

3R - 384

**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:

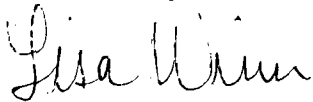
- Baca Gas Com A #1A- 3RP104
- Garcia Gas Com B #1- 3RP111
- Haney Gas Com B #1E- 3RP113
- Hare Gas Com B #1
- ✓ • Hare Gas Com B #1E- 3RP384
- Hare Gas Com I #1
- Masden Gas Com #1E- 3RP120
- McDaniel Gas Com B #1E- 3RP121
- Stedje Gas Com #1- 3RP128
- Sullivan Frame A #1E- 3RP130

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

3R384

XTO ENERGY INC.

ANNUAL GROUNDWATER REPORT

2007

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

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

January 2008

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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 - 8:	Geologic Logs and Well Completion Diagrams
Attachment 1:	2006 & 2007 Laboratory Reports
Attachment 2:	Pit Assessment/Closure Report (05-06/1992)

2007 XTO GROUNDWATER REPORT

HARE GAS COM B #1E

SITE DETAILS

LEGALS - TWN: 29N

RNG: 11W

SEC: 23

UNIT: E

NMOCD HAZARD RANKING: 30

LAND TYPE: FEE

PREVIOUS ACTIVITIES

Excavation: Jun-92 (20 CY)

Monitoring Wells: Oct & Dec-99

Quarterly Sampling Initiated: Dec-99

SITE MAP

A site map is presented as Figure 1.

SUMMARY TABLES

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

POTENTIOMETRIC SURFACE DIAGRAMS

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

ANNUAL GROUNDWATER REMEDIATION REPORTS

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

2007 ACTIVITIES

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

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

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

DISPOSITION OF GENERATED WASTES

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

CONCLUSIONS

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



2007 XTO GROUNDWATER REPORT

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

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

RECOMMENDATIONS

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

TABLE 1

XTO ENERGY INC. GROUNDWATER LAB RESULTS

HARE GC B #1E UNIT E, SEC. 23, T29N, R11W
--

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

TABLE 2

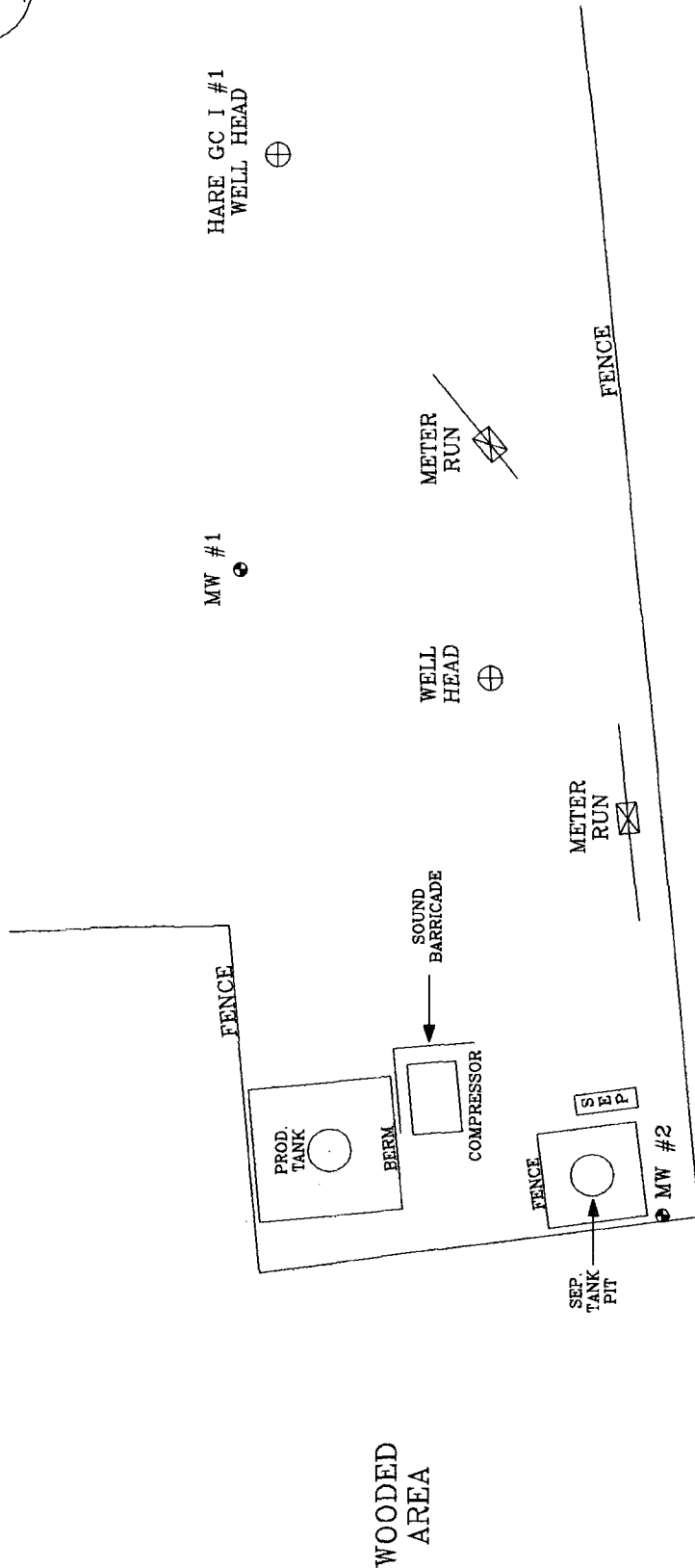
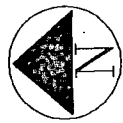
XTO ENERGY INC. GROUNDWATER LAB RESULTS

