3R - 213

REPORTS

DATE:

2003

3R213

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**

El Paso Field Services
614 Reilly Ave. Farmington, NM 87401

2003 ANNUAL GROUNDWATER REPORT
FEDERAL SITES VOLUME I

EL PASO FIELD SERVICES

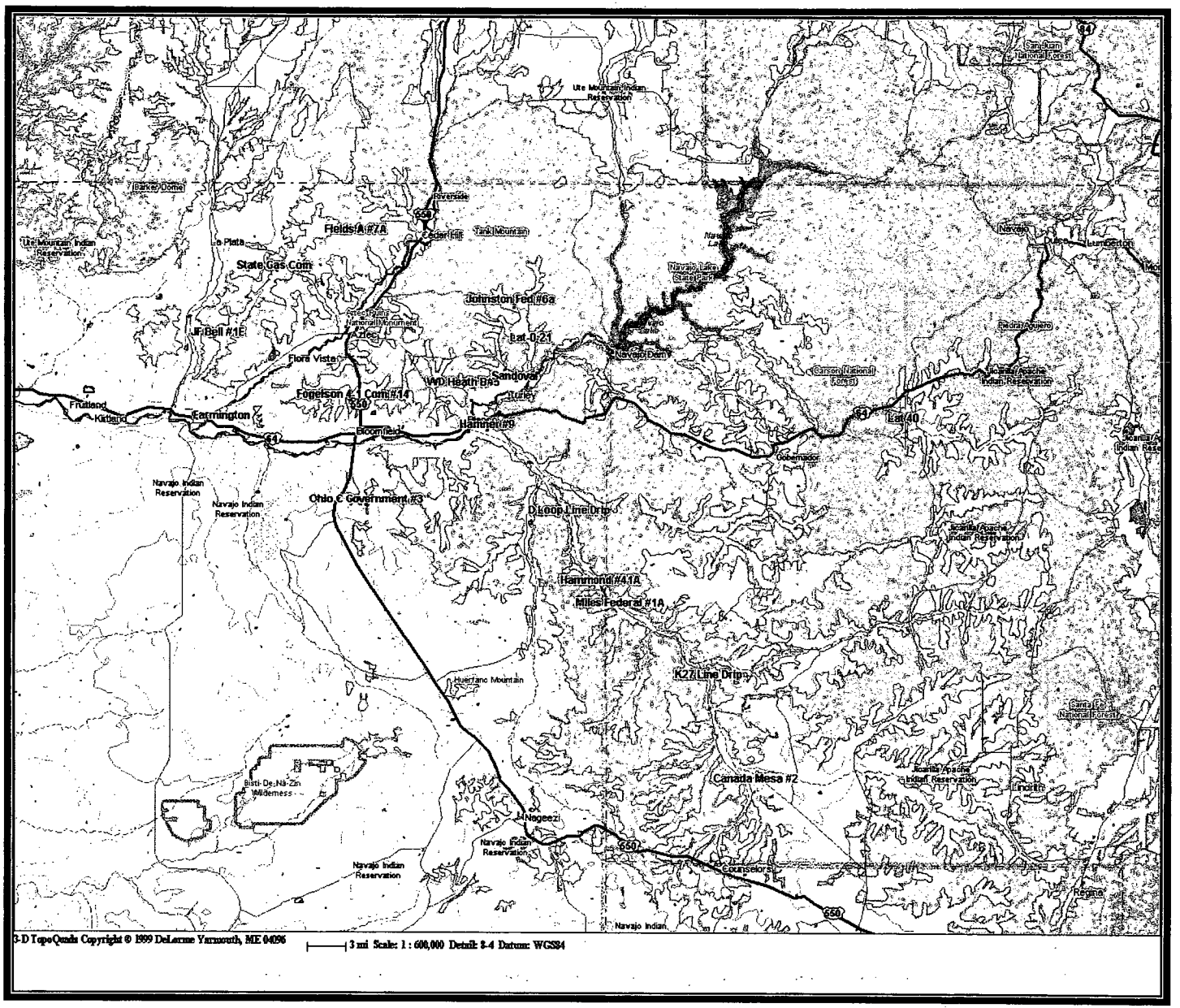
TABLE OF CONTENTS

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
89961	Fields A#7A	32N	11W	34	E
89232	Johnston Fed #6A	31N	09W	35	F
94715	James F. Bell #1E	30N	13W	10	P
89620	Sandoval GC A #1A	30N	09W	35	C
LD151	Lat 0-21 Line Drip	30N	09W	12	O
73220	Fogelson 4-1 Com. #14	29N	11W	4	P
97213	Hamner #9	29N	09W	20	A
LD174	LAT L 40	28N	04W	13	H
89894	Hammond #41A	27N	08W	25	O
94810	Miles Fed 1A	26N	07W	5	F
LD072	K27 LD072	25N	06W	4	E
87640	Canada Mesa #2	24N	06W	24	I

elpaso

MWH
MONTGOMERY WATSON HARZA

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

Lat 0-21 Line Drip
Meter Code: LD151

SITE DETAILS

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

PREVIOUS ACTIVITIES

Site Assessment:	1/95	**Excavation:**	1/95	**Soil Boring:**	10/95
Monitor Well:	10/95	**Geoprobe:**	11/96	**Additional MWs:**	7/00
Downgradient MWs:	7/00	**Replace MW:**	NA	**Quarterly Initiated:**	11/96
ORC Nutrient Injection:	NA	**Re-Excavation:**	NA	**PSH Removal Initiated:**	NA
Annual Initiated:	5/97	**Quarterly Resumed:**	NA		

SUMMARY OF 2003 ACTIVITIES

MW-1: Annual groundwater sampling and quarterly free-product monitoring were performed during 2003.

