3R - 202

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**

elpaso

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MAR 0 5 2003
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

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

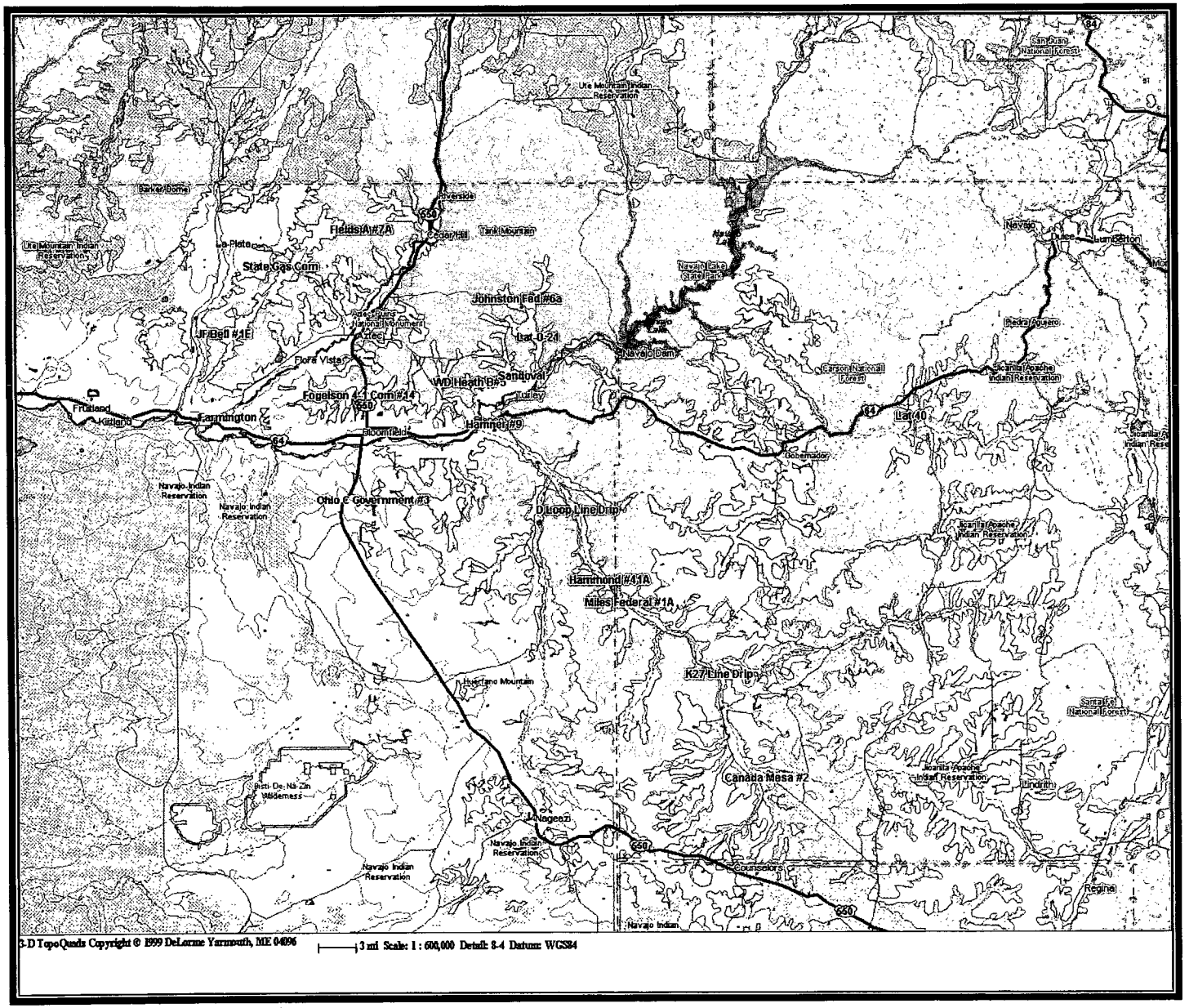
elpaso

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

Johnston Fed #6A
Meter Code: 89232

SITE DETAILS

LEGAL DESCRIPTION: **Twn:** 31N **Rng:** 9W **Sec:** 35 **Unit:** F

NMOCD Haz Ranking: 40 **Land Type:** Federal **Operator:** Burlington Resources

PREVIOUS ACTIVITIES

Site Assessment: 8/94	**Excavation:** 9/94 (80cy)	**Soil Boring:** 8/95
Monitor Well: 8/95	**Geoprobe:** NA	**Additional MWs:** 12/95
Downgradient MWs: 6/00	**Replace MW:** NA	**Quarterly Initiated:** 4/96
ORC Nutrient Injection: NA	**Re-Excavation:** NA	**PSH Removal Initiated:** 7/97
Annual Initiated: NA	**Quarterly Resumed:** NA	

SUMMARY OF 2002 ACTIVITIES

MW-1: Quarterly free-product recovery and water level monitoring was performed during 2002.

MW-2: Annual groundwater sampling and quarterly water level monitoring were performed during 2002.

MW-3: Annual groundwater sampling and quarterly water level monitoring were performed during 2002.

MW-4: Annual groundwater sampling and quarterly water level monitoring were performed during 2002.

MW-5: Annual groundwater sampling and quarterly water level monitoring were performed during 2002.

Site-Wide Activities: Per the 2001 Annual Report recommendations, EPFS evaluated the groundwater flow gradient at this site. This evaluation included review of groundwater and top of casing elevation data collected since 1997, a review of relative groundwater elevation changes over time, a review of free-product corrections for potentiometric surface, and a review of local topography.

SUMMARY TABLES AND GRAPHS

- Analytical data is summarized in Table 1 and presented graphically in Figures 5 through 9.
- Product recovery data is summarized in Table 2 and presented graphically in Figure 10.
- 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.

