3R - 224

REPORTS

DATE:

2002

elpaso Field Services

Certified Mail: #7001 1940 0002 1371 7676

February 28, 2003

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

RE: 2002 Pit Project Annual Groundwater Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual reports for the 30 remaining groundwater impacted sites that were identified during our pit closure project of 1994 / 1995.

EPFS has organized the 30 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 30 reports submitted, EPFS is requesting closure of three sites located on Navajo lands. Of the three Navajo sites submitted for closure OCD has closed the Charley Pah #4 and the John Charles #8. The Rementa et al #1 has not been closed by either agency and EPFS reiterates request for closure of this site. EPFS understands closure of groundwater sites on Navajo land 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.

Three additional sites were submitted for closure in 2002. EPFS recently has received closure on the W.D. Heath B-5. Closure approval is pending on the D Loop Line Drip and Hammond # 41A. All of these sites are included in the 2002 Annual Report.

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 # 7001 1940 0002 1371 7669**
Mr. Bill Liesse, BLM – w / enclosures (federal sites only), **Certified Mail # 7001 1940 0002 1371 7652**

El Paso Field Services
614 Reilly Farmington, New Mexico 87401

El Paso Field Services

San Juan Basin Pit Program Groundwater Sites Project

2002 Annual Report Federal Sites (Volume 1)

March 2003

MWH
10619 South Jordan Gateway, Suite 100
Salt Lake City, Utah 84095

EL PASO FIELD SERVICES ANNUAL GROUNDWATER REPORT

FEDERAL SITES VOLUME I

TABLE OF CONTENTS

Site Map

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
87493	W D Heath B-5	30N	09W	31	M
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
72890	Ohio C Government #3	28N	11W	26	P
LD169	D Loop Line Drip	28N	08W	33	I
LD174	LAT LD 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

