

3R - 201

REPORTS

DATE:

2002

Certified Mail: #7001 1940 0002 1371 7676

February 28, 2003

RECEIVED

MAR 05 2003

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

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**



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MAR 05 2003

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

El Paso Field Services

**San Juan Basin Pit Program
Groundwater Sites Project**

**2002 Annual Report
Non-Federal Sites (Volume 2)**

March 2003



MWH

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

EL PASO FIELD SERVICES ANNUAL GROUNDWATER REPORT

NON-FEDERAL SITES VOLUME II

TABLE OF CONTENTS

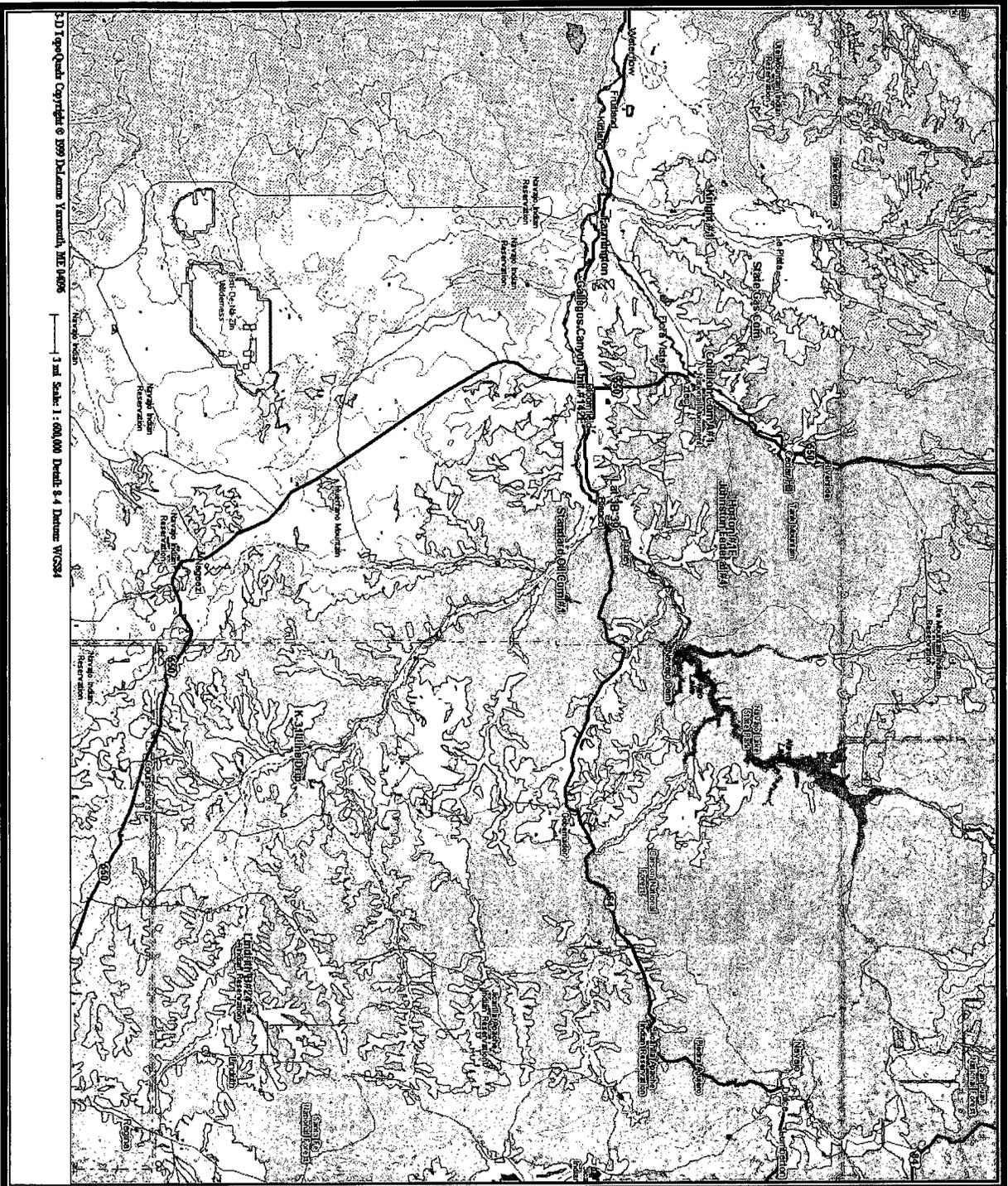
Site Map

| 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 |
| LD146 | Lat 3B-39 Line Drip | 29N | 09W | 10 | M |
| LD087 | K-31 Line Drip | 25N | 06W | 16 | N |
| 94967 | Lindrith B #24 | 24N | 03W | 9 | N |



MWH
MONTGOMERY WATSON HARZA

Non - Federal Groundwater Site Map



**EPFS GROUNDWATER SITES
2002 ANNUAL GROUNDWATER REPORT**

**Johnston Fed #4
Meter Code: 70194**

SITE DETAILS

LEGAL DESCRIPTION: Twn: 31N Rng: 09W Sec: 33 Unit: H
NMOCD Haz Ranking: 40 **Land Type:** Fee **Operator:** Burlington Resources

PREVIOUS ACTIVITIES

Site Assessment: 8/94 **Excavation:** 9/94 (60 cy) **Soil Boring:** 8/95
Monitor Well: 8/95 **Geoprobe:** 9/97 **Additional MWs:** 12/95
Downgradient MWs: 12/95 **Replace MW:** NA **Quarterly Initiated:** NA
ORC Nutrient Injection: NA **Re-Excavation:** NA **PSH Removal Initiated:** 9/97
Annual Initiated: 6/01 **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 (June) and quarterly water level monitoring was performed during 2002.

MW-3: Quarterly free-product recovery and water level monitoring was performed during 2002.

Site-Wide Activities: No other activities were performed at this site during 2002.

SUMMARY TABLES AND GRAPHS

- Analytical data is summarized in Table 1 and is presented graphically in Figures 5 through 7.
- Free-product recovery data is summarized in Table 2 and presented graphically in Figures 8 and 9.
- Laboratory reports are presented in Attachment 1.
- Field documentation are 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.