DISPOSITION OF GENERATED WASTES

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

ISOCONCENTRATION MAPS

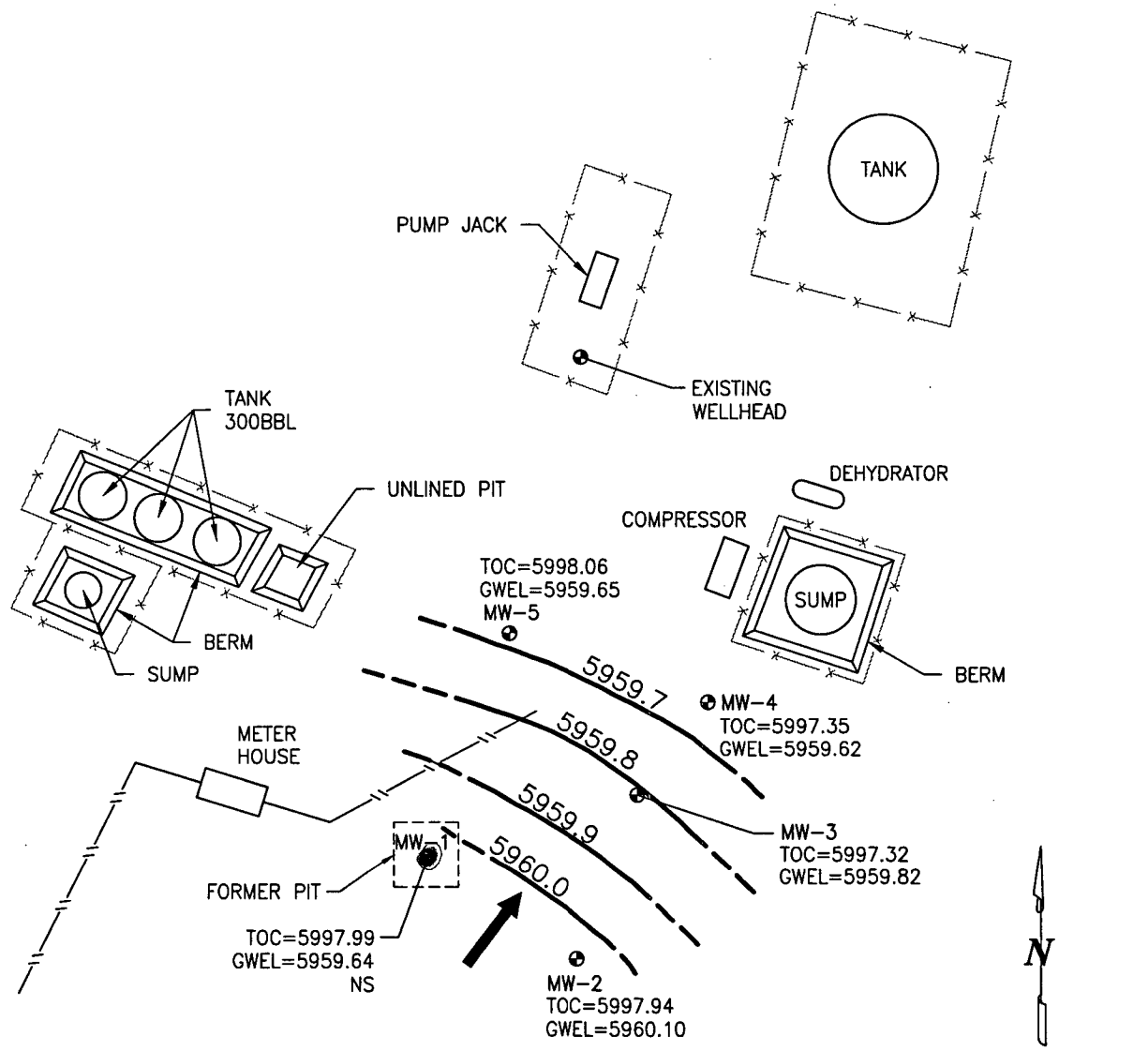
No isoconcentration maps were prepared for this site, however, the attached site maps present both the potentiometric surface and analytical data collected during 2002.

CONCLUSIONS

- Free-product recovery efforts at MW-1 resulted in removal of approximately 0.78 gallons of free-phase hydrocarbons bringing the cumulative total recovered to data to 4.28 gallons.
- Free-product was measured for the first time in MW-5 during September (0.59 feet) and December (0.21 feet). A total of 0.03 gallons of free-phase hydrocarbons were removed during 2002.
- Concentrations of dissolved-phase BTEX compounds in MW-2 continued to be below analytical detection limits.
- The groundwater flow direction evaluation described earlier in this report indicated that the predominant groundwater flow direction is to the northwest. The groundwater flow direction at this site was to the northwest during all measurement events for 2001 and 2002, with the exception of a single anomaly, or measurement error, at MW-5 during June 2001.

RECOMMENDATIONS

- EPFS will continue quarterly free-product recovery efforts at MW-1.
- EPFS recommends initiating quarterly free-product recovery at MW-5 based on the recent evidence of free-phase hydrocarbons.
- EPFS recommends redevelopment of monitoring well MW-1 in an attempt to increase free-product recovery.
- EPFS will continue annual groundwater sampling and quarterly groundwater level measurements at MW-3 and MW-4.
- Because BTEX concentrations at MW-2 have been below analytical detection limits since 1997, EPFS recommends that this well not be sampled until closure.



LEGEND

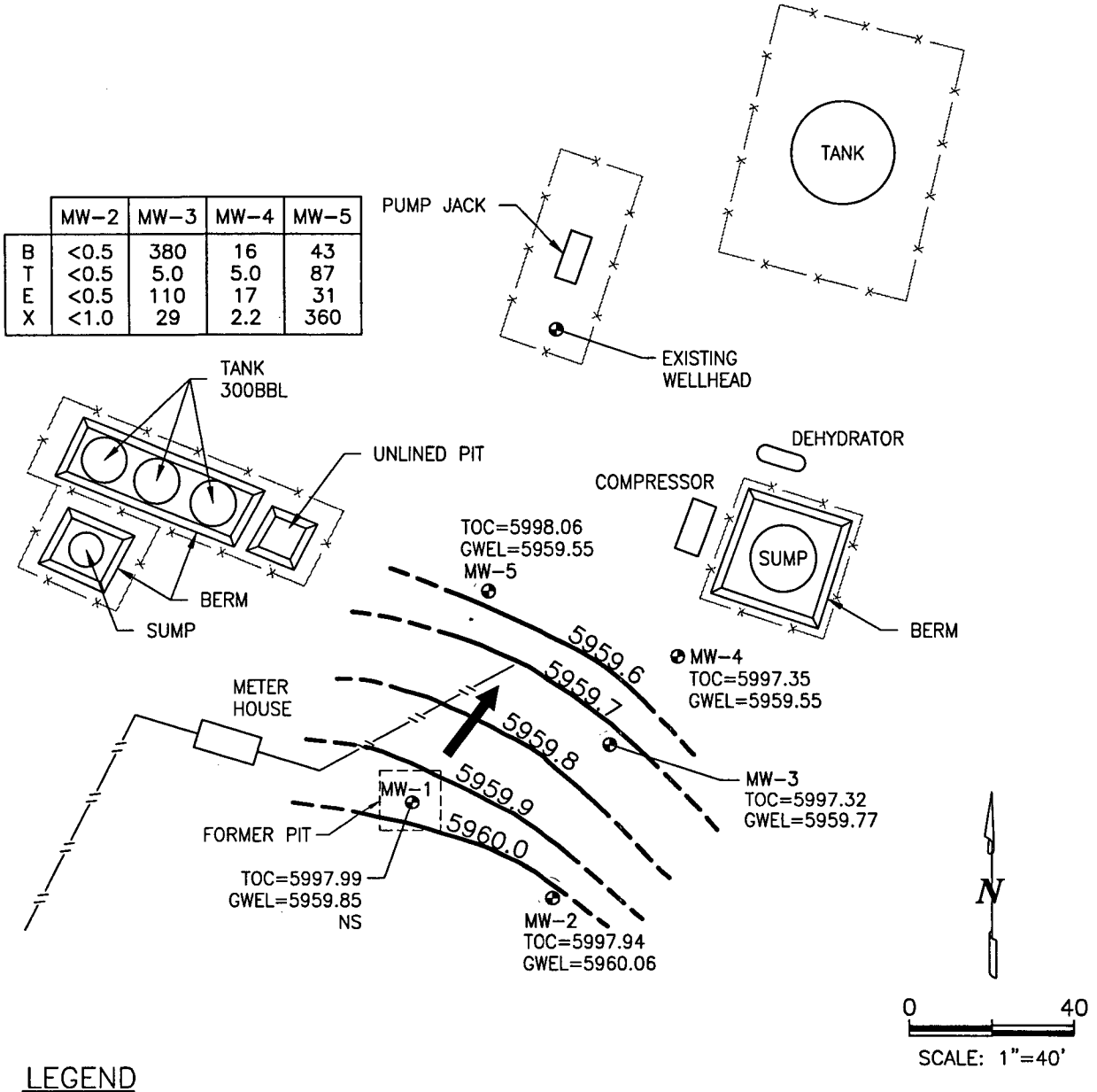
MW-1	Approximate Monitoring Well Location and Number
—x—x—	Fence Line
—//—//—	Pipe Line
NS	Not Sampled
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing
5960	Potentiometric Surface (Approximate & Assumed Where Dashed)
→	Direction of Groundwater Flow (Estimated)

