

**3R - 126**

**ANNUAL  
MONITORING  
REPORT**

**03/07/2008**



March 7, 2008

Mr. Glenn von Gonten  
Hydrologist-Groundwater Remediation  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

RE: Annual Groundwater Remediation Reports

Dear Mr. von Gonten,

XTO Energy Inc. (XTO) is submitting the Annual Groundwater Remediation Reports in accordance with the NMOCD approved Groundwater Management Plan (GMP). Enclosed are summary reports with analytical data, summary tables, site maps, potentiometric surface diagrams and recommendations/proposed actions for:

- Brumington Gas Com #1- 3RP106
- Carson Gas Com #1E
- EJ Johnson C #1E- 3RP385
- Federal Gas Com #H1 3R 110
- Frost, Jack B #2
- McCoy GC D #1E
- OH Randel #7- 3RP386
- PO Pipken #3E 3R 409
- ✓ • Rowland Gas Com #1- 3RP124
- Snyder Gas Com #1A- 3RP126
- Sullivan Gas Com D #1- 3RP131
- Valdez A #1E- 3RP134

We have also enclosed an Annual Report for ten sites that meet the closure requirements outlined in the GMP. XTO respectfully requests closure of:

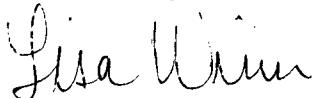
- Baca Gas Com A #1A- 3RP104
- Garcia Gas Com B #1- 3RP111
- Haney Gas Com B #1E- 3RP113
- Hare Gas Com B #1
- Hare Gas Com B #1E- 3RP384
- Hare Gas Com I #1
- Masden Gas Com #1E- 3RP120
- McDaniel Gas Com B #1E- 3RP121
- Stedje Gas Com #1- 3RP128
- Sullivan Frame A #1E- 3RP130

In previously submitted reports five sites met the closure requirements outlined in the GMP and XTO requested closure on those sites in 2006 and 2007. The reports for the below listed sites are being submitted again for your review.

- Abrams J #1- 3RP100
- Armenta Gas Com C #1E- 3RP394
- Bergin Gas Com #1E- 3RP105
- Romero Gas Com A #1- 3RP123
- State Gas Com BS #1- 3RP127

Thank you for your review of the reports. XTO looks forward to hearing from you regarding closure requests and proposed remediation actions. If you have any questions please do not hesitate to contact me at (505) 333-3100.

Respectfully,



Lisa Winn  
EH & S Manager  
San Juan Division

cc: Mr. Brandon Powell, Environmental, NMOCD District III Office, Aztec, NM  
Mr. Martin Nee, Lodestar Services Inc.  
File- San Juan Groundwater

3R 126

**XTO ENERGY INC.**

**ANNUAL GROUNDWATER REPORT**

**2007**

**SNYDER GAS COM #1A  
(F) SECTION 19 – T29N – R09W, NMPM  
SAN JUAN COUNTY, NEW MEXICO**

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

*January 2008*

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Table 2:	General Water Chemistry Laboratory Results
Figure 1:	Site Map
Figures 2 - 5:	Potentiometric Surface Diagrams
Figures 6 - 8:	Geologic Logs and Well Completion Diagrams
Attachment 1:	2006 and 2007 Laboratory Reports

# 2007 XTO GROUNDWATER REPORT

## SNYDER GAS COM #1A

### SITE DETAILS

LEGALS - TWN: 29N	RNG: 09W	SEC: 19	UNIT: F
NMOCD HAZARD RANKING: 20		LAND TYPE: FEE	

### PREVIOUS ACTIVITIES

Excavation: Mar-94 (440 cy)

Monitoring Wells: Oct-99

Quarterly Sampling Initiated: Oct-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. General water quality data from 1999 is included 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 west. Figures 2 - 5 illustrate the estimated groundwater gradients for 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 MW-1, MW-2 and MW-3 in January and April 2007. Laboratory results reveal benzene, toluene, ethyl benzene and total xylenes (BTEX) concentrations were not detected above the laboratory equipment detection limits (0.2 ug/L) or were below New Mexico Water Quality Control Commission (NMWQCC) standards.

### GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

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

## 2007 XTO GROUNDWATER REPORT

### **CONCLUSIONS**

January 1998 XTO Energy Inc. (XTO) acquired the Snyder Gas Com #1A from Amoco Production Company. XTO understands the initial evaluation of groundwater impact came from samples of groundwater collected from the bottom of the pit during excavation of hydrocarbon impacted soil. The initial samples demonstrated elevated levels of dissolved phase BTEX in groundwater. In 1999 three groundwater monitoring wells were installed to delineate the extent of hydrocarbon impact to groundwater. Monitoring well numbered MW-2 was installed in the center of the source area (closed and backfilled earthen blow pit). Groundwater samples collected from MW-2 in October 1999 indicated trace levels of dissolved phase BTEX constituents below the NMWQCC standards. Monitoring well numbered MW-1 was located up-gradient of the source area and monitoring well MW-3 was located down gradient of the source area. MW-1 and MW-3 were sampled and laboratory analysis showed no BTEX constituents above the detection limits of laboratory equipment (0.2 ug/L). Sampling was terminated and site closure was requested in 2000. NMOCD denied the request for closure pending four consecutive quarters of BTEX analysis below the NMWQCC standards.

Groundwater analytical data from MW-1 and MW-2 for four (4) consecutive quarters have demonstrated no detectable levels of BTEX constituents or levels below NMWQCC standards. The quarterly sampling has confirmed no rebound of BTEX constituents has occurred from MW-1 and MW-2. XTO will continue to monitor MW-3 until four consecutive quarters of BTEX analysis are below the NMWQCC standards.

### **RECOMMENDATIONS**

- Terminate sampling of MW-1 & MW-2 for BTEX constituents.
- Continue quarterly sampling of MW-3.
- 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>SNYDER GC #1A- BLOW PIT</b>
<b>UNIT F, SEC. 19, T29N, R9W</b>

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	BTEX EPA Method 801 (PPB)			
					Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
28-Oct-99	MW #1	6.79	15		ND	ND	ND	ND
13-Jul-06		NA	6.64			No Recovery		
19-Oct-06		10.88	11.97		2.7	9.1	1.1	28
18-Jan-07		9.71	12.42		ND	ND	ND	ND
11-Apr-07		9.12	12		ND	ND	ND	ND
28-Oct-99	MW #2	6.67	15		1.2	3.6	ND	3.7
13-Jul-06		10.31	15.23		ND	ND	ND	ND
16-Oct-06		10.49	15.28		3.1	16	2.3	68
18-Jan-07		9.4	15.23		ND	ND	ND	ND
11-Apr-07		8.82	15.23		ND	ND	ND	ND
28-Oct-99	MW #3	7.35	15		ND	ND	ND	ND
13-Jul-06		9.19	15.1		ND	ND	ND	ND
19-Oct-06		10.67	15.21		82	5.5	ND	19
18-Jan-07		9.64	15.1		2.1	ND	ND	ND
11-Apr-07		9.22	15.1		ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS					10	750	750	620