**EPFS GROUNDWATER SITES
2002 ANNUAL GROUNDWATER REPORT**

**Johnston Fed #4
Meter Code: 70194**

DISPOSITION OF GENERATED WASTES

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

ISOCONCENTRATION MAPS

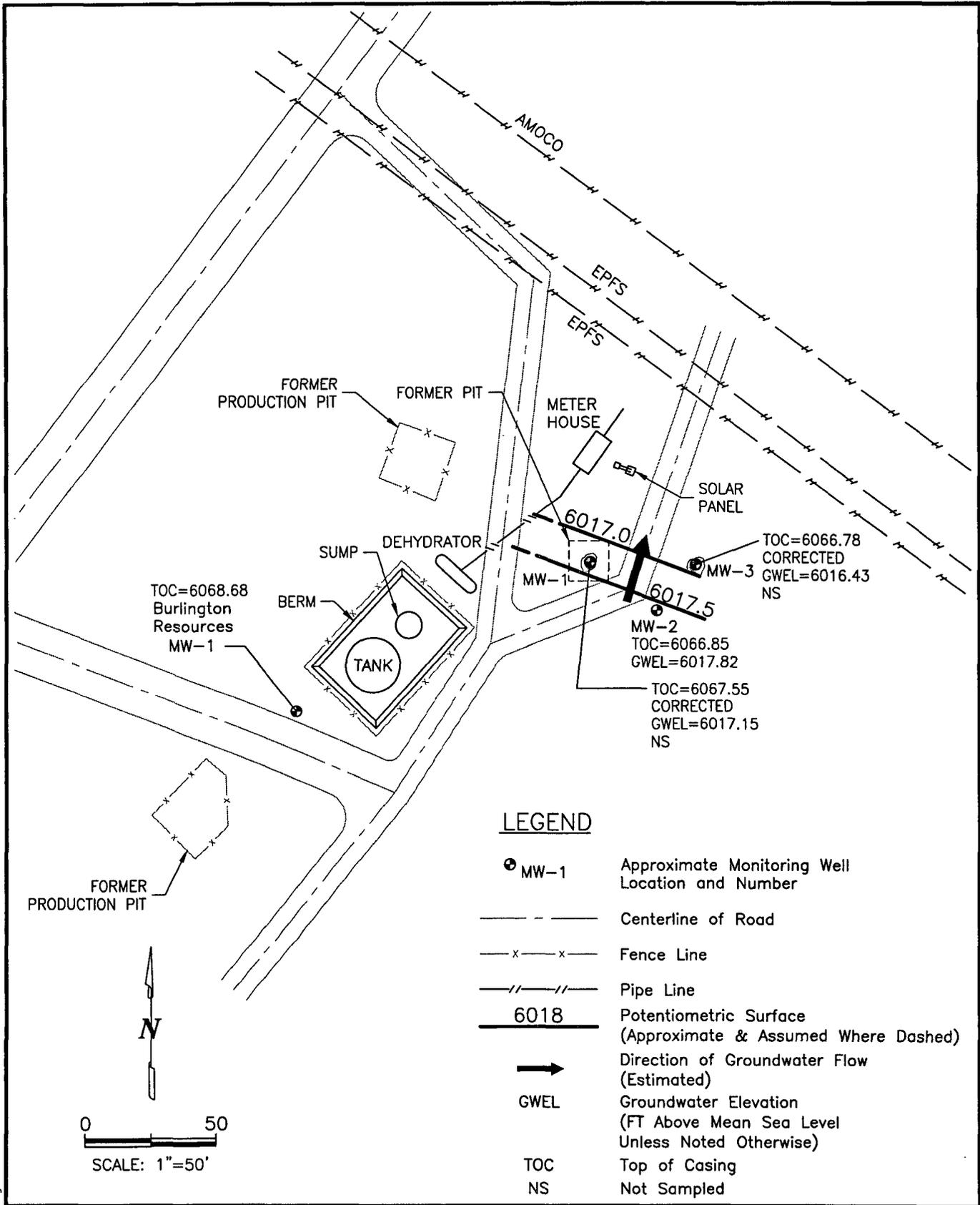
No isoconcentration maps were prepared for this site, however, the attached site maps present the potentiometric surface and analytical data collected during 2002.

CONCLUSIONS

- The groundwater flow direction at this site trends toward the northeast.
- Free-product recovery efforts at MW-1 resulted in the removal of approximately 0.58 gallons of free-phase hydrocarbons during 2002 bringing the cumulative total volume recovered to date to 8.43 gallons.
- The benzene concentration in the annual groundwater sample collected at MW-2 significantly decreased from 2,800 µg/l (June 2001) to 370 µg/l in June 2002.
- Free-product recovery efforts at MW-3 resulted in the removal of approximately 2.5 gallons of free-phase hydrocarbons during 2002 bringing the cumulative total volume recovered to 2.58 gallons.

RECOMMENDATIONS

- EPFS will continue quarterly free-product recovery efforts at MW-1 and MW-3.
- EPFS recommends redevelopment of monitoring wells MW-1 and MW-3 in an attempt to increase free-product recovery.
- EPFS will continue annual sampling at MW-2 until BTEX constituents approach closure standards. This well will then be scheduled for quarterly sampling until closure criteria are met.