johnsonfed6_02.dwg

JOHNSTON FEDERAL #6A, METER 89232
MARCH, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1



	MW-2	MW-3	MW-4	MW-5
B	<0.5	380	16	43
T	<0.5	5.0	5.0	87
E	<0.5	110	17	31
X	<1.0	29	2.2	360

LEGEND

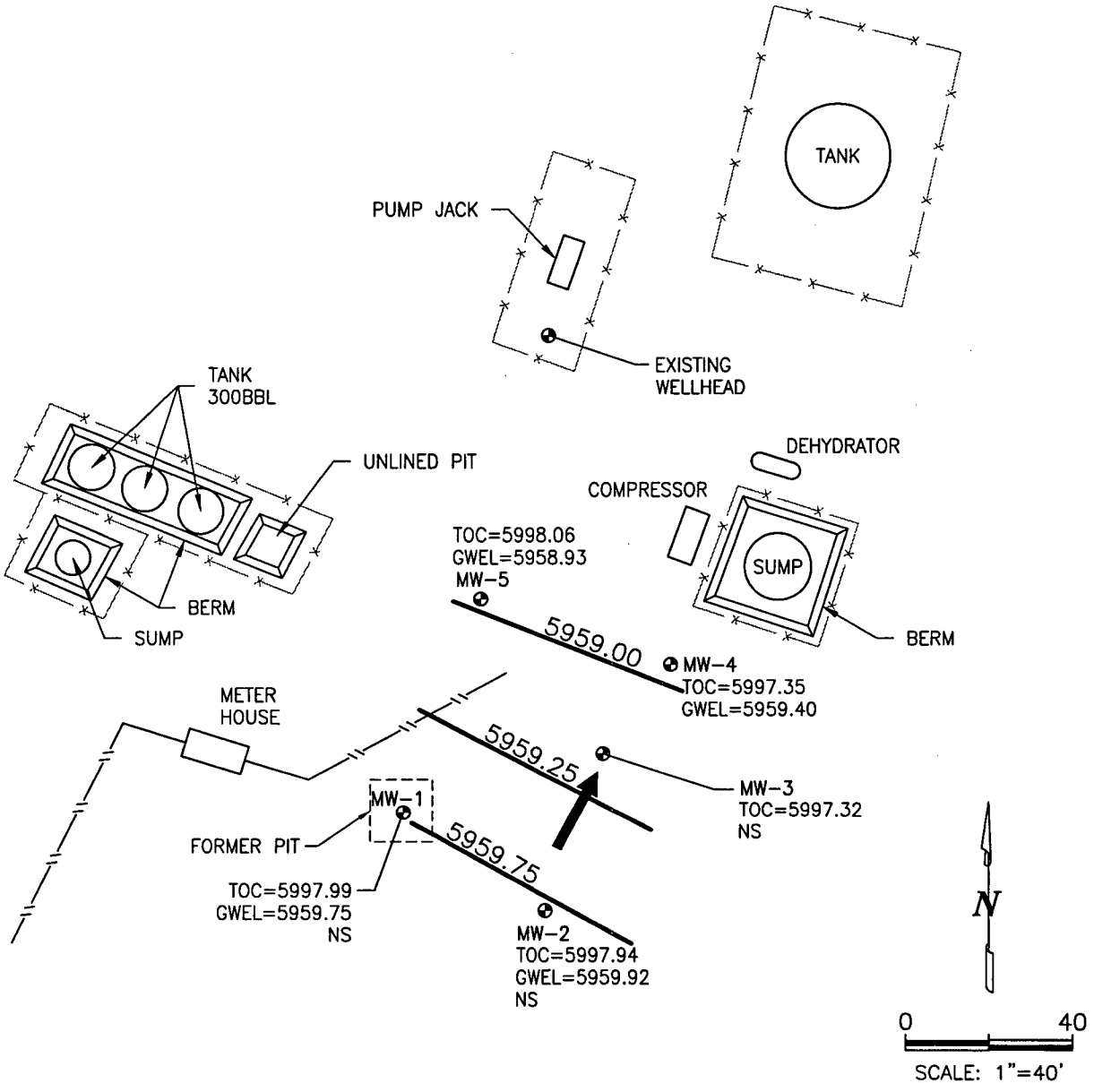
⊕ MW-1	Approximate Monitoring Well Location and Number
—x—x—	Fence Line
—//—//—	Pipe Line
B	Benzene (µg/L)
T	Toluene (µg/L)
E	Ethylbenzene (µg/L)
X	Total Xylenes (µg/L)
NS	Not Sampled
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing
5960	Potentiometric Surface (Approximate & Assumed Where Dashed)
→	Direction of Groundwater Flow (Estimated)

johnsonfed6_02.dwg

JOHNSTON FEDERAL #6A, METER 89232
JUNE, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 2