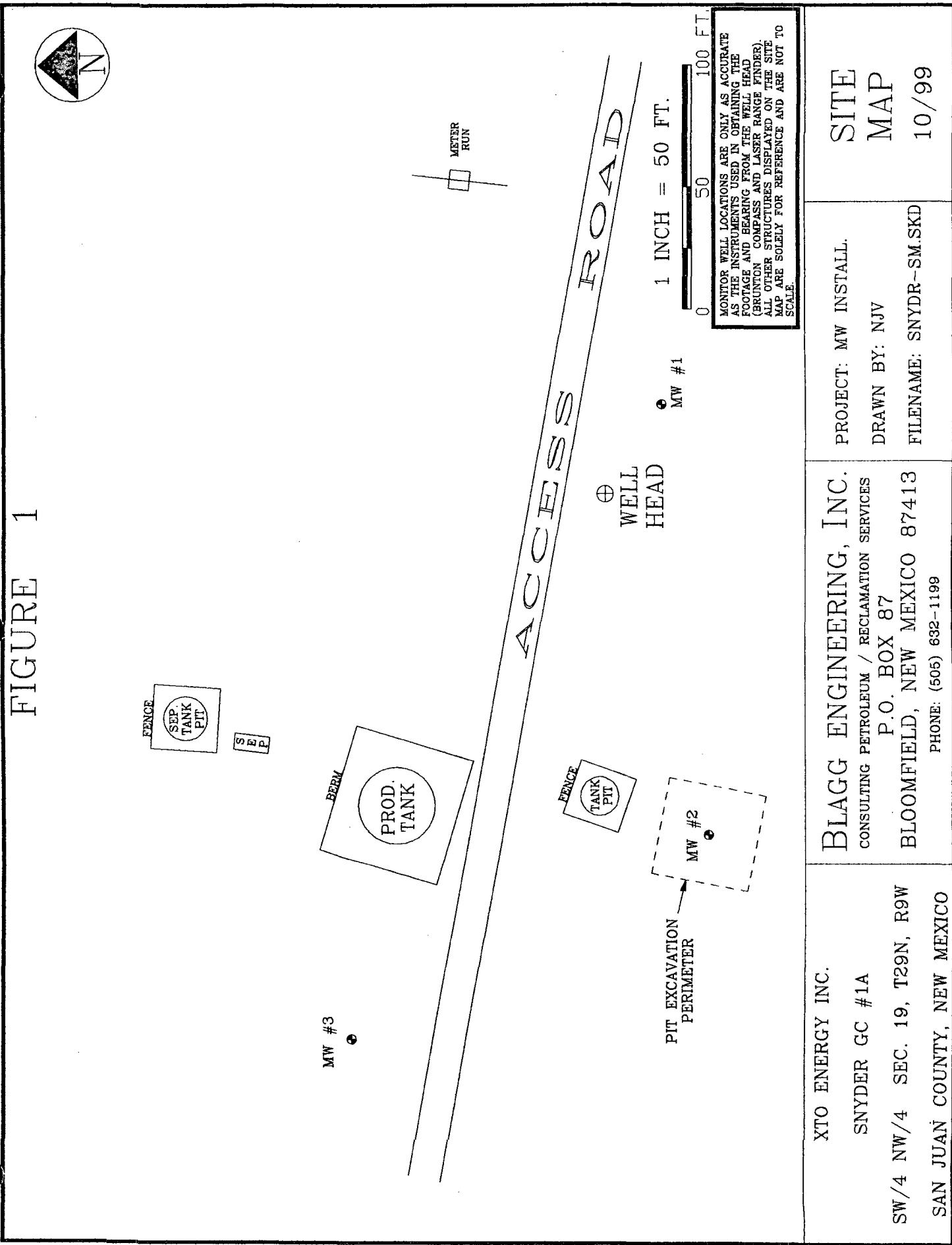
**TABLE 2****XTO ENERGY INC. GROUNDWATER LAB RESULTS**