LEGEND

- MW-1 Approximate Monitoring Well Location and Number
- Centerline of Road
- Fence Line
- Pipe Line
- 6018 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
- NS Not Sampled

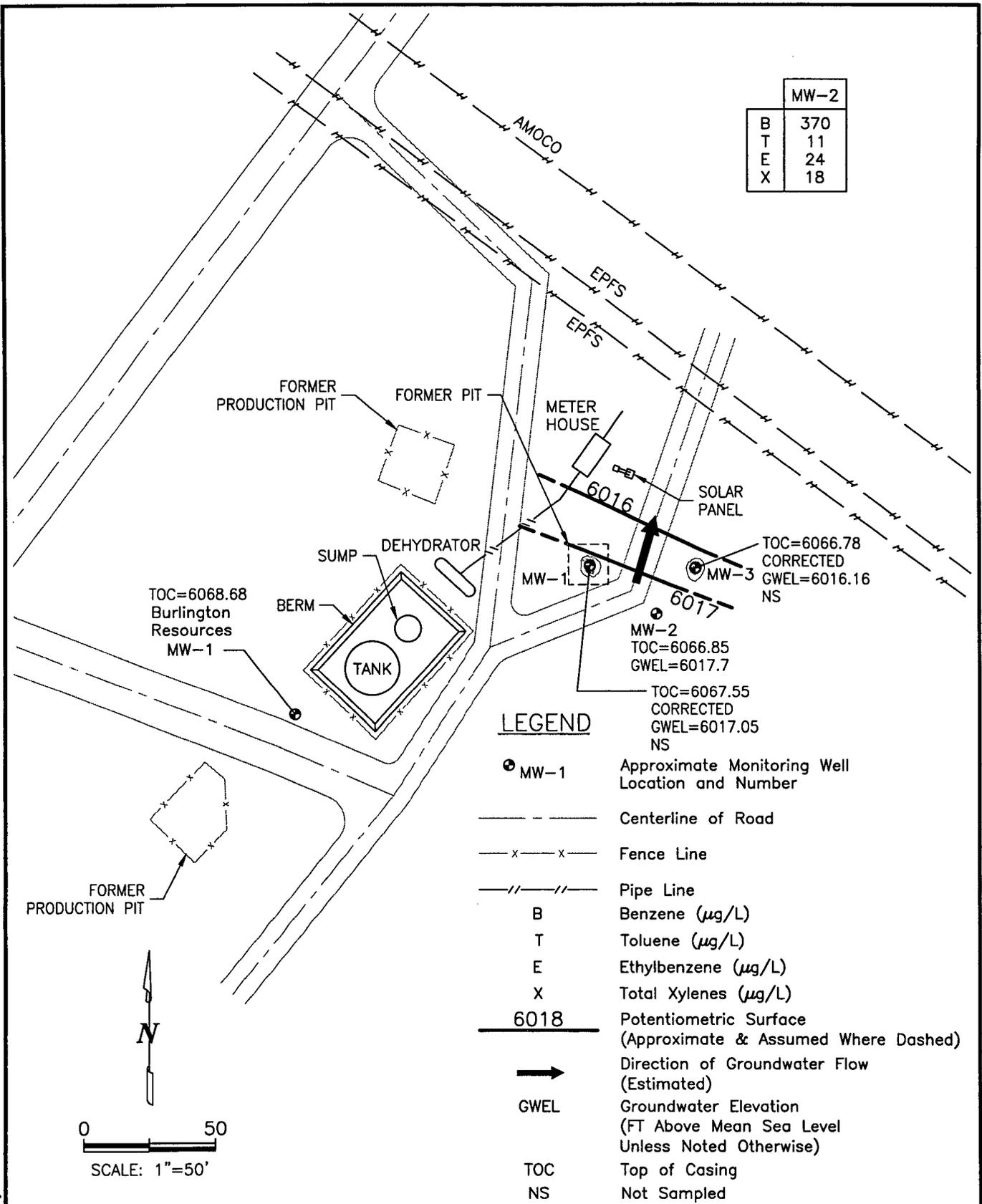
JOHNSTON FEDERAL NO.4, METER 700194
MARCH, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

johnsonfed4_02.dwg

| | |
|------|-----|
| MW-2 | |
| B | 370 |
| T | 11 |
| E | 24 |
| X | 18 |



LEGEND

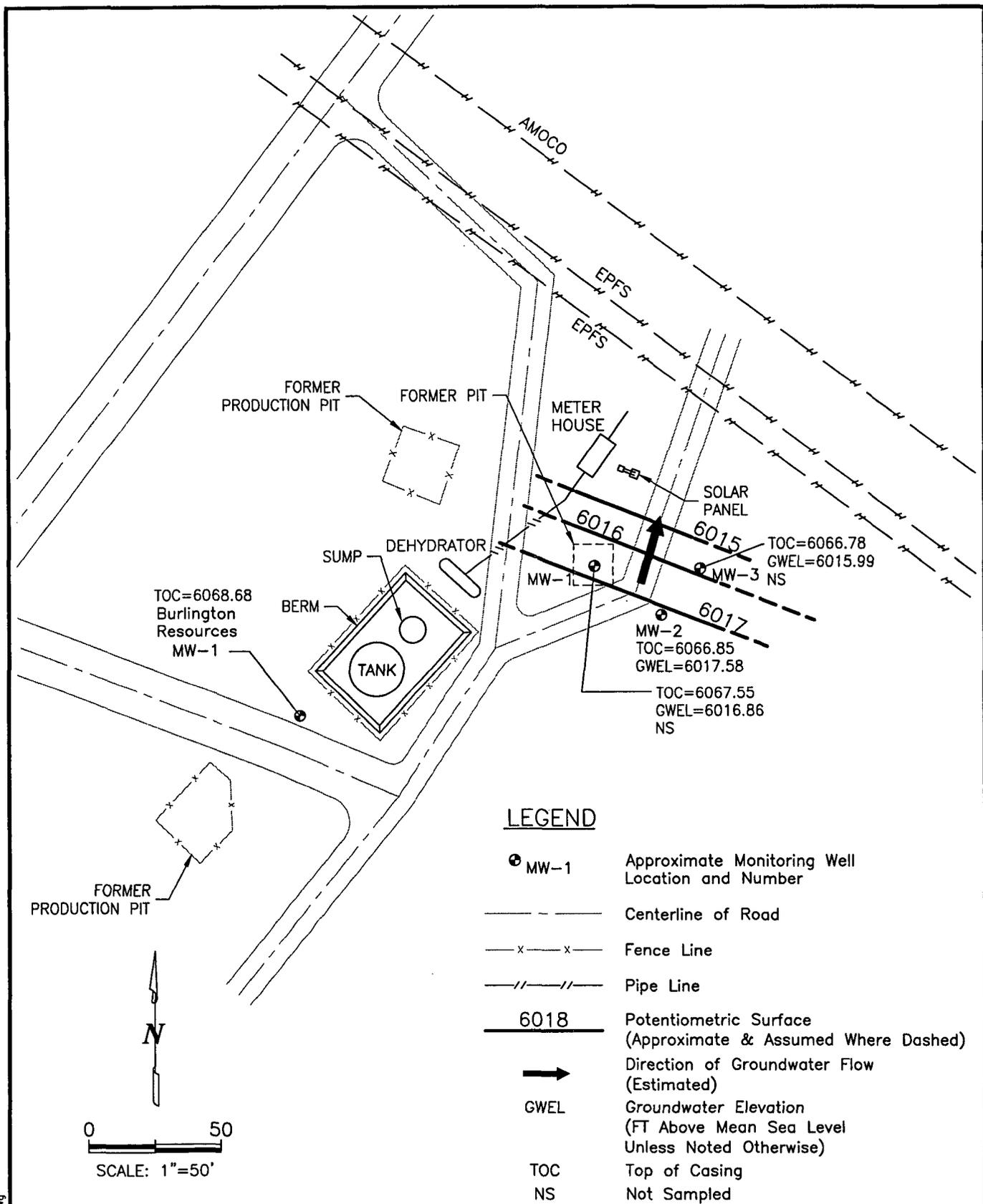
- MW-1 Approximate Monitoring Well Location and Number
- Centerline of Road
- x-x- Fence Line
- == Pipe Line
- B Benzene ($\mu\text{g/L}$)
- T Toluene ($\mu\text{g/L}$)
- E Ethylbenzene ($\mu\text{g/L}$)
- X Total Xylenes ($\mu\text{g/L}$)
- 6018 Potentiometric Surface (Approximate & Assumed Where Dashed)
- Direction of Groundwater Flow (Estimated)
- GWEL Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
- TOC Top of Casing
- NS Not Sampled