MW-2: Annual groundwater sampling and quarterly water level monitoring were performed during 2003.

MW-3: Annual groundwater sampling and quarterly free-product monitoring were performed during 2003.

Site-Wide Activities: Monitoring wells were resurveyed in 2003. No other activities were performed at this site in 2003.

SITE MAP

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

SUMMARY TABLES AND GRAPHS

- Analytical data for 2003 are summarized in Table 1, and historic data are presented graphically in Figures 2 through 4.
- Free-product recovery data from 2003 are summarized in Table 2, and historic data are presented graphically in Figures 5 and 6.

- The laboratory report is 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.

DISPOSITION OF GENERATED WASTES

All phase-separated hydrocarbons were disposed of at the EPFS Kutz Separator located in Bloomfield, New Mexico.

ISOCONCENTRATION MAPS

No isoconcentration maps were prepared for this site, however, the attached site maps present the water level and analytical data collected during 2003.

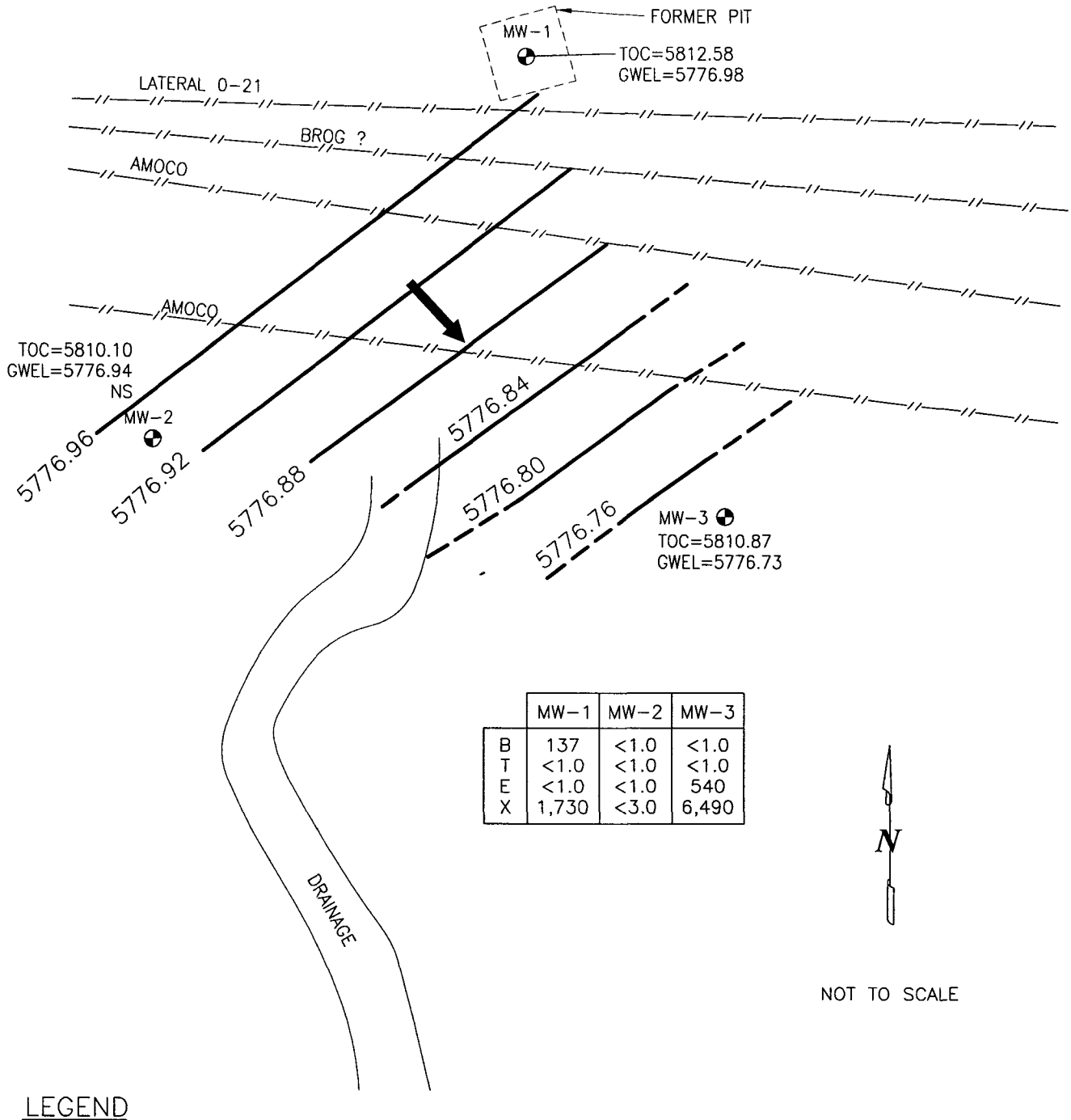
CONCLUSIONS

- Free-product was not detected in MW-1 in 2003. Analytical data collected from this well in June 2003 indicated benzene (137 µg/L) and total xylenes (1,730 µg/L) concentrations above standards.
- A small amount (0.008 gallons) of free-product was detected in MW-3 during the September 2003 site visit. Analytical data collected from this well in June 2003 indicated a total xylenes (6,490 µg/L) concentration above standards. All other BTEX concentrations were below standards (benzene and toluene were below detection limits).
- BTEX concentrations were all below detection limits in MW-2 in 2003.
