

# 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 IIO
- Frost, Jack B #2
- McCoy GC D #1E

- OH Randel #7- 3RP386
- PO Pipken #3E 3R409
- 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

- Romero Gas Com A #1- 3RP123
- Armenta Gas Com C #1E- 3RP394
- Bergin Gas Com #1E- 3RP105
- 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,

AA

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



# **XTO ENERGY INC.**

### ANNUAL GROUNDWATER REPORT

2007

## McDANIEL GAS COM B #1E (F) SECTION 26 – T29N – R10W, NMPM SAN JUAN COUNTY, NEW MEXICO

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

January 2008

. . .

# TABLE OF CONTENTS

Site Details									
Previous Activities		3							
Site Map		3							
Summary Tables		3							
Potentiometric Surf	face Diagrams	3							
Annual Groundwate	er Remediation Reports	3							
2007 Activities									
Geologic Logs and Well Completion Diagrams									
Disposition of Generated Wastes 4									
Conclusions 4									
Recommendations		4							
Appendices									
Table 1:	Summary Groundwater Laboratory Results								
Table 2:	General Water Chemistry (10/28/99)								
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 Closure Report (12/94)								

.

### 2007 XTO GROUNDWATER REPORT

#### McDANIEL GAS COM B #1E

#### <u> ȘITE DETAILS</u>

LEGALS - TWN: 29N RNG: 10W NMOCD HAZARD RANKING: 40

SEC: 26 LAND TYPE: FEE UNIT: F

#### **PREVIOUS ACTIVITIES**

Excavation: Dec-94 (50 CY) Monitoring Wells: Oct-99 Soil Boring: Oct-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 northwest, in the general direction of the San Juan River. In September 2006 the groundwater gradient turned toward the southeast, away from the San Juan River and in the direction of a nearby wetland area. This change in direction is being attributed to seasonal weather conditions. During the months of the previous site visits the weather was unseasonably warm and windy with little if any rainfall. The month before the September 2006 visit had average to cooler temperatures with over an inch of rainfall. The increase in the water level of the River could push local 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 in 2007 and submitted for laboratory analysis of benzene, toluene, ethyl benzene and total xylenes (BTEX). Laboratory results indicate BTEX constituents are below standards or not detectable for four quarters.

#### GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

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

S:XTO ENVIRONMENTAL\San Juan Groundwater\Annual Reports\Jan 08 Submittals\Reports\McDaniel GC B #1E\MCDANIEL GC B1E GW Report.doc



## 2007 XTO GROUNDWATER REPORT

#### 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

In January 1998 XTO Energy Inc. (XTO) acquired the McDaniel Gas Com B #1E from Amoco Production Company. XTO understands the initial groundwater assessment came from samples collected from the bottom of the earthen pit following excavation of impacted soils (Attachment 2). Laboratory analysis of the initial sample indicated the presence of elevated dissolved phase BTEX constituents. In 1999 three groundwater monitoring wells were installed to delineate the extent of hydrocarbon impacts to groundwater. Monitoring well numbered MW-2 was installed near the center of the source area (closed and backfilled earthen dehydrator pit). Monitoring wells numbered MW-1 and MW-3 were placed down gradient of the source area. Groundwater samples collected from the three groundwater monitoring wells indicated BTEX constituents were not present above the detection limits of the laboratory equipment (0.2 ug/L). Sampling was terminated and the site was submitted for closure.

Correspondence from NMOCD in 2000 requested four consecutive quarters of testing in compliance with XTO's Groundwater Management Plan. Groundwater analytical data from MW-1R, MW-2, and MW-4 for four 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.

#### **XTO ENERGY INC. GROUNDWATER LAB RESULTS**

McDANIEL GC B #1E- DEHY. PIT UNIT F, SEC. 26, T29N, R10W

					BTEX EPA Method 801 (PPB)					
Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)		
28-Oct-99	MW #1	4.04	14		ND	ND	ND	ND		
20-Jun-06			3.7			DRY V	NELL			
25-Sep-06		5.02	12.01		ND	ND	ND	ND		
5-Dec-06		4.22	12.01		ND	ND	ND	ND		
8-Mar-07		4.12	12.01		ND	ND	ND	ND		
28-Oct-99	MW #2	3.49	13		ND	ND	ND	ND		
20-Jun-06		5.09	13.3		ND	ND	ND	ND		
25-Sep-06		5.27	13.22		ND	ND	ND	ND		
5-Dec-06		3.88	13.22		ND	ND	ND	ND		
8-Mar-07		3.66	13.22		ND	ND	ND	ND		
28-Oct-99	MW #3	1.82	12.12		ND	ND	ND	ND		
20-Jun-06		3.7	11.85		ND	ND	ND	ND		
25-Sep-06		1.16	12.94		ND	ND	ND	ND		
5-Dec-06		2.67	12.94		ND	ND	ND	ND		
8-Mar-07		2.45	12.94		ND	ND	ND	ND		
NMWQCC (	GROUND	NATER	R STAN	DARDS	10	750	750	620		

#### TABLE 2

## **XTO ENERGY INC. GROUNDWATER LAB RESULTS**

McDANIEL GC B #1E- DEHY. PIT UNIT F, SEC. 26, T29N, R10W

Sample Date: October 28, 1999

PARAMETERS	MW #1	MW #2	MW #3	UNITS
LAB Ph	7.21	7.2	7.26	S.U.
LAB CONDUCTIVITY @ 25 C	4,180	4,390	3,270	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	2,060	2,100	1,620	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	1,920	1,923	1,574	mg/L
SODIUM ABSORPTION RATIO	0.3	0.1	4.4	ratio
TOTAL ALKALINITY AS CaCO3	300	290	454	mg/L
TOTAL HARDNESS AS CaCO3	1,408	1,450	641	mg/L
BICARBONATE AS HCO3	300	290	454	mg/L
CARBONATE AS CO3	< 1	< 1	< 1	mg/L
HYDROXIDE AS OH	< 1	< 1	< 1	mg/L
NITRATE NITORGEN	< 0.1	0.1	< 0.1	mg/L
NITRITE NITROGEN	< 0.001	0.015	< 0.001	mg/L
CHLORIDE	0.6	2.8	1	mg/L
FLUORIDE	1.82	1.95	1.96	mg/L
PHOSPHATE	0.4	0.4	0.9	mg/L
SULFATE	1,170	1,180	790	mg/L
IRON	0.001	< 0.001	< 0.001	mg/L
CALCIUM	486	493	213	mg/L
MAGNESIUM	46.9	52.7	26.4	mg/L
POTASSIUM	7.0	5.5	9.5	mg/L
SODIUM	25	10	255	mg/L
CATION/ANION DIFFERENCE	0.02	0	0.41	%