JOHNSTON FEDERAL NO.4, METER 700194
JUNE, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 2

johnsonfed4_02.dwg

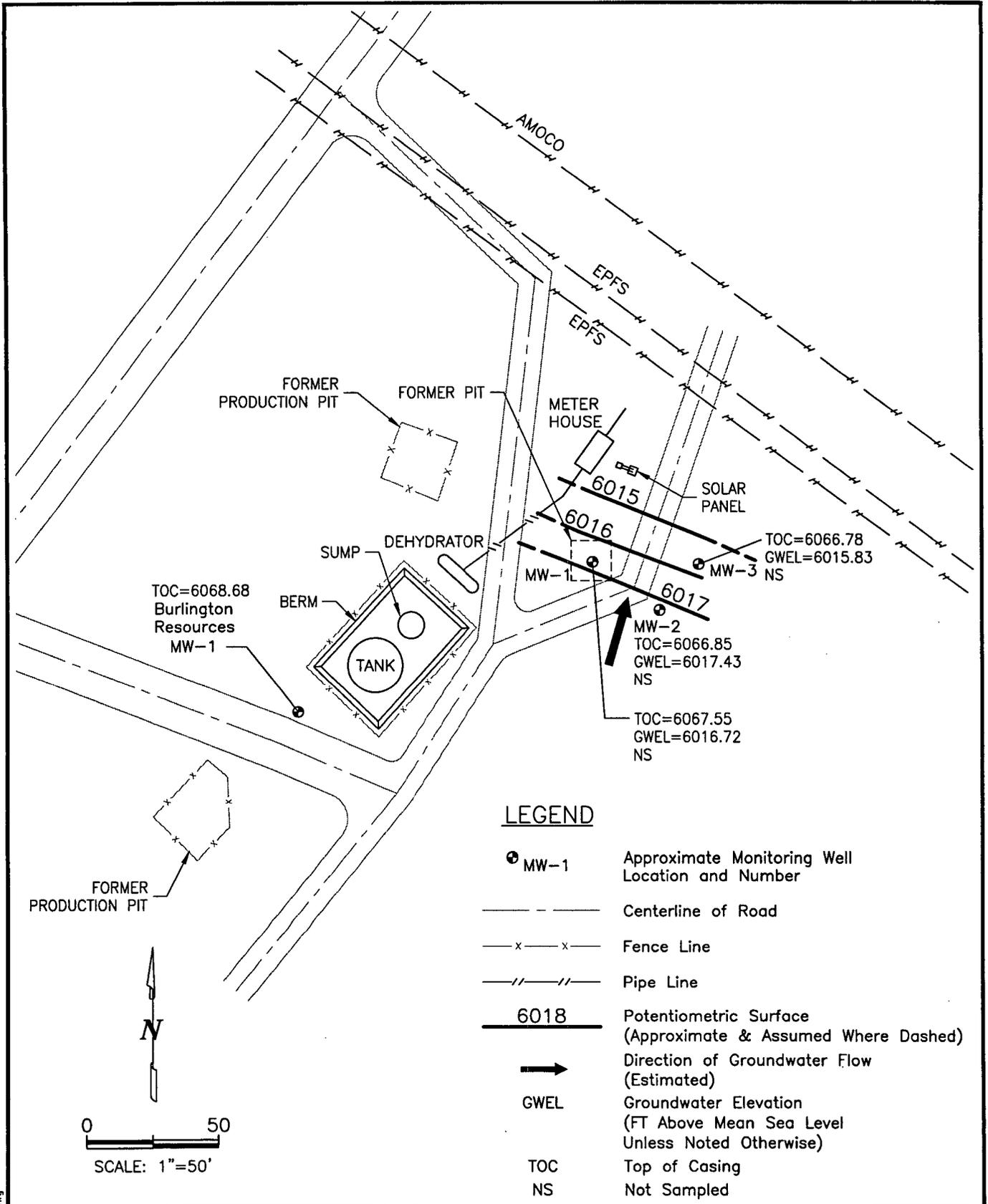


johnsonfed4_02.dwg

JOHNSTON FEDERAL NO.4, METER 700194
 SEPTEMBER, 2002

GROUNDWATER SITES
 EL PASO FIELD SERVICES

FIGURE 3



johnsonfed4_02.dwg

JOHNSTON FEDERAL NO.4, METER 700194
DECEMBER, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 4

