

**3R - 128**

**2007 AGWMR**

**JAN 2008**

**XTO ENERGY INC.**

***ANNUAL GROUNDWATER REPORT***

***2007***

***STEDJE GC #1  
(F) SECTION 27 – T30N – R12W, NMPM  
SAN JUAN COUNTY, NEW MEXICO***

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

***January 2008***

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Figure 1:	Site Map
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Attachment 1:	2006 & 2007 Laboratory Reports

# 2007 XTO GROUNDWATER REPORT

## STEDJE GAS COM #1

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### SITE DETAILS

LEGALS - TWN: 30N	RNG: 12W	SEC: 27	UNIT: F
NMOCD HAZARD RANKING: 40		LAND TYPE: FEE	

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### PREVIOUS ACTIVITIES

Excavation: Aug-93

Soil Boring: Nov-99

Monitoring Wells: Nov-99

Quarterly Sampling Initiated: Nov-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 quality 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 to the northwest. Figures 2 - 5 illustrate the estimated groundwater gradients for 2006 and 2007.

### ANNUAL GROUNDWATER REMEDIATION REPORTS

The 2005 annual report was submitted to New Mexico Oil Conservation Division (NMOCD) in April 2006, proposing installation of an additional monitoring well to further delineate groundwater conditions and continue quarterly sampling of all monitoring wells until four consecutive quarters have been analyzed for hydrocarbon constituents.

The 2006 annual groundwater report was submitted to NMOCD in February 2007, proposing continued 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-3R in 2007. Analytical results demonstrate no detectable levels of benzene, toluene, ethyl benzene and total xylenes (BTEX) constituents in groundwater.

### GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Bore/Test Hole Reports are presented as Figures 6 - 8 representing drilling that occurred on site in November 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 Stedje Gas Com #1 from Amoco Production Company. XTO understands the initial evaluation of groundwater impact came from samples of groundwater collected from a pit bottom during excavation. In 1999 groundwater monitoring wells were installed to delineate the extent of hydrocarbon impacts. Monitoring well numbered MW-2 located near the source area and down gradient of MW-3 exhibited BTEX concentrations in excess of New Mexico Water Quality Control Commission (NMWQCC) standards during 1999 and trace or no detectable levels of hydrocarbon impact in subsequent sampling events. Monitoring well MW-1 was located cross gradient from the source area and no levels of BTEX constituents were detected during the 1999 sample event. In December 2001 NMOCD denied the closure request, requiring four consecutive samples below NMWQCC standards.

Groundwater analytical data from MW-1, MW-2, and MW-3R for four (4) consecutive quarters have demonstrated no detectable levels of BTEX constituents and 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>STEDJE GC #1- SEPARATOR PIT</b> <b>UNIT F, SEC. 27, T30N, R12W</b>
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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)
29-Nov-99	MW #1	11.51	15		ND	ND	ND	ND
21-Feb-00		11.59			-	-	-	-
20-Jun-06		10.11	15.46		ND	ND	ND	ND
26-Sep-06		11.33	15.49		ND	ND	ND	ND
6-Dec-06		11.35	15.46		ND	ND	ND	ND
8-Mar-07		11.63	15.46		ND	ND	ND	ND
29-Nov-99	MW #2	10.8	15		50	37.3	124	621.8
15-Mar-00		10.57			ND	ND	ND	ND
19-Jun-00		9.75			ND	ND	0.8	ND
20-Jun-06		8.17	11.7		ND	ND	ND	ND
26-Sep-06		11.38	11.7		ND	ND	ND	ND
6-Dec-06		11.32	11.7		ND	ND	ND	ND
8-Mar-07		11.55	11.7		ND	ND	ND	ND
29-Nov-99	MW #3	10.51	15		9.9	3.5	75	154.6
21-Feb-00		10.61			ND	ND	ND	ND
19-Jun-00		9.5			ND	ND	ND	ND
20-Jun-06	MONITORING WELL NOT FOUND							
26-Sep-06	MW #3R	11.52	17.3		ND	ND	ND	ND
6-Dec-06		11.68	17.3		ND	ND	ND	ND
8-Mar-07		12.92	17.3		ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS					10	750	750	620

