

3RP-384



Annual Groundwater Remediation
Reports

Volume 1

January 2007



RECEIVED

MAR 05 2007

March 2, 2007

Oil Conservation Division
Environmental Bureau

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:

- | | | | |
|------------------------|--------|--------------------------|--------|
| • Baca Gas Com A #1A | 3R0104 | • Masden Gas Com #1E | 3R0120 |
| • Bruington Gas Com #1 | 3R0106 | • McDaniel Gas Com B #1E | 3R0121 |
| • Carson Gas Com #1E | 3R415 | • OH Randel #7 | 3R0386 |
| • EJ Johnson C #1E | 3R0385 | • PO Pipken #3E | 3R409 |
| • Federal Gas Com #H1 | 3R0110 | • Romero Gas Com A #1 | 3R0123 |
| • Frost, Jack B #2 | 3R416 | • Rowland Gas Com #1 | 3R124 |
| • Garcia Gas Com B #1 | 3R0111 | • Snyder Gas Com #1A | 3R0126 |
| • Haney Gas Com B #1E | 3R0113 | • Stedje Gas Com #1 | 3R0128 |
| • Hare Gas Com B #1 | 3R413 | • Sullivan Frame A #1A | 3R0131 |
| • Hare Gas Com B #1E | 3R0384 | • Sullivan Gas Com D #1 | 3R0134 |
| • Hare Gas Com I #1 | 3R412 | • Valdez A #1E | |

We have also enclosed an Annual Report for one site that meets the closure requirements outlined in the GMP. XTO respectfully requests closure of:

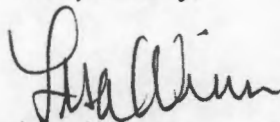
- Abrams J #1 3R0100

In previously submitted reports three sites met the closure requirements outlined in the GMP and XTO requested closure on those sites in January 2006. Per your request reports for the below listed sites are being submitted again.

- Armenta Gas Com #1E 3R0394
- Bergin Gas Com #1E 3R0105
- State Gas Com BS #1 3R0127

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) 566-7942.

Respectfully,



Lisa Winn
Environmental Coordinator
San Juan Division

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

HARE GC B #1E

XTO ENERGY INC.

ANNUAL GROUNDWATER REPORT

2006

**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 2007

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Table 1:	Summary Groundwater Laboratory Results
Table 2:	General Water Chemistry Laboratory Results
Figure 1:	Site Map
Figures 2-3:	Potentiometric Surface Diagrams
Figures 4-6:	Geologic Logs and Well Completion Diagrams
Attachment 1:	2006 Laboratory Reports
Attachment 2:	Pit Assessment/Closure Report (05-06/1992)

2006 XTO GROUNDWATER REPORT

HARE GAS COM B #1E

SITE DETAILS

Legals - Twn: 29N
NMOCD Hazard Ranking: 30

Rng: 11W

Sec: 23
Land Type: FEE

Unit: E

PREVIOUS ACTIVITIES

Excavation: Jun-92 (20 CY)

Monitor Wells: Oct & Dec-99

Quarterly Sampling Initiated: Dec-99

SITE MAP

A site map is presented as Figure 1.

SUMMARY TABLES

Historical and current groundwater laboratory results are presented in Table 1. Analytical results of general water quality parameters are summarized in Table 2. 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 trends towards the south-southwest. Figures 2-3 illustrate the estimated groundwater gradients for July 2006 and October 2006, respectively.

2006 ACTIVITIES

Annual Groundwater Remediation Report- The 2005 annual groundwater report was submitted to New Mexico Oil Conservation Division (NMOCD) in April 2006, proposing quarterly sampling of the groundwater monitor wells, in accordance with the NMOCD approved Groundwater Management Plan.

Groundwater Monitoring – Quarterly groundwater samples were collected from monitor wells MW-1, MW-2, and MW-3 during the last half of 2006. No detectable levels of benzene, toluene, ethyl benzene and total xylenes (BTEX) were observed in the groundwater analytical data during these sample events. Quarterly groundwater samples will continue in January and April of 2007 until four consecutive quarters demonstrate levels below New Mexico Water Quality Control Commission (NMWQCC) standards.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Bore/Test Hole Reports are presented as Figures 4-6 representing drilling that occurred on site in October and December 1999.

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 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

2006 XTO GROUNDWATER REPORT

assessment phase (Attachment 2). In 1999 three groundwater monitor wells were installed to delineate the extent of hydrocarbon impact to groundwater. Monitor well number MW-2 was installed near the source area. Monitor well number MW-1 was installed up gradient and monitor well number 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 consecutive quarters of testing in compliance with XTO's Groundwater Management Plan.

Groundwater analytical data from MW-1, MW-2, and MW-3 for two quarters in 2006 have demonstrated no detectable levels of BTEX constituents. The quarterly sampling will continue in January and April 2007 until four (4) consecutive quarters demonstrate BTEX constituents are below standards.