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER
JOHNSTON FEDERAL #4 (METER #70194)

(Page 1 of 1)

| Sample Identification | Sample Date | MW Identification | Benzene (µg/l) | Toluene (µg/l) | Ethylbenzene (µg/l) | Total Xylenes (µg/l) |
|-----------------------|-------------|-------------------|----------------|----------------|---------------------|----------------------|
| JOH-0206-MW2 | 03-Jun-2002 | 2 | 370 | 11 | 24 | 18 |

Figure 5
 Historical BTEX Concentration and Groundwater Elevation vs. Time
 Johnston Federal #4 (Meter #70194)
 MW-1

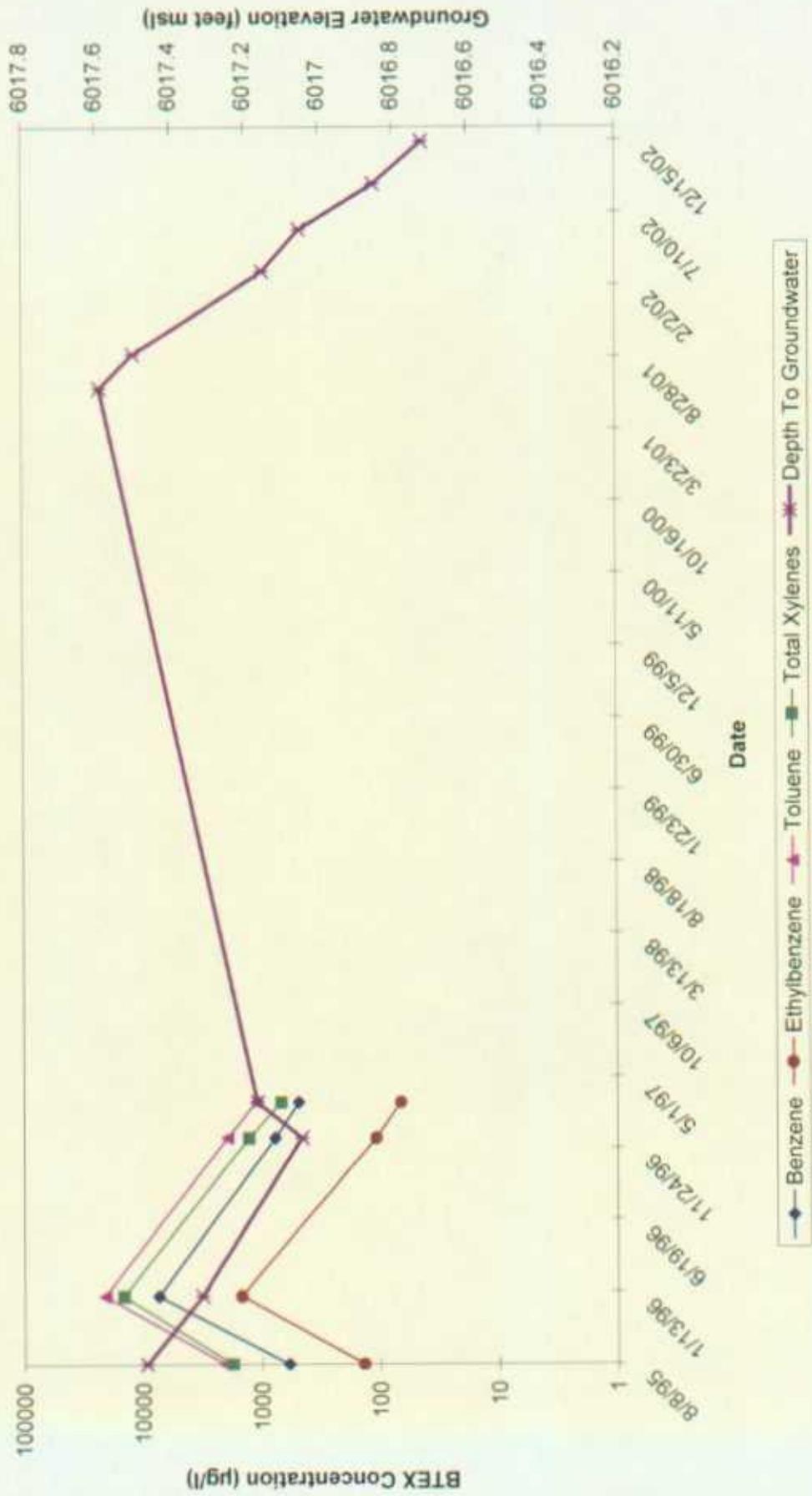


Figure 6
 BTEX Concentration and Groundwater Elevation vs. Time
 Johnston Federal #4 (Meter #70194)
 MW-2

