

# **MONITORING REPORTS**

# **ANNUAL MONITORING REPORT**

## **TNM 98-SO1**

**NW ¼ of the SW ¼ of SECTION 20, TOWNSHIP 19 SOUTH, RANGE 37 EAST**

**LEA COUNTY, NEW MEXICO**

**LINK ENERGY LEAK NUMBER: TNM-98-SO1**

**ETGI PROJECT NUMBER: LI2067**

### **PREPARED FOR:**

#### **LINK ENERGY**

**5805 EAST HIGHWAY 80**

**MIDLAND, TEXAS 79701**

### **PREPARED BY:**

**ENVIRONMENTAL TECHNOLOGY GROUP, INC.**

**2540 WEST MARLAND**

**HOBBS, NEW MEXICO 88240**

**April 2004**

# **ANNUAL MONITORING REPORT**

## **TNM 98-SO1**

**NW ¼ of the SW ¼ of SECTION 20, TOWNSHIP 19 SOUTH, RANGE 37 EAST**

**LEA COUNTY, NEW MEXICO**

**LINK ENERGY LEAK NUMBER: TNM-98-SO1**

**ETGI PROJECT NUMBER: LI2067**


**PREPARED FOR:**


**LINK ENERGY  
5805 EAST HIGHWAY 80  
MIDLAND, TEXAS 79701**

**PREPARED BY:**

**ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
2540 WEST MARLAND  
HOBBS, NEW MEXICO 88240**

**April 2004**

  
Camille Reynolds  
Project Manager

  
Todd Choban  
Regional Manager

## TABLE OF CONTENTS

INTRODUCTION.....	1
FIELD ACTIVITIES.....	1
GROUNDWATER GRADIENT.....	1
LABORATORY RESULTS.....	2
SUMMARY.....	2
DISTRUBUTION.....	3

### FIGURES

Figure 1 – Site Location Map

Figure 2A – Inferred Groundwater Gradient Map March 28, 2000

2B – Inferred Groundwater Gradient Map June 20, 2000

2C – Inferred Groundwater Gradient Map August 30, 2000

2D – Inferred Groundwater Gradient Map December 4, 2000

Figure 3A – Groundwater Concentration Map March 28, 2000

3B – Groundwater Concentration Map June 20, 2000

3C – Groundwater Concentration Map August 30, 2000

3D – Groundwater Concentration Map December 4, 2000

### TABLES

Table 1 – Groundwater Elevation Data

Table 2 – Concentrations of BTEX in Groundwater

### APPENDICES

Appendix A – Laboratory Reports

## **INTRODUCTION**

Environmental Technology Group, Inc. (ETGI), on behalf of Link Energy (Link), has prepared this Annual Monitoring Report in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an Annual Monitoring Report by April 1 of each year. This report is intended to be viewed as a complete document with figures, attachments, tables and text. The report presents the results of the quarterly groundwater monitoring events conducted in the calendar year 2000, only. For reference, the Site Location Map is provided as Figure 1.

Groundwater monitoring was not conducted during the calendar years 2001, 2002 and 2003 due to site access restrictions imposed by the landowner. Groundwater monitoring was conducted during four monitoring events in calendar year 2000 to assess the levels and extent of dissolved phase and Phase Separated Hydrocarbon (PSH) constituents. The groundwater monitoring events consisted of measuring static water levels in the monitoring wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. Monitor wells containing a thickness of PSH greater than 0.01 foot were not sampled.

## **FIELD ACTIVITIES**

The site monitor wells were last gauged and sampled on March 28, June 20, August 30, and December 4, 2000. During each sampling event, the monitor wells were purged of approximately 3 well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos Pump. Groundwater was allowed to recharge and samples were obtained using disposable Teflon samplers. Water samples were stored in clean glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a polystyrene tank and disposed of by Pate Trucking, Hobbs, New Mexico utilizing a licensed disposal facility (NMOCD AO SWD-730).

## **GROUNDWATER GRADIENT**

Locations of the monitor wells and the inferred groundwater gradient, constructed from measurements collected during the 2000 quarterly sampling events are depicted on Figures 2A-2D, the Inferred Groundwater Gradient Maps. Cumulative groundwater elevation data is provided as Table 1. Groundwater elevation contours, generated from water level measurements acquired during the quarterly sampling events of 2000, indicated the a general gradient of approximately 0.052 ft/ft to 0.055 ft/ft to the southeast as measured between groundwater monitor wells MW-2 and MW-3. The depth to groundwater, as measured from the top of the well casing, ranged between 17.46 to 26.80 feet in the shallow alluvial aquifer.

## **LABORATORY RESULTS**

Groundwater samples collected during the 2000 monitoring events were delivered to the Environmental Laboratory of Texas, Midland, Texas for determination of Benzene, Toluene, Ethylbenzene and total Xylene (BTEX) constituent concentrations by EPA Method SW 846-8021B. Concentrations of BTEX in the groundwater are summarized in Table 2 and copies of the laboratory reports are provided as Appendix A. Quarterly groundwater sample results reflecting benzene and BTEX constituent concentrations are depicted on Figures 3A-3D, the Groundwater Concentration Maps.

Review of the laboratory analytical results generated from analysis of groundwater samples obtained during the 2000 monitoring period indicated that benzene and BTEX concentrations were below NMOCD regulatory standards.

## **SUMMARY**

This report presents the results of groundwater monitoring activities for the annual monitoring period of calendar year 2000. Groundwater monitoring events were not conducted in the calendar years 2001, 2002 and 2003 due to site access restrictions imposed by the landowner.

Groundwater elevation contours, generated from water level measurements acquired during the quarterly sampling events of 2000 indicated a general gradient of approximately 0.052 ft/ft to 0.055 ft/ft to the southeast as measured between groundwater monitor wells MW-2 and MW-3.

Review of laboratory analytical results generated from analysis of the groundwater samples obtained during the 2000 monitoring period indicate that benzene and BTEX constituent concentrations are below NMOCD regulatory standards. An additional groundwater monitor well is required adjacent to and down gradient of, the release point in response to the NMOCD letter dated October 30, 2000, but has not been installed to date due to access restrictions imposed by the landowner. Contingent upon the laboratory results obtained from groundwater sampling of the proposed monitor well, a Site Closure Request will be submitted to the NMOCD.

## **DISTRIBUTION**

- Copy 1 & 2: William C. Olson/Ed Martin  
New Mexico Oil Conservation Division  
Environmental Bureau  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505
- Copy 3: Chris Williams  
New Mexico Oil Conservation Division (District 1)  
1625 French Drive  
Hobbs, New Mexico 88240
- Copy 4: Jeff Dann  
Link Energy  
2000 West Sam Houston Parkway  
Suite 400  
Houston, Texas 77042
- Copy 5: Jimmy Bryant  
EOTT Energy  
5805 Hwy 80 East  
Midland, Texas 79701
- Copy 6: Environmental Technology Group, Inc.  
4600 West Wall  
Midland, Texas 79703
- Copy 7: Environmental Technology Group, Inc.  
2540 West Marland  
Hobbs, New Mexico 88240

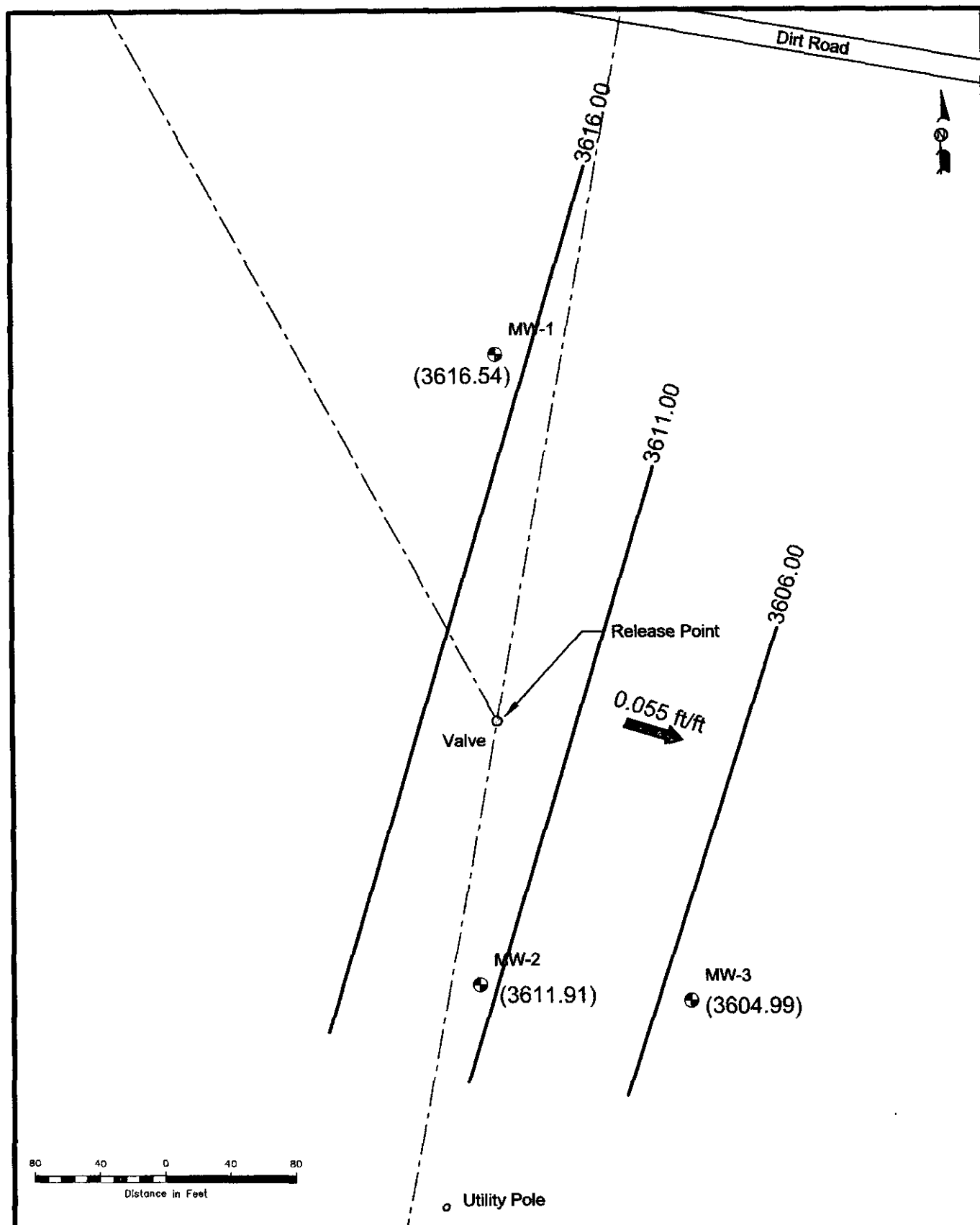
Copy Number \_\_\_\_\_

Quality Control Review \_\_\_\_\_

## FIGURES







**LEGEND:**

- ⊕ Monitor Well Location
- Groundwater Gradient Line
- (3543.52) Groundwater Elevation In Feet
- Pipeline

NW 1/4, NW 1/4 Sec. 20 T19S, R37E  
N 32° 38' 34.3" W 103° 18' 48.7"

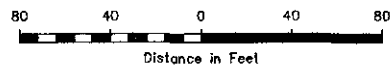
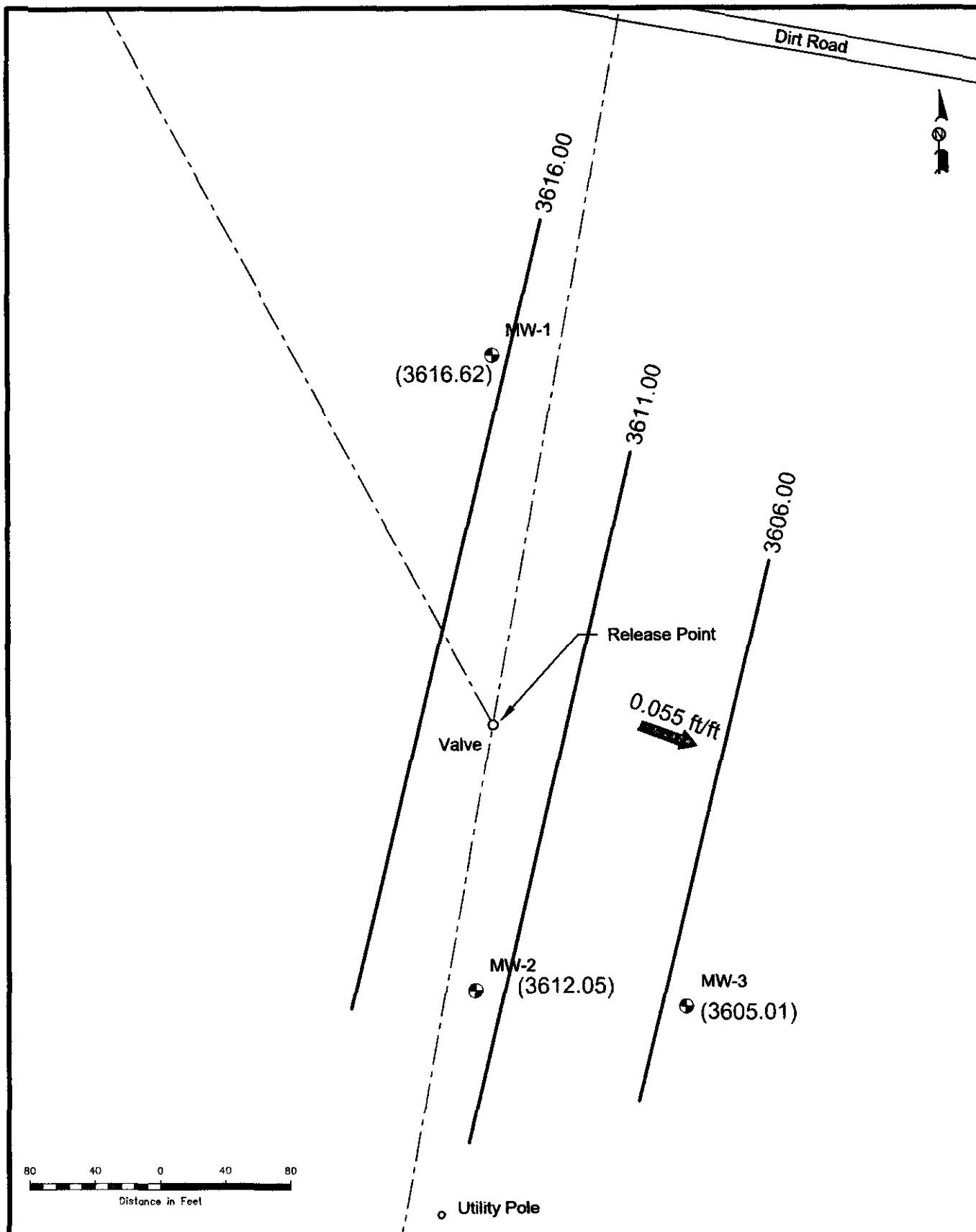
**Figure 2A**  
Inferred Groundwater  
Gradient Map (3/28/00)