- Monitoring wells were resurveyed in 2003. Top of casing elevations are as follows:
  - MW-1: 5812.58 (no change)
  - MW-2: 5810.10 (change of –0.02 feet)
  - MW-3: 5810.87 (change of –0.03 feet)
- The new top of casing elevations are not significantly different from the original elevations. Based on maps using the most recent elevation survey, groundwater flow is to the east/southeast, which is consistent with historic maps.

Lat 0-21 Line Drip
Meter Code: LD151

RECOMMENDATIONS

- EPFS will continue quarterly water level monitoring at MW-1, MW-2 and MW-3.
- Assuming that free-product does not return to MW-1 or MW-3, EPFS recommends that MW-1, MW-2 and MW-3 be sampled on an annual basis in 2004. When these wells approach closure criteria, they will be scheduled for quarterly sampling until closure criteria are met.



	MW-1	MW-2	MW-3
B	137	<1.0	<1.0
T	<1.0	<1.0	<1.0
E	<1.0	<1.0	540
X	1,730	<3.0	6,490

LEGEND

MW-1	Approximate Monitoring Well Location and Number
—//—//—	Pipe Line
B	Benzene (µg/L)
T	Toluene (µg/L)
E	Ethylbenzene (µg/L)
X	Total Xylenes (µg/L)
5777	Potentiometric Surface (Approximate & Assumed Where Dashed)
→	Direction of Groundwater Flow (Estimated)
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing

lat1021_03.dwg

LATERAL 0-21 LINE DRIP, LD151
JUNE 2003

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN 2003 GROUNDWATER SAMPLES
LAT O-21 LINE DRIP (METER #LD151)

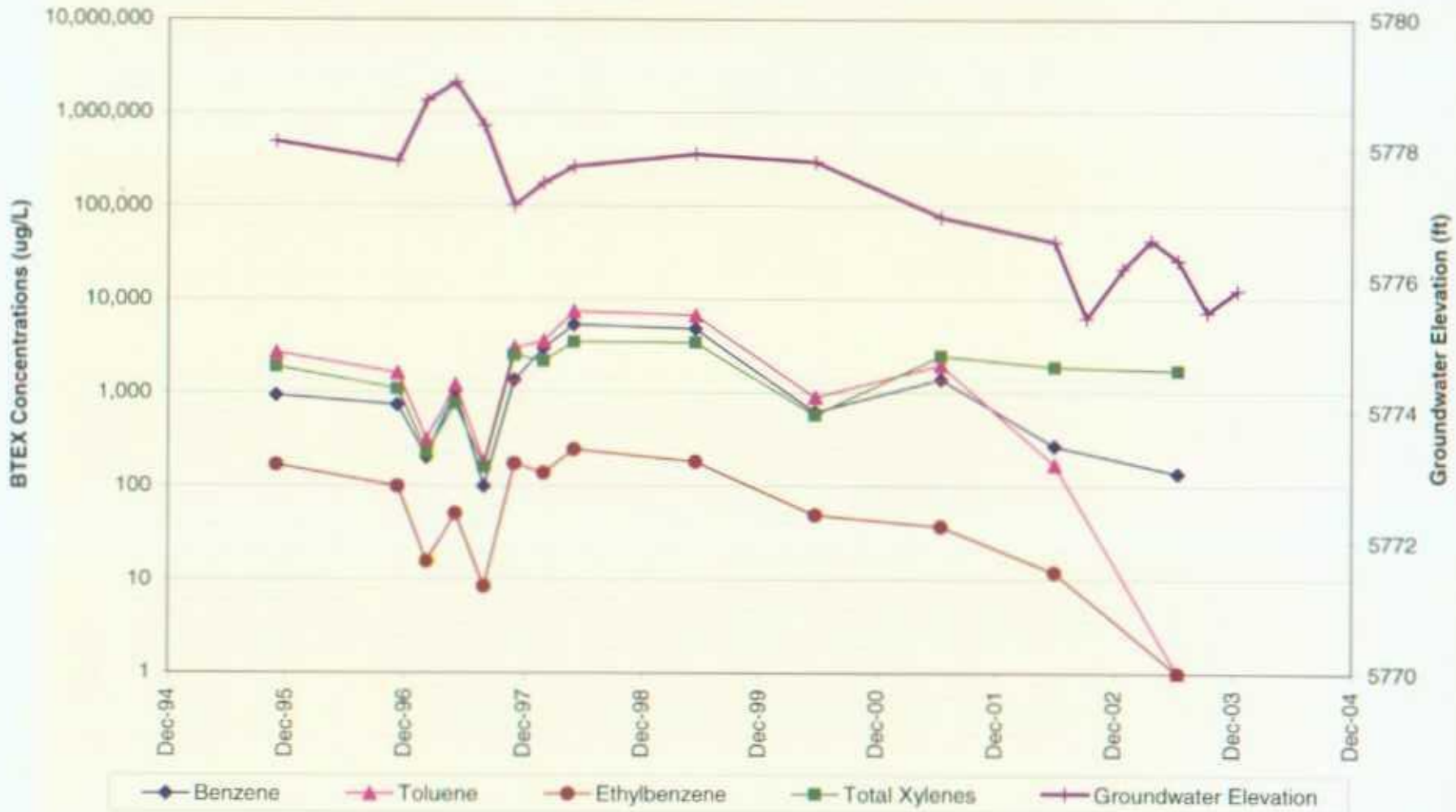
Site Name	Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft btoc)
Lat 0-21 Line Drip	MW-1	6/18/2003	137	< 1.0	< 1.0	1,730	36.26
Lat 0-21 Line Drip	MW-2	6/18/2003	< 1.0	< 1.0	< 1.0	< 3.0	33.80
Lat 0-21 Line Drip	MW-3	6/18/2003	< 1.0	< 1.0	540	6,490	34.80

