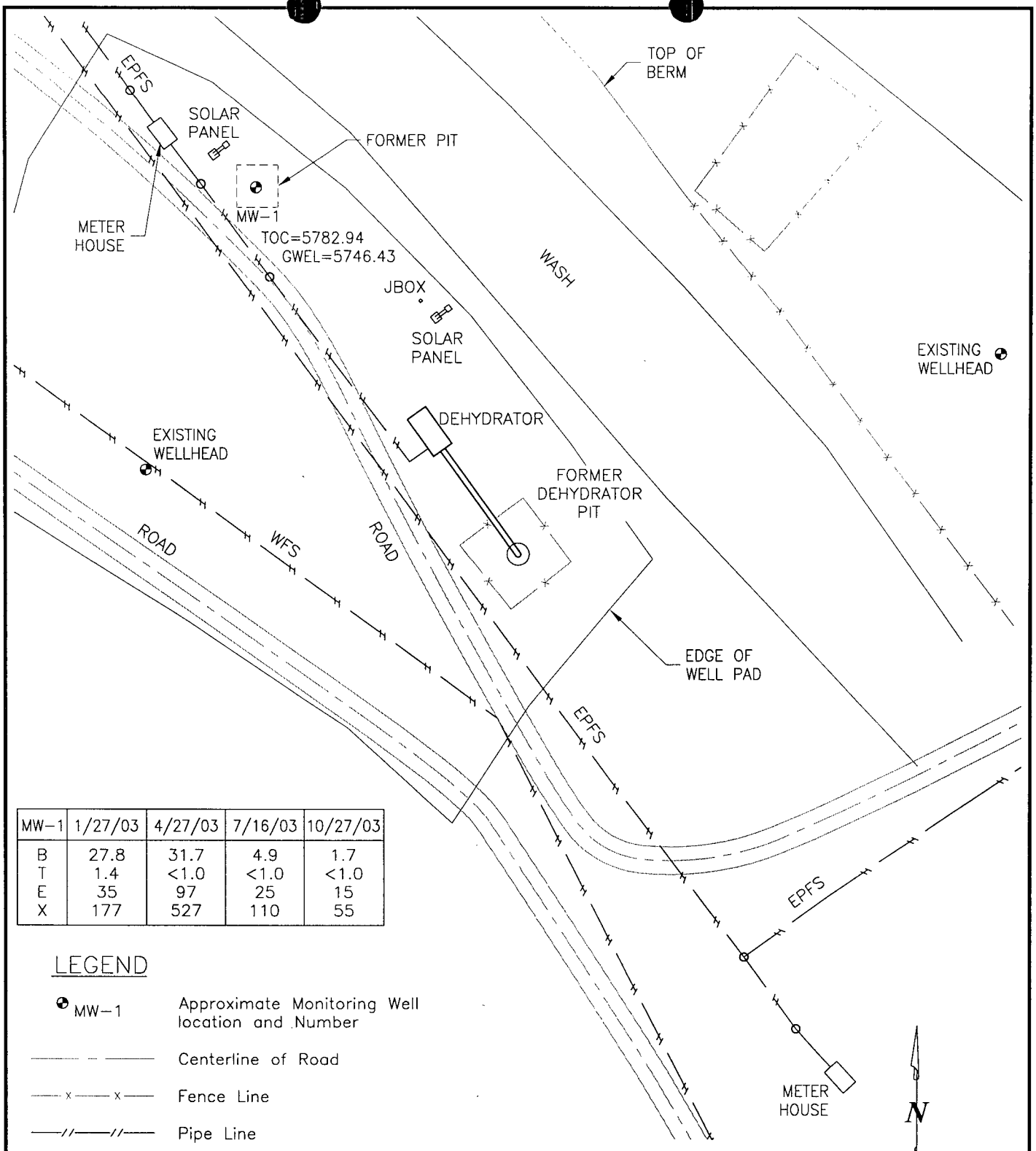
- Benzene concentrations in samples collected from MW-1 in January and April 2003 generally remained at the same level as 2001 and 2002. However, in July and October 2003, all BTEX concentrations (including benzene) were below NMOCD standards.

- Groundwater elevations in MW-1 fluctuated less than one foot during 2003.

- Dissolved oxygen and/or nutrients have not been introduced to the subsurface because concentrations of BTEX constituents are continuing to decline naturally.

RECOMMENDATIONS

- EPFS recommends that quarterly groundwater sampling at MW-1 continue until four consecutive quarterly samples are below closure criteria. If BTEX concentrations remain below standards in the first two quarters of 2004, this site will be submitted for closure.



MW-1	1/27/03	4/27/03	7/16/03	10/27/03
B	27.8	31.7	4.9	1.7
T	1.4	<1.0	<1.0	<1.0
E	35	97	25	15
X	177	527	110	55

LEGEND

- MW-1 — Approximate Monitoring Well location and Number
- Centerline of Road
- Fence Line
- Pipe Line
- B — Benzene (µg/L)
- T — Toluene (µg/L)
- E — Ethylbenzene (µg/L)
- X — Total Xylenes (µg/L)
- GWEL — Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
- TOC — Top of Casing

