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2006 AGWMR

MAR 2007

XTO ENERGY INC.

ANNUAL GROUNDWATER REPORT

2006

***ROMERO GAS COM A #1
(K) SECTION 27 – T29N – R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO***

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

January 2007

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2006 XTO GROUNDWATER REPORT

ROMERO GAS COM A #1

SITE DETAILS

Legals - Twn: 29N	Rng: 10W	Sec: 27	Unit: K
NMOCD Hazard Ranking: 60		Land Type: FEE	

PREVIOUS ACTIVITIES

Excavation: Jul-03
Monitor Wells: Jul-03
Sampling Dates: Sep-06

Soil Boring: Jul-03
Quarterly Sampling Initiated: Aug-03

SITE MAP

A site map is presented as Figure 1.

SUMMARY TABLES

A summary of laboratory results from 2003 and 2004 groundwater monitoring is presented as Table 1. General water quality data and trace metals data is included as Tables 2 and 3. Copies of the laboratory data sheets and associated quality assurance/quality control data for 2006 are presented as Attachment 1.

POTENTIOMETRIC SURFACE DIAGRAMS

Site monitoring has indicated a groundwater gradient that consistently exhibits a trend to the northwest. Figure 2 illustrates the estimated groundwater gradient observed in September 2006.

2006 ACTIVITIES

Annual Groundwater Remediation Report- The 2005 annual report was submitted to New Mexico Oil Conservation Division (NMOCD) in January 2006, proposing termination of sampling for benzene, toluene, ethyl benzene and total xylenes (BTEX) constituents in all site monitor wells, in accordance with the NMOCD approved Groundwater Management Plan. XTO Energy Inc. (XTO) proposed to sample monitor well numbered MW-3X for the presence of total mercury in 2007.

Groundwater Monitoring – Annual groundwater samples for mercury were collected from MW-3X in 2006. Groundwater analytical data was below standards for mercury at MW-3X for the 2006 sampling event.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Bore/Test Hole Reports are presented as Figures 3-5 representing drilling that occurred on site in July 2003.

DISPOSITION OF GENERATED WASTES

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

CONCLUSIONS

January 1998 XTO acquired the Romero Gas Com A #1 from Amoco Production Company. Groundwater impacts were suspected at this site following work at a former

2006 XTO GROUNDWATER REPORT

separator pit and production tank pit. During this work, a release of hydrocarbons to the ground surface from the site pit tanks was identified. Remediation of impacted soils and groundwater via excavation was immediately conducted and monitor wells were installed to assess potential impacts to groundwater.

Analytical data from monitor wells indicated that residual hydrocarbon impacts were not present. Groundwater samples were analyzed for metals due to the nature of the release. Laboratory analysis identified the metal mercury in down-gradient well MW-3X at a level of 0.0045 mg/L (equivalent to parts per million).

Laboratory analysis of groundwater samples collected from MW-3X in 2006 have demonstrated no detectable levels of mercury and NMWQCC standards have been met. Therefore, XTO requests closure of this site.

RECOMMENDATIONS

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

TABLE 1
XTO ENERGY INC. GROUNDWATER LAB RESULTS

ROMERO GC A #1- SEPARATOR PIT UNIT K, SEC. 27, T29N, R10W
--

Revised Date: February 5, 2007

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
06-Aug-03	MW #1	7.91	10.00		NA	NA	NA	NA
25-Nov-03		6.27			NA	NA	NA	NA
06-Aug-03	MW #1X	8.5	10.00		ND	ND	ND	ND
29-Aug-03					NA	NA	NA	NA
06-Aug-03	MW #2X	7.92	10.00		NA	NA	NA	NA
06-Aug-03	MW #3X	8.57	10.00		14	ND	ND	ND
25-Nov-03		6.64			ND	ND	ND	ND
30-Mar-04		6.68			ND	ND	ND	ND
16-Jun-04		8.28			2.7	ND	ND	ND
27-Sep-04		8.39			ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS					10	750	750	620