TABLE 2

SUMMARY OF FREE-PRODUCT REMOVAL DURING 2003
LAT O-21 LINE DRIP (METER #LD151)

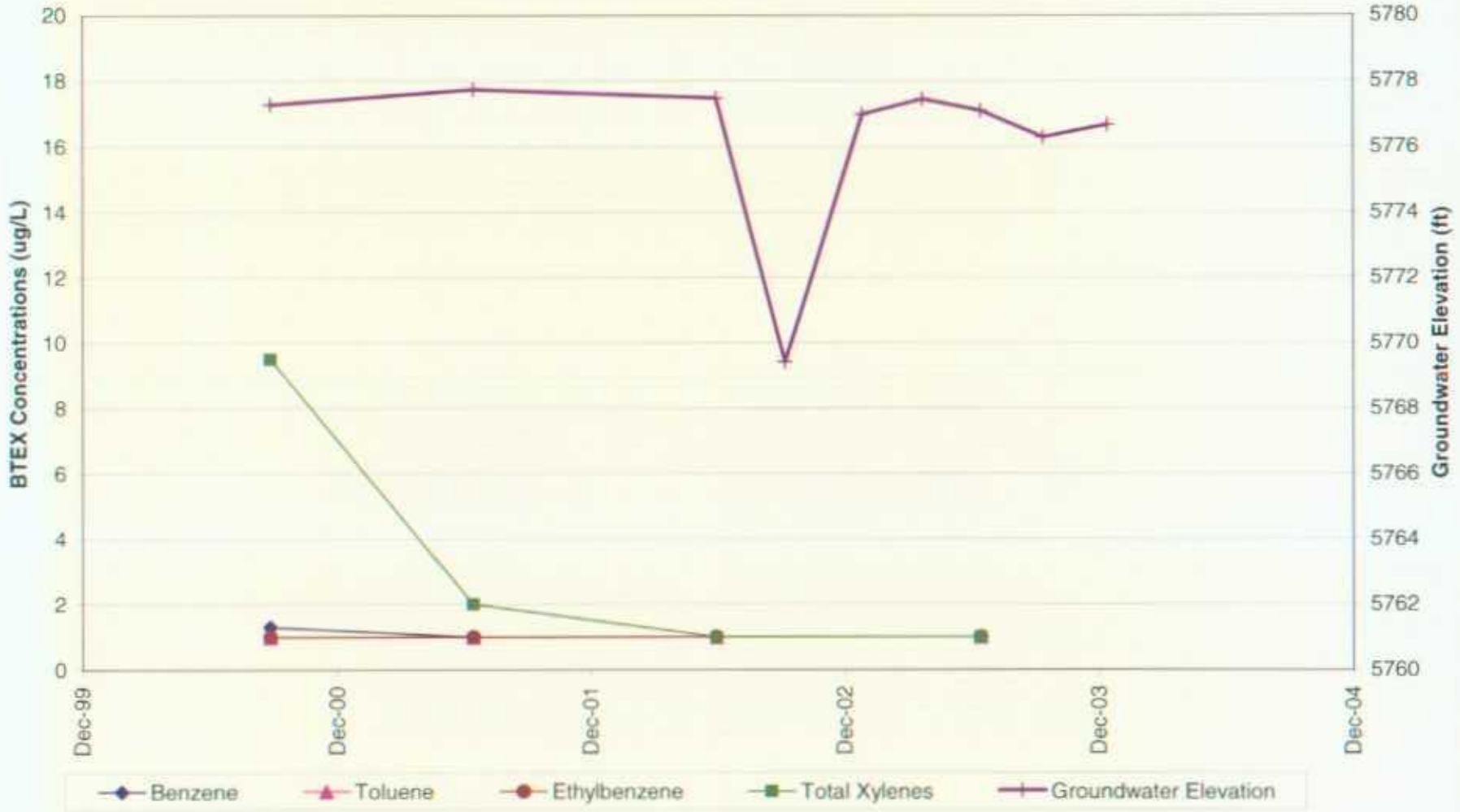
Site Name	Monitoring Well	Removal Date	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Product Thickness (feet)	Volume of Product Removed (gallons)	Cummulative Volume of Product Removed (gallons)
Lat 0-21 Line Drip	MW-1	3/27/03	NA	35.96	0.00	0.00	0.00
Lat 0-21 Line Drip	MW-1	6/18/03	NA	36.26	0.00	0.00	0.00
Lat 0-21 Line Drip	MW-1	9/16/03	NA	37.06	0.00	0.00	0.00
Lat 0-21 Line Drip	MW-1	12/17/03	NA	36.72	0.00	0.00	0.00
Lat 0-21 Line Drip	MW-3	6/18/03	NA	34.80	0.00	0.00	0.00
Lat 0-21 Line Drip	MW-3	9/16/03	35.62	35.64	0.02	0.008	0.008
Lat 0-21 Line Drip	MW-3	12/17/03	NA	35.24	0.00	0.00	0.008