Link Energy  
TNM 98S-01  
Lea County, NM



**Environmental Technology  
Group, Inc.**

Scale: 1" = 80'	Prep By: cs	Checked By: CR
March 17, 2004	ETGI Project # LI 2067	

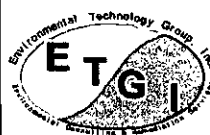


**LEGEND:**

- ⊕ Monitor Well Location
- Groundwater Gradient Line
- (3543.52) Groundwater Elevation In Feet
- Pipeline

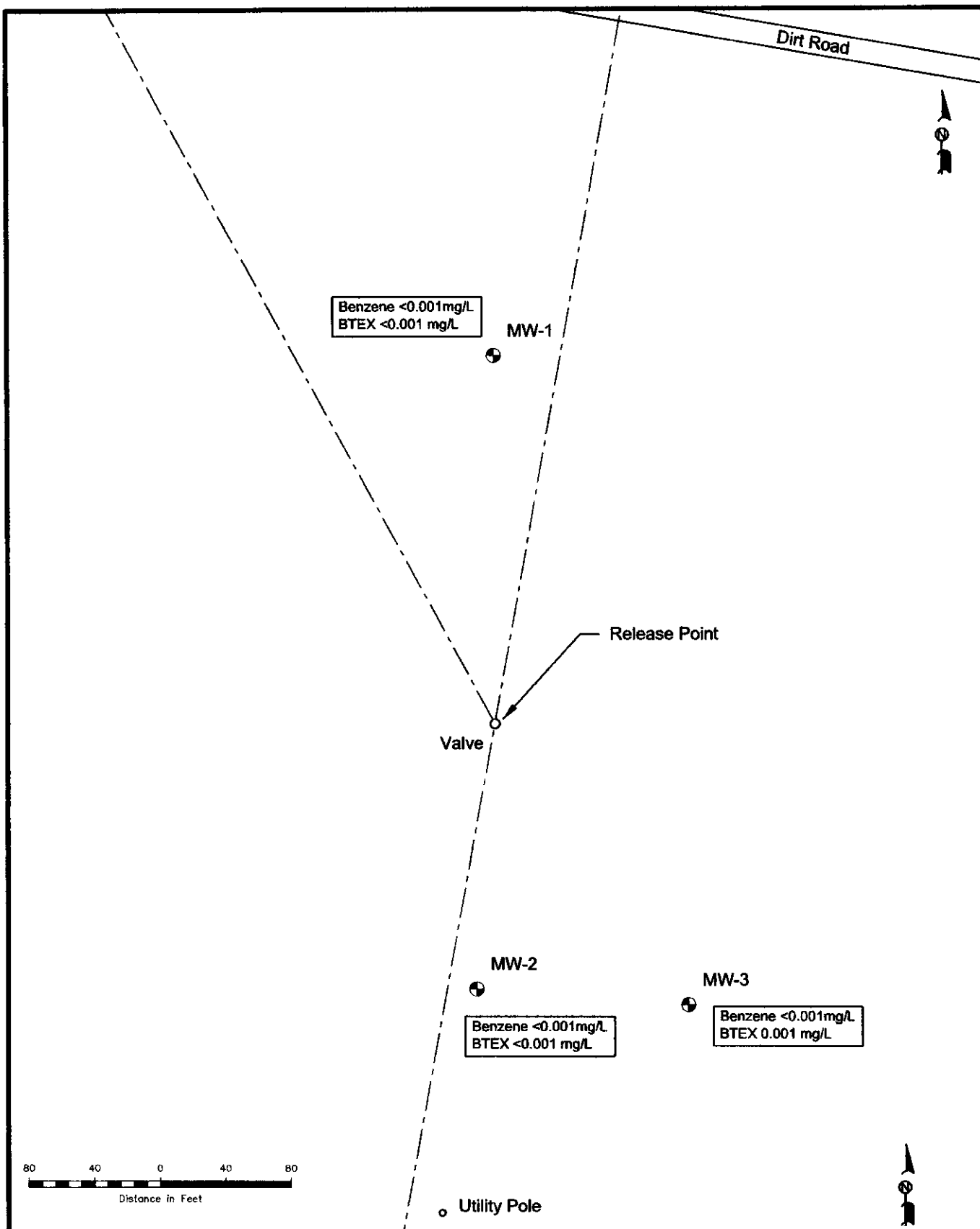
Figure 2B  
Inferred Groundwater  
Gradient Map (6/20/00)

Link Energy  
TNM 98S-01  
Lea County, NM



**Environmental Technology  
Group, Inc.**

Scale: 1" = 80'	Prep By: cs	Checked By: CR
March 17, 2004	ETGI Project # LI 2007	



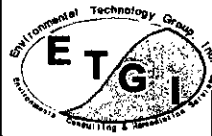
**LEGEND:**

- ⊕ Monitor Well Location
- Pipeline

NW 1/4, NW 1/4 Sec. 20 T19S, R37E  
N 32° 38' 34.3" W 103° 16' 48.7"

**Figure 3B**  
Groundwater Concentration  
Map (6/20/00)

Link Energy  
TNM 98S-01  
Lea County, NM



**Environmental Technology  
Group, Inc.**

Scale: 1" = 80'	Prep By: cs	Checked By: CR
March 17, 2004	ETGI Project # LI 2067	

## TABLES

TABLE 1

## GROUNDWATER ELEVATION DATA

LINK ENERGY  
TNM 98-S01  
LEA COUNTY, NEW MEXICO  
ETGI PROJECT # LI 2067

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUND WATER ELEVATION
MW - 1	05/13/99	3,634.38	-	17.54	0.00	3,616.84
	08/25/99	3,634.38	-	17.60	0.00	3,616.78
	12/14/99	3,634.38	-	17.90	0.00	3,616.48
	03/28/00	3,634.38	-	17.84	0.00	3,616.54
	06/20/00	3,634.38	-	17.76	0.00	3,616.62
	08/30/00	3,634.38	-	17.46	0.00	3,616.92
	12/04/00	3,634.38	-	17.61	0.00	3,616.77
MW - 2	05/13/99	3,633.96	-	21.81	0.00	3,612.15
	08/25/99	3,633.96	-	21.82	0.00	3,612.14
	12/14/99	3,633.96	-	22.21	0.00	3,611.75
	03/28/00	3,633.96	-	22.05	0.00	3,611.91
	06/20/00	3,633.96	-	21.91	0.00	3,612.05
	08/30/00	3,633.96	-	21.81	0.00	3,612.15
	12/04/00	3,633.96	-	21.94	0.00	3,612.02
MW - 3	05/13/99	3,631.79	-	26.33	0.00	3,605.46
	08/25/99	3,631.79	-	26.57	0.00	3,605.22
	12/14/99	3,631.79	-	26.81	0.00	3,604.98
	03/28/00	3,631.79	-	26.80	0.00	3,604.99
	06/20/00	3,631.79	-	26.78	0.00	3,605.01
	08/30/00	3,631.79	-	26.36	0.00	3,605.43
	12/04/00	3,631.79	-	26.56	0.00	3,605.23

*Elevations based on the North American Vertical Datum of 1929*

**TABLE 2**  
**CONCENTRATIONS OF BTEX IN GROUNDWATER**  
**LINK ENERGY**  
**TNM 98-SO1**  
**LEA COUNTY, NEW MEXICO**  
**ETGI PROJECT #LI 2067**

*All concentrations are reported in mg/L.*

SAMPLE LOCATION	SAMPLE DATE	SW 846-8021B, 5030				
		BENZENE	TOLUENE	ETHYL-BENZENE	m,p-XYLENES	o-XYLENE
MW - 1	01/28/99	<0.001	<0.001	<0.001	<0.002	<0.001
	08/25/99	<0.001	<0.001	<0.001	<0.001	<0.001
	12/14/99	<0.001	<0.001	<0.001	<0.001	<0.001
	03/28/00	0.001	<0.001	<0.001	<0.001	<0.001
	06/20/00	<0.001	<0.001	<0.001	<0.001	<0.001
	08/30/00	<0.001	<0.001	<0.001	<0.001	<0.001
	12/04/00	<0.001	<0.001	<0.001	<0.001	<0.001
MW - 2	01/28/99	<0.001	<0.001	<0.001	<0.002	<0.001
	08/25/99	<0.001	<0.001	<0.001	<0.001	<0.001
	12/14/98	<0.001	<0.001	<0.001	<0.001	<0.001
	03/28/00	<0.001	<0.001	<0.001	<0.001	<0.001
	06/20/00	<0.001	<0.001	<0.001	<0.001	<0.001
	08/30/00	<0.001	<0.001	<0.001	<0.001	<0.001
	12/04/00	0.001	<0.001	<0.001	<0.001	<0.001
MW - 3	01/28/99	0.002	<0.001	<0.001	<0.002	<0.001
	08/25/99	0.007	0.001	0.002	0.002	0.001
	12/14/99	0.002	0.002	0.002	0.003	0.003
	03/28/00	<0.001	<0.001	0.001	0.001	<0.001
	06/20/00	<0.001	0.001	<0.001	<0.001	<0.001
	08/30/00	0.003	<0.001	<0.001	<0.001	<0.001
	12/04/00	<0.001	0.001	<0.001	<0.001	<0.001
EB - 1	08/30/00	<0.001	<0.001	<0.001	<0.001	<0.001
	12/04/00	<0.001	<0.001	<0.001	<0.001	<0.001

Note: EB denotes Equipment Blank collected during the sampling event.

**Appendix A**  
**Laboratory Reports**



# ENVIRONMENTAL LAB OF , INC.

## FILE

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: MR. JESSE TAYLOR  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 915-820-4310  
FAX: 505-822-3760

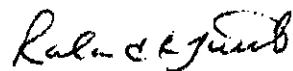
Sample Type: Water  
Sample Condition: Intact/ leach/HCl  
Project #: EOT 1015C  
Project Name: TNM 88-501  
Project Location: Monument, N.M.

Sampling Date: 03/28/00  
Receiving Date: 03/28/00  
Analysis Date: 3/28 & 3/29/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
24380	MW 1	0.001	<0.001	<0.001	<0.001	<0.001
24381	MW 2	<0.001	<0.001	<0.001	<0.001	<0.001
24382	MW 3	<0.001	<0.001	0.001	0.001	<0.001

% IA	87	87	91	100	87
% EA	87	87	87	94	85
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B.5030

  
Roland K. Tuttle

3-30-00  
Date

# Environmental Lab of Texas, Inc. 12600 West 138 East Odessa, Texas 79763 (915) 563-1800 FAX (915) 563-1713

## CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

COC 113

### ANALYSIS REQUEST

Phone #: (915) 664-5166  
FAX #: (915) 392-3260

Company Name & Address: ETGI  
P.O. Box 4845 Midland TX 79704

Project #: 507105C  
Project Name: TUNA 58-501

Project Location: Monument NM  
Sampler Signature: *[Signature]*

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING		
				WATER	SOIL	AIR	SLUDGE	OTHER	HOL	HNO3	ICE	NONE	OTHER	DATE
24340	MW 1	2	✓	✓					✓				3-28-1002	1102
24341	MW 2	✓	✓	✓					✓				✓	1102
24342	MW 3	✓	✓	✓					✓				✓	1102

TPH 418.1  
TCLP Metals Ag As Ba Cd Cr Pb Hg Se  
Total Metals Ag As Ba Cd Cr Pb Hg Se  
TCLP Semi Volatiles  
TDS  
RCI

### REMARKS

Mail Results: K. Dutton

Requisitioned by: <i>[Signature]</i>	Date: 3/28/00	Time: 1500	Received by: <i>[Signature]</i>
Requisitioned by: <i>[Signature]</i>	Date: 2/28/00	Time: 1730	Received by: <i>[Signature]</i>
Requisitioned by: <i>[Signature]</i>	Date: 2/28/00	Time: 1730	Received by: <i>[Signature]</i>

Invoice: Lanna Frost 10/00

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: MR. JESSE TAYLOR  
2540 MARLAND  
HOBBS, N.M. 88240  
FAX: 505-387-4701  
FAX: 915-520-4310

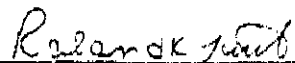
Sample Type: Water  
Sample Condition: Intact/Iced/HCl/30 deg. F  
Project #: EOT 2015C  
Project Name: TNM 98-SG1  
Project Location: Lea County, N.M.