RECOMMENDATIONS

- Quarterly sampling will continue at groundwater monitor wells until analytical results show hydrocarbon constituents are below New Mexico groundwater standards for four (4) consecutive quarters.
- 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

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

Revised Date: February 8, 2007

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
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
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
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
NMWQCC GROUNDWATER STANDARDS					10	750	750	620

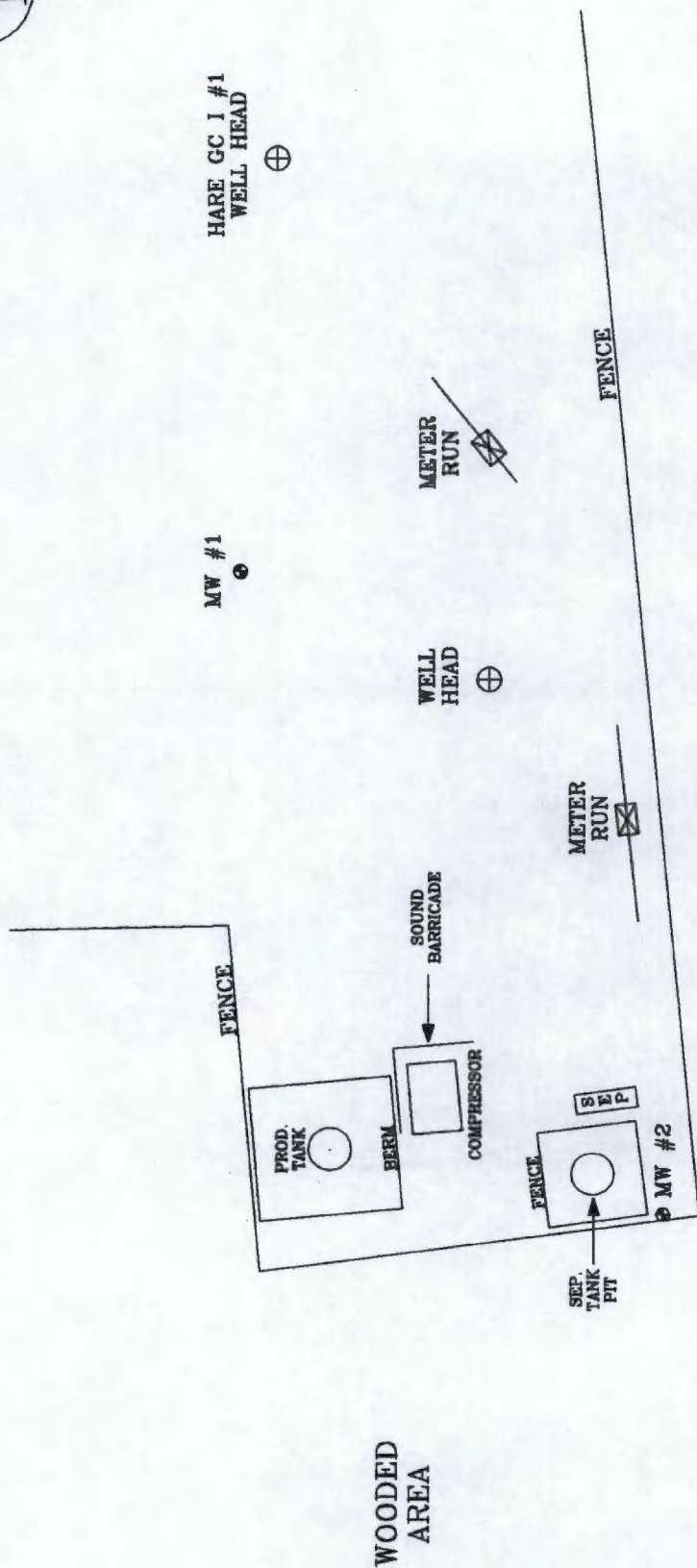
TABLE 2
XTO ENERGY INC. GROUNDWATER LAB RESULTS

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

Revised Date: February 8, 2007
Sample Date: December 9, 1999

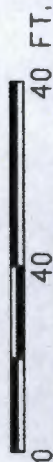
PARAMETERS	MW #1	MW #2	MW #3	UNITS
LAB Ph	6.91	7.00	6.95	s.u.
LAB CONDUCTIVITY @ 25 C	10,320	7,020	6,770	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	5,150	3,500	3,380	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	5,000	3,430	3,300	mg/L
SODIUM ABSORPTION RATIO	12.5	7.8	5.4	ratio
TOTAL ALKALINITY AS CaCO3	404	372	400	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



OPEN FIELD
(PARTLY WOODED)

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.