FIGURE 2
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
LAT O-21 LINE DRIP
MW-1



2003 LAT O-21.xls,Lat O21 MW1

FIGURE 3
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
LAT O-21 LINE DRIP
MW-2

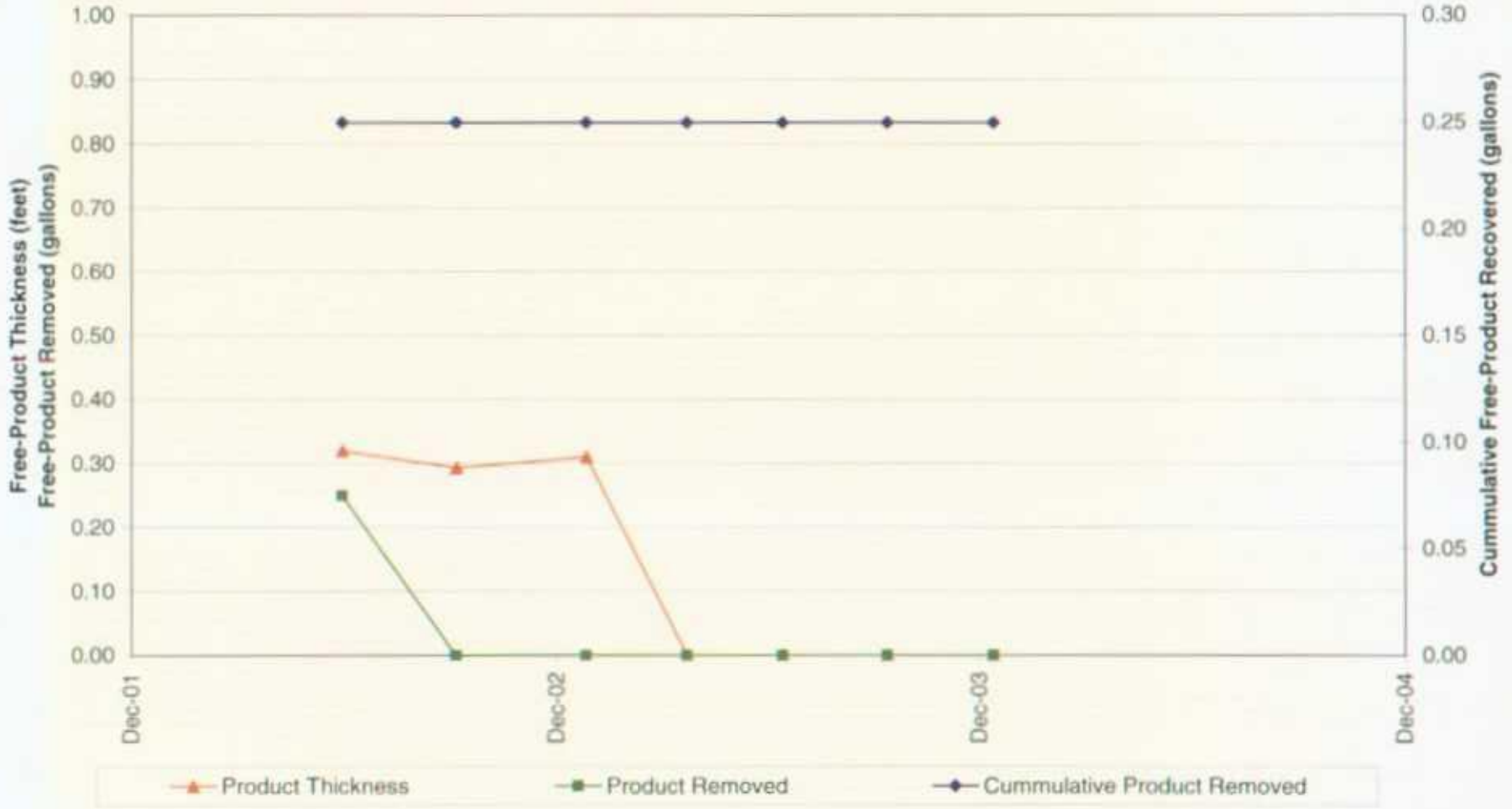


2003 LAT O-21.xls,Lat O21 MW2

FIGURE 4
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS
LAT O-21 LINE DRIP
MW-3

2003 LAT O-21.xls,Lat O21 MW3

FIGURE 5
HISTORIC FREE-PRODUCT RECOVERY
LAT O-21 LINE DRIP
MW-1



2003 LAT O-21.xls, Lat O21 PR1

ATTACHMENT 1

LABORATORY REPORTS

DATA VALIDATION WORKSHEET

Analytical Method/Analytes:	SW-846 8021B (BTEX)	**Sample Collection Date(s):**	06/18/03
Laboratory:	Accutest	**MWH Job Number:**	EPC-SJRB (Groundwater)
Batch Identification:	T4608	**Matrix:**	Water
MS/MSD Parent(s)[a]:	None	**Field Replicate Parent(s):**	None

Validation Complete: *Brian Buttars - 07/01/03*
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
None	LAT O-21	MW-1	T4608-01	Y		Benzene @ 137 µg/l Xylenes (total) @ 1730 µg/l o-Xylene @ 294 µg/l m,p-Xylene @ 1440 µg/l
None	LAT O-21	MW-2	T4608-02	N		
None	LAT O-21	MW-3	T4608-03	Y		Ethylbenzene @ 540 µg/l Xylenes (total) @ 6490 µg/l o-Xylene @ 1030 µg/l m,p-Xylene @ 5470 µg/l
None	Trip Blank	180603TB01	T4608-04	N		

DATA VALIDATION WORKSHEET
(Page 2 of 2)

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

Laboratory: Accutest **Batch Identification:** T4608

Validation Criteria								
Sample ID	LAT O-21 MW-1	LAT O-21 MW-2	LAT O-21 MW-3	180603TB 01				
Lab ID	T4608-01	T4608-02	T4608-04	T4608-04				
Holding Time	A	A	A	A				
Analyte List	A	A	A	A				
Reporting Limits	A	A	A	A				
Trip Blank	A	A	A	A				
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A				
Field Duplicate/Replicate	N/A	N/A	N/A	N/A				
Surrogate Spike Recovery	A	A	A	A				
Initial Calibration	N	N	N	N				