TABLE 2
XTO ENERGY INC. GROUNDWATER LAB RESULTS

ROMERO GC A #1- SEPARATOR PIT UNIT K, SEC. 27, T29N, R10W
--

Revised Date: February 5, 2007
Sample Date: August 6, 2003
November 25, 2003

PARAMETERS	MW #1	MW #3X	UNITS
LAB Ph	6.7	7.14	s.u.
LAB CONDUCTIVITY @ 25 C	4,590	3,280	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	2,250	1,700	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	2,280	1,540	mg/L
SODIUM ABSORPTION RATIO	9.9	2.5	ratio
TOTAL ALKALINITY AS CaCO ₃	322	343	mg/L
TOTAL HARDNESS AS CaCO ₃	532	852	mg/L
BICARBONATE AS HCO ₃	322	343	mg/L
CARBONATE AS CO ₃	< 0.1	< 0.1	mg/L
HYDROXIDE AS OH	< 0.1	< 0.1	mg/L
NITRATE NITROGEN	< 0.1	0.1	mg/L
NITRITE NITROGEN	0.005	0.008	mg/L
CHLORIDE	23.6	225	mg/L
FLUORIDE	1.44	0.44	mg/L
PHOSPHATE	0.1	0.6	mg/L
SULFATE	1,320	605	mg/L
IRON	0.024	0.46	mg/L
CALCIUM	213	285	mg/L
MAGNESIUM	< 0.01	34.2	mg/L
POTASSIUM	2.3	9.5	mg/L
SODIUM	525	168	mg/L
CATION/ANION DIFFERENCE	0.06	0.05	%

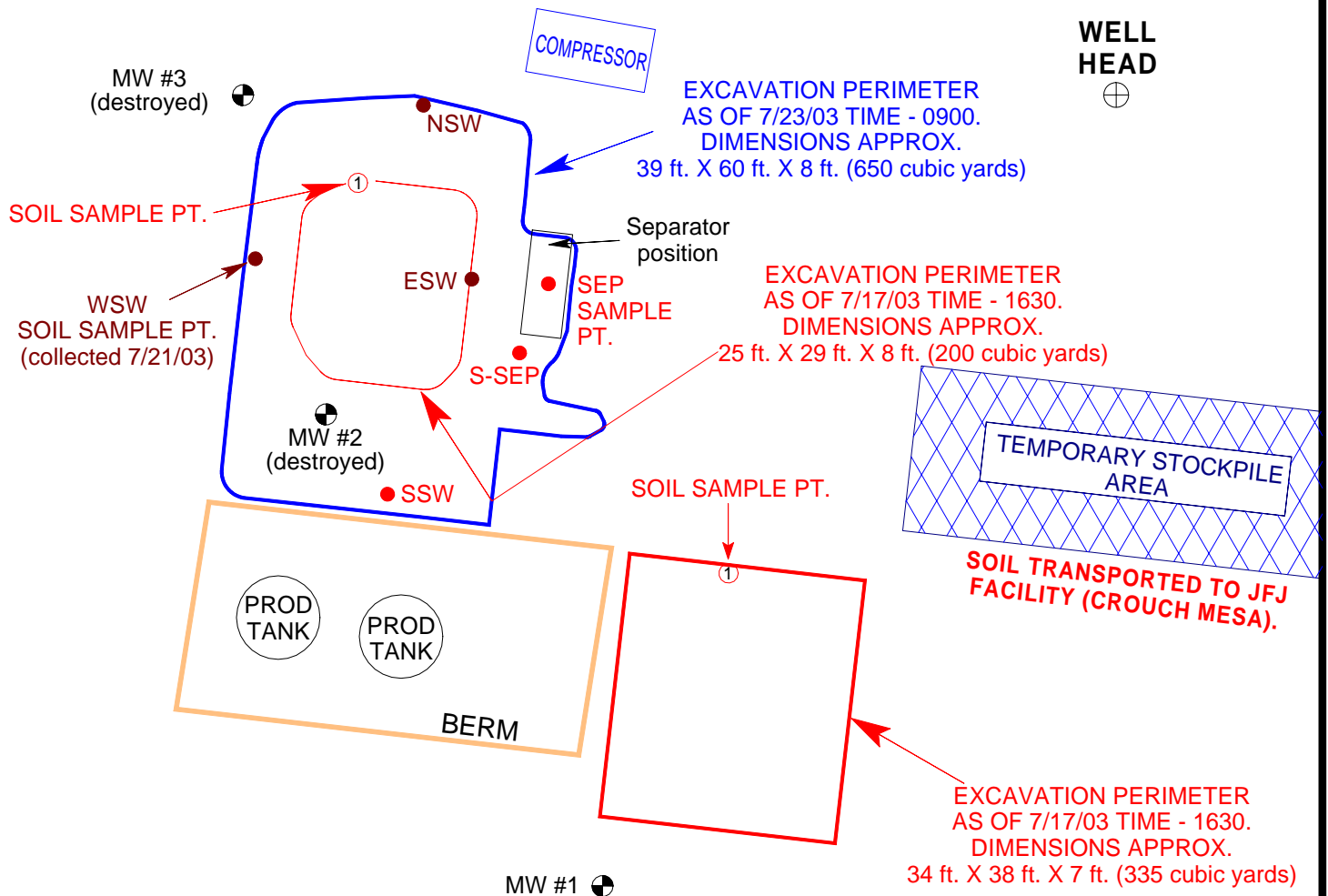
TABLE 3
XTO ENERGY INC. GROUNDWATER LAB RESULTS