<b>SNYDER GC #1A- BLOW PIT</b>
<b>UNIT F, SEC. 19, T29N, R9W</b>

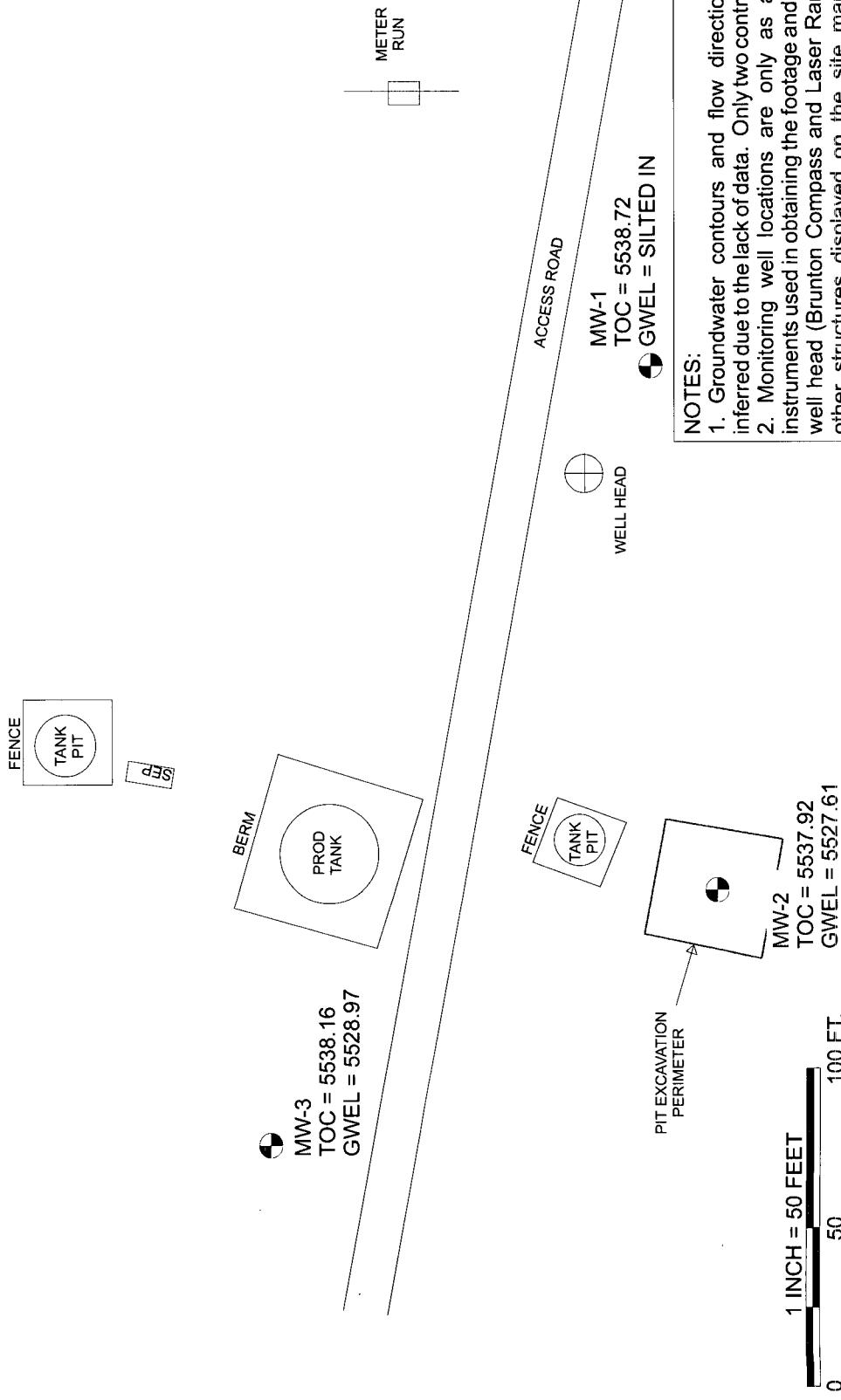
Sample Date: October 28, 1999

PARAMETERS	MW #1	MW #2	MW #3	UNITS
LAB Ph	7.28	7.37	7.36	s.u.
LAB CONDUCTIVITY @ 25 C	1,094	1,165	1,570	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	520	580	760	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	504	541	733	mg/L
SODIUM ABSORPTION RATIO	2.8	2	1.4	ratio
TOTAL ALKALINITY AS CaCO <sub>3</sub>	221	245	247	mg/L
TOTAL HARDNESS AS CaCO <sub>3</sub>	198	256	420	mg/L
BICARBONATE AS HCO <sub>3</sub>	198	245	247	mg/L
CARBONATE AS CO <sub>3</sub>	< 1	< 1	< 1	mg/L
HYDROXIDE AS OH	< 1	< 1	< 1	mg/L
NITRATE NITROGEN	< 0.1	0.1	0.1	mg/L
NITRITE NITROGEN	0.003	< 0.001	< 0.001	mg/L
CHLORIDE	1.3	2.2	2.3	mg/L
FLUORIDE	1.47	1.35	1.49	mg/L
PHOSPHATE	1.1	0.8	0.5	mg/L
SULFATE	198	208	348	mg/L
IRON	0.007	< 0.001	0.036	mg/L
CALCIUM	73.6	97.2	141.6	mg/L
MAGNESIUM	3.42	3.17	16.1	mg/L
POTASSIUM	2.6	6.4	6.2	mg/L
SODIUM	89	74	67	mg/L
CATION/ANION DIFFERENCE	0.03	0.06	0.16	%

FIGURE 1



TOC = TOP OF CASING ELEVATION  
 GWEL = GROUNDWATER ELEVATION  
 - - - = INFERRRED GROUNDWATER CONTOUR LINE



**NOTES:**

1. Groundwater contours and flow direction could not be inferred due to the lack of data. Only two control points exist.
2. Monitoring 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.

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

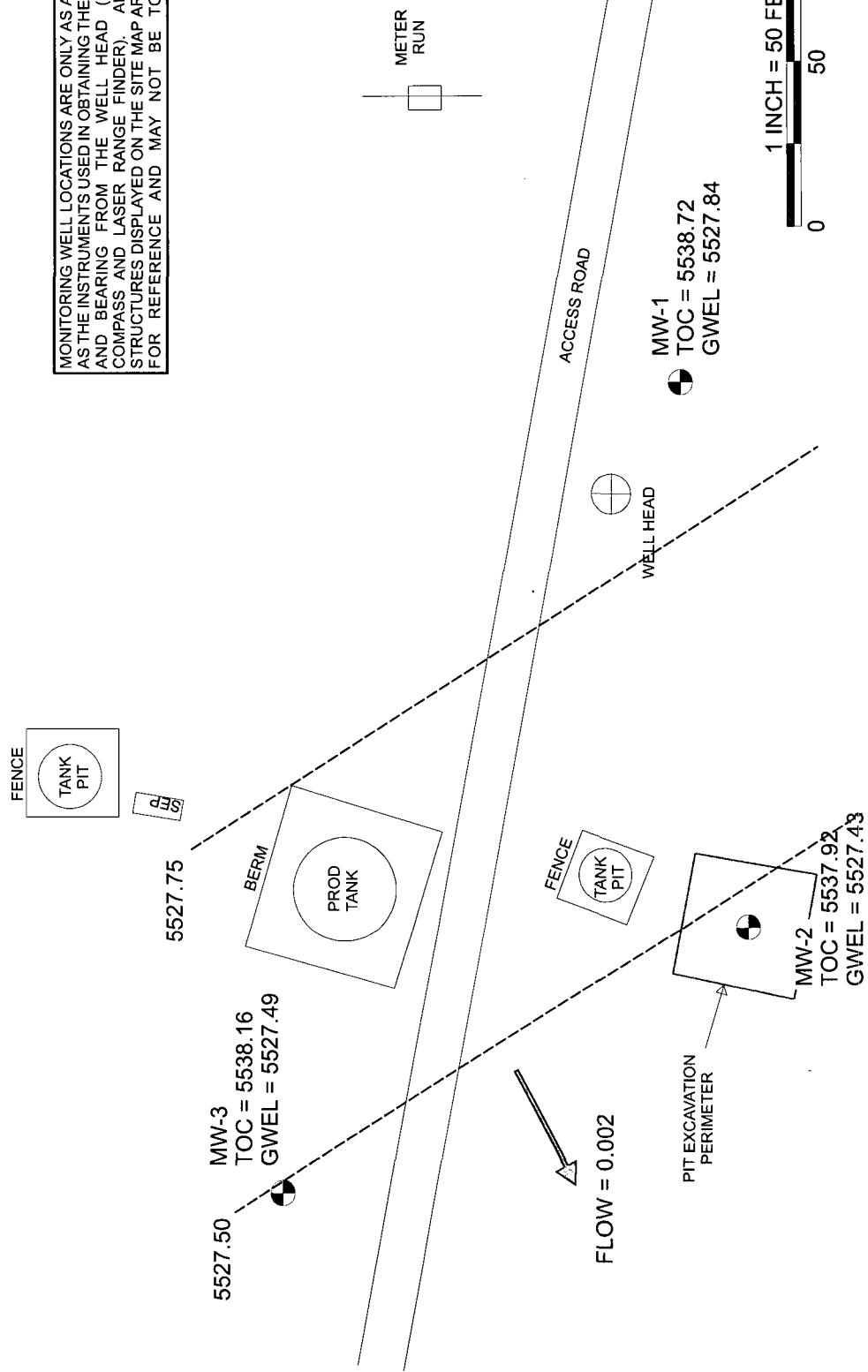
FIGURE 2  
GROUNDWATER GRADIENT MAP  
07/13/2006

