

**3R - 385**

**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:

- Bruington 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:

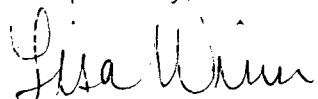
- Baca Gas Com A #1A- 3RP104
- Garcia Gas Com B #1- 3RP111
- Haney Gas Com B #1E- 3RP113
- Hare Gas Com B #1
- Hare Gas Com B #1E- 3RP384
- Hare Gas Com I #1
- Masden Gas Com #1E- 3RP120
- McDaniel Gas Com B #1E- 3RP121
- Stedje Gas Com #1- 3RP128
- Sullivan Frame A #1E- 3RP130

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 385

XTO ENERGY INC.

**ANNUAL GROUNDWATER REPORT**

**2007**

**E.J. JOHNSON C #1E  
(C) SECTION 21 – T27N – R10W, NMPM  
SAN JUAN COUNTY, NEW MEXICO**

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

*January 2008*

## TABLE OF CONTENTS

Site Details .....	3
Previous Activities .....	3
Site Map .....	3
Summary Tables .....	3
Potentiometric Surface Diagrams .....	3
Annual Groundwater Remediation Reports.....	3
2007 Activities .....	3
Geologic Logs and Well Completion Diagrams .....	4
Disposition of Generated Wastes .....	4
Conclusions .....	4
Recommendations .....	5

### Appendices

Table 1:	Summary Groundwater Laboratory Results
Table 2:	General Water Chemistry Laboratory Results
Figure 1:	Site Map
Figures 2 - 5:	Potentiometric Surface Diagrams
Figures 6 - 9:	Geologic Logs and Well Completion Diagrams
Attachment 1:	2007 Laboratory Reports

# 2007 XTO GROUNDWATER REPORT

E.J. JOHNSON C #1E

## SITE DETAILS

LEGALS - TWN: 27N	RNG: 10W	SEC: 21	UNIT: C
NMOCD HAZARD RANKING: 20			

## PREVIOUS ACTIVITIES

Excavation: Aug-94 (440 CY)

Monitoring Wells: Sep-99

Quarterly Sampling Initiated: Sep-99,

Additional Monitoring Wells: Jan-02, Jul-03 & Apr-07

## 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 and 2002 is included as Table 2. Copies of the laboratory data sheets and associated quality assurance/quality control data for 2007 are presented as Attachment 1.

## POTENTIOMETRIC SURFACE DIAGRAMS

Field data collected during site monitoring activities indicate a groundwater gradient that consistently trends west with a slight northwest component. The estimated groundwater flow has been constant and parallels the nearby surface drainage (Kutz Wash). In June 2007 a new data point (MW-6) revealed that the groundwater gradient becomes steeper as it approaches the adjacent drainage. Figures 2 - 5 illustrate the estimated groundwater gradient observed in 2007.

## ANNUAL GROUNDWATER REMEDIATION REPORTS

The 2005 annual groundwater report was submitted to New Mexico Oil Conservation Division (NMOCD) in January 2006, proposing installation of an additional monitoring well and termination of quarterly sampling for benzene, toluene, ethyl benzene and total xylenes (BTEX) in groundwater monitoring wells MW-1 through MW-4, in accordance with the NMOCD approved Groundwater Management Plan.

The 2006 annual groundwater report was submitted to NMOCD in February 2007, proposing installation of an additional monitoring well to delineate potential impact in the down gradient direction, continued quarterly sampling of MW-5 for BTEX and annual sampling of MW-1, MW-2, MW-3, MW-5 for total dissolved solids (TDS) in accordance with the NMOCD approved Groundwater Management Plan.

## 2007 ACTIVITIES

Monitoring well numbered MW-6 was installed northwest of MW-5 in April 2007 and sampled in June 2007. BTEX constituents were not detected above the laboratory equipment detection limits (0.2 ug/L). No further sampling for BTEX was conducted in accordance with the NMOCD approved Groundwater Management Plan. Monitoring well MW-5 was sampled quarterly during 2007. While benzene levels in MW-5 are decreasing

## **2007 XTO GROUNDWATER REPORT**

and are currently below New Mexico Water Quality Control Commission (NMWQCC) standards there was one quarter documented as being only slightly above standards. Annual groundwater sampling for TDS in monitoring wells MW-1, MW-2, MW-3, MW-5 and MW-6 were collected. TDS concentrations ranged between 1,900 and 2,900 mg/L in September 2007.

### **GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS**

Bore/Test Hole Reports are presented as Figures 6-9 representing drilling that occurred on site in January 2002, July 2003 and April 2007.

### **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**

XTO Energy Inc. (XTO) understands remedial efforts at this location initially included the excavation of approximately 440 cubic yards of hydrocarbon impacted soil from a production pit tank in 1994. Groundwater was encountered at approximately 10 feet below ground surface and was removed with pump trucks until test results identified residual hydrocarbon levels below NMWQCC closure standards. In January 1998 XTO acquired the E.J. Johnson C #1E from Amoco Production Company and resumed remedial activities.

BTEX and general chemistry results for quarterly sampling events are summarized in Tables 1 and 2. Groundwater from monitoring wells MW-1 through MW-3 has been below laboratory equipment detection limits (0.2 ug/L) or below the NMWQCC groundwater standards and sampling in those wells was terminated in 2003. In response to NMOCD correspondence dated December 26, 2001, XTO installed a down gradient monitoring well (MW-4) in January 2002. MW-4 is down gradient of the source area, and an additional down gradient monitoring well (MW-5) was installed further down gradient of MW-4 in July 2003. The 2006 annual groundwater report included a proposal for an additional groundwater monitoring well to further delineate the potential of hydrocarbon impact in the down gradient direction. XTO proposed to install the additional groundwater monitoring well (MW-6) northwest of MW-5 which was completed in April 2007.

Groundwater from MW-4 has been below laboratory equipment detection limits (0.2 ug/L) or below the NMWQCC groundwater standards and sampling was terminated in 2004. Laboratory results indicate concentrations of BTEX were not detected in monitoring well MW-6 while concentrations of benzene in a sample collected from upgradient MW-5 remained above NMWQCC standards. A review of historical results from MW-5 indicates natural degradation of hydrocarbons and groundwater from MW-6 suggests there is no downgradient migration. No further testing was performed in MW-6 in accordance with the NMOCD approved Groundwater Management Plan

Total dissolved solids (TDS) levels within all monitoring wells exceed NMWQCC standards (1,900 – 2,900 mg/L respectively) during the 2007 sampling events.

## **2007 XTO GROUNDWATER REPORT**

### **RECOMMENDATIONS**

- Quarterly samplings of groundwater for BTEX concentrations in MW-5 until analytical results confirm NMWQCC groundwater standards have been met.
- Annual sampling of groundwater for TDS in all monitoring wells until analytical results confirm NMWQCC groundwater standards have been met.
- 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

JOHNSON, E.J. C #1E- PROD. TANK PIT				
UNIT C, SEC. 21, T27N, R10W				

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	BTEX EPA Method 801 (PPB)					Chloride	TDS
					Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)			
27-Sep-99	MW #1	15.32	20.00		13.9	11.0	17.2	10.0			
18-Feb-00		15.39			2.4	ND	11.0	ND			
20-Jun-00		15.19			3.8	1.6	16	ND			
23-Jun-03		16.27			1.0	0.91	ND	ND			
26-Aug-03		16.28			0.52	ND	ND	ND			
20-Sep-06		16.8	23.34						7.3	1900	
25-Sep-07		16.63	17.30							1900	
20-Dec-07		16.2	17.30								
27-Sep-99	MW #2	12.96	20.00		58.7	39.0	90.2	107.4			
18-Feb-00		13.08			ND	ND	86	42.6			
20-Jun-00		12.86			ND	ND	41	12.5			
23-Jun-03		13.90			ND	11	15	1.3			
26-Aug-03		13.89			ND	ND	35	2.0			
20-Sep-06		14.44	20.21						4	1600	
25-Sep-07		14.22	20.21							2100	
20-Dec-07		13.88	20.21								
27-Sep-99	MW #3	8.24	20.00		22.7	3.3	2.1	11.6			
18-Feb-00		8.51			ND	ND	ND	ND			
20-Jun-00		8.14			ND	ND	ND	ND			
23-Jun-03		9.30			ND	ND	ND	ND			
26-Aug-03		9.28			ND	ND	ND	ND			
20-Sep-06		9.91	17.41						8.2	2600	
25-Sep-07		9.85	17.41							2900	
20-Dec-07		9.53	17.41								
20-Feb-02	MW #4	12.63	19.80		120	33	840	3,540			
23-Jun-03		12.38			1.1	22	7.3	17			
26-Aug-03		12.36			2.2	ND	31	15			
24-Nov-03		12.15			1.3	ND	38	18			
26-Mar-04		12.17			ND	ND	ND	7.0			
16-Jun-04		12.00			0.92	ND	9.3	4.2			
25-Sep-07					Monitor Well Missing						
20-Dec-07					Monitor Well Missing						
26-Aug-03	MW #5	15.50	20.00		64	1,100	520	4,200			
24-Nov-03		12.35			100	43	190	940			
26-Mar-04		12.39			51	ND	61	300			
16-Jun-04		12.22			61	3.2	76	380			
28-Jun-05		12.44			23	ND	15	71			
20-Sep-06		13.02	19.84		2.9	ND	ND	ND	20	1800	
28-Mar-07		13.1	19.84		8.2	ND	ND	ND			
12-Jun-07		12.74	19.84		15	ND	ND	ND			

