

**3R - 384**

**2007 AGWMR**

**JAN 2008**

**XTO ENERGY INC.**

***ANNUAL GROUNDWATER REPORT***

***2007***

***HARE GAS COM B #1E  
(G) SECTION 23 – T29N – R11W, NMPM  
SAN JUAN COUNTY, NEW MEXICO***

***PREPARED FOR:  
MR. GLENN VON GONTEN  
NEW MEXICO OIL CONSERVATION DIVISION***

***January 2008***

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| Attachment 2:  | Pit Assessment/Closure Report (05-06/1992) |

# 2007 XTO GROUNDWATER REPORT

## HARE GAS COM B #1E

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### SITE DETAILS

|                          |          |                |         |
|--------------------------|----------|----------------|---------|
| LEGALS - TWN: 29N        | RNG: 11W | SEC: 23        | UNIT: E |
| NMOCD HAZARD RANKING: 30 |          | LAND TYPE: FEE |         |

---

### PREVIOUS ACTIVITIES

Excavation: Jun-92 (20 CY)

Monitoring Wells: Oct & Dec-99

Quarterly Sampling Initiated: Dec-99

### SITE MAP

A site map is presented as Figure 1.

### SUMMARY TABLES

A summary of laboratory results from historical and current groundwater monitoring is presented as Table 1. A summary of general water chemistry from 1999 is presented as Table 2. Copies of the laboratory data sheets and associated quality assurance/quality control data for 2006 and 2007 are presented as Attachment 1.

### POTENTIOMETRIC SURFACE DIAGRAMS

Field data collected during site monitoring activities indicate a groundwater gradient that trends towards the south with a slight southwest component. Figures 2 - 5 illustrate the estimated groundwater gradients for 2006 and 2007.

### ANNUAL GROUNDWATER REMEDIATION REPORTS

Previous groundwater reports submitted to New Mexico Oil Conservation Division (NMOCD) in 2005 and 2006 recommended quarterly sampling of the groundwater monitoring wells, in accordance with the NMOCD approved Groundwater Management Plan.

### 2007 ACTIVITIES

Quarterly groundwater samples were collected from monitoring wells MW-1, MW-2, and MW-3 during the first and second quarters of 2007. Analytical results demonstrate benzene, toluene, ethyl benzene, and total xylenes (BTEX) constituents in groundwater are not detectable for four (4) consecutive quarters.

### GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Bore/Test Hole Reports are presented as Figures 6 - 8 representing drilling that occurred on site in October and December 1999.

### DISPOSITION OF GENERATED WASTES

Waste generated (groundwater) during monitoring well sampling and development was placed in the produced water tank located on the well site.

### CONCLUSIONS

January 1998 XTO Energy Inc. (XTO) acquired the Hare Gas Com B #1E from Amoco Production Company. XTO understands the initial evaluation of groundwater impact came from samples of groundwater collected in test holes during the initial pit

## **2007 XTO GROUNDWATER REPORT**

assessment phase (Attachment 2). In 1999 three groundwater monitoring wells were installed to delineate the extent of hydrocarbon impact to groundwater. Monitoring well numbered MW-2 was installed near the source area. Monitoring well numbered MW-1 was installed up gradient and monitoring well numbered MW-3 was located down gradient of the source area. Laboratory analysis of groundwater during the 1999 sample event show trace and slightly elevated levels of BTEX constituents. Subsequent samples collected in February and June of 2000 indicate no detectable levels of BTEX. In May 2001 XTO submitted request for site closure. Correspondence from NMOCD in 2001 requested four (4) consecutive quarters of testing in compliance with XTO's Groundwater Management Plan.

Groundwater analytical data from MW-1, MW-2, and MW-3 for four (4) consecutive quarters have demonstrated no detectable levels of BTEX constituents and New Mexico Water Quality Control Commission (NMWQCC) standards have been met. The quarterly sampling has confirmed no rebound of BTEX constituents has occurred, therefore, XTO requests closure of this site.

### **RECOMMENDATIONS**

- XTO requests closure of this site.
- Following OCD approval for closure, all monitoring well locations will be abandoned in accordance with the monitoring well abandonment plan.

**TABLE 1**

**XTO ENERGY INC. GROUNDWATER LAB RESULTS**

|                                    |
|------------------------------------|
| <b>HARE GC B #1E</b>               |
| <b>UNIT E, SEC. 23, T29N, R11W</b> |

| Sample Date                         | Monitor Well No. | DTW (ft) | TD (ft) | Product (ft) | Benzene ug/L | Toluene ug/L | Ethyl Benzene ug/L | Total Xylene ug/L |
|-------------------------------------|------------------|----------|---------|--------------|--------------|--------------|--------------------|-------------------|
| 9-Dec-99                            | MW #1            | 5.33     | 18      |              | 2.1          | 7.3          | 3.8                | 10.5              |
| 21-Feb-00                           |                  | 5.47     |         |              | -            | -            | -                  | -                 |
| 21-Jun-00                           |                  | 3.42     |         |              | -            | -            | -                  | -                 |
| 13-Jul-06                           |                  | 3.28     | 12.28   |              | ND           | ND           | ND                 | ND                |
| 13-Oct-06                           |                  | 4.25     | 12.28   |              | ND           | ND           | ND                 | ND                |
| 18-Jan-07                           |                  | 5.46     | 12.28   |              | ND           | ND           | ND                 | ND                |
| 11-Apr-07                           |                  | 5.53     | 12.28   |              | ND           | ND           | ND                 | ND                |
|                                     |                  |          |         |              |              |              |                    |                   |
| 9-Dec-99                            | MW #2            | 6.99     | 18      |              | 9            | 8.7          | 5.3                | 10.7              |
| 21-Feb-00                           |                  | 7.47     |         |              | ND           | ND           | ND                 | ND                |
| 21-Jun-00                           |                  | 5.7      |         |              | ND           | ND           | ND                 | ND                |
| 13-Jul-06                           |                  | 5.58     | 16.39   |              | ND           | ND           | ND                 | ND                |
| 13-Oct-06                           |                  | 6.06     | 16.39   |              | ND           | ND           | ND                 | ND                |
| 18-Jan-07                           |                  | 6.99     | 16.39   |              | ND           | ND           | ND                 | ND                |
| 11-Apr-07                           |                  | 7.28     | 16.39   |              | ND           | ND           | ND                 | ND                |
|                                     |                  |          |         |              |              |              |                    |                   |
| 9-Dec-99                            | MW #3            | 5.31     | 17      |              | 5.7          | 5.3          | 2.8                | 4.3               |
| 21-Feb-00                           |                  | 5.61     |         |              | ND           | ND           | ND                 | ND                |
| 21-Jun-00                           |                  | 4.19     |         |              | ND           | ND           | ND                 | ND                |
| 13-Jul-06                           |                  | 4.09     | 14.35   |              | ND           | ND           | ND                 | ND                |
| 13-Oct-06                           |                  | 4.39     | 14.35   |              | ND           | ND           | ND                 | ND                |
| 18-Jan-07                           |                  | 5.23     | 14.35   |              | ND           | ND           | ND                 | ND                |
| 11-Apr-07                           |                  | 5.4      | 14.35   |              | ND           | ND           | ND                 | ND                |
|                                     |                  |          |         |              |              |              |                    |                   |
| <b>NMWQCC GROUNDWATER STANDARDS</b> |                  |          |         |              | 10           | 750          | 750                | 620               |

TABLE 2

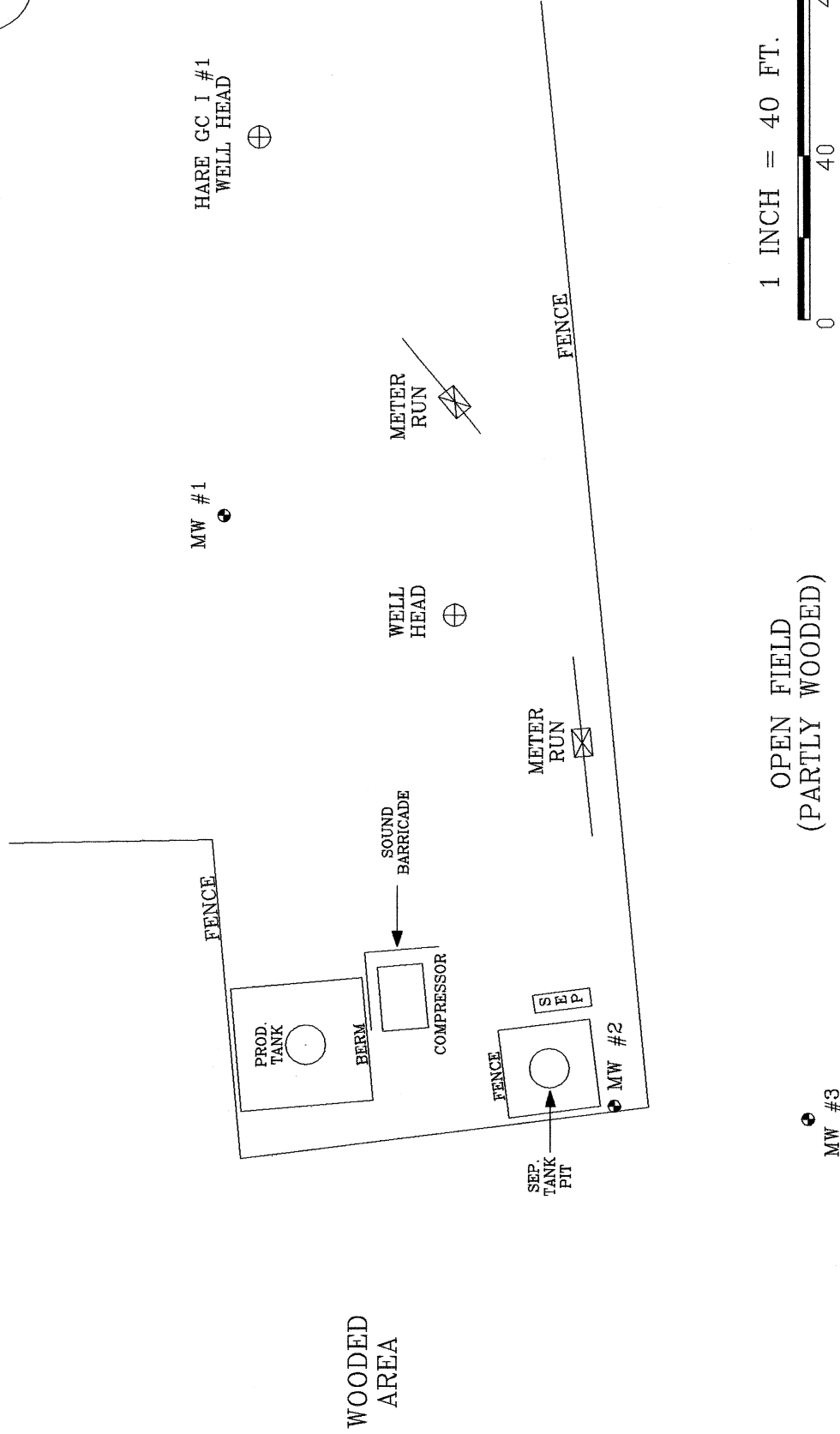
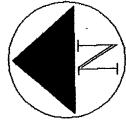
## XTO ENERGY INC. GROUNDWATER LAB RESULTS

|                                                                           |
|---------------------------------------------------------------------------|
| <b>HARE GC B #1E- SEPARATOR PIT</b><br><b>UNIT E, SEC. 23, T29N, R11W</b> |
|---------------------------------------------------------------------------|

Sample Date: December 9, 1999

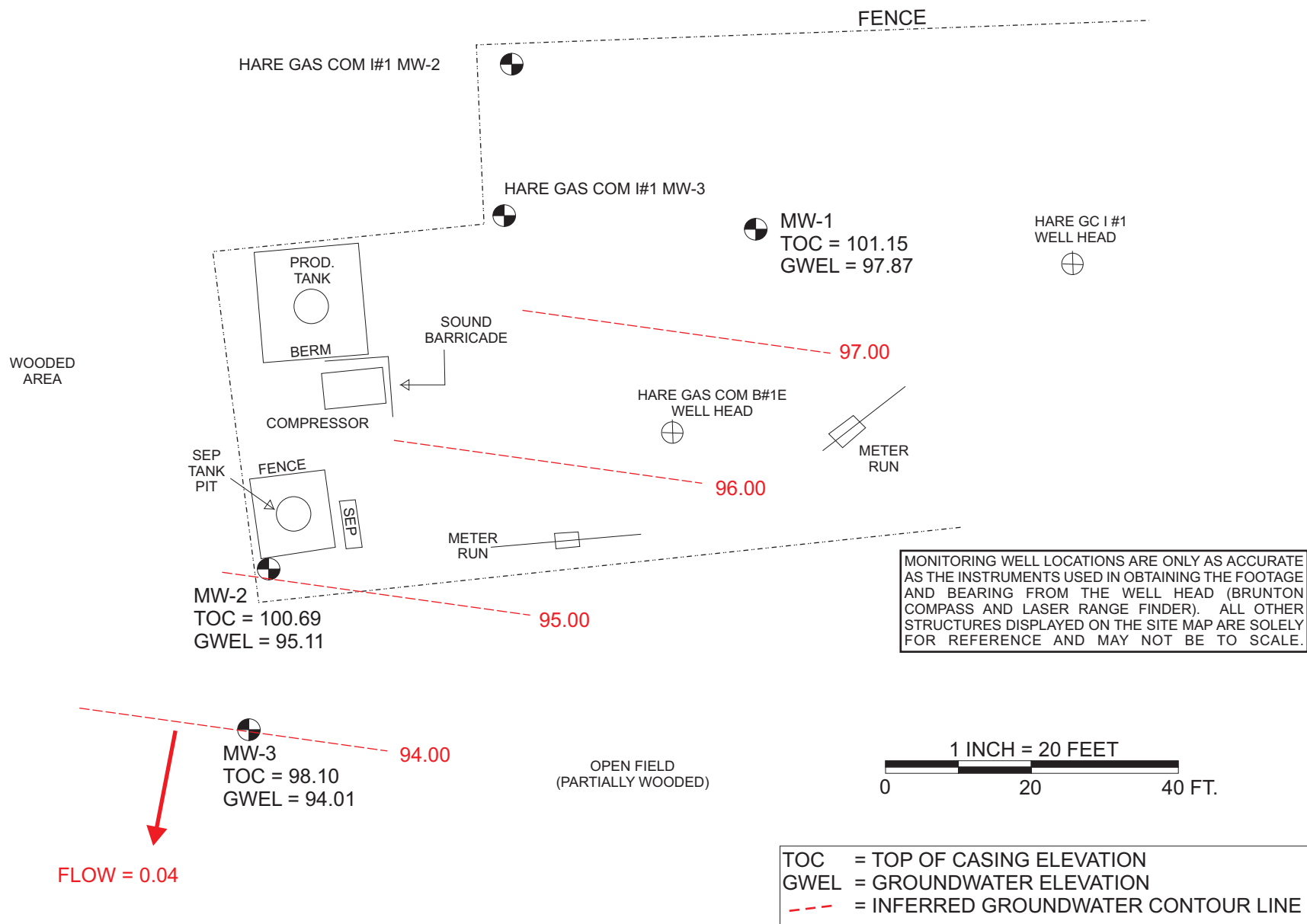
| PARAMETERS                            | MW #1  | MW #2 | MW #3 | UNITS    |
|---------------------------------------|--------|-------|-------|----------|
| LAB Ph                                | 6.91   | 7.00  | 6.95  | s.u.     |
| LAB CONDUCTIVITY @ 25 C               | 10,320 | 7,020 | 6,770 | umhos/cm |
| TOTAL DISSOLVED SOLIDS @ 180 C        | 5,150  | 3,500 | 3,380 | mg/L     |
| TOTAL DISSOLVED SOLIDS (Calc)         | 5,000  | 3,430 | 3,300 | mg/L     |
| SODIUM ABSORPTION RATIO               | 12.5   | 7.8   | 5.4   | ratio    |
| TOTAL ALKALINITY AS CaCO <sub>3</sub> | 404    | 372   | 400   | mg/L     |
| TOTAL HARDNESS AS CaCO <sub>3</sub>   | 1,360  | 1,200 | 1,440 | mg/L     |
| BICARBONATE AS HCO <sub>3</sub>       | 404    | 372   | 400   | mg/L     |
| CARBONATE AS CO <sub>3</sub>          | < 0.1  | < 0.1 | < 0.1 | mg/L     |
| HYDROXIDE AS OH                       | < 0.1  | < 0.1 | < 0.1 | mg/L     |
| NITRATE NITROGEN                      | < 0.1  | < 0.1 | < 0.1 | mg/L     |
| NITRITE NITROGEN                      | 0.004  | 0.003 | 0.004 | mg/L     |
| CHLORIDE                              | 28     | 26    | 17.4  | mg/L     |
| FLUORIDE                              | 1.33   | 1.22  | 1.22  | mg/L     |
| PHOSPHATE                             | < 0.1  | 0.2   | 0.6   | mg/L     |
| SULFATE                               | 3,150  | 2,110 | 2,020 | mg/L     |
| IRON                                  | 0.004  | 0.001 | 0.015 | mg/L     |
| CALCIUM                               | 475    | 402   | 512   | mg/L     |
| MAGNESIUM                             | 41     | 46.2  | 38.6  | mg/L     |
| POTASSIUM                             | 3.5    | 0.9   | 0.7   | mg/L     |
| SODIUM                                | 1,060  | 620   | 470   | mg/L     |
| CATION/ANION DIFFERENCE               | 0.29   | 0.08  | 0     | %        |