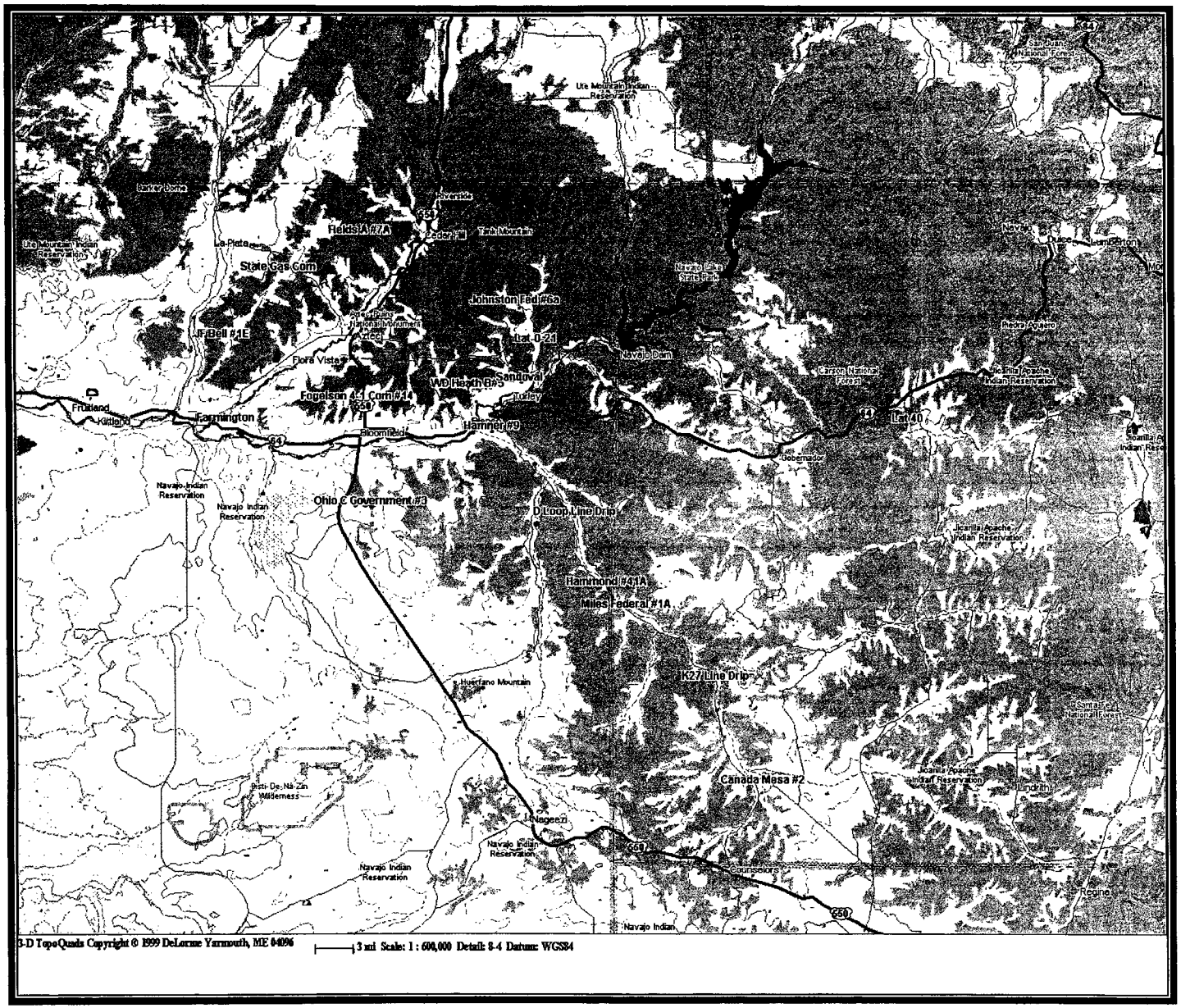
elpaso

MWH
MONTGOMERY WATSON HARZA

ACRONYMS

B	Benzene
E	Ethylbenzene
EPFS	El Paso Field Services
ft	foot/feet
GWEL	groundwater elevation
ID	identifier
MW	Monitoring Well
PSH	Phase Separated Hydrocarbons
NMWQCC	New Mexico Water Quality Control Commission
T	Toluene
TOC	Top Of Casing
NE	not establihed
NS	not sampled
ORC	oxygen release compound
OCD	Oil Conservation Division
ppb	parts per billion
µg/L	micrograms per liter
X	Total Xylenes

Federal Groundwater Site Map



EPFS GROUNDWATER SITES
2002 ANNUAL GROUNDWATER REPORT

Miles Fed 1A
Meter Code: 94810

SITE DETAILS

LEGAL DESCRIPTION: **Twn:** 26N **Rng:** 7W **Sec:** 5 **Unit:** F

NMOCD Haz Ranking: 40 **Land Type:** Federal **Operator:** Louis Dreyfus Natural Gas

PREVIOUS ACTIVITIES

Site Assessment: 5/94	**Excavation:** 6/94	**Soil Boring:** 9/95
Monitor Well: 9/95	**Geoprobe:** 2/97	**Additional MWs:** 10/99
Downgradient MWs: 10/99	**Replace MW:** NA	**Quarterly Initiated:** NA
ORC Nutrient Injection: NA	**Re-Excavation:** NA	**PSH Removal Initiated:** 2/99
Annual Initiated: 10/99	**Quarterly Resumed:** NA	

SUMMARY OF 2002 ACTIVITIES

MW-1: Quarterly free-product recovery activities and water level monitoring was performed.