SNYDER GAS COM #1A	PROJECT: XTO GROUND WATER
SW1/4 NW1/4 SEC. 19, T29N, R9W	DRAWN BY: ALA
SAN JUAN COUNTY, NEW MEXICO	REVISED: 12/01/06

Lodestar Services, Inc  
PO Box 3861  
Farmington, NM 87499

TOC = TOP OF CASING ELEVATION  
 GWEL = GROUNDWATER ELEVATION  
 - - - = INFERRRED GROUNDWATER CONTOUR LINE

MONITORING 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.

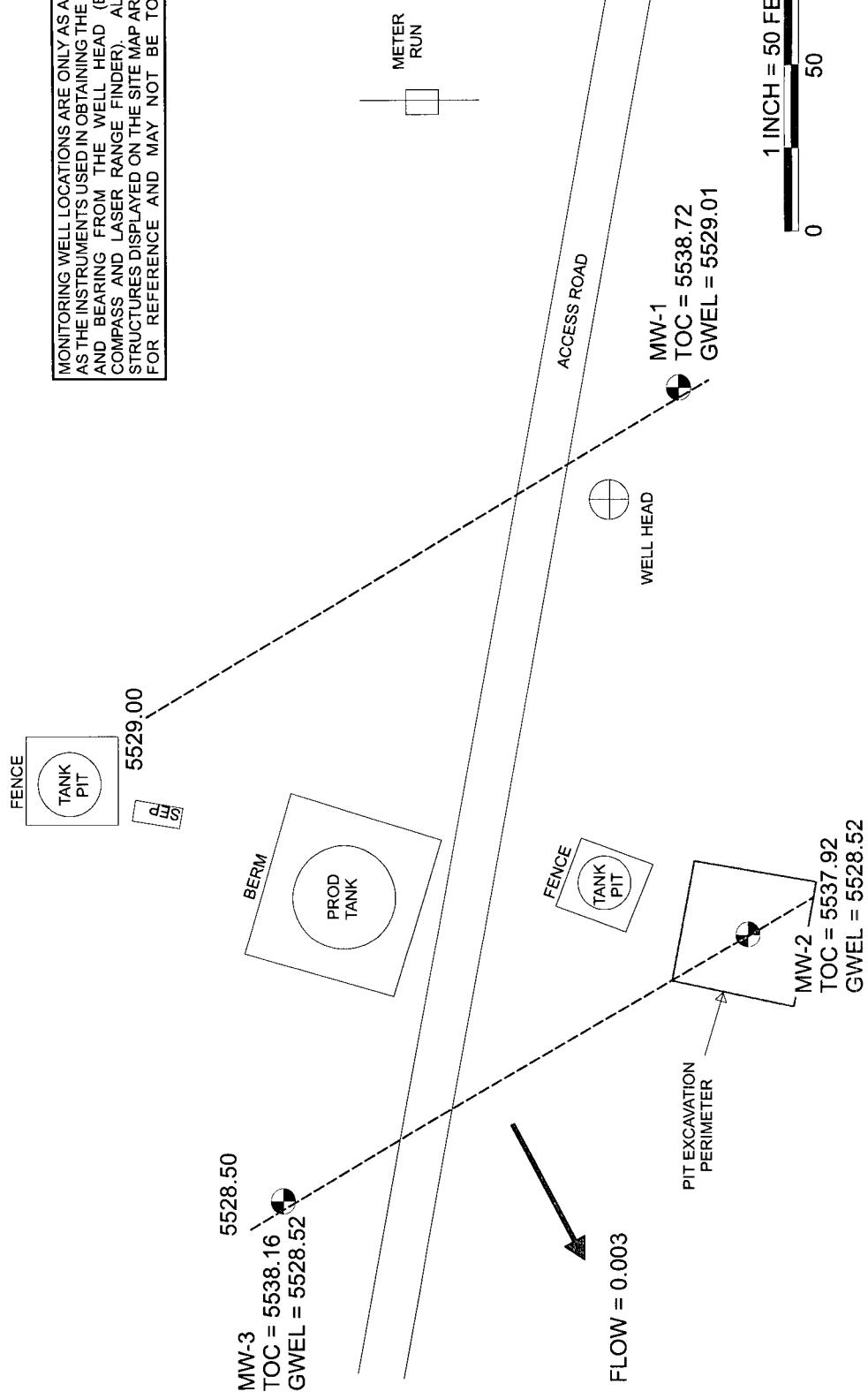


Lodestar Services, Inc  
 PO Box 3861  
 Farmington, NM 87499

PROJECT: XTO GROUND WATER	GROUNDWATER GRADIENT MAP
DRAWN BY: ALA	10/19/2006
REVISED: 12/01/06	FIGURE 3

TOC = TOP OF CASING ELEVATION  
 GWEL = GROUNDWATER ELEVATION  
 - - - = INFERRRED GROUNDWATER CONTOUR LINE

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



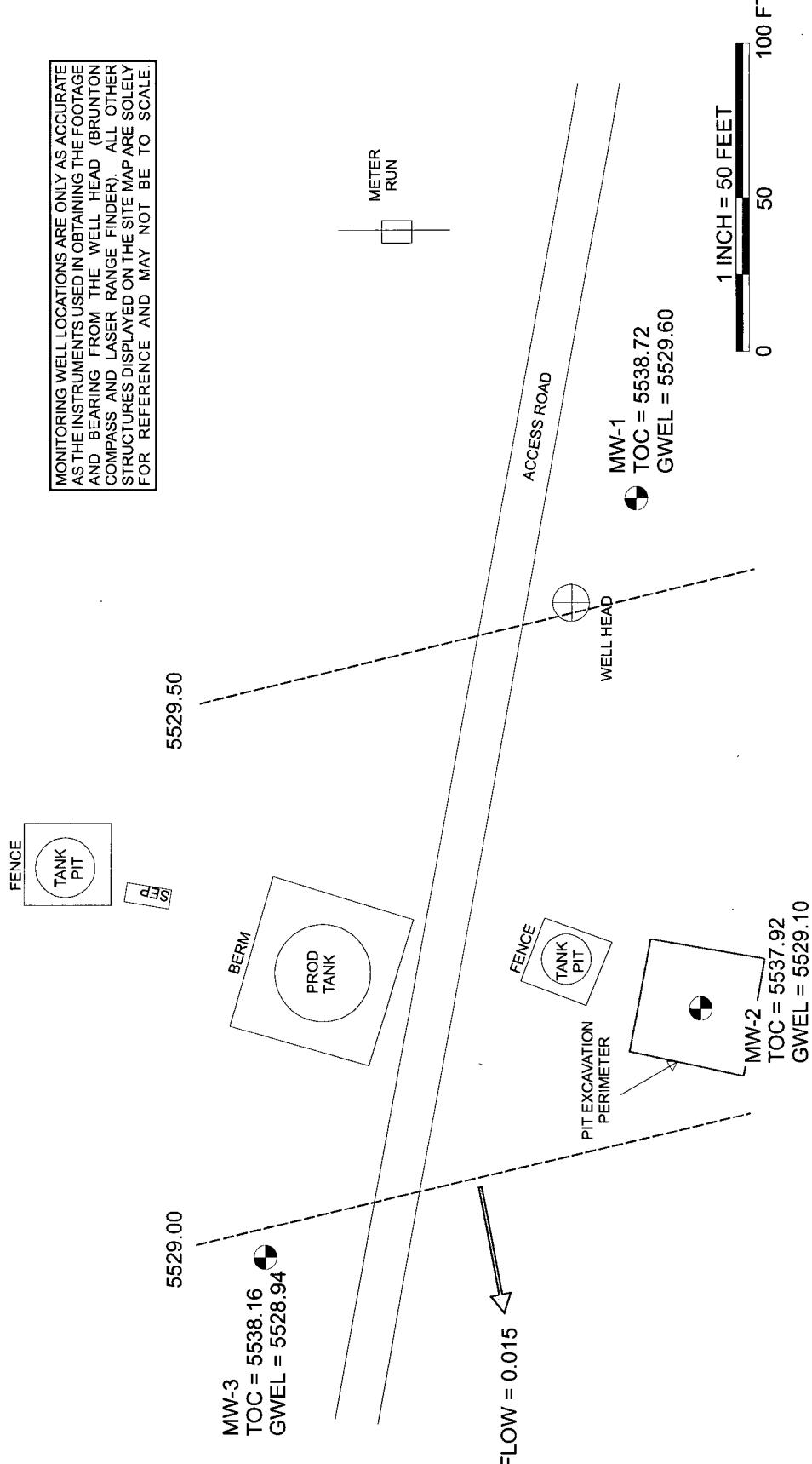
GROUNDWATER GRADIENT MAP  
 01/18/2007  
 FIGURE 4

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

SNYDER GAS COM #1A	PROJECT: XTO GROUND WATER
SW/4 NW/4 SEC. 19, T29N, R9W	DRAWN BY: ALA
SAN JUAN COUNTY, NEW MEXICO	REVISED: 01/19/07

Lodestar Services, Inc  
 PO Box 3861  
 Farmington, NM 87499

TOC = TOP OF CASING ELEVATION  
 GWEL = GROUNDWATER ELEVATION  
 - - - = INFERRRED GROUNDWATER CONTOUR LINE



Lodestar Services, Inc  
 PO Box 3861  
 Farmington, NM 87499

SNYDER GAS COM #1A  
 SW1/4 NW1/4 SEC. 19, T29N, R9W  
 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