# FIGURE 1



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

|                                                                                                            |                                                                                                                                                           |                                                                          |                           |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|---------------------------|
| <p>XTO ENERGY INC.<br/>HARE GC B #1E<br/>SW/4 NW/4 SEC. 23, T29N, R11W<br/>SAN JUAN COUNTY, NEW MEXICO</p> | <p>BLAGG ENGINEERING, INC.<br/>CONSULTING PETROLEUM / RECLAMATION SERVICES<br/>P.O. BOX 87<br/>BLOOMFIELD, NEW MEXICO 87413<br/>PHONE: (505) 632-1199</p> | <p>PROJECT: MW INSTALL.<br/>DRAWN BY: NJV<br/>FILENAME: H-B1E-SM.SKD</p> | <p>SITE MAP<br/>12/99</p> |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|---------------------------|

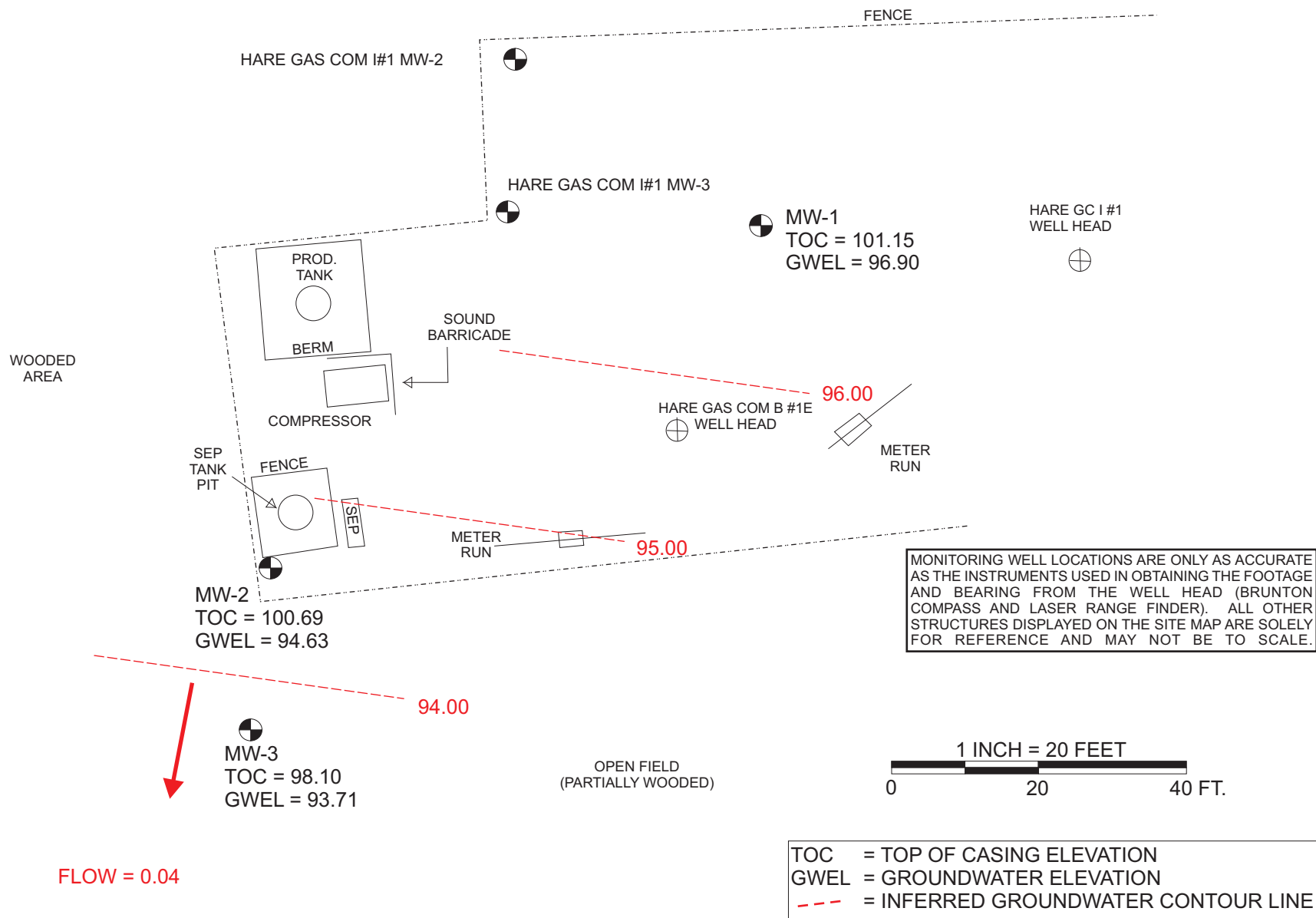


Lodestar Services, Inc  
PO Box 3861  
Farmington, NM 87499

HARE GAS COM B #1E  
SW/4 NW/4 SEC. 23, T29N, R11W  
SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER  
DRAWN BY: ALA  
REVISED: 12/01/06

FIGURE 2  
GROUNDWATER GRADIENT MAP  
07/13/2006

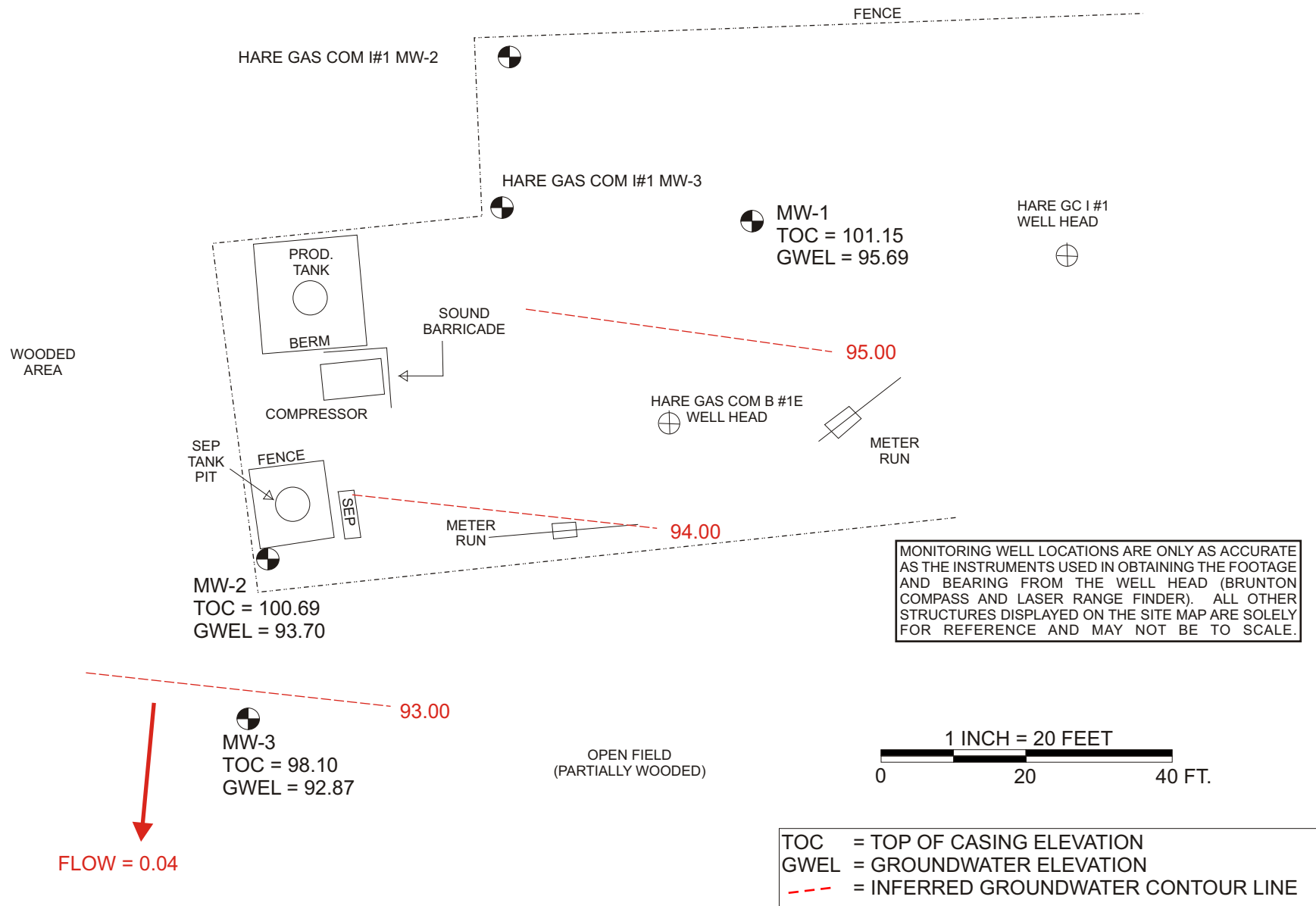


Lodestar Services, Inc  
PO Box 3861  
Farmington, NM 87499

HARE GAS COM B #1E  
SW/4 NW/4 SEC. 23, T29N, R11W  
SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER  
DRAWN BY: ALA  
REVISED: 12/01/06

FIGURE 3  
GROUNDWATER GRADIENT MAP  
10/13/2006

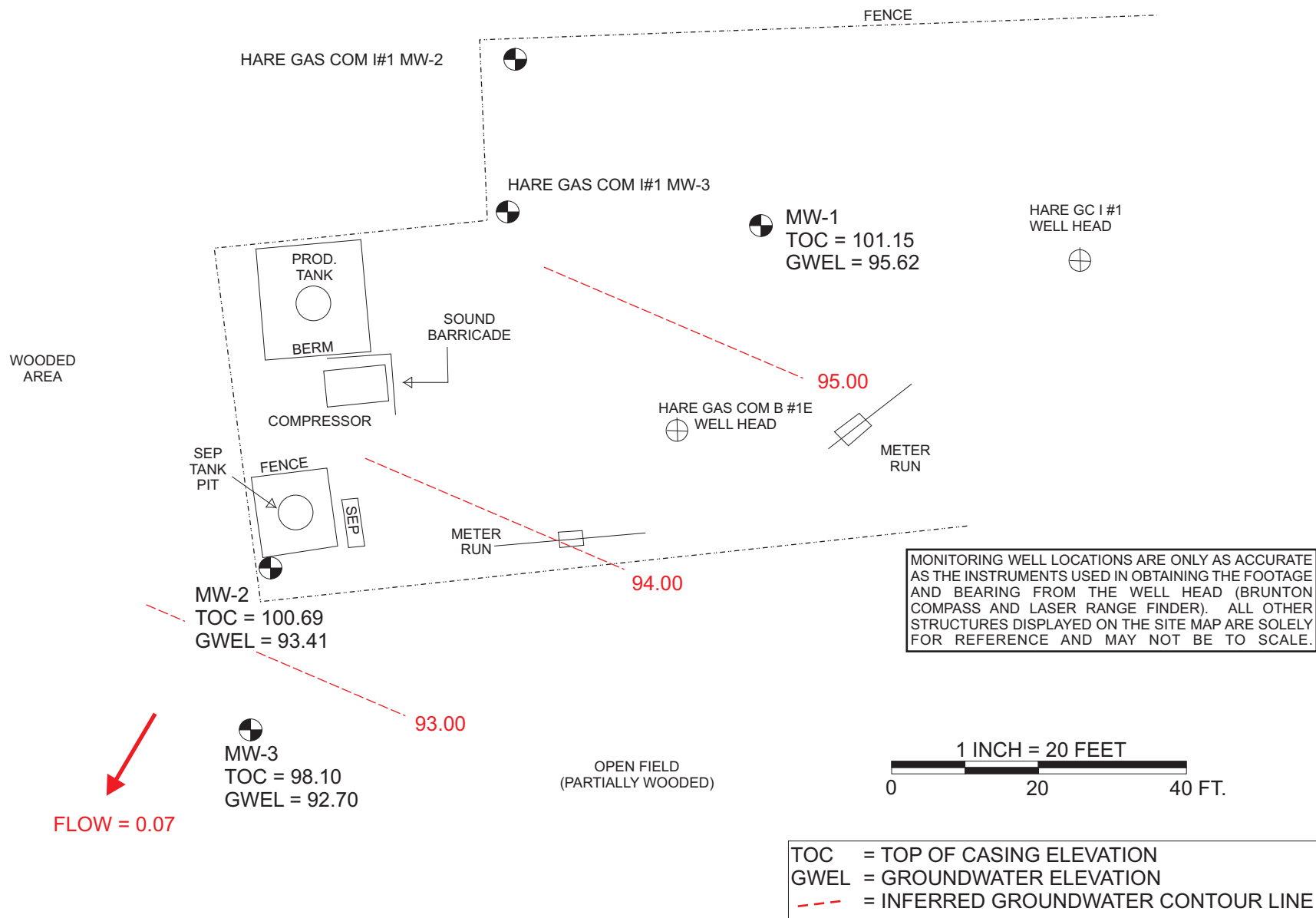


Lodestar Services, Inc  
PO Box 3861  
Farmington, NM 87499

HARE GAS COM B #1E  
SW/4 NW/4 SEC. 23, T29N, R11W  
SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER  
DRAWN BY: ALA  
REVISED: 01/19/07