ROMERO GC A #1- SEPARATOR PIT UNIT K, SEC. 27, T29N, R10W
--

MW #	Sample Date	Mercury	Aluminum	Arsenic	Barium	Boron	Cadmium	Chromium	Cobalt	Copper
1	11/25/2003	ND	-	-	-	-	-	-	-	-
3X	8/6/2003	0.0045	1.1	ND	0.1	0.14	ND	ND	ND	ND
3X	9/25/2006	ND	-	-	-	-	-	-	-	-
NWWQCC STANDARDS		0.002	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0

MW #	Sample Date	Iron	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Zinc
1	11/25/2003	4.70	-	3.6	-	-	-	-	-
3X	8/6/2003	2.1	0.011	3.6	ND	ND	ND	ND	0.033
3X	9/25/2006	-	-	-	-	-	-	-	-
NWWQCC STANDARDS		1.0	0.05	0.2	1.0	0.2	0.05	0.05	10.0

FIGURE 1



DATE	TIME	SAMPLE ID	PIT TYPE	OVM (ppm)	TPH (ppm)	COMMENTS
7/17/03	1608	① @ 5 ft.	PROD. TANK	0.0	ND	OLIVE GRAY SAND, DTW ~ 7 ft. BELOW GRADE
7/17/03	1537	① @ 5 ft.	SEPARATOR	88.4	119	LT. MED. GRAY SAND, DTW ~ 7 ft. BELOW GRADE
7/21/03	0904	WSW @ 5 ft.	SEPARATOR	0.0	N/A	OLIVE GRAY SAND, DTW ~ 7 ft. BELOW GRADE
7/21/03	0907	ESW @ 4 ft.	SEPARATOR	6.3	ND	OLIVE GRAY SAND, DTW ~ 7 ft. BELOW GRADE
7/21/03	0914	NSW @ 5 ft.	SEPARATOR	4.6	ND	OLIVE GRAY SAND, DTW ~ 7 ft. BELOW GRADE
7/23/03	1028	SSW @ 5.5 ft.	SEPARATOR	0.0	N/A	OLIVE GRAY SAND, DTW ~ 7 ft. BELOW GRADE
7/23/03	1035	S-SEP @ 4 ft.	SEPARATOR	581	N/A	MED. GRAY SAND, DTW ~ 7 ft. BELOW GRADE
7/25/03	0907	SEP @ 7 ft.	SEPARATOR	22.5	ND	OLIVE GRAY SAND, DTW ~ 7 ft. BELOW GRADE

NOTES : OVM = Organic vapor meter or photoionization detector (PID).
 TPH = Total petroleum hydrocarbons - US Epa method 8015B.
 ppm = parts per million or milligrams per liter (mg/L).
 ND = Not detected at parameter detection limit.
 N/A = Not available or not applicable based on arbitrary/judgmental assessment.
 ✓ - indicates OVM instrument not calibrated, but checked with calibration gas.