## XTO ENERGY INC. GROUNDWATER LAB RESULTS

JOHNSON, E.J. C #1E- PROD. TANK PIT  
UNIT C, SEC. 21, T27N, R10W

BTEX EPA Method 801 (PPB)										
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)	Chloride	TDS
25-Sep-07		12.91	19.84		8.2	ND	ND	ND		1900
20-Dec-07					9	ND	ND	ND		
12-Jun-07	MW #6	14.8	27.14		ND	ND	ND	ND		
28-Sep-07		15.21	27.14							2200
20-Dec-07		15.05	27.14							
NMWQCC GROUNDWATER STANDARDS					10	750	750	620	250	1000

TABLE 2

## XTO ENERGY INC. GROUNDWATER LAB RESULTS

JOHNSON, E.J. C #1E- PROD. TANK PIT
UNIT C, SEC. 21, T27N, R10W

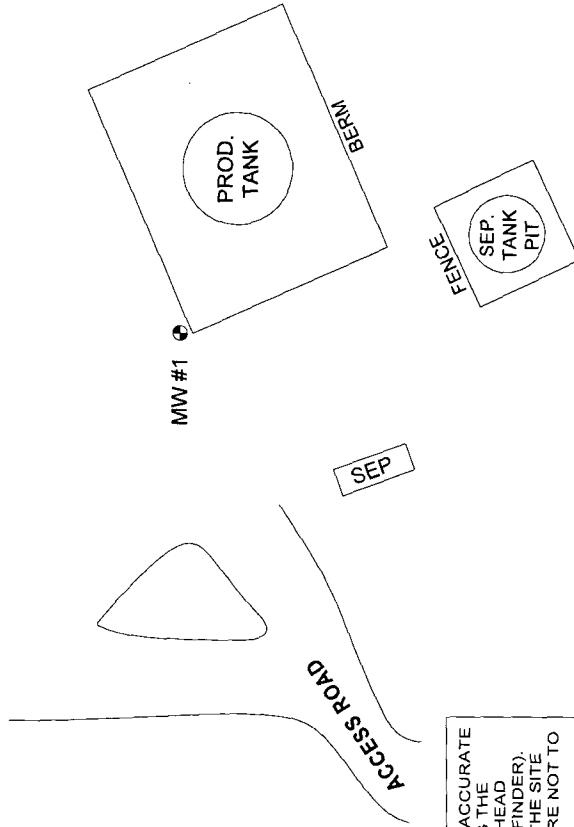
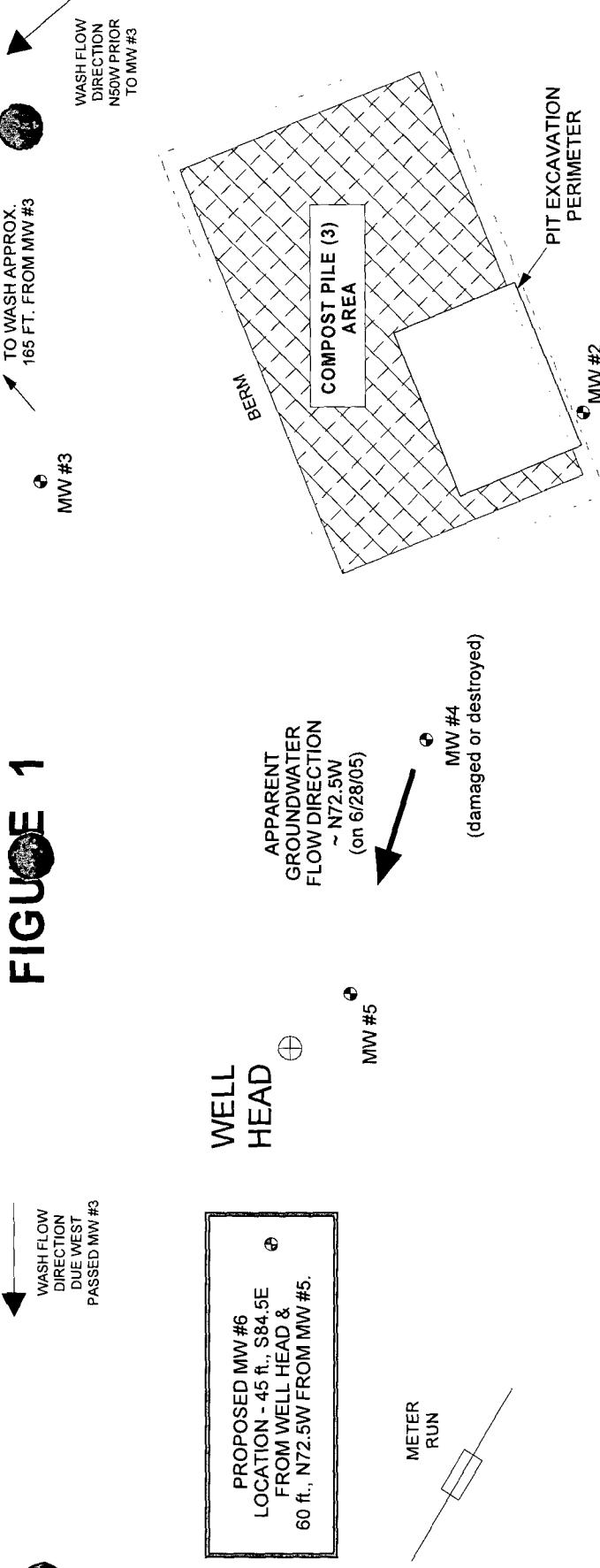
Sample Date: September 27, 1999  
 February 20, 2002

PARAMETERS	MW #1R 09/27/99	MW #2R 09/27/99	MW #3 09/27/99	MW #4 02/20/02	UNITS
LAB Ph	7.51	8.09	7.85	8.05	s.u.
LAB CONDUCTIVITY @ 25 C	6,920	1,472	6,840	10,600	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	3,440	720	3,410	5,810	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	3,400	710	3,320	5,700	mg/L
SODIUM ABSORPTION RATIO	27.4	11.5	29.3	70.9	ratio
TOTAL ALKALINITY AS CaCO <sub>3</sub>	648	482	376	1,560	mg/L
TOTAL HARDNESS AS CaCO <sub>3</sub>	260	72	220	152	mg/L
BICARBONATE AS HCO <sub>3</sub>	648	482	376	1,560	mg/L
CARBONATE AS CO <sub>3</sub>	< 1	< 1	< 1	< 0.1	mg/L
HYDROXIDE AS OH	< 1	< 1	< 1	< 0.1	mg/L
NITRATE NITROGEN	0.2	0.2	0.1	0.8	mg/L
NITRITE NITROGEN	0.005	0.015	0.005	0.064	mg/L
CHLORIDE	5.0	15	18	1030	mg/L
FLUORIDE	2.1	0.96	1.66	0.88	mg/L
PHOSPHATE	0.7	3.4	0.5	119	mg/L
SULFATE	1,870	140	1,990	1,540	mg/L
IRON	0.011	0.147	0.008	0.135	mg/L
CALCIUM	88	25.6	60	46.4	mg/L
MAGNESIUM	9.8	2	17.1	8.79	mg/L
POTASSIUM	7.5	7.5	7.5	0.5	mg/L
SODIUM	1,020	225	1,000	2,010	mg/L
CATION/ANION DIFFERENCE	0.14	0.19	0.24	0.02	%

Sample Date: September 20, 2006

PARAMETERS	MW #1R 09/20/06	MW #2R 09/20/06	MW #3 09/20/06	MW #5 09/20/06	UNITS
TOTAL DISSOLVED SOLIDS (Calc)	1,900	1,600	2,600	1,800	mg/L
CHLORIDE	7.3	4	8.2	20	mg/L