Sampling Date: 06/20/00  
Receiving Date: 06/23/00  
Analysis Date: 06/27/00

ELTH	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
27352	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001
27353	MW 2	<0.001	<0.001	<0.001	<0.001	<0.001
27354	MW 3	<0.001	0.001	<0.001	<0.001	<0.001

% IA	98	91	92	100	93
% EA	98	96	95	107	97
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030

  
Roland K. Tuttle

6.29.00  
Date

# Environmental Lab of Texas, Inc. 12500 West I-20 East Odessa, Texas 79763

(915) 563-1800 FAX (915) 563-1713

Project Manager:

*J TAYLOR*

Phone #: (505) 397-4882

FAX #: (505) 397-4701

Company Name & Address:

ETGI, 2540 W. Maryland, Hobbs, NM 88240

Project #:

EOT2015C

Project Name:

WY 98-801

Project Location:

LEA CITY NM

Sample Signature:

*[Signature]*

LAB# (LAB USE ONLY)	FIELD CODE	# CONTAINERS	VOLUME/AMOUNT	MATRIX					PRESERVATIVE METHOD					DATE	TIME	ANALYSIS REQUEST
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER			
27352	HW-1	2	V	X					X					6/20/00	1050	1 of 1
27353	HW-2	2	V	X					X					6/20/00	1050	
27354	HW-3	2	V	X					X					6/20/00	1110	

RECEIVED BY: <i>[Signature]</i> DATE: 23 Jun 00	TIME: 1430	REMARKS: FR: (505) 397-4701 ATTN: RD 304
SUBMITTED BY: DATE:	TIME:	INVOICE: EOT
SUBMITTED BY: DATE:	TIME:	

# ENVIRONMENTAL LAB OF , INC.

## FILE

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: BETH ALDRICH  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 815-520-4310

Sample Type: Water  
Sample Condition: Intact/loose/HCV 30 deg. F  
Project #: EOT 2067C  
Project Name: TNM 88-801  
Project Location: Monument, N.M.

Sampling Date: 08/30/00  
Receiving Date: 08/01/00  
Analysis Date: 08/08/00

ELTV	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L	TOTAL BTEX mg/L
30307	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
30308	MW 2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
30308	MW 3	0.003	<0.001	<0.001	<0.001	<0.001	0.003
30310	EB 1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

% IA	108	100	103	108	99
% EA	104	104	106	110	102
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B, 5030

Roland K. Tuttle  
Roland K. Tuttle

9-6-00  
Date

**Environmental Technology Group, Inc.**

Dec 12 00 01:11p

p. 1

# ENVIRONMENTAL LAB OF , INC.

FILE

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC  
ATTN: BETH ALDRICH  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 915-520-4310  
FAX: 505-397-4701

Sample Type: Water  
Sample Condition: Intact/ Iced/ HCl/ -20 deg. C  
Project #: EOT 2067C  
Project Name: TNM 98-501  
Project Location: Monument, N.M.

Sampling Date: 12/04/00  
Receiving Date: 12/09/00  
Analysis Date: 12/09/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XY.ENE mg/L
35151	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001
35152	MW 2	0.001	<0.001	<0.001	<0.001	<0.001
35153	MW 3	<0.001	0.001	<0.001	<0.001	<0.001
35154	EB 1	<0.001	<0.001	<0.001	<0.001	<0.001

%TA	102	105	104	111	104
%EA	94	100	98	104	100
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-6021B, 5030

  
 Roland K. Tuttle

 12-12-00  
 Date

290 Page of

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST															
ANALYSIS REQUEST (Circle or Specify Method No.)															
<div style="display: flex; justify-content: space-between;"> <div> <p><b>For Use On: EOTT ENERGY CORP. - Projects Only</b></p> <p>1800 West Main Midland, TX 79703 Tel (817) 522-1136 Fax (817) 522-0310</p> </div> <div> <p>2500 West Main Midland, TX 79702 Tel (817) 522-4432 Fax (817) 522-4741</p> </div> <div> <p>8001 ENERGY CORP. 1805 East Main Street 20 Midland, TX 79702 Tel (817) 522-3800 Fax (817) 522-2261</p> </div> </div>															
<p><b>Project Manager:</b> <u>BETH ALDRICH</u></p> <p><b>Project Name:</b> <u>TNM 98-801</u></p> <p><b>Project Location:</b> <u>Monument NM</u></p>															
<p><b>Project Number:</b> <u>EOT 2067C</u></p> <p><b>Sampler Signature:</b> <u>[Signature]</u></p>															
LAB #	FIELD CODE	# CONTAINERS	VOLUME/AMOUNT	MATRIX				PRESERVATION METHOD				SAMPLING			
				WATER	SOIL	AIR	SLUDGE	HCL	HNO <sub>3</sub>	NaHSO <sub>4</sub>	ICE	NONE	DATE	TIME	
3018	MW 1	2	1	X				X						12-9	1417
3019	MW 2	1	1	X				X						1400	
3020	MW 3	1	1	X				X						1435	
3021	EB 1	1	1	X				X						1500	
<p><b>Remarks:</b></p> <p>FAIR Results: H008 Rec-2.04</p> <p>AWL Results: E01</p> <p>INSTR: E01</p> <p>LABLED TNM 98-02 on samples, shown by BE TNM 98601</p>															



**ANNUAL MONITORING REPORT**

112 97

PK 5/8/03

rec'd 3/28/03

**EOTT ENERGY, LLC  
TNM 98-S01**

**NW ¼, NW ¼ OF SECTION 20, TOWNSHIP 19 SOUTH, RANGE 37 EAST  
LEA COUNTY, NEW MEXICO**


**PREPARED FOR:**


**EOTT ENERGY, LLC  
5805 EAST HIGHWAY 80  
MIDLAND, TEXAS 79701**

**PREPARED BY:**

**ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
2540 WEST MARLAND  
HOBBS, NEW MEXICO 88240**

**April 2003**

  
Camille Reynolds  
Project Manager

 FOR  
Chance I. Johnson  
New Mexico Regional Manager

## **TABLE OF CONTENTS**

**INTRODUCTION**

**FIELD ACTIVITIES**

**GROUNDWATER GRADIENT**

**LABORATORY RESULTS**

**SUMMARY**

### **FIGURES**

**Figure 1 – Site Location Map**

**Figure 2 – Site Groundwater Gradient Map**

**Figure 3 – NMOCD Site Map**

### **TABLES**

**Table 1 – Groundwater Elevation**

**Table 2 – Groundwater Chemistry**

### **APPENDICES**

**Appendix A – Laboratory Reports**

## **INTRODUCTION**

Environmental Technology Group, Inc. (ETGI), on behalf of EOTT Energy, LLC (EOTT), prepared this Annual Monitoring Report in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an Annual Monitoring Report by April 1 of each year. This report is intended to be viewed as a complete document with figures, attachments, tables and text. The report presents the results of the quarterly groundwater monitoring events only. For reference, the Site Location Map is provided as Figure 1.

Groundwater monitoring was conducted during four monitoring events in calendar year 2000 to assess the levels and extent of dissolved phase and phase separated hydrocarbon (PSH) constituents. The groundwater monitoring events consisted of measuring static water levels in the monitoring wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. Groundwater monitoring events were not conducted during the calendar years 2001 and 2002, as the landowner will not allow access to the site.

## **FIELD ACTIVITIES**

Quarterly groundwater sampling was not conducted during 2001 and 2002 because the landowner will not grant access to the site. The site monitor wells were last gauged and sampled on March 28, June 20, August 30, and December 4, 2000. During each sampling event, the monitor wells, designated to be sampled, were purged of approximately 3 well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos Pump. Groundwater was allowed to recharge and samples were obtained using disposable Teflon samplers. Water samples were stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a polystyrene tank and disposed of by Pate Trucking, Hobbs, New Mexico or Vista Trucking of Eunice, New Mexico utilizing a licensed disposal facility (NMOCD AO SWD-730).

## **GROUNDWATER GRADIENT**

Locations of the monitor wells and the inferred groundwater gradient, as measured on December 4, 2000 are depicted on Figure 2 and Figure 3, the Groundwater Gradient Map and the NMOCD Site Map. The groundwater elevation data is provided as Table 1. Groundwater elevation contours, generated from the final quarterly event of calendar year 2000 water level measurements, indicated a general gradient of approximately 0.052 ft/ft to the southeast as measured between groundwater monitor wells MW-2 and MW-3. The depth to groundwater, as measured from the top of the well casing, ranged between 17.46 to 26.80 feet in the shallow alluvial aquifer.

## **LABORATORY RESULTS**

Groundwater samples obtained during the sampling events were delivered to Environmental Laboratory of Texas, Midland, Texas for determination of Benzene, Toluene, Ethylbenzene and total Xylene (BTEX) concentrations by EPA Method SW 846-8021B. The groundwater chemistry data is provided as Table 2 and the Laboratory Reports are provided as Appendix A.

Laboratory results for all of the site groundwater samples, obtained during the calendar year 2000 monitoring period, indicated that benzene and BTEX concentrations were below NMOCD regulatory standards for all of the on-site monitor wells.

## **SUMMARY**

This report presents the results of monitoring activities for the annual monitoring period of calendar year 2000. Groundwater monitoring events were not conducted in the calendar years 2001 and 2002 due to site access restrictions imposed by the landowner.

Groundwater elevation contours, generated from the final quarterly event of calendar year 2000 water level measurements, indicated a general gradient of approximately 0.052 ft/ft to the southeast as measured between groundwater monitor wells MW-2 and MW-3.

Laboratory results for all of the site groundwater samples, obtained during the calendar year 2000 monitoring period, indicated that benzene and BTEX concentrations were below NMOCD regulatory standards for all of the on-site monitor wells. An additional groundwater monitor well is required adjacent to and down gradient of, the release point in response to the NMOCD letter dated October 30, 2000, but has not been installed to date due to access restrictions imposed by the landowner.

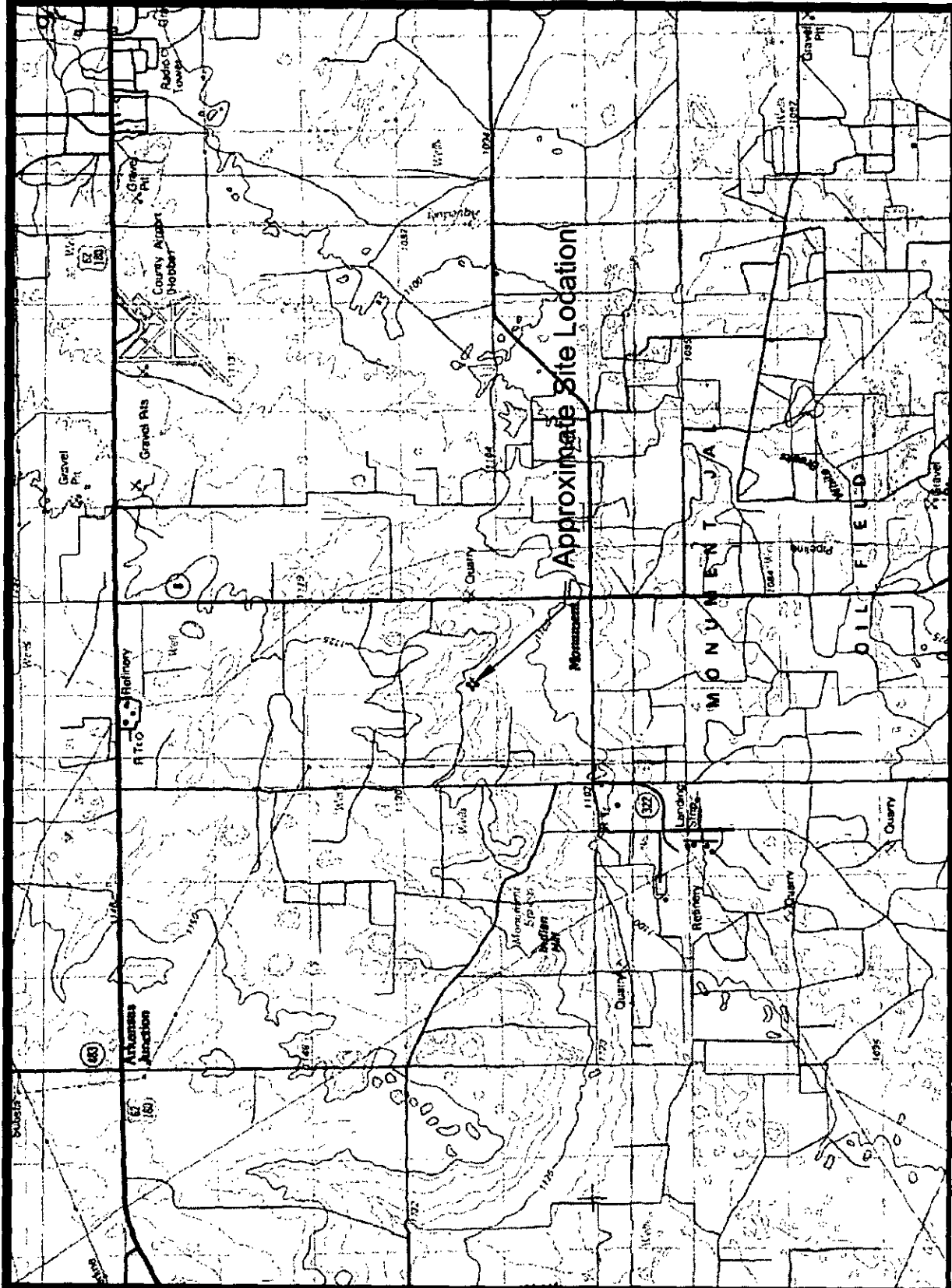
## DISTRIBUTION

- Copy 1 & 2: William C. Olson/Randy Bayliss  
New Mexico Oil Conservation Division  
Environmental Bureau  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505
- Copy 3: Chris Williams  
New Mexico Oil Conservation Division (District 1)  
1625 French Drive  
Hobbs, New Mexico 88240
- Copy 4: Frank Hernandez  
EOTT Energy, LLC  
P. O. Box 1660  
Midland, Texas 79702
- Copy 5: Jimmy Bryant  
EOTT Energy, LLC  
P. O. Box 1660  
Midland, Texas 79702
- Copy 6: Mike Kelly  
EOTT Energy, LLC  
P. O. Box 4666  
Houston, Texas 77210-4666
- Copy 7: Bill Vondrehle  
EOTT Energy, LLC  
P. O. Box 4666  
Houston, Texas 77210-4666
- Copy 8: Environmental Technology Group, Inc.  
4600 West Wall  
Midland, Texas 79703
- Copy 9: Environmental Technology Group, Inc.  
2540 West Marland  
Hobbs, New Mexico 88240

Copy Number 2

Quality Control Review 

## FIGURES



Environmental Technology Group, Inc.