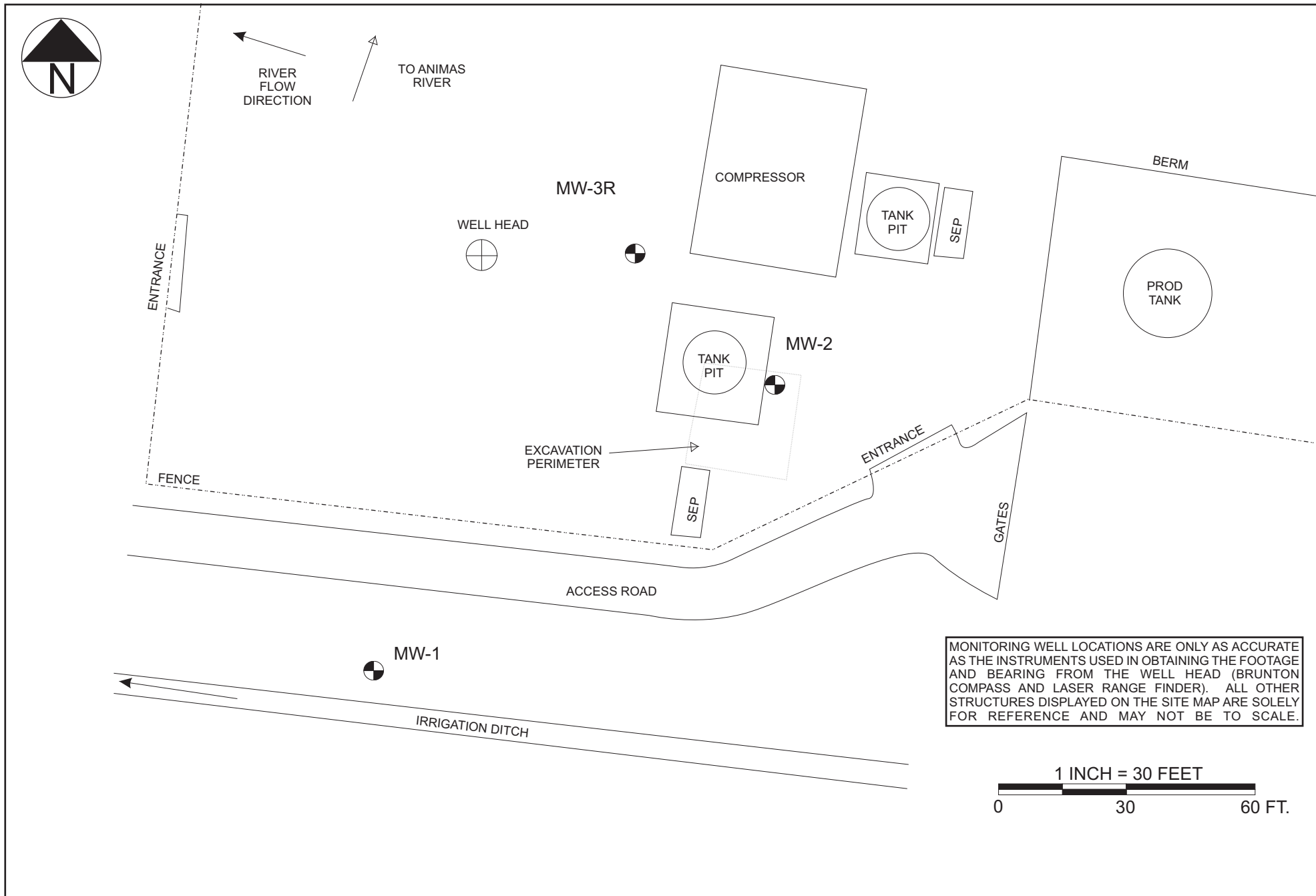
TABLE 2

## XTO ENERGY INC. GROUNDWATER LAB RESULTS

<b>STEDJE GC #1- SEPARATOR PIT</b> <b>UNIT F, SEC. 27, T30N, R12W</b>
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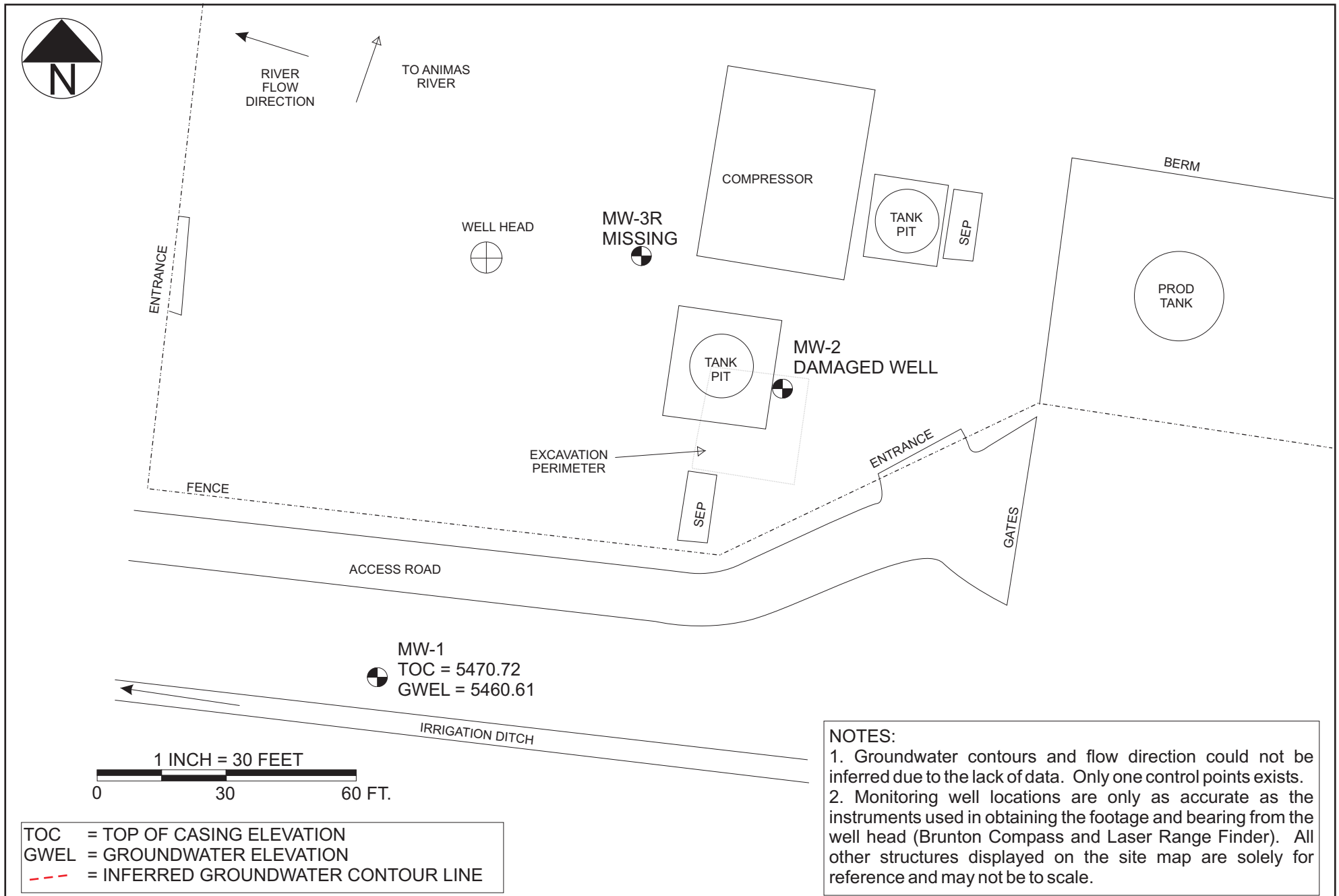
Sample Date: November 29, 1999