LEGEND

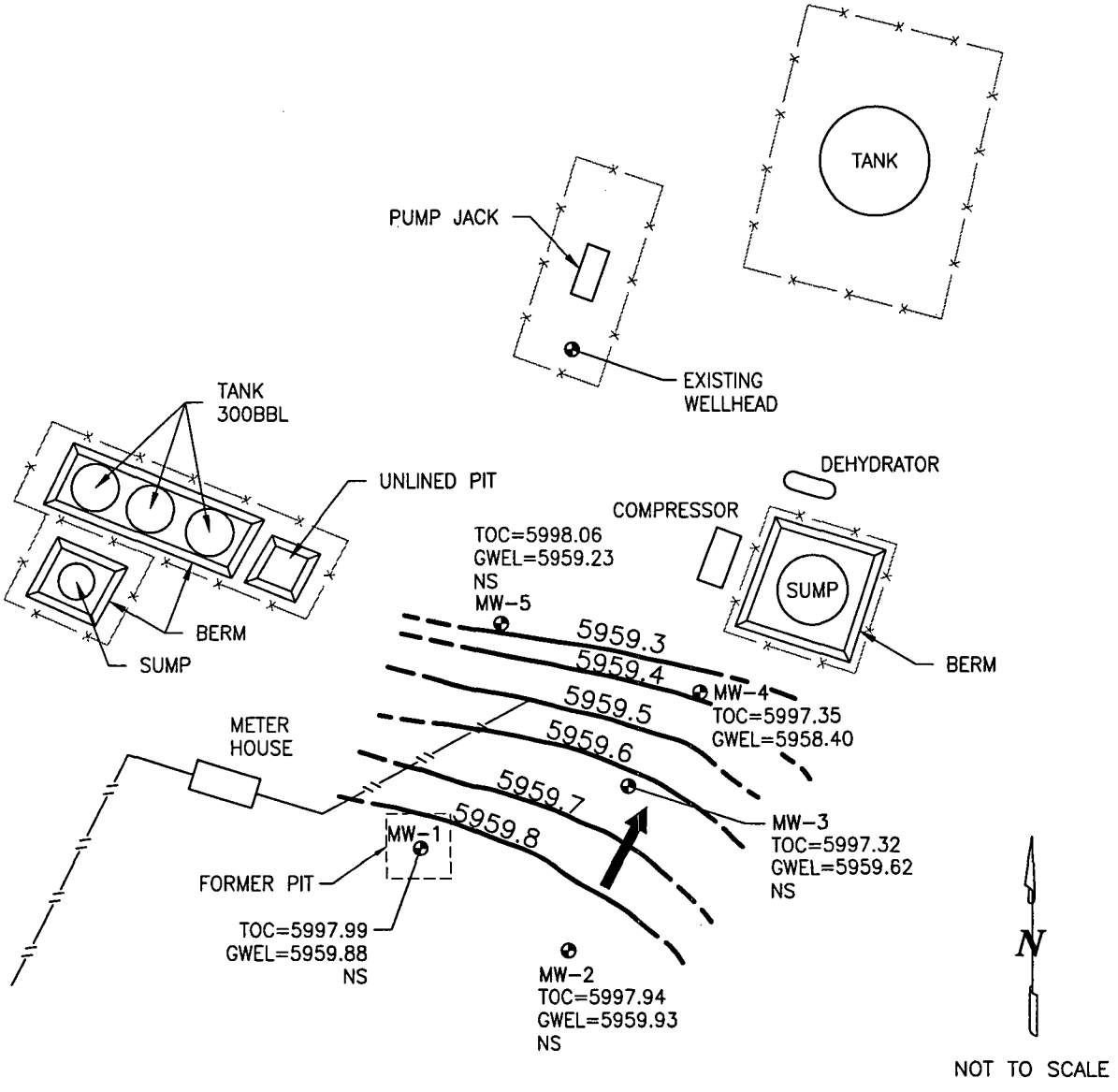
MW-1	Approximate Monitoring Well Location and Number	GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
x x	Fence Line	TOC	Top of Casing
// //	Pipe Line	5960	Potentiometric Surface (Approximate & Assumed Where Dashed)
NS	Not Sampled	→	Direction of Groundwater Flow (Estimated)

johnsonfed6_02.dwg

JOHNSTON FEDERAL #6A, METER 89232
SEPTEMBER, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 3



LEGEND

MW-1	Approximate Monitoring Well Location and Number	GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
—x—x—	Fence Line	TOC	Top of Casing
—//—//—	Pipe Line	5960	Potentiometric Surface (Approximate & Assumed Where Dashed)
NS	Not Sampled	→	Direction of Groundwater Flow (Estimated)

johnsonfed6_02.dwg

JOHNSTON FEDERAL #6A, METER 89232
DECEMBER, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 4

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER
JOHNSTON FEDERAL #6A (METER #89232)
(Page 1 of 1)

Sample Identification	Sample Date	MW Identification	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)
JON-0206-MW2	03-Jun-2002	2	<0.5	<0.5	<0.5	<1.0
JON-0206-MW3	03-Jun-2002	3	380	<5.0	110	29
JON-0206-MW4	03-Jun-2002	4	16	<5.0	17	2.2
JON-0206-MW5	04-Jun-2002	5	43	87	31	360

Figure 5
Historical BTEX Concentration and Groundwater Elevation vs. Time
Johnston Federal #6A (Meter #89232)
MW-1