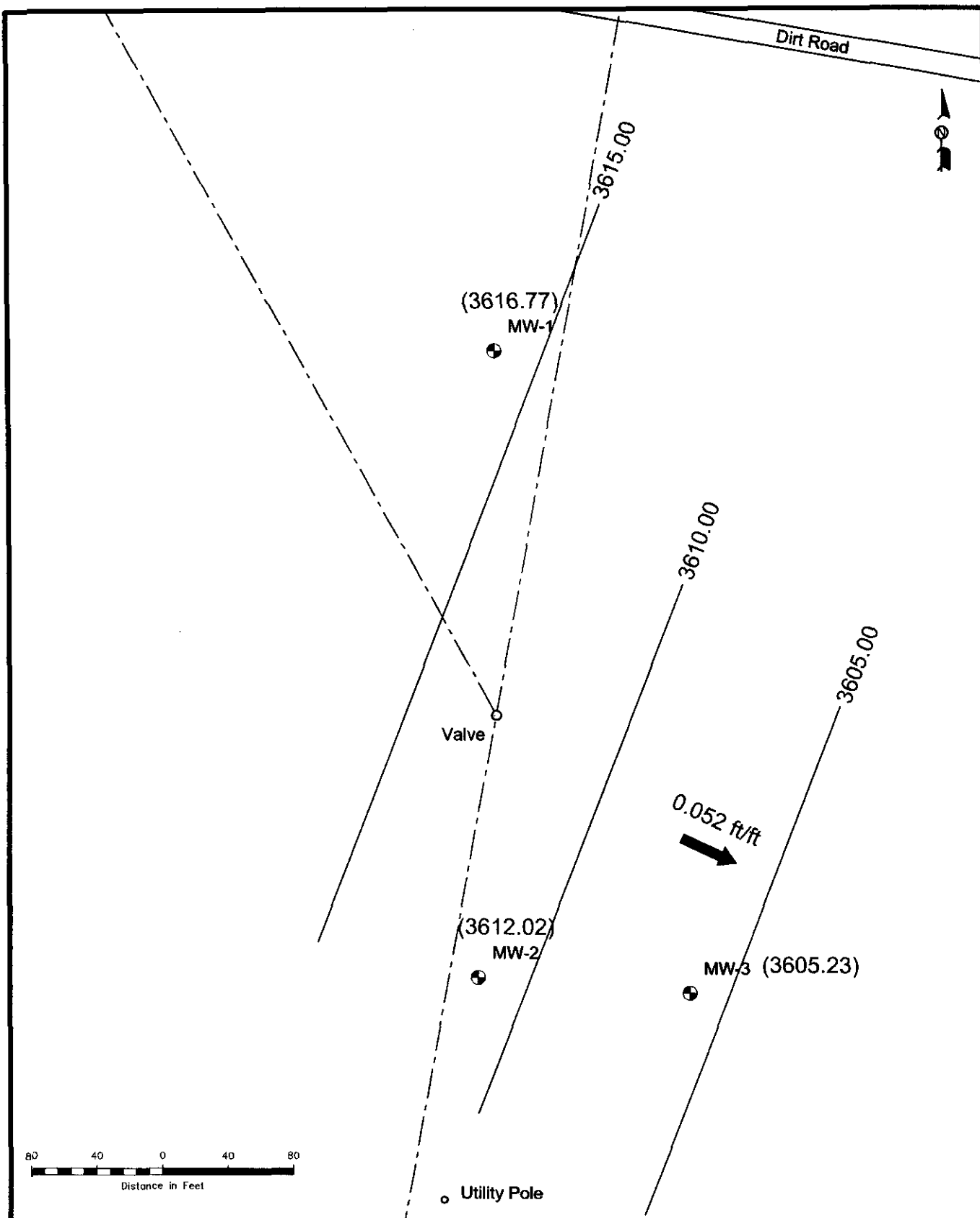
Figure 1  
Site Location Map



Scale: NTS  
Prep By: SJ  
Checked By: RE  
February 24, 2002  
ETGI Project # E02087

EOTT Energy Corp.  
TNM 98-S01  
Lea County, NM

NW 1/4 NW 1/4 Sec. 20, T19S, R37E



LEGEND: NW 1/4, NW 1/4 Sec. 20 T19S, R37E

- ⊕ Monitor Well Location
- Groundwater Gradient Line
- (3543.52) Groundwater Elevation In Feet

Figure 2  
Site Groundwater Gradient  
Map (12/4/00)

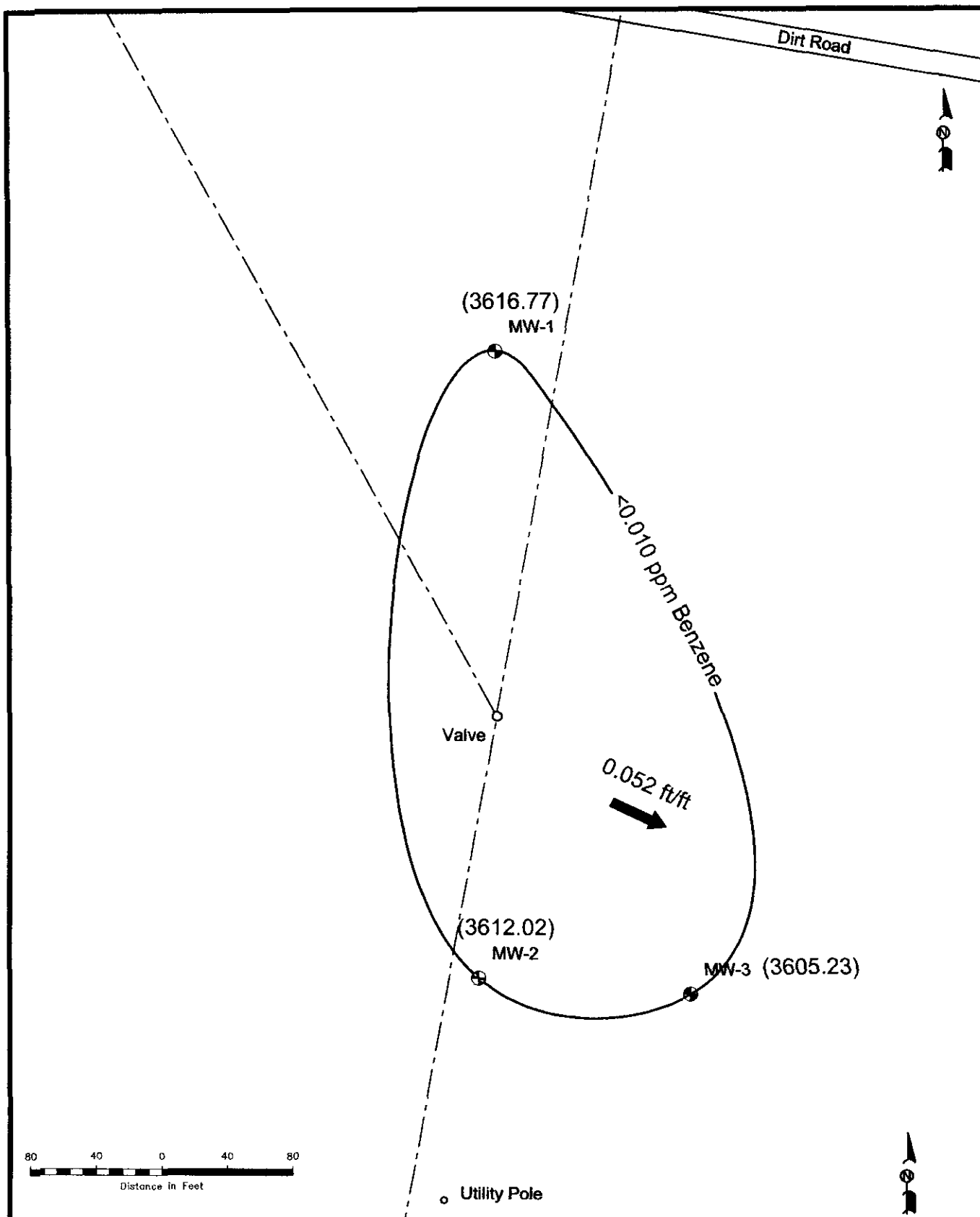
EOTT Energy Corp.  
TNM 98S-01  
Lea County, NM



Environmental Technology  
Group, Inc.

Scale: 1" = 80'	Prep By: JDJ	Checked By: CR
December 4, 2000	ETGI Project # EOT2067C	





LEGEND: NW 1/4, NW 1/4 Sec. 20 T19S, R37E



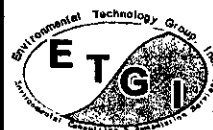
Monitor Well Location

(3543.52)

Groundwater Gradient Line

Groundwater Elevation In Feet

Figure 3  
NMOCD Site Map  
12/4/00 Data  
EOTT Energy Corp.  
TNM 98S-01  
Lea County, NM



Environmental Technology  
Group, Inc.

Scale: 1" = 80'	Prep By: JDJ	Checked By: CR
December 4, 2000	ETGI Project # EOT2067C	

## TABLES

TABLE 1

## GROUNDWATER ELEVATION TABLE

EOTT ENERGY, LLC  
 TNM 98-S01  
 LEA COUNTY, NEW MEXICO  
 ETGI PROJECT # EO 2067

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUND WATER ELEVATION
MW - 1	05/13/99	3,634.38	-	17.54	0.00	3,616.84
	08/25/99	3,634.38	-	17.60	0.00	3,616.78
	12/14/99	3,634.38	-	17.90	0.00	3,616.48
	03/28/00	3,634.38	-	17.84	0.00	3,616.54
	06/20/00	3,634.38	-	17.76	0.00	3,616.62
	08/30/00	3,634.38	-	17.46	0.00	3,616.92
	12/04/00	3,634.38	-	17.61	0.00	3,616.77
MW - 2	05/13/99	3,633.96	-	21.81	0.00	3,612.15
	08/25/99	3,633.96	-	21.82	0.00	3,612.14
	12/14/99	3,633.96	-	22.21	0.00	3,611.75
	03/28/00	3,633.96	-	22.05	0.00	3,611.91
	06/20/00	3,633.96	-	21.91	0.00	3,612.05
	08/30/00	3,633.96	-	21.81	0.00	3,612.15
	12/04/00	3,633.96	-	21.94	0.00	3,612.02
MW - 3	05/13/99	3,631.79	-	26.33	0.00	3,605.46
	08/25/99	3,631.79	-	26.57	0.00	3,605.22
	12/14/99	3,631.79	-	26.81	0.00	3,604.98
	03/28/00	3,631.79	-	26.80	0.00	3,604.99
	06/20/00	3,631.79	-	26.78	0.00	3,605.01
	08/30/00	3,631.79	-	26.36	0.00	3,605.43
	12/04/00	3,631.79	-	26.56	0.00	3,605.23

**TABLE 2**  
**GROUNDWATER CHEMISTRY**  
**EOTT ENERGY, LLC**  
**TNM 98-SO1**  
**LEA COUNTY, NEW MEXICO**  
**ETGI PROJECT #EO 2067**

*All concentrations are in mg/L*

SAMPLE LOCATION	SAMPLE DATE	SW 846-8021B, 5030			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW - 1	01/28/99	<0.001	<0.001	<0.001	<0.002
	08/25/99	<0.001	<0.001	<0.001	<0.001
	12/14/99	<0.001	<0.001	<0.001	<0.001
	03/28/00	0.001	<0.001	<0.001	<0.001
	06/20/00	<0.001	<0.001	<0.001	<0.001
	08/30/00	<0.001	<0.001	<0.001	<0.001
	12/04/00	<0.001	<0.001	<0.001	<0.001
MW - 2	01/28/99	<0.001	<0.001	<0.001	<0.002
	08/25/99	<0.001	<0.001	<0.001	<0.001
	12/14/98	<0.001	<0.001	<0.001	<0.001
	03/28/00	<0.001	<0.001	<0.001	<0.001
	06/20/00	<0.001	<0.001	<0.001	<0.001
	08/30/00	<0.001	<0.001	<0.001	<0.001
	12/04/00	0.001	<0.001	<0.001	<0.001
MW - 3	01/28/99	0.002	<0.001	<0.001	<0.002
	08/25/99	0.007	0.001	0.002	0.003
	12/14/99	0.002	0.002	0.002	0.006
	03/28/00	<0.001	<0.001	0.001	0.001
	06/20/00	<0.001	0.001	<0.001	<0.001
	08/30/00	0.003	<0.001	<0.001	<0.001
	12/04/00	<0.001	0.001	<0.001	<0.001
EB - 1	08/30/00	<0.001	<0.001	<0.001	<0.001
	12/04/00	<0.001	<0.001	<0.001	<0.001

**Appendix A**  
**Laboratory Reports**

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: MR. JESSE TAYLOR  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 915-520-4310  
FAX: 505-392-3760


SampleType: Water  
Sample Condition: Intact/ Iced/HCl  
Project #: EOT 1015C  
Project Name: TNM 98-501  
Project Location: Monument, N.M.

Sampling Date: 03/28/00  
Receiving Date: 03/28/00  
Analysis Date: 3/28 & 3/29/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
24390	MW 1	0.001	<0.001	<0.001	<0.001	<0.001
24391	MW 2	<0.001	<0.001	<0.001	<0.001	<0.001
24392	MW 3	<0.001	<0.001	0.001	0.001	<0.001

% IA	97	87	91	100	87
% EA	97	87	87	94	85
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030



Raland K. Tuttle

3-30-00

Date

## CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Co. 113

REMARKS	
Mail Reports: K. Dutton	
Insects: Lemmon Forest 105 m	

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: MR. JESSE TAYLOR  
2540 MARLAND  
HOBBS, N.M. 88240  
FAX: 505-397-4701  
FAX: 915-520-4310

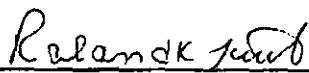
Sample Type: Water  
Sample Condition: Intact/ Iced/ HCl/ 30 deg. F  
Project #: EOT 2015C  
Project Name: TNM 98-S01  
Project Location: Lea County, N.M.

Sampling Date: 06/20/00  
Receiving Date: 06/23/00  
Analysis Date: 06/27/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
27352	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001
27353	MW 2	<0.001	<0.001	<0.001	<0.001	<0.001
27354	MW 3	<0.001	0.001	<0.001	<0.001	<0.001

% IA	96	91	92	100	93
% EA	98	96	96	107	97
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030

  
Raland K. Tuttle

6-29-00  
Date





# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: BETH ALDRICH  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 915-520-4310

SampleType: Water  
Sample Condition: Intact/ Iced/ HCl/ 30 deg. F  
Project #: EOT 2067C  
Project Name: TNM 98-S01  
Project Location: Monument, N.M.