1 INCH = 25 FEET

OVM CALIBRATION INFORMATION

OVM CALIB. GAS =	100 ppm	RF = 0.52
OVM CALIB. READ. =	53.3 ppm	DATE: 7/17/03 TIME: 1615
OVM CALIB. READ. =	54.3 ppm	DATE: 7/21/03 TIME: 0916
OVM CALIB. READ. =	52.7 ppm ✓	DATE: 7/23/03 TIME: 1040
OVM CALIB. READ. =	53.3 ppm ✓	DATE: 7/25/03 TIME: 0920

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

XTO ENERGY INC.

ROMERO GC A # 1

NE/4 SW/4 SEC. 27, T29N, R10W
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: RELEASE CLEANUP

DRAWN BY: NJV

FILENAME: ROMERO GC A1-SM.SKF

REVISED: 11/07/05 NJV

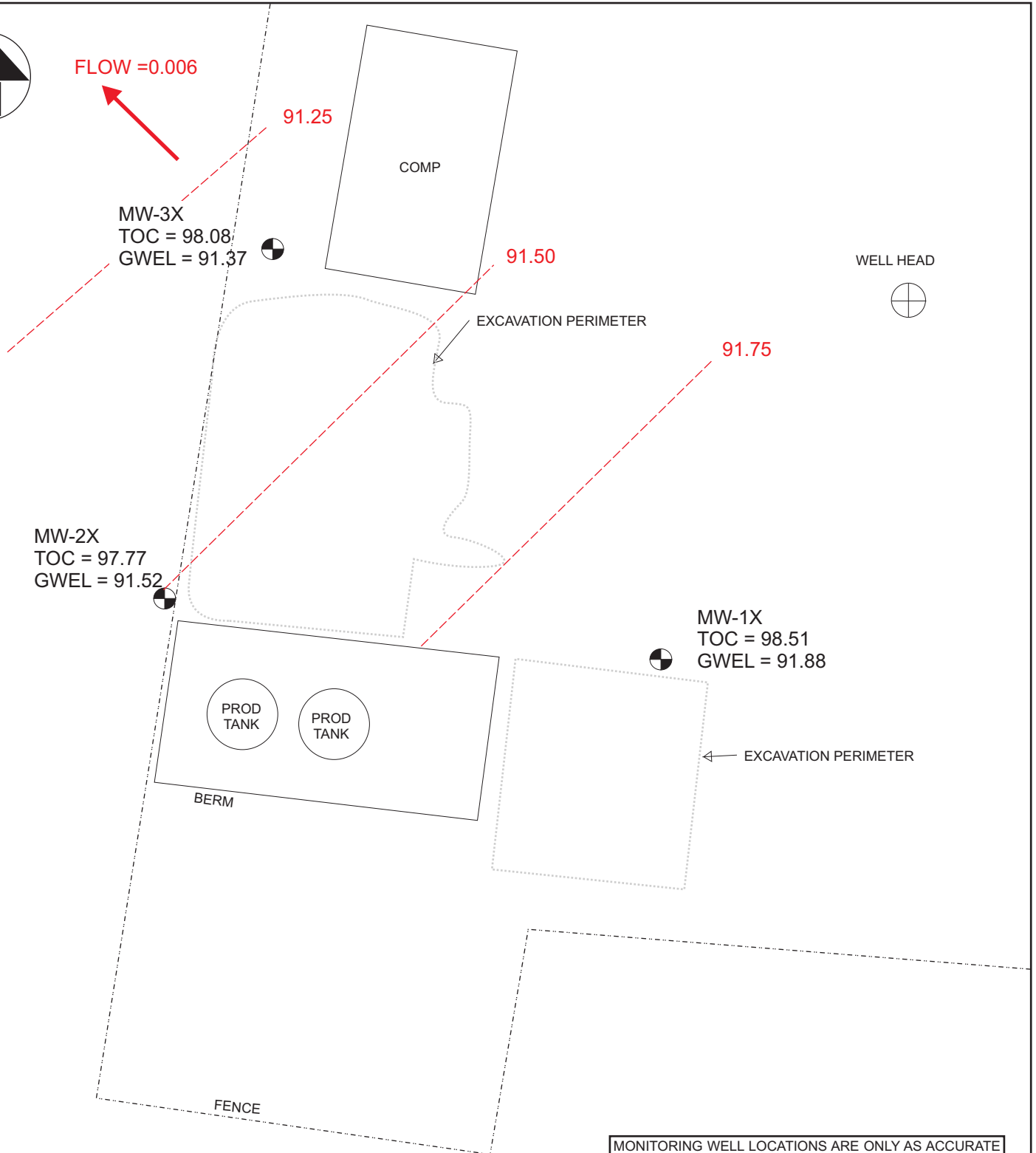
RECLAMATION

SITE MAP

7/03



FLOW = 0.006



TOC = TOP OF CASING ELEVATION
GWEL = GROUNDWATER ELEVATION
--- = INFERRED 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.

1 INCH = 25 FEET
0 25 50 FT.

Lodestar Services, Inc
PO Box 3861
Farmington, NM 87499

ROMERO GAS COM A #1
NE/4 SW/4 SEC. 27, T29N, R10W
SAN JUAN COUNTY, NEW MEXICO

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

FIGURE 2
GROUNDWATER GRADIENT
MAP
09/25/2006

FIGURE 3

BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

CLIENT: **XTO ENERGY INC.**
LOCATION NAME: **ROMERO GC A #1 - SEPARATOR PIT, UNIT K, SEC. 27, T29N, R10W**
CONTRACTOR: **BLAGG ENGINEERING, INC. / PAUL & SONS, INC.**
EQUIPMENT USED: **TRACKHOE**
BORING LOCATION: **80 FT., S33.5W FROM WELL HEAD.**

BORING #..... **BH - 1**
MW #..... **1X**
PAGE #..... **1**
DATE STARTED **7/28/03**
DATE FINISHED **7/28/03**
OPERATOR..... **RM**
PREPARED BY **NJV**