FIGURE 6 BLAGG ENGINEERING, Inc. P.O. BOX 87 BLOOMFIELD, NM 87413 (505) 632-1199 BORING # ..... BH - 1 BORE / TEST REPORT HOLE MW #.....<u>1</u> PAGE #.....1 XTO ENERGY INC. CLIENT: DATE STARTED 10/12/99 McDANIEL GC B #1E LOCATION NAME: DATE FINISHED 10/12/99 CONTRACTOR: BLAGG ENGINEERING, INC. EQUIPMENT USED: MOBILE DRILL RIG ( ENVIROTECH CME 61 OPERATOR..... DE BORING LOCATION: 132 FT., DUE SOUTH FROM WELL HEAD. PREPARED BY \_\_\_\_\_\_ DEPTH LITHOLOGY FIELD CLASSIFICATION AND REMARKS MW INTERVAL SCHEMATIC FEET Ē GROUND SURFACE TOP OF CASING APPROX. 1.90 FT. ABOVE GROUND SURFACE. 1 GW DEPTH ON 10/28/99 = 2.14 FT. (APPROX.) FROM GROUND SURFACE. 2 70S 2.10 DARK YELLOWISH ORANGE SAND AND GRAVEL, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 2.50 FT. INTERVAL). 3 -OLIVE GRAY SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (2.50 - 4.50 FT. INTERVAL). 4 5 6 DARK GRAY TO BLACK SAND, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO 7 APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (4.50 - 10.00 FT. INTERVAL). 8 9 10 LIGHT GRAY SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (10.00 - 14.00 FT. INTERVAL). 11 TD 12.10 12 13 14 5 16 NOTE: SAND. 17 SAND (DISCOLORED). 18 SAND AND GRAVEL. 19 TOS TOP OF SCREEN FROM GROUND SURFACE. 20 TD TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE. 21 GROUND WATER. GW 25 23 24 25 26 27 28 29 30 31 DRAWING: BH-1.SKD DATE: 1/19/00 DWN BY: NJV

FIGURE 7	
BLAGG ENGINEERING, Inc.	
P.O. BOX 87	
BLOOMFIELD, NM 87413	
(505) 632-1199	
BORE / TEST HOLE REPORT	BORING # <u>BH - 2</u> MW # <u>2</u>
CLIENT: XTO ENERGY INC.	PAGE #
LOCATION NAME: McDANIEL GC B #1E	DATE STARTED 10/12/99
EQUIPMENT USED: MOBILE DRILL RIG ( ENVIROTECH CME 61 )	OPERATOR DE
BORING LOCATION: 118 FT., S36.5E FROM WELL HEAD.	PREPARED BY NJV
DEPTH & LITHOLOGY MW FIELD CLASSIFICATION AND REMAI	RKS
TOP OF CASING APPROX. 1.50 FT. ABOVE GROUND SURFACE	).
= 1	UND SURFACE.
C       C	E, SLIGHTLY MOIST, ARBON ODOR DETECTED
5	IRM TO LOOSE, NO OR DETECTED PHYSICALLY
7 8 9 10 11 12 13 14 14 15 15 15 10 11 10 11 11 11 11 11 11 11	), FIRM, NO APPARENT ED PHYSICALLY
10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 +	
18       19       Tos - TOP OF SCREEN FROM GROUND SURFA         20       TD - TOTAL DEPTH OF MONITOR WELL FROM         21       GW - GROUND WATER.	CE. GROUND SURFACE.
	WATE: 17 19700 DWN BY: NUV



Hall Environ	mental Analysi	is Laborat	tory, In	ıc.	Date: 28-Jun-06					
CLIENT: X Project: C	(TO Energy Groundwater - McDan	iel Gas ComB	#1E			La	ıb Orde	r: 0606232		
Lab ID:	0606232-01	·····			Collecti	ion Date:	6/20/20	006 11:42:00 AM		
Client Sample ID:	McDaniel Gas Com	B#1E MW-3				Matrix:	AQUE	OUS		
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed		
EPA METHOD 8021	IB: VOLATILES							Analyst: HLM		
Benzene		ND	1.0		µg/L		1	6/23/2006 3:33:07 AM		
Toluene		ND	1.0		µg/L		1	6/23/2006 3:33:07 AM		
Ethylbenzene		ND	1.0		µg/L		1	6/23/2006 3:33:07 AM		
Xylenes, Total		ND	3.0		µg/L		1	6/23/2006 3:33:07 AM		
Surr: 4-Bromofluo	robenzene	85.3	72.2-125		%REC		1	6/23/2006 3:33:07 AM		
Lab ID:	0606232-02				Collect	ion Date:	6/20/2	006 12:50:00 PM		
Client Sample ID:	McDaniel Gas Com	B#1E MW-2				Matrix:	AQUE	AQUEOUS		
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed		
EPA METHOD 8021	IB: VOLATILES							Analyst: HLM		
Benzene		ND	1.0		μg/L		1	6/23/2006 4:02:11 AM		
Toluene		ND	1.0		μg/L		1	6/23/2006 4:02:11 AM		
Ethylbenzene		ND	1.0		µg/L		1	6/23/2006 4:02:11 AM		
Xylenes, Total		ND	3.0		µg/L		1	6/23/2006 4:02:11 AM		
Surr: 4-Bromofluo	robenzene	86.4	72.2-125		%REC		1	6/23/2008 4:02:11 AM		
Lab ID:	0606232-03				Collect	ion Date:	6/20/2	006 7:00:00 AM		
Client Sample ID:	200606TB02					Matrix:	AQUE	OUS		
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed		
EPA METHOD 802	1B: VOLATILES							Analyst: HLM		
Benzene		ND	1.0		µg/L		1	6/23/2006 4:31:21 AM		
Toluene		ND	1.0		µg/L		1	6/23/2006 4:31:21 AM		
Elhylbenzene		ND	1.0		µg/L		1	6/23/2006 4:31:21 AM		
Xylenes, Total		ND	3.0		µg/L		1	6/23/2006 4:31:21 AM		
Surr: 4-Bromofluo	robenzene	81.3	72.2-125		%REC		1	6/23/2006 4:31:21 AM		



Qualifiers:

- \* Value exceeds Maximum Contaminant Level
  - E Value above quantitation range
  - Analyte detected below quantitation limits J
  - S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н

ND Not Detected at the Reporting Limit

# QA/QC SUMMARY REPORT

Project: X	TO Energy roundwater - McD	aniel Gas Con	ıB#1E					Work Order:	0606232
Analyte	Resu	ilt Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Q	ual
Method: SW8021								Batch	D: R19665
Sample ID: 5ML RB		MBLK						Analysis Date	: 6/22/2006
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	μg/L	1.0						
Xylenes, Tolal	ND	µg/L	3.0						
Sample ID: 100NG B	TEX LCS	LCS						Analysis Date	: 6/22/2006
Benzene	18.63	ι μg/L	1.0	93.2	85	115 .			
Toluene	17.48	ι μg/L	1.0	87.4	85	118			
Ethylbenzene	17.83	β μg/L	1.0	89.2	85	116			
Xylenes, Total	55,30	) µg/L	3.0	92.2	85	119			







E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

- Н Holding times for preparation or analysis exceeded
- ND
- Not Detected at the Reporting Limit Spite Decovery outside accepted recovery limits 2 / 3 S