HARE GC B #1E- SEPARATOR PIT UNIT E, SEC. 23, T29N, R11W

Sample Date: December 9, 1999

PARAMETERS	MW #1	MW #2	MW #3	UNITS
LAB Ph	6.91	7.00	6.95	s.u.
LAB CONDUCTIVITY @ 25 C	10,320	7,020	6,770	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	5,150	3,500	3,380	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	5,000	3,430	3,300	mg/L
SODIUM ABSORPTION RATIO	12.5	7.8	5.4	ratio
TOTAL ALKALINITY AS CaCO3	404	372	400	mg/L
TOTAL HARDNESS AS CaCO3	1,360	1,200	1,440	mg/L
BICARBONATE AS HCO3	404	372	400	mg/L
CARBONATE AS CO3	< 0.1	< 0.1	< 0.1	mg/L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1	mg/L
NITRATE NITROGEN	< 0.1	< 0.1	< 0.1	mg/L
NITRITE NITROGEN	0.004	0.003	0.004	mg/L
CHLORIDE	28	26	17.4	mg/L
FLUORIDE	1.33	1.22	1.22	mg/L
PHOSPHATE	< 0.1	0.2	0.6	mg/L
SULFATE	3,150	2,110	2,020	mg/L
IRON	0.004	0.001	0.015	mg/L
CALCIUM	475	402	512	mg/L
MAGNESIUM	41	46.2	38.6	mg/L
POTASSIUM	3.5	0.9	0.7	mg/L
SODIUM	1,060	620	470	mg/L
CATION/ANION DIFFERENCE	0.29	0.08	0	%

FIGURE 1



1 INCH = 40 FT.



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

OPEN FIELD
(PARTLY WOODED)

XTO ENERGY INC.
HARE GC B #1E
SW/4 NW/4 SEC. 23, T29N, R11W
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: MW INSTALL.
DRAWN BY: NJV
FILENAME: H-B1E-SM.SKD

SITE
MAP
12/99



FENCE

HARE GAS COM I#1 MW-2

HARE GAS COM I#1 MW-3

MW-1
TOC = 101.15
GWEL = 97.87

HARE GC I#1
WELL HEAD

PROD. TANK
BERM
COMPRESSOR

SOUND BARRICADE

HARE GAS COM B#1E
WELL HEAD

SEP
TANK
PIT

FENCE

SEP

COMPRESSOR

BERM

PROD. TANK

SOUND BARRICADE

HARE GAS COM B#1E
WELL HEAD

METER RUN

METER RUN

95.00

96.00

97.00

94.00

95.10

94.01

98.10

94.01

94.00

95.11

95.11

95.11

95.11

95.11

95.11

95.11

95.11

95.11

95.11

95.11

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95.11

95.11

95.11

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 = 20 FEET
0 20 40 FT.

OPEN FIELD
(PARTIALLY WOODED)

FLOW = 0.04

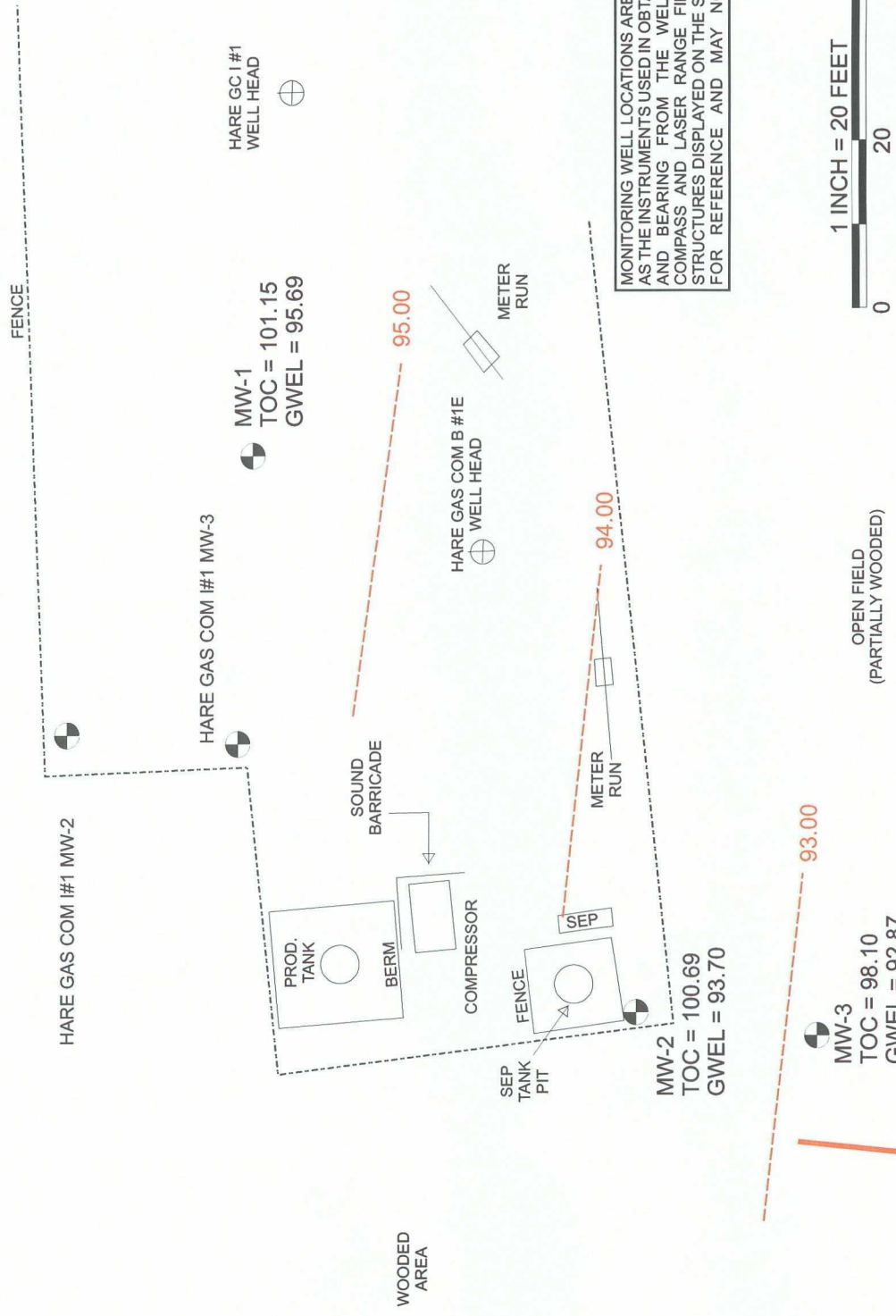
TOC = TOP OF CASING ELEVATION
GWEL = GROUNDWATER ELEVATION
--- = INFERRED GROUNDWATER CONTOUR LINE

Lodestar Services, Inc
PO Box 3861
Farmington, NM 87499

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

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

FIGURE 2
GROUNDWATER GRADIENT MAP
07/13/2006



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.