PARAMETERS	MW #1	MW #2	MW #3	UNITS
LAB Ph	7.17	7.14	7.15	s.u.
LAB CONDUCTIVITY @ 25 C	935	910	960	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	466	450	475	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	460	430	460	mg/L
SODIUM ABSORPTION RATIO	0	0.6	0.6	ratio
TOTAL ALKALINITY AS CaCO <sub>3</sub>	212	198	210	mg/L
TOTAL HARDNESS AS CaCO <sub>3</sub>	372	298	322	mg/L
BICARBONATE AS HCO <sub>3</sub>	212	198	210	mg/L
CARBONATE AS CO <sub>3</sub>	< .01	< .01	< .01	mg/L
HYDROXIDE AS OH	< .01	< .01	< .01	mg/L
NITRATE NITROGEN	0.1	0.1	0.4	mg/L
NITRITE NITROGEN	0.002	0.002	0.006	mg/L
CHLORIDE	24	23.3	32	mg/L
FLUORIDE	1.12	0.6	0.94	mg/L
PHOSPHATE	0.4	2.2	0.7	mg/L
SULFATE	160	145	150	mg/L
IRON	0.01	0.08	0.01	mg/L
CALCIUM	122	105	107	mg/L
MAGNESIUM	16.6	8.8	13.2	mg/L
POTASSIUM	4.5	2.1	4.4	mg/L
SODIUM	< 0.1	23	24	mg/L
CATION/ANION DIFFERENCE	0.17	0.02	0.19	%



<p>  <b>Lodestar Services, Inc</b>            PO Box 3861            Farmington, NM 87499         </p>	<p> <b>STEDJE GAS COM #1</b>            SE/4 NW/4 SEC. 27, T30N, R12W            SAN JUAN COUNTY, NEW MEXICO         </p>	<p>           PROJECT: XTO GROUND WATER            DRAWN BY: ALA            REVISED: 01/24/07         </p>	<p> <b>FIGURE 1</b>  <b>SITE MAP</b> </p>
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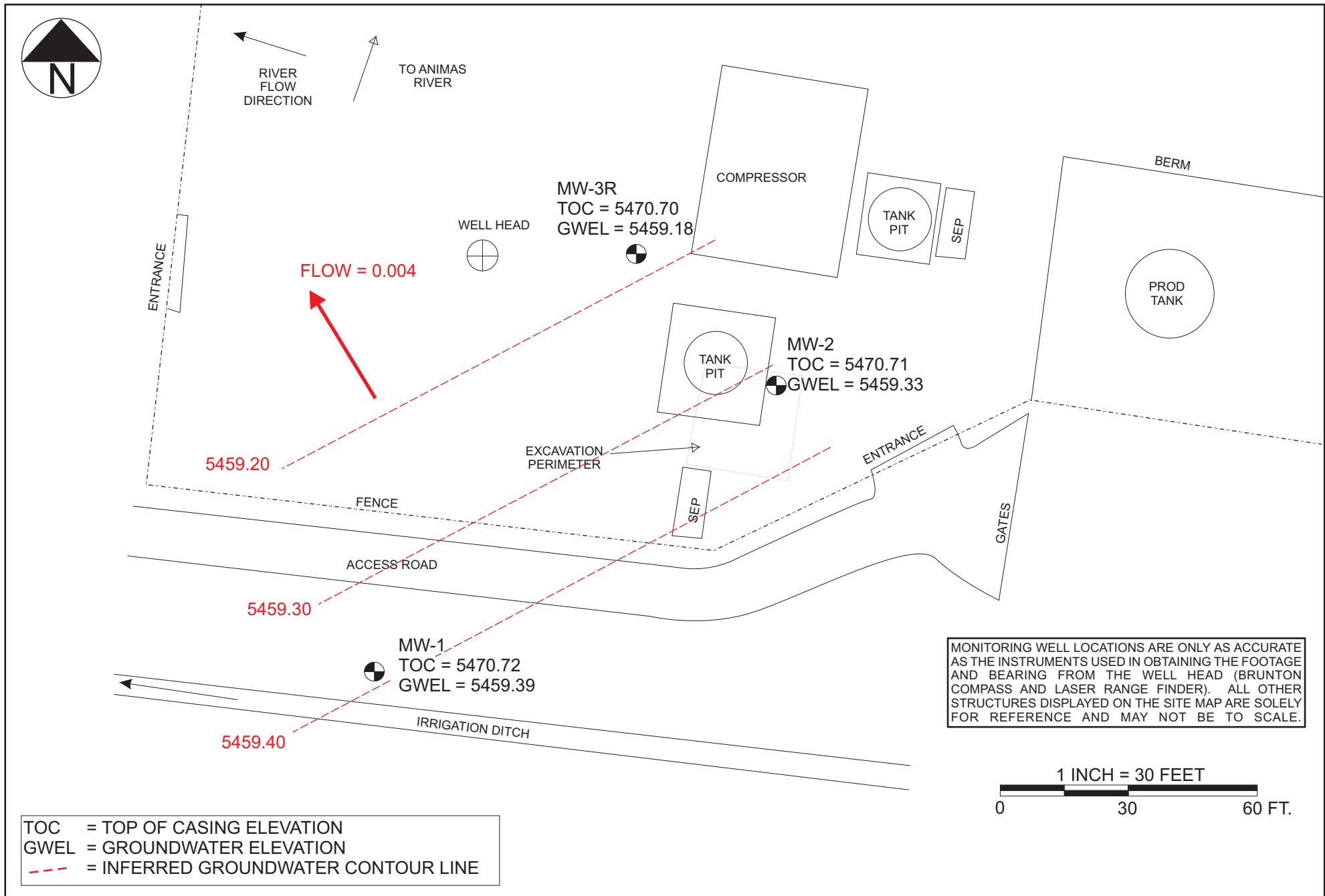