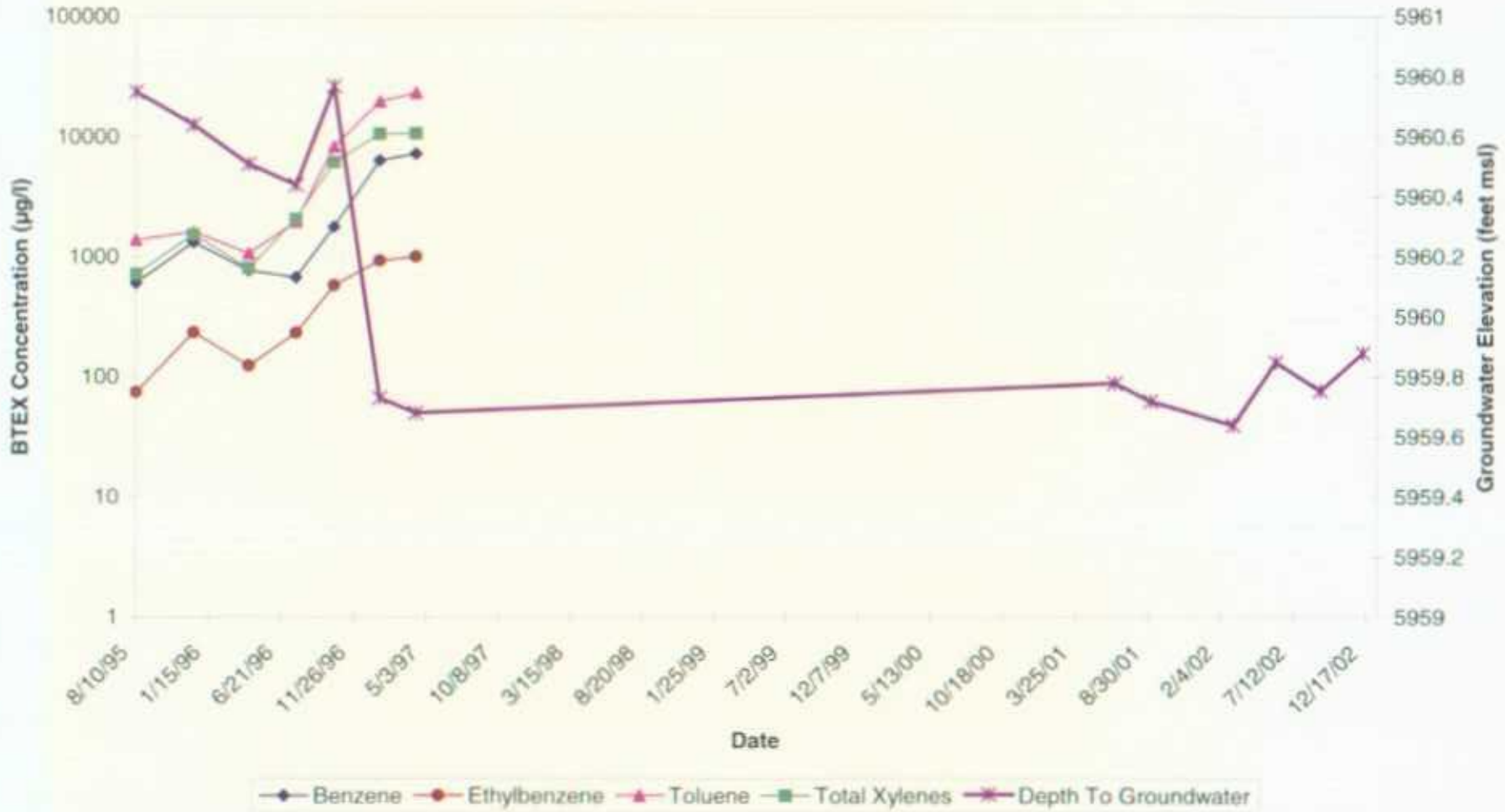


Figure 6
BTEX Concentration and Groundwater Elevation vs. Time
Johnston Federal #6A (Meter #89232)
MW-2

Figure 7
BTEX Concentration and Groundwater Elevation vs. Time
Johnston Federal #6A (Meter #89232)
MW-3

Figure 8
BTEX Concentration and Groundwater Elevation vs. Time
Johnston Federal #6A (Meter #89232)
MW-4

Figure 9
BTEX Concentration and Groundwater Elevation vs. Time
Johnston Federal #6A (Meter #89232)
MW-5

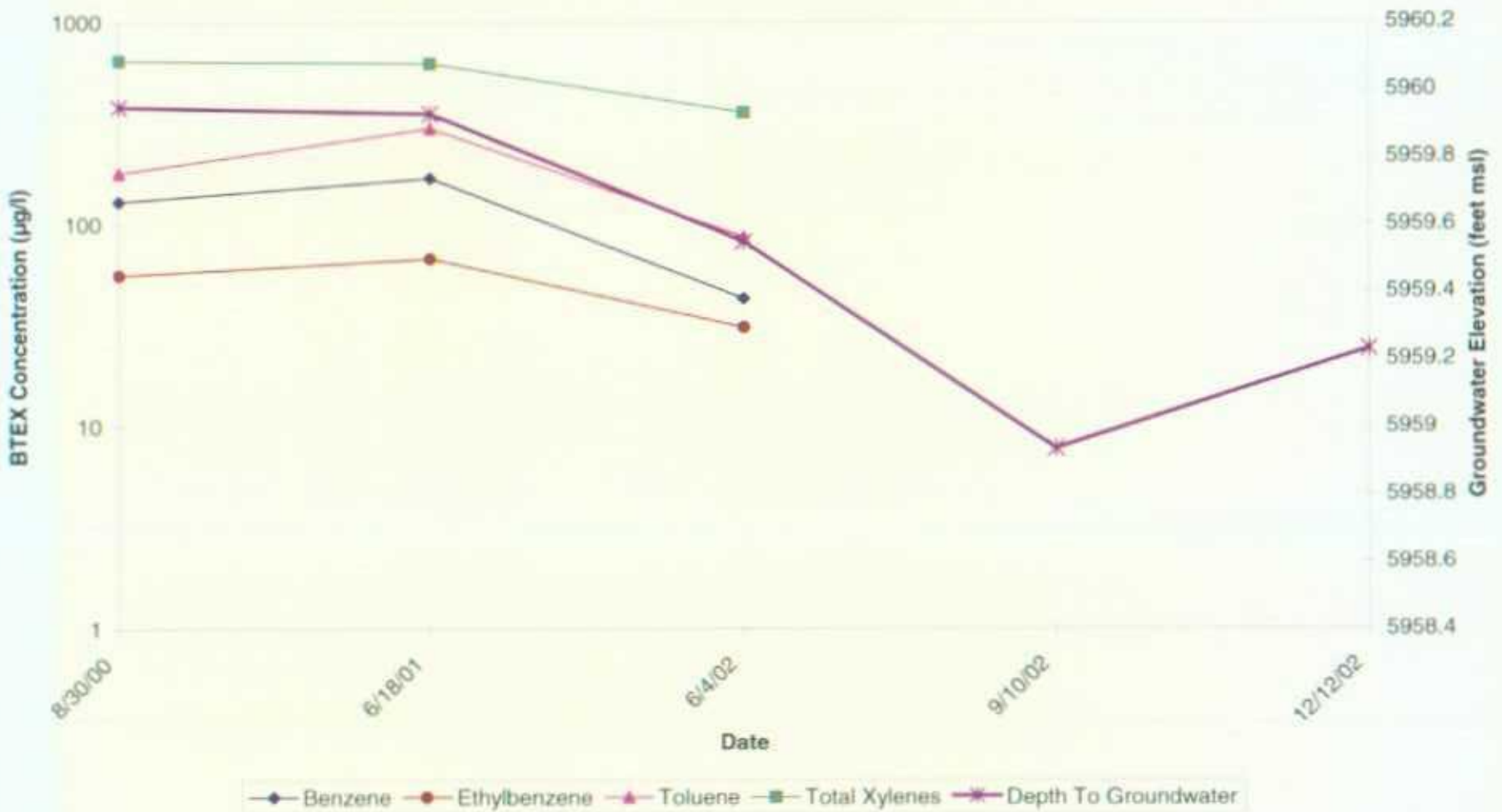
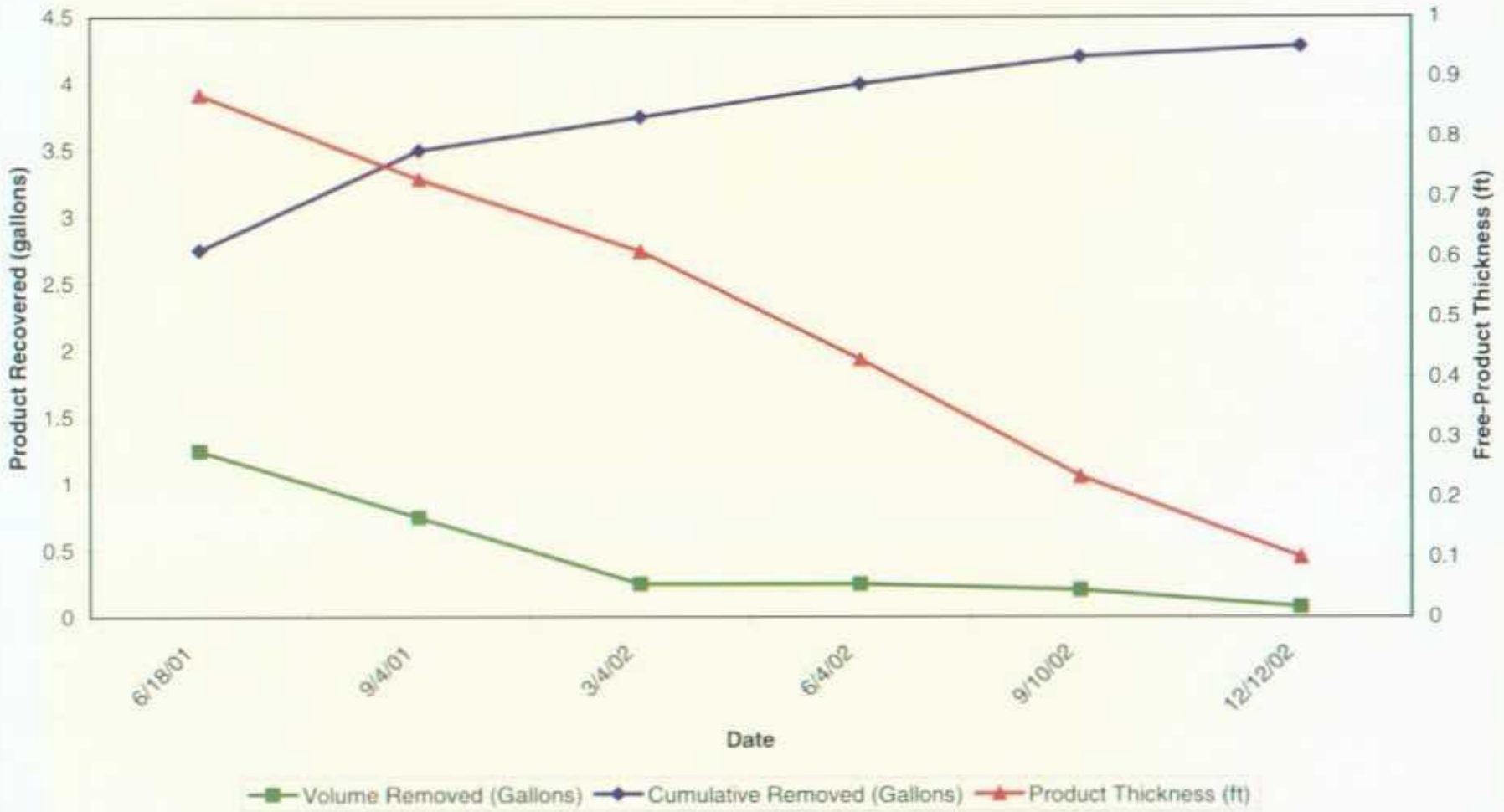


