

AP - 009

ANNUAL MONITORING REPORT

YEAR(S):

2001

Stage 2 OGD etc: annual PAH TDS
(1/4/00) cat/en metals

AB 11/5

water table even quarter

past & present

free product recovery

ANNUAL MONITORING REPORT

Soil remediation

isopleth maps for contaminants

EOTT PIPELINE COMPANY

HDO 90-23

AP-09

LEA COUNTY, NEW MEXICO

RECEIVED

MAY 09 2001

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

PREPARED FOR:

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

(Jan 1)

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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 and phase-separated hydrocarbon (PSH) constituents. The ground water 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. Monitoring wells containing measurable levels of PSH were not sampled.

FIELD ACTIVITIES

The site monitoring wells were gauged and sampled on March 8, May 12, September 11, and December 11, 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 11, 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 0.001 ft/ft to the southeast as measured between ground water monitoring wells MW-1 and MW-4. The depth to ground water, as measured from the top of the well casing, ranged between 45.59 to 48.55 feet for the shallow alluvial aquifer.

A measurable thickness of PSH was detected in monitoring wells MW-2 and MW-6 during the annual monitoring period. A maximum thickness of 1.82 feet in monitoring well MW-2, and 0.51 foot in monitoring well MW-6 was measured and is shown on Table 1.

LABORATORY RESULTS

Ground water samples obtained 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

INTRODUCTION

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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 method detection limits for monitoring wells MW-1, MW-4, MW-5 and MW-8. Benzene and BTEX concentrations were below regulatory standards for monitoring well MW-7. Benzene and BTEX concentrations were above regulatory standards for monitoring well MW-3.

SUMMARY

This report presents the results of monitoring activities for the annual monitoring period of calendar year 2000. A measurable thickness of PSH was detected in monitoring wells MW-2 and MW-6 during the annual monitoring period. A maximum thickness of 1.82 feet in monitoring well MW-2, and 0.51 foot in monitoring well MW-6 was measured in the monitoring wells.

Ground water elevation contours, generated from the final quarterly event of calendar year 2000 water level measurements, indicated a general gradient of approximately 0.001 ft/ft to the southeast as measured between ground water monitoring wells MW-1 and MW-4.