# 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 ARE NOT TO SCALE.

XTO ENERGY INC.  
JOHNSON, E.J. C #1E  
NE/4 NW/4, SEC. 21, T27N, R10W  
SAN JUAN COUNTY, NEW MEXICO

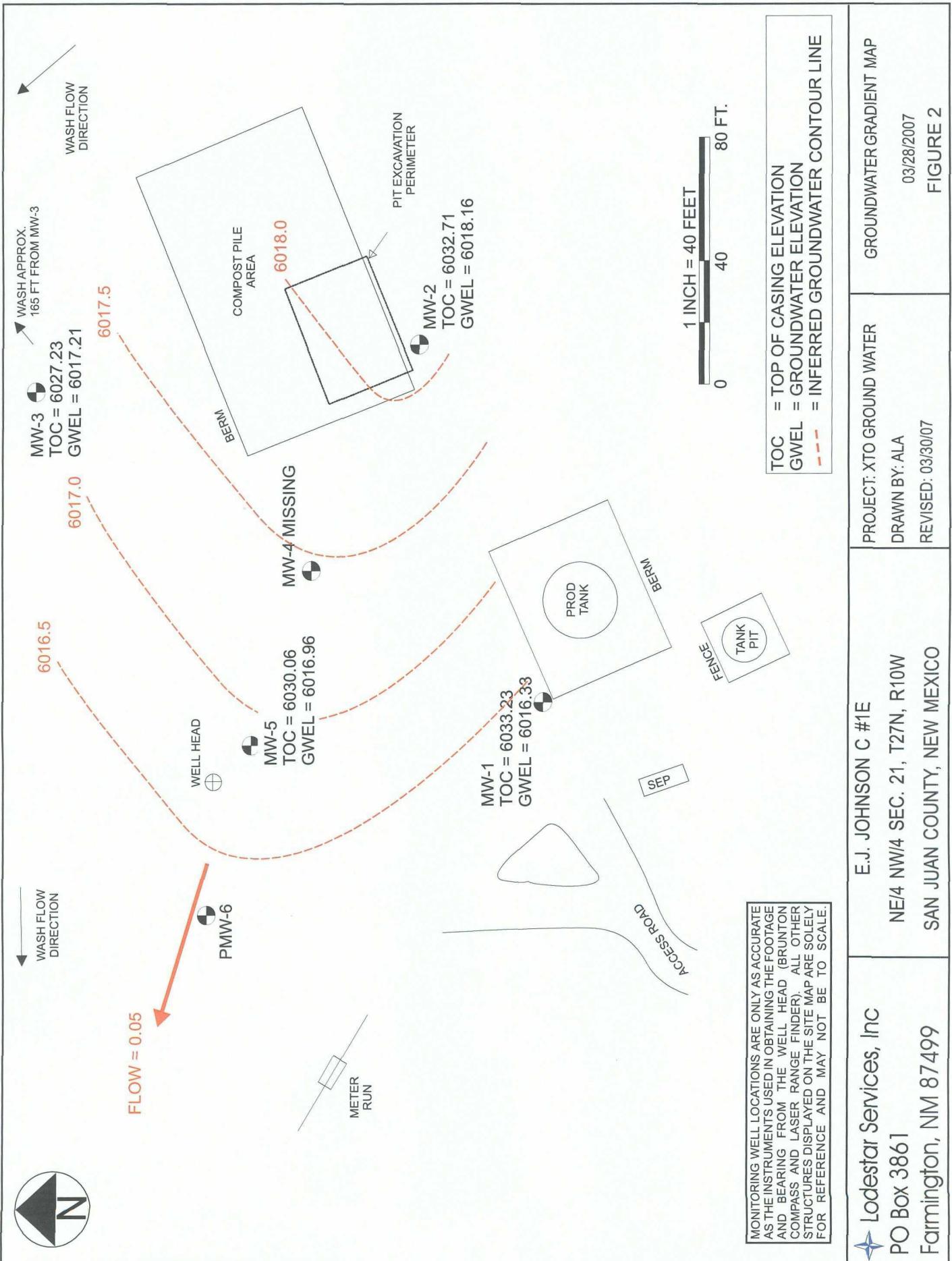
**SITE MAP**  
05/06

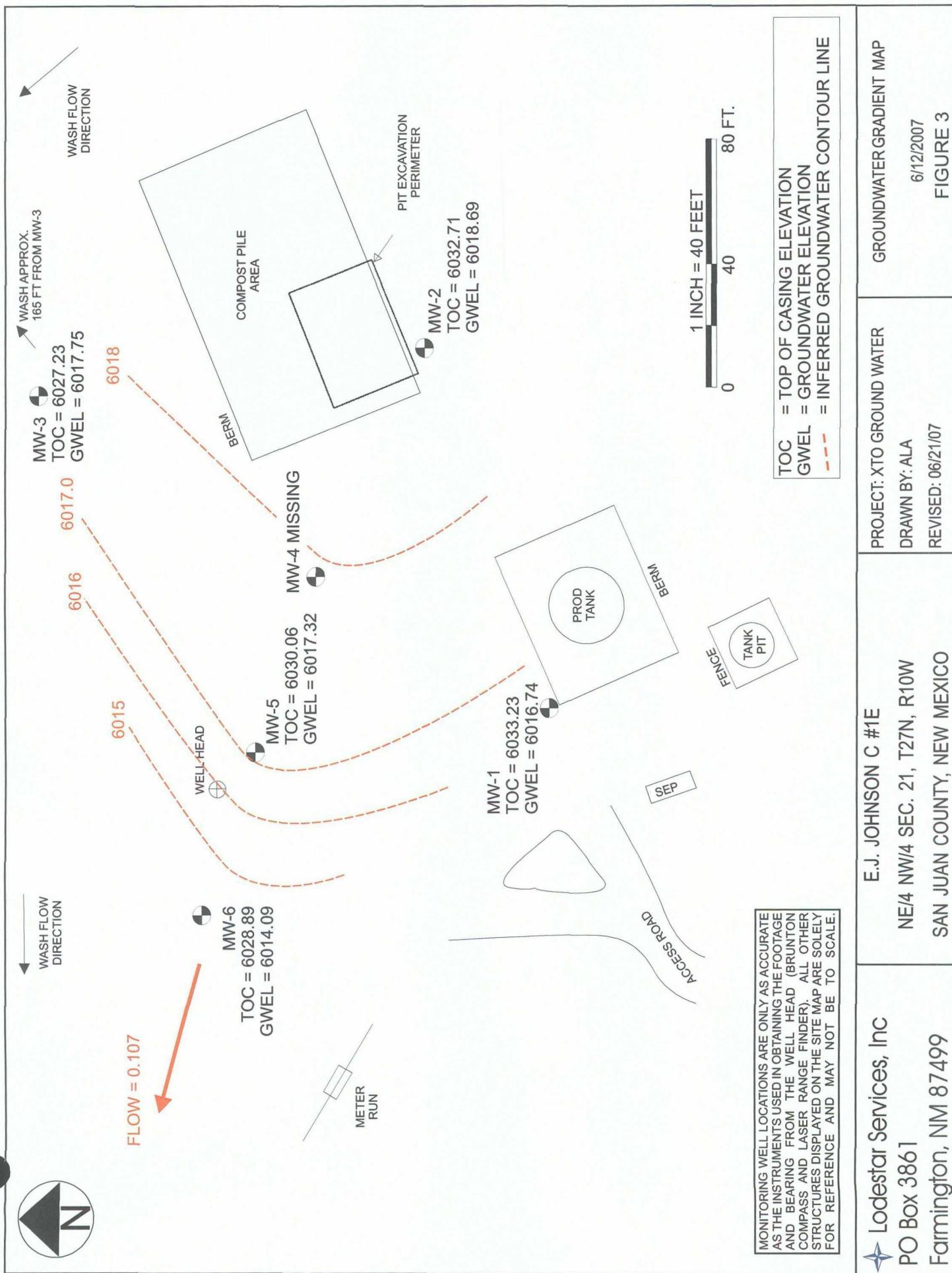
1 INCH = 40 FT.

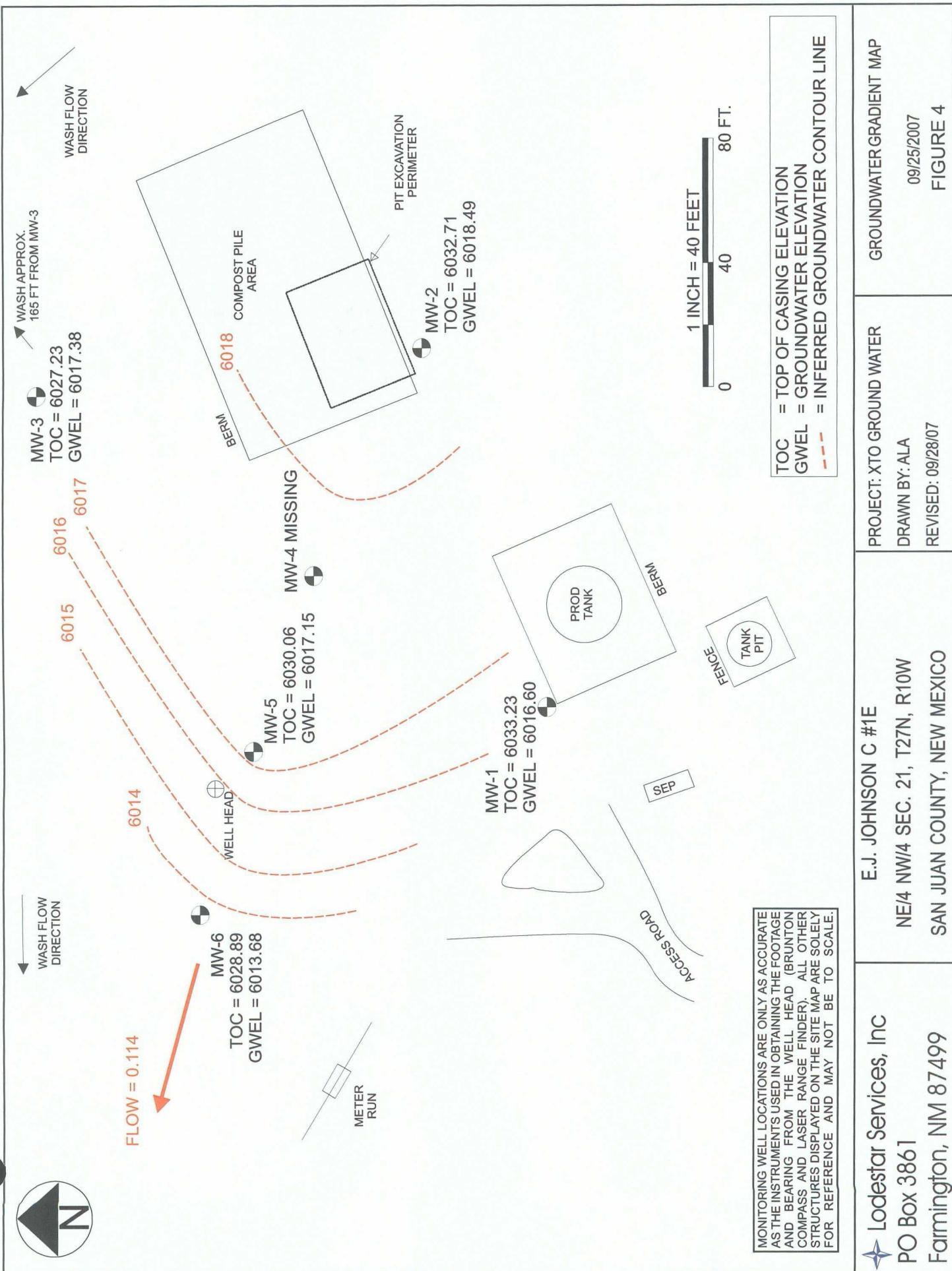
0 40 80 FT.