**Lodestar Services, Inc**  
 PO Box 3861  
 Farmington, NM 87499

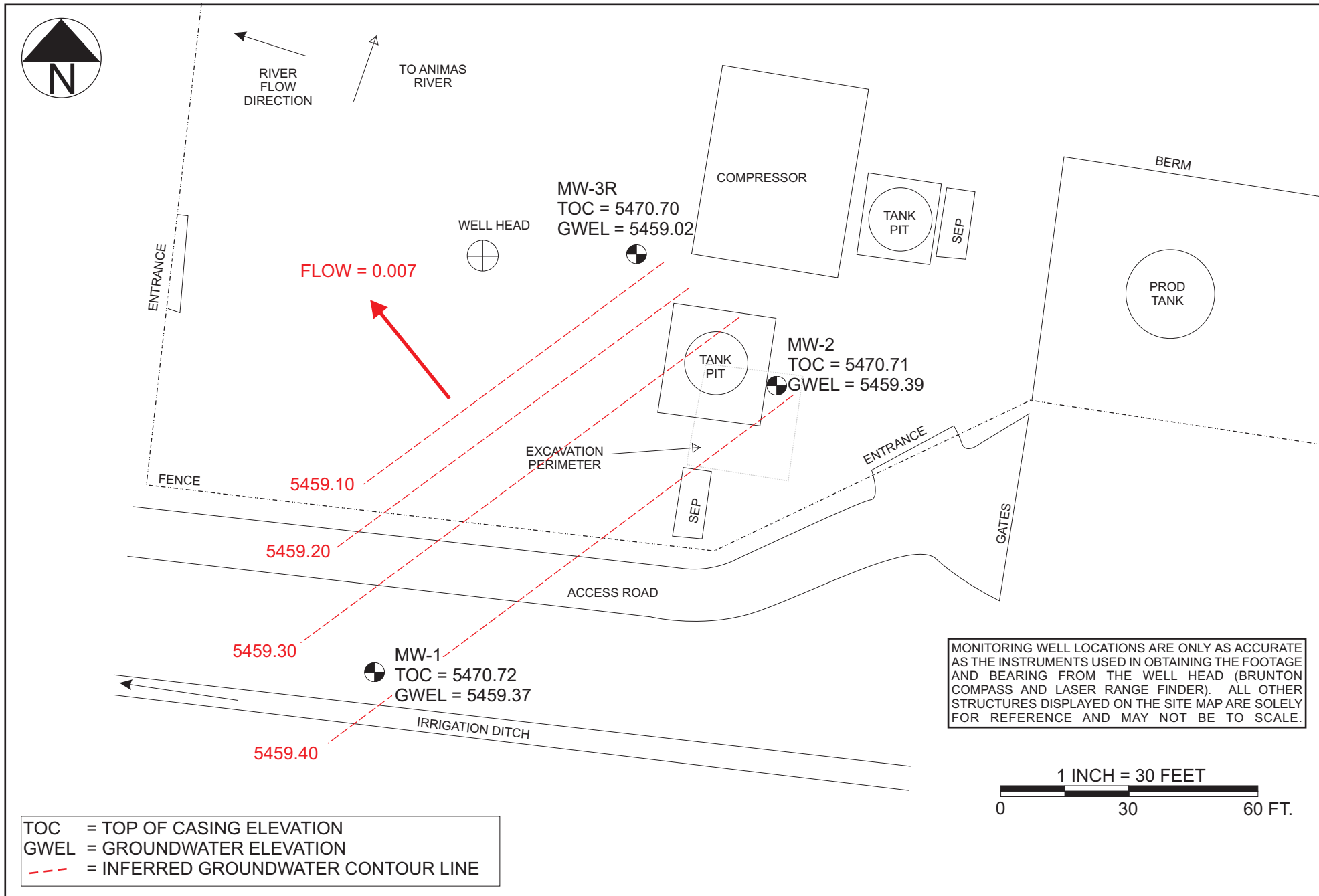
**STEDJE GAS COM #1**  
 SE/4 NW/4 SEC. 27, T30N, R12W  
 SAN JUAN COUNTY, NEW MEXICO

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

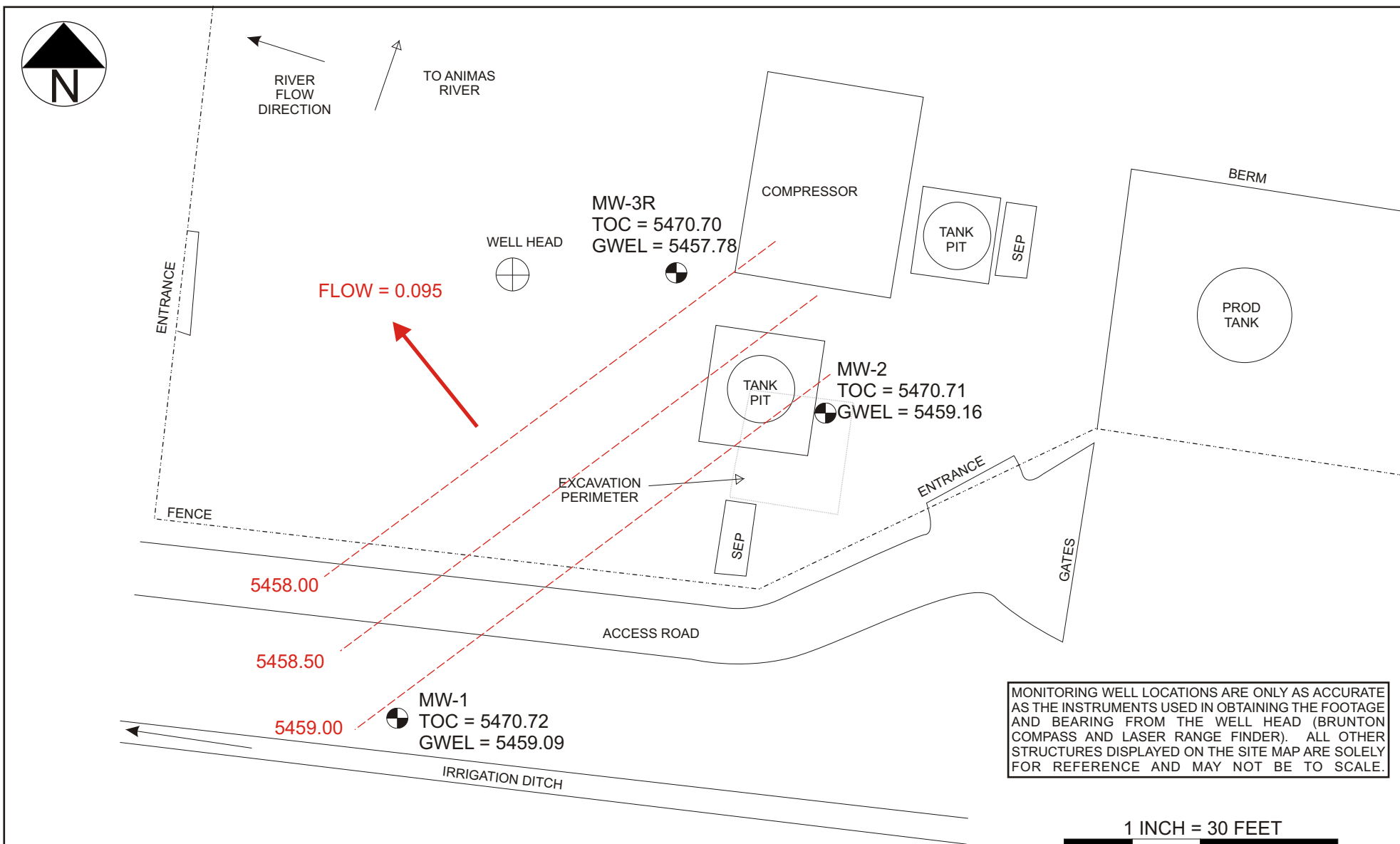
GROUNDWATER GRADIENT MAP  
 06/20/2006  
**FIGURE 2**



Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	STEDJE GAS COM #1 SE/4 NW/4 SEC. 27, T30N, R12W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 01/05/07	GROUNDWATER GRADIENT MAP 09/26/2006 FIGURE 3
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<p>Lodestar Services, Inc          PO Box 3861          Farmington, NM 87499</p>	<p>STEDJE GAS COM #1          SE/4 NW/4 SEC. 27, T30N, R12W          SAN JUAN COUNTY, NEW MEXICO</p>	<p>PROJECT: XTO GROUND WATER          DRAWN BY: ALA          REVISED: 01/05/07</p>	<p>GROUNDWATER GRADIENT MAP          12/06/2006          FIGURE 4</p>
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Lodestar Services, Inc  
 PO Box 3861  
 Farmington, NM 87499

STEDJE GAS COM #1  
 SE/4 NW/4 SEC. 27, T30N, R12W  
 SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER  
 DRAWN BY: ALA  
 REVISED: 03/12/07

GROUNDWATER GRADIENT MAP  
 03/08/2007  
 FIGURE 5

FIGURE 6

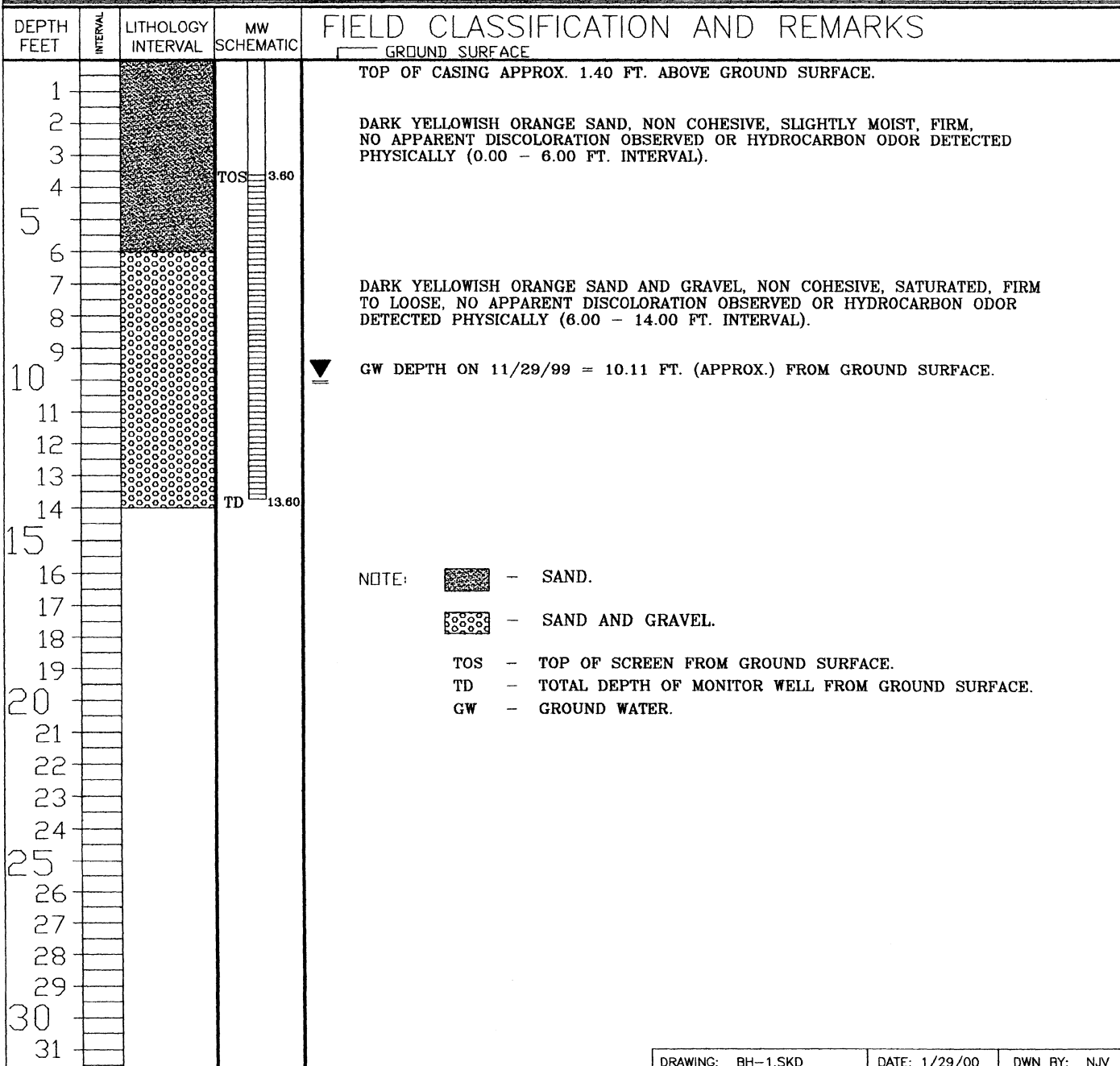
# BLAGG ENGINEERING, Inc.