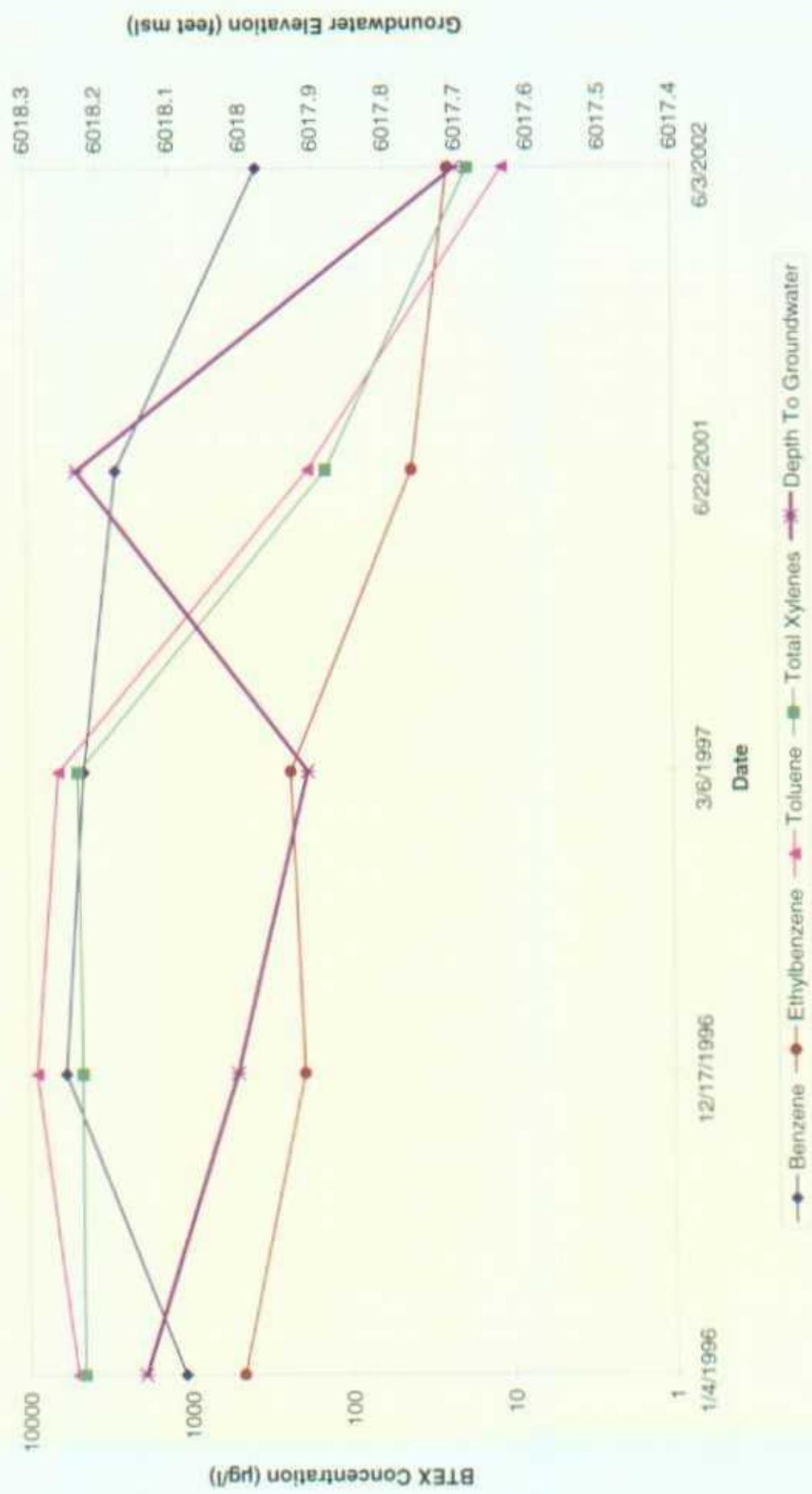
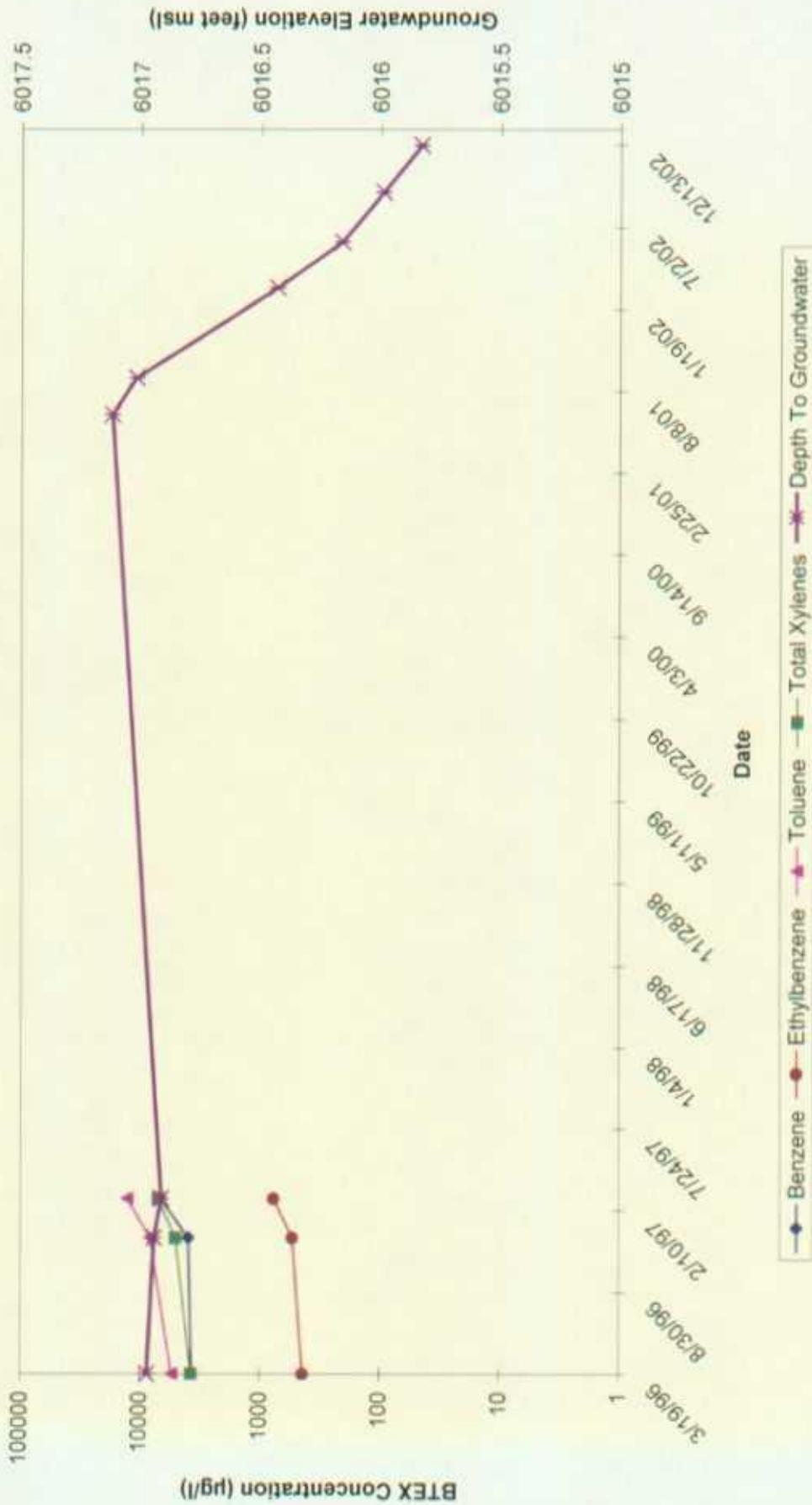