NOT TO SCALE

COLDIRON COM A#1, METER 73551
JANUARY 2003

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

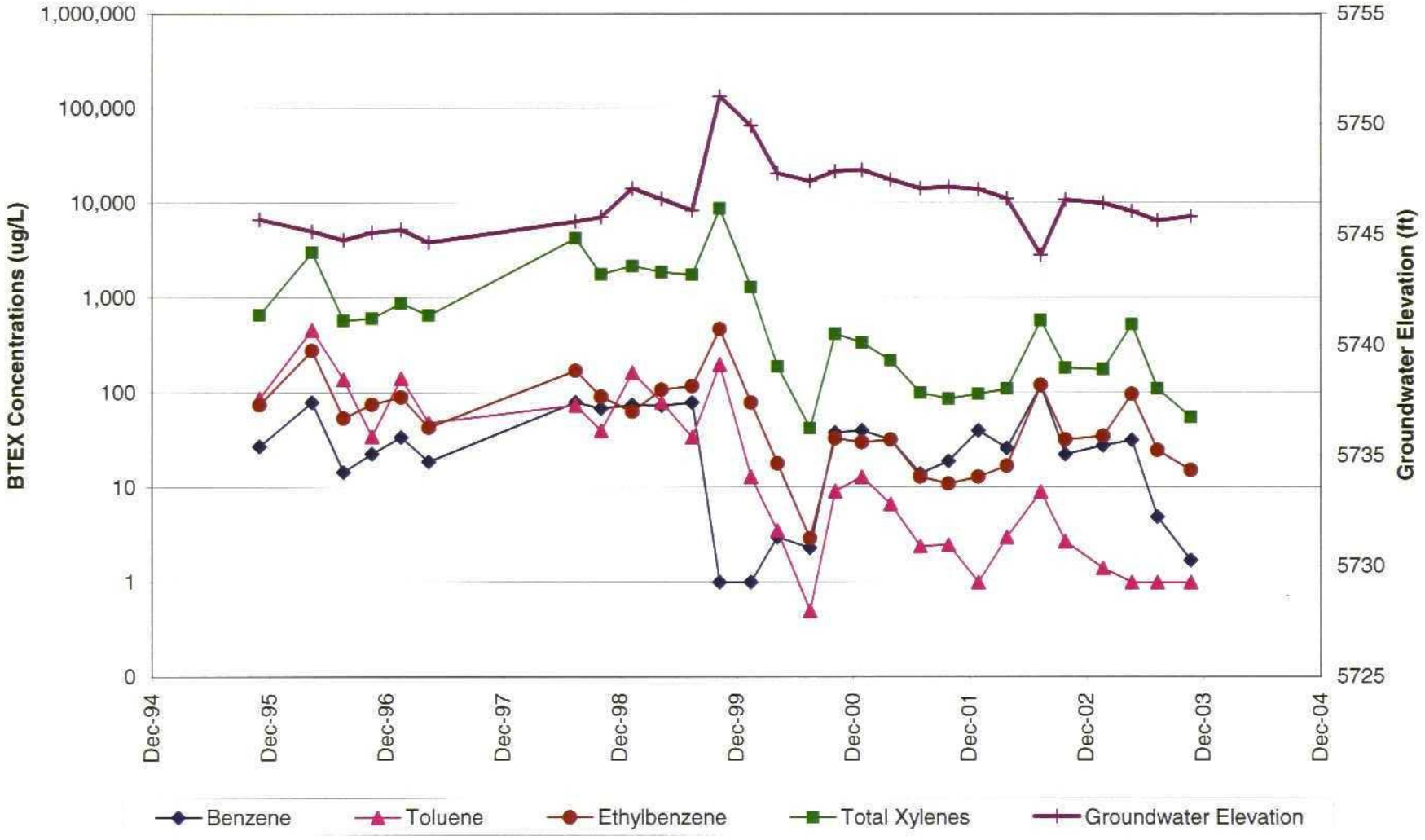
coldironcoma1a_03.dwg

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN 2003 GROUNDWATER SAMPLES
COLDIRON A#1 (METER #73551)

Site Name	Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft btoc)
Coldiron A #1	MW-1	1/27/2003	27.8	1.4	35	177	36.51
Coldiron A #1	MW-1	4/27/2003	31.7	< 1.0	97	527	36.87
Coldiron A #1	MW-1	7/16/2003	4.9	< 1.0	25	110	37.30
Coldiron A #1	MW-1	10/27/2003	1.7	< 1.0	15	55	37.11

FIGURE 2
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
COLDIRON A#1
MW-1



ATTACHMENT 1

LABORATORY REPORTS

DATA VALIDATION WORKSHEET

(Page 1 of 2)

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 10/27/03

Laboratory: Accutest **MWH Job Number:** EPC-SJRB (Groundwater)

Batch Identification: T5819 **Matrix:** Water

MS/MSD Parent(s)[a]: None **Field Replicate Parent(s):** None

Validation Complete: Bryan Bytnar 11-12-03 (Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
1	Coldiron	MW-1	T5819-01	Y	J	Benzene @ 1.7 µg/l
					J	Toluene @ µg/l
					J	Ethylbenzene @ 15.2 µg/l
					J	m/p-Xylene @ 42.1 µg/l
					J	o-Xylene @ 13.2 µg/l
					J	Xylenes (total) @ 55.3 µg/l
None	Trip Blank	TB10270301	T5819-02	N		

DATA VALIDATION WORKSHEET
(Page 2 of 2)

Analytical Method: SW-846 8021B (BTEX) **MWH Job Number:** EPC-SJRB (Groundwater)

Laboratory: Accutest **Batch Identification:** T5819

Validation Criteria								
Sample ID	**Coldiron MW-1**	**TB102703 01**						
Lab ID	**T5819-01**	**T5819-02**						
Holding Time	A	A						
Analyte List	A	A						
Reporting Limits	A	A						
Surrogate Spike Recovery	A[1]	A						
Trip Blank	A	A						
Equipment Rinseate Blanks	N/A	N/A						
Field Duplicate/Replicate	N/A	N/A						
Initial Calibration	N	N						
Initial Calibration Verification (ICV)	N	N						
Continuing Calibration Verification (CCV)	N	N						
Method Blank	A	A						
Laboratory Control Sample (LCS)	A	A						
Laboratory Control Sample Duplicate (LCSD)	N	N						
Matrix Spike/Matrix Spike Dup. (MS/MSD)	A	N/A						
Retention Time Window	N	N						
Injection Time(s)	N	N						
Hardcopy vs. Chain-of-Custody	A	A						
EDD vs. Hardcopy	N	N						
EDD vs. Chain of Custody	N	N						

(a) List QC batch identification if different than Batch ID
A indicates validation criteria were met
A/L indicates validation criteria met based upon Laboratory's QC Summary Form
X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

1) Surrogate percent recovery outside acceptance criteria for 4-bromofluorobenzene @ 139% (64-121) and aaa-trifluorotoluene @ 145% (71-121), indicating a possible high bias. Qualify associated sample hits with "J" flags to indicate the data are estimated and possibly biased high.

Gulf Coast
ACCUTEST Laboratories

11/11/03

Technical Report for

Montgomery Watson

EPFS San Juan Basin Groundwater Site

D-MWH-04-01-03-MSG-01

Accutest Job Number: T5819

Report to:

Montgomery Watson

brian.buttars@us.mwhglobal.com

ATTN: Brian Buttars

Total number of pages in report: **12**

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

Table of Contents

Sections: 1 2 3 4

Sample Summary

Montgomery Watson

Job No: T5819

EPFS San Juan Basin Groundwater Site
Project No: D-MWH-04-01-03-MSG-01

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T5819-1	10/27/03	15:00	MN	10/29/03	AQ	Ground Water	COLDIRON MW-1
T5819-2	10/27/03	07:00	MN	10/29/03	AQ	Ground Water	TB10270301

Report of Analysis

Client Sample ID:	COLDIRON MW-1		
Lab Sample ID:	T5819-1	Date Sampled:	10/27/03
Matrix:	AQ - Ground Water	Date Received:	10/29/03
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	KK005988.D	1	11/06/03	BC	n/a	n/a	GKK322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	1.7	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	15.2	1.0	ug/l	
1330-20-7	Xylenes (total)	55.3	3.0	ug/l	
95-47-6	o-Xylene	13.2	1.0	ug/l	
	m,p-Xylene	42.1	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	139% [a]		64-121%
98-08-8	aaa-Trifluorotoluene	145% [a]		71-121%

(a) Outside control limits due to matrix interference.