GROUNDWATER GRADIENT MAP  
01/18/2007  
FIGURE 4



Lodestar Services, Inc  
PO Box 3861  
Farmington, NM 87499

HARE GAS COM B #1E  
SW/4 NW/4 SEC. 23, T29N, R11W  
SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER  
DRAWN BY: ALA  
REVISED: 04/12/07

GROUNDWATER GRADIENT MAP  
04/11/2007  
FIGURE 5

FIGURE 6

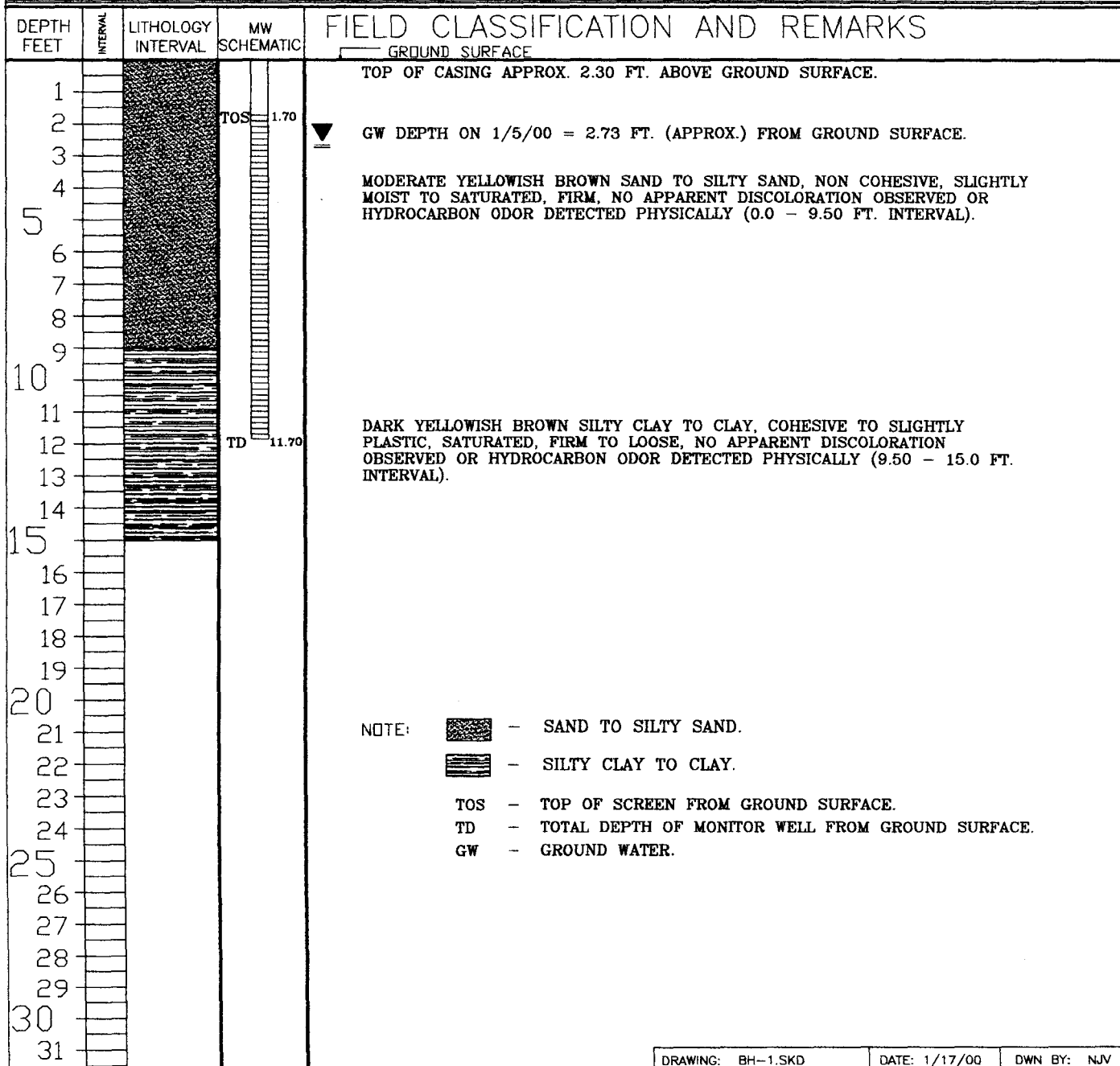
# BLAGG ENGINEERING, Inc.

P.O. BOX 87  
BLOOMFIELD, NM 87413  
(505) 632-1199

## BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.  
LOCATION NAME: HARE GC B #1E  
CONTRACTOR: BLAGG ENGINEERING, INC.  
EQUIPMENT USED: MOBILE DRILL RIG ( EARTHPROBE )  
BORING LOCATION: 61 FT., N23.5E FEET FROM WELL HEAD.

BORING #..... BH - 1  
MW #..... 1  
PAGE #..... 1  
DATE STARTED 10/8/99  
DATE FINISHED 10/8/99  
OPERATOR..... REP  
PREPARED BY NJV



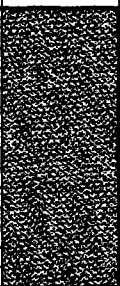
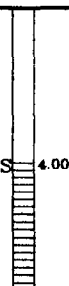
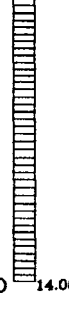
# BLAGG ENGINEERING, Inc.

P.O. BOX 87  
BLOOMFIELD, NM 87413  
(505) 632-1199

## BORE / TEST HOLE REPORT

BORING #..... BH - 2  
MW #..... 2  
PAGE #..... 2  
DATE STARTED 10/8/99  
DATE FINISHED 10/8/99  
OPERATOR..... REP  
PREPARED BY NJV

CLIENT: XTO ENERGY INC.  
LOCATION NAME: HARE GC B #1E  
CONTRACTOR: BLAGG ENGINEERING, INC.  
EQUIPMENT USED: MOBILE DRILL RIG ( EARTHPROBE )  
BORING LOCATION: 126 FT., S72W FEET FROM WELL HEAD.

| DEPTH<br>FEET  | INTERVAL | LITHOLOGY<br>INTERVAL                                                              | MW<br>SCHEMATIC                                                                    | FIELD CLASSIFICATION AND REMARKS                                                                                                                                                                        |
|----------------|----------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUND SURFACE |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 1              |          |   |   | TOP OF CASING APPROX. 2.00 FT. ABOVE GROUND SURFACE.                                                                                                                                                    |
| 2              |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 3              |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 4              |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 5              |          |                                                                                    |                                                                                    | MODERATE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.0 - 7.00 FT. INTERVAL).     |
| 6              |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 7              |          |                                                                                    |                                                                                    | GW DEPTH ON 1/5/00 = 5.03 FT. (APPROX.) FROM GROUND SURFACE.                                                                                                                                            |
| 8              |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 9              |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 10             |          |  |  | DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE TO SLIGHTLY PLASTIC, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (7.00 - 15.0 FT. INTERVAL). |
| 11             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 12             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 13             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 14             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 15             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 16             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 17             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 18             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 19             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 20             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 21             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 22             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 23             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 24             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 25             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 26             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 27             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 28             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 29             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 30             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |
| 31             |          |                                                                                    |                                                                                    |                                                                                                                                                                                                         |

NOTE:

-  - SAND TO SILTY SAND.
-  - SILTY CLAY TO CLAY.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: BH-2.SKD      DATE: 1/17/00      DWN BY: NJV

DRAWING: BH-2.SKD

DATE: 1/17/00

DWN BY: NJV

FIGURE 8

# BLAGG ENGINEERING, Inc.

P.O. BOX 87  
BLOOMFIELD, NM 87413  
(505) 632-1199

## BORE / TEST HOLE REPORT

BORING #..... BH - 3  
MW #..... 3  
PAGE #..... 3  
DATE STARTED 12/7/99  
DATE FINISHED 12/7/99  
OPERATOR..... REP  
PREPARED BY NJV

CLIENT: XTO ENERGY INC.  
LOCATION NAME: HARE GC B #1E  
CONTRACTOR: BLAGG ENGINEERING, INC.  
EQUIPMENT USED: MOBILE DRILL RIG ( EARTHPROBE )  
BORING LOCATION: 150 FT., S55W FEET FROM WELL HEAD.

| DEPTH<br>FEET | INTERVAL | LITHOLOGY<br>INTERVAL | MW<br>SCHEMATIC | FIELD CLASSIFICATION AND REMARKS                                                                                                                                                                        |
|---------------|----------|-----------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |          |                       |                 | GROUND SURFACE                                                                                                                                                                                          |
| 1             |          |                       |                 | TOP OF CASING APPROX. 2.10 FT. ABOVE GROUND SURFACE.                                                                                                                                                    |
| 2             |          |                       | TOS 1.90        | MODERATE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 4.00 FT. INTERVAL).    |
| 3             |          |                       |                 |                                                                                                                                                                                                         |
| 4             |          |                       |                 |                                                                                                                                                                                                         |
| 5             |          |                       |                 | ▼ GW DEPTH ON 1/5/00 = 5.03 FT. (APPROX.) FROM GROUND SURFACE.                                                                                                                                          |
| 6             |          |                       |                 |                                                                                                                                                                                                         |
| 7             |          |                       |                 |                                                                                                                                                                                                         |
| 8             |          |                       |                 |                                                                                                                                                                                                         |
| 9             |          |                       |                 | DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE TO SLIGHTLY PLASTIC, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (4.00 - 15.0 FT. INTERVAL). |
| 10            |          |                       |                 |                                                                                                                                                                                                         |
| 11            |          |                       |                 |                                                                                                                                                                                                         |
| 12            |          |                       | TD 11.90        |                                                                                                                                                                                                         |
| 13            |          |                       |                 |                                                                                                                                                                                                         |
| 14            |          |                       |                 |                                                                                                                                                                                                         |
| 15            |          |                       |                 |                                                                                                                                                                                                         |
| 16            |          |                       |                 |                                                                                                                                                                                                         |
| 17            |          |                       |                 |                                                                                                                                                                                                         |
| 18            |          |                       |                 |                                                                                                                                                                                                         |
| 19            |          |                       |                 |                                                                                                                                                                                                         |
| 20            |          |                       |                 |                                                                                                                                                                                                         |
| 21            |          |                       |                 |                                                                                                                                                                                                         |
| 22            |          |                       |                 |                                                                                                                                                                                                         |
| 23            |          |                       |                 |                                                                                                                                                                                                         |
| 24            |          |                       |                 |                                                                                                                                                                                                         |
| 25            |          |                       |                 |                                                                                                                                                                                                         |
| 26            |          |                       |                 |                                                                                                                                                                                                         |
| 27            |          |                       |                 |                                                                                                                                                                                                         |
| 28            |          |                       |                 |                                                                                                                                                                                                         |
| 29            |          |                       |                 |                                                                                                                                                                                                         |
| 30            |          |                       |                 |                                                                                                                                                                                                         |
| 31            |          |                       |                 |                                                                                                                                                                                                         |

NOTE:  - SAND TO SILTY SAND.

 - SILTY CLAY TO CLAY.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

GW - GROUND WATER.

DRAWING: BH-3.SKD

DATE: 1/17/00

DWN BY: NJV

## Hall Environmental Analysis Laboratory, Inc.

Date: 25-Jul-06

CLIENT: XTO Energy  
 Project: Ground Water  
 Lab Order: 0607173

Lab ID: 0607173-01  
 Client Sample ID: Hare GC B1E MW-1  
 Collection Date: 7/13/2006 12:28:00 PM  
 Matrix: AQUEOUS

| Analyses                    | Result | PQL      | Qual | Units | DF | Date Analyzed         |
|-----------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8021B: VOLATILES |        |          |      |       |    |                       |
| Benzene                     | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 10:28:00 AM |
| Toluene                     | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 10:28:00 AM |
| Ethylbenzene                | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 10:28:00 AM |
| Xylenes, Total              | ND     | 3.0      |      | µg/L  | 1  | 7/24/2006 10:28:00 AM |
| Surr: 4-Bromofluorobenzene  | 97.1   | 72.2-125 |      | %REC  | 1  | 7/24/2006 10:28:00 AM |

Analyst: NSB

Lab ID: 0607173-02  
 Client Sample ID: Hare GC B1E MW-2  
 Collection Date: 7/13/2006 12:47:00 PM  
 Matrix: AQUEOUS

| Analyses                    | Result | PQL      | Qual | Units | DF | Date Analyzed         |
|-----------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8021B: VOLATILES |        |          |      |       |    |                       |
| Benzene                     | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 10:57:05 AM |
| Toluene                     | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 10:57:05 AM |
| Ethylbenzene                | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 10:57:05 AM |
| Xylenes, Total              | ND     | 3.0      |      | µg/L  | 1  | 7/24/2006 10:57:05 AM |
| Surr: 4-Bromofluorobenzene  | 102    | 72.2-125 |      | %REC  | 1  | 7/24/2006 10:57:05 AM |

Analyst: NSB

Lab ID: 0607173-03  
 Client Sample ID: Hare GC B1E MW-3  
 Collection Date: 7/13/2006 1:10:00 PM  
 Matrix: AQUEOUS

| Analyses                    | Result | PQL      | Qual | Units | DF | Date Analyzed         |
|-----------------------------|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8021B: VOLATILES |        |          |      |       |    |                       |
| Benzene                     | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 11:26:01 AM |
| Toluene                     | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 11:26:01 AM |
| Ethylbenzene                | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 11:26:01 AM |
| Xylenes, Total              | ND     | 3.0      |      | µg/L  | 1  | 7/24/2006 11:26:01 AM |
| Surr: 4-Bromofluorobenzene  | 94.6   | 72.2-125 |      | %REC  | 1  | 7/24/2006 11:26:01 AM |

Analyst: NSB

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 25-Jul-06

**CLIENT:** XTO Energy  
**Project:** Ground Water**Lab Order:** 0607173**Lab ID:** 0607173-04  
**Client Sample ID:** 130706TB003**Collection Date:**  
**Matrix:** TRIP BLANK

| Analyses                           | Result | PQL      | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |          |      |       |    |                       |
| Benzene                            | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 11:55:04 AM |
| Toluene                            | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 11:55:04 AM |
| Ethylbenzene                       | ND     | 1.0      |      | µg/L  | 1  | 7/24/2006 11:55:04 AM |
| Xylenes, Total                     | ND     | 3.0      |      | µg/L  | 1  | 7/24/2006 11:55:04 AM |
| Surr: 4-Bromofluorobenzene         | 100    | 72.2-125 |      | %REC  | 1  | 7/24/2006 11:55:04 AM |