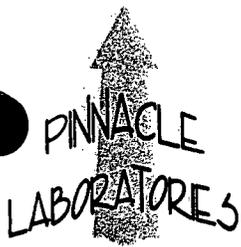
Figure 7
 Historical BTEX Concentration and Groundwater Elevation vs. Time
 Johnston Federal #4 (Meter #70194)
 MW-3



ATTACHMENT 1
LABORATORY REPORTS

70194

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



Pinnacle Lab ID number 206031
June 17, 2002

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name JOHNSTON FED #4
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

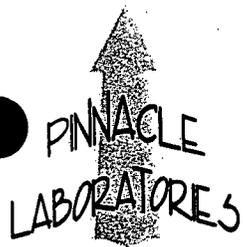
On 06/07/02 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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



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

| | | | |
|--------------|------------------------------|---------------|------------|
| CLIENT | : AMEC EARTH & ENVIRONMENTAL | PINNACLE ID | : 206031 |
| PROJECT # | : 1517000121 | DATE RECEIVED | : 06/07/02 |
| PROJECT NAME | : JOHNSTON FED #4 | REPORT DATE | : 06/17/02 |
| <hr/> | | <hr/> | |
| PINNACLE | | | DATE |
| ID # | CLIENT DESCRIPTION | MATRIX | COLLECTED |
| <hr/> | <hr/> | <hr/> | <hr/> |
| 206031 - 01 | JOH-0206-MW2 | AQUEOUS | 06/03/02 |

**PINNACLE
LABORATORIES**

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

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : JOHNSTON FED #4

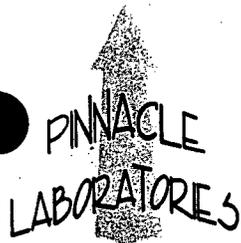
PINNACLE I.D.: 206031

| SAMPLE ID. # | CLIENT I.D. | MATRIX | DATE SAMPLED | DATE EXTRACTED | DATE ANALYZED | DIL. FACTOR |
|--------------|--------------|---------|--------------|----------------|---------------|-------------|
| 01 | JOH-0206-MW2 | AQUEOUS | 06/03/02 | NA | 06/10/02 | 10 |

| PARAMETER | DET. LIMIT | UNITS | JOH-0206-MW2 |
|---------------|------------|-------|--------------|
| BENZENE | 0.5 | UG/L | 370 |
| TOLUENE | 0.5 | UG/L | 11 |
| ETHYLBENZENE | 0.5 | UG/L | 24 |
| TOTAL XYLENES | 1.0 | UG/L | 18 |

SRURROGATE:
BROMOFLUOROBENZENE (%) 101
SRURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



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

GAS CHROMATOGRAPHY QUALITY CONTROL
 LCS/LCSD

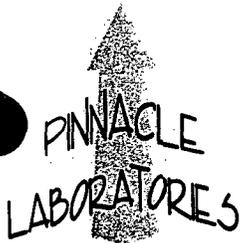
| | | | |
|--------------|------------------------------|----------------|------------|
| TEST | : EPA 8021 MODIFIED | PINNACLE I.D. | : 206031 |
| BATCH # | : 060902 | DATE EXTRACTED | : N/A |
| CLIENT | : AMEC EARTH & ENVIRONMENTAL | DATE ANALYZED | : 06/09/02 |
| PROJECT # | : 1517000121 | SAMPLE MATRIX | : AQUEOUS |
| PROJECT NAME | : JOHNSTON FED #4 | UNITS | : UG/L |

| PARAMETER | SAMPLE RESULT | CONC SPIKE | SPIKED SAMPLE | % REC | DUP SPIKE | DUP % REC | RPD | REC LIMITS | RPD LIMITS |
|---------------|---------------|------------|---------------|-------|-----------|-----------|-----|--------------|------------|
| BENZENE | <0.5 | 20.0 | 19.1 | 96 | 19.4 | 97 | 2 | (80 - 120) | 20 |
| TOLUENE | <0.5 | 20.0 | 20.0 | 100 | 20.8 | 104 | 4 | (80 - 120) | 20 |
| ETHYLBENZENE | <0.5 | 20.0 | 20.3 | 102 | 20.9 | 105 | 3 | (80 - 120) | 20 |
| TOTAL XYLENES | <1.0 | 60.0 | 62.9 | 105 | 64.6 | 108 | 3 | (80 - 120) | 20 |

CHEMIST NOTES:
 N/A

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

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



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

GAS CHROMATOGRAPHY QUALITY CONTROL
 LCS/LCSD

| | | | |
|--------------|------------------------------|----------------|------------|
| TEST | : EPA 8021 MODIFIED | PINNACLE I.D. | : 206031 |
| BATCH # | : 061002 | DATE EXTRACTED | : N/A |
| CLIENT | : AMEC EARTH & ENVIRONMENTAL | DATE ANALYZED | : 06/10/02 |
| PROJECT # | : 1517000121 | SAMPLE MATRIX | : AQUEOUS |
| PROJECT NAME | : JOHNSTON FED #4 | UNITS | : UG/L |

| PARAMETER | SAMPLE RESULT | CONC SPIKE | SPIKED SAMPLE | % REC | DUP SPIKE | DUP % REC | RPD | REC LIMITS | RPD LIMITS |
|---------------|---------------|------------|---------------|-------|-----------|-----------|-----|--------------|------------|
| BENZENE | <0.5 | 20.0 | 19.1 | 96 | 18.9 | 95 | 1 | (80 - 120) | 20 |
| TOLUENE | <0.5 | 20.0 | 20.0 | 100 | 19.8 | 99 | 1 | (80 - 120) | 20 |
| ETHYLBENZENE | <0.5 | 20.0 | 20.3 | 102 | 20.1 | 101 | 1 | (80 - 120) | 20 |
| TOTAL XYLENES | <1.0 | 60.0 | 62.8 | 105 | 62.3 | 104 | 1 | (80 - 120) | 20 |