ND = Not detected
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:	TB10270301		
Lab Sample ID:	T5819-2	Date Sampled:	10/27/03
Matrix:	AQ - Ground Water	Date Received:	10/29/03
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	KK005991.D	1	11/06/03	BC	n/a	n/a	GKK322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	108%		64-121%
98-08-8	aaa-Trifluorotoluene	111%		71-121%

ND = Not detected
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 CUSTOD # 031027MW01

ACCUTEST Laboratories

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

FED-EX Tracking # 842252414800 | Bottle Order Control #
Accutest Quote # | Accutest Job #

Client / Reporting Information

Company Name: MWH / El Paso
Address: 614 Reilly
City: Farmington State: NM Zip: 87401
Project Contact: Scott Boyce E-mail:
Phone #: 505 599 2124
Sampler's Name: M Nee

Project Information

Project Name: SC Paso Groundwater
Street:
City: State:
Project #:
Fax #: 505 599 2019
Client Purchase Order #:

Requested Analysis

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

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: HCl	NaOH	HNO3	H2SO4	None	NaHSO4	MeOH	ENCORE	BTEX
1	Coldiron MW-1		10-27-03	1500	MW	WG	2	X								X
2	TB102703@1		10/27/03	0700	MW	WG	1	X								X

Turnaround Time (Business Days)

- [X] 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

T5819

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	1600hrs/10/28/03	1	2		2
Relinquished by: 3	Date Time: 10/29 0900	Received by: 3	Relinquished by: 4	Date Time:	Received by: 4
Relinquished by: 5	Date Time:	Received by: 5	Custody Seal #	Preserved where applicable ☐	On Ice: X Cooler Temp: 4.0 °C

T5819: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T5819

DATE/TIME RECEIVED: 10/29/03 0900

CLIENT: El Paso

INITIALS: KD

Condition/Variance (Circle "Y" for yes and "N" for no. 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 (NA) 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 on containers.
8. (Y) N Custody seal received intact and tamper evident on cooler.
9. Y (NA) Custody seal received intact and tamper evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1	1-2	10/27/03	WW	VOA	VREF	1,2,3,4,5,6	U, <2, >12, (NA)
2	1	↓	WTB	↓	↓	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

10/29/03 KD

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: Fed Ex

Tracking#:

COOLER TEMP: 4.0°C COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Method of sample disposal: (circle one) Accutest disposal Hold Return to Client

3 3.1 Form: SM012

T5819: Chain of Custody

Page 2 of 2

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T5819
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK322-MB	KK005986.D	1	11/06/03	BC	n/a	n/a	GKK322

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

T5819-1, T5819-2

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	109%	64-121%
98-08-8	aaa-Trifluorotoluene	109%	71-121%

Blank Spike Summary

Job Number: T5819
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK322-BS	KK005985.D	1	11/06/03	BC	n/a	n/a	GKK322

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

T5819-1, T5819-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	21.3	107	74-119
100-41-4	Ethylbenzene	20	21.6	108	82-115
108-88-3	Toluene	20	21.2	106	77-116
1330-20-7	Xylenes (total)	60	63.4	106	79-115
95-47-6	o-Xylene	20	21.0	105	78-114
	m,p-Xylene	40	42.4	106	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	103%	64-121%
98-08-8	aaa-Trifluorotoluene	102%	71-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T5819
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T5819-1MS	KK005989.D	1	11/06/03	BC	n/a	n/a	GKK322
T5819-1MSD	KK005990.D	1	11/06/03	BC	n/a	n/a	GKK322
T5819-1	KK005988.D	1	11/06/03	BC	n/a	n/a	GKK322

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

T5819-1, T5819-2

CAS No.	Compound	T5819-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.7		20	23.9	111	24.6	115	3	64-124/16
100-41-4	Ethylbenzene	15.2		20	35.3	101	35.5	102	1	64-123/14
108-88-3	Toluene	ND		20	22.1	111	22.6	113	2	64-120/13
1330-20-7	Xylenes (total)	55.3		60	113	96	109	90	4	66-118/18
95-47-6	o-Xylene	13.2		20	32.7	98	31.5	92	4	65-119/20
	m,p-Xylene	42.1		40	80.0	95	77.7	89	3	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T5819-1	Limits
460-00-4	4-Bromofluorobenzene	121%	121%	139%* [a]	64-121%
98-08-8	aaa-Trifluorotoluene	123%* [b]	127%* [b]	145%* [a]	71-121%

(a) Outside control limits due to matrix interference.
(b) Outside control limits due to matrix interference. Confirmed by reanalysis.

DATA VALIDATION WORKSHEET

Analytical Method/Analytes:	SW-846 8021B (BTEX)	**Sample Collection Date(s):**	07/16/03
Laboratory:	Accutest	**MWH Job Number:**	EPC-SJRB (Groundwater)
Batch Identification:	T4890	**Matrix:**	Water
MS/MSD Parent(s)[a]:	T4890-02	**Field Replicate Parent(s):**	None

Validation Complete: *Brian Buttars - 07/28/03*
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	Coldiron	MW-1	T4890-01	Y		Benzene @ 4.9 T µg/l Ethylbenzene @ 24.7 µg/l Xylenes, total @ 110 µg/l o-Xylenes @ 27.3 m,p-Xylenes @ 82.8 µg/l
None	Trip Blank	160703TB01	T4890-02	N		

DATA VALIDATION WORKSHEET

Analytical Method:	SW-846 8021B (BTEX)	**MWH Job Number:**	EPC-SJRB (Groundwater)
Laboratory:	Accutest	**Batch Identification:**	T4890

Validation Criteria								
Sample ID	Coldiron MW-1	160703TB 01						
Lab ID	T4890-01	T4890-02						
Holding Time	A	A						
Analyte List	A	A						
Reporting Limits	A	A						
Trip Blank	A	A						
Equipment Rinseate Blanks	N/A	N/A						
Field Duplicate/Replicate	N/A	N/A						
Surrogate Spike Recovery	A	A						
Initial Calibration	N	N						
Initial Calibration Verification (ICV)	N	N						
Continuing Calibration Verification (CCV)	N	N						
Laboratory Control Sample (LCS)	A	A						
Laboratory Control Sample Duplicate (LCSD)	N	N						
Method Blank	A	A						
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	A						
Retention Time Window	N	N						
Injection Time(s)	N	N						
Hardcopy vs. Chain-of-Custody	A	A						
EDD vs. Hardcopy	N	N						
EDD vs. Chain of Custody	N	N						

(a) List QC batch identification if different than Batch ID
A indicates validation criteria were met
A/L indicates validation criteria met based upon Laboratory's QC Summary Form
X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

Gulf Coast
ACCUTEST.
Laboratories

07/28/03

Technical Report for

Montgomery Watson

EPFS San Juan Basin Groundwater Site

Accutest Job Number: T4890

Report to:

El Paso

lynn.benally@elpaso.com

ATTN: Lynn Benally

Total number of pages in report: 8

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

Accutest Laboratories

Sample Summary

Montgomery Watson

Job No: T4890

EPFS San Juan Basin Groundwater Site

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T4890-1	07/16/03	09:50	MN	07/17/03	AQ	Ground Water	COLDIRON MW-1
T4890-2	07/16/03	07:00	MN	07/17/03	AQ	Ground Water	160703TB01