MW-2: Annual groundwater sampling (July 02) and quarterly water level monitoring was performed.

MW-3: Quarterly water level monitoring was performed.

Site-Wide Activities: In addition to the activities described above, the side slopes of the well pad were inspected quarterly for the presence of seeps. No indications of seeps were noted during 2002.

SUMMARY TABLES AND GRAPHS

- Analytical data are summarized in Table 1 and presented graphically in Figure 5.
- Free-product recovery data are summarized in Table 2 and presented graphically in Figure 6.
- Laboratory reports are presented in Attachment 1.
- Field documentation is presented in Attachment 2.

SITE MAP

Site maps are attached as Figures 1 through 4.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No subsurface activities were performed at this site during 2002.

Miles Fed 1A
Meter Code: 94810

DISPOSITION OF GENERATED WASTES

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

ISOCONCENTRATION MAPS

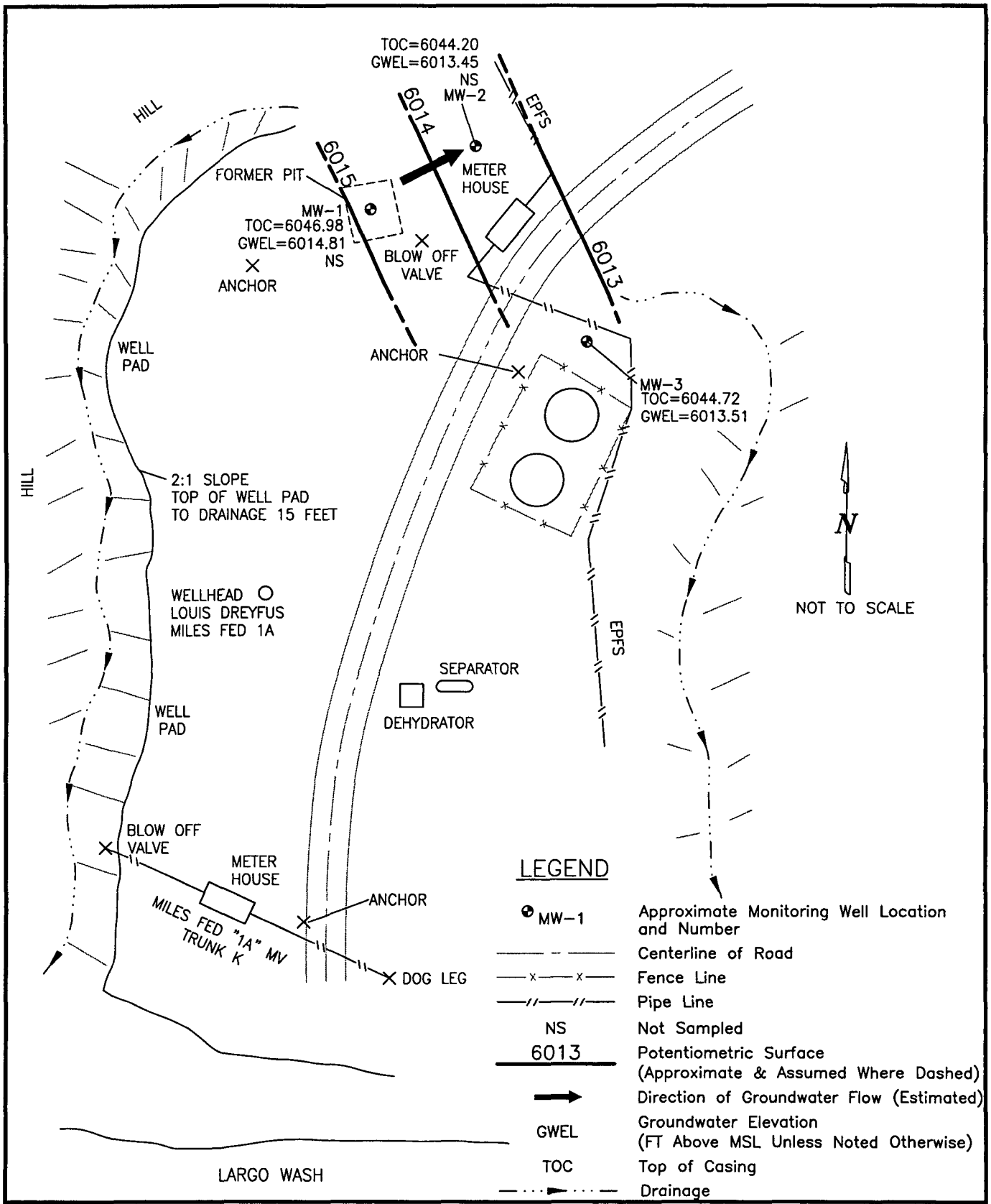
No isoconcentration maps were prepared for this site, however, the attached site maps present both potentiometric surface and analytical data collected during 2002.