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

OPEN FIELD
(PARTIALLY WOODED)

FLOW = 0.04

 Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	HARE GAS COM B #1E SW/4 NW/4 SEC. 23, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 01/19/07	GROUNDWATER GRADIENT MAP 01/18/2007 FIGURE 4
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FIGURE 6

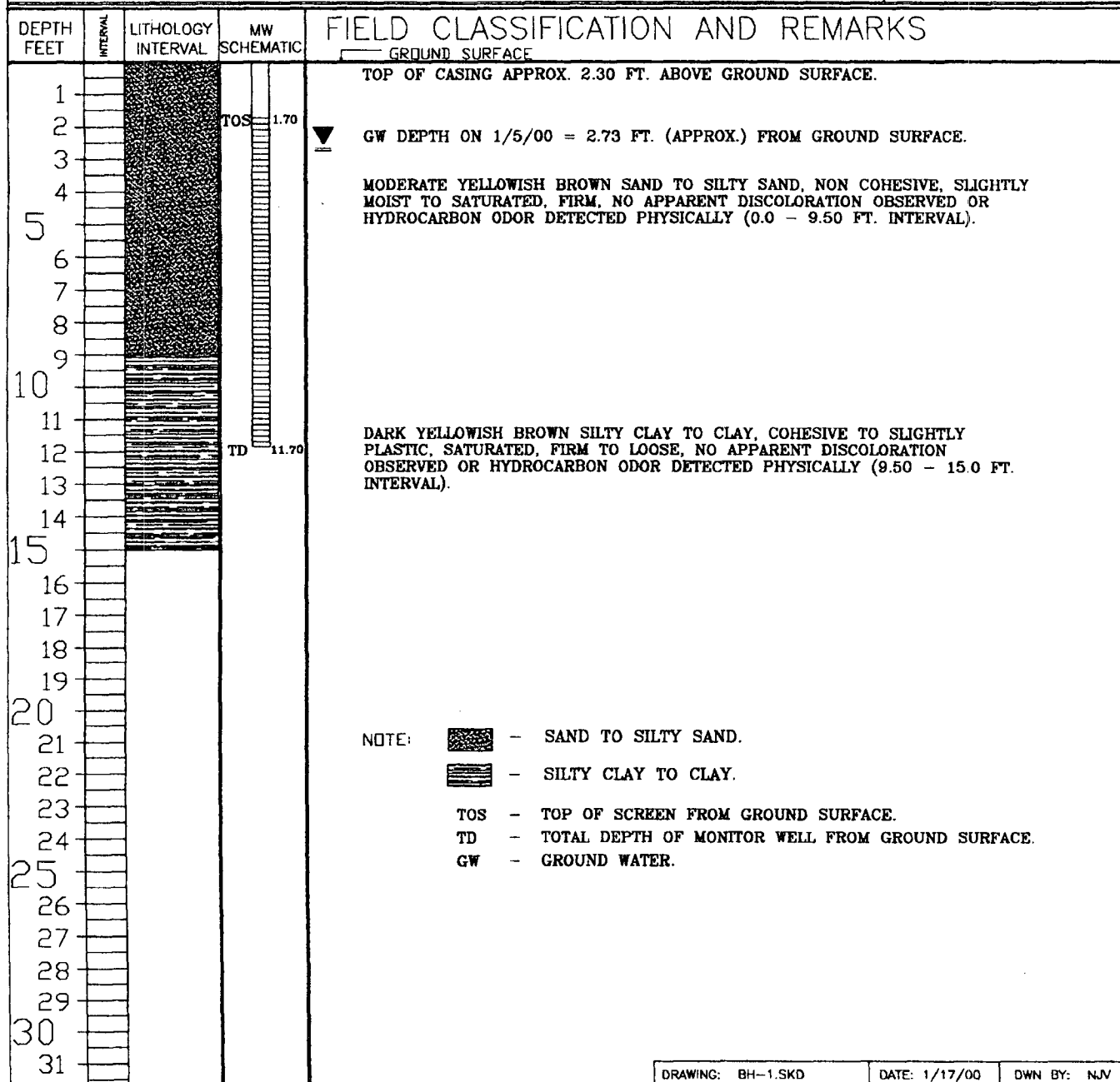
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