Accutest Laboratories

Report of Analysis

Client Sample ID:	COLDIRON MW-1		
Lab Sample ID:	T4890-1	Date Sampled:	07/16/03
Matrix:	AQ - Ground Water	Date Received:	07/17/03
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	KK005494.D	5	07/24/03	JH	n/a	n/a	GKK290
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	4.9	5.0	ug/l	J
108-88-3	Toluene	ND	5.0	ug/l	
100-41-4	Ethylbenzene	24.7	5.0	ug/l	
1330-20-7	Xylenes (total)	110	15	ug/l	
95-47-6	o-Xylene	27.3	5.0	ug/l	
	m,p-Xylene	82.8	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		64-121%
98-08-8	aaa-Trifluorotoluene	98%		71-121%

ND = Not detected
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:	160703TB01		
Lab Sample ID:	T4890-2	Date Sampled:	07/16/03
Matrix:	AQ - Ground Water	Date Received:	07/17/03
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	KK005490.D	1	07/24/03	JH	n/a	n/a	GKK290
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	87%		64-121%
98-08-8	aaa-Trifluorotoluene	89%		71-121%

ND = Not detected
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

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Blank Spike Summary

Job Number: T4890
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK290-BS	KK005488.D	1	07/24/03	JH	n/a	n/a	GKK290

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

T4890-1, T4890-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.6	98	74-119
100-41-4	Ethylbenzene	20	20.1	101	82-115
108-88-3	Toluene	20	19.6	98	77-116
1330-20-7	Xylenes (total)	60	59.1	99	79-115
95-47-6	o-Xylene	20	19.3	97	78-114
	m,p-Xylene	40	39.9	100	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	101%	64-121%
98-08-8	aaa-Trifluorotoluene	99%	71-121%

Method Blank Summary

Job Number: T4890
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK290-MB	KK005489.D	1	07/24/03	JH	n/a	n/a	GKK290

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

T4890-1, T4890-2

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	93%	64-121%
98-08-8	aaa-Trifluorotoluene	94%	71-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T4890
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T4890-2MS	KK005491.D	1	07/24/03	JH	n/a	n/a	GKK290
T4890-2MSD	KK005492.D	1	07/24/03	JH	n/a	n/a	GKK290
T4890-2	KK005490.D	1	07/24/03	JH	n/a	n/a	GKK290

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

T4890-1, T4890-2

CAS No.	Compound	T4890-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	19.1	96	20.6	103	8	64-124/16
100-41-4	Ethylbenzene	ND		20	19.1	96	20.1	101	5	64-123/14
108-88-3	Toluene	ND		20	18.6	93	19.9	100	7	64-120/13
1330-20-7	Xylenes (total)	ND		60	56.3	94	59.2	99	5	66-118/18
95-47-6	o-Xylene	ND		20	18.3	92	19.4	97	6	65-119/20
	m,p-Xylene	ND		40	37.9	95	39.8	100	5	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T4890-2	Limits
460-00-4	4-Bromofluorobenzene	91%	88%	87%	64-121%
98-08-8	aaa-Trifluorotoluene	94%	94%	89%	71-121%

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30000.30 Project Name: San Juan Basin Client: MWH

Location: Coldiron Well No: MW-1 Development ☐ Sampling ☒

Project Manager MJN Date 7-16-03 Start Time 0902 Weather 95+

Depth to Water 37.29 Depth to Product NA Product Thickness NA Measuring Point TOC

Water Column Height 7.89 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer ☒ Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal ☒ Sabilization of Indicator Parameters ☐ Other 4 bailers

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
7.89 x .65	5.15 x 3		15.89

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0920	6.53	3430	21.9				1	Grey Translucent
	6.46	2790	20.0				2	black
	6.47	2770	18.7				3	
	6.55	3280	18.9				14	grey
	6.80	3190	18.4				15	
0942	6.86	3200	18.2				16	light grey

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
0942	6.86	3200	18.2				NA	16	light grey

COMMENTS: _____

INSTRUMENTATION: pH Meter ☒ _____ Temperature Meter ☒ _____

DO Monitor ☐ _____ Other ☐ _____

Conductivity Meter ☒ _____

Water Disposal Kutz

Sample ID Coldiron MW-1 Sample Time 0950 BTEX ☒ VOCs ☐ Alkilinity ☐

TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 160263TBQN

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 07/16/03

Laboratory: Accutest **MWH Job Number:** EPC-SJRB (Groundwater)

Batch Identification: T4890 **Matrix:** Water

MS/MSD Parent(s)[a]: T4890-02 **Field Replicate Parent(s):** None

Validation Complete: Bijan Battas 7-28-03 (Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	Coldiron	MW-1	T4890-01	Y		Benzene @ 4.9 T µg/l Ethylbenzene @ 24.7 µg/l Xylenes, total @ 110 µg/l o-Xylenes @ 27.3 m,p-Xylenes @ 82.8 µg/l
None	Trip Blank	160703TB01	T4890-02	N		

DATA VALIDATION WORKSHEET

(Page 2 of 2)

Analytical Method: SW-846 8021B (BTEX) **MWH Job Number:** EPC-SJRB (Groundwater)

Laboratory: Accutest **Batch Identification:** T4890

Validation Criteria								
Sample ID	**Coldiron MW-1**	**160703TB 01**						
Lab ID	**T4890-01**	**T4890-02**						
Holding Time	A	A						
Analyte List	A	A						
Reporting Limits	A	A						
Trip Blank	A	A						
Equipment Rinseate Blanks	N/A	N/A						
Field Duplicate/Replicate	N/A	N/A						
Surrogate Spike Recovery	A	A						
Initial Calibration	N	N						
Initial Calibration Verification (ICV)	N	N						
Continuing Calibration Verification (CCV)	N	N						
Laboratory Control Sample (LCS)	A	A						
Laboratory Control Sample Duplicate (LCSD)	N	N						
Method Blank	A	A						
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	A						
Retention Time Window	N	N						
Injection Time(s)	N	N						
Hardcopy vs. Chain-of-Custody	A	A						
EDD vs. Hardcopy	N	N						
EDD vs. Chain of Custody	N	N						

(a) List QC batch identification if different than Batch ID
A indicates validation criteria were met
A/L indicates validation criteria met based upon Laboratory's QC Summary Form
X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

CHAIN CUSTODY # 160703 MW#1

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

FED-EX Tracking # 836557900629 | Bottle Order Control #
Accutest Quote # | Accutest Job #

Client / Reporting Information

Company Name: MWH / EL Paso
Address: 614 Reilly Ave
City: Farmington State: NM Zip: 87401
Project Contact: Lynn Bonilly E-mail:
Phone #: 505 599 2178
Sampler's Name: Martin Nee

Project Information

Project Name: San Juan Basin
Street: Ground Water
City: Site Coldiron State:
Project #:
Fax #:
Client Purchase Order #:

Requested Analysis

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	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	None	NaHSO4	MEOH	ENCORE	BTEX	LAB USE ONLY
1	Coldiron MW-1		7/16/03	0950	MW	WG	2	2								X	WKP
2	160703 DUPLICATE #1		7-16-03	0700	DMW	WG	1	1								X	L