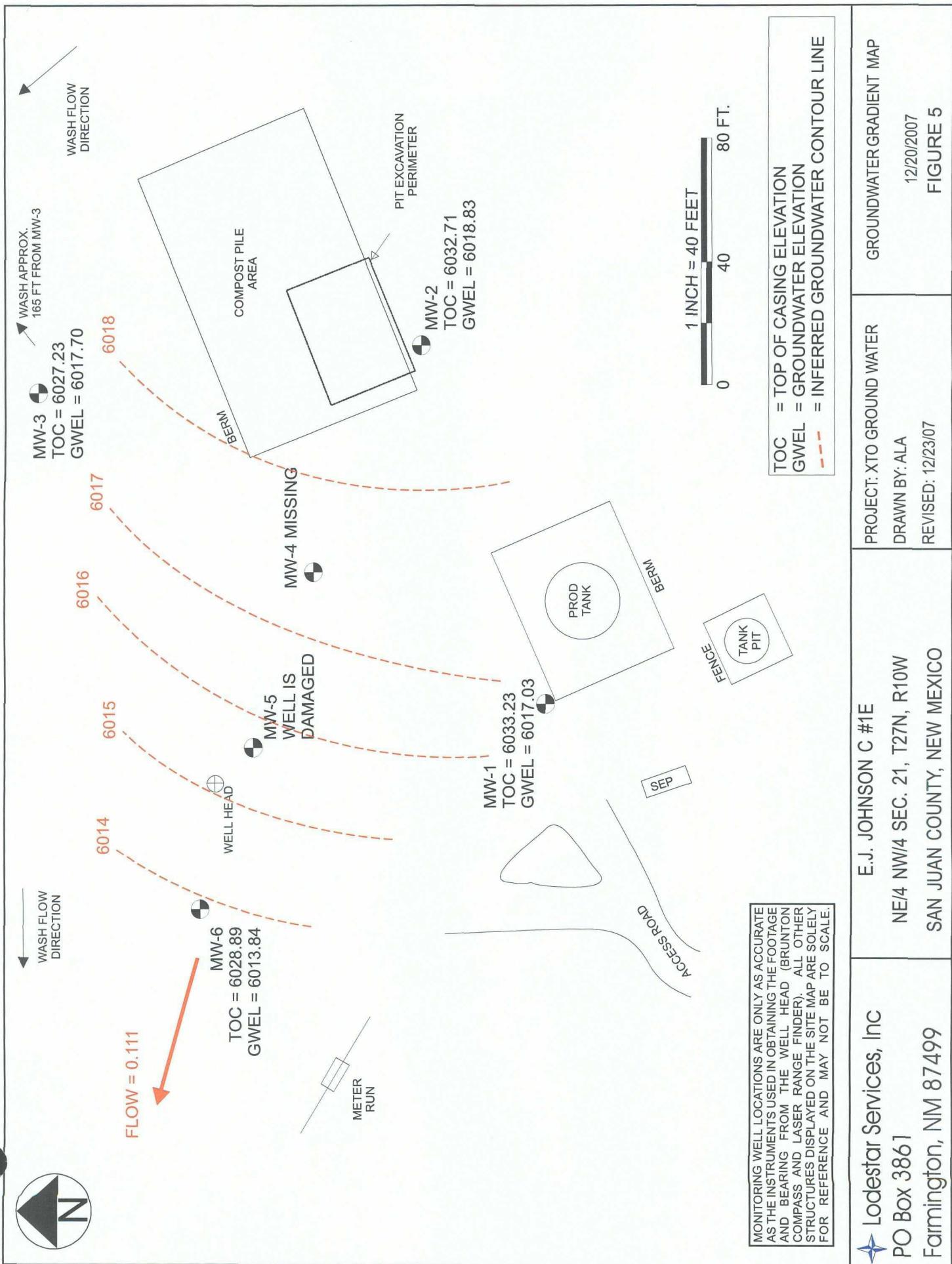
PROJECT: DELINEATION  
DRAWN BY: NJV  
FILENAME: 05-22-06-SM.SKF  
REVISED: 05/19/06

**LAGG ENGINEERING, INC.**  
CONSULTING PETROLEUM / RECLAMATION SERVICES  
P.O. BOX 87  
BLOOMFIELD, NEW MEXICO 87413  
PHONE: (505) 632-1199









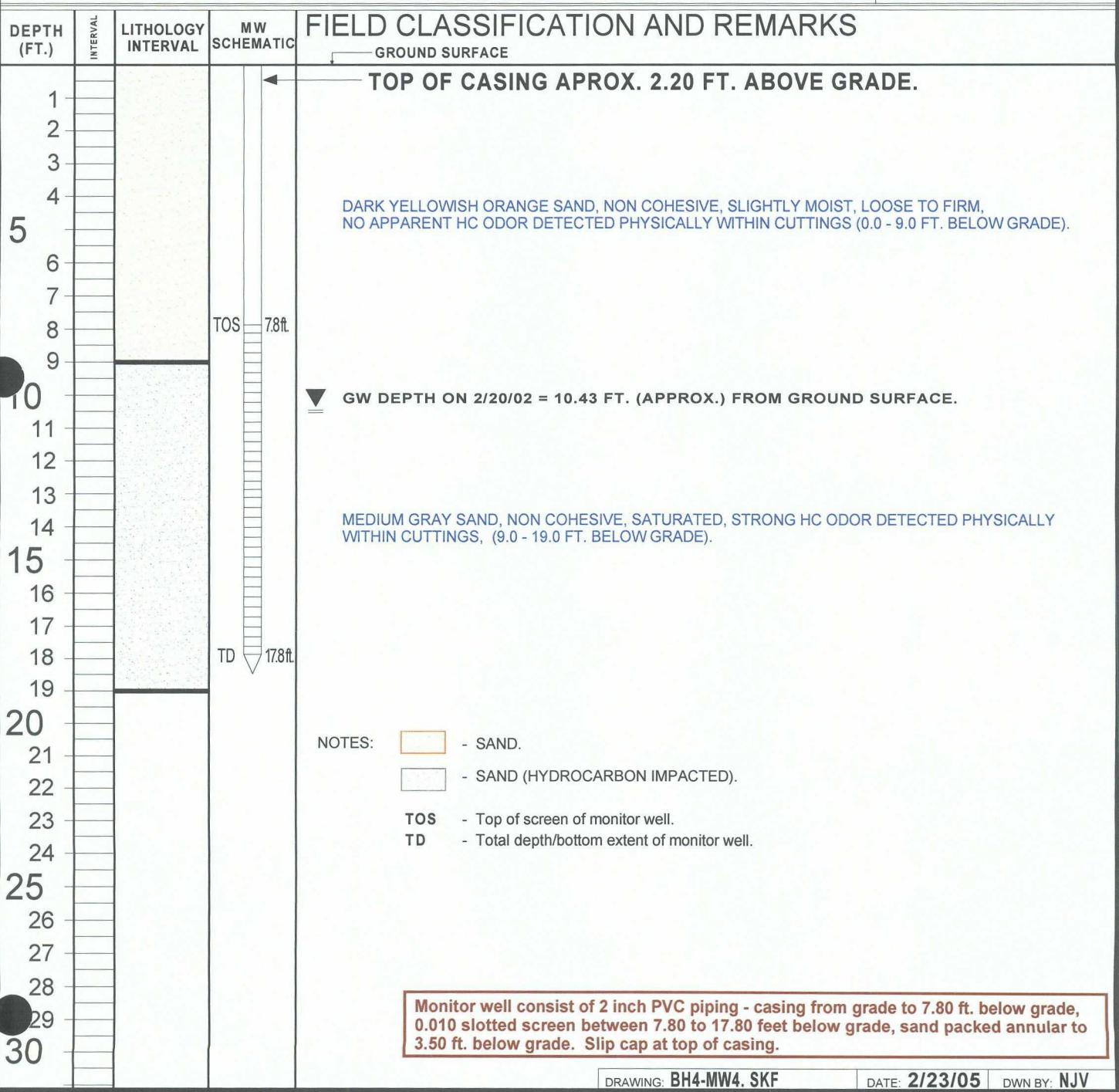
**FIGURE 6**  
**BLAGG ENGINEERING, Inc.**

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

# BORE / TEST HOLE REPORT

CLIENT:	XTO ENERGY INC.
LOCATION NAME:	JOHNSON, E.J. C# 1E PROD. TANK PIT - UNIT C, SEC. 21, T27N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	EARTHPROBE 200
BORING LOCATION:	76.5 FEET, S66E FROM WELL HEAD.