Analyst: NSB

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

## QA/QC SUMMARY REPORT

Client: XTO Energy  
Project: Ground Water

Work Order: 0607173

| Analyte | Result | Units | PQL | %Rec | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|

Method: SW8021

Sample ID: 5ML REAGENT BLA

MBLK

Batch ID: R20010

Analysis Date: 7/24/2006 9:17:45 AM

Benzene ND µg/L 1.0

Toluene ND µg/L 1.0

Ethylbenzene ND µg/L 1.0

Xylenes, Total ND µg/L 3.0

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R20010

Analysis Date: 7/24/2006 7:38:34 PM

Benzene 20.42 µg/L 1.0 102 85 115

Toluene 19.93 µg/L 1.0 99.7 85 118

Ethylbenzene 19.22 µg/L 1.0 96.1 85 116

Xylenes, Total 58.45 µg/L 3.0 97.4 85 119

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R20010

Analysis Date: 7/24/2006 8:07:32 PM

Benzene 20.28 µg/L 1.0 101 85 115 0.727 27

Toluene 19.96 µg/L 1.0 99.8 85 118 0.110 19

Ethylbenzene 19.75 µg/L 1.0 98.8 85 116 2.71 10

Xylenes, Total 60.35 µg/L 3.0 101 85 119 3.21 13

## Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

Date: 07-Nov-06

|            |                  |                   |                       |
|------------|------------------|-------------------|-----------------------|
| CLIENT:    | XTO Energy       | Client Sample ID: | Hare Gas Com BIE MW-1 |
| Lab Order: | 0610211          | Collection Date:  | 10/13/2006 8:00:00 AM |
| Project:   | XTO Ground Water | Date Received:    | 10/19/2006            |
| Lab ID:    | 0610211-01       | Matrix:           | AQUEOUS               |

| Analyses                              | Result | PQL      | Qual | Units | DF | Date Analyzed |
|---------------------------------------|--------|----------|------|-------|----|---------------|
| EPA METHOD 8260: VOLATILES SHORT LIST |        |          |      |       |    | Analyst: SMP  |
| Benzene                               | ND     | 1.0      |      | µg/L  | 1  | 10/21/2006    |
| Toluene                               | ND     | 1.0      |      | µg/L  | 1  | 10/21/2006    |
| Ethylbenzene                          | ND     | 1.0      |      | µg/L  | 1  | 10/21/2006    |
| Xylenes, Total                        | ND     | 3.0      |      | µg/L  | 1  | 10/21/2006    |
| Surr: 1,2-Dichloroethane-d4           | 94.8   | 69.9-130 |      | %REC  | 1  | 10/21/2006    |
| Surr: 4-Bromofluorobenzene            | 102    | 71.2-123 |      | %REC  | 1  | 10/21/2006    |
| Surr: Dibromofluoromethane            | 102    | 73.9-134 |      | %REC  | 1  | 10/21/2006    |
| Surr: Toluene-d8                      | 96.1   | 81.9-122 |      | %REC  | 1  | 10/21/2006    |

|             |                                                   |                                                      |
|-------------|---------------------------------------------------|------------------------------------------------------|
| Qualifiers: | * Value exceeds Maximum Contaminant Level         | B Analyte detected in the associated Method Blank    |
|             | E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
|             | J Analyte detected below quantitation limits      | MCL Maximum Contaminant Level                        |
|             | ND Not Detected at the Reporting Limit            | RL Reporting Limit                                   |
|             | S Spike recovery outside accepted recovery limits |                                                      |

**Hall Environmental Analysis Laboratory, Inc.**

Date: 07-Nov-06

**CLIENT:** XTO Energy  
**Lab Order:** 0610211  
**Project:** XTO Ground Water  
**Lab ID:** 0610211-02

**Client Sample ID:** Hare Gas Com BIE MW-2  
**Collection Date:** 10/13/2006 8:48:00 AM  
**Date Received:** 10/19/2006  
**Matrix:** AQUEOUS

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|------|-------|----|---------------|
|----------|--------|-----|------|-------|----|---------------|

**EPA METHOD 8260: VOLATILES SHORT LIST**

Analyst: SMP

|                             |      |          |  |      |   |            |
|-----------------------------|------|----------|--|------|---|------------|
| Benzene                     | ND   | 1.0      |  | µg/L | 1 | 10/21/2006 |
| Toluene                     | ND   | 1.0      |  | µg/L | 1 | 10/21/2006 |
| Ethylbenzene                | ND   | 1.0      |  | µg/L | 1 | 10/21/2006 |
| Xylenes, Total              | ND   | 3.0      |  | µg/L | 1 | 10/21/2006 |
| Surr: 1,2-Dichloroethane-d4 | 92.7 | 69.9-130 |  | %REC | 1 | 10/21/2006 |
| Surr: 4-Bromofluorobenzene  | 102  | 71.2-123 |  | %REC | 1 | 10/21/2006 |
| Surr: Dibromofluoromethane  | 101  | 73.9-134 |  | %REC | 1 | 10/21/2006 |
| Surr: Toluene-d8            | 95.0 | 81.9-122 |  | %REC | 1 | 10/21/2006 |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 07-Nov-06

|                   |                  |                          |                       |
|-------------------|------------------|--------------------------|-----------------------|
| <b>CLIENT:</b>    | XTO Energy       | <b>Client Sample ID:</b> | Hare Gas Com BIE MW-3 |
| <b>Lab Order:</b> | 0610211          | <b>Collection Date:</b>  | 10/13/2006 8:59:00 AM |
| <b>Project:</b>   | XTO Ground Water | <b>Date Received:</b>    | 10/19/2006            |
| <b>Lab ID:</b>    | 0610211-03       | <b>Matrix:</b>           | AQUEOUS               |

| Analyses                                     | Result | PQL      | Qual | Units | DF | Date Analyzed |
|----------------------------------------------|--------|----------|------|-------|----|---------------|
| <b>EPA METHOD 8260: VOLATILES SHORT LIST</b> |        |          |      |       |    | Analyst: SMP  |
| Benzene                                      | ND     | 1.0      |      | µg/L  | 1  | 10/21/2006    |
| Toluene                                      | ND     | 1.0      |      | µg/L  | 1  | 10/21/2006    |
| Ethylbenzene                                 | ND     | 1.0      |      | µg/L  | 1  | 10/21/2006    |
| Xylenes, Total                               | ND     | 3.0      |      | µg/L  | 1  | 10/21/2006    |
| Surr: 1,2-Dichloroethane-d4                  | 92.3   | 69.9-130 |      | %REC  | 1  | 10/21/2006    |
| Surr: 4-Bromofluorobenzene                   | 101    | 71.2-123 |      | %REC  | 1  | 10/21/2006    |
| Surr: Dibromofluoromethane                   | 100    | 73.9-134 |      | %REC  | 1  | 10/21/2006    |
| Surr: Toluene-d8                             | 95.1   | 81.9-122 |      | %REC  | 1  | 10/21/2006    |

|                    |                                                   |                                                      |
|--------------------|---------------------------------------------------|------------------------------------------------------|
| <b>Qualifiers:</b> | * Value exceeds Maximum Contaminant Level         | B Analyte detected in the associated Method Blank    |
|                    | E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
|                    | J Analyte detected below quantitation limits      | MCL Maximum Contaminant Level                        |
|                    | ND Not Detected at the Reporting Limit            | RL Reporting Limit                                   |
|                    | S Spike recovery outside accepted recovery limits |                                                      |

# Hall Environmental Analysis Laboratory, Inc.

Date: 07-Nov-06

CLIENT: XTO Energy  
Lab Order: 0610211  
Project: XTO Ground Water  
Lab ID: 0610211-08

Client Sample ID: 16102006TB01  
Collection Date:  
Date Received: 10/19/2006  
Matrix: AQUEOUS

| Analyses                              | Result | PQL      | Qual | Units | DF | Date Analyzed |
|---------------------------------------|--------|----------|------|-------|----|---------------|
| EPA METHOD 8260: VOLATILES SHORT LIST |        |          |      |       |    | Analyst: SMP  |
| Benzene                               | ND     | 1.0      |      | µg/L  | 1  | 10/23/2006    |
| Toluene                               | ND     | 1.0      |      | µg/L  | 1  | 10/23/2006    |
| Ethylbenzene                          | ND     | 1.0      |      | µg/L  | 1  | 10/23/2006    |
| Xylenes, Total                        | ND     | 3.0      |      | µg/L  | 1  | 10/23/2006    |
| Surr: 1,2-Dichloroethane-d4           | 90.4   | 69.9-130 |      | %REC  | 1  | 10/23/2006    |
| Surr: 4-Bromofluorobenzene            | 103    | 71.2-123 |      | %REC  | 1  | 10/23/2006    |
| Surr: Dibromofluoromethane            | 97.7   | 73.9-134 |      | %REC  | 1  | 10/23/2006    |
| Surr: Toluene-d8                      | 93.7   | 81.9-122 |      | %REC  | 1  | 10/23/2006    |

Qualifiers: \* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

## QA/QC SUMMARY REPORT

Client: XTO Energy  
Project: XTO Ground Water

Work Order: 0610211

| Analyte | Result | Units | PQL | %Rec | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|

Method: E300

Sample ID: MBLK

MBLK

Batch ID: R21108 Analysis Date: 10/19/2006 11:42:41 AM

Fluoride ND mg/L 0.10  
Chloride ND mg/L 0.10  
Bromide ND mg/L 0.10  
Nitrate (As N)+Nitrite (As N) ND mg/L 0.10  
Phosphorus, Orthophosphate (As P) ND mg/L 0.50  
Sulfate ND mg/L 0.50

Sample ID: MBLK

MBLK

Batch ID: R21130 Analysis Date: 10/20/2006 10:58:33 AM

Fluoride ND mg/L 0.10  
Chloride ND mg/L 0.10  
Bromide ND mg/L 0.10  
Nitrate (As N)+Nitrite (As N) ND mg/L 0.10  
Phosphorus, Orthophosphate (As P) ND mg/L 0.50  
Sulfate ND mg/L 0.50

Sample ID: LCS ST300-06008

LCS

Batch ID: R21108 Analysis Date: 10/19/2006 12:00:05 PM

Fluoride 0.5223 mg/L 0.10 104 90 110  
Chloride 4.928 mg/L 0.10 98.6 90 110  
Bromide 2.561 mg/L 0.10 102 90 110  
Nitrate (As N)+Nitrite (As N) 3.444 mg/L 0.10 98.4 90 110  
Phosphorus, Orthophosphate (As P) 5.087 mg/L 0.50 102 90 110  
Sulfate 9.862 mg/L 0.50 98.6 90 110

Sample ID: LCS ST300-06008

LCS

Batch ID: R21130 Analysis Date: 10/20/2006 11:15:58 AM

Fluoride 0.5133 mg/L 0.10 103 90 110  
Chloride 4.818 mg/L 0.10 96.4 90 110  
Bromide 2.445 mg/L 0.10 97.8 90 110  
Nitrate (As N)+Nitrite (As N) 3.467 mg/L 0.10 99.1 90 110  
Phosphorus, Orthophosphate (As P) 4.875 mg/L 0.50 97.5 90 110  
Sulfate 9.612 mg/L 0.50 96.1 90 110

Method: E310.1

Sample ID: MB

MBLK

Batch ID: R21146 Analysis Date: 10/24/2006

Alkalinity, Total (As CaCO3) ND mg/L CaC 2.0  
Carbonate ND mg/L CaC 2.0  
Bicarbonate ND mg/L CaC 2.0

## Qualifiers:

E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: XTO Energy  
Project: XTO Ground Water

Work Order: 0610211

| Analyte | Result | Units | PQL | %Rec | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|

Method: SW8310

Sample ID: 0610211-07BMSD

MSD

Batch ID: 11533

Analysis Date: 11/2/2006 6:34:13 AM

|                        |        |      |       |       |      |      |      |      |    |
|------------------------|--------|------|-------|-------|------|------|------|------|----|
| Naphthalene            | 314.5  | µg/L | 2.5   | 15.2  | 33.9 | 87.9 | 6.44 | 37.6 | SE |
| 1-Methylnaphthalene    | 140.4  | µg/L | 2.5   | 36.5  | 35.2 | 85   | 3.49 | 35.4 | E  |
| 2-Methylnaphthalene    | 266.5  | µg/L | 2.5   | 0.340 | 33.7 | 83.9 | 4.37 | 36.7 | SE |
| Acenaphthylene         | 19.41  | µg/L | 2.5   | 48.4  | 47.8 | 85.4 | 2.36 | 30.5 |    |
| Acenaphthene           | 28.99  | µg/L | 2.5   | 72.5  | 42.2 | 86.6 | 5.45 | 29.7 |    |
| Fluorene               | 7.901  | µg/L | 0.040 | 63.3  | 47.3 | 85.1 | 4.74 | 25.2 |    |
| Phenanthrene           | 5.291  | µg/L | 0.020 | 31.7  | 53.5 | 97.3 | 6.58 | 19.2 | S  |
| Anthracene             | 1.648  | µg/L | 0.020 | 82.0  | 53.6 | 93.7 | 7.14 | 18.9 |    |
| Fluoranthene           | 3.290  | µg/L | 0.30  | 82.0  | 60.1 | 98.5 | 8.36 | 14.6 |    |
| Pyrene                 | 3.399  | µg/L | 0.30  | 84.8  | 57.5 | 108  | 3.87 | 14.7 |    |
| Benz(a)anthracene      | 0.3570 | µg/L | 0.020 | 89.0  | 57.7 | 106  | 3.85 | 15.3 |    |
| Chrysene               | 1.739  | µg/L | 0.20  | 86.5  | 59.1 | 112  | 4.28 | 13.7 |    |
| Benzo(b)fluoranthene   | 0.4230 | µg/L | 0.050 | 79.6  | 58.8 | 102  | 11.6 | 15   |    |
| Benzo(k)fluoranthene   | 0.2210 | µg/L | 0.020 | 88.4  | 58.8 | 100  | 5.71 | 15.9 |    |
| Benzo(a)pyrene         | 0.2040 | µg/L | 0.020 | 81.3  | 49.7 | 109  | 8.45 | 20   |    |
| Dibenz(a,h)anthracene  | 0.4340 | µg/L | 0.040 | 86.6  | 54.1 | 111  | 2.73 | 14.3 |    |
| Benzo(g,h,i)perylene   | 0.4460 | µg/L | 0.030 | 89.2  | 51.3 | 111  | 3.74 | 14.3 |    |
| Indeno(1,2,3-cd)pyrene | 0.7990 | µg/L | 0.080 | 79.7  | 55   | 99.9 | 6.42 | 15   |    |