Turnaround Time (Business Days)

- [X] 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

T4890

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 Martin Nee	7-16-03 1600		2	7-17-03 0900	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		5		[ ]	X 5-0°C

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: 14890 DATE/TIME RECEIVED: 7-17-03 0900

CLIENT: El PASO INITIALS: ED

Condition/Variance (Circle "Y" for yes and "N" for no. 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 on containers.
8. (Y) N Custody seal received intact and tamper evident on cooler.
9. Y (N/A) Custody seal received intact and tamper evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1	1-2	7-16-03	L	2x 40ml	VREF	1,(2),3,4,5,6	U, <2, >12, (NA)
2	1	↓	↓	1x 40ml	↓	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

ED 7-17-03

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: FED-EX
Tracking#: SEE ATTACHED

COOLER TEMP: 5.0°C COOLER TEMP:
COOLER TEMP: COOLER TEMP:

Method of sample disposal: (circle one) Accutest disposal Hold Return to Client

Form: SM012

DATA VALIDATION WORKSHEET

Analytical Method/Analytes:	SW-846 8021B (BTEX)	**Sample Collection Date(s):**	04/27/03
Laboratory:	Accutest	**MWH Job Number:**	EPC-SJRB (Groundwater)
Batch Identification:	T4248	**Matrix:**	Water
MS/MSD Parent(s)[a]:	None	**Field Replicate Parent(s):**	None

Validation Complete: *Brian Buttars – 05/05/03*
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	Trip Blank	27040302 TB	T4248-01	N		
None	Coldiron	MW-1	T4248-02	Y		

DATA VALIDATION WORKSHEET

Analytical Method: SW-846 8021B (BTEX) **MWH Job Number:** EPC-SJRB (Groundwater)

Laboratory: Accutest **Batch Identification:** T4248

Validation Criteria								
Sample ID	27040302 TB	Coldiron MW-1						
Lab ID	T4248-01	T4248-02						
Holding Time	A	A						
Analyte List	A	A						
Reporting Limits	A	A						
Trip Blank	A	A						
Equipment Rinseate Blanks	N/A	N/A						
Field Duplicate/Replicate	N/A	N/A						
Surrogate Spike Recovery	A	A						
Initial Calibration	N	N						
Initial Calibration Verification (ICV)	N	N						
Continuing Calibration Verification (CCV)	N	N						
Laboratory Control Sample (LCS)	A	A						
Laboratory Control Sample Duplicate (LCSD)	N	N						
Method Blank	A	A						
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A						
Retention Time Window	N	N						
Injection Time(s)	N	N						
Hardcopy vs. Chain-of-Custody	A	A						
EDD vs. Hardcopy	N	N						
EDD vs. Chain of Custody	N	N						

(a) List QC batch identification if different than Batch ID
A indicates validation criteria were met
A/L indicates validation criteria met based upon Laboratory's QC Summary Form
X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

Gulf Coast
ACCUTEST.
Laboratories

05/02/03

Technical Report for

Montgomery Watson

EPFS San Juan Basin GS

San Juan Basin / #270403MN02

Accutest Job Number: T4248

Report to:

Elpaso

Lynn.Benally@elpaso.com

ATTN: Lynn Benally

Total number of pages in report: 8

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

Accutest Laboratories

Sample Summary

Montgomery Watson

Job No: T4248

EPFS San Juan Basin GS
Project No: San Juan Basin / #270403MN02

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T4248-1	04/27/03	07:00	MN	04/29/03	AQ	Trip Blank Water	27040302 TB
T4248-2	04/27/03	11:51	MN	04/29/03	AQ	Ground Water	GW COLDIROM MW-1

Accutest Laboratories

Report of Analysis

Client Sample ID:	27040302 TB		
Lab Sample ID:	T4248-1	Date Sampled:	04/27/03
Matrix:	AQ - Trip Blank Water	Date Received:	04/29/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	EPFS San Juan Basin GS		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK005099.D	1	04/30/03	BC	n/a	n/a	GKK266
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		64-121%
98-08-8	aaa-Trifluorotoluene	99%		71-121%

ND = Not detected
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:	GW COLDIROM MW-1		
Lab Sample ID:	T4248-2	Date Sampled:	04/27/03
Matrix:	AQ - Ground Water	Date Received:	04/29/03
Method:	SW846 8021B	Percent Solids:	n/a
Project:	EPFS San Juan Basin GS		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK005100.D	1	04/30/03	BC	n/a	n/a	GKK266
Run #2	KK005101.D	20	04/30/03	BC	n/a	n/a	GKK266

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

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	31.7	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	97.4 [a]	20	ug/l	
1330-20-7	Xylenes (total)	527 [a]	60	ug/l	
95-47-6	o-Xylene	131 [a]	20	ug/l	
	m,p-Xylene	396 [a]	40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	114%	93%	64-121%
98-08-8	aaa-Trifluorotoluene	119%	100%	71-121%

(a) Result is from Run# 2

ND = Not detected
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

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Blank Spike Summary

Job Number: T4248
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK266-BS	KK005096.D	1	04/30/03	BC	n/a	n/a	GKK266

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

T4248-1, T4248-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.2	101	74-119
100-41-4	Ethylbenzene	20	20.3	102	82-115
108-88-3	Toluene	20	20.3	102	77-116
1330-20-7	Xylenes (total)	60	61.3	102	79-115
95-47-6	o-Xylene	20	19.9	100	78-114
	m,p-Xylene	40	41.4	104	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	95%	64-121%
98-08-8	aaa-Trifluorotoluene	96%	71-121%

Method Blank Summary

Job Number: T4248
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK266-MB	KK005097.D	1	04/30/03	BC	n/a	n/a	GKK266

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

T4248-1, T4248-2

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	95%	64-121%
98-08-8	aaa-Trifluorotoluene	94%	71-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T4248
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T4247-2MS	KK005104.D	5	04/30/03	BC	n/a	n/a	GKK266
T4247-2MSD	KK005105.D	5	04/30/03	BC	n/a	n/a	GKK266
T4247-2	KK005102.D	1	04/30/03	BC	n/a	n/a	GKK266
T4247-2	KK005103.D	5	04/30/03	BC	n/a	n/a	GKK266

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

T4248-1, T4248-2

CAS No.	Compound	T4247-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		100	102	102	101	101	1	64-124/16
100-41-4	Ethylbenzene	164 [a]		100	264	100	267	103	1	64-123/14
108-88-3	Toluene	ND		100	102	102	101	101	1	64-120/13
1330-20-7	Xylenes (total)	452 [a]		300	755	101	761	103	1	66-118/18
95-47-6	o-Xylene	ND		100	103	103	102	102	1	65-119/20
	m,p-Xylene	452 [a]		200	652	99	659	103	1	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T4247-2	T4247-2	Limits
460-00-4	4-Bromofluorobenzene	99%	98%	104%	104%	64-121%
98-08-8	aaa-Trifluorotoluene	99%	99%	103%	104%	71-121%

(a) Result is from Run #2.