Initial Calibration Verification (ICV)	N	N	N	N				
Continuing Calibration Verification (CCV)	N	N	N	N				
Laboratory Control Sample (LCS)	A	A	A	A				
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N				
Method Blank	A	A	A	A				
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A				
Retention Time Window	N	N	N	N				
Injection Time(s)	N	N	N	N				
Hardcopy vs. Chain-of-Custody	A	A	A	A				
EDD vs. Hardcopy	N	N	N	N				
EDD vs. Chain of Custody	N	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:

Gulf Coast
ACCUTEST
Laboratories

06/26/03

Technical Report for

Montgomery Watson

EPFS San Juan Basin GS

Accutest Job Number: T4608

Report to:

El Paso

lynn.benally@elpaso.com

ATTN: Lynn Benally

Total number of pages in report: 10

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

Sample Summary

Montgomery Watson

Job No: T4608

EPFS San Juan Basin GS

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T4608-1	06/18/03	09:40	MJN	06/20/03	AQ	Water	LAT 021 MW-1
T4608-2	06/18/03	10:10	MJN	06/20/03	AQ	Water	LAT 021 MW-2
T4608-3	06/18/03	10:40	MJN	06/20/03	AQ	Water	LAT 021 MW-3
T4608-4	06/18/03	07:00	MJN	06/20/03	AQ	Water	180603TB01

Accutest Laboratories

Report of Analysis

Client Sample ID:	LAT 021 MW-1		
Lab Sample ID:	T4608-1	Date Sampled:	06/18/03
Matrix:	AQ - Water	Date Received:	06/20/03
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	KK005298.D	10	06/23/03	BC	n/a	n/a	GKK279
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	137	10	ug/l	
108-88-3	Toluene	ND	10	ug/l	
100-41-4	Ethylbenzene	ND	10	ug/l	
1330-20-7	Xylenes (total)	1730	30	ug/l	
95-47-6	o-Xylene	294	10	ug/l	
	m,p-Xylene	1440	20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		64-121%
98-08-8	aaa-Trifluorotoluene	116%		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