Sampling Date: 08/30/00  
Receiving Date: 09/01/00  
Analysis Date: 09/05/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L	TOTAL BTEX mg/L
30307	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
30308	MW 2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
30309	MW 3	0.003	<0.001	<0.001	<0.001	<0.001	0.003
30310	EB 1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

% IA	103	100	103	106	99
% EA	104	104	106	110	102
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030

  
Roland K. Tuttle

9-6-00  
Date

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

## ANALYSIS REQUEST

(Circle or Specify Method No.)

002 215

**For Use On EOTT ENERGY CORP. Projects Only**

**EOTT ENERGY CORP.**  
 5805 East Business 20  
 Midland, TX 79702  
 Tel (915) 687-3400  
 Fax (915) 582-2781

**2540 West Marland**  
 Hobbs, NM 88242  
 Tel (505) 397-4882  
 Fax (505) 397-4701

**4600 West Wall**  
 Midland, TX 79703  
 Tel (915) 522-1139  
 Fax (915) 520-4310

Project Manager: <u>BEN ALDRICH</u>		Project Number: <u>EOT 2067C</u>	
Project Name: <u>WAL 98-301</u>		Sampler Signature: <u>[Signature]</u>	
Project Location: <u>MIDLAND, NM</u>			

LAB # (Lab Use Only)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATION METHOD				SAMPLING		
				WATER	SOIL	AIR	SLUDGE	HCL	HNO <sub>3</sub>	NAHSO <sub>4</sub>	ICE	NONE	DATE	TIME
30307	MW 1	2	VX	X				X					8:30	12:42
30308	MW 2													12:21
30309	MW 3													13:04
30310	EB 1													13:15

Relinquished by: <u>[Signature]</u>	Date: <u>9-1-00</u>	Time: <u>2:40</u>	Received by: <u>[Signature]</u>	Date: <u>9-1-00</u>	Time: <u>17:05</u>
Relinquished by: <u>[Signature]</u>	Date: <u>9-1-00</u>	Time: <u>17:05</u>	Received at Lab by: <u>[Signature]</u>	Date: <u>9-1-00</u>	Time: <u>17:05</u>

REMARKS: 30°F  
FBI Results: Hobbs Office  
MAR Results: EOTT  
INVOICE: EOTT

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: BETH ALDRICH  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 915-520-4310  
FAX: 505-397-4701

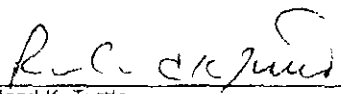
Sample Type: Water  
Sample Condition: Intact/ Iced/ HCl/ -2.0 deg. C  
Project #: EOT 2067C  
Project Name: TNM 98-S01  
Project Location: Monument, N.M.

Sampling Date: 12/04/00  
Receiving Date: 12/09/00  
Analysis Date: 12/09/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
35151	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001
35152	MW 2	0.001	<0.001	<0.001	<0.001	<0.001
35153	MW 3	<0.001	0.001	<0.001	<0.001	<0.001
35154	EB 1	<0.001	<0.001	<0.001	<0.001	<0.001

%IA	102	105	104	111	104
%EA	94	100	98	104	100
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8021B, 5030

  
Raland K. Tuttle

12-12-00  
Date

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST  
(Circle or Specify Method No.)

For Use On **EOTT ENERGY CORP.** Projects Only

**Environmental Technology Group, Inc.**  
4600 West Wall  
Midland, TX 79703  
Tel (915) 522-1139  
Fax (915) 520-4310

**BOTT ENERGY CORP.**  
5805 East Marland  
Midland, TX 79702  
Tel (915) 687-3400  
Fax (915) 552-2781

Project Manager: <b>BETH ALDRICH</b>		Project Number: <b>EOT 2067C</b>	
Project Name: <b>TNM 98-SOI</b>		Sampler Signature: <i>[Signature]</i>	
Project Location: <b>MONUMENT NM</b>			

LAB # (Lab Use Only)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATION METHOD				SAMPLING	
				WATER	SOIL	AIR	SLUDGE	HCL	HNO <sub>3</sub>	NAHSO <sub>4</sub>	ICE	NONE	DATE
35151	MW 1	2	✓	✓				✓				12-4	1417
35152	MW 2	✓	✓					✓				1400	
35153	MW 3	✓	✓					✓				1435	
35154	EB 1	✓	✓					✓				1500	

TPH 418 / TX 1005  
TPH 8013M GRO/DRO  
PAH B270C (B100 New Mexico only)  
Total Metals Ag As Ba Cd Cr Pb Se Hg 60108/7470  
TCLP Metals Ag As Ba Cd Cr Pb Se Hg  
TCLP Volatiles  
TCLP Semi Volatiles  
Volatiles 8260B  
Semi Volatiles 8270C  
TDS 160.1  
Cations/Anions 375.4/325.3

REMARKS:  
FAY Results: H0885 REC -2.0°C  
MNL Results: EOTT  
INVOICE: EOTT  
LABELED INM 98-02 ON SAMPLES, SHOWING BE TNM 98601

Relinquished by: <i>[Signature]</i>	Date: 12-30-04	Time: 1500	Received by: <i>[Signature]</i>	Date: 12-30-04	Time: 12:30
Relinquished by: <i>[Signature]</i>	Date: 12-30-04	Time: 12:30	Received at Lab by: <i>[Signature]</i>	Date: 12-30-04	Time: 12:30

• 11/5

**ANNUAL MONITORING REPORT**

**EOTT PIPELINE COMPANY  
TNM 98-S01  
LEA COUNTY, NEW MEXICO**

112 -97

**RECEIVED**

**MAY 09 2001**

**PREPARED FOR:**

**ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION**

**EOTT PIPELINE COMPANY  
5805 EAST HIGHWAY 80  
MIDLAND, TEXAS 79701**

**PREPARED BY:**

**ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
2540 WEST MARLAND  
HOBBS, NEW MEXICO 88240**

**April 2001**

## TABLE OF CONTENTS

INTRODUCTION

FIELD ACTIVITIES

GROUND WATER GRADIENT

LABORATORY RESULTS

SUMMARY

### FIGURES

Figure 1 – Site Location Map

Figure 2 – Site Ground Water Gradient Map

### TABLES

Table 1 – Ground Water Elevation

Table 2 – Ground Water Chemistry

### APPENDICES

Appendix A – Laboratory Reports

## **INTRODUCTION**

Environmental Technology Group, Inc. (ETGI), on behalf of EOTT Energy Corp. (EOTT), prepared this annual report in compliance with the New Mexico Oil Conservation Division (OCD) letter of May 1998, requiring submittal of an annual report by April 1 of each year. The report presents the results of the quarterly ground water monitoring events only. For reference, the Site Location Map is provided as Figure 1.

Ground water monitoring was conducted during four quarterly events in calendar year 2000 to assess the levels and extent of dissolved phase constituents. The ground water monitoring events consisted of measuring static water levels in the monitoring wells, and purging and sampling of each well exhibiting sufficient recharge.

## **FIELD ACTIVITIES**

The site monitoring wells were gauged and sampled on March 28, June 20, August 30, and December 4, 2000. During each sampling event, the monitoring wells, designated to be sampled, were purged of approximately 3 well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos Pump. Ground water was allowed to recharge and samples were obtained using disposable Teflon samplers. Water samples were stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a polystyrene tank and disposed of by Pate Trucking, Hobbs, New Mexico, utilizing a licensed disposal facility (OCD AO SWD-730).

## **GROUND WATER GRADIENT**

Locations of the monitoring wells and the inferred ground water gradient, as measured on December 4, 2000, are depicted on Figure 2, the Site Ground Water Gradient Map. The ground water elevation data are provided as Table 1. Ground water elevation contours, generated from the final quarterly event of calendar year 2000 water level measurements, indicated a general gradient of approximately 0.049 ft/ft to the southeast as measured between ground water monitoring wells MW-2 and MW-3. The depth to ground water, as measured from the top of the well casing, ranged between 17.46 to 26.80 feet for the shallow alluvial aquifer.

## **LABORATORY RESULTS**

Ground water samples collected during the sampling events were hand delivered to Environmental Laboratory of Texas, Midland, Texas for determination of benzene, toluene, ethyl benzene and total xylenes (BTEX) concentrations by EPA Method SW846-8021B. The ground water chemistry data are provided as Table 2 and the Laboratory Reports are provided as Appendix A.

Laboratory results for all of the site ground water samples, obtained during the calendar year 2000 monitoring period, indicated that Benzene and BTEX concentrations were below regulatory standards for all of the on-site monitoring wells.



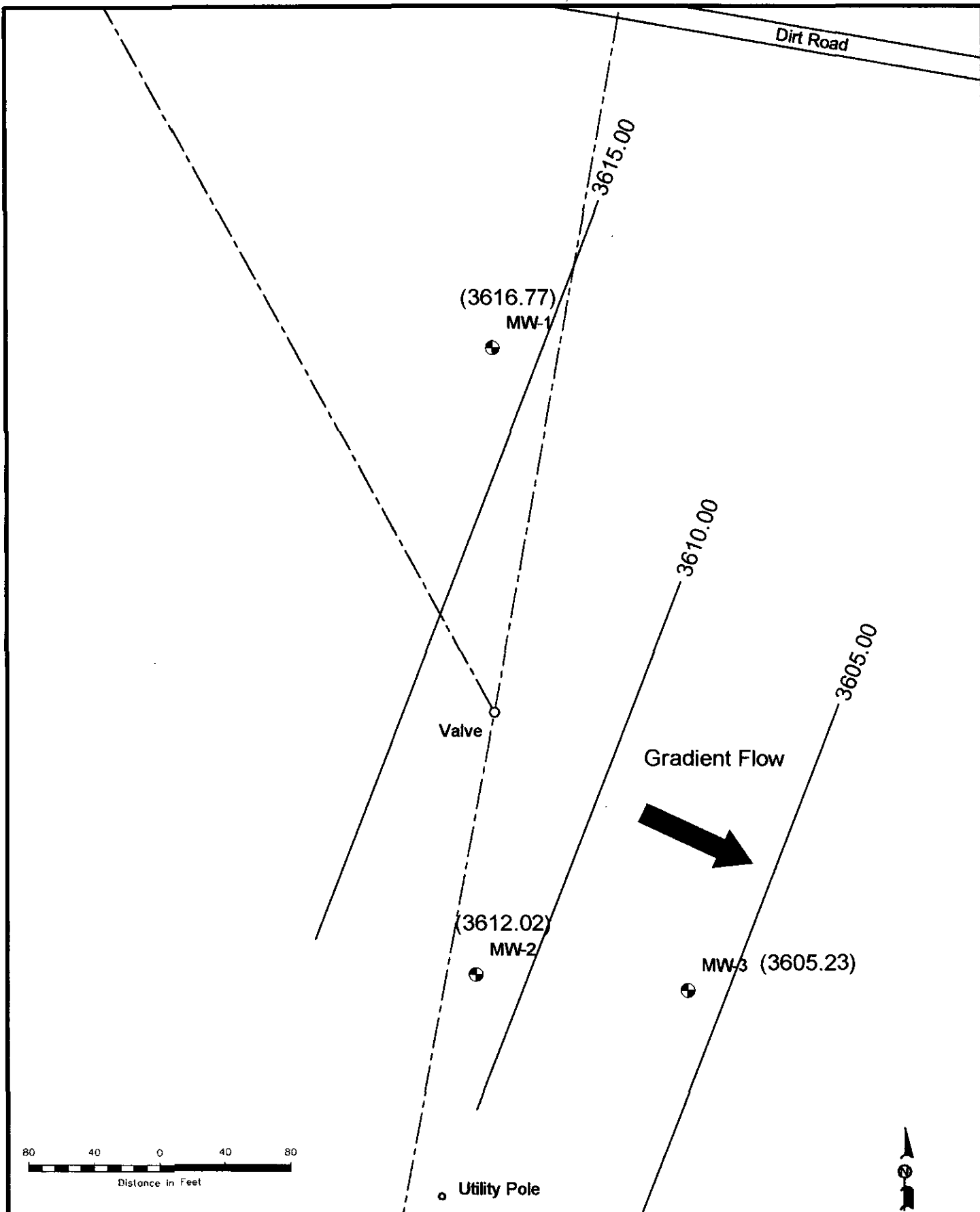
## **SUMMARY**

This report presents the results of monitoring activities for the annual monitoring period of calendar year 2000. Ground water elevation contours, generated from the final quarterly event of calendar year 2000 water level measurements, indicated a general gradient of approximately 0.049 ft/ft to the southeast as measured between ground water monitoring wells MW-2 and MW-3.

Laboratory results for all of the site ground water samples, obtained during the calendar year 2000 monitoring period, indicated that Benzene and BTEX concentrations were below regulatory standards for all of the on-site monitoring wells. An additional ground water monitoring well is scheduled to be installed at the release point in response to the OCD letter dated February 8, 2001. Contingent upon the laboratory results of the proposed monitoring well, a site closure request will be submitted to the OCD in the near future.