Sample ID: MB-11533

MBLK

Batch ID: 11533

Analysis Date: 11/1/2006 11:22:21 PM

|                        |    |      |       |  |  |  |  |  |  |
|------------------------|----|------|-------|--|--|--|--|--|--|
| Naphthalene            | ND | µg/L | 2.5   |  |  |  |  |  |  |
| 1-Methylnaphthalene    | ND | µg/L | 2.5   |  |  |  |  |  |  |
| 2-Methylnaphthalene    | ND | µg/L | 2.5   |  |  |  |  |  |  |
| Acenaphthylene         | ND | µg/L | 2.5   |  |  |  |  |  |  |
| Acenaphthene           | ND | µg/L | 2.5   |  |  |  |  |  |  |
| Fluorene               | ND | µg/L | 0.040 |  |  |  |  |  |  |
| Phenanthrene           | ND | µg/L | 0.020 |  |  |  |  |  |  |
| Anthracene             | ND | µg/L | 0.020 |  |  |  |  |  |  |
| Fluoranthene           | ND | µg/L | 0.30  |  |  |  |  |  |  |
| Pyrene                 | ND | µg/L | 0.30  |  |  |  |  |  |  |
| Benz(a)anthracene      | ND | µg/L | 0.020 |  |  |  |  |  |  |
| Chrysene               | ND | µg/L | 0.20  |  |  |  |  |  |  |
| Benzo(b)fluoranthene   | ND | µg/L | 0.050 |  |  |  |  |  |  |
| Benzo(k)fluoranthene   | ND | µg/L | 0.020 |  |  |  |  |  |  |
| Benzo(a)pyrene         | ND | µg/L | 0.020 |  |  |  |  |  |  |
| Dibenz(a,h)anthracene  | ND | µg/L | 0.040 |  |  |  |  |  |  |
| Benzo(g,h,i)perylene   | ND | µg/L | 0.030 |  |  |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | ND | µg/L | 0.080 |  |  |  |  |  |  |

Sample ID: LCS-11533

LCS

Batch ID: 11533

Analysis Date: 11/2/2006 12:10:19 AM

|                     |       |      |       |      |      |      |  |  |  |
|---------------------|-------|------|-------|------|------|------|--|--|--|
| Naphthalene         | 27.49 | µg/L | 2.5   | 68.7 | 33.9 | 87.9 |  |  |  |
| 1-Methylnaphthalene | 25.61 | µg/L | 2.5   | 63.9 | 35.2 | 85   |  |  |  |
| 2-Methylnaphthalene | 26.61 | µg/L | 2.5   | 66.5 | 33.7 | 83.9 |  |  |  |
| Acenaphthylene      | 30.58 | µg/L | 2.5   | 76.3 | 55   | 97.9 |  |  |  |
| Acenaphthene        | 26.80 | µg/L | 2.5   | 67.0 | 42.2 | 86.6 |  |  |  |
| Fluorene            | 2.691 | µg/L | 0.040 | 67.1 | 47.3 | 85.1 |  |  |  |

## Qualifiers:

E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: XTO Energy  
Project: XTO Ground Water

Work Order: 0610211

| Analyte | Result | Units | PQL | %Rec | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|

Method: SW8310

Sample ID: LCS-11533

LCS

Batch ID: 11533

Analysis Date: 11/2/2006 12:10:19 AM

|                        |        |      |       |      |      |      |  |  |  |
|------------------------|--------|------|-------|------|------|------|--|--|--|
| Phenanthrene           | 1.462  | µg/L | 0.020 | 72.7 | 53.5 | 97.3 |  |  |  |
| Anthracene             | 1.446  | µg/L | 0.020 | 71.9 | 53.6 | 93.7 |  |  |  |
| Fluoranthene           | 3.060  | µg/L | 0.30  | 76.3 | 60.1 | 98.5 |  |  |  |
| Pyrene                 | 3.216  | µg/L | 0.30  | 80.2 | 57.5 | 108  |  |  |  |
| Benz(a)anthracene      | 0.3600 | µg/L | 0.020 | 89.8 | 57.7 | 106  |  |  |  |
| Chrysene               | 1.681  | µg/L | 0.20  | 83.6 | 59.1 | 112  |  |  |  |
| Benzo(b)fluoranthene   | 0.4080 | µg/L | 0.050 | 81.4 | 67   | 110  |  |  |  |
| Benzo(k)fluoranthene   | 0.2110 | µg/L | 0.020 | 84.4 | 63.2 | 106  |  |  |  |
| Benzo(a)pyrene         | 0.2040 | µg/L | 0.020 | 81.3 | 49.7 | 109  |  |  |  |
| Dibenz(a,h)anthracene  | 0.4140 | µg/L | 0.040 | 82.6 | 54.1 | 111  |  |  |  |
| Benzo(g,h,i)perylene   | 0.4230 | µg/L | 0.030 | 84.6 | 51.3 | 111  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 0.7790 | µg/L | 0.080 | 77.7 | 52.3 | 103  |  |  |  |

Sample ID: LCSD-11533

LCSD

Batch ID: 11533

Analysis Date: 11/2/2006 12:58:17 AM

|                        |        |      |       |      |      |      |      |      |  |
|------------------------|--------|------|-------|------|------|------|------|------|--|
| Naphthalene            | 29.15  | µg/L | 2.5   | 72.9 | 33.9 | 87.9 | 5.86 | 32.1 |  |
| 1-Methylnaphthalene    | 26.76  | µg/L | 2.5   | 66.7 | 35.2 | 85   | 4.40 | 32.7 |  |
| 2-Methylnaphthalene    | 28.00  | µg/L | 2.5   | 70.0 | 33.7 | 83.9 | 5.10 | 34   |  |
| Acenaphthylene         | 33.47  | µg/L | 2.5   | 83.5 | 55   | 97.9 | 9.02 | 38.8 |  |
| Acenaphthene           | 28.92  | µg/L | 2.5   | 72.3 | 42.2 | 86.6 | 7.60 | 38.6 |  |
| Fluorene               | 2.927  | µg/L | 0.040 | 73.0 | 47.3 | 85.1 | 8.40 | 29.3 |  |
| Phenanthrene           | 1.567  | µg/L | 0.020 | 78.0 | 53.5 | 97.3 | 6.93 | 25   |  |
| Anthracene             | 1.595  | µg/L | 0.020 | 79.4 | 53.6 | 93.7 | 9.80 | 23.9 |  |
| Fluoranthene           | 3.368  | µg/L | 0.30  | 84.0 | 60.1 | 98.5 | 9.58 | 15.7 |  |
| Pyrene                 | 3.404  | µg/L | 0.30  | 84.9 | 57.5 | 108  | 5.68 | 15.3 |  |
| Benz(a)anthracene      | 0.3420 | µg/L | 0.020 | 85.3 | 57.7 | 106  | 5.13 | 19   |  |
| Chrysene               | 1.718  | µg/L | 0.20  | 85.5 | 59.1 | 112  | 2.18 | 16.6 |  |
| Benzo(b)fluoranthene   | 0.4210 | µg/L | 0.050 | 84.0 | 67   | 110  | 3.14 | 21.7 |  |
| Benzo(k)fluoranthene   | 0.2160 | µg/L | 0.020 | 86.4 | 63.2 | 106  | 2.34 | 19.4 |  |
| Benzo(a)pyrene         | 0.2170 | µg/L | 0.020 | 86.5 | 49.7 | 109  | 6.18 | 16.7 |  |
| Dibenz(a,h)anthracene  | 0.4510 | µg/L | 0.040 | 90.0 | 54.1 | 111  | 8.55 | 17.3 |  |
| Benzo(g,h,i)perylene   | 0.4430 | µg/L | 0.030 | 88.6 | 51.3 | 111  | 4.62 | 18   |  |
| Indeno(1,2,3-cd)pyrene | 0.8340 | µg/L | 0.080 | 83.2 | 52.3 | 103  | 6.82 | 17.7 |  |

Sample ID: 0610211-07BMS

MS

Batch ID: 11533

Analysis Date: 11/2/2006 5:46:15 AM

|                     |        |      |       |      |      |      |  |  |    |
|---------------------|--------|------|-------|------|------|------|--|--|----|
| Naphthalene         | 335.5  | µg/L | 2.5   | 67.6 | 33.9 | 87.9 |  |  | E  |
| 1-Methylnaphthalene | 145.3  | µg/L | 2.5   | 48.9 | 35.2 | 85   |  |  | E  |
| 2-Methylnaphthalene | 278.4  | µg/L | 2.5   | 30.1 | 33.7 | 83.9 |  |  | SE |
| Acenaphthylene      | 19.88  | µg/L | 2.5   | 49.6 | 47.8 | 85.4 |  |  |    |
| Acenaphthene        | 30.62  | µg/L | 2.5   | 76.5 | 42.2 | 86.6 |  |  |    |
| Fluorene            | 8.285  | µg/L | 0.040 | 72.8 | 47.3 | 85.1 |  |  |    |
| Phenanthrene        | 4.954  | µg/L | 0.020 | 15.0 | 53.5 | 97.3 |  |  | S  |
| Anthracene          | 1.770  | µg/L | 0.020 | 88.1 | 53.6 | 93.7 |  |  |    |
| Fluoranthene        | 3.577  | µg/L | 0.30  | 89.2 | 60.1 | 98.5 |  |  |    |
| Pyrene              | 3.533  | µg/L | 0.30  | 88.1 | 57.5 | 108  |  |  |    |
| Benz(a)anthracene   | 0.3710 | µg/L | 0.020 | 92.5 | 57.7 | 106  |  |  |    |
| Chrysene            | 1.815  | µg/L | 0.20  | 90.3 | 59.1 | 112  |  |  |    |

## Qualifiers:

- E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

**Client:** XTO Energy  
**Project:** XTO Ground Water

**Work Order:** 0610211

| Analyte | Result | Units | PQL | %Rec | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|

**Method:** SW8310

|                          |        |      |       |      |                 |      |                                     |  |
|--------------------------|--------|------|-------|------|-----------------|------|-------------------------------------|--|
| Sample ID: 0610211-07BMS |        | MS   |       |      | Batch ID: 11533 |      | Analysis Date: 11/2/2006 5:46:15 AM |  |
| Benzo(b)fluoranthene     | 0.4750 | µg/L | 0.050 | 90.0 | 58.8            | 102  |                                     |  |
| Benzo(k)fluoranthene     | 0.2340 | µg/L | 0.020 | 93.6 | 58.8            | 100  |                                     |  |
| Benzo(a)pyrene           | 0.2220 | µg/L | 0.020 | 88.4 | 49.7            | 109  |                                     |  |
| Dibenz(a,h)anthracene    | 0.4460 | µg/L | 0.040 | 89.0 | 54.1            | 111  |                                     |  |
| Benzo(g,h,i)perylene     | 0.4630 | µg/L | 0.030 | 92.6 | 51.3            | 111  |                                     |  |
| Indeno(1,2,3-cd)pyrene   | 0.8520 | µg/L | 0.080 | 85.0 | 55              | 99.9 |                                     |  |

**Method:** SW6010A

|                            |       |      |     |      |     |     |                  |    |                                      |  |
|----------------------------|-------|------|-----|------|-----|-----|------------------|----|--------------------------------------|--|
| Sample ID: 0610211-07C MSD |       |      |     |      | MSD |     | Batch ID: R21153 |    | Analysis Date: 10/24/2006 2:56:51 PM |  |
| Magnesium                  | 57.93 | mg/L | 1.0 | 88.5 | 75  | 125 | 5.78             | 20 |                                      |  |
| Potassium                  | 53.50 | mg/L | 1.0 | 94.9 | 75  | 125 | 2.77             | 20 |                                      |  |
| Sodium                     | 67.85 | mg/L | 1.0 | 94.3 | 75  | 125 | 6.01             | 20 |                                      |  |

|                            |       |      |     |      |    |                  |      |                                      |  |
|----------------------------|-------|------|-----|------|----|------------------|------|--------------------------------------|--|
| Sample ID: 0610211-07C MSD |       |      | MSD |      |    | Batch ID: R21153 |      | Analysis Date: 10/24/2006 3:09:54 PM |  |
| Calcium                    | 115.5 | mg/L | 2.0 | 85.9 | 75 | 125              | 3.08 | 20                                   |  |

|               |      |      |                  |                                      |
|---------------|------|------|------------------|--------------------------------------|
| Sample ID: MB | MBLK |      | Batch ID: R21153 | Analysis Date: 10/24/2006 2:34:31 PM |
| Calcium       | ND   | mg/L | 1.0              |                                      |
| Magnesium     | ND   | mg/L | 1.0              |                                      |
| Potassium     | ND   | mg/L | 1.0              |                                      |
| Sodium        | ND   | mg/L | 1.0              |                                      |

|                |       |      |     |      |                  |                                      |
|----------------|-------|------|-----|------|------------------|--------------------------------------|
| Sample ID: LCS |       | LCS  |     |      | Batch ID: R21153 | Analysis Date: 10/24/2006 2:37:37 PM |
| Calcium        | 49.33 | mg/L | 1.0 | 97.7 | 80               | 120                                  |
| Magnesium      | 49.66 | mg/L | 1.0 | 98.3 | 80               | 120                                  |
| Potassium      | 53.75 | mg/L | 1.0 | 97.7 | 80               | 120                                  |
| Sodium         | 53.37 | mg/L | 1.0 | 106  | 80               | 120                                  |

|                           |       |      |     |      |                  |     |                                      |  |
|---------------------------|-------|------|-----|------|------------------|-----|--------------------------------------|--|
| Sample ID: 0610211-07C MS |       | MS   |     |      | Batch ID: R21153 |     | Analysis Date: 10/24/2006 2:54:38 PM |  |
| Magnesium                 | 61.38 | mg/L | 1.0 | 95.3 | 75               | 125 |                                      |  |
| Potassium                 | 55.00 | mg/L | 1.0 | 97.6 | 75               | 125 |                                      |  |
| Sodium                    | 72.06 | mg/L | 1.0 | 103  | 75               | 125 |                                      |  |

|                           |       |      |     |                  |    |                                      |     |
|---------------------------|-------|------|-----|------------------|----|--------------------------------------|-----|
| Sample ID: 0610211-07C MS |       | MS   |     | Batch ID: R21153 |    | Analysis Date: 10/24/2006 3:12:56 PM |     |
| Calcium                   | 119.1 | mg/L | 2.0 | 93.1             | 75 | 125                                  | 0 0 |

**Method:** E160.1

|                        |      |      |    |                 |    |                           |  |
|------------------------|------|------|----|-----------------|----|---------------------------|--|
| Sample ID: MB-11549    |      | MBLK |    | Batch ID: 11549 |    | Analysis Date: 10/23/2006 |  |
| Total Dissolved Solids | ND   | mg/L | 20 |                 |    |                           |  |
| Sample ID: LCS-11549   |      | LCS  |    | Batch ID: 11549 |    | Analysis Date: 10/23/2006 |  |
| Total Dissolved Solids | 1000 | mg/L | 20 | 100             | 80 | 120                       |  |

**Qualifiers:**

- E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: XTO Energy  
 Project: XTO Ground Water