TABLE 2

SUMMARY OF FREE-PRODUCT RECOVERY
JOHNSTON FEDERAL #6A (METER #89232)
(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	04-Mar-2002	37.74	38.35	0.61	0.25	3.75
1	04-Jun-2002	37.81	38.14	0.43	0.25	4.00
1	10-Sep-2002	38.00	38.24	0.24	0.20	4.20
1	12-Dec-2002	38.01	38.11	0.10	0.08	4.28
5	04-Jun-2002	NA	38.51	0.00	0.00	0.00
5	10-Sep-2002	38.54	39.13	0.59	0.00	0.00
5	12-Dec-2002	38.62	38.83	0.21	0.03	0.03

Figure 10
Free-Product Recovery vs. Time
Johnston Federal #6A (Meter #89232)
MW-1



ATTACHMENT 1

LABORATORY REPORTS

84232

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number **206033**
June 18, 2002

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name JOHNSTON FED #6
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

On 06/07/02 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

LIENT	: AMEC EARTH & ENVIRONMENTAL	PINNACLE ID	: 206033
ROJECT #	: 1517000121	DATE RECEIVED	: 06/07/02
ROJECT NAME	: JOHNSTON FED #6	REPORT DATE	: 06/18/02

INNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
)6033 - 01	JON-0206-MW2	AQUEOUS	06/03/02
)6033 - 02	JON-0206-MW3	AQUEOUS	06/03/02
)6033 - 03	JON-0206-MW4	AQUEOUS	06/03/02
)6033 - 04	JON-0206-MW5	AQUEOUS	06/04/02

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

EST : EPA 8021 MODIFIED
LIENT : AMEC EARTH & ENVIRONMENTAL PINNACLE I.D.: 206033
ROJECT # : 1517000121
ROJECT NAME : JOHNSTON FED #6

AMPLE). #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
1	JON-0206-MW2	AQUEOUS	06/03/02	NA	06/09/02	1
2	JON-0206-MW3	AQUEOUS	06/03/02	NA	06/10/02	10
3	JON-0206-MW4	AQUEOUS	06/03/02	NA	06/10/02	1

ARAMETER	DET. LIMIT	UNITS	JON-0206-MW2	JON-0206-MW3	JON-0206-MW4
ENZENE	0.5	**UG/L**	< 0.5	**380**	**16**
OLUENE	0.5	UG/L	< 0.5	< 5.0	< 0.5
TH[illegible]ENZENE	0.5	**UG/L**	< 0.5	**110**	**17**
C[illegible]XYLENES	1.0	**UG/L**	< 1.0	**29**	**2.2**
URROGATE:					
ROMOFLUOROBENZENE (%)			96	99	111
URROGATE LIMITS	(80 - 120)				

HEMIST NOTES:
/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

:ST : EPA 8021 MODIFIED
.IENT : AMEC EARTH & ENVIRONMENTAL PINNACLE I.D.: 206033
ROJECT # : 1517000121
ROJECT NAME : JOHNSTON FED #6

AMPLE . #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
	JON-0206-MW5	AQUEOUS	06/04/02	NA	06/09/02	1

ARAMETER	DET. LIMIT	UNITS	JON-0206-MW5
ENZENE	0.5	UG/L	**43**
OLUENE	0.5	UG/L	**87**
THYLBENZENE	0.5	UG/L	**31**
OTAL XYLENES	1.0	UG/L	**360**

JR GATE:
ROMOFLUOROBENZENE (%) 114
JRROGATE LIMITS (80 - 120)

HEMIST NOTES:
'A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

:ST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206033
.ANK I. D.	: 060902	DATE EXTRACTED	: N/A
.IENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/09/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: JOHNSTON FED #6		