CONCLUSIONS

- Free-product recovery efforts at MW-1 resulted in removal of approximately 2.25 gallons of free-phase hydrocarbons during 2002 bringing the cumulative total recovered to data to 8.5 gallons.
- The groundwater flow direction at this site trends toward the northeast.
- No seeps along the well pad slopes were noted during 2002.

RECOMMENDATIONS

- EPFS will continue to inspect the well pad slopes for evidence of seeps. If a seep is discovered, photographic documentation will be obtained, and the seep will be sampled.
- EPFS recommends redevelopment of MW-1 in an attempt to increase free-product recovery.
- EPFS will continue quarterly free-product recovery efforts at MW-1
- EPFS will continue quarterly water level monitoring at MW-2 and MW-3
- Once free-product recovery efforts are completed at MW-1, this well will be sampled on an annual basis until sample results approach closure criteria. The well will then be scheduled for quarterly sampling until closure criteria are met.
- Because historical analyses indicate minimal contamination in MW-2 and MW-3, these wells will not be sampled until free-product recovery efforts at MW-1 are complete. These wells will then be sampled on an annual basis until closure samples are collected.

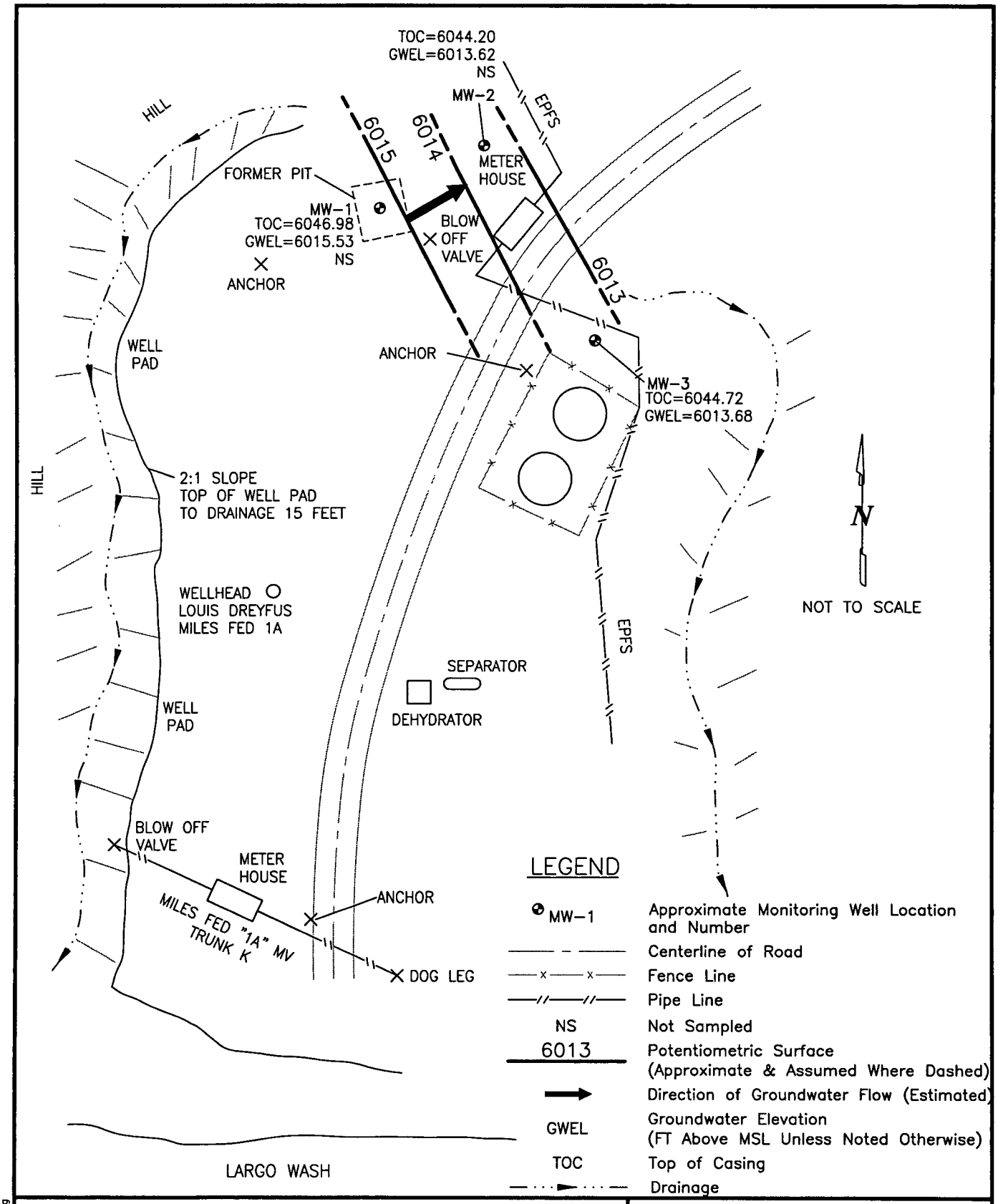


milesfed_02.dwg

MILES FED 1A (MV), METER 94810
JANUARY, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1



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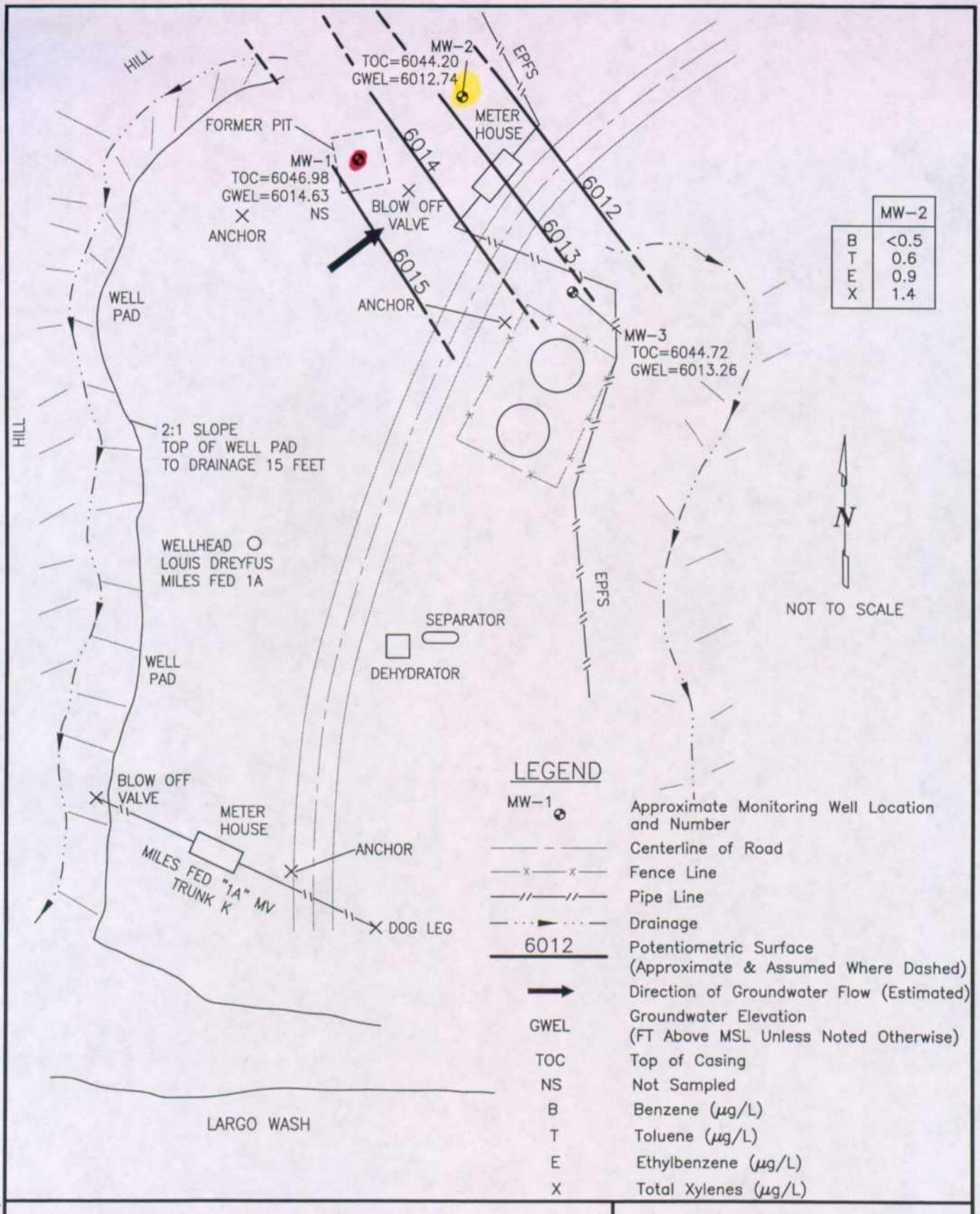
MILES FED 1A (MV), METER 94497
APRIL, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 2