BORING #.....	BH - 4
MW #.....	4
PAGE #.....	4
DATE STARTED	1/24/02
DATE FINISHED	1/24/02
OPERATOR.....	JCB
PREPARED 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:	JOHNSON, E.J. C # 1E PROD. TANK PIT - UNIT C, SEC. 21, T27N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	EARTHPROBE 200
BORING LOCATION:	18.5 FEET, S42E FROM WELL HEAD.

BORING #.....	BH - 5
MW#.....	5
PAGE #.....	5
DATE STARTED	7/18/03
DATE FINISHED	7/18/03
OPERATOR.....	JCB
PREPARED BY	NJV

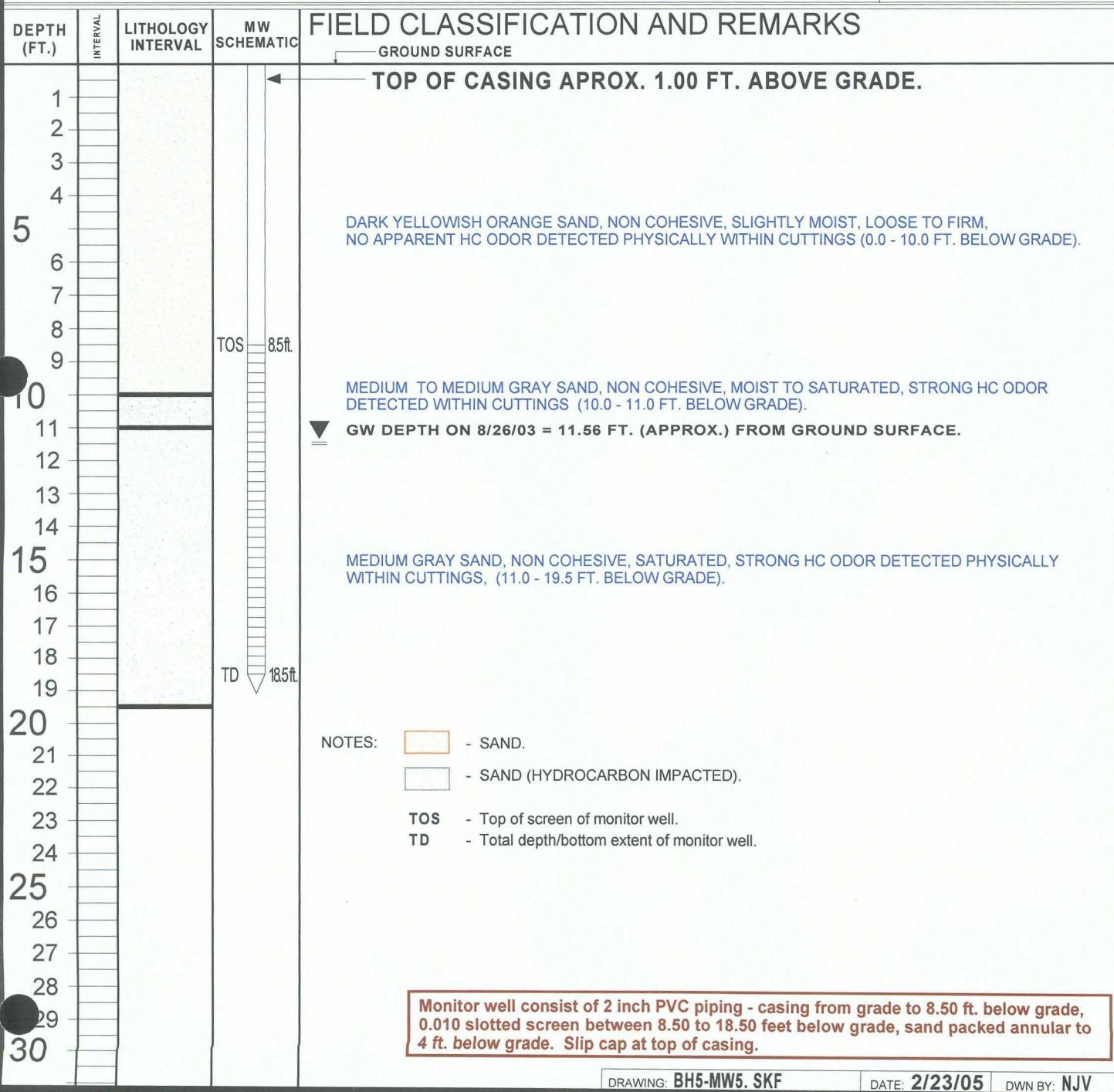


FIGURE 8

## RECORD OF SUBSURFACE EXPLORATION

LodeStar Services  
P.O. Box 4465  
Durango, CO 81302  
303-917-6288

Borehole #: 1  
Well #: MW-6  
Page: 1 of 2

Project Number:  
Project Name: XTO Ground Water  
Project Location: EJ Johnson C #1E

Borehole Location: 36° 33.945' N, 107° 54.244' W  
GWL Depth: 19.5'  
Drilled By: Enviro-Drill  
Well Logged By: Ashley Ager  
Date Started: 04/30/07  
Date Completed: 04/30/07

Drilling Method: Hollow Stem Auger  
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0	1	0-5'	cuttings	damp, reddish brown, moderately sorted medium sand, subrounded		Easy
5	2	5-10'	cuttings	damp, brown, moderately sorted coarse sand, subrounded, varying mineralogies		Easy
10	3	10-15'	cuttings	moist, dark brown, poorly sorted coarse sand, subrounded, varying mineralogies		Easy
15	4	15-20'	cuttings	grayish brown moist silty sand, poorly sorted, subrounded sand content	0.7	Easy
20						

Comments: Well is located on edge of well pad, close to wash. Wash has some running water.

Geologist Signature: Ashley L. Ager

## RECORD OF SUBSURFACE EXPLORATION

LodeStar Services  
 P.O. Box 4465  
 Durango, CO 81302  
 303-917-6288

Borehole #: 1  
 Well #: MW-6  
 Page: 2 of 2

Project Number: \_\_\_\_\_  
 Project Name: XTO Ground Water  
 Project Location: EJ Johnson C #1E

Borehole Location: 36° 33.945' N, 107° 54.244' W

GWL Depth: 19.5'

Drilled By: Enviro-Drill

Well Logged By: Ashley Ager

Date Started: 04/30/07

Date Completed: 04/30/07

Drilling Method: Hollow Stem Auger

Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
20	5	20-25'	cuttings	wet, gray sandy silt, coarse sand content, poorly sorted. GWL at ~19.5' water gushing out of hole at 25'	0.9	Easy
25						
30						
35						
40						

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Geologist Signature: Ashley L. Ager