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 #1 MW-2

HARE GAS COM #1 MW-3

MW-1
TOC = 101.15
GWEL = 97.87

HARE GC I #1
WELL HEAD

SOUND
BARRICADE

PROD.
TANK
BERM

COMPRESSOR

SEP
TANK
PIT

WOODED
AREA

HARE GAS COM B#1E
WELL HEAD

METER
RUN

METER
RUN

MW-2
TOC = 100.69
GWEL = 95.11

MW-3
TOC = 98.10
GWEL = 94.01

FLOW = 0.04

1 INCH = 20 FEET
0 20 40 FT.

OPEN FIELD
(PARTIALLY WOODED)

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.

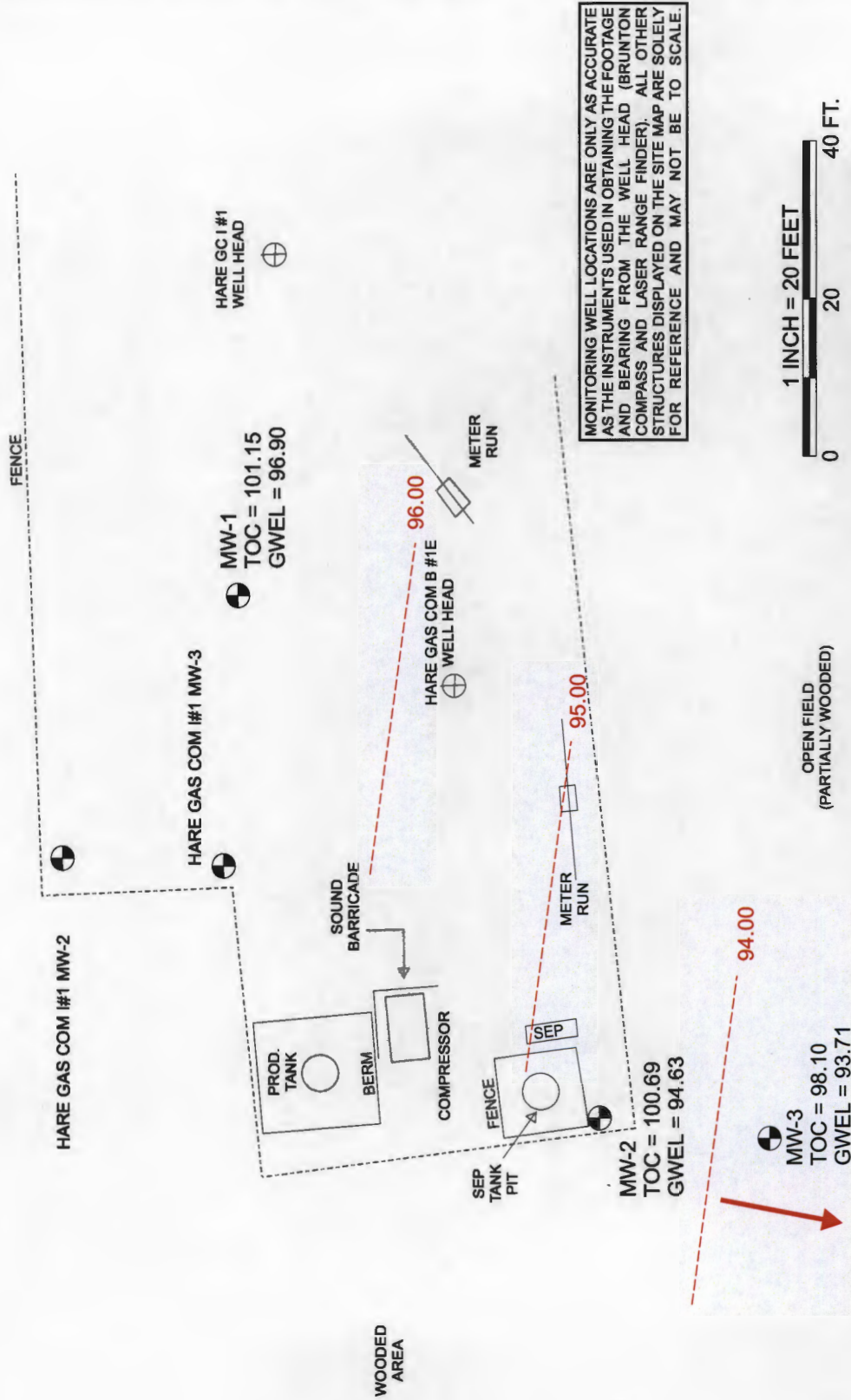
TOC = TOP OF CASING ELEVATION
GWEL = GROUNDWATER ELEVATION
--- = INFERRED GROUNDWATER CONTOUR LINE

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



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 3
GROUNDWATER GRADIENT MAP
10/13/2006

FIGURE 4

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.