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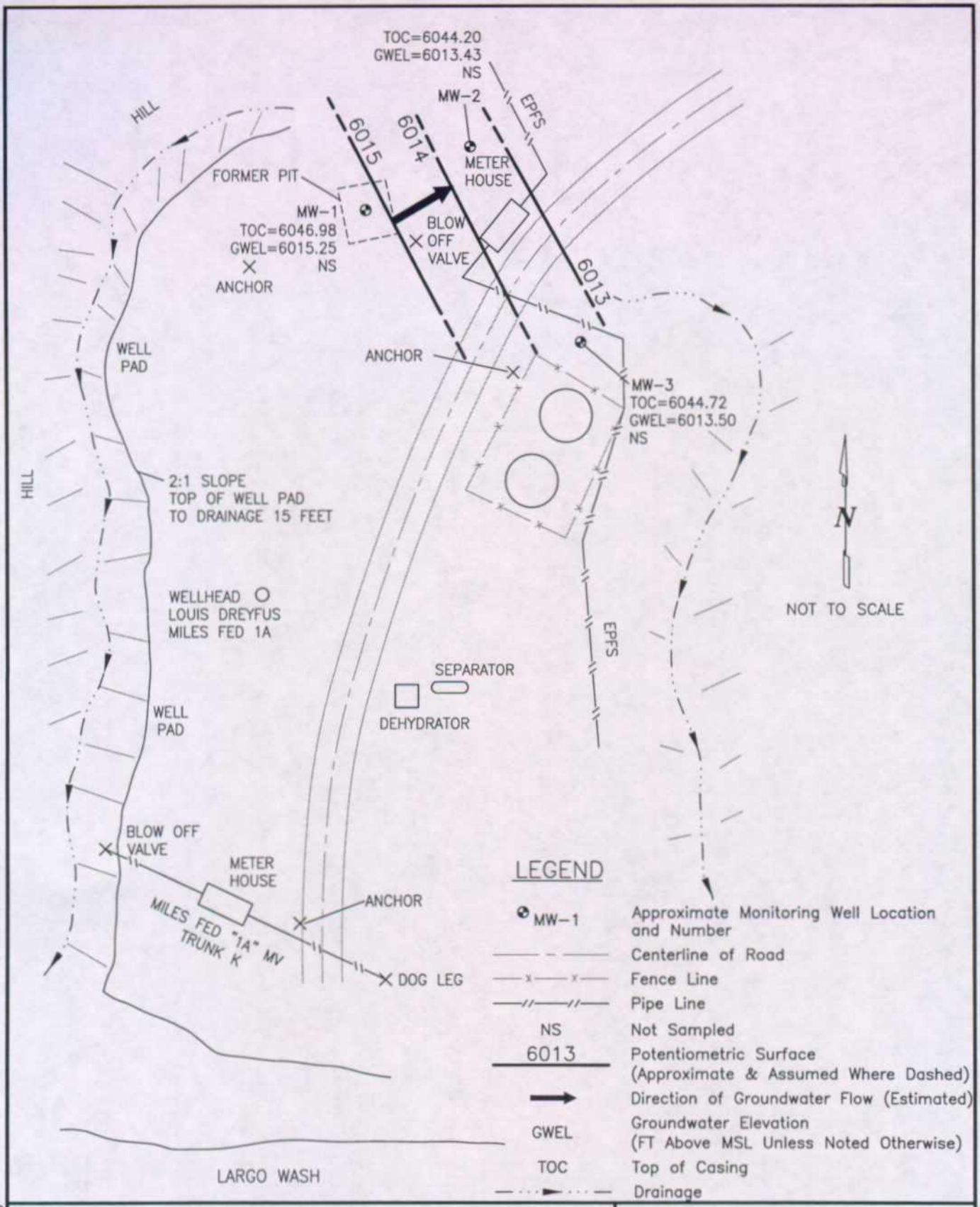
MILES FED 1A (MV), METER 94497
JULY, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 3



milesfed_02.dwg

MILES FED 1A (MV), METER 94497
OCTOBER, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 4

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER
MILES FEDERAL 1#A (METER #94810)
(Page 1 of 1)

Sample Identification	Sample Date	MW Identification	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	m,p-Xylene (µg/l)	o-Xylene (µg/l)	Total Xylenes (µg/l)
02-3922-2	15-Jul-2002	2	<0.5	0.6	0.9	0.9	0.5	1.4

Figure 5
Historical BTEX Concentration and Groundwater Elevation vs. Time
Miles Federal 1#A (Meter #94810)
MW-1