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

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



DRAWING: BH-1.SKD

DATE: 1/17/00

DWN BY: NJV

FIGURE 7

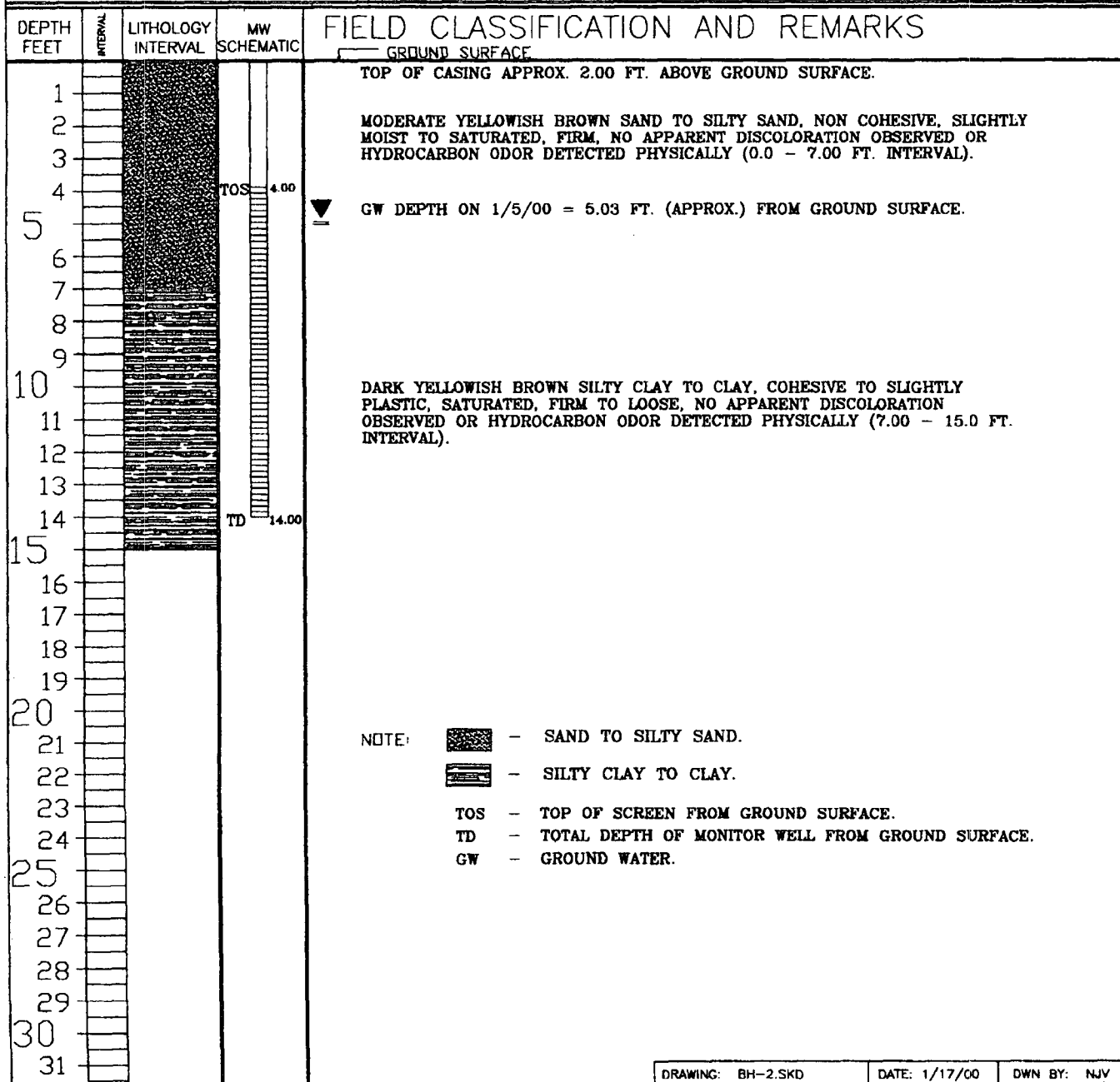
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

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

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



BLAGG ENGINEERING, Inc. P.O. BOX 87 BLOOMFIELD, NM 87413 (505) 632-1199			
BORE / TEST HOLE REPORT			BORING #..... BH - 3 MW #..... 3 PAGE #..... 3 DATE STARTED 12/7/99 DATE FINISHED 12/7/99 OPERATOR..... REP PREPARED BY NJV
CLIENT: XTO ENERGY INC.			
LOCATION NAME: HARE GC B #1E			
CONTRACTOR: BLAGG ENGINEERING, INC.			
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)			
BORING LOCATION: 150 FT., S55W FEET FROM WELL HEAD.			
DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC
FIELD CLASSIFICATION AND REMARKS			
1			
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			
GROUND SURFACE			
TOP OF CASING APPROX. 2.10 FT. ABOVE GROUND SURFACE.			
MODERATE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 4.00 FT. INTERVAL).			
GW DEPTH ON 1/5/00 = 5.03 FT. (APPROX.) FROM GROUND SURFACE.			
DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE TO SLIGHTLY PLASTIC, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (4.00 - 15.0 FT. INTERVAL).			
NOTE: [Pattern] - SAND TO SILTY SAND.			
[Pattern] - SILTY CLAY TO CLAY.			
TOS - TOP OF SCREEN FROM GROUND SURFACE.			
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.			
GW - GROUND WATER.			
DRAWING: BH-3.SKD		DATE: 1/17/00	
		DWN BY: NJV	

DRAWING: BH-3.SKD

DATE: 1/17/00

OWN BY: NJV

Hall Environmental Analysis Laboratory, Inc.

Date: 25-Jul-06

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0607173

Lab ID: 0607173-01
Client Sample ID: Hare GC B1E MW-1

Collection Date: 7/13/2006 12:28:00 PM
Matrix: AQUEOUS

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

Lab ID: 0607173-02
Client Sample ID: Hare GC B1E MW-2

Collection Date: 7/13/2006 12:47:00 PM
Matrix: AQUEOUS

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

Lab ID: 0607173-03
Client Sample ID: Hare GC B1E MW-3

Collection Date: 7/13/2006 1:10:00 PM
Matrix: AQUEOUS

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: 25-Jul-06

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

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

EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	ND	1.0		µg/L	1	7/24/2006 11:55:04 AM
Toluene	ND	1.0		µg/L	1	7/24/2006 11:55:04 AM
Ethylbenzene	ND	1.0		µg/L	1	7/24/2006 11:55:04 AM
Xylenes, Total	ND	3.0		µg/L	1	7/24/2006 11:55:04 AM
Surr: 4-Bromofluorobenzene	100	72.2-125		%REC	1	7/24/2006 11:55:04 AM

Qualifiers:

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

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

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: Ground Water

Work Order: 0607173

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

Method: SW8021

Sample ID: 5ML REAGENT BLA

MBLK

Batch ID: R20010 Analysis Date: 7/24/2006 9:17:45 AM

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

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R20010 Analysis Date: 7/24/2006 7:38:34 PM

Benzene	20.42	µg/L	1.0	102	85	115
Toluene	19.93	µg/L	1.0	99.7	85	118
Ethylbenzene	19.22	µg/L	1.0	96.1	85	116
Xylenes, Total	58.45	µg/L	3.0	97.4	85	119

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R20010 Analysis Date: 7/24/2006 8:07:32 PM

Benzene	20.28	µg/L	1.0	101	85	115	0.727	27
Toluene	19.96	µg/L	1.0	99.8	85	118	0.110	19
Ethylbenzene	19.75	µg/L	1.0	98.8	85	116	2.71	10
Xylenes, Total	60.35	µg/L	3.0	101	85	119	3.21	13