**FIGURE 9**  
**MONITORING WELL INSTALLATION RECORD**

**Lodestar Services, Inc**  
 PO Box 3861

Farmington, New Mexico 87499  
 (505) 334-2791

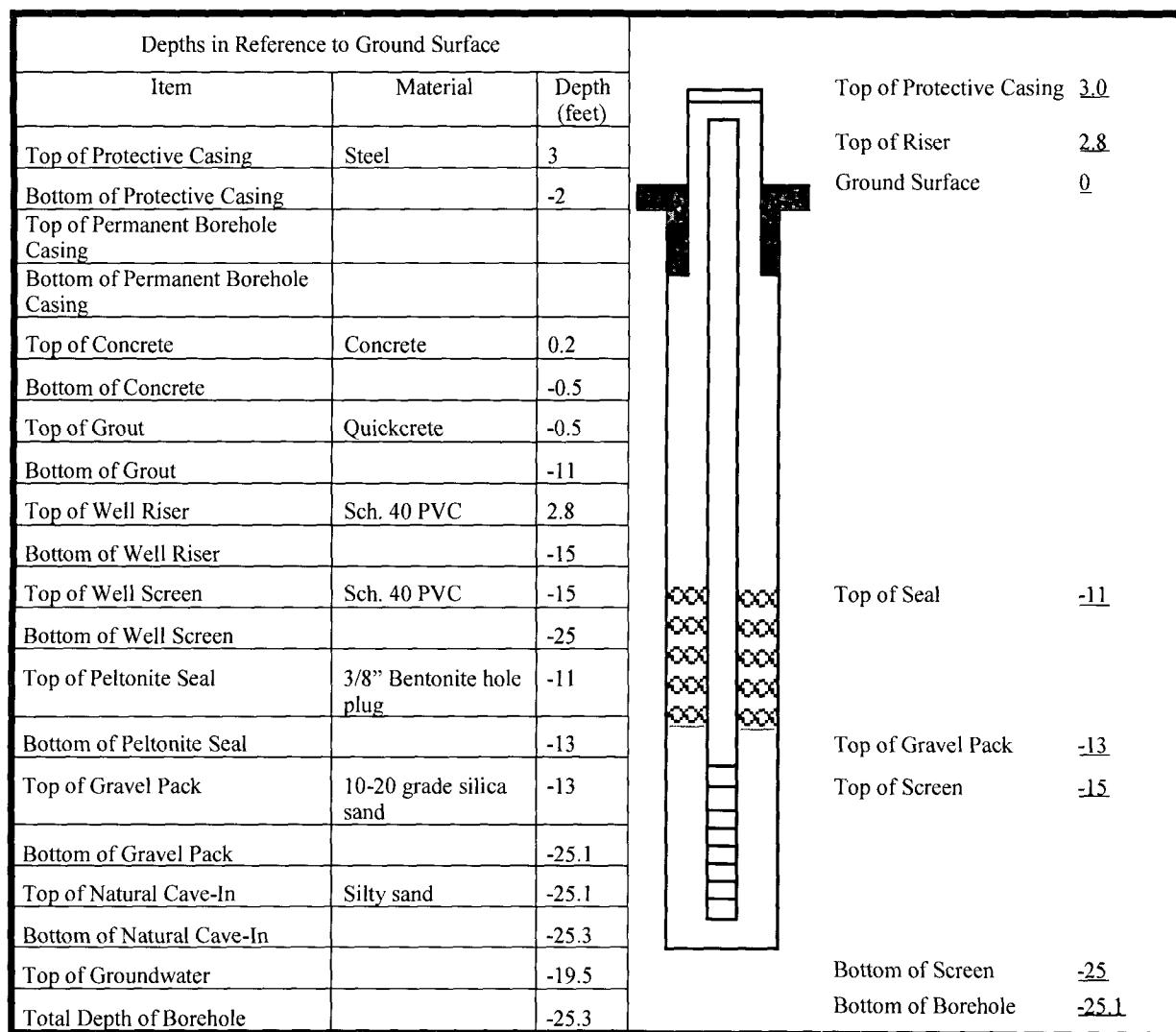
Elevation	6027'
Well Location	36° 33.945' N, 107° 54.244' W
GWL Depth	19.5'
Installed By	Enviro-Drill

Date/Time Started	04/30/07, 13:25
Date/Time Completed	04/30/07, 1450

Borehole # 1  
 Well # MW-6  
 Page 1 of 1

Project Name XTO Ground Water  
 Project Number \_\_\_\_\_  
 Project Location EJ Johnson C #1E

On-Site Geologist	Ashley Ager
Personnel On-Site	Jeff Cathron and assistant
Contractors On-Site	
Client Personnel On-Site	



Comments: 50 lb bags of sand used; 5 ea., 50 lb bags of bentonite used; 1 ea., Grout; 1 bag bentonite, 1 bag qwikcrete; 1 bag of concrete used

Geologist Signature Ashley L. Ager

# Hall Environmental Analysis Laboratory, Inc.

Date: 05-Apr-07

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

**Lab Order:** 0703474

**Lab ID:** 0703474-04  
**Client Sample ID:** EJ Johnson CIE MW-5

**Collection Date:** 3/28/2007 1:58:00 PM  
**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>Analyst:</b> NSB
<b>EPA METHOD 8021B: VOLATILES</b>							
Benzene	8.2	1.0		µg/L	1	4/3/2007 11:07:21 AM	
Toluene	ND	1.0		µg/L	1	4/3/2007 11:07:21 AM	
Ethylbenzene	ND	1.0		µg/L	1	4/3/2007 11:07:21 AM	
Xylenes, Total	ND	2.0		µg/L	1	4/3/2007 11:07:21 AM	
Surr: 4-Bromofluorobenzene	94.1	70.2-105		%REC	1	4/3/2007 11:07:21 AM	

**Lab ID:** 0703474-05  
**Client Sample ID:** Bruington GCI MW-1R

**Collection Date:** 3/28/2007 3:18:00 PM  
**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>Analyst:</b> NSB
<b>EPA METHOD 8021B: VOLATILES</b>							
Benzene	ND	1.0		µg/L	1	4/2/2007 1:03:56 PM	
Toluene	ND	1.0		µg/L	1	4/2/2007 1:03:56 PM	
Ethylbenzene	ND	1.0		µg/L	1	4/2/2007 1:03:56 PM	
Xylenes, Total	ND	2.0		µg/L	1	4/2/2007 1:03:56 PM	
Surr: 4-Bromofluorobenzene	90.4	70.2-105		%REC	1	4/2/2007 1:03:56 PM	

**Lab ID:** 0703474-06  
**Client Sample ID:** Bruington GCI MW-2R

**Collection Date:** 3/28/2007 3:42:00 PM  
**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>Analyst:</b> NSB
<b>EPA METHOD 8021B: VOLATILES</b>							
Benzene	4300	250		µg/L	250	4/2/2007 1:33:57 PM	
Toluene	1000	250		µg/L	250	4/2/2007 1:33:57 PM	
Ethylbenzene	810	250		µg/L	250	4/2/2007 1:33:57 PM	
Xylenes, Total	6000	500		µg/L	250	4/2/2007 1:33:57 PM	
Surr: 4-Bromofluorobenzene	91.6	70.2-105		%REC	250	4/2/2007 1:33:57 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: 0703474

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8021</b>									
Sample ID: 0703474-01A MSD		MSD					Batch ID: R23096	Analysis Date:	4/3/2007 10:37:09 AM
Benzene	19.32	µg/L	1.0	96.6	85.9	113	2.09	27	
Toluene	19.77	µg/L	1.0	98.8	86.4	113	1.70	19	
Ethylbenzene	19.98	µg/L	1.0	99.9	83.5	118	2.36	10	
Xylenes, Total	59.32	µg/L	2.0	98.9	83.4	122	2.06	13	
Sample ID: 5ML REAGENT BLA		MBLK					Batch ID: R23076	Analysis Date:	4/2/2007 8:45:02 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: R23076	Analysis Date:	4/3/2007 12:13:23 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 REAGENT BLA		MBLK					Batch ID: R23096	Analysis Date:	4/3/2007 8:06:11 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 REAGENT BLA		MBLK					Batch ID: R23114	Analysis Date:	4/4/2007 8:09:19 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: R23076	Analysis Date:	4/2/2007 5:37:16 PM
Benzene	23.32	µg/L	1.0	117	85.9	113			S
Toluene	22.53	µg/L	1.0	111	86.4	113			
Ethylbenzene	20.71	µg/L	1.0	104	83.5	118			
Xylenes, Total	62.13	µg/L	2.0	103	83.4	122			
Sample ID: 100NG BTEX LCS-II		LCS					Batch ID: R23076	Analysis Date:	4/3/2007 12:43:23 AM
Benzene	19.86	µg/L	1.0	97.6	85.9	113			
Toluene	20.09	µg/L	1.0	99.8	86.4	113			
Ethylbenzene	20.01	µg/L	1.0	100	83.5	118			
Xylenes, Total	59.59	µg/L	2.0	99.0	83.4	122			
Sample ID: 100NG BTEX LCS		LCS					Batch ID: R23096	Analysis Date:	4/3/2007 4:13:33 PM
Benzene	20.24	µg/L	1.0	99.1	85.9	113			
Toluene	20.61	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.85	µg/L	1.0	104	83.5	118			
Xylenes, Total	62.10	µg/L	2.0	103	83.4	122			
Sample ID: 100NG BTEX LCS		LCS					Batch ID: R23114	Analysis Date:	4/4/2007 12:30:51 PM
Benzene	19.85	µg/L	1.0	99.2	85.9	113			
Toluene	20.02	µg/L	1.0	100	86.4	113			

## 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: Ground Water

Work Order: 0703474

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8021</b>									
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R23114		Analysis Date:	4/4/2007 12:30:51 PM	
Ethylbenzene	20.43	µg/L	1.0	102	83.5	118			
Xylenes, Total	60.81	µg/L	2.0	101	83.4	122			
Sample ID: 100NG BTEX LCSD-I		LCSD			Batch ID: R23076		Analysis Date:	4/3/2007 1:13:30 AM	
Benzene	19.77	µg/L	1.0	97.2	85.9	113	0.474	27	
Toluene	19.93	µg/L	1.0	99.0	86.4	113	0.809	19	
Ethylbenzene	19.91	µg/L	1.0	99.6	83.5	118	0.511	10	
Xylenes, Total	59.20	µg/L	2.0	98.3	83.4	122	0.657	13	
Sample ID: 100NG BTEX LCSD		LCSD			Batch ID: R23114		Analysis Date:	4/4/2007 1:01:01 PM	
Benzene	19.57	µg/L	1.0	97.8	85.9	113	1.42	27	
Toluene	19.76	µg/L	1.0	98.8	86.4	113	1.32	19	
Ethylbenzene	20.00	µg/L	1.0	100	83.5	118	2.11	10	
Xylenes, Total	59.61	µg/L	2.0	99.3	83.4	122	1.99	13	
Sample ID: 0703474-01A MS		MS			Batch ID: R23096		Analysis Date:	4/3/2007 10:06:58 AM	
Benzene	18.92	µg/L	1.0	94.6	85.9	113			
Toluene	19.43	µg/L	1.0	97.2	86.4	113			
Ethylbenzene	19.52	µg/L	1.0	97.6	83.5	118			
Xylenes, Total	58.11	µg/L	2.0	96.8	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: 21-Jun-07