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
				TOP OF CASING APPROX. 2.30 FT. ABOVE GROUND SURFACE.
1				
2			TOS 1.70	▼ GW DEPTH ON 1/5/00 = 2.73 FT. (APPROX.) FROM GROUND SURFACE.
3				
4				
5				MODERATE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.0 - 9.50 FT. INTERVAL).
6				
7				
8				
9				
10				
11				
12			TD 11.70	DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE TO SLIGHTLY PLASTIC, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (9.50 - 15.0 FT. INTERVAL).
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

NOTE:

-  - SAND TO SILTY SAND.
-  - 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-1.SKD

DATE: 1/17/00

DWN BY: NJV

FIGURE 5

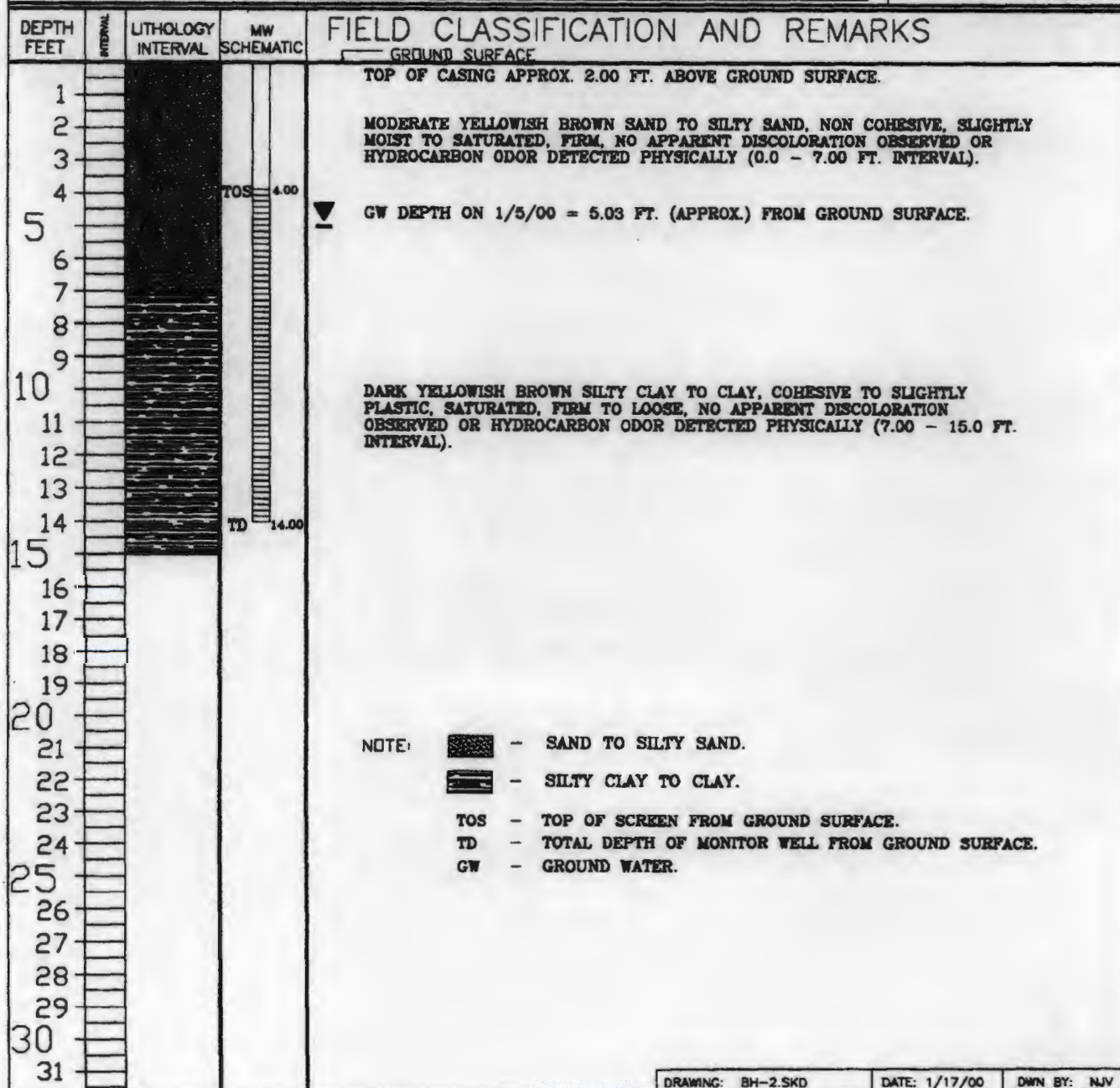
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 2
MW #..... 2
PAGE #..... 2
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: 126 FT., S72W FEET FROM WELL HEAD.



DRAWING: BH-2.SKD

DATE: 1/17/00

DWN BY: NJV

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: HARK GC B #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 150 FT., S55W FEET FROM WELL HEAD.