Qualifiers:

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: 07-Nov-06

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: 07-Nov-06

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

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: SMP
Benzene	ND	1.0		µg/L	1	10/21/2006
Toluene	ND	1.0		µg/L	1	10/21/2006
Ethylbenzene	ND	1.0		µg/L	1	10/21/2006
Xylenes, Total	ND	3.0		µg/L	1	10/21/2006
Surr: 1,2-Dichloroethane-d4	92.7	69.9-130		%REC	1	10/21/2006
Surr: 4-Bromofluorobenzene	102	71.2-123		%REC	1	10/21/2006
Surr: Dibromofluoromethane	101	73.9-134		%REC	1	10/21/2006
Surr: Toluene-d8	95.0	81.9-122		%REC	1	10/21/2006

Qualifiers:

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: 07-Nov-06

CLIENT: XTO Energy
Lab Order: 0610211
Project: XTO Ground Water
Lab ID: 0610211-03

Client Sample ID: Hare Gas Com BIE MW-3
Collection Date: 10/13/2006 8:59:00 AM
Date Received: 10/19/2006
Matrix: AQUEOUS

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: 07-Nov-06

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

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

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

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

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

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: XTO Ground Water

Work Order: 0610211

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: E300

Sample ID: MBLK

MBLK

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

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

Sample ID: MBLK

MBLK

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

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

Sample ID: LCS ST300-06008

LCS

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

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

Sample ID: LCS ST300-06008

LCS

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

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

Method: E310.1

Sample ID: MB

MBLK

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

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

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: XTO Ground Water

Work Order: 0610211

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8310

Sample ID: 0610211-07BMSD

MSD

Batch ID: 11533

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

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

Sample ID: MB-11533

MBLK

Batch ID: 11533

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

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

Sample ID: LCS-11533

LCS

Batch ID: 11533

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

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

Qualifiers:

- | | | | |
|---|--|----|--|
| E | Value above quantitation range | 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 |

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: XTO Ground Water

Work Order: 0610211

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8310

Sample ID: LCS-11533

LCS

Batch ID: 11533

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

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

Sample ID: LCSD-11533

LCSD

Batch ID: 11533

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

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

Sample ID: 0610211-07BMS

MS

Batch ID: 11533

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

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

Qualifiers:

- | | | | |
|---|--|----|--|
| E | Value above quantitation range | 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 |

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: XTO Ground Water

Work Order: 0610211

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8310									
Sample ID: 0610211-07BMS		MS			Batch ID: 11533		Analysis Date: 11/2/2006 5:46:15 AM		
Benzo(b)fluoranthene	0.4750	µg/L	0.050	90.0	58.8	102			
Benzo(k)fluoranthene	0.2340	µg/L	0.020	93.6	58.8	100			
Benzo(a)pyrene	0.2220	µg/L	0.020	88.4	49.7	109			
Dibenz(a,h)anthracene	0.4460	µg/L	0.040	89.0	54.1	111			
Benzo(g,h,i)perylene	0.4630	µg/L	0.030	92.6	51.3	111			
Indeno(1,2,3-cd)pyrene	0.8520	µg/L	0.080	85.0	55	99.9			

Method: SW6010A									
Sample ID: 0610211-07C MSD		MSD			Batch ID: R21153		Analysis Date: 10/24/2006 2:56:51 PM		
Magnesium	57.93	mg/L	1.0	88.5	75	125	5.78	20	
Potassium	53.50	mg/L	1.0	94.9	75	125	2.77	20	
Sodium	67.85	mg/L	1.0	94.3	75	125	6.01	20	
Sample ID: 0610211-07C MSD		MSD			Batch ID: R21153		Analysis Date: 10/24/2006 3:09:54 PM		
Calcium	115.5	mg/L	2.0	85.9	75	125	3.08	20	
Sample ID: MB		MBLK			Batch ID: R21153		Analysis Date: 10/24/2006 2:34:31 PM		
Calcium	ND	mg/L	1.0						
Magnesium	ND	mg/L	1.0						
Potassium	ND	mg/L	1.0						
Sodium	ND	mg/L	1.0						
Sample ID: LCS		LCS			Batch ID: R21153		Analysis Date: 10/24/2006 2:37:37 PM		
Calcium	49.33	mg/L	1.0	97.7	80	120			
Magnesium	49.66	mg/L	1.0	98.3	80	120			
Potassium	53.75	mg/L	1.0	97.7	80	120			
Sodium	53.37	mg/L	1.0	106	80	120			
Sample ID: 0610211-07C MS		MS			Batch ID: R21153		Analysis Date: 10/24/2006 2:54:38 PM		
Magnesium	61.38	mg/L	1.0	95.3	75	125			
Potassium	55.00	mg/L	1.0	97.6	75	125			
Sodium	72.06	mg/L	1.0	103	75	125			
Sample ID: 0610211-07C MS		MS			Batch ID: R21153		Analysis Date: 10/24/2006 3:12:56 PM		
Calcium	119.1	mg/L	2.0	93.1	75	125	0	0	

Method: E160.1

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

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: XTO Ground Water

Work Order: 0610211

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 23-Jan-07

CLIENT: XTO Energy
Project: Ground Water**Lab Order:** 0701243**Lab ID:** 0701243-07**Collection Date:** 1/18/2007 1:36:00 PM**Client Sample ID:** Hare GC BIE MW-1**Matrix:** AQUEOUS

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

Analyst: LMM

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

Lab ID: 0701243-08**Collection Date:** 1/18/2007 2:10:00 PM**Client Sample ID:** Hare GC BIE MW-2**Matrix:** AQUEOUS

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

Analyst: LMM

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

Lab ID: 0701243-09**Collection Date:** 1/18/2007 2:40:00 PM**Client Sample ID:** Hare GC BIE MW-3**Matrix:** AQUEOUS

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

Analyst: LMM

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

Qualifiers: * Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits 3 / 6

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 23-Jan-07

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

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

EPA METHOD 8021B: VOLATILES

Analyst: LMM

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

Qualifiers:

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

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

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: Ground Water

Work Order: 0701243

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 0701243-05A MSD		MSD			Batch ID: R22202	Analysis Date: 1/19/2007 7:11:56 PM			
Benzene	18.34	µg/L	1.0	91.7	85.9	113	1.76	27	
Toluene	18.78	µg/L	1.0	93.9	86.4	113	0.912	19	
Ethylbenzene	18.82	µg/L	1.0	94.1	83.5	118	1.70	10	
Xylenes, Total	55.94	µg/L	3.0	93.2	83.4	122	1.91	13	
Sample ID: 5ML RB		MBLK			Batch ID: R22202	Analysis Date: 1/19/2007 10:19:43 AM			
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 5ML RB		MBLK			Batch ID: R22217	Analysis Date: 1/22/2007 10:28:43 AM			
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R22202	Analysis Date: 1/19/2007 11:50:06 AM			
Benzene	18.37	µg/L	1.0	91.8	85.9	113			
Toluene	18.84	µg/L	1.0	94.2	86.4	113			
Ethylbenzene	18.96	µg/L	1.0	94.8	83.5	118			
Xylenes, Total	56.97	µg/L	3.0	95.0	83.4	122			
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R22217	Analysis Date: 1/22/2007 11:29:07 AM			
Benzene	18.52	µg/L	1.0	92.6	85.9	113			
Toluene	19.07	µg/L	1.0	95.4	86.4	113			
Ethylbenzene	19.43	µg/L	1.0	97.1	83.5	118			
Xylenes, Total	57.94	µg/L	3.0	96.6	83.4	122			
Sample ID: 0701243-05A MS		MS			Batch ID: R22202	Analysis Date: 1/19/2007 6:41:45 PM			
Benzene	18.66	µg/L	1.0	93.3	85.9	113			
Toluene	18.95	µg/L	1.0	94.8	86.4	113			
Ethylbenzene	19.14	µg/L	1.0	95.7	83.5	118			
Xylenes, Total	57.01	µg/L	3.0	95.0	83.4	122			

Qualifiers:

E Value above quantitation range
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

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0704208

Lab ID: 0704208-07

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

Client Sample ID: Hare GC BIE MW-1

Matrix: AQUEOUS

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

Lab ID: 0704208-08

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

Client Sample ID: Hare GC BIE MW-2

Matrix: AQUEOUS

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

Lab ID: 0704208-09

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

Client Sample ID: Hare GC BIE MW-3

Matrix: AQUEOUS

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: 18-Apr-07

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

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

Analyst: NSB

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 4 / 6

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: Ground Water

Work Order: 0704208

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

Qualifiers:

E Value above quantitation range
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

120701

ENVIROTECH Inc.

5798 US HWY. 64, FARMINGTON, NM 87401
(505) 692-0815

94146-5/13
94149-5/14

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: Backhoe w/ 24"

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

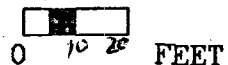
LOCATION: LSE: Hare WELL: B-1E QD: SW/4 NW/4
SEC: 23 TWP: T29N RNG: R21W PM: NMPM CNTY: ST ST: NMPIT: SEP PIT
LAND USE: Agricultural farmland adjacent on north range land to south
SURFACE CONDITIONS: Fiberglass tank (8' dia x 6' h) buried on site

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

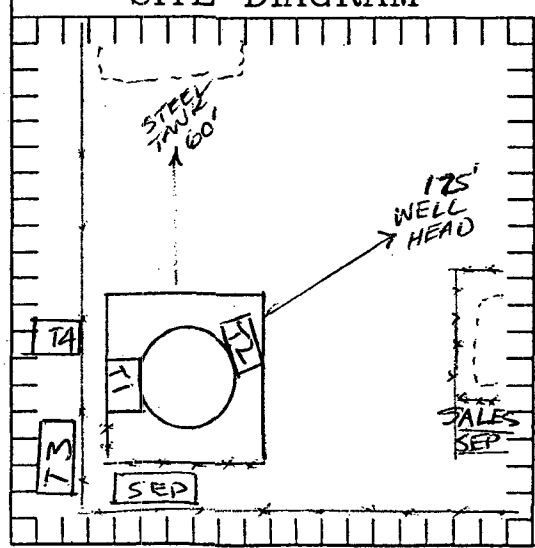
SAMPLE INVENTORY:		
SAMPL ID:	SAMPL TYPE:	LABORATORY ANALYSIS:
T1+2"	SOIL	HEAD

[illegible]