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FIGURES

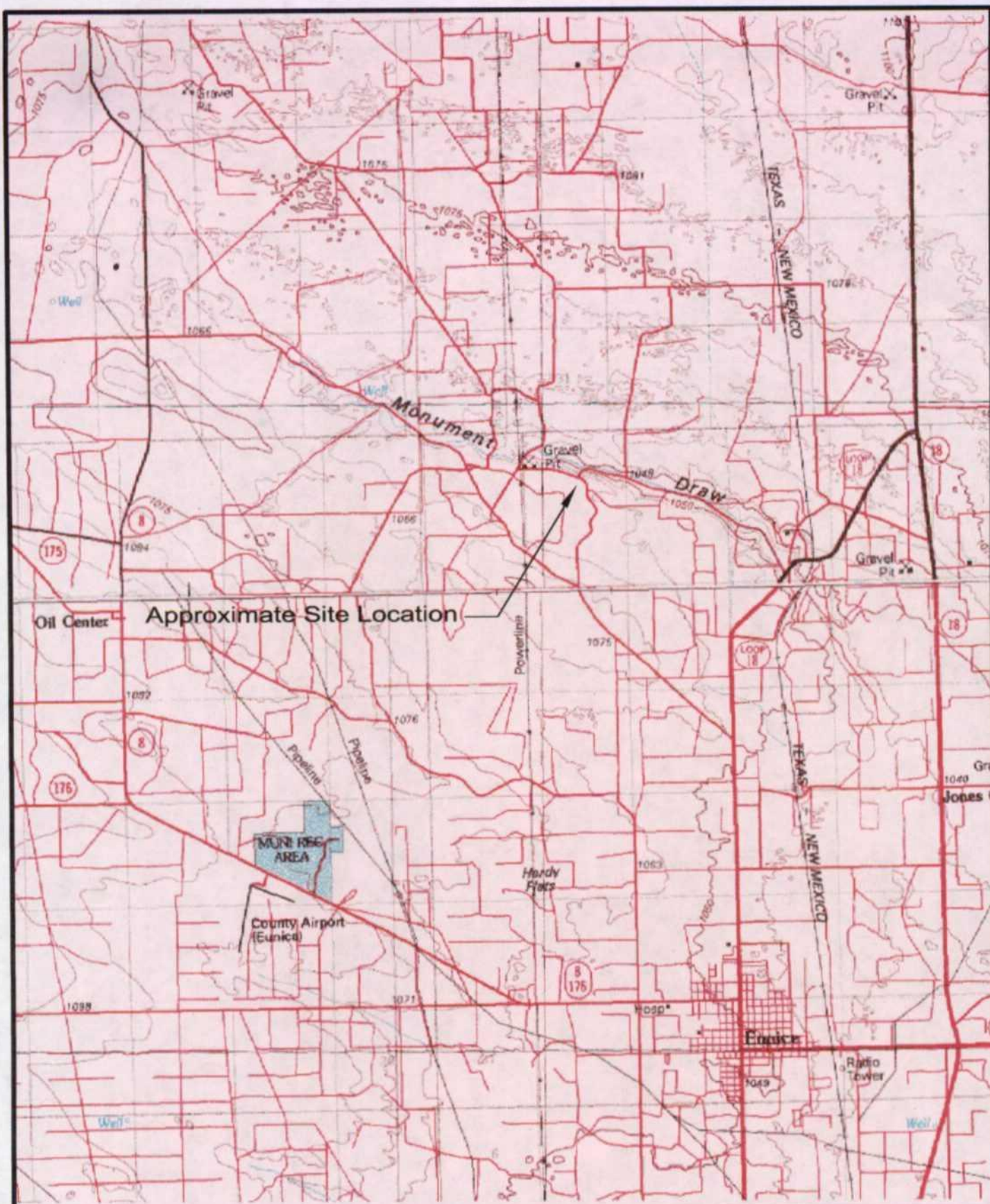