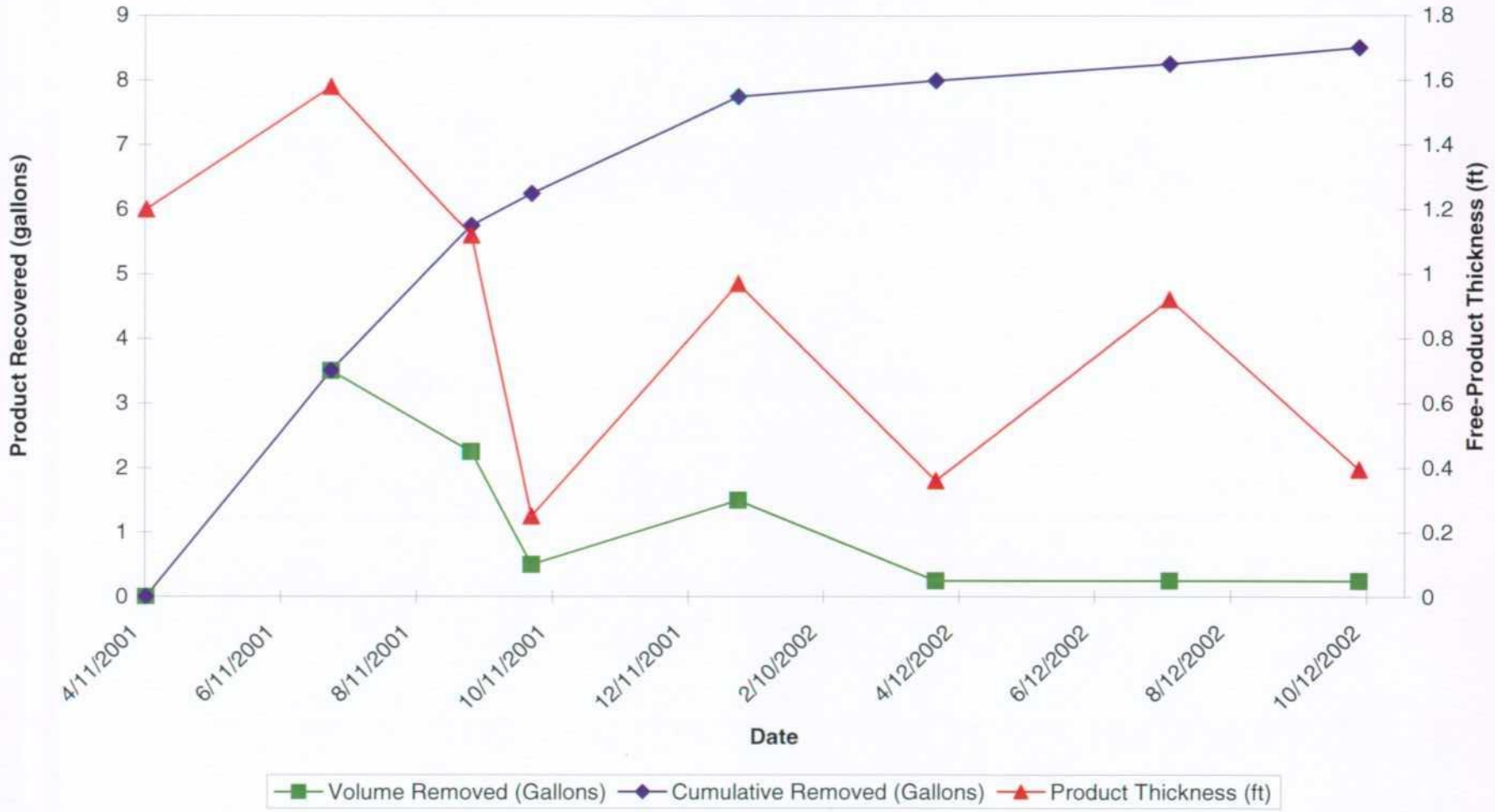
TABLE 2

SUMMARY OF FREE-PRODUCT RECOVERY
MILES FEDERAL 1#A (METER #94810)
(Page 1 of 1)

MW Identification	Date	Depth to Product (feet bgs)	Depth to Water (feet bgs)	Product Thickness (feet)	Volume Removed (gallons)	Cumulative Removed (gallons)
1	02-Jan-2002	31.20	32.17	0.97	1.50	7.75
1	01-Apr-2002	31.09	31.45	0.36	0.25	8.00
1	15-Jul-2002	31.43	32.35	0.92	0.25	8.25
1	08-Oct-2002	31.33	31.73	0.40	0.25	8.50

No product was removed from MW-2 and MW-3 in 2002.

Figure 6
Free-Product Recovery vs. Time
Miles Federal 1#A (Meter #94810)
MW-1



ATTACHMENT 1

LABORATORY REPORTS

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 07/15-16/02

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

Batch Identification: 02-03922 **Matrix:** Water

QC Identification[a]: _____ **Page:** 1 of 2

Validation Complete: Brian Buttars 8-8-02
(Date/Signature)

Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
GW	Coldiron Com MW-1	02-03922-01	Y	J	Benzene @ 119 µg/L
				JB	Ethylbenzene @ 121 µg/L
				JB	Toluene @ 9.1 µg/L
				J	o-Xylene @ 161 µg/L
				JB	m/p-Xylene @ 421 µg/L
GW	Miles Federal MW-2	02-03922-02	Y	UB	Ethylbenzene @ 0.9 µg/L
				UB	Toluene @ 0.6F µg/L
				UB	m/p-Xylene @ 0.9F µg/L
QC	Trip Blank	02-03922-03	Y		

DATA VALIDATION WORKSHEET

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

Laboratory: APCL **Batch Identification:** 02-03922

Validation Criteria								
Sample ID	**Coldiron Com MW-1**	**Miles Federal MW-2**						
Lab ID	**02-03922-01**	**02-03922-02**						
Hardcopy vs. Chain-of-Custody	A	A						
Holding Time	A	A						
Analyte List	A	A						
Reporting Limits	A	A						
Method Blank	A	A						
Trip Blank	A[1]	A[1]						
Equipment Rinseate Blanks	N/A	N/A						
Field Duplicate/Replicate	N/A	N/A						
Surrogate Spike Recovery	A[2]	A						
Laboratory Control Sample (LCS)	A	A						
Laboratory Control Sample Duplicate (LCSD)	N	N						
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A						
Initial Calibration	N	N						
Initial Calibration Verification (ICV)	N	N						
Continuing Calibration Verification (CCV)	A	A						
Retention Time Window	N	N						
Injection Time(s)	N	N						
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) The following analytes were detected in the trip blank:
   a) Ethylbenzene @ 0.9 µg/L, qualify all sample concentrations less than or equal to 4.5 µg/L with a "UB" flag and all sample concentrations greater than 4.5 µg/l with a "B" flag.
   b) Toluene @ 0.3F µg/L, qualify all sample concentrations less than or equal to 1.5 µg/L with a "UB" flag and all sample concentrations greater than 1.5 µg/l with a "B" flag.
   c) M/p-Xylene @ 1F 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.
2) Surrogate percent recovery above acceptance criterion @ 169% (65-134), possible high bias. Qualify all detected sample concentrations with a "J" 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 #: 801-023922
Collected by:
Collected on: 07/15-16/02