ARAMETER	UNITS	
ENZENE	UG/L	<0.5
OLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<1.0
URROGATE:		
ROMOFLUOROBENZENE (%)		99
JR ATE LIMITS:	(80 - 120)	

H T NOTES:
'A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

:ST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206033
.ANK I. D.	: 061002	DATE EXTRACTED	: N/A
.IENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/10/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: JOHNSTON FED #6		

ARAMETER	UNITS	
ENZENE	UG/L	<0.5
OLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<1.0
URROGATE:		
ROMOFLUOROBENZENE (%)		95
UR ATE LIMITS:	(80 - 120)	
NOTES:		
A		

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

ST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206033
TCH #	: 060902	DATE EXTRACTED	: N/A
IENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/09/02
OJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
OJECT NAME	: JOHNSTON FED #6	UNITS	: UG/L

RAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
NZENE	<0.5	20.0	19.1	96	19.4	97	2	(80 - 120)	20
LUENE	<0.5	20.0	20.0	100	20.8	104	4	(80 - 120)	20
HYLBENZENE	<0.5	20.0	20.3	102	20.9	105	3	(80 - 120)	20
TAL XYLENES	<1.0	60.0	62.9	105	64.6	108	3	(80 - 120)	20

NOTES:

$$\text{Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206033
ATCH #	: 061002	DATE EXRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/10/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: JOHNSTON FED #6	UNITS	: UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	<0.5	20.0	19.1	96	18.9	95	1	(80 - 120)	20
OLUENE	<0.5	20.0	20.0	100	19.8	99	1	(80 - 120)	20
THYLBENZENE	<0.5	20.0	20.3	102	20.1	101	1	(80 - 120)	20
OTAL XYLENES	<1.0	60.0	62.8	105	62.3	104	1	(80 - 120)	20

H NOTES:
/A

$$\text{Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{PD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

ST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206033
MSD #	: 206037-01	DATE EXTRACTED	: N/A
IENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/09/02
OJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
OJECT NAME	: JOHNSTON FED #6	UNITS	: UG/L

RAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
NZENE	<0.5	20.0	19.4	97	19.2	96	1	(80 - 120)	20
LUENE	<0.5	20.0	20.4	102	20.4	102	0	(80 - 120)	20
HYLBENZENE	<0.5	20.0	20.8	104	20.6	103	1	(80 - 120)	20
TAL XYLENES	<1.0	60.0	64.3	107	64.2	107	0	(80 - 120)	20

NOTES:

$$\text{Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 6-3-02 PAGE: 1 OF 1

PLI Accession #: 20605

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:	Lisa Winn
COMPANY:	AMEC
ADDRESS:	2060 AFTON Place Farmington N.M. 87401
PHONE:	505 327-7928
FAX:	(505) 326 5721
BILL TO:	Scott Doop
COMPANY:	El Paso Field Services
ADDRESS:	614 Reilly AVE Farmington N.M. 87401

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	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
JON-0206-MW2	6-3-02	1210	H_2O	01					X																					2
JON-0206-MW3	6-3-02	1315	H_2O	02					X																					2
JON-0206-MW4	6-3-02	1425	H_2O	03					X																					2
JON-0206-MW5	6-4-02	1024	H_2O	04					X																					2

PROJECT INFORMATION	
PROJ. NO.	51200121
PROJ. NAME	EPFS G.W. proj.
P.O. NO.:	
SHIPPED VIA	Greyhound

SAMPLE RECEIPT	
NO. CONTAINERS:	18
CUSTODY SEALS:	N/A
RECEIVED INTACT:	Yes
BLUE ICE:	Y ☐ N

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED ☐NM ☐SDWA ☐OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

JOHNSTON FED # 6

~~70194~~

meter # (89232)

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Time: 1430	Signature: Time:
Printed Name: Chris Amer Date: 6-6-02	Printed Name: Date:
Company: AMEC	Company:
See reverse side (Force Majeure)	
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2**
Signature: Time:	Signature: Time: 1050
Printed Name: Date:	Printed Name: Date: 6/7/02
Company:	Pinnacle Laboratories Inc.

ATTACHMENT 2

FIELD DOCUMENTATION

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
Project Manager: Delbert Bekis
Client Company: MWH
Site Name: Johnston Federal 6A

Project No: 220013
Date: 12/12/02

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-2	1300	38.01	—	43.780	—	∅	
MW-3	1307	37.70	—	46.550	—	∅	
MW-4	1315	38.95	—	48.808	—	∅	
MW-1	1330	38.11	38.01		.10	10 oz	
MW-5	1337	38.83	38.62		.21	4 oz	

COMMENTS:
MW-1 - grey/silty in color. Bailed 1.5 gal until clear. Thin film - yellowish in color.

MW-3 - bailed 1 gal until clear.

Signature: Delbert Bekis
Date: 12/12/02.

8 7 95a

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
Project Manager: Ashley Lowe
Client Company: MWH
Site Name: Johnston Federal 6A

Project No: 220013
Date: 09/10/02

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	8:58	38.235	38.000	50.130	0.235	~26 oz	bailed 1 gal H_2O + product
MW-5	9:22	39.125	38.537	42.667	0.588	0	
MW-4	9:27	37.949	—	48.808	—	0	
MW-3	9:32	37.698	—	46.550	—	0	
MW-2	9:39	38.020	—	43.780	—	0	

COMMENTS:
MW-1: lock will not go back on. Cap & vault do not line up; Does not have a solid bottom; very sweet odor observed

MW-4: greenish-gray silt on probe; wind-blown silt & sand inside well casing; no survey mark on casing; not a solid bottom

Signature: _____ Date: _____

☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW 2

Page 1 of 1

Project Name EPFS G.W. proj Project Manager Lisa winn Project No. 151700012

Client Company El paso Field Services

Site Name JOHNSTON FED #6 (89232) Site Address Rural San Juan CO

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

Methods of Development

Pump	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation
- Initial Depth of Well (feet) 43.85
- Initial Depth to Water (feet) 37.88
- Height of Water Column in Well (feet) 5.97
- Diameter (inches): Well 4" Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	5.97	3.89 X 3	11.67
Gravel Pack			
Drilling Fluids			
Total			11.67

Instruments — Serial No. (if applicable)
- ☑ pH Meter — YSI 63
- ☑ DO Monitor — YSI 95
- ☑ Conductivity Meter — YSI 63
- ☑ Temperature Meter — YSI 63
- ☐ Other

Water Disposal knit Seperator Bloomfield N.M

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
6-3-02	1145		X				2.5				17.8	6.55	2571		Cloudy Grey mild septic odor
	1149		X								15.7	6.83	2475		" "
	1154		X								15.8	6.69	2525		" "
	1159		X								15.3	6.67	2482		" "
	1203		X			39.95					15.3	6.66	2490	2.55	No Change

Comments SAMPLED for BTEX 1210

Develop Signature(s) [signature] Date 6-3-02 Reviewer [signature] Date 6/10/0

☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

amec

Well Number MW 3

Page 1 of 1

Project Name EPFS G.W. project Project Manager LISA Winn Project No 517000121

Client Company El Paso Field Services

Site Name JOHNSTON FED. #6 89232 Site Address Rural San Juan CO.