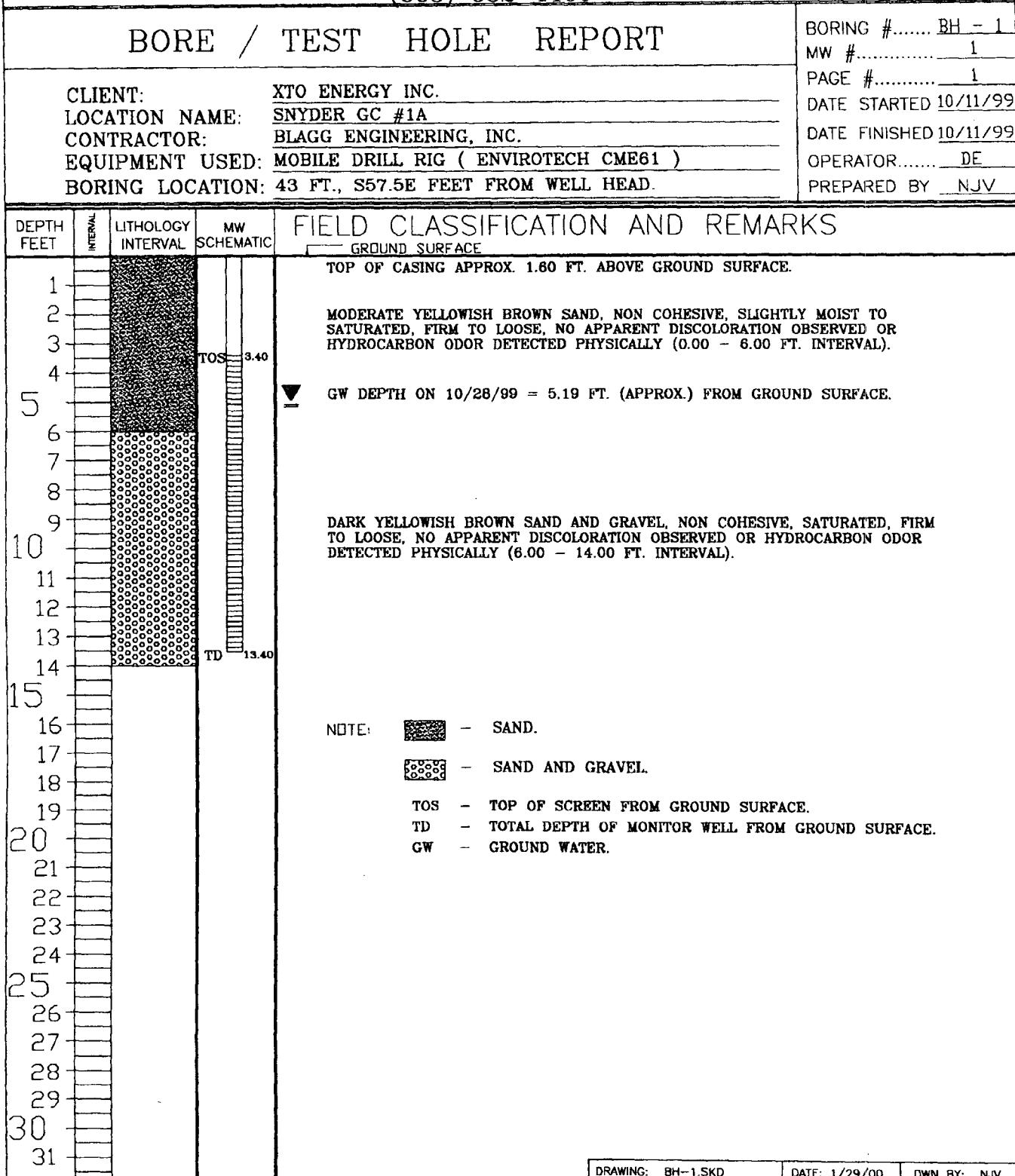


FIGURE 7

## BLAGG ENGINEERING, Inc.

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

## BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.  
 LOCATION NAME: SNYDER GC #1A  
 CONTRACTOR: BLAGG ENGINEERING, INC.  
 EQUIPMENT USED: MOBILE DRILL RIG ( ENVIROTECH CME61 )  
 BORING LOCATION: 145 FT., S73W FEET FROM WELL HEAD.

BORING #..... BH - 2  
 MW #..... 2  
 PAGE #..... 2  
 DATE STARTED 10/11/99  
 DATE FINISHED 10/11/99  
 OPERATOR..... DE  
 PREPARED BY NJV

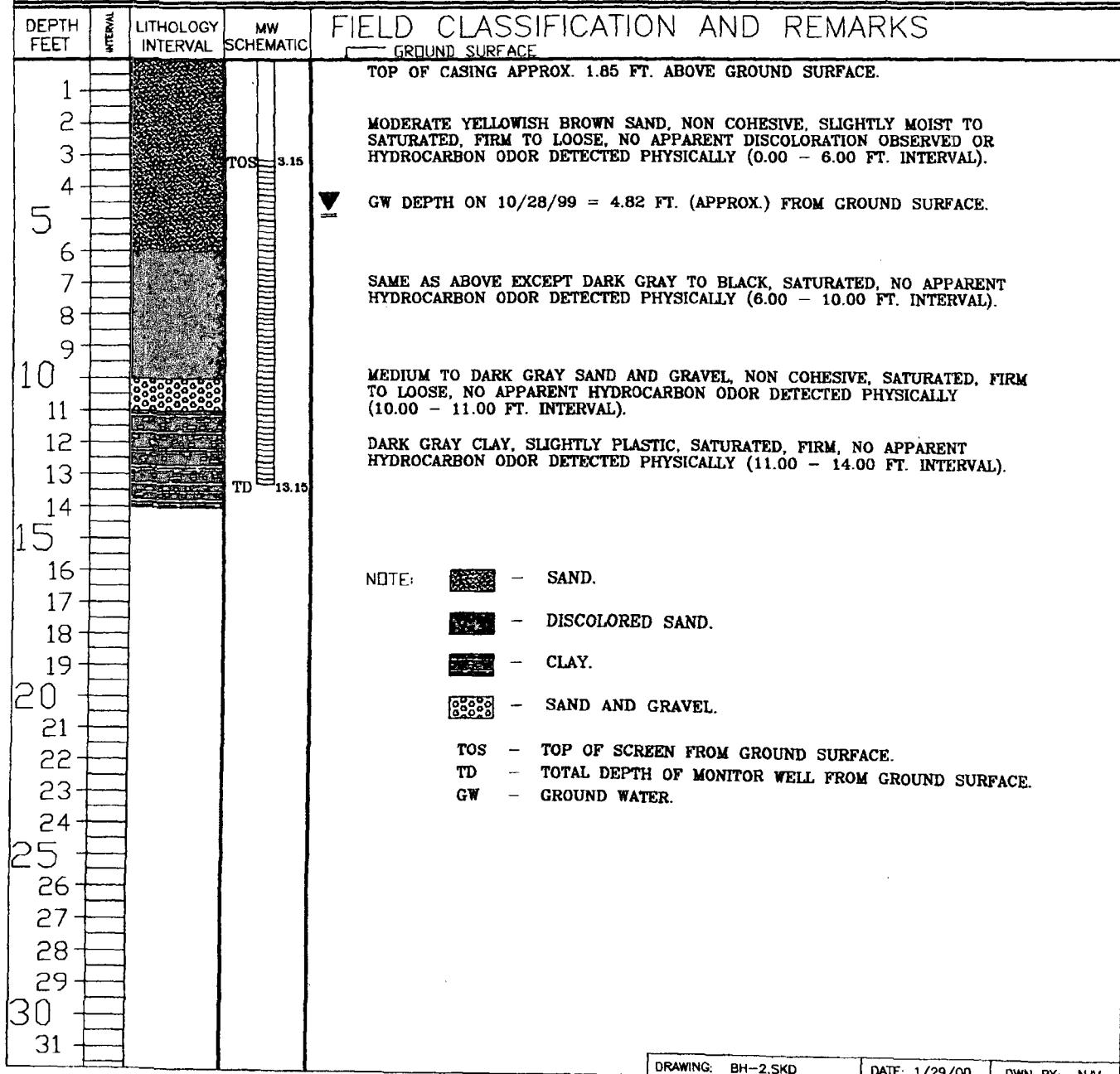


FIGURE 8

<b>BLAGG ENGINEERING, Inc.</b> P.O. BOX 87 BLOOMFIELD, NM 87413 (505) 632-1199				
<b>BORE / TEST HOLE REPORT</b>				BORING #..... BH - 3 MW #..... 3 PAGE #..... 3 DATE STARTED 10/11/99 DATE FINISHED 10/11/99 OPERATOR..... DE PREPARED BY NJV
CLIENT: XTO ENERGY INC. LOCATION NAME: SNYDER GC #1A CONTRACTOR: BLAGG ENGINEERING, INC. EQUIPMENT USED: MOBILE DRILL RIG ( ENVIROTECH CME61 ) BORING LOCATION: 246 FT., N65W FEET FROM WELL HEAD.				
FIELD CLASSIFICATION AND REMARKS				
GROUND SURFACE				
DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	<p>TOP OF CASING APPROX. 2.35 FT. ABOVE GROUND SURFACE.</p> <p>MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 6.00 FT. INTERVAL).</p> <p>GW DEPTH ON 10/28/99 = 5.00 FT. (APPROX.) FROM GROUND SURFACE.</p> <p>SAME AS ABOVE EXCEPT WITH GRAVEL, SATURATED, (6.00 - 6.50 FT. INTERVAL).</p> <p>SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (6.50 - 10.00 FT. INTERVAL).</p> <p>SAME AS ABOVE EXCEPT WITH GRAVEL, (10.00 - 14.00 FT. INTERVAL).</p> <p>NOTE:  - SAND.   - SAND AND GRAVEL.</p> <p>TOS - TOP OF SCREEN FROM GROUND SURFACE.          TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.          GW - GROUND WATER.</p>
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# Hall Environmental Analysis Laboratory, Inc.