Page 1

Hall Envir	Hall Environmental Analysis Laboratory, Ir         CLIENT: XTO Energy         Lab Order:       0609347         'roject:       XTO Groundwater         ab D:       0609247 01			Date:	06-0	ct-06	
CLIENT:	XTO Energy			Client Sample ID:	McDa	aniel Gas Com B1E MW-1	
Lab Order:	0609347			Collection Date:	9/25/2	2006 12:57:00 PM	
Project:	XT0 Groundwater		Date Received: 9/27/2006				
Lab ID:	0609347-01			Matrix:	AQU	EOUS	
Analyses		Result	PQL Q	ual Units	DF	Date Analyzed	
EPA METHOD	8021B: VOLATILES					Analyst: NSB	
Benzene		ND	1.0	µg/L	1	10/5/2006 3:09:36 PM	
Toluene		ND	1.0	µg/L	1	10/5/2006 3:09:36 PM	
Elhylbenzene		ND	1.0	μg/L	1	10/5/2006 3:09:36 PM	
Xylenes, Tolal		ND	3.0	µg/L	1	10/5/2006 3:09:36 PM	
Surr: 4-Brom	ofluorobenzene	97.3	72.2-125	%REC	1	10/5/2006 3:09:36 PM	

. ... . . . . . . . . . . . . . Qualifiers:

+ Value exceeds Maximum Contaminant Level

- Е Value above quantitation range
- Analyte detected below quantitation limits 1
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits S
- B Analyte detected in the associated Method Blank

- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 11

.. **. ..**.

Hall Envir	All Environmental Analysis Laboratory, Inc.     Da       IENT:     XTO Energy     Client Sample I       Order:     0609347     Collection Da       ject:     XT0 Groundwater     Date Receive       Dill:     0609347-02     Matri       alyses     Result     PQL     Qual       METHOD 8021B: VOLATILES     ND     1.0     µg/L       alyses     ND     1.0     µg/L		Date: (	06-Oct-06				
CLIENT:	XTO Energy			Client Samp	ole ID: 1	McDaniel Gas Com BIE MV		
Lab Order:	0609347			Collection	Collection Date: 9/25/2006 12:32:00			
Project:	XT0 Groundwater			Date Rec	eived: 9	ived: 9/27/2006 trix: AQUEOUS		
Lab ID:	0609347-02			N	latrix: A			
Analyses		Result	PQL	Qual Units	]	DF	Date Analyzed	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		ND	1.0	µg/L	1	1	10/5/2006 1:22:19 AM	
Toluene		ND	1.0	μg/L	1	1	10/5/2006 1:22:19 AM	
Ethylbenzene		ND	1.0	µg/L	1	1	10/5/2006 1:22:19 AM	
Xylenes, Total		ND	3.0	µg/L	1	1	10/5/2006 1:22:19 AM	
Surr: 4-Brom	ofluorobenzene	90.0	72.2-125	%REC	1	1	10/5/2006 1:22:19 AM	

Qualifiers:

٠ Value exceeds Maximum Contaminant Level

- Е Value above quantitation range
- J Analyte detected below quantitation limits

Not Detected at the Reporting Limit ND

S Spike recovery outside accepted recovery limits

- ----В Analyte detected in the associated Method Blank

н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 2 of 11

2/13

	v		• /						
CLIENT:	XTO Energy	Client Sample ID					niel Gas Com B1E MW-3		
Lab Order:	0609347		Collection Date:				9/25/2006 1:40:00 PM		
Project:	XT0 Groundwater			Date Received:			9/27/2006		
Lab ID:	0609347-03		Matrix: AQUEOUS				EOUS		
Analyses		Result	PQL Q	ual Units	ľ	OF	Date Analyzed		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	1.0	µg/L	1		10/5/2006 1:51:16 AM		
Toluene		ND	1.0	µg/L	1		10/5/2006 1:51:16 AM		
Elhylbenzene		ND	1.0	µg/L	1		10/5/2006 1:51:16 AM		
Xylenes, Total		ND	3.0	µg/L	1		10/5/2006 1:51:16 AM		
Surr: 4-Brom	ofluorobenzene	93.5	72.2-125	%REC	1		10/5/2006 1:51:16 AM		

Hall Environmental Analysis Laboratory, Inc.

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

Date: 06-Oct-06

- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 3 of 11

Hall Environmental Analysis Laboratory, In         CLIENT: XTO Energy         Lab Order:       0609347         Project:       XTO Groundwater         Lab ID:       0609347-11         Analyses       Result       PQL			tory, Inc.	Date:	06-Oci-06			
CLIENT:	XTO Energy			Client Sample ID:	25092	2006TB01		
Lab Order:	0609347			<b>Collection Date:</b>				
Project:	XT0 Groundwater			Date Received:	9/27/2	2006		
Lab ID:	0609347-11			Matrix:	AQU	EOUS		
Analyses		Result	PQL Qua	l Units	DF	Date Analyzed		
EPA METHOD	8021B: VOLATILES					Analyst: NSB		
Benzene		ND	1.0	μg/L	1	10/5/2006 6:16:33 AM		
Toluene		ND	1.0	µg/L	1	10/5/2006 6:16:33 AM		
Ethylbenzene		ND	1.0	µg/L	1	10/5/2006 6:16:33 AM		
Xylenes, Total		ND	3.0	µg/L	1	10/5/2006 6:16:33 AM		
Surr: 4-Brom	ofluorobenzene	97.5	72.2-125	%REC	1	10/5/2006 6:16:33 AM		

Qualifiers:

\* Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- Analyte detected below quantitation limits 1
- 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