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 01/27/03

Laboratory: APCL **MWH Job Number:** EPC-SJRB (Groundwater)

Batch Identification: 03-01361 **Matrix:** Water

MS/MSD Parent(s)[a]: None **Field Replicate Parent(s):** None

Validation Complete: Brian Buttars 3-3-03 (Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
1	GW	Coldiron Com A#1 MW-1	03-01361-01	Y		Benzene @ 27.8 µg/l
						Ethylbenzene @ 35.0 µg/l
					UB	Toluene @ 1.4 µg/l
						o-Xylene @ 46.8 µg/l
					B	m/p-Xylene @ 130 µg/l
1	GW	Lat 3B-39 MW-1	03-01361-02			Benzene @ 8.4 µg/l
						Ethylbenzene @ 239 µg/l
					UB	Toluene @ 1.9 µg/l
						o-Xylene @ 6.8 µg/l
					B	m/p-Xylene @ 587 µg/l
1	GW	Trip Blank (2) 03	03-01361-03			Toluene @ 0.5 T µg/l
						m/p-Xylene @ 1 µg/l

DATA VALIDATION WORKSHEET

Analytical Method: SW-846 8021B (BTEX) **MWH Job Number:** EPC-SJRB (Groundwater)

Laboratory: APCL **Batch Identification:** 03-01361

Validation Criteria								
Sample ID	**Coldiron Com A#1 MW-1**	**Lat 3B-39 MW-1**	**Trip Blank (2) 03**					
Lab ID	**03-01361-01**	**03-01361-02**	**03-01361-03**					
Holding Time	A	A	A					
Analyte List	A	A	A					
Reporting Limits	A	A	A					
Method Blank	A	A	A					
Trip Blank	A[1]	A[1]	A[1]					
Equipment Rinseate Blanks	N/A	N/A	N/A					
Field Duplicate/Replicate	N/A	N/A	N/A					
Initial Calibration	N	N	N					
Initial Calibration Verification (ICV)	N	N	N					
Continuing Calibration Verification (CCV)	A	A	A					
Laboratory Control Sample (LCS)	A	A	A					
Laboratory Control Sample Duplicate (LCSD)	N	N	N					
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A					
Surrogate Spike Recovery	A	A	A					
Retention Time Window	N	N	N					
Injection Time(s)	N	N	N					
Hardcopy vs. Chain-of-Custody	A	A	A					
EDD vs. Hardcopy	N	N	N					
EDD vs. Chain of Custody	N	N	N					

(a) List QC batch identification if different than Batch ID
A indicates validation criteria were met
A/L indicates validation criteria met based upon Laboratory's QC Summary Form
X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

1) The following analytes were detected in the trip blank:
   a) Toluene @ 0.5T µg/L, qualify all sample concentrations less than or equal to 2.5 µg/L with a "UB" flag and all sample concentrations greater than 2.5 µg/l with a "B" flag.
   b) m/p-Xylene @ 1.0 µg/L, qualify all sample concentrations less than or equal to 5 µg/L with a "UB" flag and all sample concentrations greater than 5 µg/l with a "B" flag.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-031361
Collected by: M. Hee
Collected on: 01/27/03

Received: 01/29/03
Extracted: N/A
Tested: 01/29-30/03
Reported: 02/06/03

Sample Description: Water
Project Description: 220013 San Juan River Basin

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result Cold Iron Com A #1 03-01361-1	LAT3B-39 03-01361-2	Trip Blank (2)03 03-01361-3
BTXE						
Dilution Factor				1	1	1
BENZENE	8021B	μg/L	0.5	27.8	8.4	< 0.5
ETHYLBENZENE	8021B	μg/L	0.5	35.0	239	< 0.5
TOLUENE	8021B	μg/L	0.5	1.4	1.9	0.5J
O-XYLENE	8021B	μg/L	0.5	46.8	6.8	< 0.5
M,P-XYLENE	8021B	μg/L	1	130	587	1

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City, UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-031361
Collected by: M. Hee
Collected on: 01/27/03
Sample description:
Water
Project: San Juan River Basin /220013

Received: 01/29/03
Tested: 01/29-30/03
Reported: 02/18/03

Analysis of Water

801-031361QC

Component Name	Analysis Batch #	CCV (μg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
BTXE												
Benzene	03G1243	100	93	N.D.	μg/L	18.0	87	86	90	5	68-130	31
Toluene	03G1243	100	99	N.D.	μg/L	70.0	88	86	89	4	66-133	33
Ethylbenzene	03G1243	100	101	N.D.	μg/L	18.0	92	91	93	2	65-134	35
m/p-Xylene	03G1243	200	94	N.D.	μg/L	70.0	88	85	87	2	65-134	35
o-Xylene	03G1243	100	95	N.D.	μg/L	25.0	85	89	88	1	65-134	35

Notation:
ICV – Initial Calibration Verification
CCV – Continuation Calibration Verification
LCS – Lab Control Spike
MS – Matrix Spike
MSD – Matrix Spike Duplicate
ICS – Interference Check Standard
MD – Matrix Duplicate
N.D. – Not detected or less than PQL
CCB – Continuation Calibration Blank
M-blank – Method Blank
SP Level – Spike Level
%Rec – Recovery Percent
%RPD – Relative Percent Differences
%Diff – Control Limit for %RPD
ICP-SD – ICP Serial Dilution
N.A. – Not Applicable

Respectfully submitted,

Regina Kirakozova,
Associate QA/QC Director
Applied P & Ch Laboratory

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8021B

Client Name:	Montgomery Watson Harza	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	031361
Project ID:	San Juan River Basin	Project No:	220013	Sample Matrix:	Water
		Batch No:	03G1243		

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		03G1243-LCS-01	83	0
2		03G1243-LSD-01	83	0
3	TRIP BLANK (2)03	03-1361-3	86	0
4	10723-TW06-GW01	03-1357-4MS	82	0
5	10723-TW06-GW01	03-1357-4MSD	82	0
6	COLD IRON COM A #1	03-1361-1	113	0
7	LAT3B-39	03-1361-2	129	0
8		03G1243-MB-02	89	0
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

	QC Control Limit
S1 = 4-BROMO-FLUOROBENZENE (PID)	66-133

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-031361
Collected by: M. Hee
Collected on: 01/27/03

Received: 01/29/03
Extracted: N/A
Tested: 01/29-30/03
Reported: 02/06/03

Sample Description: Water
Project Description: 220013 San Juan River Basin

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result: Cold Iron Com A #1 03-01361-1	LAT3B-39 03-01361-2	Trip Blank (2)03 03-01361-3
BTXE						
Dilution Factor				1	1	1
BENZENE	8021B	µg/L	0.5	27.8	8.4	<0.5
ETHYLBENZENE	8021B	µg/L	0.5	35.0	239	<0.5
TOLUENE	8021B	µg/L	0.5	1.4	1.9	0.5J
O-XYLENE	8021B	µg/L	0.5	46.8	6.8	<0.5
M,P-XYLENE	8021B	µg/L	1	130	587	1