Date: 25-Jul-06

<b>CLIENT:</b>	XTO Energy	<b>Lab Order:</b>	0607174
<b>Project:</b>	Ground Water		

**Lab ID:** 0607174-01 **Collection Date:** 7/13/2006 10:17:00 AM

**Client Sample ID:** Snyder GC #1A MW-2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0	µg/L		1	7/24/2006 12:24:02 PM
Toluene	ND	1.0	µg/L		1	7/24/2006 12:24:02 PM
Ethylbenzene	ND	1.0	µg/L		1	7/24/2006 12:24:02 PM
Xylenes, Total	ND	3.0	µg/L		1	7/24/2006 12:24:02 PM
Surrogate: 4-Bromofluorobenzene	97.6	72.2-125	%REC		1	7/24/2006 12:24:02 PM

**Lab ID:** 0607174-02 **Collection Date:** 7/13/2006 10:35:00 AM

**Client Sample ID:** Snyder GC #1A MW-3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0	µg/L		1	7/24/2006 12:53:04 PM
Toluene	ND	1.0	µg/L		1	7/24/2006 12:53:04 PM
Ethylbenzene	ND	1.0	µg/L		1	7/24/2006 12:53:04 PM
Xylenes, Total	ND	3.0	µg/L		1	7/24/2006 12:53:04 PM
Surrogate: 4-Bromofluorobenzene	93.2	72.2-125	%REC		1	7/24/2006 12:53:04 PM

**Lab ID:** 0607174-03 **Collection Date:**

**Client Sample ID:** 130706TB002 **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 1:22:03 PM
Toluene	ND	1.0	µg/L		1	7/24/2006 1:22:03 PM
Ethylbenzene	ND	1.0	µg/L		1	7/24/2006 1:22:03 PM
Xylenes, Total	ND	3.0	µg/L		1	7/24/2006 1:22:03 PM
Surrogate: 4-Bromofluorobenzene	98.7	72.2-125	%REC		1	7/24/2006 1:22:03 PM

**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: 0607174

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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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** Spike Recovery outside accepted recovery limits  
**2 / 3**

# Hall Environmental Analysis Laboratory, Inc.

Date: 26-Oct-06

<b>CLIENT:</b>	XTO Energy	<b>Lab Order:</b>	0610236
<b>Project:</b>	XTO Ground Water		

<b>Lab ID:</b>	0610236-01	<b>Collection Date:</b>	10/19/2006 2:21:00 PM
<b>Client Sample ID:</b>	PO-Pipkin-3E-MW-2	<b>Matrix:</b>	AQUEOUS

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
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<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	54	1.0	µg/L	1	10/23/2006 1:49:04 PM	Analyst: NSB
Toluene	2.9	1.0	µg/L	1	10/23/2006 1:49:04 PM	
Ethylbenzene	5.6	1.0	µg/L	1	10/23/2006 1:49:04 PM	
Xylenes, Total	50	3.0	µg/L	1	10/23/2006 1:49:04 PM	
Surr: 4-Bromofluorobenzene	95.9	72.2-125	%REC	1	10/23/2006 1:49:04 PM	

<b>Lab ID:</b>	0610236-02	<b>Collection Date:</b>	10/19/2006 12:58:00 PM
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<b>Client Sample ID:</b>	Snyder Gas Com 1A MW-1	<b>Matrix:</b>	AQUEOUS
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<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
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<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	2.7	1.0	µg/L	1	10/23/2006 2:19:23 PM	Analyst: NSB
Toluene	9.1	1.0	µg/L	1	10/23/2006 2:19:23 PM	
Ethylbenzene	1.1	1.0	µg/L	1	10/23/2006 2:19:23 PM	
Xylenes, Total	28	3.0	µg/L	1	10/23/2006 2:19:23 PM	
Surr: 4-Bromofluorobenzene	99.5	72.2-125	%REC	1	10/23/2006 2:19:23 PM	

<b>Lab ID:</b>	0610236-03	<b>Collection Date:</b>	10/19/2006 12:45:00 PM
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<b>Client Sample ID:</b>	Snyder Gas Com 1A MW-3	<b>Matrix:</b>	AQUEOUS
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<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
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<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	82	2.0	µg/L	2	10/24/2006 10:46:24 AM	Analyst: NSB
Toluene	5.5	2.0	µg/L	2	10/24/2006 10:46:24 AM	
Ethylbenzene	ND	2.0	µg/L	2	10/24/2006 10:46:24 AM	
Xylenes, Total	19	6.0	µg/L	2	10/24/2006 10:46:24 AM	
Surr: 4-Bromofluorobenzene	88.9	72.2-125	%REC	2	10/24/2006 10:46:24 AM	

**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: 26-Oct-06

**CLIENT:** XTO Energy  
**Project:** XTO Ground Water

**Lab Order:** 0610236

**Lab ID:** 0610236-04 **Collection Date:** 10/19/2006 12:38:00 PM

**Client Sample ID:** Snyder Gas Com 1A MW-2 **Matrix:** AQUEOUS

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
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**EPA METHOD 8021B: VOLATILES**

Benzene	3.1	1.0	µg/L	1	10/23/2006 3:20:18 PM
Toluene	16	1.0	µg/L	1	10/23/2006 3:20:18 PM
Ethylbenzene	2.3	1.0	µg/L	1	10/23/2006 3:20:18 PM
Xylenes, Total	68	3.0	µg/L	1	10/23/2006 3:20:18 PM
Surr: 4-BromoFluorobenzene	104	72.2-125	%REC	1	10/23/2006 3:20:18 PM

**Analyst:** NSB

**Lab ID:** 0610236-05

**Collection Date:**

**Client Sample ID:** 19102006TB01

**Matrix:** TRIP BLANK

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
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**EPA METHOD 8021B: VOLATILES**

Benzene	ND	1.0	µg/L	1	10/23/2006 3:50:41 PM
Toluene	ND	1.0	µg/L	1	10/23/2006 3:50:41 PM
Ethylbenzene	ND	1.0	µg/L	1	10/23/2006 3:50:41 PM
Xylenes, Total	ND	3.0	µg/L	1	10/23/2006 3:50:41 PM
Surr: 4-BromoFluorobenzene	93.0	72.2-125	%REC	1	10/23/2006 3:50:41 PM