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

## BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.  
LOCATION NAME: STEDJE GC #1  
CONTRACTOR: BLAGG ENGINEERING, INC.  
EQUIPMENT USED: MOBILE DRILL RIG ( ENVIROTECH CME61 )  
BORING LOCATION: 104 FT., S15.5W FEET FROM WELL HEAD.

BORING #..... BH - 1  
MW #..... 1  
PAGE #..... 1  
DATE STARTED 11/11/99  
DATE FINISHED 11/11/99  
OPERATOR..... DE  
PREPARED BY NJV



DRAWING: BH-1.SKD

DATE: 1/29/00

DWN BY: NJV

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: STEDJE GC #1  
CONTRACTOR: BLAGG ENGINEERING, INC.  
EQUIPMENT USED: MOBILE DRILL RIG ( ENVIROTECH CME61 )  
BORING LOCATION: 78 FT., S68W FEET FROM WELL HEAD.

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

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
1				TOP OF CASING APPROX. 1.30 FT. ABOVE GROUND SURFACE.
2				
3				DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 6.00 FT. INTERVAL).
4				
5				
6				
7				DARK YELLOWISH ORANGE SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (6.00 - 14.00 FT. INTERVAL).
8				
9				
10				▼ GW DEPTH ON 11/29/99 = 10.00 FT. (APPROX.) FROM GROUND SURFACE.
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

NOTE:  - SAND.  
 - SAND AND GRAVEL.  
TOS - TOP OF SCREEN FROM GROUND SURFACE.  
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.  
GW - GROUND WATER.

DRAWING: BH-2.SKD

DATE: 1/29/00

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 11/11/99  
DATE FINISHED 11/11/99  
OPERATOR..... DE  
PREPARED BY NJV

CLIENT: XTO ENERGY INC.  
LOCATION NAME: STEDJE GC #1  
CONTRACTOR: BLAGG ENGINEERING, INC.  
EQUIPMENT USED: MOBILE DRILL RIG ( ENVIROTECH CME61 )  
BORING LOCATION: 41.5 FT., N64.5W FEET FROM WELL HEAD.

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
1				TOP OF CASING APPROX. 1.40 FT. ABOVE GROUND SURFACE.
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

TOS 3.60



TD 13.60

GW DEPTH ON 11/29/99 = 9.11 FT. (APPROX.) FROM GROUND SURFACE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 6.00 FT. INTERVAL).

DARK YELLOWISH ORANGE SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (6.00 - 14.00 FT. INTERVAL).

NOTE:

-  - SAND.
-  - SAND AND GRAVEL.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: BH-3.SKD      DATE: 1/29/00      DWN BY: NJV

## Hall Environmental Analysis Laboratory, Inc.

Date: 15-Dec-06

CLIENT: XTO Energy  
Project: Ground Water

Lab Order: 0612121

Lab ID: 0612121-04

Collection Date: 12/6/2006 12:32:00 PM

Client Sample ID: Stedje Gas Com 1 MW-3R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	ND	1.0		µg/L	1	12/13/2006 1:30:14 PM
Toluene	ND	1.0		µg/L	1	12/13/2006 1:30:14 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2006 1:30:14 PM
Xylenes, Total	ND	3.0		µg/L	1	12/13/2006 1:30:14 PM
Surr: 4-Bromofluorobenzene	80.6	70.2-105		%REC	1	12/13/2006 1:30:14 PM

Lab ID: 0612121-05

Collection Date: 12/6/2006 12:22:00 PM

Client Sample ID: Stedje Gas Com 1 MW-2R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	ND	1.0		µg/L	1	12/13/2006 2:00:25 PM
Toluene	ND	1.0		µg/L	1	12/13/2006 2:00:25 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2006 2:00:25 PM
Xylenes, Total	ND	3.0		µg/L	1	12/13/2006 2:00:25 PM
Surr: 4-Bromofluorobenzene	80.8	70.2-105		%REC	1	12/13/2006 2:00:25 PM

Lab ID: 0612121-06

Collection Date: 12/6/2006 12:57:00 PM

Client Sample ID: Stedje Gas Com 1 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	12/13/2006 2:32:48 PM
Toluene	ND	1.0		µg/L	1	12/13/2006 2:32:48 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2006 2:32:48 PM
Xylenes, Total	ND	3.0		µg/L	1	12/13/2006 2:32:48 PM
Surr: 4-Bromofluorobenzene	79.9	70.2-105		%REC	1	12/13/2006 2:32:48 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: 0612121

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 0612121-01A MSD		MSD			Batch ID: R21800	Analysis Date: 12/13/2006 5:33:06 PM			
Benzene	18.11	µg/L	1.0	90.6	85.9	113	2.89	27	
Toluene	18.24	µg/L	1.0	91.2	86.4	113	1.16	19	
Ethylbenzene	17.68	µg/L	1.0	88.4	83.5	118	1.39	10	
Xylenes, Total	53.06	µg/L	3.0	88.4	83.4	122	0.923	13	
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R21800	Analysis Date: 12/13/2006 8:26:25 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: R21800	Analysis Date: 12/13/2006 4:33:03 PM			
Benzene	18.09	µg/L	1.0	90.4	85.9	113			
Toluene	17.99	µg/L	1.0	89.9	86.4	113			
Ethylbenzene	17.55	µg/L	1.0	87.7	83.5	118			
Xylenes, Total	52.58	µg/L	3.0	87.6	83.4	122			
Sample ID: 0612121-01A MS		MS			Batch ID: R21800	Analysis Date: 12/13/2006 5:03:05 PM			
Benzene	18.65	µg/L	1.0	93.2	85.9	113			
Toluene	18.45	µg/L	1.0	92.2	86.4	113			
Ethylbenzene	17.93	µg/L	1.0	89.6	83.5	118			
Xylenes, Total	53.56	µg/L	3.0	89.3	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 recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