CHEMIST NOTES:
 N/A

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

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

PINNACLE
LABORATORIES

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

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

| | | | |
|--------------|------------------------------|----------------|------------|
| TEST | : EPA 8021 MODIFIED | PINNACLE I.D. | : 206031 |
| MSMSD # | : 206037-01 | DATE EXTRACTED | : N/A |
| CLIENT | : AMEC EARTH & ENVIRONMENTAL | DATE ANALYZED | : 06/09/02 |
| PROJECT # | : 1517000121 | SAMPLE MATRIX | : AQUEOUS |
| PROJECT NAME | : JOHNSTON FED #4 | UNITS | : UG/L |

| PARAMETER | SAMPLE RESULT | CONC SPIKE | SPIKED SAMPLE | % REC | DUP SPIKE | DUP % REC | RPD | REC LIMITS | RPD LIMITS |
|---------------|---------------|------------|---------------|-------|-----------|-----------|-----|--------------|------------|
| BENZENE | <0.5 | 20.0 | 19.4 | 97 | 19.2 | 96 | 1 | (80 - 120) | 20 |
| TOLUENE | <0.5 | 20.0 | 20.4 | 102 | 20.4 | 102 | 0 | (80 - 120) | 20 |
| ETHYLBENZENE | <0.5 | 20.0 | 20.8 | 104 | 20.6 | 103 | 1 | (80 - 120) | 20 |
| TOTAL XYLENES | <1.0 | 60.0 | 64.3 | 107 | 64.2 | 107 | 0 | (80 - 120) | 20 |

CHEMIST NOTES:
N/A

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

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

SHADED AREAS ARE FOR LAB USE ONLY

PROJECT MANAGER: **LISA WINN**

COMPANY: **AMEC**

ADDRESS: **2060 AFTON PLACE**
FARMINGTON N.M. 87401

PHONE: **(505) 322-7928**

FAX: **(505) 326**

BILL TO: **SCOTT POPE**

COMPANY: **El Paso Field Services**

ADDRESS: **614 Reilly AVE**
FARMINGTON N.M. 87401

ANALYSIS REQUEST

| ANALYSIS REQUEST | NUMBER OF CONTAINERS |
|--|----------------------|
| Petroleum Hydrocarbons (418.1) TRPH | |
| (MOD.8015) Diesel/Direct Inject | |
| (M8015) Gas/Purge & Trap | |
| 8021 (BTEX) (Gasoline) MIBK | X |
| 8021 (BTEX) <input type="checkbox"/> MTBE <input type="checkbox"/> PCE | |
| 8021 (TCL) | |
| 8021 (EDX) | |
| 8021 (HALO) | |
| 8021 (CUST) | |
| 504.1 EDB <input type="checkbox"/> / DBCP <input type="checkbox"/> | |
| 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: | |

| SAMPLE ID | DATE | TIME | MATRIX | LAB/ID |
|---------------|--------|------|------------------|--------|
| JOH-0206-MW 2 | 6-3-02 | 1100 | H ₂ O | 0 |

| | | |
|---------------------------------|---|---|
| PROJECT INFORMATION | RELINQUISHED BY: | RELINQUISHED BY: |
| PROJ. NO.: 15170001-1 | Signature: Chris A. Metz | Signature: Chris A. Metz |
| PROJ. NAME: EPFS 614.101 | Time: 1430 | Time: 1430 |
| P.O. NO.: | Date: 6/6/02 | Date: 6/6/02 |
| SHIPPED VIA: Greyhound | Company: AMEC | Company: AMEC |
| SAMPLE RECEIPT | See reverse side (For signature) | See reverse side (For signature) |
| NO CONTAINERS | RECEIVED BY: | RECEIVED BY (LAB) |
| CUSTOMY SEALS | Signature: Paul Woods | Signature: Paul Woods |
| RECEIVED IN CONTACT | Date: 6/6/02 | Date: 6/6/02 |
| BLUES/STICKS | Company: Pinnacle Laboratories, Inc. | Company: Pinnacle Laboratories, Inc. |

COMMENTS: **FIXED FEE**

JOHNSTON FED #4

MeTex # (20194)

PLEASE FILL THIS FORM IN COMPLETELY.

ATTACHMENT 2
FIELD DOCUMENTATION

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
 Project Manager: Delbert Felix
 Client Company: MWH
 Site Name: Johnston Federal 4

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-1 | 1100 | 50.83 | 50.60 | 57.025 | .23 | 160z | |
| MW-3 | | 50.95 | 50.25 | 59.44 | .700 | 1.5 gal. | |
| MW-2 | 1120 | 49.42 | — | 53.600 | — | ∅ | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

COMMENTS:

MW-3 - Bailed 11 gallons of water + product. oily + thick. greyish black in color. 1.5 gallon of product removed. Water clear after product removed. light yellow product.

MW-1 - grey in color, oily + thick water. water clear after finish bailing

Signature: Delbert Felix Date: 12/12/02

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
 Project Manager: Ashley Lowe
 Client Company: MWH
 Site Name: Johnston Federal 4

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-2 | 9:44 | 49.270 | — | 53.600 | — | 0 | |
| MW-1 | 10:26 | 50.700 | 50.505 | 57.025 | 0.195 | 20oz | also bailed 1.5 gal v. black silty water |
| MW-3 | 9:50 | 50.792 | 50.115 | 59.443 | 0.677 | 32oz | also bailed 2 gal of black silty water |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

COMMENTS:
MW-1: stopped bailing after water turned clear again; v. light yellow product
MW-3: gray silt on bottom of probe, collected ~2 gal of black, v. odorous silt. Stopped bailing when bailed water turned clear

Signature: Ashley R Lowe Date: 09/10/02