Page 11 of 11

- -

# **QA/QC SUMMARY REPORT**



XTO Energy

Project: XT0 Ground	water						v	Vork C	order:	0609347
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDI	_imit Q	ual
Method: SW8021										
Sample ID: 5ML REAGENT BLA		MBLK			Batch II	D: R20938	Analysis D	ate:	10/4/2006	11:00:33 AM
Benzene	ND	µg/L	1.0							
Toluene	ND	µg/L	1.0							
Ethylbenzene	ND	µg/L	1.0							
Xylenes, Total	ND	µg/L	3.0							
Sample ID: 5ML REAGENT BLA		MBLK			Batch I	D: <b>R2095</b> 8	Analysis D	ate:	10/5/2006	5 10:03:16 AM
Benzene	ND	µg/L	1.0							
Toluene	ND	µg/L	1.0							
Ethylbenzene	NÐ	µg/L	1.0							
Xylenes, Total	ND	µg/L	3.0							
Sample ID: 100NG BTEX LCS		LCS			Batch I	D: R20938	Analysis D	ate:	10/4/200	69:28:27 PM
Benzene	20.90	μg/L	1.0	105	85	115				
Toluene	20.64	µg/L	1.0	103	85	118				
Ethylbenzene	20.83	µg/L	1.0	104	85	116				
Xylenes, Tolal	63.36	µg/L	3.0	106	85	119				
Sample ID: 100NG BTEX LCS		LCS			Batch I	D: R20958	Analysis D	ate:	10/5/200	)6 1:42:53 PM
Benzene	20.96	µg/L	1.0	105	85	115				
Toluene	20.53	µg/L	1.0	103	85	118				
Ethylbenzene	20.82	µg/L	1.0	104	85	116				
Xylenes, Total	63.12	µg/L	3.0	105	85	119				
Sample ID: 100NG BTEX LCSD		LCSD			Batch I	D: R20958	Analysis D	ate:	10/5/200	)6 9:31:35 PM
Вепzеле	21.14	µg/L	1.0	106	85	115	0.855	27		
Toluene	20.72	μg/L	1.0	104	85	118	0.892	19		
Ethylbenzene	20.79	µg/L	1.0	104	85	116	0.173	10		
Xylenes, Total	63.10	µg/L	3.0	105	85	119	0.0317	13		
Method: SW7470										
Sample ID: 0609347-04A msd		MSD			Batch I	D: 11395	Analysis D	ate:		9/27/2006
Mercury	0.005070	mg/L	0.00020	101	75	125	7.36	20		
Sample ID: MB-11395		MBLK			Batch I	D: 11395	Analysis D	ate:		9/27/2006
Mercury	ND	ma/L	0.00020				-			
Sample ID: LCS-11395		LCS			Batch I	D: 11395	Analysis D	ate:		9/27/2006
Mercury	0 005070	ma/l	0 00020	101	80	120				
Sample ID: 0609347-04A ms	5.000070	MS	0.00020	101	Baich li	D: 11305	Analveie D	alo.		9/27/2006
Morcupy	0.004710	 mo/l	0.00020	04.2	75	175	nneiyaia Di			3/2112000
Mercury	0.0047 10	ngre	0.00020	54.2	ra	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

Page 1

Hall Environ	mental Analysis	Labora	tory, In	IC.	Dat	e: <i>15-De</i>	<i>c-06</i>
CLIENT: > Project: C	(TO Energy Ground Water				L	ab Orde	r: 0612120
Lab ID:	0612120-07			(	Collection Date	: 12/5/20	006 1:03:00 PM
- <del>Client Sample ID;</del>	- OH Randel 7 MW-4-	-			Matrix	: AQUE	OUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 802	IB: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	12/12/2006 4:06:20 AM
Toluene		ND	1.0		hð\r	1	12/12/2006 4:06:20 AM
Ethylbenzene		ND	1.0		µg/L	1	12/12/2006 4:06:20 AM
Xylenes, Total		ND	3.0		µg/L	1	12/12/2006 4:06:20 AM
Surr: 4-Bromofluo	robenzene	81.4	70.2-105		%REC	1	12/12/2006 4:06:20 AM
Lab ID:	0612120-08			(	Collection Date	: 12/5/20	006 2:13:00 PM
Client Sample ID:	McDaniel Gas Com H	BIE MW-1			Matrix	: AQUE	OUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	12/12/2006 4:36:26 AM
Toluene		ND	1.0		µg/L	1	12/12/2006 4:36:26 AM
Ethylbenzene		ND	1.0		µg/L	1	12/12/2006 4:36:26 AM
Xylenes, Total		ND	3.0		µg/∟	1	12/12/2008 4:36:26 AM
Surr: 4-Bromofluo	robenzene	79.5	70.2-105		%REC	1	12/12/2005 4:36:26 AM
Lab ID:	0612120-09				Collection Date	: 12/5/20	006 3:10:00 PM
Client Sample ID:	McDaniel Gas Com I	BIE MW-2			Matrix	: AQUE	OUS
Analyses	_	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	12/12/2006 5:06:30 AM
Toluene	,	ND	1.0		µg/L	1	12/12/2006 5:06:30 AM
Ethylbenzene		ND	1.0		µg/L	1	12/12/2006 5:06:30 AM
Xylenes, Total		ND	3.0		µg/L	1	12/12/2006 5:06:30 AM
Surr: 4-Bromofiuo	robenzene	79.2	70.2-105		%REC	1	12/12/2006 5:06:30 AM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit S
  - Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

3/6 .

Page 3 of 4

Hall Environ	mental Analysi	s Labora	tory, In	C.	Date:	15-Dei	<i>c-U0</i>
CLIENT: 2 Project: (	XTO Energy Ground Water				La	b Order	•• 0612120
Lab ID:	0612120-10			(	Collection Date:	12/5/20	06 3:17:00 PM
Client Sample ID:	McDaniel Gas Com	BIE MW-3			Matrix:	AQUEO	SUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	12/13/2006 10:27:09 AM
Taluene		ND	1.0		µg/L	1	12/13/2006 10:27:09 AM
Ethylbenzene		ND	1.0		΄μg/L	1	12/13/2006 10:27:09 AM
Xylenes, Total		ND	3,0		µg/L	1	12/13/2006 10:27:09 AM
Surr: 4-Bromofluo	probenzene	81.2	70.2-105		%REC	1	12/13/2006 10:27:09 AM
Lab ID:	0612120-11			(	Collection Date:		
Client Sample ID:	0512 2006 TBO1				Matrix:	TRIP B	LANK
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µд∕∟	1	12/13/2006 10:57:15 AM
Toluene		ND	1.0		µg/L	1	12/13/2006 10:57:15 AM
Elhylbenzene		ND	1.0		µg/L	1	12/13/2006 10:57:15 AM
Xylenes, Total		ND	3.0		μ <b>g/</b> L	1	12/13/2006 10:57:15 AM
Surr: 4-Bromofluc	probenzene	79.9	70.2-105		%REC	1	12/13/2006 10:57:15 AM
Lab ID:	0612120-12	### <u>##</u>		(	Collection Date:	12/5/20	06 3:50:00 PM
Client-Sample ID:	<del>- Sullivan Gas Com I</del>	<del>HW-IR</del>			Matrix:	AQUE	OUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	12/14/2006 3:14:42 PM
Toluene		ND	1.0		µg/L	1	12/14/2006 3:14:42 PM
Ethylbenzene		ND	1.0		µg/L	1	12/14/2006 3:14:42 PM
Xylenes, Total		ND	3.0		µg/L	1	12/14/2006 3:14:42 PM
Surr: 4-Bromofluc	probenzene	80.5	70.2-105		%REC	1	12/14/2006 3:14:42 PM



Qualifiers:

- \* Value exceeds Maximum Contaminant Level
  - Ε Value above quantitation range
  - J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit S<sub>.</sub>
  - 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 .