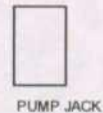
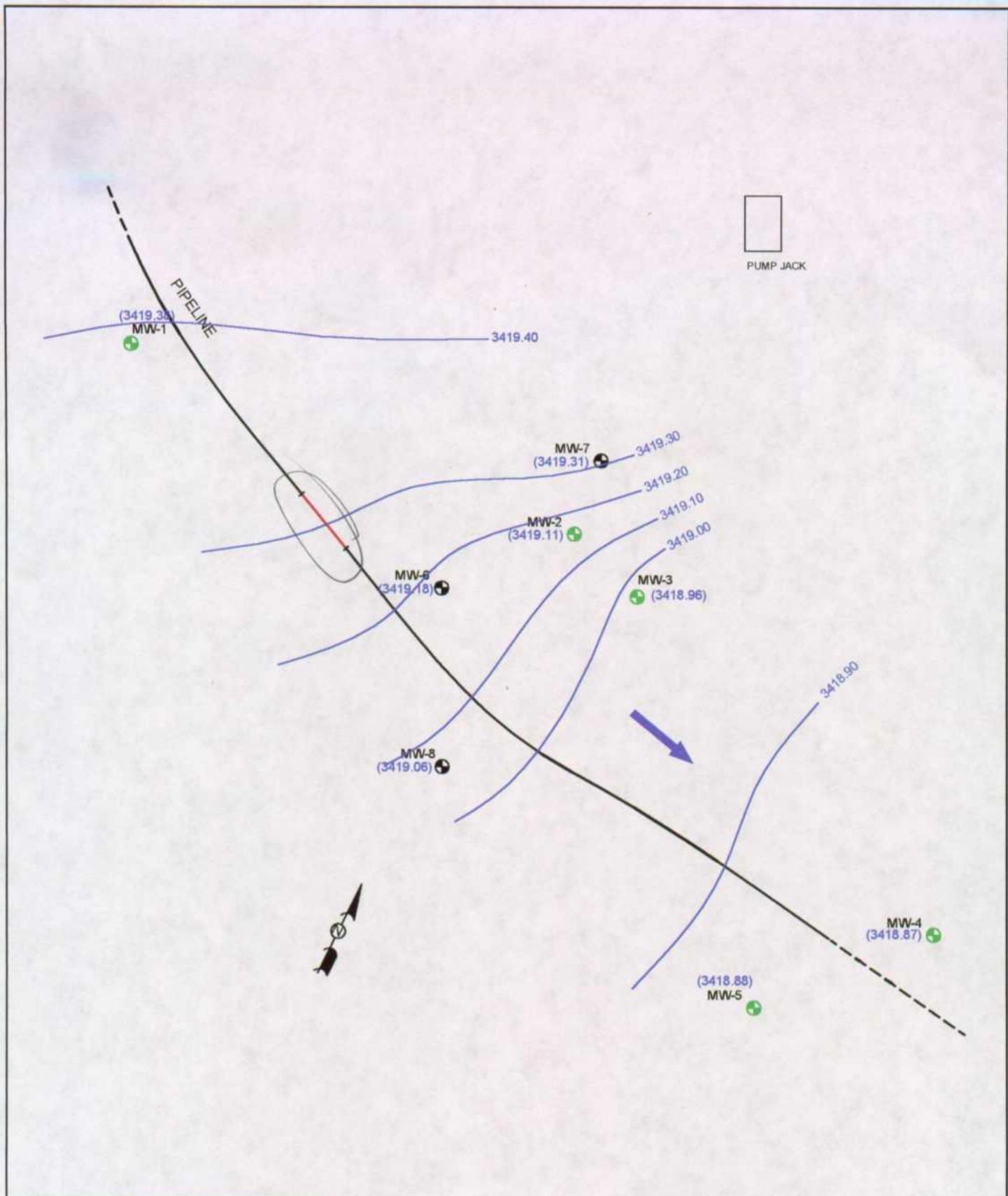