BORING #..... BH - 3
MW #..... 3
PAGE #..... 3
DATE STARTED 12/7/99
DATE FINISHED 12/7/99
OPERATOR..... REP
PREPARED BY NJV

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
1				GROUND SURFACE
2				TOP OF CASING APPROX. 2.10 FT. ABOVE GROUND SURFACE.
3				MODERATE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY
4				MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR
5				HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 4.00 FT. INTERVAL).
6				▼ GW DEPTH ON 1/5/00 = 5.03 FT. (APPROX.) FROM GROUND SURFACE.
7				
8				
9				DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE TO SLIGHTLY PLASTIC,
10				SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR
11				HYDROCARBON ODOR DETECTED PHYSICALLY (4.00 - 15.0 FT. INTERVAL).
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

NOTE:  - SAND TO SILTY SAND.
 - SILTY CLAY TO CLAY.
TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

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	98.1	85	116			
Xylenes, Total	58.45	µg/L	3.0	97.4	85	119			
Sample ID: 100NG BTEX LCSD		LCSD	Batch ID: R20010 Analysis Date: 7/24/2006 8:07:32 PM						
Benzene	20.28	µg/L	1.0	101	85	115	0.727	27	
Toluene	19.96	µg/L	1.0	99.8	85	118	0.110	19	
Ethylbenzene	19.75	µg/L	1.0	98.8	85	116	2.71	10	
Xylenes, Total	60.35	µg/L	3.0	101	85	119	3.21	13	

Qualifiers:

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

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name XTO ENERGY

Date and Time Received:

7/14/2008

Work Order Number 0607173

Received by AT

Checklist completed by

Signature

Date

7/14/06

Matrix

Carrier name Greyhound

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

Container/Temp Blank temperature?

1°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

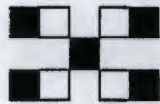
Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com



ANALYSIS REQUEST

BTEX + MTBE + TMB's (18021)
 BTEX + MTBE + TPH (Gasoline Or
 TPM Method 8015B (Gas/Diesel)
 TPH (Method 418.1)
 EDB (Method 504.1)
 EDC (Method 8021)
 8310 (PNA or PAH)
 RCHA 8 Metals
 Anions (F, Cl, NO₂, PO₄, SO₄)
 8081 Pesticides / PCB's (8082)
 8260B (VOA)
 8270 (Semi-VOA)
~~8270 BTEX~~ 8021
 Air Bubbles or Headspace (Y or N)

CHAIN-OF-CUSTODY RECORD					QA/QC Package:	
					Std ☒ Level 4 ☐	
					Other:	
Client: Kim Champlin XTB Energy		Project Name: Ground Water				
Address: 2700 Farmington Ave. Bldg K, Stel Farmington, NM		Project #:				
		Project Manager: Lisa Winn				
Phone #: 505 566 7954		Sampler: Martin Neg				
Fax #:		Sample Temperature:				
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative HgCl₂ HNO₃ HCL	HEAL No.
07/13/06	12:28	GW	Hare GC BIE MW-1		✓ HCL	7607D3-1
07/13/06	12:47	GW	Hare GC BIE MW-2		✓	-2
07/13/06	13:10	GW	Hare GC BIE MW-3		✓	-3
KOZ#13060700	0700	water	130706TB002		✓	-4
Date: 7/17/06	Time: 10:11A	Relinquished By: [Signature]	Received By: [Signature]		7/17/06	
Date:	Time:	Relinquished By: [Signature]	Received By: [Signature]		[Blank]	

Hall Environmental Analysis Laboratory, Inc.

Date: 07-Nov-06

CLIENT: XTO Energy
Lab Order: 0610211
Project: XTO Ground Water
Lab ID: 0610211-01

Client Sample ID: Hare Gas Com BIE MW-1
Collection Date: 10/13/2006 8:00:00 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	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
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: 0610211-02

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	89.9-130		%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
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	9.812	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
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: 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	86.7	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	53.5	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
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: 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: E150.1									
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.

Sample Receipt Checklist

Client Name XTO ENERGY

Date and Time Received:

10/19/2006

Work Order Number 0610211

Received by AT

Checklist completed by

Signature

Date

Matrix

Carrier name Greyhound

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

Container/Temp Blank temperature?

3°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

Corrective Action

QA/QC Package: ☒ Std ☐ Level 4 ☐

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87108
Tel. 505.345.3975 Fax 505.345.4
www.hallenvironmental.com

Kim Champlain

Stack, Bldg 1

Farmington, RM

Phone #: 505-566-7954

Fax #:

Number/Vol/Issue	Preservative	HEAT NO.

HEAL No.

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.
					HgCl ₂	HNO ₃	
10-13-06	0800	GW	Hare Gas Com BLEMW-1		✓		-1
10-13-06	0848	GW	Hare Gas Com BLEMW-2		✓		-2
10-13-06	0859	GW	Hare Gas Com BLEMW-3		✓		-3
10-16-06	1022	GW	Sullivan Frame ALEMW-3		✓		-4
10-16-06	1054	GW	Sullivan Frame ALEMW-2		✓		-5
10-16-06	1123	GW	Sullivan Frame ALEMW-1		✓		-6
10-16-06	1458	GW	McCoy Gas Com DIE MW-1		✓		-7
10-16-06	1458	GW	McCoy Gas Com DIE MW-1				-7-8A
10-16-06	1458	GW	McCoy Gas Com DIE MW-1			✓	-7
10-16-06	1458	GW	McCoy Gas Com DIE MW-1		✓		-8
10-16-06	1458	GW	McCoy Gas Com DIE MW-1			✓	-7