Page 4 of 4

4/6

# QA/QC SUMMARY REPORT

**Client:** 

XTO Energy

Project: Ground Wate	er						Woi	•k Order: 0612120
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	PDLimit Qual
Method: SW8021								
Sample ID: 0612120-02A MSD		MSD			Batch	ID: R21754	Analysis Date:	12/12/2006 1:36:12 AM
Benzene	17.92	µg/L	1.0	87.5	85.9	113	6.25	27
Toluene	17.88	µg/L	1.0	87.7	86.4	113	4.33	19
Ethylbenzene	17.30	µg/L	1.0	86.5	83.5	118	4.82	10
Xylenes, Total	51.71	µg/L	3.0	86.2	83.4	122	4.61	13
Sample ID: b 15		MBLK			Batch	ID: R21754	Analysis Date:	12/11/2006 3:54:38 PM
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND .	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
Sample ID: 5ML REAGENT BLA		MBLK			Batch	ID: R21800	Analysis Date:	: 12/13/2006 8:26:25 AM
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	.µg/L	3.0					
Sample ID: 5ML REAGENT BLA		MBLK			Batch	ID: R21831	Analysis Date	: 12/14/2006 8:42:55 AM
Benzene	ND	µg/L	1.0					
Toluene	ND	ug/L	1.0					
Ethylbenzene	ND	ua/L	1.0					
Xvlenes. Total	ND	µg/L	3.0					
Sample ID: 100NG BTEX LCS II		LCS			Batch	ID: R21754	Analysis Date	: 12/12/2006 2:06:12 AM
Валгара	18.26	ua/I	10	90.3	85.9	113	-	
Toluene	18.31	μ <u>σ</u> /Ι	10	91.6	86.4	113		
Fibylbenzene	17.98	µg/=	1.0	89.9	83.5	118		
Xvlenes Total	53 73	uo/l	3.0	89.6	83.4	122		
Sample ID: 100NG BTEX LCS	00.10	LCS	0.0	00.0	Batch	ID: R21800	Analysis Date	: 12/13/2006 4:33:03 PM
	10.00		10	00.4	05.0	440		
Teluere	10.09	µg/L ug/l	1.0	90.4	00.9	113		
Toluene Sthuberson	17.55	µy/L	1.0	09.9	00.4	113		
	17.00	µy/c	1.0	07.7	03.0	118		
Sample ID: 100NG PTEY LCS	52.56	µy/c	3,0	07.0	Batch	122	Applysis Data	40/44/0000 7-50-00 DM
	17.76	200			Datun	10. K21031	Analysis Date	. 12/14/2000 1.JU.23 1 M
Benzene	17.78	µg/L	1.0	88.9	85.9	113		
loluene	17.85	µg/∟	1.0	89,2	86.4	113		
Elnyidenzene Xulanan Tatal	17.33	µg/L	1.0	86.6	83.5	118		
	52.15	hair	3.0	86.9	03.4	122	Amelu-In Dat	
Sample ID: 0612120-02A MS		M2			Batch	IU: K21754	Analysis Date	12/12/2006 1:06:08 AN
Benzene	19.07	µg/L	1.0	93.3	85.9	113		
Toluene	18.68	µg/L	1.0	91.7	86,4	113		
Ethylbenzene	18.16	µg/L	1.0	90.8	83.5	118		
Xylenes, Total	54.15	µg/L	3.0	90.2	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

5/6 value accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.					Date:	13-Mar	-07
CLIENT: X Project: C	(TO Energy Ground Water				La	b Order:	0703123
Lab ID:	0703123-04			(	Collection Date:	3/8/2007	10:22:00 AM
Client Sample ID:	Hancy GC-1E-MW-2				Matrix:	AQUEO	US
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021	B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	3/12/2007 3:58:54 PM
Toluene		ND	1.0		µg/L	1	3/12/2007 3:58:54 PM
Ethylbenzene		ND	1.0		µg/L	1	3/12/2007 3:58:54 PM
Xylenes, Total		ND	2.0		µg/L	1	3/12/2007 3:58:54 PM
Surr: 4-Bromotiua	robenzene	85.4	70.2-105		%REC	1	3/12/2007 3:58:54 PM
Lab ID:	0703123-05			(	Collection Date:	3/8/2007	10:39:00 AM
Client Sample ID:	Haney GC 1E-MW-4	-			Matrix:	AQUEO	US
Analyses		Result	PQL	Quai	Units	DF	Date Analyzed
EPA METHOD 802	IB: VOLATILES				//////////////////////////////////////		Analyst: NSB
Benzene		ND	1.0		μg/L	1	3/12/2007 4:28:57 PM
Toluene		ND	1.0		µg/L	1	3/12/2007 4:28:57 PM
Ethylbenzene		ND	1.0		µg/L	1	3/12/2007 4:28:57 PM
Xylenes, Total		ND	2.0		µg/L	1	3/12/2007 4:28:57 PM
Surr: 4-Bromofluo	robenzene	88.5	70.2-105		%REC	1	3/12/2007 4:28:57 PM
Lab ID:	0703123-06			(	Collection Date:	3/8/2007	/ 11:34:00 AM
Client Sample ID:	McDaniel GC B1E M	W-1			Matrix:	AQUEO	US
Analyses		Result	PQL	Quai	Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES		* <u>112</u>				Analyst: NSB
Benzene		ND	1.0		µg/L	1	3/12/2007 4:59:01 PM
Toluene		ND	1.0		µg/L	1	3/12/2007 4:59:01 PM
Ethylbenzene		ND	1.0		µg/L	1	3/12/2007 4:59:01 PM
Xylenes, Total		ND	2.0		µg/L	1	3/12/2007 4:59:01 PM
Surr: 4-Bromofluo	robenzene	86.8	70.2-105		%REC	1	3/12/2007 4:59:01 PM

# Qualifiers:

+ Value exceeds Maximum Contaminant Level Ē

Value above quantitation range j

- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits 2/8 S
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н

MCL Maximum Contaminant Level

RL Reporting Limit

Page 2 of 6



CLIENT:	XTO Energy Ground Water				I	ab Order:	0703123
Lab ID:	0703123-07			(	Collection Date	: 3/8/2007	11:52:00 AM
Client Sample ID:	McDaniel GC B1E M	fW-2			Matrix	AQUEO	US
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	3/12/2007 7:59:55 PM
Toluene		ND	1.0		µg/L	1	3/12/2007 7:59:55 PM
Ethylbenzene		ND	1.0		µg/L	1	3/12/2007 7:59:55 PM
Xylenes, Total		ND	2.0		µg/L	1	3/12/2007 7:59:55 PM
Surr: 4-Bromofluc	probenzene	85.8	70.2-105		%REC	1	3/12/2007 7:59:55 PM
Lab ID:	0703123-08			(	Collection Date	: 3/8/2007	12:54:00 PM
Client Sample ID:	McDaniel GC B1E M	fW-3			Matrix	: AQUEO	US
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES						Analyst: NSE
Benzene		ND	1.0		µg/L	1	3/12/2007 8:29:59 PM
Toluene		ND	1.0		hð\r	1	3/12/2007 8:29:59 PM
Ethylbenzene		ND	1.0		µg/L	1	3/12/2007 8:29:59 PM
Xylenes, Total		ND	2.0		µg/L	1	3/12/2007 8:29:59 PM
Surr: 4-Bromoflur	probenzene	85.5	70.2-105		%REC	1	3/12/2007 8:29:59 PM
Lab ID:	0703123-09				Collection Date	: 3/8/2007	1:34:00 PM
Client Sample ID:	-OH Randel-7 MW-3-	-			Matrix	AQUEO	US
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES						Analyst: NSE
Benzene		ND	1.0		µg/L	1	3/12/2007 9:00:02 PM
Toluene		ND	1.0		µg/L	1	3/12/2007 9:00:02 PM
Ethylbenzene		ND	1.0		µg/L	1	3/12/2007 9:00:02 PM
Xylenes, Tolal		3.8	2.0		µg/L	1	3/12/2007 9:00:02 PM
Sur: 4-Bromoflue	probenzene	88.0	70.2-105		%REC	1	3/12/2007 9:00:02 PM