Development Criteria

☑ 3 to 5 Casing Volumes of Water Removal.
☑ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

Pump	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 45.87
Initial Depth to Water (feet) 37.55
Height of Water Column in Well (feet) 8.32
Diameter (inches): Well 4" Gravel Pack ____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	8.32	5.43x3	16.29
Gravel Pack			
Drilling Fluids			
Total			16.29

Instruments

	Serial No. (If applicable)
☑ pH Meter	YSI 63
☑ DO Monitor	YSI 95
☑ Conductivity Meter	YSI 63
☑ Temperature Meter	YSI 63
☐ Other	

Water Disposal

Knit Seperator Bloomfield NM.

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
6-3-02	1248		X				3.5	3.5			16.8	6.97	2564		Cloudy Grey Sulfur Odor
	1253		X				3.5	7			16.2	7.09	2469		" "
	1300		X				3.5	10.5			16.1	7.06	2478		" "
	1304		X				3.5	14			16.0	7.13	2454		" "
	1310		X			43.95	3.5	17.5			15.9	7.15	2424	0.48	No Change

Comments SAMPLED for BTEX 1315

Developer Signature(s) Chris A. May Date 6-3-02 Reviewer [illegible] Date 6/10/02

I:\forms\MW Dvlpmnt 2.dot 11/29/01

☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW 4 Page 1 of 1

Project Name EPFS G.W. Project Project Manager LISA WINN Project No. 151200121

Client Company El Paso Field Services

Site Name JOHNSTON FED. #6 99232 Site Address Rural SAN JUAN CO.

Development Criteria

☑ 3 to 5 Casing Volumes of Water Removal.
☑ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

Pump	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 48.27
Initial Depth to Water (feet) 37.80
Height of Water Column in Well (feet) 10.47
Diameter (inches): Well 4" Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	10.47	6.83x3	20.49
Gravel Pack			
Drilling Fluids			
Total			20.49

Instruments

	Serial No. (if applicable)
☑ pH Meter	YSI 63
☑ DO Monitor	YSI 95
☑ Conductivity Meter	YSI 63
☑ Temperature Meter	YSI 63
☐ Other _____	

Water Disposal

KNIZ Seperator Bloomfield NM.

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
6-3-02	1349		X				4.25	4.25			17.2	7.11	2461		Cloudy, grey sediment odor
	1354		X				4.25	8.5			16.1	7.05	2477		" "
	1401		X				4.25	12.75			16.0	7.01	2499		" "
	1407		X				4.25	17			15.9	7.03	2443		" "
	1415		X			46.62	4.25	21.25			15.9	7.03	2417	0.38	no change

Comments SAMpled for BTEX 1425

Developer Signature(s) Chris A. May Date 6-3-02 Reviewer [signature] Date 6/10/02

☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW 5 Page 1 of 1

Project Name EPFS G.W. project Project Manager LISA winn Project No. 517000121

Client Company El paso Field Services

Site Name JOHNSTON FED #6 (89232) Site Address Rural San Juan CO.

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

Water Volume Calculation
Initial Depth of Well (feet) 42.76
Initial Depth to Water (feet) 38.51
Height of Water Column in Well (feet) 4.25
Diameter (inches): Well 2" Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	4.25	0.69 X 3	2.07
Gravel Pack			
Drilling Fluids			
Total			2.07

Instruments (Serial No. (If applicable))
- ☑ pH Meter — YSI 63
- ☑ DO Monitor — YSI 95
- ☑ Conductivity Meter — YSI 63
- ☑ Temperature Meter — YSI 63
- ☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Disposal Lutz Seperator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
6-4-02	0957		X				.5				16.7	6.67	2476		Cloudy Grey mild septic odor
	1001		X								15.6	6.80	2513		" "
	1004		X								15.4	6.83	2493		" "
	1006		X								15.4	6.83	2497		" "
	1009		X								15.4	6.81	2492	0.32	DO Change

Comments SAMPLED for BTEX 8021

Developer Signature(s) [signature] Date 6-4-02 Reviewer [signature] Date 6/10

WELL OBSERVATION DATA

amec

Project Name: EPFS G.W. project

Project No.: 151200121

Project Mngr: LISA Winn

Task: 3

Client Co.: EL paso Field Services

Date: 6 4 02

Site Name: JOHNSTON FED. #6 (89232)

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	1040		37.81	38.14					.25 gal

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

Comments: product Recovery Bailing meTHOD

Signature: Chris A. McMay

Date: 6-4-02

PLEASE FILL THIS FORM IN COMPLETELY.

SHADED AREAS ARE FOR LAB USE ONLY

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 6-3-02 PAGE: 1 OF 1

PROJECT MANAGER: Lisa Winn

COMPANY: AMEC
ADDRESS: 2060 AFTON place
Farmington NM 87401
PHONE: 505 327-7928
FAX: (505) 326 5721

BILL TO: SCOTT Pope
COMPANY: El Paso Field Services
ADDRESS: 614 Reilly AVE
Farmington NM 87401

ANALYSIS REQUEST: 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

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8021 (BTEX)	NUMBER OF CONTAINERS
JON-0206-MW2	6-3-02	1210	H_2O		X	2
JON-0206-MW3	6-3-02	1315	H_2O		X	2
JON-0206-MW4	6-3-02	1425	H_2O		X	2
JON-0206-MW5	6-4-02	1024	H_2O		X	2

PROJECT INFORMATION

PROJ. NO.: 51700021
PROJ. NAME: EPFS GW. pilot
P.O. NO.:
SHIPPED VIA: Greyhound

SAMPLE RECEIPT
NO. CONTAINERS
CUSTODY SEALS Y/N/NA
RECEIVED INTACT
BLUE ICE/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 ☐

JOHNSTON FED #6
~~70194~~
meter # (89232)

RELINQUISHED BY: 1.
Signature: [signature] Time: 1430
Printed Name: Chris AMKE Date: 6-6-02
Company: AMEC
See reverse side (Force Majeure)

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY (LAB): 2.
Signature: Time:
Printed Name: Date:

WELL OBSERVATION DATA

amec

Project Name: EPFS GW project

Project No.: 151700121

Project Mngr: LISA winn

Task: 3

Client Co.: EL paso Field Services

Date: 3-4-02

Site Name: JOHNSTON FED #6 (89232)

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	Comments Approximate product Recovery Gallons
MW1			37.74	38.35					.25 gal.
MW2				37.94					
MW3				37.50					
MW4				37.73					
MW5				38.41					

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

Comments: NO Skimmer in well Bailed off product

Signature: [signature]

Date: 3-4-02