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

CADHS ELAP No.: 1431

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City, UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-031361
Collected by: M. Hee
Collected on: 01/27/03
Sample description:
Water
Project: San Juan River Basin /220013

Received: 01/29/03
Tested: 01/29-30/03
Reported: 02/18/03

Analysis of Water

801-031361QC

Component Name	Analysis Batch #	CCV (μg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
BTXE												
Benzene	03G1243	100	93	N.D.	μg/L	18.0	87	86	90	5	68-130	31
Toluene	03G1243	100	99	N.D.	μg/L	70.0	88	86	89	4	66-133	33
Ethylbenzene	03G1243	100	101	N.D.	μg/L	18.0	92	91	93	2	65-134	35
m/p-Xylene	03G1243	200	94	N.D.	μg/L	70.0	88	85	87	2	65-134	35
o-Xylene	03G1243	100	95	N.D.	μg/L	25.0	85	89	88	1	65-134	35

Notation:

ICV – Initial Calibration Verification
CCV – Continuation Calibration Verification
LCS – Lab Control Spike
MS – Matrix Spike
MSD – Matrix Spike Duplicate
ICS – Interference Check Standard
MD – Matrix Duplicate
N.D. – Not detected or less than PQL
CCB – Continuation Calibration Blank
M-blank – Method Blank
SP Level – Spike Level
%Rec – Recovery Percent
%RPD – Relative Percent Differences
%Diff – Control Limit for %RPD
ICP-SD – ICP Serial Dilution
N.A. – Not Applicable

Respectfully submitted,

Regina Kirakozova,
Associate QA/QC Director
Applied P & Ch Laboratory

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8021B

Client Name:	Montgomery Watson Harza	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	031361
Project ID:	San Juan River Basin	Project No:	220013	Sample Matrix:	Water
		Batch No:	03G1243		

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		03G1243-LCS-01	83	0
2		03G1243-LSD-01	83	0
3	TRIP BLANK (2)03	03-1361-3	86	0
4	10723-TW06-GW01	03-1357-4MS	82	0
5	10723-TW06-GW01	03-1357-4MSD	82	0
6	COLD IRON COM A #1	03-1361-1	113	0
7	LAT3B-39	03-1361-2	129	0
8		03G1243-MB-02	89	0
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

	QC Control Limit
S1 = 4-BROMO-FLUOROBENZENE (PID)	66-133

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY APCL
Contract El Paso Corp., San Jaun River Basin

Chain of Custody ID 12703
Page 1 of 1
Air Bill No. 836381674459

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project
Project Number 220013
Date Due
Sampler's Name M Hee
(print clearly)

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix [a]	Sampling Technique [b]	ANALYSES REQUESTED: BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0				
Coldiron Com A #1	MW-1		1-27-03	1114	W	MW	X											
LAT 36-39	MW-1		1-27-03	1413	W	MW	X											
TRIP Blank (2)03							X											
												1361						

[a] **Matrix:**
SO – Soil
WS – Surface Water
WG – Ground Water
AA – Air
WQ – Trip Blank/ Equipment Blanks
WW – Wastewater

[b] **Sampling Technique:**
Composite=C
Grab=G
Hand Auger=HA
Submersible Pump=SP
Bladder Pump=BP
Bailer=B
Wellhead Faucet=WF
Hydropunch=HP

Location IDs:
Groundwater Sites=GW
Bisti=BI
Jaquez=JA
North Flare Pit=NF
South Flare Pit=SF
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
[signature] 1-27-03 1800hrs	C. Thacker 1-28-03 1600hrs		
C. Thacker 1-28-03 1600hrs	Paul C 1/29/03 0930		

LABORATORY USE ONLY

SAMPLES WERE:
1 Shipped or hand delivered
Notes:
2 Ambient or Chilled
Notes:
3 Temperature _____
4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:
5 Properly Preserved
Y N
Notes:
6 Received Within Holding Times
Y N
Notes:

COC Tape Was:
1 Present on Outer Package
Y N NA
2 Unbroken on Outer Package
Y N NA
3 Present on Sample
Y N NA
4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 1361 Client Name/Project: Montgomery Watson

1. Sample Arrival

Date/Time Received 1/29/03 0930 Date/Time Opened 1/29/03 0930 By (name): Paul Kay
Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☑ FedEx ☐ APCL Empl: _____

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By: _____
☐ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 3
☑ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☑ #Samples OK? _____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None
Temp °C 4.2°C _____ _____ _____ _____ _____
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? ☐ Absent ☑ Intact ☐ Tampered?

4. Sample Preservation

☐ pH <2 ☐ pH >12
If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number: _____
Type: ☐ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☑ Unique ID? ☐ Date/Time ☐ Preserved?

7. Turn-Around Time

☑ RUSH TAT: 5 days ☐ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☑ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____
Received/Checked by: Paul K Date: 29 Jan 2003 Time: 7:35 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]smprcl.tex.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

03-01361 (0984_1017) (2721900_1017)

01/29/03

Part 1: General Information

☐	Company Information	Name:	*Montgomery Watson Harza*
		Address:	*10619 South Jordan Gateway ,Salt Lake City ,UT 84095*
☐	Project Information	Project Description:	*San Juan River Basin*
			Hill AFB
		Project #:	*1166121.061609*
☐	Billing Information	P.O. #:	
		Bill Address:	*10619 South Jordan Gateway ,Salt Lake City ,UT 84095*
		Lab Project ID:	*1999_0746*
		Client Database #:	*04*
☐	Receiving Information	Who Received Sample?	*Paul Kou*
		Receiving Date/Time:	*01/29/03 0930*
		COC No.	
☐	Shipping Information	Shipping Company	*Express*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*4.2 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*QC and Surro. Rep.*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	Cold Iron Com A #1	BTXE	03-01361-1	W	V	C	40	2	G	012703	N	0	7	☐
2	LAT3B-39	BTXE	03-01361-2	W	V	C	40	2	G	012703	N	0	7	☐
3	Trip Blank (2)03	BTXE	03-01361-3	W	V	C	40	1	G	012703	N	0	7	☐

Part 3: Analysis Information

Test Items: ☑ *8021B* BTXE

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	BTXE	
1	Cold Iron Com A #1	BTXE	03-01361-1	W	X	☐
2	LAT3B-39	BTXE	03-01361-2	W	X	☐
3	Trip Blank (2)03	BTXE	03-01361-3	W	X	☐

Login By En-Yu Paul Kou

Check By IX

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY APCL
Contract El Paso Corp., San Jaun River Basin

Chain of Custody ID 12703
Page 1 of 1
Air Bill No. 836381674459

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project
Project Number 220013
Date Due
Sampler's Name M Hee
(print clearly)

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix[a]	Sampling Technique[b]	ANALYSES REQUESTED: BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0				
Cold iron Com A #1	MW-1		1-27-03	1114	W	MN	X											
LAT 3B-39	MW-4		1-27-03	1413	W	MN	X											
Trip Blank (2)03							X											

1361

[a] Matrix:
SO – Soil
WS – Surface Water
WG – Ground Water
AA – Air
WQ – Trip Blank/ Equipment Blanks
WW – Wastewater