Date: 13-Mar-07

Qualifiers:

\* Value exceeds Maximum Contaminant Level Ε

Value above quantitation range

] Analyte detected below quantitation limits

Not Detected at the Reporting Limit ND

- Spike recovery outside accepted recovery limits  $-3\,/\,8$   $^{-1}$ S
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit



# QA/QC SUMMARY REPORT

Client:

XTO Energy J 337\_4

Project: Ground Wate	er						•	Work (	Order:	0703123
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPD	Limit (	Qual
Method: SW8021										
Sample ID: 0703123-10A MSD		MSD			Batch	ID: R22791	Analysis D	Date:	3/12/20	007 5:59:11 PM
Benzene	20.46	µg/L	1.0	102	85.9	113	0.726	27		
Toluene	20.45	μg/L	1.0	102	86.4	113	0.156	19		
Ethylbenzene	20.55	µg/L	1.0	103	83.5	118	0.553	10		
Xylenes, Total	62.34	μg/L	2.0	104	83.4	122	0.115	13		
Sample ID: 5ML REAGENT BLA		MBLK			Batch	ID: R22791	Analysis [	Date:	3/12/20	007 7:48:15 AM
Benzene	ND	µg/L	1.0							
Toluene	ND	µg/L	1.0							
Ethylbenzene	ND	µg/L	1.0							
Xylenes, Tolal	ND	µg/L	2.0							
Sample ID: 100NG BTEX LCS		LCS			Batch	ID: <b>R22791</b>	Analysis (	Date:	3/12/2	007 6:29:11 PM
Benzene	20.59	µg/L	1.0	103	85.9	113				
Toluene	20.69	µg/L	1.0	103	86.4	113				
Ethylbenzene	20.53	µg/L	1.0	103	83.5	118				
Xylenes, Tolal	62.49	µg/L	2.0	104	83.4	122				
Sample ID: 0703123-10A MS		MS			Batch	ID: R22791	Analysis [	Date:	3/12/2	007 5:29:09 PM
Benzene	20.31	µg/L	1.0	102	85.9	113				
Toluene	20.49	μg/L	1.0	102	86.4	113				
Ethylbenzene	20.67	μg/L	1.0	103	83.5	118				
Xylenes, Total	<b>62.4</b> 1	μg/L	2.0	104	83.4	122				

Qualifiers:

Ε Value above quantitation range

Analyte detected below quantitation limits J

R RPD outside accepted recovery limits Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S

Spike recovery outside accepted recovery limits 7/8

Page 1

		Ĭ	BO 191
	Form 3160-5 UNI June 1990) DEPARTMEN BUREAU OF	TED STATES NT OF THE INTERIOR LAND MANAGEMENT	FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993 5. Lease Designation and Serial No.
	SUNDRY NOTICES Do not use this form for proposals to dr Use "APPLICATION FO	AND REPORTS ON WELLS fill or to deepen or reentry to a different reservoir. R PERMIT—" for such proposals	6. If Indian, Allottee or Tribe Name
=	SUBMIT	IN TRIPLICATE	7. If Unit or (CA) Agreement Designation
-	1. Type of Well Oil Well X Well Other		8. Well Name and No. M = N = N = 1
-	Amoco Production 3. Address and Telephone No.	Company	9. API Well No. 3004523855
-	200 Amoco Court, Farmington, 4. Location of Well (Footage, Sec., T., R., M., or Survey D	N.M. 87401         Tel: (505)         326-9200           escription <td>10. Field and Pool, or Exploratory Area DAKOTA</td>	10. Field and Pool, or Exploratory Area DAKOTA
	5E/4 NW/4, 5EC.26	, T 29N, K 100, M HM	11. County or Parish, State SAN JUAN, NM
- 1	2. CHECK APPROPRIATE BOX(	s) TO INDICATE NATURE OF NOTICE, REPOR	T, OR OTHER DATA
	TYPE OF SUBMISSION	TYPE OF ACTION	
-	Subsequent Report	Abandonment Recompletion Plugging Back	Change of Plans Construction Non-Routine Fracturing
	Final Abandonment Notice	Casing Repair Altering Casing Mother Fit cleanse	Water Shut-Off Conversion to Injection Dispose Water
	give subsurface locations and measured and true vertice Pit closure verifica NFHYDRATOR PLT - ABA	al depths for all markers and zones pertinent to this work.)* Ation - see attached documentation.	≠D
		915 Z/14/00	
=		1	
ו =	14. I hereby cortify that the folegoing is true and correct Signed	ENVIRO. COORDINATOR	Date 12/30/94
	Approved by Conditions of approval, if any:	Title	Date
= T o	Title 18 U.S.C. Section 1001, makes it a crime for any person or representations as to any matter within its jurisdiction.	knowingly and willfully to make to any department or agency of the United S	States any false, fictitious or fraudulent statements
-		*See Instruction on Reverse Side	

i

BO 191

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

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

## PIT REMEDIATION AND CLOSURE REPORT

Operator:	Amoco Production Company	<b>Telephone:</b> (505) - 326-9200
Address:	200 Amoco Court, Farmington	n, New Mexico 87401
Facility Or: Well Name	MEDANIEL GC	3 IE
Location: Unit	or Qtr/Qtr Sec_Fs	ec ZG T 29NR ID County SAN JUAN
Pit Type: Sepa	rator Dehydrator $X$ (	)ther
Land Type: BL	M, State, Fee	, Other Com. AGMT.
Pit Location: (Attach diagram)	Pit dimensions: length Reference: wellhead $X$	20', width $23'$ , depth $4'$ , other
	Footage from reference: Direction from reference	$\frac{110}{2}$ ce: <u>32</u> Degrees <u>×</u> East North of West South <u>×</u>
Depth To Groun (Vertical distance contaminants to a high water elevat ground water)	d Water: e from leasonal ion of	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points) 20
Wellhead Prote (Less than 200 fe domestic water so 1000 feet from al	ction Area: et from a private surce, or; less than .l other water sources)	Yes (20 points) No (0 points) <u>O</u>
Distance To Su (Horizontal dista lakes, ponds, riv irrigation canals	<b>rface Water:</b> Ince to perennial Vers, streams, creeks, a and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points) 20
		RANKING SCORE (TOTAL POINTS): 40