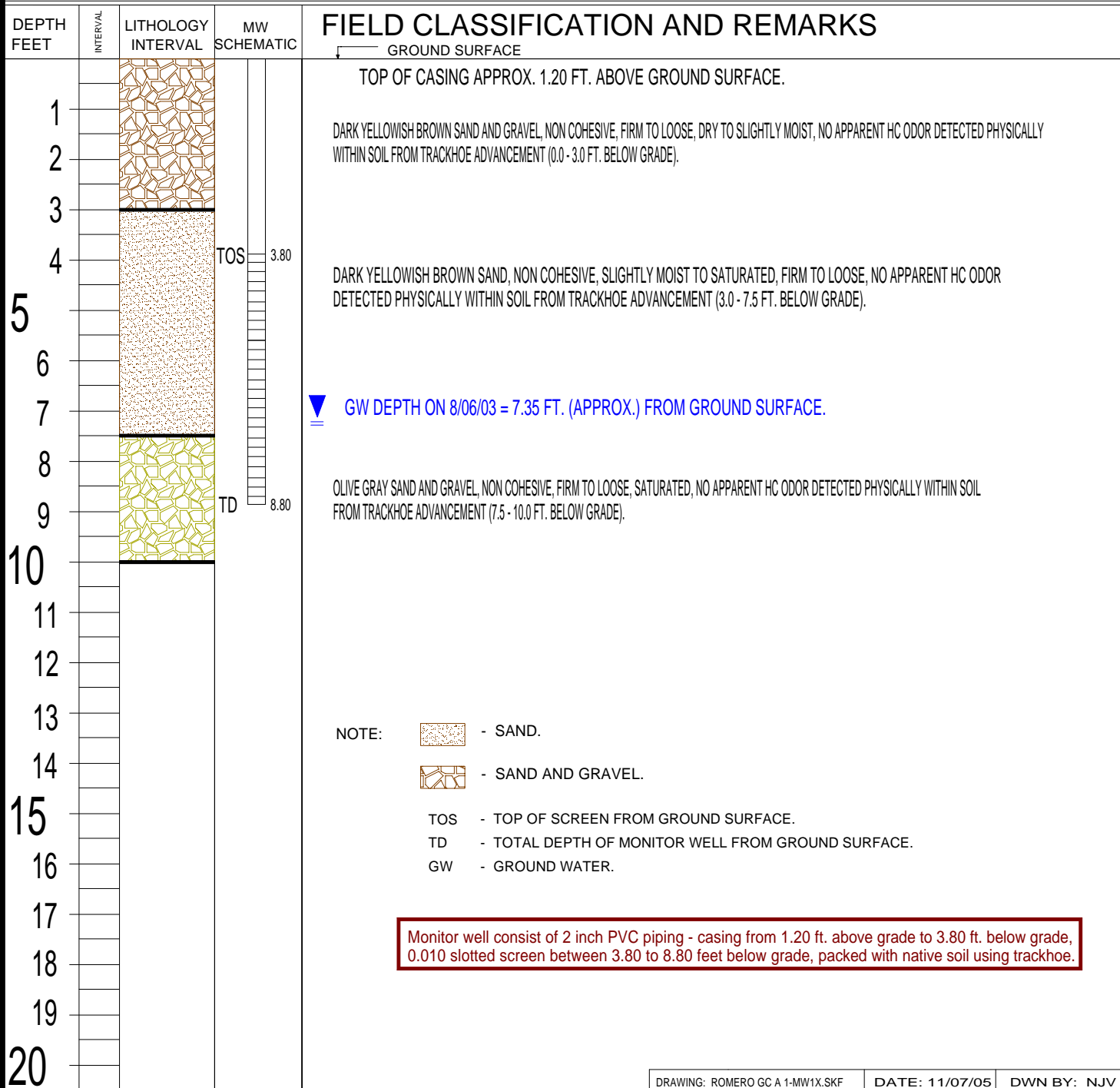


FIGURE 4

BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: ROMERO GC A #1 - SEPARATOR PIT, UNIT K, SEC. 27, T29N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC. / PAUL & SONS, INC.
EQUIPMENT USED: TRACKHOE
BORING LOCATION: 143 FT., S67.5W FROM WELL HEAD.

BORING #..... BH - 2
MW #..... 2X
PAGE #..... 2
DATE STARTED 7/28/03
DATE FINISHED 7/28/03
OPERATOR..... RM
PREPARED BY NJV