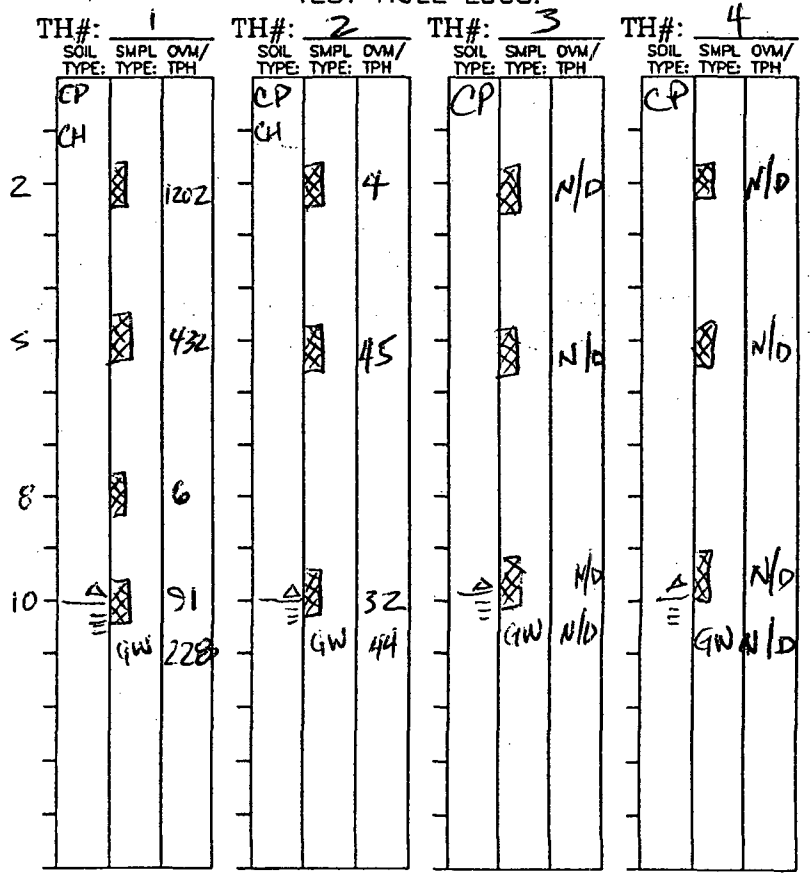
SCALE



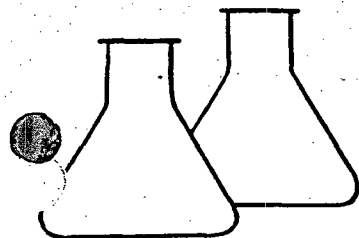
SITE DIAGRAM



TEST HOLE LOGS:



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



ENVIROTECH LABS

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

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

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

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

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	180	5.0

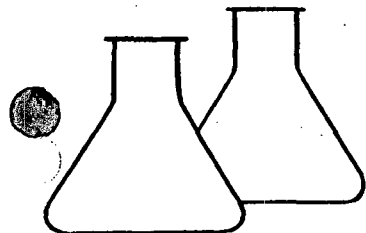
Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

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

Tony Tristano
Analyst

Review



ENVIROTECH LABS

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

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

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

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

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

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

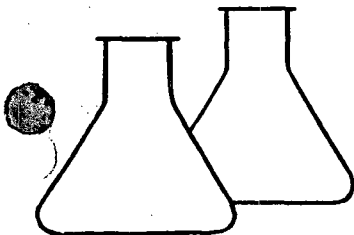
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Hare GC B 1E Separator Pit 94149

Philip L. Green
Analyst

Marion D. Young
Review



ENVIROTECH LABS

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

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS HEADSPACE EXTRACTION

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

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

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

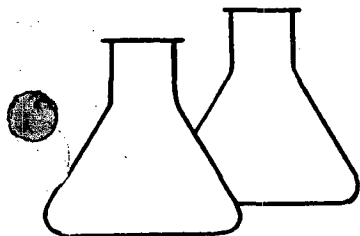
Method 8020, Aromatic Volatile Organics, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

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

Al Chaharley
Analyst

Maris D Young
Review



ENVIROTECH LABS

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

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

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

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

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

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

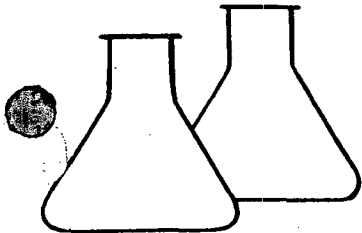
Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

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

Robert M. Young
Analyst

M. S. Young
Review



ENVIROTECH LABS

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

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

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

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

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

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

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

ND - Parameter not detected at the stated detection limit.

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

Robert M. Young
Analyst

Marissa Young
Review

1240

CHAIN OF CUSTODY RECORD

[illegible]

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

24374
SUBMIT 1 COPY TO
APPROPRIATE
DISTRICT OFFICE
AND 1 COPY TO
SANTA FE OFFICE

PIT REMEDIATION AND CLOSURE REPORT

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

Address: 200 Amoco Court, Farmington, New Mexico 87401

Facility Or: HARE GC B #1E
Well Name

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

Pit Type: Separator ☒ Dehydrator ☐ Other ☐

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

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

Reference: wellhead ☒, other ☐

Footage from reference: 111'

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

Depth To Ground Water: Less than 50 feet (20 points)
(Vertical distance from 50 feet to 99 feet (10 points)
contaminants to seasonal Greater than 100 feet (0 Points) 20
high water elevation of
ground water)

Wellhead Protection Area: Yes (20 points)
(Less than 200 feet from a private No (0 points) 0
domestic water source, or; less than
1000 feet from all other water sources)

Distance To Surface Water: Less than 200 feet (20 points)
(Horizontal distance to perennial 200 feet to 1000 feet (10 points)
lakes, ponds, rivers, streams, creeks, Greater than 1000 feet (0 points) 10
irrigation canals and ditches)

RANKING SCORE (TOTAL POINTS): 30

C4374

SEP. PIT

Date Remediation Started: _____ Date Completed: 7/7/92Remediation Method: Excavation ☒ Approx. cubic yards 20

(Check all appropriate sections)

Landfarmed ☒ Insitu Bioremediation _____

Other _____

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

General Description Of Remedial Action: _____

Excavation

Ground Water Encountered: No ☒ Yes _____ Depth _____Final Pit: Sample location see Attached DocumentsClosure Sampling:
(if multiple samples,
attach sample results
and diagram of sample
locations and depths)Sample depth 6' (PIT Bottom)Sample date 6/26/92 Sample time 1445

Sample Results

Benzene(ppm) _____

Total BTEX(ppm) _____

Field headspace(ppm) 0.0TPH 6.7 ppmGround Water Sample: Yes _____ No ☒ (If yes, attach sample results)I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST
OF MY KNOWLEDGE AND BELIEFDATE 2/15/00 ^{av}

SIGNATURE

B. ShawPRINTED NAME
AND TITLEBuddy D. Shaw
Environmental Coordinator

ENVIROTECH, Inc.

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

1540

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 92140
PAGE No: 1 of 1

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

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

ENVIRONMENTAL SPECIALIST: J.W.

SOIL REMEDIATION: QUANTITY: _____
DISPOSAL FACILITY: _____
LAND USE: Residential
SURFACE CONDITIONS: Earthen Pit.