**Analyst:** NSB

**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:** 0610236

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8021</b>									
Sample ID: 5ML RB		MBLK							
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							
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							
Benzene	20.64	µg/L	1.0	103	85	115			
Toluene	20.86	µg/L	1.0	104	85	118			
Ethylbenzene	20.75	µg/L	1.0	104	85	116			
Xylenes, Total	43.17	µg/L	3.0	108	85	119			
Sample ID: 100NG BTEX LCS		LCS							
Benzene	20.39	µg/L	1.0	102	85	115			
Toluene	20.73	µg/L	1.0	104	85	118			
Ethylbenzene	20.80	µg/L	1.0	104	85	116			
Xylenes, Total	42.15	µg/L	3.0	105	85	119			
Sample ID: 100NG BTEX LCSD		LCSD							
Benzene	19.92	µg/L	1.0	99.6	85	115	3.53	27	
Toluene	20.05	µg/L	1.0	100	85	118	3.98	19	
Ethylbenzene	20.09	µg/L	1.0	100	85	116	3.21	10	
Xylenes, Total	41.06	µg/L	3.0	103	85	119	5.00	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 Spike recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

Date: 23-Jan-07

<b>CLIENT:</b>	XTO Energy	<b>Lab Order:</b>	0701243
<b>Project:</b>	Ground Water		

**Lab ID:** 0701243-01 **Collection Date:** 1/18/2007 9:45:00 AM

**Client Sample ID:** Snyder GC 1A MW-3 **Matrix:** AQUEOUS

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	2.1	1.0	µg/L	1	Analyst: LMM 1/22/2007 11:59:26 AM	
Toluene	ND	1.0	µg/L	1	1/22/2007 11:59:26 AM	
Ethylbenzene	ND	1.0	µg/L	1	1/22/2007 11:59:26 AM	
Xylenes, Total	ND	3.0	µg/L	1	1/22/2007 11:59:26 AM	
Surr: 4-Bromofluorobenzene	88.1	70.2-105	%REC	1	1/22/2007 11:59:26 AM	

**Lab ID:** 0701243-02 **Collection Date:** 1/18/2007 10:05:00 AM

**Client Sample ID:** Snyder GC 1A MW-2 **Matrix:** AQUEOUS

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0	µg/L	1	Analyst: LMM 1/22/2007 12:29:37 PM	
Toluene	ND	1.0	µg/L	1	1/22/2007 12:29:37 PM	
Ethylbenzene	ND	1.0	µg/L	1	1/22/2007 12:29:37 PM	
Xylenes, Total	ND	3.0	µg/L	1	1/22/2007 12:29:37 PM	
Surr: 4-Bromofluorobenzene	90.4	70.2-105	%REC	1	1/22/2007 12:29:37 PM	

**Lab ID:** 0701243-03 **Collection Date:** 1/18/2007 10:25:00 AM

**Client Sample ID:** Snyder GC 1A MW-1 **Matrix:** AQUEOUS

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0	µg/L	1	Analyst: LMM 1/22/2007 12:59:35 PM	
Toluene	ND	1.0	µg/L	1	1/22/2007 12:59:35 PM	
Ethylbenzene	ND	1.0	µg/L	1	1/22/2007 12:59:35 PM	
Xylenes, Total	ND	3.0	µg/L	1	1/22/2007 12:59:35 PM	
Surr: 4-Bromofluorobenzene	93.4	70.2-105	%REC	1	1/22/2007 12:59:35 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: 23-Jan-07

CLIENT:	XTO Energy	Lab Order:	0701243
Project:	Ground Water		

Lab ID:	0701243-10	Collection Date:	
Client Sample ID:	Trip Blank	Matrix:	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0	µg/L	1	1/19/2007 9:42:17 PM	Analyst: LMM
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

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
<b>Method: SW8021</b>									
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
- 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: 18-Apr-07

<b>CLIENT:</b>	XTO Energy	<b>Lab Order:</b>	0704208
<b>Project:</b>	Ground Water		

<b>Lab ID:</b>	0704208-01	<b>Collection Date:</b>	4/11/2007 10:25:00 AM
<b>Client Sample ID:</b>	Snyder GC 1A MW-3	<b>Matrix:</b>	AQUEOUS

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	1.4	1.0		µg/L	1	4/17/2007 12:57:57 PM
Toluene	ND	1.0		µg/L	1	4/17/2007 12:57:57 PM
Ethylbenzene	ND	1.0		µg/L	1	4/17/2007 12:57:57 PM
Xylenes, Total	ND	2.0		µg/L	1	4/17/2007 12:57:57 PM
Surr: 4-Bromofluorobenzene	87.5	70.2-105		%REC	1	4/17/2007 12:57:57 PM

<b>Lab ID:</b>	0704208-02	<b>Collection Date:</b>	4/11/2007 10:41:00 AM
<b>Client Sample ID:</b>	Snyder GC 1A MW-2	<b>Matrix:</b>	AQUEOUS

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0		µg/L	1	4/17/2007 1:28:07 PM
Toluene	ND	1.0		µg/L	1	4/17/2007 1:28:07 PM
Ethylbenzene	ND	1.0		µg/L	1	4/17/2007 1:28:07 PM
Xylenes, Total	ND	2.0		µg/L	1	4/17/2007 1:28:07 PM
Surr: 4-Bromofluorobenzene	85.6	70.2-105		%REC	1	4/17/2007 1:28:07 PM

<b>Lab ID:</b>	0704208-03	<b>Collection Date:</b>	4/11/2007 10:54:00 AM
<b>Client Sample ID:</b>	Snyder GC 1A MW-1	<b>Matrix:</b>	AQUEOUS

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0		µg/L	1	4/17/2007 1:58:17 PM
Toluene	ND	1.0		µg/L	1	4/17/2007 1:58:17 PM
Ethylbenzene	ND	1.0		µg/L	1	4/17/2007 1:58:17 PM
Xylenes, Total	ND	2.0		µg/L	1	4/17/2007 1:58:17 PM
Surr: 4-Bromofluorobenzene	87.1	70.2-105		%REC	1	4/17/2007 1:58:17 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

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

Page 1 of 4

# Hall Environmental Analysis Laboratory, Inc.

Date: 18-Apr-07

CLIENT: XTO Energy  
Project: Ground Water

Lab Order: 0704208

Lab ID: 0704208-10  
Client Sample ID: Trip Blank

Collection Date:

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Analyst: NSB
<b>EPA METHOD 8021B: VOLATILES</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	

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:** Ground Water

**Work Order:** 0704208

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8021</b>									
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
- 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