Work Order: 0610211

| Analyte                 | Result | Units | PQL | %Rec | LowLimit         | HighLimit | %RPD           | RPDLimit | Qual       |
|-------------------------|--------|-------|-----|------|------------------|-----------|----------------|----------|------------|
| Method: SW8260B         |        |       |     |      |                  |           |                |          |            |
| Sample ID: 5ml rb       |        | MBLK  |     |      | Batch ID: R21123 |           | Analysis Date: |          | 10/20/2006 |
| Benzene                 | ND     | µg/L  | 1.0 |      |                  |           |                |          |            |
| Toluene                 | ND     | µg/L  | 1.0 |      |                  |           |                |          |            |
| Ethylbenzene            | ND     | µg/L  | 1.0 |      |                  |           |                |          |            |
| Xylenes, Total          | ND     | µg/L  | 3.0 |      |                  |           |                |          |            |
| Sample ID: bk2          |        | MBLK  |     |      | Batch ID: R21129 |           | Analysis Date: |          | 10/23/2006 |
| Benzene                 | ND     | µg/L  | 1.0 |      |                  |           |                |          |            |
| Toluene                 | ND     | µg/L  | 1.0 |      |                  |           |                |          |            |
| Ethylbenzene            | ND     | µg/L  | 1.0 |      |                  |           |                |          |            |
| Xylenes, Total          | ND     | µg/L  | 3.0 |      |                  |           |                |          |            |
| Sample ID: 100ng lcs b  |        | LCS   |     |      | Batch ID: R21123 |           | Analysis Date: |          | 10/20/2006 |
| Benzene                 | 20.72  | µg/L  | 1.0 | 104  | 74.9             | 113       |                |          |            |
| Toluene                 | 18.95  | µg/L  | 1.0 | 94.7 | 77               | 121       |                |          |            |
| Sample ID: 100ng lcs b  |        | LCS   |     |      | Batch ID: R21129 |           | Analysis Date: |          | 10/24/2006 |
| Benzene                 | 19.92  | µg/L  | 1.0 | 99.6 | 74.9             | 113       |                |          |            |
| Toluene                 | 17.79  | µg/L  | 1.0 | 88.9 | 77               | 121       |                |          |            |
| Sample ID: 100ng lcsd b |        | LCSD  |     |      | Batch ID: R21123 |           | Analysis Date: |          | 10/21/2006 |
| Benzene                 | 20.15  | µg/L  | 1.0 | 101  | 74.9             | 113       | 2.78           | 20       |            |

## Qualifiers:

E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

Date: 23-Jan-07

CLIENT: XTO Energy  
Project: Ground Water

Lab Order: 0701243

Lab ID: 0701243-07

Collection Date: 1/18/2007 1:36:00 PM

Client Sample ID: Hare GC BIE MW-1

Matrix: AQUEOUS

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|------|-------|----|---------------|
|----------|--------|-----|------|-------|----|---------------|

## EPA METHOD 8021B: VOLATILES

Analyst: LMM

|                            |      |          |  |      |   |                      |
|----------------------------|------|----------|--|------|---|----------------------|
| Benzene                    | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 8:12:06 PM |
| Toluene                    | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 8:12:06 PM |
| Ethylbenzene               | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 8:12:06 PM |
| Xylenes, Total             | ND   | 3.0      |  | µg/L | 1 | 1/19/2007 8:12:06 PM |
| Surr: 4-Bromofluorobenzene | 87.9 | 70.2-105 |  | %REC | 1 | 1/19/2007 8:12:06 PM |

Lab ID: 0701243-08

Collection Date: 1/18/2007 2:10:00 PM

Client Sample ID: Hare GC BIE MW-2

Matrix: AQUEOUS

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|------|-------|----|---------------|
|----------|--------|-----|------|-------|----|---------------|

## EPA METHOD 8021B: VOLATILES

Analyst: LMM

|                            |      |          |  |      |   |                      |
|----------------------------|------|----------|--|------|---|----------------------|
| Benzene                    | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 8:42:06 PM |
| Toluene                    | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 8:42:06 PM |
| Ethylbenzene               | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 8:42:06 PM |
| Xylenes, Total             | ND   | 3.0      |  | µg/L | 1 | 1/19/2007 8:42:06 PM |
| Surr: 4-Bromofluorobenzene | 88.6 | 70.2-105 |  | %REC | 1 | 1/19/2007 8:42:06 PM |

Lab ID: 0701243-09

Collection Date: 1/18/2007 2:40:00 PM

Client Sample ID: Hare GC BIE MW-3

Matrix: AQUEOUS

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|------|-------|----|---------------|
|----------|--------|-----|------|-------|----|---------------|

## EPA METHOD 8021B: VOLATILES

Analyst: LMM

|                            |      |          |  |      |   |                      |
|----------------------------|------|----------|--|------|---|----------------------|
| Benzene                    | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 9:12:11 PM |
| Toluene                    | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 9:12:11 PM |
| Ethylbenzene               | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 9:12:11 PM |
| Xylenes, Total             | ND   | 3.0      |  | µg/L | 1 | 1/19/2007 9:12:11 PM |
| Surr: 4-Bromofluorobenzene | 87.9 | 70.2-105 |  | %REC | 1 | 1/19/2007 9:12:11 PM |

Qualifiers: \* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits 3 / 6

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 23-Jan-07

**CLIENT:** XTO Energy  
**Project:** Ground Water**Lab Order:** 0701243**Lab ID:** 0701243-10**Collection Date:****Client Sample ID:** Trip Blank**Matrix:** TRIP BLANK

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|------|-------|----|---------------|
|----------|--------|-----|------|-------|----|---------------|

**EPA METHOD 8021B: VOLATILES**

Analyst: LMM

|                            |      |          |  |      |   |                      |
|----------------------------|------|----------|--|------|---|----------------------|
| Benzene                    | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 9:42:17 PM |
| Toluene                    | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 9:42:17 PM |
| Ethylbenzene               | ND   | 1.0      |  | µg/L | 1 | 1/19/2007 9:42:17 PM |
| Xylenes, Total             | ND   | 3.0      |  | µg/L | 1 | 1/19/2007 9:42:17 PM |
| Surr: 4-Bromofluorobenzene | 90.2 | 70.2-105 |  | %REC | 1 | 1/19/2007 9:42:17 PM |

**Qualifiers:** \* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits 4 / 6

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

## QA/QC SUMMARY REPORT

Client: XTO Energy  
Project: Ground Water

Work Order: 0701243

| Analyte | Result | Units | PQL | %Rec | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|
|---------|--------|-------|-----|------|----------|-----------|------|----------|------|

Method: SW8021

Sample ID: 0701243-05A MSD

MSD

Batch ID: R22202 Analysis Date: 1/19/2007 7:11:56 PM

|                |       |      |     |      |      |     |       |    |
|----------------|-------|------|-----|------|------|-----|-------|----|
| Benzene        | 18.34 | µg/L | 1.0 | 91.7 | 85.9 | 113 | 1.76  | 27 |
| Toluene        | 18.78 | µg/L | 1.0 | 93.9 | 86.4 | 113 | 0.912 | 19 |
| Ethylbenzene   | 18.82 | µg/L | 1.0 | 94.1 | 83.5 | 118 | 1.70  | 10 |
| Xylenes, Total | 55.94 | µg/L | 3.0 | 93.2 | 83.4 | 122 | 1.91  | 13 |

Sample ID: 5ML RB

MBLK

Batch ID: R22202 Analysis Date: 1/19/2007 10:19:43 AM

|                |    |      |     |
|----------------|----|------|-----|
| Benzene        | ND | µg/L | 1.0 |
| Toluene        | ND | µg/L | 1.0 |
| Ethylbenzene   | ND | µg/L | 1.0 |
| Xylenes, Total | ND | µg/L | 3.0 |

Sample ID: 5ML RB

MBLK

Batch ID: R22217 Analysis Date: 1/22/2007 10:28:43 AM

|                |    |      |     |
|----------------|----|------|-----|
| Benzene        | ND | µg/L | 1.0 |
| Toluene        | ND | µg/L | 1.0 |
| Ethylbenzene   | ND | µg/L | 1.0 |
| Xylenes, Total | ND | µg/L | 3.0 |

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R22202 Analysis Date: 1/19/2007 11:50:06 AM

|                |       |      |     |      |      |     |
|----------------|-------|------|-----|------|------|-----|
| Benzene        | 18.37 | µg/L | 1.0 | 91.8 | 85.9 | 113 |
| Toluene        | 18.84 | µg/L | 1.0 | 94.2 | 86.4 | 113 |
| Ethylbenzene   | 18.96 | µg/L | 1.0 | 94.8 | 83.5 | 118 |
| Xylenes, Total | 56.97 | µg/L | 3.0 | 95.0 | 83.4 | 122 |

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R22217 Analysis Date: 1/22/2007 11:29:07 AM

|                |       |      |     |      |      |     |
|----------------|-------|------|-----|------|------|-----|
| Benzene        | 18.52 | µg/L | 1.0 | 92.6 | 85.9 | 113 |
| Toluene        | 19.07 | µg/L | 1.0 | 95.4 | 86.4 | 113 |
| Ethylbenzene   | 19.43 | µg/L | 1.0 | 97.1 | 83.5 | 118 |
| Xylenes, Total | 57.94 | µg/L | 3.0 | 96.6 | 83.4 | 122 |

Sample ID: 0701243-05A MS

MS

Batch ID: R22202 Analysis Date: 1/19/2007 6:41:45 PM

|                |       |      |     |      |      |     |
|----------------|-------|------|-----|------|------|-----|
| Benzene        | 18.66 | µg/L | 1.0 | 93.3 | 85.9 | 113 |
| Toluene        | 18.95 | µg/L | 1.0 | 94.8 | 86.4 | 113 |
| Ethylbenzene   | 19.14 | µg/L | 1.0 | 95.7 | 83.5 | 118 |
| Xylenes, Total | 57.01 | µg/L | 3.0 | 95.0 | 83.4 | 122 |

## Qualifiers:

|   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R | RPD outside accepted recovery limits       | S  | Spike recovery outside accepted recovery limits    |

## Hall Environmental Analysis Laboratory, Inc.

Date: 18-Apr-07

CLIENT: XTO Energy  
Project: Ground Water

Lab Order: 0704208

Lab ID: 0704208-07

Collection Date: 4/11/2007 1:45:00 PM

Client Sample ID: Hare GC BIE MW-1

Matrix: AQUEOUS

| Analyses                    | Result | PQL      | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|----------|------|-------|----|----------------------|
| EPA METHOD 8021B: VOLATILES |        |          |      |       |    | Analyst: NSB         |
| Benzene                     | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 3:58:28 PM |
| Toluene                     | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 3:58:28 PM |
| Ethylbenzene                | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 3:58:28 PM |
| Xylenes, Total              | ND     | 2.0      |      | µg/L  | 1  | 4/17/2007 3:58:28 PM |
| Surr: 4-Bromofluorobenzene  | 87.4   | 70.2-105 |      | %REC  | 1  | 4/17/2007 3:58:28 PM |

Lab ID: 0704208-08

Collection Date: 4/11/2007 2:08:00 PM

Client Sample ID: Hare GC BIE MW-2

Matrix: AQUEOUS

| Analyses                    | Result | PQL      | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|----------|------|-------|----|----------------------|
| EPA METHOD 8021B: VOLATILES |        |          |      |       |    | Analyst: NSB         |
| Benzene                     | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 6:59:02 PM |
| Toluene                     | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 6:59:02 PM |
| Ethylbenzene                | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 6:59:02 PM |
| Xylenes, Total              | ND     | 2.0      |      | µg/L  | 1  | 4/17/2007 6:59:02 PM |
| Surr: 4-Bromofluorobenzene  | 86.5   | 70.2-105 |      | %REC  | 1  | 4/17/2007 6:59:02 PM |

Lab ID: 0704208-09

Collection Date: 4/11/2007 2:18:00 PM

Client Sample ID: Hare GC BIE MW-3

Matrix: AQUEOUS

| Analyses                    | Result | PQL      | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|----------|------|-------|----|----------------------|
| EPA METHOD 8021B: VOLATILES |        |          |      |       |    | Analyst: NSB         |
| Benzene                     | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 7:29:03 PM |
| Toluene                     | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 7:29:03 PM |
| Ethylbenzene                | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 7:29:03 PM |
| Xylenes, Total              | ND     | 2.0      |      | µg/L  | 1  | 4/17/2007 7:29:03 PM |
| Surr: 4-Bromofluorobenzene  | 89.4   | 70.2-105 |      | %REC  | 1  | 4/17/2007 7:29:03 PM |

Qualifiers: \* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 18-Apr-07

**CLIENT:** XTO Energy  
**Project:** Ground Water**Lab Order:** 0704208**Lab ID:** 0704208-10**Collection Date:****Client Sample ID:** Trip Blank**Matrix:** TRIP BLANK

| Analyses                           | Result | PQL      | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |          |      |       |    | <b>Analyst: NSB</b>  |
| Benzene                            | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 7:59:06 PM |
| Toluene                            | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 7:59:06 PM |
| Ethylbenzene                       | ND     | 1.0      |      | µg/L  | 1  | 4/17/2007 7:59:06 PM |
| Xylenes, Total                     | ND     | 2.0      |      | µg/L  | 1  | 4/17/2007 7:59:06 PM |
| Surr: 4-Bromofluorobenzene         | 87.1   | 70.2-105 |      | %REC  | 1  | 4/17/2007 7:59:06 PM |

|                    |    |                                                 |     |                                                    |
|--------------------|----|-------------------------------------------------|-----|----------------------------------------------------|
| <b>Qualifiers:</b> | *  | Value exceeds Maximum Contaminant Level         | B   | Analyte detected in the associated Method Blank    |
|                    | E  | Value above quantitation range                  | H   | Holding times for preparation or analysis exceeded |
|                    | J  | Analyte detected below quantitation limits      | MCL | Maximum Contaminant Level                          |
|                    | ND | Not Detected at the Reporting Limit             | RL  | Reporting Limit                                    |
|                    | S  | Spike recovery outside accepted recovery limits |     |                                                    |