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

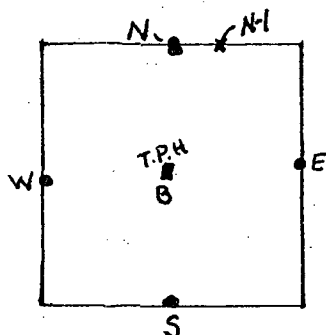


SCALE



0 2' 4' FEET

PIT PERIMETER



SAMPLE RESULTS

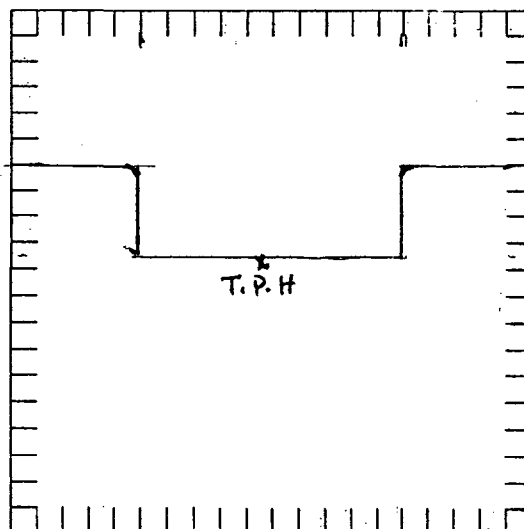
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SCALE

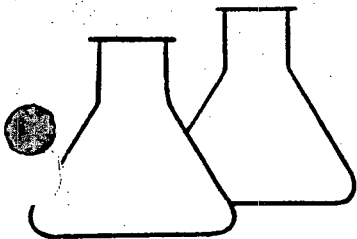


0 2' 4' FEET

PIT PROFILE



TRAVEL NOTES: CALLOUT: _____ ONSITE: _____



ENVIROTECH LABS

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

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

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

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

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

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

ND - Parameter not detected at the stated detection limit.

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

Vance Zanon
Analyst

Verl Samson
Review

94374

[illegible]

ENVIROTECH INC.

5796 U.S. Highway 64-3014

Farmington, New Mexico 87401

(505) 632-0615

6/26/92

CLIENT: AMOCO

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

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

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

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

DATE FINISHED: _____

QUAD/UNIT(E) SEC: 23 TWP: 29N RNG: 11W PM: NM CNTY: JS ST: NMQTR/FOOTAGE: SW/4 NW/4CONTRACTOR: —

ENVIRONMENTAL

SPECIALIST: NV/EP.

SOIL REMEDIATION:

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

FIELD NOTES & REMARKS:

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

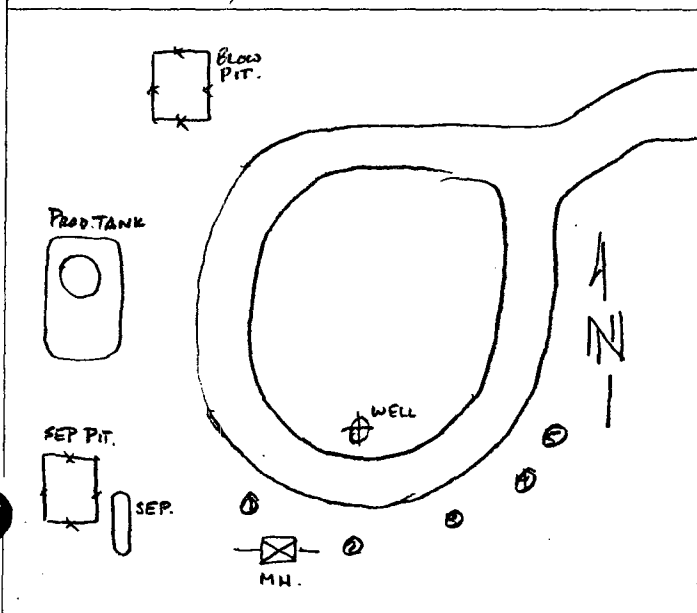
SOIL IS A MOIST COHESIVE: DK BROWN CLAYISH W/ DK YELLOW
NO STAIN OR HA ODOR. NO VISIBLE LANDFARM ON LOCATION.
TOOK A 5 PT COMPOSITE SAMPLE FOR LAB ANALYSIS.

NO ACTUAL LANDFARM OBSERVED ON WELL SITE.

FIELD 418.1 CALCULATIONS:

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

SKETCH/SAMPLE LOCATIONS



OVM RESULTS

LAB SAMPLES

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

SCALE



0

FT

TRAVEL NOTES:

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

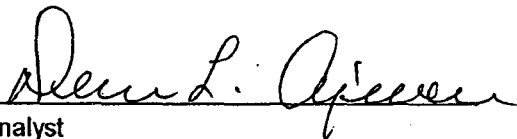
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	LF - 1	Date Reported:	12-16-97
Laboratory Number:	C699	Date Sampled:	12-13-97
Chain of Custody No:	5656	Date Received:	12-15-97
Sample Matrix:	Soil	Date Extracted:	12-15-97
Preservative:	Cool	Date Analyzed:	12-16-97
Condition:	Cool and Intact	Analysis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

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

ND - Parameter not detected at the stated detection limit.

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

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


Analyst


Review

CHAIN OF CUSTODY RECORD

Client/Project Name		Project Location		ANALYSIS/PARAMETERS									
BLAKE/ Amoco		LANDFARM HARE GC B #1E											
Sampler: (Signature)		Chain of Custody Tape No.		No. of Containers	(Bois) TPH								Remarks
Ed Potter sr		04034-10											PRESERV. - COOL
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix									5 PT. COMPOSITE
LF-1	12/13/97	1215	C699	S012	1	✓							
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time			
Ed Potter sr		12/14/97		1200		Nicholas Vely		12/14/97		1200			
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time			
Nicholas Vely		12/15/97		0716		Diana L. O'Brien		12-15-97		0716			
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time			
DP COO'S		5648 → 5656											

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

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

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

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

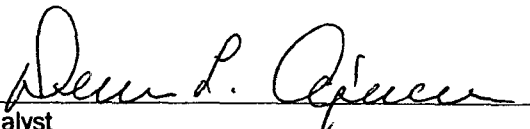
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

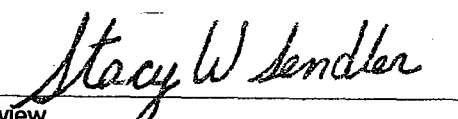
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for samples C696 - C699.


Analyst


Review