CLIENT: XTO Energy  
Project: Ground Water

Lab Order: 0706237

Lab ID: 0706237-04 Collection Date: 6/12/2007 2:38:00 PM

Client Sample ID: Jack Frost B#2 MW-1 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Analyst: NSB
<b>EPA METHOD 8021B: VOLATILES</b>							
Benzene	ND	1.0		µg/L	1	6/19/2007 3:58:23 PM	
Toluene	ND	1.0		µg/L	1	6/19/2007 3:58:23 PM	
Ethylbenzene	ND	1.0		µg/L	1	6/19/2007 3:58:23 PM	
Xylenes, Total	ND	2.0		µg/L	1	6/19/2007 3:58:23 PM	
Surr: 4-Bromofluorobenzene	83.9	70.2-105		%REC	1	6/19/2007 3:58:23 PM	

Lab ID: 0706237-05 Collection Date: 6/12/2007 3:06:00 PM

Client Sample ID: EJ Johnson CIE MW-5 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Analyst: NSB
<b>EPA METHOD 8021B: VOLATILES</b>							
Benzene	15	1.0		µg/L	1	6/19/2007 4:28:29 PM	
Toluene	ND	1.0		µg/L	1	6/19/2007 4:28:29 PM	
Ethylbenzene	ND	1.0		µg/L	1	6/19/2007 4:28:29 PM	
Xylenes, Total	ND	2.0		µg/L	1	6/19/2007 4:28:29 PM	
Surr: 4-Bromofluorobenzene	86.0	70.2-105		%REC	1	6/19/2007 4:28:29 PM	

Lab ID: 0706237-06 Collection Date: 6/12/2007 3:36:00 PM

Client Sample ID: EJ Johnson CIE MW-6 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Analyst: NSB
<b>EPA METHOD 8021B: VOLATILES</b>							
Benzene	ND	1.0		µg/L	1	6/19/2007 4:58:29 PM	
Toluene	ND	1.0		µg/L	1	6/19/2007 4:58:29 PM	
Ethylbenzene	ND	1.0		µg/L	1	6/19/2007 4:58:29 PM	
Xylenes, Total	ND	2.0		µg/L	1	6/19/2007 4:58:29 PM	
Surr: 4-Bromofluorobenzene	82.8	70.2-105		%REC	1	6/19/2007 4:58:29 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: 0706237

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8021</b>									
Sample ID: 0706237-12A MSD		MSD					Batch ID: R24017	Analysis Date:	6/18/2007 12:21:32 PM
Benzene	18.72	µg/L	1.0	93.6	85.9	113	4.52	27	
Toluene	18.79	µg/L	1.0	94.0	86.4	113	4.64	19	
Ethylbenzene	18.60	µg/L	1.0	93.0	83.5	118	4.77	10	
Xylenes, Total	55.68	µg/L	2.0	92.8	83.4	122	3.58	13	
Sample ID: 0706237-25A MSD		MSD					Batch ID: R24049	Analysis Date:	6/20/2007 9:23:49 PM
Benzene	19.29	µg/L	1.0	96.5	85.9	113	2.88	27	
Toluene	18.77	µg/L	1.0	93.9	86.4	113	2.82	19	
Ethylbenzene	18.77	µg/L	1.0	93.8	83.5	118	2.60	10	
Xylenes, Total	54.62	µg/L	2.0	91.0	83.4	122	2.24	13	
Sample ID: 5ML REAGENT BLA		MBLK					Batch ID: R24013	Analysis Date:	6/15/2007 8:56:45 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML REAGENT BLA		MBLK					Batch ID: R24017	Analysis Date:	6/18/2007 10:56:56 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 REAGENT BLA		MBLK					Batch ID: R24036	Analysis Date:	6/19/2007 9:56:41 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 REAGENT BLA		MBLK					Batch ID: R24049	Analysis Date:	6/20/2007 10:05:12 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: R24013	Analysis Date:	6/15/2007 11:42:55 PM
Benzene	19.24	µg/L	1.0	96.2	85.9	113			
Toluene	18.67	µg/L	1.0	93.4	86.4	113			
Ethylbenzene	18.36	µg/L	1.0	91.8	83.5	118			
Xylenes, Total	54.32	µg/L	2.0	90.5	83.4	122			
Sample ID: 100NG BTEX LCS		LCS					Batch ID: R24017	Analysis Date:	6/18/2007 12:51:39 PM
Benzene	18.99	µg/L	1.0	94.9	85.9	113			
Toluene	19.05	µg/L	1.0	95.3	86.4	113			
Ethylbenzene	18.69	µg/L	1.0	93.4	83.5	118			
Xylenes, Total	56.17	µg/L	2.0	93.6	83.4	122			
Sample ID: 100NG BTEX LCS		LCS					Batch ID: R24036	Analysis Date:	6/19/2007 11:27:18 AM
Benzene	19.95	µg/L	1.0	99.7	85.9	113			
Toluene	20.29	µg/L	1.0	101	86.4	113			

## 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:** Ground Water

Work Order: 0706237

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8021</b>									
Sample ID: 100NG BTEX LCS		LCS					Batch ID: R24036		Analysis Date: 6/19/2007 11:27:18 AM
Ethylbenzene	20.10	µg/L	1.0	101	83.5	118			
Xylenes, Total	59.83	µg/L	2.0	99.7	83.4	122			
Sample ID: 100NG BTEX LCS		LCS					Batch ID: R24049		Analysis Date: 6/20/2007 9:54:18 PM
Benzene	18.97	µg/L	1.0	94.9	85.9	113			
Toluene	18.46	µg/L	1.0	92.3	86.4	113			
Ethylbenzene	18.62	µg/L	1.0	93.1	83.5	118			
Xylenes, Total	54.86	µg/L	2.0	91.4	83.4	122			
Sample ID: 0706237-12A MS		MS					Batch ID: R24017		Analysis Date: 6/18/2007 11:51:22 AM
Benzene	19.59	µg/L	1.0	98.0	85.9	113			
Toluene	19.68	µg/L	1.0	98.4	86.4	113			
Ethylbenzene	19.51	µg/L	1.0	97.5	83.5	118			
Xylenes, Total	57.71	µg/L	2.0	96.2	83.4	122			
Sample ID: 0706237-25A MS		MS					Batch ID: R24049		Analysis Date: 6/20/2007 8:53:24 PM
Benzene	18.74	µg/L	1.0	93.7	85.9	113			
Toluene	18.25	µg/L	1.0	91.2	86.4	113			
Ethylbenzene	18.29	µg/L	1.0	91.4	83.5	118			
Xylenes, Total	53.41	µg/L	2.0	89.0	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: 08-Oct-07

**CLIENT:** XTO Energy  
**Lab Order:** 0709406  
**Project:** Ground Water  
**Lab ID:** 0709406-05

**Client Sample ID:** EJ Johnson C1E MW-5  
**Collection Date:** 9/25/2007 11:55:00 AM  
**Date Received:** 9/28/2007  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	8.2	1.0		µg/L	1	10/2/2007 11:15:24 PM
Toluene	ND	1.0		µg/L	1	10/2/2007 11:15:24 PM
Ethylbenzene	ND	1.0		µg/L	1	10/2/2007 11:15:24 PM
Xylenes, Total	ND	2.0		µg/L	1	10/2/2007 11:15:24 PM
Surr: 4-Bromofluorobenzene	88.8	70.2-105		%REC	1	10/2/2007 11:15:24 PM
<b>SM 2540C: TDS</b>						
Total Dissolved Solids	1900	200		mg/L	1	10/1/2007

Analyst: NSB

Analyst: TAF

**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: 08-Oct-07

**CLIENT:** XTO Energy  
**Lab Order:** 0709406  
**Project:** Ground Water  
**Lab ID:** 0709406-06

**Client Sample ID:** EJ Johnson C1E MW-2  
**Collection Date:** 9/25/2007 12:11:00 PM  
**Date Received:** 9/28/2007  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>SM 2540C: TDS</b>						Analyst: TAF
Total Dissolved Solids	2100	200		mg/L	1	10/1/2007

**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: 08-Oct-07

**CLIENT:** XTO Energy  
**Lab Order:** 0709406  
**Project:** Ground Water  
**Lab ID:** 0709406-07

**Client Sample ID:** EJ Johnson C1E MW-3  
**Collection Date:** 9/25/2007 12:55:00 PM  
**Date Received:** 9/28/2007  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Analyst: TAF
<b>SM 2540C: TDS</b> Total Dissolved Solids	2900	200		mg/L	1	10/1/2007	

<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: 08-Oct-07

**CLIENT:** XTO Energy                   **Client Sample ID:** EJ Johnson C1E MW-6  
**Lab Order:** 0709406                   **Collection Date:** 9/25/2007 12:46:00 PM  
**Project:** Ground Water               **Date Received:** 9/28/2007  
**Lab ID:** 0709406-08                   **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>SM 2540C: TDS</b>						<b>Analyst: TAF</b>
Total Dissolved Solids	2200	20		mg/L	1	10/1/2007