Date: 06-Oct-06

CLIENT:	XTO Energy	Client Sample ID:	Stedje Gas Com 1 MW-3R
Lab Order:	0609347	Collection Date:	9/26/2006 1:02:00 PM
Project:	XTO Groundwater	Date Received:	9/27/2006
Lab ID:	0609347-08	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0		µg/L	1	Analyst: NSB 10/5/2006 4:47:14 AM
Toluene	ND	1.0		µg/L	1	10/5/2006 4:47:14 AM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 4:47:14 AM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 4:47:14 AM
Surr: 4-Bromofluorobenzene	92.5	72.2-125		%REC	1	10/5/2006 4:47:14 AM

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		

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**Hall Environmental Analysis Laboratory, Inc.**

Date: 06-Oct-06

**CLIENT:** XTO Energy  
**Lab Order:** 0609347  
**Project:** XTO Groundwater  
**Lab ID:** 0609347-09

**Client Sample ID:** Stedje Gas Com 1 MW-2  
**Collection Date:** 9/26/2006 12:20:00 PM  
**Date Received:** 9/27/2006  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	1.0		µg/L	1	10/5/2006 4:07:36 PM
Toluene	ND	1.0		µg/L	1	10/5/2006 4:07:36 PM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 4:07:36 PM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 4:07:36 PM
Surr: 4-Bromofluorobenzene	93.5	72.2-125		%REC	1	10/5/2006 4:07:36 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

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**Hall Environmental Analysis Laboratory, Inc.**

Date: 06-Oct-06

**CLIENT:** XTO Energy  
**Lab Order:** 0609347  
**Project:** XTO Groundwater  
**Lab ID:** 0609347-10

**Client Sample ID:** Stedje Gas Com 1 MW-1  
**Collection Date:** 9/26/2006 12:54:00 PM  
**Date Received:** 9/27/2006  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	1.0		µg/L	1	10/5/2006 5:47:43 AM
Toluene	ND	1.0		µg/L	1	10/5/2006 5:47:43 AM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 5:47:43 AM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 5:47:43 AM
Surr: 4-Bromofluorobenzene	93.4	72.2-125		%REC	1	10/5/2006 5:47:43 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

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# Hall Environmental Analysis Laboratory, Inc.

Date: 06-Oct-06

CLIENT: XTO Energy  
Lab Order: 0609347  
Project: XTO Groundwater  
Lab ID: 0609347-11

Client Sample ID: 25092006TB01  
Collection Date:  
Date Received: 9/27/2006  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	10/5/2006 6:16:33 AM
Toluene	ND	1.0		µg/L	1	10/5/2006 6:16:33 AM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 6:16:33 AM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 6:16:33 AM
Surr: 4-Bromofluorobenzene	97.5	72.2-125		%REC	1	10/5/2006 6:16:33 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

## QA/QC SUMMARY REPORT

Client: XTO Energy  
Project: XTO Groundwater

Work Order: 0609347

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R20938		Analysis Date: 10/4/2006 11:00:33 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 REAGENT BLA		MBLK			Batch ID: R20958		Analysis Date: 10/5/2006 10:03:16 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R20938		Analysis Date: 10/4/2006 3:28:27 PM		
Benzene	20.90	µg/L	1.0	105	85	115			
Toluene	20.64	µg/L	1.0	103	85	118			
Ethylbenzene	20.83	µg/L	1.0	104	85	116			
Xylenes, Total	63.36	µg/L	3.0	106	85	119			
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R20958		Analysis Date: 10/5/2006 1:42:53 PM		
Benzene	20.96	µg/L	1.0	105	85	115			
Toluene	20.53	µg/L	1.0	103	85	118			
Ethylbenzene	20.82	µg/L	1.0	104	85	116			
Xylenes, Total	63.12	µg/L	3.0	105	85	119			
Sample ID: 100NG BTEX LCSD		LCSD			Batch ID: R20958		Analysis Date: 10/5/2006 9:31:35 PM		
Benzene	21.14	µg/L	1.0	106	85	115	0.855	27	
Toluene	20.72	µg/L	1.0	104	85	118	0.892	19	
Ethylbenzene	20.79	µg/L	1.0	104	85	116	0.173	10	
Xylenes, Total	63.10	µg/L	3.0	105	85	119	0.0317	13	

Method: SW7470									
Sample ID: 0609347-04A msd		MSD			Batch ID: 11395		Analysis Date: 9/27/2006		
Mercury	0.005070	mg/L	0.00020	101	75	125	7.36	20	
Sample ID: MB-11395		MBLK			Batch ID: 11395		Analysis Date: 9/27/2006		
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-11395		LCS			Batch ID: 11395		Analysis Date: 9/27/2006		
Mercury	0.005070	mg/L	0.00020	101	80	120			
Sample ID: 0609347-04A ms		MS			Batch ID: 11395		Analysis Date: 9/27/2006		
Mercury	0.004710	mg/L	0.00020	94.2	75	125			

## 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: 15-Dec-06

CLIENT: XTO Energy  
Project: Ground Water

Lab Order: 0612121

Lab ID: 0612121-04

Collection Date: 12/6/2006 12:32:00 PM

Client Sample ID: Stedje Gas Com 1 MW-3R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	ND	1.0		µg/L	1	12/13/2006 1:30:14 PM
Toluene	ND	1.0		µg/L	1	12/13/2006 1:30:14 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2006 1:30:14 PM
Xylenes, Total	ND	3.0		µg/L	1	12/13/2006 1:30:14 PM
Surr: 4-Bromofluorobenzene	80.6	70.2-105		%REC	1	12/13/2006 1:30:14 PM