Report of Analysis

Client Sample ID:	LAT 021 MW-2		
Lab Sample ID:	T4608-2	Date Sampled:	06/18/03
Matrix:	AQ - Water	Date Received:	06/20/03
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	KK005299.D	1	06/23/03	BC	n/a	n/a	GKK279
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	99%		64-121%
98-08-8	aaa-Trifluorotoluene	100%		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:	LAT 021 MW-3		
Lab Sample ID:	T4608-3	Date Sampled:	06/18/03
Matrix:	AQ - Water	Date Received:	06/20/03
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	KK005300.D	50	06/23/03	BC	n/a	n/a	GKK279
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	50	ug/l	
108-88-3	Toluene	ND	50	ug/l	
100-41-4	Ethylbenzene	540	50	ug/l	
1330-20-7	Xylenes (total)	6490	150	ug/l	
95-47-6	o-Xylene	1030	50	ug/l	
	m,p-Xylene	5470	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		64-121%
98-08-8	aaa-Trifluorotoluene	117%		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:	180603TB01		
Lab Sample ID:	T4608-4	Date Sampled:	06/18/03
Matrix:	AQ - Water	Date Received:	06/20/03
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	KK005291.D	1	06/23/03	BC	n/a	n/a	GKK279
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	101%		64-121%
98-08-8	aaa-Trifluorotoluene	100%		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: T4608
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK279-BS	KK005288.D	1	06/23/03	BC	n/a	n/a	GKK279

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

T4608-1, T4608-2, T4608-3, T4608-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.2	96	74-119
100-41-4	Ethylbenzene	20	19.2	96	82-115
108-88-3	Toluene	20	19.0	95	77-116
1330-20-7	Xylenes (total)	60	57.6	96	79-115
95-47-6	o-Xylene	20	19.1	96	78-114
	m,p-Xylene	40	38.5	96	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	100%	64-121%
98-08-8	aaa-Trifluorotoluene	98%	71-121%

Method Blank Summary

Job Number: T4608
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK279-MB	KK005289.D	1	06/23/03	BC	n/a	n/a	GKK279

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

T4608-1, T4608-2, T4608-3, T4608-4

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	99%	64-121%
98-08-8	aaa-Trifluorotoluene	98%	71-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T4608
Account: MWHSLCUT Montgomery Watson
Project: EPFS San Juan Basin GS

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T4607-2MS	KK005295.D	1	06/23/03	BC	n/a	n/a	GKK279
T4607-2MSD	KK005296.D	1	06/23/03	BC	n/a	n/a	GKK279
T4607-2	KK005294.D	1	06/23/03	BC	n/a	n/a	GKK279

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

T4608-1, T4608-2, T4608-3, T4608-4

CAS No.	Compound	T4607-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	6.5		20	26.8	102	27.6	106	3	64-124/16
100-41-4	Ethylbenzene	17.8		20	38.2	102	39.1	107	2	64-123/14
108-88-3	Toluene	ND		20	20.5	103	21.4	107	4	64-120/13
1330-20-7	Xylenes (total)	1.7	J	60	62.7	102	64.8	105	3	66-118/18
95-47-6	o-Xylene	0.55	J	20	20.7	101	21.4	104	3	65-119/20
	m,p-Xylene	1.2	J	40	42.0	102	43.4	106	3	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T4607-2	Limits
460-00-4	4-Bromofluorobenzene	102%	101%	99%	64-121%
98-08-8	aaa-Trifluorotoluene	101%	102%	100%	71-121%

CHAIN OF CUSTODY # 180603MWD1

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

FED-EX Tracking # 836557906640 | 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 Benally E-mail:
Phone #: 505 599 2178
Sampler's Name: MJ Nee

Project Information

Project Name: San Juan Basin Groundwater
Street:
City: State:
Project #:
Fax #: 505 599 2119
Client Purchase Order #:

Requested Analysis

8021 x 8260

Matrix Codes

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

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	LAB USE ONLY
1	Lat 021 MW-1		6-18-03	0940	MN	WG	2	2								VOC
2	Lat 021 MW-2		6-18-03	1010	MN	WG	2	2								
3	Lat 021 MW-3		6-18-03	1040	MN	WG	2	2								
4	180603TBD1		6-18-03	0000	MN	WG	1	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"
- [x] Reduced Tier 1
- [ ] Full Tier 1
- [ ] TRRP13

EDD Format _____

Commercial "A" = Results Only

Comments / Remarks

T4608

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

	Date Time			Date Time	
Relinquished by Sampler 1	6-18-03 1700	Received by: 1	Relinquished by 2	6/20/03 8:45	Received by: 2 Alejandra Luna
Relinquished by: 3	6-19-03 MN	Received by: 3	Relinquished by: 4	Date Time:	Received by: 4
Relinquished by: 5	Date Time:	Received by: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 5.8°C

ATTACHMENT 2

FIELD DOCUMENTATION

PRODUCT RECOVERY/WATER LEVEL DATA

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**	**12-17-03**
Site Name	**Lat O 21**		

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed (gal)
MW-1	0900	-	36.72	-	no product purged 2 gallons water
MW-1 after bailing			36.74		
MW-2		-	34.23	-	-
MW-3			35.24	PHA	no product purged 2 gallons water
final			35.25		1.5 gal. water

Comments
No product found on wells this visit.