			the second s
Date Remediation St	arted:	Date Completed: 12(30	0 94
Remediation Method:	Excavation $\underline{\times}$	Approx. cubic yards 50	
(Check all appropriate sections)	Landfarmed $\underline{\times}$	Insitu Bioremediation	
	Other		
<b>Remediation Locatio</b> (ie. landfarmed onsite, name and location of offsite facility)	n: Onsite 🔀 O	ffsite X BACA GC A #HA (F-	26-29-11
General Description	Of Remedial Actio	on:	<u> </u>
Excavati	on GROWNDWAT	ER PUMPED & HAILED.	
LANDFRI	m JOIL MIXED u	ITH BACA GC A THIA - REFER TO	
BASA	GE A # HA FUR LA	NOFARM CLOSURE WEORMETTON .	
		an an an an ann ann an an Alla an Ann ann an Ann an Ann ann an Ann a	
	·		
		Var X/ Danth 71	
Ground Water Encoun	tered: No	Yes X Depth 31	
Ground Water Encoun Final Pit: Closure Sampling:	Sample location	Yes Depth 3 ! see Attached Documents	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results	Sample location	Yes X Depth 31 see Attached Documents	······································
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample location	Yes X Depth 31 see Attached Documents	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample location	Yes X Depth 31 see Attached Documents LTIPLE SAMPLES Sample time	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample location	Yes X Depth 31 see Attached Documents LTIPLE SAMPLES Sample time	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample location Sample depth Sample date Sample Results Benzene(ppm)	Yes Depth	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample location Sample location Sample depth Sample date Sample Results Benzene(ppm) Total BTEX()	Yes Depth 3 ! see Attached Documents LTIPLE SAMPLES Sample time ppm)	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample location Sample location Sample depth Sample date Sample Results Benzene(ppm) Total BTEX() Field heads	Yes X Depth 31 see Attached Documents LTIPLE SAMPLES Sample time ppm) pace(ppm)	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample location Sample location Sample depth Sample date Sample Results Benzene(ppm) Total BTEX() Field heads TPH	Yes X Depth 31 see Attached Documents LTIPLE SAMPLES Sample time ppm) pace(ppm)	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample location Sample location Sample depth Sample date Sample Results Benzene(ppm) Total BTEX() Field heads TPH	Yes X Depth 3 <sup>1</sup> see Attached Documents LTIPLE SAMPLES Sample time ppm) pace(ppm)	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Ground Water Sample	Sample location Sample location Sample depth Sample date Sample Results Benzene(ppm) Total BTEX() Field heads TPH Yes X No	Yes X Depth 31 see Attached Documents LTIPLE SAMPLES Sample time ppm) pace(ppm) (If yes, attach sample result	
Ground Water Encoun Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Ground Water Sample I HEREBY CERTIFY TH OF MY KNOWLEDGE AND	Sample location Sample location No Sample location Sample depth Sample date Sample Results Benzene(ppm) Total BTEX() Field heads TPH Yes X No AT THE INFORMATION BELLIEF	Yes X Depth 3 <sup>1</sup> see Attached Documents LTIPLE SAMPLES Sample time ppm) pace(ppm) (If yes, attach sample result N ABOVE IS TRUE AND COMPLETE TO T	:s) THE BES
Ground Water Encount Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Ground Water Sample I HEREBY CERTIFY TH OF MY KNOWLEDGE AND DATE 12 30 94	Sample location Sample location Mu Sample depth Sample date Sample Results Benzene(ppm) Total BTEX() Field heads TPH Yes X No AT THE INFORMATION BELIEF	Yes X Depth 3! see Attached Documents LTIPLE SAMPLES Sample time ppm) pace(ppm) (If yes, attach sample result N ABOVE IS TRUE AND COMPLETE TO T	S)
Ground Water Encount Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Ground Water Sample I HEREBY CERTIFY TH OF MY KNOWLEDGE AND DATE 12 30 99	Sample location	Yes X Depth 3 <sup>1</sup> see Attached Documents LTIPLE SAMPLES Sample time ppm) pace(ppm) (If yes, attach sample result N ABOVE IS TRUE AND COMPLETE TO T D NAME Buddy D, Shaw,	S) THE BES

CLIENT: AMOCO		BLAGG I	ENGINE	ERING,	INC.		ATION N	B0191
	P.O. B	OX 87, (50	BLOOMH 5) 632	TIELD, N -1199	IM 8741	3	C.0.C. N	2329 []: <u>2563</u>
FIELD REPOI	RT: (	CLOSU	RE V	ERIFIC	CATION	PAGE	No:	/ of _/
QUAD/UNIT: F SEC:	26 TWP:	د WELL 29,ک RNG:	#: <b>\$</b> 16	PIT: DE NM CNT	HY Y:ST ST:NM	DATE DATE ENVIRO	STARTED: FINISHED:	NX
	<u>الاسام</u>	Z3 F	<u>π v 4</u>	FT DF	EP CUB			50
DISPOSAL FACILITY:	E	9 #179 (F-	E:	REMEDIATI	ON METH	IOD: <u> </u>	OAGE: ON:	DK
FIELD NOTES & REMAI	RKS: PI • NEARE • NMOCD	T LOCATED ST WATER SI TPH CLOSUR RIPTION:	O APPROXII Ource:/C	MATELY <u>/</u> 000' N 00 PPM	EAREST SURF	S326 ACE WATE	FROM	WELLHEAI
SAMPLE GROUN SOIL BY TR	E CONTR OWATER SAMPLE( LIPLE S	INER OR OBSERVE S) FROM 6 HAU	D IN ANY SI	F MOICA	AREA . 1	NDWR NDWR	HEEN E TO MER F	in confet confet
	TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
SCALE								
PIT PERIM	ETER	IN .	OVM RESULT	s	PIJ	PR	OFILE	ר 
	ELL	SAMPL ID 2	E FIELD H	EADSPACE (ppm)	A		Þ	<b>٦</b>
	20	3 4 5			3' []	20		
SALES LUVE 25'	Cu3 Cu3	A, 23			6	Convour	TER	
TREACH AREA	PIPING EXTENDED	AWZEGUX	AB SAMPL ANALYSIS W BTEX (3) BTEX	ES TIME 1420 14 0925 12 1400 12	IIIS FAILED	) D		
TRAVEL NOTES: CALLOUT	: 12/1	4/94	ON		2/15/94			



OFF: (505) 325-8786

LAB: (505) 325-5667

# AROMATIC VOLATILE ORGANICS

Attn:	Nelson \	/elez		·	Date:	12/16/94
Company:	Blagg Er	gineering			Lab ID:	2329
Address:	P.O. Box	(87)			Sample ID:	4403
City, State:	Bloomfie	eld, NM 874	13		Job No.	2-1000
Project Nan	ne:	McDanie	GCB1E			
Project Loc	ation:	PW 1 @	GW (3') - Del	hy Pit		
Sampled by	/:	NV	Date:	12/15/94	Time:	14:20
Analyzed b	y:	DLA	Date:	12/16/94		
Sample Ma	trix:	Water				

#### Aromatic Volatile Organics

	Measured	Detection Limit
Component	Concentration ug/L	Concentration ug/L
Benzene	130.9	0.2
Toluene	84.4	0.2
Ethylbenzene	30.7	0.2
m,p-Xylene	284.6	0.2
o-Xylene	53.7	0.2
	TOTAL 584.4 ug/L	