Date:	Time:	Relinquished By: (Signature)
-------	-------	------------------------------

10-13-06 0820

Received By: (Signature) *ixy19/06*

191240

Remarks:

Remarks: MgCO_3 analysis sample
per LW analyze for Cat/Anion balance

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)
BTEX + MTBE + TPH (Gasoline Only)
TPH Method 8015B (Gas/Diesel)
TPH (Method 418.1)
E08 (Method 504.1)
EDC (Method 8021)
B31D (PNA or PAH)
RCA B Metals
Anions (F^- , Cl^- , NO_2^- , PO_4^{3-} , SO_4^{2-})
8081 Pesticides / PCB's (8082)
8260B (VDA)
8270 (Semi-VDA)
8021B BTEX Catons ~~Temperature~~
Air Bubbles or Headspace (Y or N)

20701

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 682-0815.

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/ 2nd

DATE STARTED: 5/13/92
DATE FINISHED: 5/14/92
ENVIRO. SPCLT: 28
OPERATOR: DB
ASSISTANT: LY

LOCATION: LSE: Hare WELL: B-1E QD: SW/4 NW/4
SEC: 23 TWP: T29A RNG: R11W PM: NMP MCNTY: ST ST: NMP PIT: SEP PIT
LAND USE: Agricultural farmland adjacent on north range land to South
SURFACE CONDITIONS: Fiberless tank (8' 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 read. T3 & T4 are located down gradient of SEP PIT. Soils are contaminated in immediate SEP PIT location.

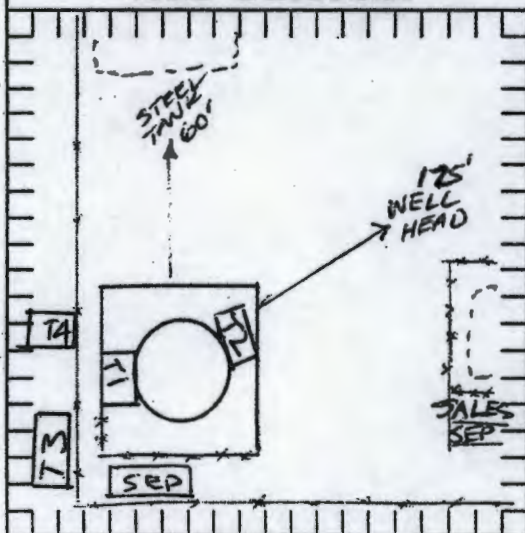
SAMPLE INVENTORY:		
SAMPL ID:	SAMPL TYPE:	LABORATORY ANALYSIS:
T3	Soil	HE-2

[illegible]

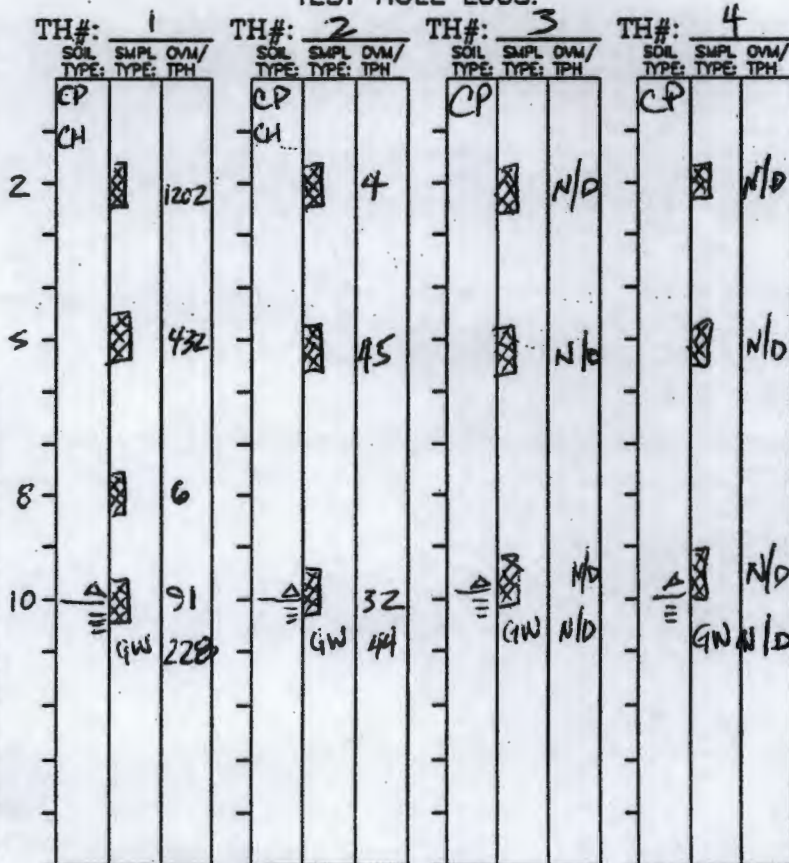
SCALE

0 10 20 FEET

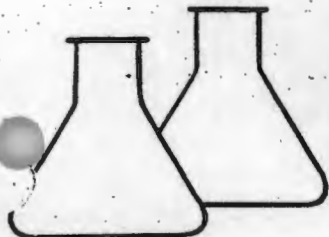
SITE DIAGRAM



TEST HOLE LOGS:



SOIL TYPE: C - Clay, M - SIL, S - Sand, G - Gravel Plantlife: L - Herb, H - Shrub Grading: P - Peaty, V - Vol.



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

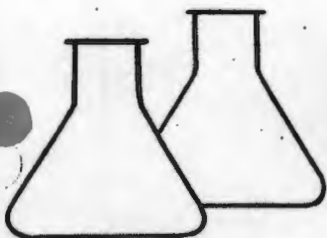
Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

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

Tony Tristano
Analyst

Review



ENVIROTECH LABS

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:	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.

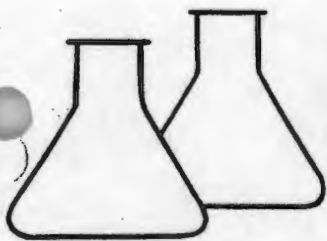
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Hare GC B 1E Separator Pit 94149

David L. Jensen
Analyst

Michael Young
Review



ENVIROTECH LABS

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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

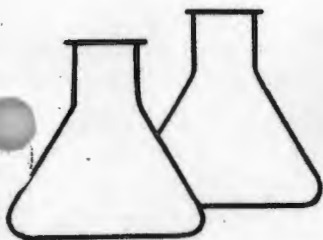
Method 8020, Aromatic Volatile Organics, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

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

Al Chahar
Analyst

Marion 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

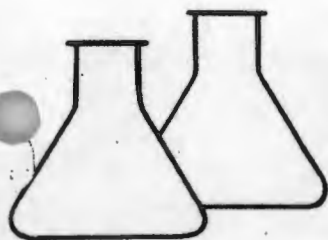
Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

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. J. 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:	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

Marion Young
Review

67176

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
P.O. Box DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Artesia, 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 6 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) 70
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

1540

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 92140
PAGE No: 1 of 1

LOCATION: LEASE: HARE GAS Co. B WELL: No. 15 QD: SW 1/4 NW 1/4 E
SEC: 23 TWP: 29N RNG: 11W BM: NM CNTY: S.J. 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: Earth 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/W of wall. Recovered T.P.H sample from bottom of pit at center.

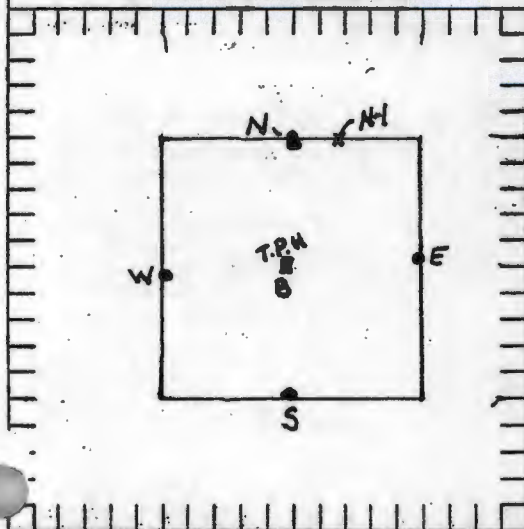


SCALE

1000

0 2' 4' FEET

PIT PERIMETER



SAMPLE RESULTS

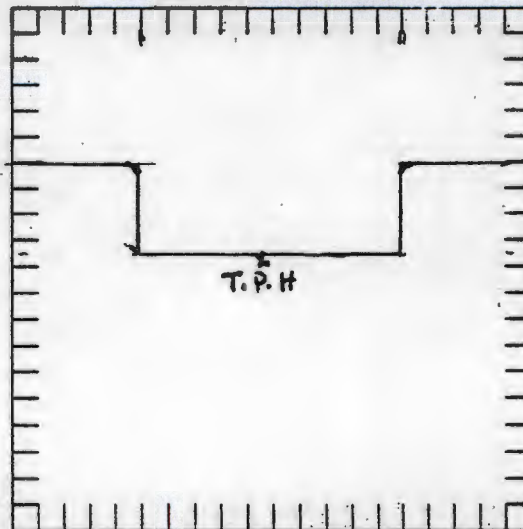
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SCALE

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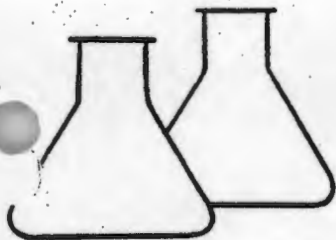
0 2' 4' FEET