Received: 07/18/02
Extracted: N/A
Tested: 07/19-23/02
Reported: 07/25/02

Sample Description: Water
Project Description: San Juan River Basin

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result: Coldiron Corn MW-1 02-03922-1	Miles Federal MW-2 02-03922-2	Trip Blank 02-03922-3
BTXE						
Dilution Factor				1	1	1
BENZENE	8021B	µg/L	0.5	119	<0.5	<0.5
ETHYLBENZENE	8021B	µg/L	0.5	121	0.9	0.9
TOLUENE	8021B	µg/L	0.5	9.1	0.6	0.3J
O-XYLENE	8021B	µg/L	0.5	161	0.5J	<0.5
M,P-XYLENE	8021B	µg/L	1	421	0.9J	1J

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 #: 801-023922
Collected by:
Collected on: 07/15-16/02
Sample description:
Water
Project: San Juan River Basin

Received: 07/18/02
Tested: 07/19-23/02
Reported: 07/29/02

Analysis of Water

801-023922QC

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	02G3209	100	97	N.D.	µg/L	18.0	88	88	87	1	68-130	31
Toluene	02G3209	100	98	N.D.	µg/L	70.0	96	95	93	2	66-133	33
Ethylbenzene	02G3209	100	101	N.D.	µg/L	18.0	103	97	96	1	65-134	35
m/p-Xylene	02G3209	200	93	N.D.	µg/L	70.0	101	97	94	3	65-134	35
o-Xylene	02G3209	100	96	N.D.	µg/L	25.0	100	98	95	3	65-134	35

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	02G3233	100	98	N.D.	µg/L	360	82	79	80	2	68-130	31
Toluene	02G3233	100	99	N.D.	µg/L	1400	94	92	94	2	66-133	33
Ethylbenzene	02G3233	100	101	N.D.	µg/L	18.0	104	104*	103*	1	82-134	35
m/p-Xylene	02G3233	200	93	N.D.	µg/L	70.0	99	99*	99*	0	73-134	35
o-Xylene	02G3233	100	96	N.D.	µg/L	500	100	95	100	5	65-134	35

*: LCS/LCSD is used.

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,

for

Kevin Xie, Ph. D.,
QA 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:	023922
Project ID:	San Juan River Basin	Project No:		Sample Matrix:	Water
		Batch No:	02G3233		

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		02G3233-MB-02	93	0
2	MILES FEDERAL MW-2	02-3922-2	95	0
3		02G3233-LCS-01	89	0
4		02G3233-LSD-01	89	0
5	LAT 3B-39 MW-1	02-3933-3MS	94	0
6	LAT 3B-39 MW-1	02-3933-3MSD	95	0
8				
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) 65-134

Column to be used to flag recovery values:

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

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:		Service ID:	023922
Project ID:	San Juan River Basin	Project No:		Sample Matrix:	Water
		Batch No:	02G3209		

#	Client Sample No	Lab Sample ID	S1 %	#	TOT OUT
1		02G3209-MB-02	90		0
2	COLDIRON COM MW-1	02-3922-1	169	I	1
3	TRIP BLANK	02-3922-3	89		0
4		02G3209-LCS-01	90		0
5		02G3209-LSD-01	87		0
6	JAQUEZ DOWNSTREAM	02-3933-1MS	88		0
7	JAQUEZ DOWNSTREAM	02-3933-1MSD	85		0
7					
8					
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) 65-134

Column to be used to flag recovery values:

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

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 07/16/02 PAGE: 1 OF 1

PLI Accession #:

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Ashley Lowe

COMPANY: AESE

ADDRESS: 906 San Juan Blvd., Ste D
Farmington, NM 87401

PHONE: 505-566-9116

FAX: 505-566-9120

BILL TO: Montgomery Watson Harza

COMPANY:

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
Coldiron Com MW-1	07/16/02	10:55	water	
Miles Federal MW-2	07/15/02	16:37	water	

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐MTBE ☐TMB ☐PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
				✓																					1
				✓																					1

3922

PROJECT INFORMATION

PROJ. NO.:

PROJ. NAME: San Juan River Basin

P.O. NO.:

SHIPPED VIA: Fed-Ex

SAMPLE RECEIPT

NO CONTAINERS	
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	
BLUE ICE	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr ☐48hr ☐72hr ☐1 WEEK (NORMAL) ☑

CERTIFICATION REQUIRED ☐NM ☐SDWA ☐OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

Groundwater

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Ashley Lowe Time: 16:50	Signature: Time:
Printed Name: Ashley Lowe Date: 07/16/02	Printed Name: Date:
Company:	Company:
See reverse side (Force Majeure)	
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time: 1000	Signature: Time:
Printed Name: Date: 7/18/02	Printed Name: Date:
Company:	Pinnacle Laboratories Inc.