Signature: *Martin J. Nee* Date: December 17, 2003

PRODUCT RECOVERY/WATER LEVEL DATA

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**	**9-16-03**
Site Name	**Lat O 21**		

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed (gal)
MW-1	1337	-	37.06	-	-
MW-2		-	34.61	-	-
MW-3		35.62	35.64	0.02	1 oz. product
final			36.65		1.5 gal. water

Comments
MW-1 was scheduled for product recovery. The well no longer has product.

Signature: *Martin J. Nee* Date: September 16, 2003

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 30201.0 Project Name: San Juan Basin Client: MWH

Location: Lot 021 Well No: MW-3 Development ☐ Sampling ☒

Project Manager MJN Date 6-18-03 Start Time 1018 Weather Cloudy 80

Depth to Water 34.80 Depth to Product ____ Product Thickness ____ Measuring Point ____

Water Column Height 6.62 Well Dia. 2"

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	
6.62 x .16	1.06 x 3		3.18

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
1024	7.31	5320	19.1				.5	grey cloudy w/sheen
	7.19	6410	18.5				1.0	
	7.19	3940	18.9				1.5	
	7.18	5210	19.2				2.5	
	7.18	5510	19.0				3.0	
1038	7.18	5740	19.0				3.5	As above

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
1038	7.18	5740	19.0					3.5	Grey cloudy w/sheen

COMMENTS: ____

INSTRUMENTATION: pH Meter ☒ ____ Temperature Meter ☒ ____

DO Monitor ☐ ____ Other ☐ ____

Conductivity Meter ☒ ____

Water Disposal Ken Z

Sample ID Lot 021 MW-3 Sample Time 1040 BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ ____ ☐ ____ ☐ ____ ☐ ____ ☐

MS/MSD ____ BD ____ BD Name/Time ____ TB 150403TB#1

WELL DEVELOPMENT AND SAMPLING LOG

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

Location: Lot 021 Well No: MW-2 Development ☐ Sampling ☒

Project Manager MJN Date 6-18-03 Start Time 0947 Weather cloudy 80s

Depth to Water 33.86 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 25.7 Well Dia. 2"

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	
7.5x.16	1.21x3		3.6 33

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0954	7.25	3670	20.2				.25	silty brown
	7.12	4420	17.9				.75	
	7.13	3500	17.6				1.25	
	7.13	3360	17.5				2.00	
	7.15	3780	17.5				3.00	
	7.14	7310	17.5				3.5	
1007	7.12	3510	17.5				4.00	Silty Brown

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
1007	7.12	3510	17.5					4.0	

COMMENTS:

INSTRUMENTATION: pH Meter ☒ Temperature Meter ☒ DO Monitor ☐ Other ☐ Conductivity Meter ☒

Water Disposal Kutz

Sample ID Lot 021 MW-2 Sample Time 1010 BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ ☐ ☐ ☐ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB 030603TB01

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 39001.0 Project Name: San Juan Basin Client: MWH

Location: LT021 Well No: MW-1 Development ☐ Sampling ☒

Project Manager MJN Date 6-18-03 Start Time 0911 Weather cloudy 70s

Depth to Water 36.26 Depth to Product — Product Thickness — Measuring Point TOC

Water Column Height 10.25 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 visibility

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
0.25 x 0.65	0.16 x 3		19.9 oz

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0911	7.26	5330	19.5				1	clear
	7.10	4220	19.2				3	
	7.04	4110	18.6				4	
	7.11	5400	18.4				8	
	7.10	4690	18.6				12	cloudy
	7.13	4690	18.6				14	cloudy grey
	7.15	4470	18.6				18	
	7.16	4390	18.7				19	
0933	7.17	4610	18.6				20	

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
0933	7.17	4610	18.6					20	

COMMENTS:

INSTRUMENTATION: pH Meter ☒ ____ Temperature Meter ☒ ____

DO Monitor ☐ ____ Other ☐ ____

Conductivity Meter ☒ ____

Water Disposal Kutz

Sample ID LAT021 MW-1 Sample Time 0940 BTEX ☒ VOCs ☐ Alkilinity ☐

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

Total Phosphorus ☐ ____ ☐ ____ ☐ ____ ☐ ____ ☐

MS/MSD ____ BD ____ BD Name/Time ____ TB 18JUN03TG01

AESE

PRODUCT RECOVERY & Water levels

906 San Juan Blvd.Ste.D
Farmington, NM 87401
505.566.9116(9120fax)

Project Name San Juan Basin Project No. 220013

Project Manager MJN Date 3-27-03

Client Company MWH

Site Name Lot 021

Well	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed
mw-1	1250	~~No~~ -	35.96	No	See Below
mw-2	1259	No	33.45	No	No
mw-3	1310	No	34.49	No	No

Comments No product found in mw-1: bailed well to verify absence of product

Signature _____ Date _____