ND - Not Detectable

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

)~4 12/19/94 Approved by: Date:

#### P. O. BOX 2606 • FARMINGTON, NM 87499

- Technology Blending Industry with the Environment -



OFF: (505) 325-8786

LAB: (505) 325-5667

# AROMATIC VOLATILE ORGANICS

Attn:	Nelson N	/elez			Date:	12/22/94
Company:	Blagg Er	gineering			Lab ID:	2563
Address:	P.O. Box	c 87			Sample ID:	4480
City, State:	Bloomfie	eld, NM 8741	13		Job No.	2-1000
Project Nan	ne:	McDanie	GCB1E			
<b>Project Loc</b>	ation:	PW 2 @	GW (3') - D	ehy Pit		
Sampled by	/:	NV	Date:	12/21/94	Time:	9:25
Analyzed b	y:	DLA	Date:	12/22/94		
Sample Ma	trix:	Water				

#### Aromatic Volatile Organics

Component	Measured Concentration ug/L	Detection Limit Concentration ug/L
Benzene	112.6	0.2
Toluene	36.1	0.2
Ethylbenzene	24.0	0.2
m,p-Xylene	308.8	0.2
o-Xylene	57.4	0.2
	TOTAL 539.0 ua/L	

ND - Not Detectable

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

)a 4 12/22/94 Approved by: Date:

#### P. O. BOX 2606 • FARMINGTON, NM 87499

- Technology Blending Industry with the Environment -



OFF: (505) 325-8786

LAB: (505) 325-5667

## AROMATIC VOLATILE ORGANICS

Attn:	Nelson N	/elez			Date:	12/30/94
Company:	Blagg Er	ngineering			Lab ID:	2515
Address:	P.O. Box	c 87			Sample ID:	4550
City, State:	Bloomfie	eld, NM 8741	3		Job No.	2-1000
Project Nan	ne:	McDanie	IGCB1E			
Project Loc	ation:	PW 3 @	GW (3') - D	ehy Pit	`	
Sampled by	<i>/</i> :	NV	Date:	12/28/94	Time:	14:00
Analyzed b	y:	DLA	Date:	12/30/94		
Sample Ma	trix:	Water				

#### Aromatic Volatile Organics

Component	Me Concen	asured tration ug/L	D Cor	etection Limit acentration ug/L
Benzene		0.8		0.2
Toluene		0.5		0.2
Ethylbenzene		0.3		0.2
m,p-Xylene		4.2		0.2
o-Xylene		0.8	······································	0.2
	TOTAL	6.7 ug/L		

ND - Not Detectable

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Date: 12/30/94

#### P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

Date/Time     Received by:     Date/Time       Rush     5 Working Days     10 Working Days     Sampling Location:
Rush     5 Working Days     Sampling Location:       Date     Date
Date Darmon Darmer Darmer

ON SITE	Date	12/2	194	ב ב	·	Ъ	de /	ot /	
NOLOGIES, LTD. 4 657 W. Maple • P. O. Box 2 LAB: (505) 325-5667	506 • Farmington NM 87499 • FAX: (505) 325-6256						·	80 (1)	
se Order No.: Job No.		0 Nar	ne	NELSI	an VEU	マッ	して		
Name		<b>18</b> 18 10 2	npany	SAM	Z				
Company SLAGG ENGINEERING	Dept.	רזח מש ש	lling Address	SMAR	<b>1</b> 3			-	
Address P.O. SUX 8)		ਤਿ 535 18	r, State, Zip	SPANS	11.	•			
City, State, Zip SLCCDMFTELD, NM 87.	413	Let Let	ephone No.	632	-1199	Telefax	No		and the second sec
ng Location: Mr. DR. V.E. G.C. 82E		s 	. (		ANALYSIS	REQUESTE	Q	₩ / /* ( )	- /
		uers ners	0						ار میں ا
" Man Vill		Numbe Numbain	100						
SAMPLE IDENTIFICATION	SAMPLE MATRIX PRES		tat					LAB ID	
2 C Gu (3') - DEHY PIT 21	194 0925 WNER HAC	12/2	/				44	20-256191	<b>*</b>
	>								
								÷.	
			·						
								•	
									<i>.</i>
		9++							
ished by: Willow VIC	Date/Time/2/21/59 /32	7 Received	by: K	_^{ - {	0		Date/Time/2/	4521 NALS	
ished by:	Date/Time	Received	by:	)- <b>.</b>			Date/Time		
ished by:	Date/Time	Received	by:				Date/Time		40
of Shipment:		Rush	24-	48 Hours	10 Workin	g Days Spe	cial Instructions.		
bed by:	Date						•		
(Client Signature Must Accompany Request)		η							

	CHAIN OF CUS		/ RECORI			2515	
	<b>ON SITE</b>	12	128/94		Page /	of	
	TECHNOLOGIES, LTD. 4 657 W. Maple • P. O. Box 2606 • Farmington NM 87499 LAB: (505) 325-5667 • FAX: (505) 325-6256					60.19()~3	÷.
	Purchase Order No.: Job No.	0	Name NELSO	N VELEZ	Title PE		
4	Name	78 78 7 2	Company	SAME			
	20 Company 822966 ENGINEERING Dept.		Mailing Address	Same			•
	BZ Address P. O. BOX 8)	S3F 19	City, State, Zip	Tant			
	City, State, Zip SLOOM/2/ ELD AIM 87413	3	Telephone No.	32-1199	Telefax No.	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
	Sampling Location:			ANALYSIS RE	QUESTED		
* .	MUCCHNNEL OC OFC	ers •				1 6p (41 -	
5 - T	Sampler:	l 1mber 1mber	1000				
	11 (1000) NAC	N	/ ///		/ /		
	SAMPLE IDENTIFICATION C SAMPLE MATRIX PRES					LABID	,
1	PW3 @ 60 (2') - DENY PIT 12/294 1400 140728 1130	N				4550-2515	***
ì							
· · · · ·							
							: <sup>1</sup> .
<u>،</u> ۲.							
, Ì							Ţ
Ì							
		•		ž.			
- K						-	4
		~					
						18 18 18	
	Relinquished by: W/ / Bate/Time2/29/94 14/3	A Recei	ved by:	X. aler	Date/Tim	ne 12/28/24 14.39	X
<u>ب</u>	Rélinquisheid by:	Receiv	/ed by:		Date/Tim	je -	
<i>I</i>	Relinquished by:	Receiv	/ed by:		Date/Tim	9	
1	Method of Shipment:	Rush	24-48 H	ours 10 Working D	ays Special Instru	ctions:	
	Authorized by:		â				
	(Client Signature <u>Must</u> Accompany Request)			· · · · ·			
۰.	Distribution: White - On Site Yellow - LAB	Pink – Se	umpler Goldenrod – Cli	ant			
	いた。 1999年1月1日、1999年1月1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日 1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日、1999年1日						