ATTACHMENT 2

FIELD DOCUMENTATION

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
Project Manager: Ashley Lowe
Client Company: MWH
Site Name: Miles Federal

Project No: 220013
Date: 10-08-02

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	11:05	31.725	31.33	35.86	0.395	1/4 gal	also removed 3 gal water
MW-2	10:52	30.77	NA	36.85	0	0	
MW-3	10:56	31.215	NA	36.85	0	0	

COMMENTS: MW-1: Clear product, no color

Signature: Ashley L Lowe Date: 10/8/02

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

PRODUCT RECOVERY

Project Name San Juan River Basin Field Program Project No. _____

Project Manager Ashley Lowe Date 07/15/02

Client Company Montgomery Watson

Site Name Miles Federal

Well	Meter/Line No.	Time	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed
MW-1		15:45	31.43'	32.35'	0.92'	~ ¼ gal

TD = 35.86'

Comments light yellow-almost white color product started raining while bailing - stopped for ~10 mins, then finished in rain

Well did not have a lock - Master 2532 added

Signature Ashley Lowe Date 07/15/02

Faxed 07/16/02

WELL DEVELOPMENT AND PURGING DATA

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

Well Number MW-2 Development Purging

Serial No. WDPD-

Page 1 of 1

Project Name San Juan River Basin Field Prog Project Manager Ashley Lowe Project No.

Client Company Montgomery Watson Harza Phase.Task No.

Site Name Miles Federal Site Address

Development Criteria
- ☑ 3 to 5 Casing Volumes of Water Removal
- ☐ Stabilization of Indicator Parameters
- ☐ Other

Water Volume Calculation
Initial Depth of Well (feet) 36.85' BTOC
Initial Depth to Water (feet) 31.46' BTOC
Height of Water Column in Well (feet) 5.395'
Diameter (inches): Well 2" Gravel Pack

Gal/ft * water column	Water Volume in Well		Gal/Oz to be Removed
	Gallons	Ounces	
0.16 x 5.395 =	0.863 x 3 = 2.6	165.7	[redacted] or 2.6 gal

Instruments — Serial No. (if applicable)
- ☑ PH Meter
- ☑ DO Monitor
- ☐ Conductivity Meter
- ☑ Temperature Meter
- ☐ Other

Methods of Development

Pump
- ☐ Centrifugal
- ☐ Submersible
- ☐ Peristaltic

Bailer
- ☑ Bottom Valve
- ☐ Double Check Valve
- ☐ Stainless-steel Kemmerer

☐ Other

Water Disposal Kutz Plant

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
07/15	16:10		✓		0.5	15.2	5.92	4440		light brown water color - some grass in water
					1.3	14.8	5.97	3520		
					2.0	14.7	6.01	4010		slight odor
					2.7	14.6	5.56	3350		
					3.4	14.8	5.69	3540		
		d(in)	gal/ft		3.9	14.9	5.64	3550		
	16:37	2	0.16		4.4	14.9	5.66	3550		
		4	0.65							sample
		6	1.47							DO = 0.84 after sampling

Circle the date and time that the development criteria are met.

Comments Raining fairly hard during sampling - Added Master 2532 lock to well cover

Developer's Signature (s) Ashley Lowe Date 07/15/02 Reviewer Date

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

WELL OBSERVATION DATA

Project Name San Juan River Basin Field Program Project No. _____

Project Manager Ashley Lowe Date 07/15/02

Client Company Montgomery Watson Harza

Site Name Miles Federal

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Comments
MW-3	14:05	31.46'	none	36.55'	—	grass, vegetation on probe after measuring total depth

Comments No lock on well - added a Master 2532

Signature Ashley Lowe Date 07/15/02

07/16/02

WELL OBSERVATION DATA

amec

Project Name: EpFS GW. project

Project No.: 15/2000121

Project Mngr: Lisa Winn

Task: 3

Client Co.: El paso Field Services

Date: 4-1-02

Site Name: Miles FED. (94810)

Well or Piezometer	Time	Reason Not Measured	Depth to Floating Product (Feet)	Depth to Water (Feet)	Depth to Sinking Product (Feet)	Total Well Depth (Feet)	Floating Product Thickness	Sinking Product Thickness	Approximate Product Recovery / Comments
Mw1	1043		31.09	31.45					.25 gal
Mw2	1129			30.58					
Mw3	1125			31.04					

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments:

Signature: Chris A. May

Date: 4-1-02

1300 - 1330

WELL OBSERVATION DATA

amec

Project Name: EPFS GW project

Project No.: 1517000121

Project Mngr: Lisa Winn

Task: 3

Client Co.: El paso Field Services

Date: 1-2-02

Site Name: Miles FED 1A (94810)

Well or Piezometer	Time	Reason Not Measured	Depth to Floating Product (Feet)	Depth to Water (Feet)	Depth to Sinking Product (Feet)	Total Well Depth (Feet)	Floating Product Thickness	Sinking Product Thickness	Approximate Amount Recovered Gallons Comments
MW 1	1303		31.20	32.17					1.5 gal
MW 2	1310			30.75					
MW 3	1313			31.21					

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

Comments: NO Skimmer in well Bailed Approximately 1.5 gal product from MW 1

Signature: Chris t Mc

Date: 1 2 02