## FIGURES





**LEGEND:**

- ⊕ Monitor Well Location
- Groundwater Gradient Line
- (3543 52) Groundwater Elevation in Feet

Figure 2  
Site Groundwater Gradient  
Map (12/4/00)  
EOTT Energy Corp.  
TNM 98S-01  
Lea County, NM



**Environmental Technology  
Group, Inc.**

Scale: 1" = 80' Prep By: JDJ Checked By: CR  
December 4, 2000 ETGI Project # EOT2067C

**TABLES**

**TABLE 1****GROUND WATER ELEVATION TABLE  
ANNUAL REPORT****EOTT ENERGY CORPORATION  
TNM 98-S01  
LEA COUNTY, NEW MEXICO  
ETGI PROJECT # EOT2067C**

<b>WELL NUMBER</b>	<b>DATE MEASURED</b>	<b>CASING WELL ELEVATION</b>	<b>DEPTH TO PRODUCT</b>	<b>DEPTH TO WATER</b>	<b>PSH THICKNESS</b>	<b>CORRECTED GROUND WATER ELEVATION</b>
MW - 1	03/28/00	3,634.38	-	17.84	0.00	3,616.54
	06/20/00	3,634.38	-	17.76	0.00	3,616.62
	08/30/00	3,634.38	-	17.46	0.00	3,616.92
	12/04/00	3,634.38	-	17.61	0.00	3,616.77
MW - 2	03/28/00	3,633.96	-	22.05	0.00	3,611.91
	06/20/00	3,633.96	-	21.91	0.00	3,612.05
	08/30/00	3,633.96	-	21.81	0.00	3,612.15
	12/04/00	3,633.96	-	21.94	0.00	3,612.02
MW - 3	03/28/00	3,631.79	-	26.80	0.00	3,604.99
	06/20/00	3,631.79	-	26.78	0.00	3,605.01
	08/30/00	3,631.79	-	26.36	0.00	3,605.43
	12/04/00	3,631.79	-	26.56	0.00	3,605.23

TABLE 2

**GROUND WATER CHEMISTRY  
ANNUAL REPORT**

**EOTT ENERGY CORPORATION  
TNM 98-SO1  
LEA COUNTY, NEW MEXICO  
ETGI PROJECT # EOT 2067C**

*All concentrations are in mg/L*

SAMPLE LOCATION	SAMPLE DATE	SW 846-8021B, 5030				
		BENZENE	TOLUENE	ETHYL-BENZENE	M,P-XYLENES	O-XYLENES
MW - 1	03/28/00	0.001	<0.001	<0.001	<0.001	<0.001
	06/20/00	<0.001	<0.001	<0.001	<0.001	<0.001
	08/30/00	<0.001	<0.001	<0.001	<0.001	<0.001
	12/04/00	<0.001	<0.001	<0.001	<0.001	<0.001
MW - 2	03/28/00	<0.001	<0.001	<0.001	<0.001	<0.001
	06/20/00	<0.001	<0.001	<0.001	<0.001	<0.001
	08/30/00	<0.001	<0.001	<0.001	<0.001	<0.001
	12/04/00	0.001	<0.001	<0.001	<0.001	<0.001
MW - 3	03/28/00	<0.001	<0.001	0.001	0.001	<0.001
	06/20/00	<0.001	0.001	<0.001	<0.001	<0.001
	08/30/00	0.003	<0.001	<0.001	<0.001	<0.001
	12/04/00	<0.001	0.001	<0.001	<0.001	<0.001

## APPENDIX



# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: MR. JESSE TAYLOR  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 915-520-4310  
FAX: 505-392-3760


SampleType: Water  
Sample Condition: Intact/ Iced/HCl  
Project #: EOT 1015C  
Project Name: TNM 98-501  
Project Location: Monument , N.M.

Sampling Date: 03/28/00  
Receiving Date: 03/28/00  
Analysis Date: 3/28 & 3/29/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
24390	MW 1	0.001	<0.001	<0.001	<0.001	<0.001
24391	MW 2	<0.001	<0.001	<0.001	<0.001	<0.001
24392	MW 3	<0.001	<0.001	0.001	0.001	<0.001

% IA	97	87	91	100	87
% EA	97	87	87	94	85
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B.5030



Raland K. Turtle

3-30-00

Date

## CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

CoC 113

REMARKS  
MAIL REPORT: W. Dutton  
Tide: Low Water 10.5 m

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: MR. JESSE TAYLOR  
2540 MARLAND  
HOBBS, N.M. 88240  
FAX: 505-397-4701  
FAX: 915-520-4310


Sample Type: Water  
Sample Condition: Intact/ Iced/ HCl/ 30 deg. F  
Project #: EOT 2015C  
Project Name: TNM 98-S01  
Project Location: Lea County, N.M.

Sampling Date: 06/20/00  
Receiving Date: 06/23/00  
Analysis Date: 06/27/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
27352	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001
27353	MW 2	<0.001	<0.001	<0.001	<0.001	<0.001
27354	MW 3	<0.001	0.001	<0.001	<0.001	<0.001

% IA	96	91	92	100	93
% EA	98	96	96	107	97
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-80218,5030

  
Raland K. Tuttle

6-29-00  
Date

Environmental Lab of Texas, Inc. 12600 West I-20 East Odessa, Texas 79763  
 (915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST  
 CC# 169

Project Manager: **g TAYLOR** Phone #: (505) 397-4882  
 Company Name & Address: **ETGI, 2540 W. Maryland, Hobbs, NM 88240**  
 Project #: **EOT 2015C** Project Name: **IN 98-801**  
 Project Location: **LEA CITY NM** Sample Signature: *[Signature]*

ANALYSIS REQUEST  
 1 of 1

TCLP Metals Ag As Ba Cd Cr Pb Hg Se	
TCLP Volatiles	
TCLP Semi Volatiles	
TDS	
RCI	

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX						PRESERVATIVE METHOD				SAMPLING	
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER	DATE	TIME
27352	HW-1	2	V	X					X		X			6/20/00	1050
27353	HW-2	2	V	X					X		X			6/20/00	1025
27354	HW-3	2	V	X					X		X			6/20/00	1110

Relinquished by: <i>[Signature]</i>	Date: 23 Jun 00	Time: 1430	Received by: <i>[Signature]</i>	REMARKS: FR: (505) 397-4741
Relinquished by: <i>[Signature]</i>	Date:	Time:	Received by:	ATTN: KD
Relinquished by:	Date:	Time:	Received by Laboratory:	INVOICE: EOTT

308

# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: BETH ALDRICH  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 915-520-4310

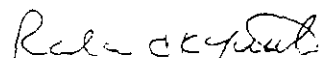
Sample Type: Water  
Sample Condition: Intact/ Iced/ HCl/ 30 deg. F  
Project #: EOT 2067C  
Project Name: TNM 98-S01  
Project Location: Monument, N.M.

Sampling Date: 08/30/00  
Receiving Date: 09/01/00  
Analysis Date: 09/05/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L	TOTAL BTX mg/L
30307	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
30308	MW 2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
30309	MW 3	0.003	<0.001	<0.001	<0.001	<0.001	0.003
30310	EB 1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

% IA	103	100	103	106	99
% EA	104	104	106	110	102
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B, 5030

  
Roland K. Tuttle

9-6-00  
Date



# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: BETH ALDRICH  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 915-520-4310  
FAX: 505-391-4701

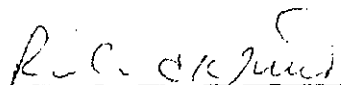
Sample Type: Water  
Sample Condition: Intact/ Iced/ HCl/ -2.0 deg. C  
Project #: EOT 2067C  
Project Name: TNM 98-S01  
Project Location: Monument, N.M.

Sampling Date: 12/04/00  
Receiving Date: 12/09/00  
Analysis Date: 12/09/00

ELT #	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
35151	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001
35152	MW 2	0.001	<0.001	<0.001	<0.001	<0.001
35153	MW 3	<0.001	0.001	<0.001	<0.001	<0.001
35154	ES 1	<0.001	<0.001	<0.001	<0.001	<0.001

%IA	102	105	104	111	104
%EA	94	100	98	104	100
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8021B, 5030

  
Raland K. Tuttle

12-12-00  
Date

**For Use On EOTT ENERGY CORP. Projects Only**

**ET**  
Environmental Technology Group, Inc.  
Midland, TX 79703  
Tel (915) 522-1139  
Fax (915) 520-4310

**EOTT ENERGY CORP.**  
2540 West Marland  
Hobbs, NM 88242  
Tel (505) 397-4882  
Fax (505) 397-4701

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**ANALYSIS REQUEST**  
(Circle or Specify Method No.)

**Project Manager:** BETH ALDRICH

**Project Name:** TNM 98-SOI

**Project Location:** MONUMENT NM

**Project Number:** EOT 2067C

**Sampler Signature:** [Signature]

LAB # (Lab Use Only)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATION METHOD				SAMPLING		
				WATER	SOIL	AIR	SLUDGE	HCL	HNO <sub>3</sub>	NaHSO <sub>4</sub>	ICE	NONE	DATE	TIME
	MW 1	2	✓	✓				✓					12-4	1417
	MW 2		✓	✓				✓					1400	1400
	MW 3		✓	✓				✓					1435	1435
	EB 1		✓	✓				✓					1500	1500

**Relinquished by:** [Signature] **Date:** 12-3-00 **Time:** 1500

**Relinquished by:** [Signature] **Date:** 12-9-00 **Time:** 1230

**Received by:** [Signature] **Date:** 12-9-00 **Time:** 1230

**Received at Lab by:** [Signature] **Date:** 12-9-00 **Time:** 1230

**REMARKS:**

FAX RESULTS: H0885 REC -2.0°C

MAIL RESULTS: EOTT

INVOICE: EOTT

LABELLED TNM 98-02 ON SAMPLES, SHOWN



**ANNUAL MONITORING REPORT**

**EOTT PIPELINE COMPANY  
TNM 98-S01  
LEA COUNTY, NEW MEXICO**

**PREPARED FOR:**

**EOTT PIPELINE COMPANY  
P. O. BOX  
MIDLAND, TEXAS 79704**

**Ms. Lennah Frost**

**PREPARED BY:**

**ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
4600 WEST WALL STREET  
MIDLAND, TEXAS 79704**

**March 2000**

## **TABLE OF CONTENTS**

### **INTRODUCTION**

### **FIELD ACTIVITIES**

### **GROUND WATER GRADIENT**

### **LABORATORY RESULTS**

### **SUMMARY**

### **FIGURES**

**Figure 1 – Site Location Map**

**Figure 2 – Inferred Ground Water Gradient Map**

### **TABLES**

**Table 1 – Ground Water Elevation**

**Table 2 – Ground Water Chemistry**

### **APPENDICES**

**Appendix A – Laboratory Reports**

## **INTRODUCTION**

Environmental Technology Group, Inc. (ETGI), on behalf of EOTT Energy Corp. (EOTT), prepared this annual report in compliance with the New Mexico Oil Conservation Division (OCD) letter of May 1998, requiring submittal of an annual report by April 1 of each year. The report presents the results of the quarterly ground water monitoring events only. For reference, a site location map is provided as Figure 1.

Ground water monitoring was conducted during four quarterly events in 1999 to assess the levels and extent of dissolved phase and free phase petroleum hydrocarbon constituents. The groundwater monitoring events consisted of measuring static water levels in the monitoring wells, checking for the presence of phase-separated hydrocarbons (PSH), and purging and sampling of each well exhibiting sufficient recharge. Monitoring wells containing measurable levels of PSH were not sampled.

## **FIELD ACTIVITIES**

The site monitoring wells were gauged and sampled on January 28, May 13, August 25, and December 14, 1999. During each sampling event, the monitoring wells, designated to be sampled, were purged of approximately 3 well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos Pump. Groundwater was allowed to recharge and samples were obtained using disposable Teflon samplers. Monitoring wells with a measurable presence of PSH were not sampled. Water samples were stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a polystyrene tank and disposed of by Pate Trucking, Hobbs, New Mexico, utilizing a licensed disposal facility (OCD AO SWD-730).

## **GROUNDWATER GRADIENT**

Locations of the monitoring wells and the inferred ground water gradient, as measured on December 14, 1999, are depicted on Figure 2. The ground water elevation data are provided as Table 1. Groundwater elevation contours, generated from the final quarterly event of 1999 water level measurements, indicated a general gradient of approximately 0.045 ft/ft to the southeast. The depth to groundwater, as measured from the top of the well casing, ranged between 17.54 to 26.82 feet for the shallow alluvial aquifer. There was no PSH detected in any of the monitoring wells.

## **LABORATORY RESULTS**

Ground water samples obtained during the first and second sampling events were mailed to Xenco Laboratories in San Antonio, Texas. Ground water samples collected during the third and fourth event were hand delivered to Environmental Laboratory of Texas, Midland, Texas for determination of benzene, toluene, ethyl benzene and total xylenes (BTEx) concentrations by EPA Method SW846-8020 and 8021B. The ground water chemistry data are provided as Table 2 and the Laboratory Reports are provided as Appendix A.

Laboratory results for all of the site ground water samples, obtained during the 1999 annual period, indicated that BTEX concentrations were below detection limits for monitoring wells MW-1 and MW-2. Benzene concentrations in samples collected from monitoring well MW-3 ranged from below detection limits for the first sampling event to 0.002 ml/L to 0.013 ml/L for the subsequent sampling events.