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

Yanessa Zanson
Analyst

Herl Samson
Review

94374

CHAIN OF CUSTODY RECORD

[illegible]

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

6/26/92

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>C4374</u> C.O.C. NO: <u>5656</u>
----------------------	--	---

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: <u>HARE GC -B</u> WELL #: <u>1E</u> PITS: <u>55P</u>	DATE STARTED: <u>12-13-97</u>
QUAD/UNIT(E) SEC: <u>23</u> TWP: <u>29N</u> RNG: <u>11W</u> PM: <u>NM</u> CNTY: <u>SS</u> ST: <u>NM</u>	DATE FINISHED: _____
QTR/FOOTAGE: <u>SW/4 NW/4</u> CONTRACTOR: <u>—</u>	ENVIRONMENTAL SPECIALIST: <u>NV/EP</u>

SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARMAPPROX. CUBIC YARDAGE: 20LAND USE: RANGELIFT DEPTH (ft): NA

FIELD NOTES & REMARKS:

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

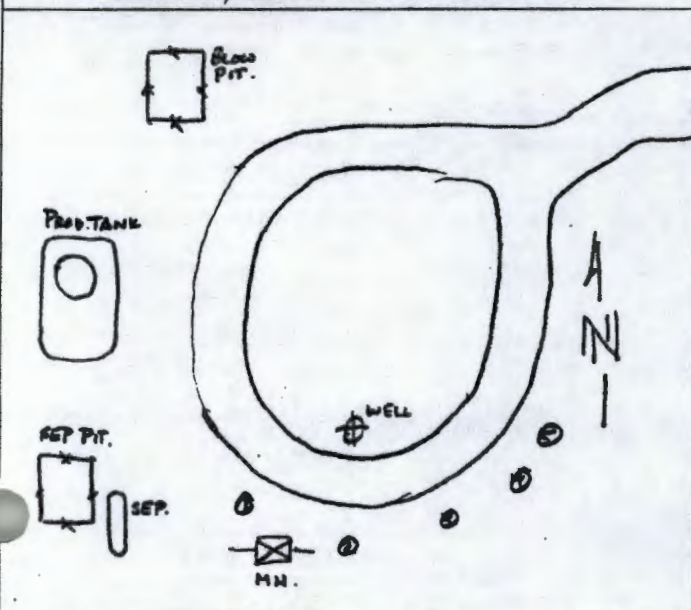
SOIL IS A MOIST COHESIVE: DK BROWN CLAYISH W/ DK YELLOW
NO STAIN OR HA ODOR. NO VISIBLE LANDFARM ON LOCATION.
TOOK A 5 PT COMPOSITE SAMPLE FOR LAB ANALYSIS.

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 10 FT

TRAVEL NOTES: CALLOUT: N/A ONSITE: 12-13-97 1215

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

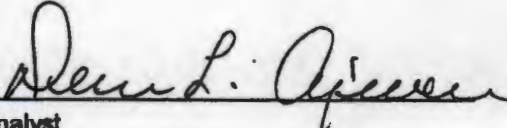
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	LF - 1	Date Reported:	12-16-97
Laboratory Number:	C699	Date Sampled:	12-13-97
Chain of Custody No:	5656	Date Received:	12-15-97
Sample Matrix:	Soil	Date Extracted:	12-15-97
Preservative:	Cool	Date Analyzed:	12-16-97
Condition:	Cool and Intact	Analysis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

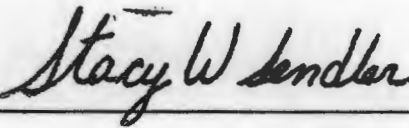
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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

Client/Project Name	Project Location	ANALYSIS/PARAMETERS						
BAGG / Amoco	HARE GC B #1E							
Sampler: (Signature)	Chain of Custody Tape No.	No. of Containers	TPH (8015)					Remarks
Ed Potter sr	04034-10							PRESERV. - COOL
LF-1	12/13/97 12:15	1	✓					5 PT. COMPOSITE
Relinquished by: (Signature) Ed Potter sr	Date 12/14/97 1200	Received by: (Signature) Michael Vey	Date 12/14/97 1200	Time 1200				
Relinquished by: (Signature) Michael Vey	Date 12/15/97 0716	Received by: (Signature) Dennis L. O'Brien	Date 12/15/97 0716	Time 0716				
Relinquished by: (Signature)		Received by: (Signature)						
DJ COC'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

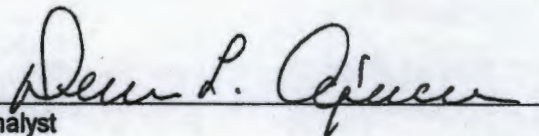
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

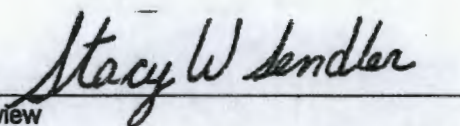
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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