**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: 08-Oct-07

**CLIENT:** XTO Energy  
**Lab Order:** 0709406  
**Project:** Ground Water  
**Lab ID:** 0709406-09

**Client Sample ID:** EJ Johnson C1E MW-1  
**Collection Date:** 9/25/2007 12:54:00 PM  
**Date Received:** 9/28/2007  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>SM 2540C: TDS</b>						Analyst: TAF
Total Dissolved Solids	1900	200		mg/L	1	10/1/2007

**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: 08-Oct-07

**CLIENT:** XTO Energy  
**Lab Order:** 0709406  
**Project:** Ground Water  
**Lab ID:** 0709406-28

**Client Sample ID:** Trip Blank  
**Collection Date:**  
**Date Received:** 9/28/2007  
**Matrix:** TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0		µg/L	1	10/3/2007 11:35:56 PM
Toluene	ND	1.0		µg/L	1	10/3/2007 11:35:56 PM
Ethylbenzene	ND	1.0		µg/L	1	10/3/2007 11:35:56 PM
Xylenes, Total	ND	2.0		µg/L	1	10/3/2007 11:35:56 PM
Surrogate: 4-Bromofluorobenzene	82.7	70.2-105		%REC	1	10/3/2007 11:35:56 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: 0709406

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: SW8021</b>									
Sample ID: 0709406-01A MSD		MSD			Batch ID: R25409		Analysis Date:	10/3/2007 3:45:13 AM	
Benzene	20.98	µg/L	1.0	105	85.9	113	0.580	27	
Toluene	19.97	µg/L	1.0	99.6	86.4	113	0.764	19	
Ethylbenzene	19.95	µg/L	1.0	99.3	83.5	118	1.13	10	
Xylenes, Total	59.14	µg/L	2.0	98.1	83.4	122	0.764	13	
Sample ID: 0709406-20A MSD		MSD			Batch ID: R25420		Analysis Date:	10/3/2007 8:05:57 PM	
Benzene	20.94	µg/L	1.0	102	85.9	113	1.15	27	
Toluene	19.97	µg/L	1.0	98.4	86.4	113	1.23	19	
Ethylbenzene	19.95	µg/L	1.0	99.2	83.5	118	2.10	10	
Xylenes, Total	58.87	µg/L	2.0	96.8	83.4	122	1.12	13	
Sample ID: 5ML RB		MBLK			Batch ID: R25409		Analysis Date:	10/2/2007 8:14:55 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		MBLK			Batch ID: R25420		Analysis Date:	10/3/2007 9:00:15 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: R25409		Analysis Date:	10/2/2007 8:15:26 PM	
Benzene	20.25	µg/L	1.0	101	85.9	113			
Toluene	19.54	µg/L	1.0	97.3	86.4	113			
Ethylbenzene	19.60	µg/L	1.0	97.4	83.5	118			
Xylenes, Total	58.14	µg/L	2.0	96.2	83.4	122			
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R25420		Analysis Date:	10/3/2007 11:00:56 AM	
Benzene	20.65	µg/L	1.0	103	85.9	113			
Toluene	20.04	µg/L	1.0	99.8	86.4	113			
Ethylbenzene	20.04	µg/L	1.0	99.6	83.5	118			
Xylenes, Total	60.00	µg/L	2.0	99.5	83.4	122			
Sample ID: 0709406-01A MS		MS			Batch ID: R25409		Analysis Date:	10/3/2007 3:15:09 AM	
Benzene	21.10	µg/L	1.0	105	85.9	113			
Toluene	19.82	µg/L	1.0	98.8	86.4	113			
Ethylbenzene	19.73	µg/L	1.0	98.2	83.5	118			
Xylenes, Total	58.69	µg/L	2.0	97.4	83.4	122			
Sample ID: 0709406-20A MS		MS			Batch ID: R25420		Analysis Date:	10/3/2007 7:35:52 PM	
Benzene	20.70	µg/L	1.0	101	85.9	113			
Toluene	19.73	µg/L	1.0	97.2	86.4	113			
Ethylbenzene	19.53	µg/L	1.0	97.1	83.5	118			
Xylenes, Total	58.22	µg/L	2.0	95.7	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

## QA/QC SUMMARY REPORT

Client: XTO Energy  
 Project: Ground Water

Work Order: 0709406

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: E160.1</b>									
Sample ID: 0709406-08B MSD		MSD			Batch ID: 13963	Analysis Date:			10/1/2007
Total Dissolved Solids	3202	mg/L	20	104	80	120	0.627	20	
Sample ID: MB-13963		MBLK			Batch ID: 13963	Analysis Date:			10/1/2007
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-13963		LCS			Batch ID: 13963	Analysis Date:			10/1/2007
Total Dissolved Solids	1001	mg/L	20	100	80	120			
Sample ID: 0709406-08B MS		MS			Batch ID: 13963	Analysis Date:			10/1/2007
Total Dissolved Solids	3182	mg/L	20	102	80	120			

## Identifiers:

- 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: 02-Jan-08

<b>CLIENT:</b>	XTO Energy	<b>Lab Order:</b>	0712350
<b>Project:</b>	Ground Water		

<b>Lab ID:</b>	0712350-05	<b>Collection Date:</b>	12/20/2007 3:49:00 PM
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<b>Client Sample ID:</b>	EJ Johnson CIE MW-5	<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>
<b>EPA METHOD 8021B: VOLATILES</b> Analyst: NSB						
Benzene	9.0	1.0		µg/L	1	12/27/2007 5:17:10 PM
Toluene	ND	1.0		µg/L	1	12/27/2007 5:17:10 PM
Ethylbenzene	ND	1.0		µg/L	1	12/27/2007 5:17:10 PM
Xylenes, Total	ND	2.0		µg/L	1	12/27/2007 5:17:10 PM
Surr: 4-Bromofluorobenzene	86.5	68.9-122		%REC	1	12/27/2007 5:17:10 PM

<b>Lab ID:</b>	0712350-06	<b>Collection Date:</b>	12/26/2007 10:16:00 AM
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<b>Client Sample ID:</b>	Rowland GC1 MW-5	<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>
<b>EPA METHOD 8021B: VOLATILES</b> Analyst: NSB						
Benzene	ND	1.0		µg/L	1	12/27/2007 6:20:04 PM
Toluene	ND	1.0		µg/L	1	12/27/2007 6:20:04 PM
Ethylbenzene	ND	1.0		µg/L	1	12/27/2007 6:20:04 PM
Xylenes, Total	ND	2.0		µg/L	1	12/27/2007 6:20:04 PM
Surr: 4-Bromofluorobenzene	86.6	68.9-122		%REC	1	12/27/2007 6:20:04 PM

<b>Lab ID:</b>	0712350-07	<b>Collection Date:</b>	
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<b>Client Sample ID:</b>	TRIP BLANK	<b>Matrix:</b>	TRIP BLANK
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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>
<b>EPA METHOD 8021B: VOLATILES</b> Analyst: NSB						
Benzene	ND	1.0		µg/L	1	12/27/2007 7:50:11 PM
Toluene	ND	1.0		µg/L	1	12/27/2007 7:50:11 PM
Ethylbenzene	ND	1.0		µg/L	1	12/27/2007 7:50:11 PM
Xylenes, Total	ND	2.0		µg/L	1	12/27/2007 7:50:11 PM
Surr: 4-Bromofluorobenzene	84.3	68.9-122		%REC	1	12/27/2007 7:50:11 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

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: 0712350

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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<b>Method: EPA Method 8021B: Volatiles</b>									
<b>Sample ID:</b> 0712350-04A MSD		MSD			Batch ID:	R26708	Analysis Date:	12/27/2007 8:50:30 PM	
Benzene	48.54	µg/L	1.0	98.2	85.9	113	0.378	27	
Toluene	20.57	µg/L	1.0	103	86.4	113	0.543	19	
Ethylbenzene	24.72	µg/L	1.0	102	83.5	118	0.605	10	
Xylenes, Total	63.55	µg/L	2.0	102	83.4	122	0.317	13	
<b>Sample ID:</b> 5ML RB		MBLK			Batch ID:	R26708	Analysis Date:	12/27/2007 9:07:53 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						
<b>Sample ID:</b> 100NG BTEX LCS		LCS			Batch ID:	R26708	Analysis Date:	12/27/2007 9:20:40 PM	
Benzene	22.03	µg/L	1.0	110	85.9	113			
Toluene	20.88	µg/L	1.0	104	86.4	113			
Ethylbenzene	20.97	µg/L	1.0	105	83.5	118			
Xylenes, Total	62.73	µg/L	2.0	105	83.4	122			
<b>Sample ID:</b> 0712350-04A MS		MS			Batch ID:	R26708	Analysis Date:	12/27/2007 8:20:13 PM	
Benzene	48.72	µg/L	1.0	99.1	85.9	113			
Toluene	20.69	µg/L	1.0	103	86.4	113			
Ethylbenzene	24.87	µg/L	1.0	102	83.5	118			
Xylenes, Total	63.75	µg/L	2.0	102	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