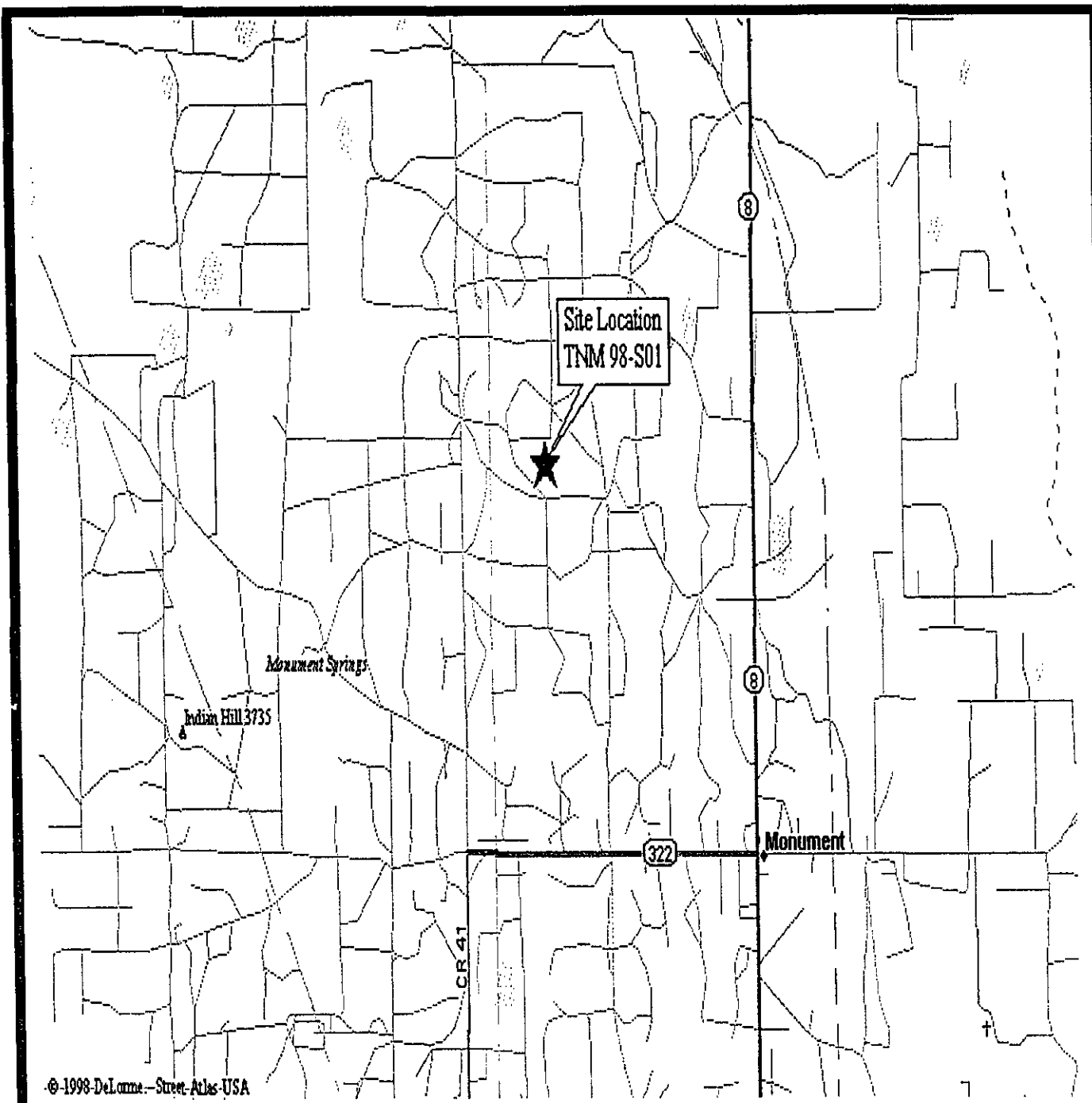
## **SUMMARY**

This report presents the results of monitoring activities for the annual monitoring period of calendar year 1999. No PSH was detected in the site well during the four monitoring events.

Laboratory results for all of the site ground water samples, obtained during the 1999 annual period, indicated that BTEX concentrations were below detection limits for monitoring wells MW-1 and MW-2. Benzene concentrations in samples collected from monitoring well MW-3 ranged from below detection limits for the first sampling event to 0.002 ml/L to 0.013 ml/L for the subsequent sampling events.

## FIGURES

9



# FIGURE 1

Not To Scale

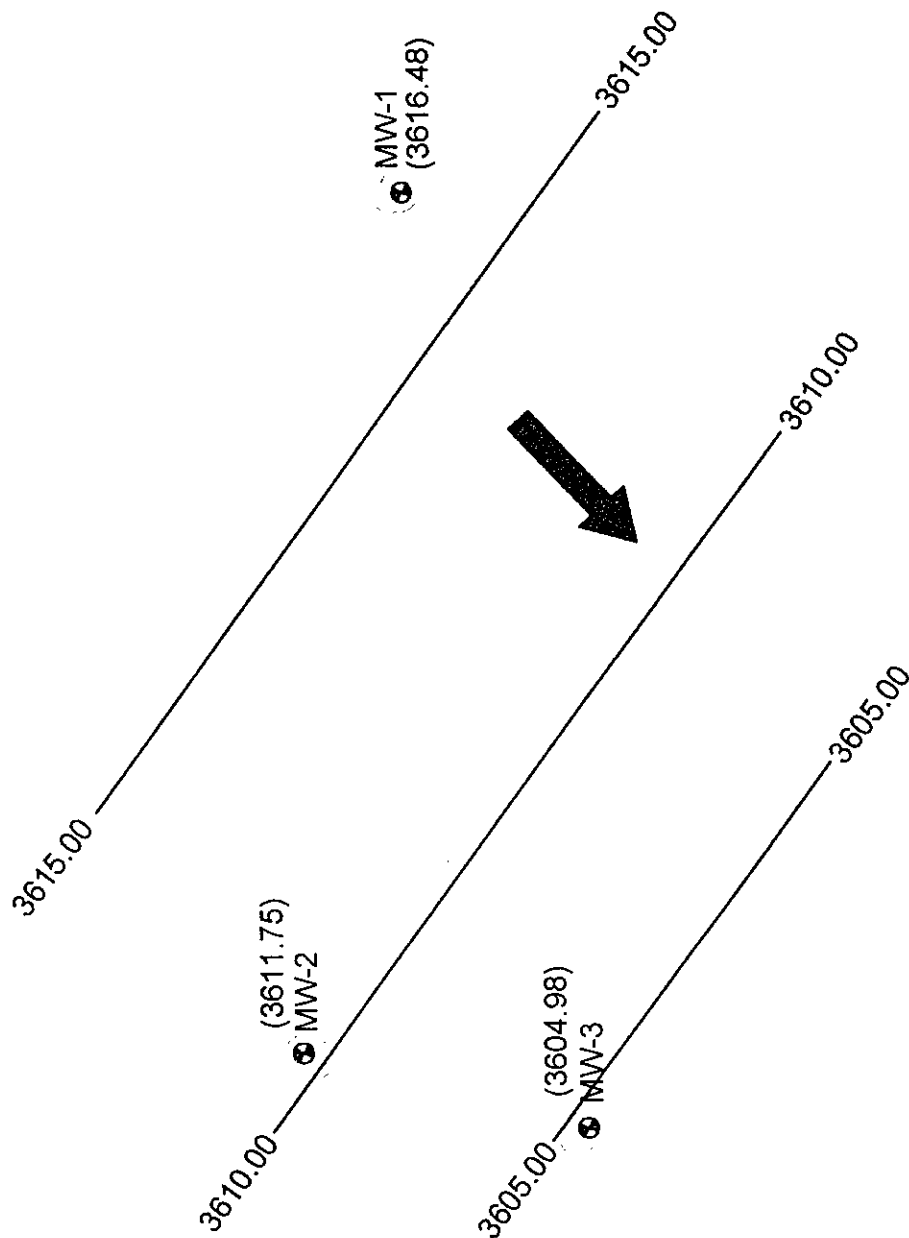
Site Location Map

EOTT Energy Corp.  
TNM 98-S01  
Lea County NM

Environmental  
Technology  
Group, Inc.

02 - 8 - 00 RS

ETGI Project # EOT 1015C

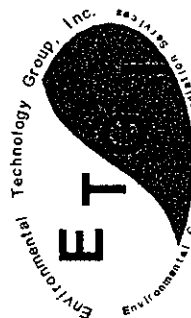


**LEGEND:**

- Monitoring Well Locations
- Ground Water Contour Lines

Figure 2  
Inferred Ground Water  
Contours 12/14/99

E.O.T.T. Energy  
98S-01  
Lea County, NM



**Environmental Technology  
Group, INC.**

Scale: 1" = 85'	Prep By: RS	Checked By: JT
January 31, 2000		ETGI Project # 1015C

## TABLES

2



**TABLE 1**  
**GROUNDWATER ELEVATION TABLE**  
**TNM 98-SO1**  
**LEA COUNTY, NM**  
**ETGI PROJECT# EOT1015C**

<b>WELL NUMBER</b>	<b>DATE MEASURED</b>	<b>CASING WELL ELEVATION</b>	<b>DEPTH TO PRODUCT</b>	<b>DEPTH TO WATER</b>	<b>PSH THICKNESS</b>	<b>CORRECTED GROUNDWATER ELEVATION</b>
MW-1	01/28/99	3,634.38	-	17.82	0.00	3,616.56
MW-1	05/13/99	3,634.38	-	17.54	0.00	3,616.84
MW-1	08/25/99	3,634.38	-	17.60	0.00	3,616.78
MW-1	12/14/99	3,634.38	-	17.90	0.00	3,616.48
MW-2	01/28/99	3,633.96	-	21.99	0.00	3,611.97
MW-2	05/13/99	3,633.96	-	21.81	0.00	3,612.15
MW-2	08/25/99	3,633.96	-	21.82	0.00	3,612.14
MW-2	12/14/99	3,633.96	-	22.21	0.00	3,611.75
MW-3	01/28/99	3,631.79	-	26.82	0.00	3,604.97
MW-3	05/13/99	3,631.79	-	26.33	0.00	3,605.46
MW-3	08/25/99	3,631.79	-	26.57	0.00	3,605.22
MW-3	12/14/99	3,631.79	-	26.81	0.00	3,604.98

**TABLE 2**  
**GROUND WATER CHEMISTRY**  
**TNM 98-S01**  
**LEA COUNTY, NEW MEXICO**  
**ETGI PROJECT # EOT1015C**

SAMPLE	SAMPLE DATE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	mp-XYLENE (mg/L)	o-XYLENE (mg/L)
MW-1	01/28/99	<0.001	<0.001	<0.001	<0.002	<0.001
MW-1	05/18/99	<0.001	<0.001	<0.001	<0.002	<0.001
MW-1	08-25-99	<0.001	<0.001	<0.001	<0.001	<0.001
MW-1	12/14/99	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	01/28/99	<0.001	<0.001	<0.001	<0.002	<0.001
MW-2	05/18/99	<0.001	<0.001	<0.001	<0.002	<0.001
MW-2	08-25-99	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	12/14/99	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	01/28/99	0.002	<0.001	<0.001	<0.002	<0.001
MW-3	05/18/99	<0.001	<0.001	<0.001	<0.002	<0.001
MW-3	08-25-99	0.007	0.001	0.002	0.001	0.002
MW-3	12/14/99	0.002	0.002	0.002	0.003	0.003

Methods: EPA SW 846-8020, 5030

## APPENDIX A

9

7



11381 Meadowglen Suite L  
Houston, Texas 77082-2647  
(281) 589-0692 Fax: (281) 589-0695  
Houston - Dallas - San Antonio - Latin America

February 3, 1999

Project Manager: Theresa Nix  
KEI Consultants, Inc.  
5309 Wurzbach Rd. Suite 100  
San Antonio, TX 78238

Reference: **XENCO Report No.: -90391**  
**Project Name: TNMPL TNM-98-501**  
**Project ID: 810004-1**  
**Project Address: Monument, NM**

Dear Theresa Nix:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with XENCO Chain of Custody Number -90391.N All results being reported to you apply only to the samples analyzed, properly identified with a Laboratory ID number. This letter documents the official transmission of the contents of the report and validates the information contained within.

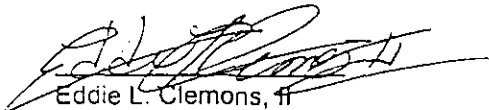
All the results for the quality control samples passed thorough examination. Also, all parameters for data reduction and validation checked satisfactorily. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 3 years in our archives and after that time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. -90391N will be filed for 60 days, and after that time they will be properly disposed of without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

XENCO operates under the A2LA guidelines. Our Quality System meets ISO/IEC Guide 25 requirements which is strictly implemented and enforced through our standard QA/QC procedures.

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Sincerely,



Eddie L. Clemons, Jr.  
QA/QC Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.*

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY!*



ANALYTICAL CHAIN OF CUSTODY REPORT  
CHRONOLOGY OF SAMPLES

KEI Consultants, Inc.

XENCO COC#: -90391

Project Name: TNMPL TNM-98-501

Date Received in Lab: Feb 1, 1999 10:00 by LY

Project ID: 810004-1

Project Manager: Theresa Nix

Project Location: Monument, NM

XENCO contact : Carlos Castro/Karen Olson

Date and Time									
Field ID	Lab. ID	Method Name	Method ID	Units	Turn Around	Sample Collected	Addition Requested	Extraction	Analysis
1 MW-1	90391-001	BTEX	SW-846	ppm	10 days	Jan 28, 1999 13:10		Feb 2, 1999 by HL	Feb 2, 1999 04:03 by HL
2 MW-2	90391-002	BTEX	SW-846	ppm	10 days	Jan 28, 1999 13:40		Feb 2, 1999 by HL	Feb 2, 1999 04:39 by HL
3 MW-3	90391-003	BTEX	SW-846	ppm	10 days	Jan 28, 1999 13:55		Feb 2, 1999 by HL	Feb 2, 1999 04:21 by HL



11381 Meadowglen Suite L  
Houston, Texas 77082-2647  
(281) 589-0692 Fax: (281) 589-0695  
Houston - Dallas - San Antonio - Latin America

May 20, 1999

Project Manager: Stan Grover  
KEI Consultants, Ltd.  
5309 Wurzbach Rd. Suite 100  
San Antonio, TX 78238

Reference: XENCO Report No.: -91941  
Project Name: EOTT  
Project ID: 810004-1-0  
Project Address: Lea County, NM

Dear Stan Grover:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with XENCO Chain of Custody Number -91941.v All results being reported to you apply only to the samples analyzed, properly identified with a Laboratory ID number. This letter documents the official transmission of the contents of the report and validates the information contained within.

All the results for the quality control samples passed thorough examination. Also, all parameters for data reduction and validation checked satisfactorily. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 3 years in our archives and after that time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. -91941v will be filed for 60 days, and after that time they will be properly disposed of without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

XENCO operates under the A2LA guidelines. Our Quality System meets ISO/IEC Guide 25 requirements which is strictly implemented and enforced through our standard QA/QC procedures.

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Sincerely,

Eddie L. Clemons, II  
QA/QC Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.*

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY!*



ANALYTICAL CHAIN CUSTODY REPORT  
CHRONOLOGY OF SAMPLES

KEI Consultants, Ltd.