[b] Sampling Technique:
Composite=C
Grab=G
Hand Auger=HA
Submersible Pump=SP
Bladder Pump=BP
Bailer=B
Wellhead Faucet=WF
Hydropunch=HP

Location IDs:
Groundwater Sites=GW
Bisti=BI
Jaquez=JA
North Flare Pit=NF
South Flare Pit=SF
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
[signature] 1-27-03 1800hrs	C. Thacker 1-28-03 1600hrs		
C. Thacker 1-28-03 1600hrs	Paul C 1/29/03 0930		

LABORATORY USE ONLY

SAMPLES WERE:
1 Shipped or hand delivered
Notes:
2 Ambient or Chilled
Notes:
3 Temperature _____
4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:
5 Properly Preserved
Y N
Notes:
6 Received Within Holding Times
Y N
Notes:

COC Tape Was:
1 Present on Outer Package
Y N NA
2 Unbroken on Outer Package
Y N NA
3 Present on Sample
Y N NA
4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

ATTACHMENT 2

FIELD DOCUMENTATION

WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: SJB Groundwater Client: MWH/EL Paso

Location: coldiron Well No: MW-1 Development **Sampling**

Project Manager MJN Date 10/27/03 Start Time 1414 Weather Sunny 60s

Depth to Water 37.11 Depth to Product na Product Thickness na Measuring Point TOC

Water Column Height 8.09 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer x Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

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

Gal/ft x ft of water	Water Volume in Well		Gal/oz to be removed
	Gallons	Ounces	
8.09 x .65	5.25 x 3		15.74

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
1425	**6.51**	**3650**	**15.6**				**1**	**Black, sheen**
	6.52	**2730**	**15.9**				**2**	
	6.44	**2750**	**16.2**				**3**	
	6.77	**3140**	**17.5**				**5**	**gray, translucent**
	6.83	**3210**	**17.9**				**10**	
	6.87	**3250**	**17.8**				**15**	
1446	**6.87**	**3220**	**17.9**				**16**	**gray translucent**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1446	**6.87**	**3220**	**17.9**					**16**	**gray translucent**

COMMENTS:

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal Kutz Sample ID Coldiron MW-1 Sample Time 1500

BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

MS/MSD_____ BD_____ BD Name/Time_____ TB 102703TB01

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30000.30 Project Name: San Juan Basin Client: MWH

Location: Coldiron Well No: MW-1 Development ☐ Sampling ☒

Project Manager MJN Date 7-16-03 Start Time 0902 Weather 95+

Depth to Water 37.29 Depth to Product NA Product Thickness NA Measuring Point TOC

Water Column Height 7.89 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer ☒ Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal ☒ Sabilization of Indicator Parameters ☐ Other ex bailer

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
7.89 x .65	5.15 x 3		15.89

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0920	6.53	3430	21.9				1	Grey Translucent
	6.46	2790	20.0				2	black
	6.47	2770	18.7				3	
	6.85	3280	18.9				14	grey
	6.80	3190	18.4				15	
0942	6.86	3200	18.2				16	light grey

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
0942	6.86	3200	18.2				NA	16	light grey

COMMENTS:

INSTRUMENTATION: pH Meter ☒ _____ Temperature Meter ☒ _____

DO Monitor ☐ _____ Other ☐ _____

Conductivity Meter ☒ _____

Water Disposal Kutz

Sample ID Coldiron MW-1 Sample Time 0950 BTEX ☒ VOCs ☐ Alkilinity ☐

TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 160703TBQ1

Site Visit

Martin J. Nee
PO Box 3861
Farmington, NM 87499-3861
(505)334-2791 (505)320-9675cell

Project Name_	**San Juan Basin Ground Water**	**Project No.**	**30001.0**
Project Manager	**MJN**		
Client Company	**MWH**	**Date**	**5-9-03**
Site Name	**Coldiron**		

Well	Time				Dissolved Oxygen
MW-1	**0944**	-	-	-	**1.13**

Comments

Signature: *Martin J. Nee* Date: May 9, 2003

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30001.0 Project Name: San Juan Basin Client: MWH

Location: Coldiron Well No: MW-1 Development ☐ Sampling ☒

Project Manager MJN Date 4-27-03 Start Time 1053 Weather PC 50s

Depth to Water 36.87 Depth to Product NA Product Thickness NA Measuring Point TOC

Water Column Height 8.31 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer ☒ Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal ☒ Sabilization of Indicator Parameters ☒ Other on building

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
.65 x 8.31	5.4 x 3		16.2

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
1107	6.07	2380	19.3				1	water is black
	6.17	3630	19.7				2	w/ very strong sewer
	6.03	2520	19.4				3	- hydrocarbon odor
	6.04	2840	21.9				5	
	6.84	3020	20.8				7	yellow paraffin
	6.87	3010	21.0				9	particles floating on
	6.88	2980	20.9				11	water
	7.08	2870	21.7				13	
	6.95	3300	20.5				15	
	7.09	3440	20.8				17	water is slimy
1151	7.05	3380	20.2				19	Sample

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
1151	7.05	3380	20.2					19	

COMMENTS: _____

INSTRUMENTATION: pH Meter ☒ _____ Temperature Meter ☒ _____

DO Monitor ☒ _____ Other ☐ _____

Conductivity Meter ☒ _____

Water Disposal Kutz

Sample ID GW Coldiron MW Sample Time 1151 BTEX ☒ VOCs ☐ Alkilinity ☐

TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 27040301

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 220013 Project Name: San Juan Basin Client: MWH

Location: Coldiron.com Well No: A#1 MW-1 Development ☐ Sampling ☑

Project Manager Nee Date 1-27-03 Start Time 1040 Weather clear

Depth to Water 36.51 Depth to Product NA Product Thickness NA Measuring Point TOC

Water Column Height 85.69 Well Dia. 4"

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

Criteria: 3 to 5 Casing Volumes of Water Removal ☒ Sabilization of Indicator Parameters ☑ Other _____

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
.65 x 5 = 85.69	5.65		16.95

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
1026	6.72	3070	11.3				.38	dark grey sewer odor
	6.77	3200	12.1				3.25	black
	6.76	1980	12.9				4.25	
	6.84	2160	12.9				5.25	
	6.87	2330	13.2				6.25	black water
	6.85	2410	12.5				7.25	
	6.99	2550	11.9				10.25	
1047	7.04	2820	12.5				14.25	
	7.05	2910	13.3				14.75	
	7.11	2990	14.6				15.25	
	7.13	3020	14.5				15.75	
1114	7.12	3090	14.4		1.16		16.25	Sample

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
1114	7.12	3090	14.4		1.16			16.25	

COMMENTS: _____

INSTRUMENTATION: pH Meter ☑ _____ Temperature Meter ☑ _____
DO Monitor ☑ _____ Other ☐ _____
Conductivity Meter ☑ _____

Water Disposal Kotz

Sample ID Coldiron MW-1 Sample Time 1114 BTEX ☑ VOCs ☐ Alkilinity ☐

TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 12703