## QA/QC SUMMARY REPORT

Client: XTO Energy  
Project: Ground Water

Work Order: 0704208

| Analyte                      | Result | Units | PQL | %Rec | LowLimit         | HighLimit                            | %RPD  | RPDLimit | Qual |
|------------------------------|--------|-------|-----|------|------------------|--------------------------------------|-------|----------|------|
| Method: SW8021               |        |       |     |      |                  |                                      |       |          |      |
| Sample ID: 0704208-07A MSD   |        | MSD   |     |      | Batch ID: R23257 | Analysis Date: 4/17/2007 4:58:25 PM  |       |          |      |
| Benzene                      | 19.19  | µg/L  | 1.0 | 96.0 | 85.9             | 113                                  | 0.219 | 27       |      |
| Toluene                      | 19.51  | µg/L  | 1.0 | 97.6 | 86.4             | 113                                  | 0.668 | 19       |      |
| Ethylbenzene                 | 19.63  | µg/L  | 1.0 | 98.2 | 83.5             | 118                                  | 0.183 | 10       |      |
| Xylenes, Total               | 58.33  | µg/L  | 2.0 | 97.2 | 83.4             | 122                                  | 0.209 | 13       |      |
| Sample ID: 5ML REAGENT BLA   |        | MBLK  |     |      | Batch ID: R23257 | Analysis Date: 4/17/2007 8:27:16 AM  |       |          |      |
| Benzene                      | ND     | µg/L  | 1.0 |      |                  |                                      |       |          |      |
| Toluene                      | ND     | µg/L  | 1.0 |      |                  |                                      |       |          |      |
| Ethylbenzene                 | ND     | µg/L  | 1.0 |      |                  |                                      |       |          |      |
| Xylenes, Total               | ND     | µg/L  | 2.0 |      |                  |                                      |       |          |      |
| Sample ID: 5ML RB-II         |        | MBLK  |     |      | Batch ID: R23257 | Analysis Date: 4/18/2007 12:32:06 AM |       |          |      |
| Benzene                      | ND     | µg/L  | 1.0 |      |                  |                                      |       |          |      |
| Toluene                      | ND     | µg/L  | 1.0 |      |                  |                                      |       |          |      |
| Ethylbenzene                 | ND     | µg/L  | 1.0 |      |                  |                                      |       |          |      |
| Xylenes, Total               | ND     | µg/L  | 2.0 |      |                  |                                      |       |          |      |
| Sample ID: 100NG BTEX LCS    |        | LCS   |     |      | Batch ID: R23257 | Analysis Date: 4/17/2007 5:28:34 PM  |       |          |      |
| Benzene                      | 19.51  | µg/L  | 1.0 | 97.6 | 85.9             | 113                                  |       |          |      |
| Toluene                      | 19.75  | µg/L  | 1.0 | 98.8 | 86.4             | 113                                  |       |          |      |
| Ethylbenzene                 | 19.94  | µg/L  | 1.0 | 99.7 | 83.5             | 118                                  |       |          |      |
| Xylenes, Total               | 59.17  | µg/L  | 2.0 | 98.6 | 83.4             | 122                                  |       |          |      |
| Sample ID: 100NG BTEX LCS-II |        | LCS   |     |      | Batch ID: R23257 | Analysis Date: 4/18/2007 1:02:03 AM  |       |          |      |
| Benzene                      | 19.87  | µg/L  | 1.0 | 99.4 | 85.9             | 113                                  |       |          |      |
| Toluene                      | 20.20  | µg/L  | 1.0 | 101  | 86.4             | 113                                  |       |          |      |
| Ethylbenzene                 | 20.35  | µg/L  | 1.0 | 102  | 83.5             | 118                                  |       |          |      |
| Xylenes, Total               | 60.60  | µg/L  | 2.0 | 101  | 83.4             | 122                                  |       |          |      |
| Sample ID: 100NG BTEX LCSD-I |        | LCSD  |     |      | Batch ID: R23257 | Analysis Date: 4/18/2007 1:32:05 AM  |       |          |      |
| Benzene                      | 19.20  | µg/L  | 1.0 | 96.0 | 85.9             | 113                                  | 3.42  | 27       |      |
| Toluene                      | 19.53  | µg/L  | 1.0 | 97.6 | 86.4             | 113                                  | 3.37  | 19       |      |
| Ethylbenzene                 | 19.67  | µg/L  | 1.0 | 98.4 | 83.5             | 118                                  | 3.38  | 10       |      |
| Xylenes, Total               | 58.58  | µg/L  | 2.0 | 97.6 | 83.4             | 122                                  | 3.39  | 13       |      |
| Sample ID: 0704208-07A MS    |        | MS    |     |      | Batch ID: R23257 | Analysis Date: 4/17/2007 4:28:32 PM  |       |          |      |
| Benzene                      | 19.15  | µg/L  | 1.0 | 95.8 | 85.9             | 113                                  |       |          |      |
| Toluene                      | 19.38  | µg/L  | 1.0 | 96.9 | 86.4             | 113                                  |       |          |      |
| Ethylbenzene                 | 19.67  | µg/L  | 1.0 | 98.3 | 83.5             | 118                                  |       |          |      |
| Xylenes, Total               | 58.20  | µg/L  | 2.0 | 97.0 | 83.4             | 122                                  |       |          |      |

## Qualifiers:

|   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R | RPD outside accepted recovery limits       | S  | Spike recovery outside accepted recovery limits    |

20701

**ENVIROTECH Inc.**

5796 US HWY. 64, FARMINGTON, NM 87401  
(505) 832-0615

94146-5/13

94 149-5/14

# FIELD REPORT: SITE ASSESSMENT

JOB No: 92140  
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE  
CLIENT: AMOCO PRODUCTION COMPANY  
CONTRACTOR: ENVIROTECH, INC.  
EQUIPMENT USED: Backhoe w/

DATE STARTED: 5/13/92  
DATE FINISHED: 5/14/92  
ENVIRO. SPCLT: RB  
OPERATOR: DB  
ASSISTANT: LT

LOCATION: LSE: Hare WELL: B-1E QD: SW/4 NW/4  
SEC: 23 TWP: T29N RNG: R21W PM: NMPMCNTY: ST ST: NMPIT: SEP PIT

LAND USE: Agricultural farmland adjacent on north, range land to south  
SURFACE CONDITIONS: Fiberglass tank (8' dia x 6' h) buried on site

FIELD NOTES & REMARKS: Clay soils w/ high plasticity in immediate pit perimeter fence site area. T3 & T4 dug outside AMOCO perimeter fence. Shows N/D OUM results. T3 & T4 are located down gradient of SEP PIT. Soils are contaminated in immediate SEP PIT location.

| SAMPLE INVENTORY: |             |                      |
|-------------------|-------------|----------------------|
| SAMPL ID:         | SAMPL TYPE: | LABORATORY ANALYSIS: |
| 2-2               | C-4         | 11-12                |

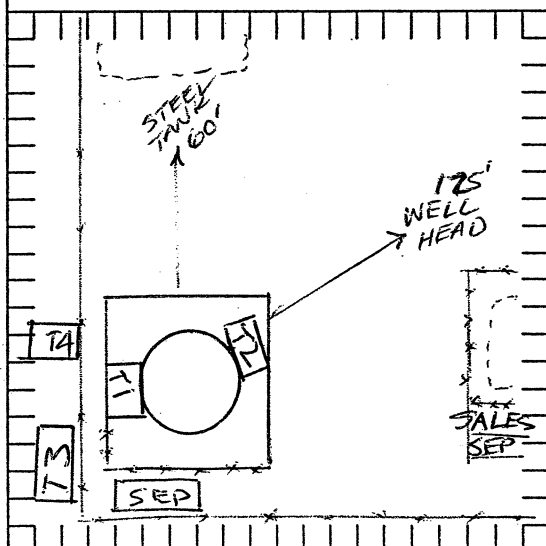
**SAMPLE INVENTORY:**

[illegible]

SCALE

0 10 20 FEET

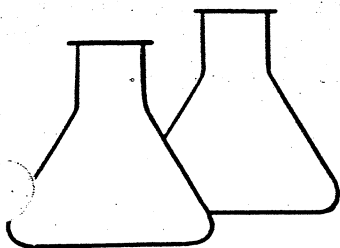
## SITE DIAGRAM



TEST HOLE LOGS:

[illegible]

SOIL TYPE: C - Clay, M - Silt, S - Sand, G - Gravel      Plasticity: L - None, H - Plastic      Grading: P - Poorly, W - Well



# ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401  
PHONE: (505) 632-0615 • FAX: (505) 632-1865

## EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client: AMOCO  
Sample ID: T-1 @ 2'  
Laboratory Number: 0660  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool & Intact

Project #: 92140  
Date Reported: 06-13-92  
Date Sampled: 05-14-92  
Date Received: NA  
Date Analyzed: 06-08-92  
Analysis Needed: TPH

| Parameter                       | Concentration<br>(mg/kg) | Det.<br>Limit<br>(mg/kg) |
|---------------------------------|--------------------------|--------------------------|
| -----                           | -----                    | -----                    |
| Total Petroleum<br>Hydrocarbons | 180                      | 5.0                      |

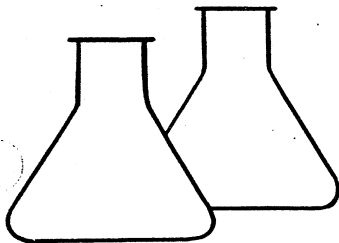
Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Hare B-1 E Separatory Pit 94149 +  
94146

Tony Tristano  
Analyst

\_\_\_\_\_  
Review



# ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401  
PHONE: (505) 632-0615 • FAX: (505) 632-1865

## EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

|                    |               |                     |          |
|--------------------|---------------|---------------------|----------|
| Client:            | Amoco         | Project #:          | 92140    |
| Sample ID:         | T 1 @ 2'      | Date Reported:      | 09-24-92 |
| Laboratory Number: | 0660          | Date Sampled:       | 05-14-92 |
| Sample Matrix:     | Soil          | Date Received:      | 05-14-92 |
| Preservative:      | Cool          | Date Extracted:     | 06-08-92 |
| Condition:         | Cool & Intact | Date Analyzed:      | 09-23-92 |
|                    |               | Analysis Requested: | BTEX     |

| Parameter    | Concentration<br>(ug/Kg) | Det.<br>Limit<br>(ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene      | ND                       | 120                      |
| Toluene      | 126                      | 70                       |
| Ethylbenzene | ND                       | 20.0                     |
| p,m-Xylene   | ND                       | 70                       |
| o-Xylene     | 164                      | 60                       |

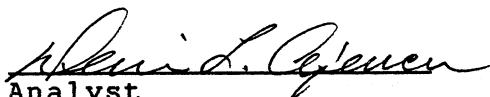
| SURROGATE RECOVERIES: | Parameter         | Percent Recovery |
|-----------------------|-------------------|------------------|
|                       | Trifluorotoluene  | 102 %            |
|                       | Bromfluorobenzene | 89 %             |

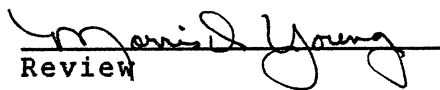
Method: Method 5030, Purge-and-Trap, Test Methods for  
Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

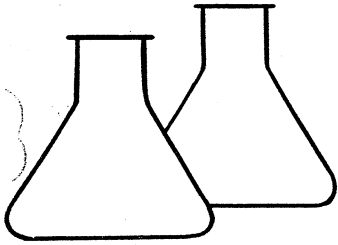
Method 8020, Aromatic Volatile Organics, Test Methods  
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Hare GC B 1E Separator Pit 94149

  
Analyst

  
Review



# ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

## EPA METHOD 8020 AROMATIC VOLATILE ORGANICS HEADSPACE EXTRACTION

|                    |               |                     |          |
|--------------------|---------------|---------------------|----------|
| Client:            | AMOCO         | Project #:          | 92140    |
| Sample ID:         | T1 @ 2'       | Date Reported:      | 09-01-92 |
| Laboratory Number: | 0659          | Date Sampled:       | 05-14-92 |
| Sample Matrix:     | Soil          | Date Received:      | 05-14-92 |
| Preservative:      | NA            | Date Analyzed:      | 07-13-92 |
| Condition:         | Cool & Intact | Analysis Requested: | BTEX     |

| Parameter    | Concentration<br>(ug/L) | Det.<br>Limit<br>(ug/L) |
|--------------|-------------------------|-------------------------|
| Benzene      | ND                      | 1.6                     |
| Toluene      | 75                      | 1.6                     |
| Ethylbenzene | ND                      | 1.6                     |
| p,m-Xylene   | 469                     | 1.6                     |
| o-Xylene     | 239                     | 1.6                     |

Method: Method 3810, Headspace, Test Methods for Evaluating  
Solid Waste, SW-846, USEPA, Sept. 1986

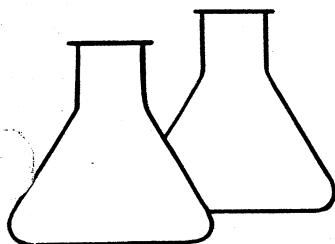
Method 8020, Aromatic Volatile Organics, Test Methods for  
Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Hare GC B-1E---Separator Pit---~~94149~~ 94146

Al Chaharley  
Analyst

Marisa Young  
Review



# ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401  
PHONE: (505) 632-0615 • FAX: (505) 632-1865

## EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

|                    |               |                     |          |
|--------------------|---------------|---------------------|----------|
| Client:            | Amoco         | Project #:          | 92140    |
| Sample ID:         | T1 @ GW       | Date Reported:      | 08-24-92 |
| Laboratory Number: | 0661          | Date Sampled:       | 05-14-92 |
| Sample Matrix:     | Water         | Date Received:      | 05-14-92 |
| Preservative:      | HgCl & Cool   | Date Analyzed:      | 06-26-92 |
| Condition:         | Cool & Intact | Analysis Requested: | BTEX     |

| Parameter    | Concentration<br>(ug/L) | Det.<br>Limit<br>(ug/L) |
|--------------|-------------------------|-------------------------|
| Benzene      | 540                     | 0.2                     |
| Toluene      | 690                     | 1.4                     |
| Ethylbenzene | 26.1                    | 0.5                     |
| p,m-Xylene   | 269                     | 1.2                     |
| o-Xylene     | 56                      | 0.4                     |

| SURROGATE RECOVERIES: | Parameter         | Percent Recovery |
|-----------------------|-------------------|------------------|
|                       | Trifluorotoluene  | 135.0 %          |
|                       | Bromfluorobenzene | 111.6 %          |

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

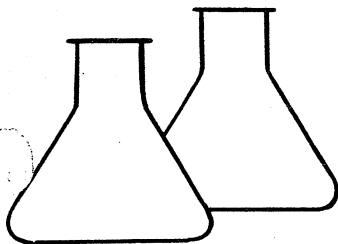
Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Hare B-1E---Separator Pit---94149  
Excessive surrogate recovery due to coelution of surrogate with hydrocarbons from sample.

Robert M. Young  
Analyst

Maria S. Young  
Review



# ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401  
PHONE: (505) 632-0615 • FAX: (505) 632-1865

## EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

|                    |               |                     |          |
|--------------------|---------------|---------------------|----------|
| Client:            | Amoco         | Project #:          | 92140    |
| Sample ID:         | T4 @ GW       | Date Reported:      | 08-24-92 |
| Laboratory Number: | 0662          | Date Sampled:       | 05-14-92 |
| Sample Matrix:     | Water         | Date Received:      | 05-14-92 |
| Preservative:      | HgCl & Cool   | Date Analyzed:      | 06-26-92 |
| Condition:         | Cool & Intact | Analysis Requested: | BTEX     |

| Parameter    | Concentration<br>(ug/L) | Det.<br>Limit<br>(ug/L) |
|--------------|-------------------------|-------------------------|
| Benzene      | 239                     | 10.0                    |
| Toluene      | 173                     | 70                      |
| Ethylbenzene | 60                      | 25.0                    |
| p,m-Xylene   | 148                     | 60                      |
| o-Xylene     | 53                      | 20.0                    |

| SURROGATE RECOVERIES: | Parameter         | Percent Recovery |
|-----------------------|-------------------|------------------|
|                       | Trifluorotoluene  | 125.2 %          |
|                       | Bromfluorobenzene | 138.0 %          |

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Hare B-1E---Separator Pit---94149  
Excessive surrogate recovery due to coelution of surrogate with hydrocarbons from sample.