XENCO COC#: -91941

Project Name: EOTT

Project ID: 81000-1-1-0

Project Manager: Stan Grover

Project Location: Lea County, NM

Date Received in Lab: May 14, 1999 09:45 by JO

XENCO contact : Carlos Castro/Debbie Simmons

Date and Time									
Field ID	Lab. ID	Method Name	Method ID	Units	Turn Around	Sample Collected	Addition Requested	Extraction	Analysis
1 MW-1	91941-001	BTEX	SW-846	ppm	7 days	May 13, 1999 11:45		May 18, 1999 by MGC	May 18, 1999 18:02 by MG
2 MW-2	91941-002	BTEX	SW-846	ppm	7 days	May 13, 1999 13:00		May 18, 1999 by MGC	May 18, 1999 18:24 by MG
3 MW-3	91941-003	BTEX	SW-846	ppm	7 days	May 13, 1999 12:30		May 19, 1999 by MGC	May 19, 1999 09:08 by MG

DATE: 28 Aug 99

JOB NO.: TMM 98-501

FIELD TECHNICIAN: KD

DATE:

[illegible]

ca: 408

COMMENTS: Do: neg/L

**DRUMS ON SITE:**

CARBON DRUM TRAILER: (yes/no)

DISCHARGE SAMPLE (time/date):

10



# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: MR. JESSE TAYLOR  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 915-520-4310

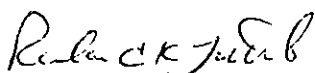
Sample Type: Water  
Sample Condition: Intact/ Iced/HCl  
Project #: TNM 98-S01  
Project Name: None Given  
Project Location: Lea County, N.M.

Sampling Date: 08/25/99  
Receiving Date: 08/27/99  
Analysis Date: 08/27/99

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
19608	MW-1	<0.001	<0.001	<0.001	<0.001	<0.001
19609	MW-2	<0.001	<0.001	<0.001	<0.001	<0.001
19610	MW-3	0.007	0.001	0.002	0.001	0.002

% IA	97	92	93	91	92
% EA	97	89	85	86	86
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8020.5030

  
Raland K. Tuttle

9-2-99  
Date




**KEI Consultants, Inc.**  
**Project Name: TNMPL TNM-98-501**Project ID: 810004-1  
Project Manager: Theresa Nix  
Project Location: Monument, NMDate Received in Lab : Feb 1, 1999 10:00  
Date Report Faxed: Feb 3, 1999**XENCO contact :** Carlos Castro/Karen Olson

<b>Analysis Requested</b>	Lab ID:	90391 001	90391 002	90391 003	
	Field ID:	MW-1	MW-2	MW-3	
	Depth:				
	Matrix:	Liquid	Liquid	Liquid	
	Sampled:	01/28/99 13:10	01/28/99 13:40	01/28/99 13:55	
BTEX	Analyzed:	02/02/99	02/02/99	02/02/99	
EPA 8021B	Units:	ppm R.L.	ppm R.L.	ppm R.L.	
Benzene		< 0.001 (0.001)	< 0.001 (0.001)	0.002 (0.001)	
Toluene		< 0.001 (0.001)	< 0.001 (0.001)	< 0.001 (0.001)	
Ethylbenzene		< 0.001 (0.001)	< 0.001 (0.001)	< 0.001 (0.001)	
m,p-Xylene		< 0.002 (0.002)	< 0.002 (0.002)	< 0.002 (0.002)	
o-Xylene		< 0.001 (0.001)	< 0.001 (0.001)	< 0.001 (0.001)	
Total BTEX		N.D.	N.D.	0.002	

This report summary, and the entire report it represents, has been made for the exclusive and confidential use of KEI Consultants, Inc..

The interpretations and results expressed through this analytical report represent the best judgment of XENCO Laboratories. Xenco Laboratories, however, assumes no responsibility and makes no warranty to the end use of the data hereby presented.

  
Eddie L. Clemons, II  
QA/QC Manager

**Certificate Of Quality Control for Batch : 19A25A54**

**SW- 346 5030/3021B RTEX**

Date Validated: Feb 2, 1999 16:00


Date Analyzed: Feb 1, 1999 21:44

Analyst: HL

Matrix: Liquid

BLANK SPIKE / BLANK SPIKE DUPLICATE AND RECOVERY												
Parameter	[A] Blank Result  ppm	[B] Blank Spike Result  ppm	[C] Blank Spike Duplicate Result  ppm	[D] Blank Spike Amount  ppm	[E]  Detection Limit  ppm	Blank Limit  Relative Difference  %	[F]	[G]	[H]	[I]	[J]  Blank Spike Recovery Range  %	Qualifier
							Spike Relative Difference  %	QC	Blank Spike Recovery	QC		
Benzene	< 0.0010	0.1030	0.1080	0.1000	0.0010	20.0	4.7	102.9	107.9	65-135		
Toluene	< 0.0010	0.1010	0.1080	0.1000	0.0010	20.0	6.7	100.9	107.9	65-135		
Ethylbenzene	< 0.0010	0.1000	0.1070	0.1000	0.0010	20.0	6.8	100.0	107.0	65-135		
m,p-Xylene	< 0.0020	0.2030	0.2160	0.2000	0.0020	20.0	6.2	101.5	108.0	65-135		
o-Xylene	< 0.0010	0.1030	0.1090	0.1000	0.0010	20.0	5.7	102.9	108.9	65-135		

Spike Relative Difference [F] =  $200 \cdot (B-C)/(B+C)$   
Blank Spike Recovery [G] =  $100 \cdot (B-A)/[D]$   
B.S.D. = Blank Spike Duplicate  
B.S.D. Recovery [H] =  $100 \cdot (C-A)/[D]$   
N.D. = Below detection limit or not detected  
All results are based on MDL and validated for QC purposes

  
Eddie L. Clemons, II  
QA/QC Manager



☐ 11381 Meadowglen, Suite L, Houston TX 77082 281-589-0692  
☒ 5309 Wurzbach Road, Suite 104, San Antonio, TX 78238 210-509-3334  
☐ 1076 Morrison Road, Suite D, Dallas, TX 75229 972-481-9999

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD  
On-Line Help & Technical Services at [XENCO.com](http://XENCO.com)

14563

Company COC No: 249 Work Order No:

Page / of /

Company <u>XENCO</u>		Lab Only: <u>90391-SA</u>		Lab Only Additions							
Project Name <u>THURMONT MONUMENT, NM</u>		Project ID <u>810004-1</u>		TAT: 5h 12h 20h 24h 48h 3d 5d 7d 14d 21d Standard TAT is 10 Working Days unless otherwise agreed in writing. But often reported in 5-7 Working Days							
Location <u>THURMONT MONUMENT, NM</u>		Project Director (PD) <u>THURMONT MONUMENT, NM</u>		Remarks							
Project Manager (PM) <u>THURMONT MONUMENT, NM</u>		Project Director (PD) <u>THURMONT MONUMENT, NM</u>									
Fax Results to <u>PM and / or</u>		Fax <u>(710) 680-3763</u>									
Invoice to <u>Accounting</u>		Include Invoice with Final Report Attn PM <input checked="" type="checkbox"/> Invoice must have a P.O. Bill to: <u>810004-1</u>									
Quote No. <u>810004-1</u>		P.O. No. <u>810004-1</u>									
Special DLs (RR I RR II DW QAPP See Lab PM Call Proj. PM)		Call for a P.O. <input type="checkbox"/>									
Specifications											
Sampler Name <u>THURMONT MONUMENT, NM</u>		Signature <u>[Signature]</u>									
Sample ID	Sampling Date	Time	Depth 3"	Matrix A P S	Composite	Grab	# Containers	Container Size	Type	Preservatives	
<u>MW-1</u>	<u>1/28/99</u>	<u>1310</u>	<u>1</u>	<u>W</u>	<u>W</u>	<u>X</u>	<u>2</u>	<u>1</u>	<u>GA</u>	<u>H</u>	
<u>MW-2</u>	<u>1/28/99</u>	<u>1340</u>	<u>1</u>	<u>W</u>	<u>W</u>	<u>X</u>	<u>2</u>	<u>1</u>	<u>GA</u>	<u>H</u>	
<u>MW-3</u>	<u>1/28/99</u>	<u>1355</u>	<u>1</u>	<u>W</u>	<u>W</u>	<u>X</u>	<u>2</u>	<u>1</u>	<u>GA</u>	<u>H</u>	
Relinquished by (Initials and Signature) <u>[Signature]</u>		Relinquished to (Initials and Signature) <u>[Signature]</u>		Date & Time		Total Containers per COC:		Rush TATs Fax Due:		Final Fax Due:	
Lab: <u>THURMONT MONUMENT, NM</u>		Lab: <u>THURMONT MONUMENT, NM</u>		2/1/99 10:00		2/1/99 10:00		2/1/99 10:00		2/1/99 10:00	

Preservatives - Volatiles (V), HCl pl k-2 (H), H2SO4 pl k-2 (S), HNO3 pl k-2 (N), NaOH/Asbic Acid (NAA), ZnAc/NaOH (ZA), (Cool, <4C) (C4), None (N), See Label (SL), Other (O)  
SIZE: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (V), 1L (1), 500ml (5), Todlar Bag (B), Wipo (W), Other TYPE Glass Amb (GA), Glass Clear (GC), Plastic (P), Other (O)

**KEI Consultants, Ltd.**

Project Name: EOTT

Project ID: 810004-1-0

Project Manager: Stan Grover

Project Location: Lea County, NM

Date Received in Lab : May 14, 1999 09:45

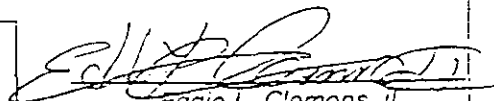
Date Report Faxed: May 20, 1999

XENCO contact : Carlos Castro/Debbie Simmons

Analysis Requested	Lab ID:	91941 001	91941 002	91941 003	
	Field ID:	MW-1	MW-2	MW-3	
	Depth:				
	Matrix:	Liquid	Liquid	Liquid	
	Sampled:	05/13/99 11:45	05/13/99 13:00	05/13/99 12:30	
BTEX	Analyzed:	05/18/99	05/18/99	05/19/99	
EPA 8021B	Units:	ppm R.L.	ppm R.L.	ppm R.L.	
Benzene		< 0.001 (0.001)	< 0.001 (0.001)	< 0.001 (0.001)	
Toluene		< 0.001 (0.001)	< 0.001 (0.001)	< 0.001 (0.001)	
Ethylbenzene		< 0.001 (0.001)	< 0.001 (0.001)	< 0.001 (0.001)	
m,p-Xylene		< 0.002 (0.002)	< 0.002 (0.002)	< 0.002 (0.002)	
o-Xylene		< 0.001 (0.001)	< 0.001 (0.001)	< 0.001 (0.001)	
Total BTEX		N.D.	N.D.	N.D.	

This report summary, and the entire report it represents, has been made for the exclusive and confidential use of KEI Consultants, Ltd..

The interpretations and results expressed through this analytical report represent the best judgment of XENCO Laboratories. Xenco Laboratories, however, assumes no responsibility and makes no warranty to the end use of the data hereby presented.

  
Eddie L. Clemons, II  
QA/QC Manager

# Certificate Of Quality Control for Batch : 19A03C11

**SW- 346 5030/8021B BTEX**

Date Validated: May 19, 1999 14:00  
 Date Analyzed: May 18, 1999 12:23

Analyst: MG  
 Matrix: Liquid

BLANK SPIKE / BLANK SPIKE DUPLICATE AND RECOVERY													
Parameter	[A] Blank Result ppm	[B] Blank Spike Result ppm	[C] Blank Spike Duplicate Result ppm	[D] Blank Spike Amount ppm	[E] Detection Limit ppm	Blank Limit Relative Difference %	[F]		[G]		[H]		[J] Qualifier
							QC	Spike Relative Difference %	QC	Blank Spike Recovery %	QC	Blank Spike Recovery Range %	
Benzene	< 0.0010	0.0961	0.0933	0.1000	0.0010	20.0	3.0	96.1	93.3	65-135			
Toluene	< 0.0010	0.0947	0.0920	0.1000	0.0010	20.0	2.9	94.7	92.0	65-135			
Ethylbenzene	< 0.0010	0.1030	0.1001	0.1000	0.0010	20.0	2.9	103.0	100.1	65-135			
m,p-Xylene	< 0.0020	0.1958	0.1907	0.2000	0.0020	20.0	2.6	97.9	95.4	65-135			
o-Xylene	< 0.0010	0.0922	0.0900	0.1000	0.0010	20.0	2.4	92.2	90.0	65-135			

Spike Relative Difference [F] =  $200 \cdot (B-C)/(B+C)$   
 Blank Spike Recovery [G] =  $100 \cdot (B-A)/[B]$   
 B.S.D. = Blank Spike Duplicate  
 B.S.D. Recovery [H] =  $100 \cdot (C-A)/[D]$   
 N.D. = Below detection limit or not detected  
 All results are based on MDL and validated for QC purposes

*Eddie L. Clemmons*  
 Eddie L. Clemmons, Jr.  
 QA/QC Manager





DATE: 12-14-99

**COMMENTS:**

August 2, 1996

# ENVIRONMENTAL

## LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: MR. JESSE TAYLOR  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 505-392-3760

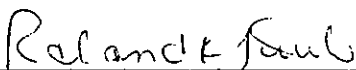
Sample Type: Water  
Sample Condition: Intact/Iced/HCl  
Project #: EOT1015C  
Project Name: TNM 98-501  
Project Location: Monument, N.M.

Sampling Date: 12/14/99  
Receiving Date: 12/17/99  
Analysis Date: 12/18/99

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
22416	MW-1	<0.001	<0.001	<0.001	<0.001	<0.001
22417	MW-2	<0.001	<0.001	<0.001	<0.001	<0.001
22418	MW-3	0.002	0.002	0.002	0.003	0.003

% IA	104	100	101	102	101
% EA	91	89	89	90	89
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8021B,5030

  
Raland K. Tuttle

12-21-99  
Date



# ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.  
ATTN: MR. JESSE TAYLOR  
P.O. BOX 4845  
MIDLAND, TEXAS 79704  
FAX: 505-392-3760

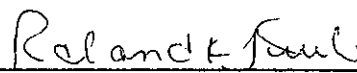
Sample Type: Water  
Sample Condition: Intact/Iced/HCl  
Project #: EOT1015C  
Project Name: TNM 98-501  
Project Location: Monument, N.M.

Sampling Date: 12/14/99  
Receiving Date: 12/17/99  
Analysis Date: 12/18/99

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
22416	MW-1	<0.001	<0.001	<0.001	<0.001	<0.001
22417	MW-2	<0.001	<0.001	<0.001	<0.001	<0.001
22418	MW-3	0.002	0.002	0.002	0.003	0.003

% IA	104	100	101	102	101
% EA	91	89	89	90	89
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8021B,5030

  
Raland K. Tuttle

12-21-99  
Date