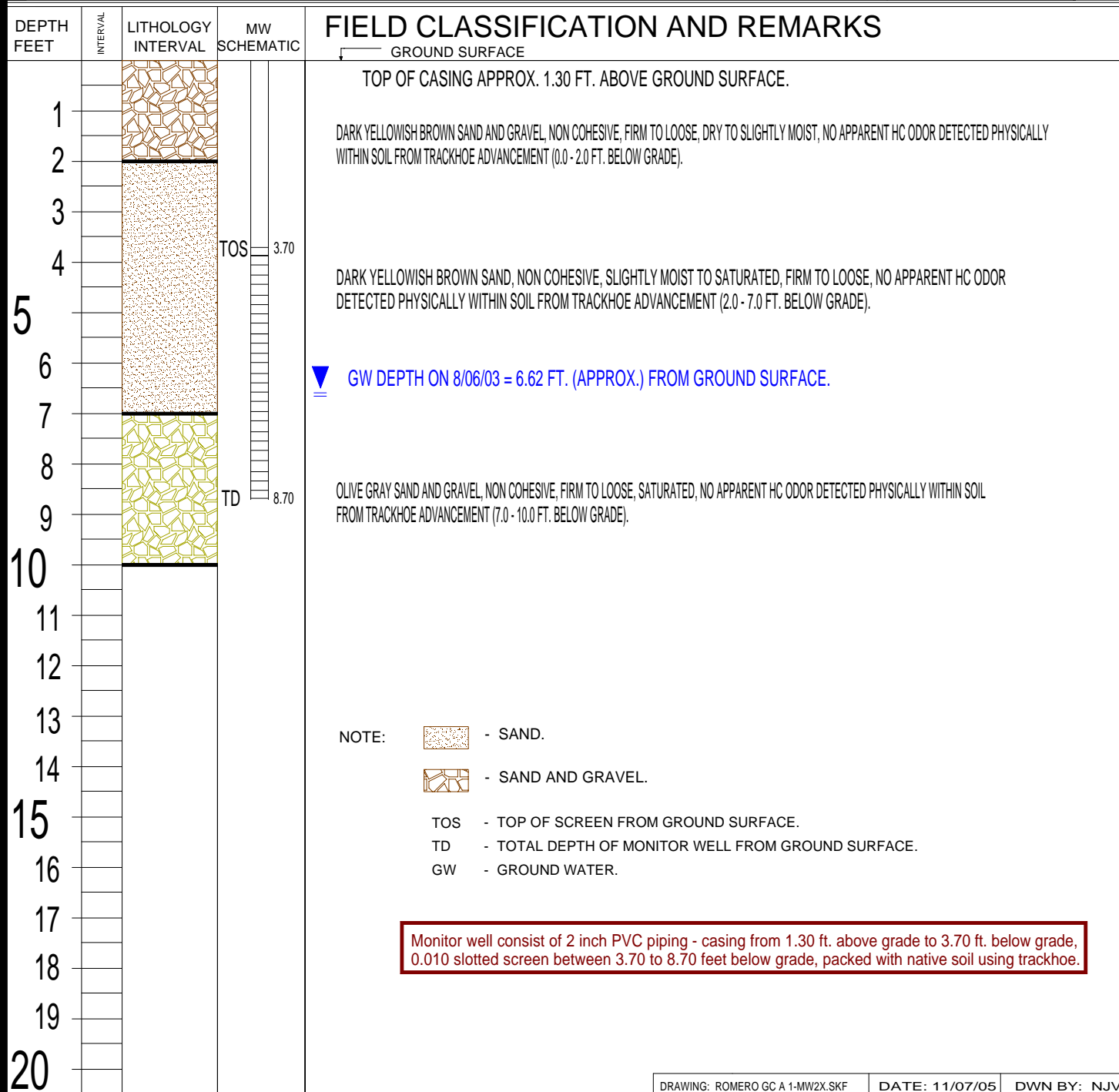


FIGURE 5

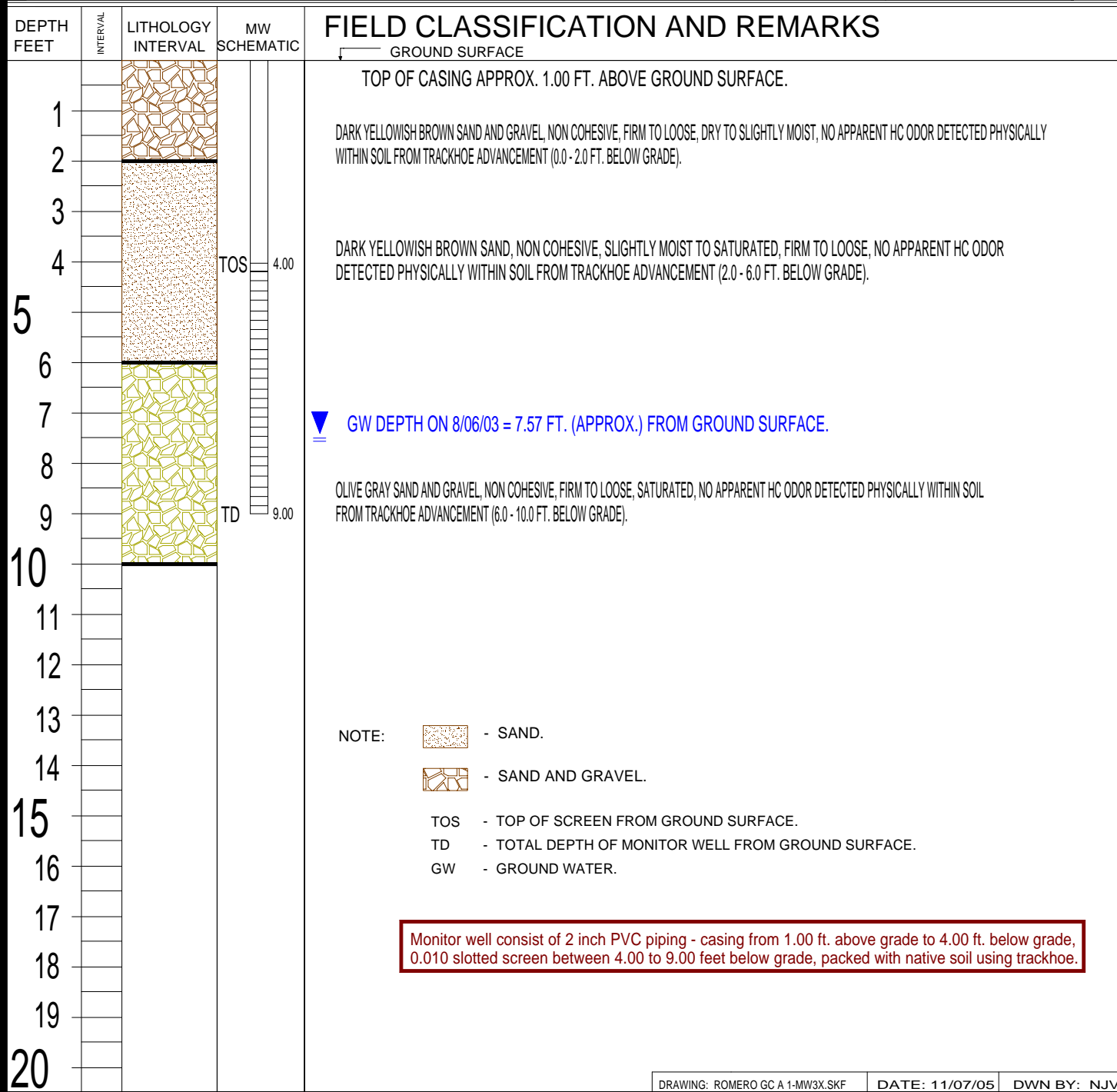
BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: ROMERO GC A #1 - SEPARATOR PIT, UNIT K, SEC. 27, T29N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC. / PAUL & SONS, INC.
EQUIPMENT USED: TRACKHOE
BORING LOCATION: 113 FT., N86W FROM WELL HEAD.

BORING #..... BH - 3
MW #..... 3X
PAGE #..... 3
DATE STARTED 7/28/03
DATE FINISHED 7/28/03
OPERATOR..... RM
PREPARED BY NJV



Hall Environmental Analysis Laboratory, Inc.

Date: 06-Oct-06

CLIENT: XTO Energy
Lab Order: 0609347
Project: XTO Groundwater
Lab ID: 0609347-04

Client Sample ID: Romero Gas Com A1 MW-3X
Collection Date: 9/25/2006 3:45:00 PM
Date Received: 9/27/2006
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: MAP
Mercury	ND	0.00020		mg/L	1	9/27/2006

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

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

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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.

Sample Receipt Checklist

Client Name XTO ENERGY

Date and Time Received:

9/27/2006

Work Order Number 0609347

Received by AT

Checklist completed by

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	

Container/Temp Blank temperature?

2°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