Lab ID: 0612121-05

Collection Date: 12/6/2006 12:22:00 PM

Client Sample ID: Stedje Gas Com 1 MW-2R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	ND	1.0		µg/L	1	12/13/2006 2:00:25 PM
Toluene	ND	1.0		µg/L	1	12/13/2006 2:00:25 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2006 2:00:25 PM
Xylenes, Total	ND	3.0		µg/L	1	12/13/2006 2:00:25 PM
Surr: 4-Bromofluorobenzene	80.8	70.2-105		%REC	1	12/13/2006 2:00:25 PM

Lab ID: 0612121-06

Collection Date: 12/6/2006 12:57:00 PM

Client Sample ID: Stedje Gas Com 1 MW-1

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	ND	1.0		µg/L	1	12/13/2006 2:32:48 PM
Toluene	ND	1.0		µg/L	1	12/13/2006 2:32:48 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2006 2:32:48 PM
Xylenes, Total	ND	3.0		µg/L	1	12/13/2006 2:32:48 PM
Surr: 4-Bromofluorobenzene	79.9	70.2-105		%REC	1	12/13/2006 2:32:48 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: 0612121

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 0612121-01A MSD		MSD			Batch ID: R21800	Analysis Date: 12/13/2006 5:33:06 PM			
Benzene	18.11	µg/L	1.0	90.6	85.9	113	2.89	27	
Toluene	18.24	µg/L	1.0	91.2	86.4	113	1.16	19	
Ethylbenzene	17.68	µg/L	1.0	88.4	83.5	118	1.39	10	
Xylenes, Total	53.06	µg/L	3.0	88.4	83.4	122	0.923	13	
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R21800	Analysis Date: 12/13/2006 8:26:25 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: R21800	Analysis Date: 12/13/2006 4:33:03 PM			
Benzene	18.09	µg/L	1.0	90.4	85.9	113			
Toluene	17.99	µg/L	1.0	89.9	86.4	113			
Ethylbenzene	17.55	µg/L	1.0	87.7	83.5	118			
Xylenes, Total	52.58	µg/L	3.0	87.6	83.4	122			
Sample ID: 0612121-01A MS		MS			Batch ID: R21800	Analysis Date: 12/13/2006 5:03:05 PM			
Benzene	18.65	µg/L	1.0	93.2	85.9	113			
Toluene	18.45	µg/L	1.0	92.2	86.4	113			
Ethylbenzene	17.93	µg/L	1.0	89.6	83.5	118			
Xylenes, Total	53.56	µg/L	3.0	89.3	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	recovery outside accepted recovery limits



# Hall Environmental Analysis Laboratory, Inc.

Date: 13-Mar-07

CLIENT: XTO Energy  
Project: Ground Water

Lab Order: 0703123

Lab ID: 0703123-01

Collection Date: 3/8/2007 8:45:00 AM

Client Sample ID: Stedje GC 1A MW-3R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						
Analyst: NSB						
Benzene	ND	1.0		µg/L	1	3/12/2007 2:28:41 PM
Toluene	ND	1.0		µg/L	1	3/12/2007 2:28:41 PM
Ethylbenzene	ND	1.0		µg/L	1	3/12/2007 2:28:41 PM
Xylenes, Total	ND	2.0		µg/L	1	3/12/2007 2:28:41 PM
Surr: 4-Bromofluorobenzene	86.8	70.2-105		%REC	1	3/12/2007 2:28:41 PM

Lab ID: 0703123-02

Collection Date: 3/8/2007 9:04:00 AM

Client Sample ID: Stedje GC 1A MW-2R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						
Analyst: NSB						
Benzene	ND	1.0		µg/L	1	3/12/2007 2:58:51 PM
Toluene	ND	1.0		µg/L	1	3/12/2007 2:58:51 PM
Ethylbenzene	ND	1.0		µg/L	1	3/12/2007 2:58:51 PM
Xylenes, Total	ND	2.0		µg/L	1	3/12/2007 2:58:51 PM
Surr: 4-Bromofluorobenzene	85.1	70.2-105		%REC	1	3/12/2007 2:58:51 PM

Lab ID: 0703123-03

Collection Date: 3/8/2007 9:27:00 AM

Client Sample ID: Stedje GC 1A 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	3/12/2007 3:28:53 PM
Toluene	ND	1.0		µg/L	1	3/12/2007 3:28:53 PM
Ethylbenzene	ND	1.0		µg/L	1	3/12/2007 3:28:53 PM
Xylenes, Total	ND	2.0		µg/L	1	3/12/2007 3:28:53 PM
Surr: 4-Bromofluorobenzene	85.8	70.2-105		%REC	1	3/12/2007 3:28:53 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: 0703123

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8021</b>									
<b>Sample ID: 0703123-10A MSD</b>		<b>MSD</b>			<b>Batch ID: R22791</b>	<b>Analysis Date: 3/12/2007 5:59:11 PM</b>			
Benzene	20.46	µg/L	1.0	102	85.9	113	0.726	27	
Toluene	20.45	µg/L	1.0	102	86.4	113	0.156	19	
Ethylbenzene	20.55	µg/L	1.0	103	83.5	118	0.553	10	
Xylenes, Total	62.34	µg/L	2.0	104	83.4	122	0.115	13	
<b>Sample ID: 5ML REAGENT BLA</b>		<b>MBLK</b>			<b>Batch ID: R22791</b>	<b>Analysis Date: 3/12/2007 7:48:15 AM</b>			
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						
<b>Sample ID: 100NG BTEX LCS</b>		<b>LCS</b>			<b>Batch ID: R22791</b>	<b>Analysis Date: 3/12/2007 6:29:11 PM</b>			
Benzene	20.59	µg/L	1.0	103	85.9	113			
Toluene	20.69	µg/L	1.0	103	86.4	113			
Ethylbenzene	20.53	µg/L	1.0	103	83.5	118			
Xylenes, Total	62.49	µg/L	2.0	104	83.4	122			
<b>Sample ID: 0703123-10A MS</b>		<b>MS</b>			<b>Batch ID: R22791</b>	<b>Analysis Date: 3/12/2007 5:29:09 PM</b>			
Benzene	20.31	µg/L	1.0	102	85.9	113			
Toluene	20.49	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.67	µg/L	1.0	103	83.5	118			
Xylenes, Total	62.41	µg/L	2.0	104	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