Robert M. Young  
Analyst

Marissa Young  
Review

1240

[illegible]

5796 U.S. Highway 64-3014  
Farmington, New Mexico 87401  
(505) 632-0615

C4374

District I  
P.O. Box 1980, Hobbs, NM  
District II  
P.O. Drawer DD, Artesia, NM 88211  
District III  
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico  
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION  
P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

SUBMIT 1 COPY TO  
APPROPRIATE  
DISTRICT OFFICE  
AND 1 COPY TO  
SANTA FE OFFICE

## PIT REMEDIATION AND CLOSURE REPORT

Operator: Amoco Production Company Telephone: (505) - 326-9200

Address: 200 Amoco Court, Farmington, New Mexico 87401

Facility Or: HARE GC B #1E  
Well Name

Location: Unit or Qtr/Qtr Sec E Sec 23 T 29N R 11W County SAN JUAN

Pit Type: Separator ☒ Dehydrator ☐ Other ☐

Land Type: BLM ☐, State ☐, Fee ☒, Other ☐

Pit Location: Pit dimensions: length 12', width 12', depth 6'  
(attach diagram)

Reference: wellhead ☒, other ☐

Footage from reference: 111'

Direction from reference: 69 Degrees ☐ East North ☐  
of  
☒ West South ☒

### Depth To Ground Water:

(Vertical distance from  
contaminants to seasonal  
high water elevation of  
ground water)

Less than 50 feet (20 points)  
50 feet to 99 feet (10 points)  
Greater than 100 feet (0 Points) 20

### Wellhead Protection Area:

(Less than 200 feet from a private  
domestic water source, or; less than  
1000 feet from all other water sources)

Yes (20 points)  
No (0 points) 0

### Distance To Surface Water:

(Horizontal distance to perennial  
lakes, ponds, rivers, streams, creeks,  
irrigation canals and ditches)

Less than 200 feet (20 points)  
200 feet to 1000 feet (10 points)  
Greater than 1000 feet (0 points) 70

RANKING SCORE (TOTAL POINTS): 30

Date Remediation Started: \_\_\_\_\_ Date Completed: 7/7/92

Remediation Method: Excavation ☒ Approx. cubic yards 20  
(Check all appropriate sections) Landfarmed ☒ Insitu Bioremediation \_\_\_\_\_  
Other \_\_\_\_\_

Remediation Location: Onsite ☒ Offsite \_\_\_\_\_  
(ie. landfarmed onsite,  
name and location of  
offsite facility) \_\_\_\_\_

General Description Of Remedial Action: \_\_\_\_\_

Excavation

Ground Water Encountered: No ☒ Yes \_\_\_\_\_ Depth \_\_\_\_\_Final Pit: Sample location see Attached Documents

Closure Sampling:  
(if multiple samples,  
attach sample results  
and diagram of sample  
locations and depths)

Sample depth 6' (PIT Bottom)Sample date 6/26/92 Sample time 1445

## Sample Results

Benzene (ppm) \_\_\_\_\_

Total BTEX (ppm) \_\_\_\_\_

Field headspace (ppm) 0.0TPH 6.7 ppmGround Water Sample: Yes \_\_\_\_\_ No ☒ (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 2/15/00 *mv*

SIGNATURE

*B. Shaw*PRINTED NAME  
AND TITLE*Buddy D. Shaw*  
ENVIRONMENTAL COORDINATOR

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401  
(505) 832-0815

1540

# FIELD REPORT: CLOSURE VERIFICATION

JOB No: 92140  
PAGE No: 1 of 1

LOCATION: LEASE: HARE Gas Com B WELL: No. 15 QD: SW 1/4 NW 1/4 E  
SEC: 23 TWP: 29N RNG: 11W BM: NM CNTY: S.J. ST: NM PIT: Sep.  
CONTRACTOR: \_\_\_\_\_  
EQUIPMENT USED: \_\_\_\_\_

DATE STARTED: 6-26-92  
DATE FINISHED: 6-26-92

ENVIRONMENTAL SPECIALIST: J.W.

SOIL REMEDIATION: QUANTITY: \_\_\_\_\_  
DISPOSAL FACILITY: \_\_\_\_\_  
LAND USE: *Residential*  
SURFACE CONDITIONS: *Earthen Pit.*

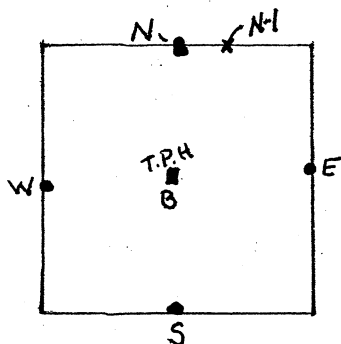
FIELD NOTES & REMARKS: Pit is located approx 110' west and 15' south of well head. Took OUM Readings from all four walls. North wall had an isolated pocket of contamination approximately 2' x 2' in diameter. Took OUM reading from contaminated area and one from c/c of wall. Recovered T.P.H sample from bottom of pit at center.



SCALE

0 2' 4' FEET

# PIT PERIMETER



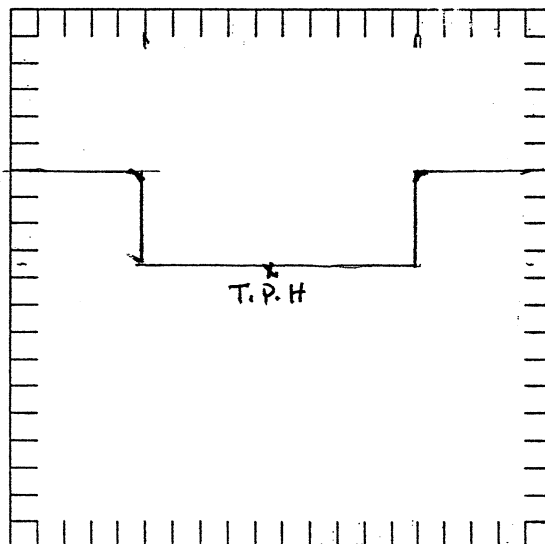
## SAMPLE RESULTS

[illegible]

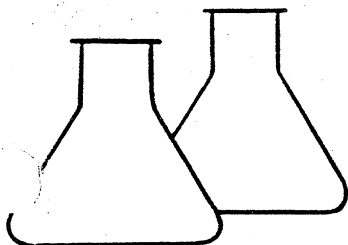
SCALE

0 2' 4' FEET

# PIT PROFILE



TRAVEL NOTES:    CALLOUT: \_\_\_\_\_    ONSITE: \_\_\_\_\_



# ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401  
PHONE: (505) 632-0615 • FAX: (505) 632-1865

## EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client: AMOCO  
Sample ID: T1 @ center of pit  
Laboratory Number: 1689  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool & Intact

Project #: 92140  
Date Reported: 07-07-92  
Date Sampled: 06-26-92  
Date Received: 06-26-92  
Date Analyzed: 07-07-92  
Analysis Needed: TPH

| Parameter                       | Concentration<br>(mg/kg) | Det.<br>Limit<br>(mg/kg) |
|---------------------------------|--------------------------|--------------------------|
| Total Petroleum<br>Hydrocarbons | 6.7                      | 5.0                      |

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Hare Gas Com B #1E Separator Pit 94374

Yanessa Zanon  
Analyst

Verl Samson  
Review

94374

## CHAIN OF CUSTODY RECORD

[illegible]

6/26/92

CLIENT: AMOCO

BLAGG ENGINEERING, INC.  
P.O. BOX 87, BLOOMFIELD, NM 87413  
(505) 632-1199

LOCATION NO: C4374C.D.C. NO: 5656

## FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: HARE 6C-8 WELL #: 1E PITS: SEP.DATE STARTED: 12-13-97

DATE FINISHED: \_\_\_\_\_

QUAD/UNIT(E) SEC: 23 TWP: 29N RNG: 11W PM: NM CNTY: SS ST: NMQTR/FOOTAGE: SW/4 NW/4CONTRACTOR: —ENVIRONMENTAL  
SPECIALIST: NV/EP.

## SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARM.APPROX. CUBIC YARDAGE: 20LAND USE: RANGE.LIFT DEPTH (ft): NA

## FIELD NOTES &amp; REMARKS:

DEPTH TO GROUNDWATER: < 50' NEAREST WATER SOURCE: > 1000' NEAREST SURFACE WATER: < 1000'NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

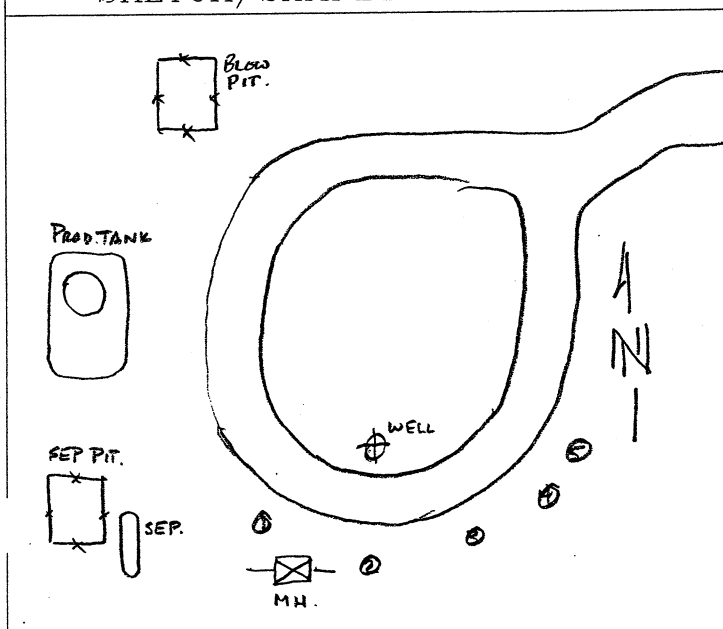
SOIL IS A MOIST COHESIVE DK BROWN CLAYISH W/ DK YELLOW  
NO STAIN OR HA ODOR. NO VISIBLE LANDFARM ON LOCATION.  
TOOK A 5 PT COMPOSITE SAMPLE FOR LAB ANALYSIS.

NO ACTUAL LANDFARM OBSERVED ON WELL SITE.

## FIELD 418.1 CALCULATIONS:

| SAMP. TIME | SAMPLE I.D. | LAB No: | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|------------|-------------|---------|------------|-----------|----------|---------|-----------|
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |
|            |             |         |            |           |          |         |           |

## SKETCH/SAMPLE LOCATIONS



## OVM RESULTS

## LAB SAMPLES

| SAMPLE ID | FIELD HEADSPACE PID (ppm) | SAMPLE ID | ANALYSIS | TIME | RESULTS |
|-----------|---------------------------|-----------|----------|------|---------|
| LF-1      | 0.0                       | LF-1      | 8015     | 1215 | ND      |
|           |                           |           |          |      |         |
|           |                           |           |          |      |         |
|           |                           |           |          |      |         |
|           |                           |           |          |      |         |
|           |                           |           |          |      |         |

## SCALE



0 FT

## TRAVEL NOTES:

CALLOUT: N/AONSITE: 12-13-97 1215

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

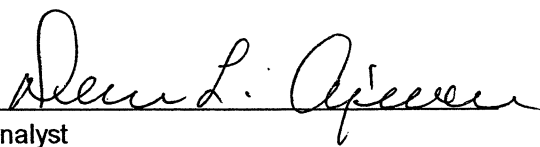
|                      |                 |                     |          |
|----------------------|-----------------|---------------------|----------|
| Client:              | Blagg / AMOCO   | Project #:          | 04034-10 |
| Sample ID:           | LF - 1          | Date Reported:      | 12-16-97 |
| Laboratory Number:   | C699            | Date Sampled:       | 12-13-97 |
| Chain of Custody No: | 5656            | Date Received:      | 12-15-97 |
| Sample Matrix:       | Soil            | Date Extracted:     | 12-15-97 |
| Preservative:        | Cool            | Date Analyzed:      | 12-16-97 |
| Condition:           | Cool and Intact | Analysis Requested: | 8015 TPH |

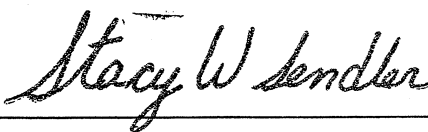
| Parameter                    | Concentration<br>(mg/Kg) | Det.<br>Limit<br>(mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10)    | ND                       | 0.2                      |
| Diesel Range (C10 - C28)     | ND                       | 0.1                      |
| Total Petroleum Hydrocarbons | ND                       | 0.2                      |

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Hare GC B #1E Landfarm. 5 Pt. Composite.

  
Analyst

  
Review

[illegible]

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

### Quality Assurance Report

|                    |                    |                     |          |
|--------------------|--------------------|---------------------|----------|
| Client:            | QA/QC              | Project #:          | N/A      |
| Sample ID:         | 12-16-TPH QA/QC    | Date Reported:      | 12-16-97 |
| Laboratory Number: | C696               | Date Sampled:       | N/A      |
| Sample Matrix:     | Methylene Chloride | Date Received:      | N/A      |
| Preservative:      | N/A                | Date Analyzed:      | 12-16-97 |
| Condition:         | N/A                | Analysis Requested: | TPH      |

| Calibration             | I-Cal Date | I-Cal RF   | C-Cal RF   | % Difference | Accept. Range |
|-------------------------|------------|------------|------------|--------------|---------------|
| Gasoline Range C5 - C10 | 10-28-97   | 2.9715E-04 | 3.1083E-04 | 4.60%        | 0 - 15%       |
| Diesel Range C10 - C28  | 10-28-97   | 2.9167E-04 | 3.0670E-04 | 5.15%        | 0 - 15%       |

| Blank Conc. (mg/L - mg/Kg)   | Concentration | Detection Limit |
|------------------------------|---------------|-----------------|
| Gasoline Range C5 - C10      | ND            | 0.2             |
| Diesel Range C10 - C28       | ND            | 0.1             |
| Total Petroleum Hydrocarbons | ND            | 0.2             |

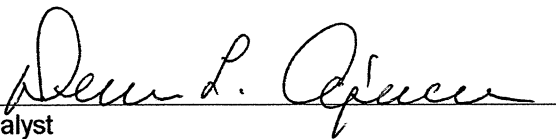
| Duplicate Conc. (mg/Kg) | Sample | Duplicate | % Difference | Accept. Range |
|-------------------------|--------|-----------|--------------|---------------|
| Gasoline Range C5 - C10 | ND     | ND        | 0.0%         | 0 - 30%       |
| Diesel Range C10 - C28  | ND     | ND        | 0.0%         | 0 - 30%       |

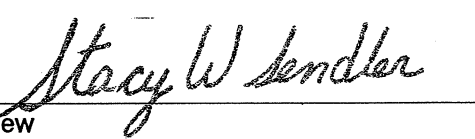
| Spike Conc. (mg/Kg)     | Sample | Spike Added | Spike Result | % Recovery | Accept. Range |
|-------------------------|--------|-------------|--------------|------------|---------------|
| Gasoline Range C5 - C10 | ND     | 250         | 250          | 100%       | 75 - 125%     |
| Diesel Range C10 - C28  | ND     | 250         | 250          | 100%       | 75 - 125%     |

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Wast  
SW-846, USEPA, December 1996.

Comments: QA/QC for samples C696 - C699.

  
Analyst

  
Review