Figure 1
Site Location Map
EOTT Energy Corp.
HDO-90-23
Lea County, NM



Environmental Technology
Group, Inc.

Scale: No Scale	Prep By: JDU	Checked By: MVS
March 21, 2000	ETGI Project # EOT 2019C	



LEGEND:

- ETGI Monitoring Well
- KEI Monitoring Well
- Leak Area
- Pipeline
- GW Gradient Elevation (ft.)
- GW Elevation (ft.)

Figure 2
Site Groundwater
Gradient Map (12/11/00)

EOTT Energy Corp.
HDO 90-23
Lea County, NM



Environmental Technology
Group, Inc.

Scale: 1" = 140' Prep By: JDJ Checked By: KD
December 11, 2000 ETGI Project # EOT2019C

TABLES

TABLE 1
GROUND WATER ELEVATION
ANNUAL REPORT
EOTT ENERGY CORPORATION
HDO 90 - 23
LEA COUNTY, NEW MEXICO
ETGI PROJECT # EOT2019C

Well Number	DATE MEASURED	Casing Well Elevation	Depth to Product	Depth to Water	PSH Thickness	Corrected Groundwater Elevation
MW - 1	03/08/00	3,465.61	-	46.16	0.00	3,419.45
	05/12/00	3,465.61	-	46.13	0.00	3,419.48
	09/11/00	3,465.61	-	46.18	0.00	3,419.43
	12/11/00	3,465.61	-	46.23	0.00	3,419.38
MW - 2	03/08/00	3,465.44	46.19	46.39	0.20	3,419.22
	05/12/00	3,465.44	46.22	46.32	0.10	3,419.21
	09/11/00	3,465.44	46.21	46.30	0.09	3,419.22
	12/11/00	3,465.44	46.06	47.88	1.82	3,419.11
MW - 3	03/08/00	3,464.68	-	45.59	0.00	3,419.09
	05/12/00	3,464.88	-	45.71	0.00	3,419.17
	09/11/00	3,464.68	-	45.64	0.00	3,419.04
	12/11/00	3,464.68	-	45.72	0.00	3,418.96
MW - 4	03/08/00	3,465.76	-	46.80	0.00	3,418.96
	05/12/00	3,465.76	-	45.87	0.00	3,419.89
	09/11/00	3,465.76	-	46.83	0.00	3,418.93
	12/11/00	3,465.76	-	46.89	0.00	3,418.87
MW - 5	03/08/00	3,467.40	-	48.47	0.00	3,418.93
	05/12/00	3,467.40	-	48.53	0.00	3,418.87
	09/11/00	3,467.40	-	48.52	0.00	3,418.88
	12/11/00	3,467.40	-	48.52	0.00	3,418.88
MW - 6	03/08/00	3,465.42	45.98	45.98	0.00	3,419.44
	05/12/00	3,465.42	46.17	46.65	0.48	3,419.18
	09/11/00	3,465.42	46.06	46.57	0.51	3,419.28
	12/11/00	3,465.42	46.21	46.43	0.22	3,419.18
MW - 7	03/08/00	3,466.22	-	46.84	0.00	3,419.38
	05/12/00	3,466.22	-	46.90	0.00	3,419.32
	09/11/00	3,466.22	-	46.86	0.00	3,419.36
	12/11/00	3,466.22	-	46.91	0.00	3,419.31
MW - 8	03/08/00	3,467.61	-	48.48	0.00	3,419.13
	05/12/00	3,467.61	-	48.53	0.00	3,419.08
	09/11/00	3,467.61	-	48.48	0.00	3,419.13
	12/11/00	3,467.61	-	48.55	0.00	3,419.06

TABLE 2

**GROUND WATER CHEMISTRY
ANNUAL REPORT**

**EOTT ENERGY CORPORATION
HDO 90 - 23
LEA COUNTY, NEW MEXICO
ETGI PROJECT # EOT 2019C**

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	03/08/00	<0.001	<0.001	<0.001	<0.001	<0.001
	05/12/00	<0.001	<0.001	<0.001	<0.001	<0.001
	09/11/00	<0.001	<0.001	<0.001	<0.001	<0.001
	12/11/00	<0.001	<0.001	<0.001	<0.001	<0.001
MW - 3	03/08/00	1.04	<0.001	1.43	<0.010	<0.010
	05/12/00	0.545	0.004	0.259	<0.001	<0.001
	09/11/00	0.572	0.013	1.49	<0.010	<0.010
	12/11/00	0.372	<0.010	1.57	0.038	<0.010
MW - 4	03/08/00	<0.001	<0.001	0.002	<0.001	<0.001
	05/12/00	<0.001	<0.001	<0.001	<0.001	<0.001
	09/11/00	<0.001	0.002	<0.001	<0.001	<0.001
	12/11/00	<0.001	<0.001	0.001	<0.001	<0.001
MW - 5	03/08/00	<0.001	<0.001	<0.001	<0.001	<0.001
	05/12/00	<0.001	<0.001	<0.001	<0.001	<0.001
	09/11/00	<0.001	<0.001	<0.001	<0.001	<0.001
	12/11/00	<0.001	<0.001	<0.001	<0.001	<0.001
MW - 7	03/08/00	<0.001	<0.001	<0.001	<0.001	<0.001
	05/12/00	<0.001	<0.001	<0.001	<0.001	<0.001
	09/11/00	0.002	<0.001	<0.001	<0.001	<0.001
	12/11/00	<0.001	<0.001	<0.001	<0.001	<0.001
MW - 8	03/08/00	<0.001	<0.001	<0.001	<0.001	<0.001
	05/12/00	<0.001	<0.001	<0.001	<0.001	<0.001
	09/11/00	<0.001	<0.001	0.002	<0.001	<0.001
	12/11/00	<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

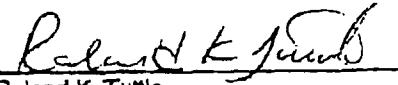
Sample Type: Water
Sample Condition: Intact/ Iced/HCl
Project #: EOT 1015C
Project Name: HDO 90-23
Project Location: Lea County, N.M.

Sampling Date: 03/08/00
Receiving Date: 03/10/00
Analysis Date: 3/13 & 3/14/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
24107	MW-1	<0.001	<0.001	<0.001	<0.001	<0.001
24108	MW-3	1.04	<0.010	1.43	<0.010	<0.010
24109	MW-4	<0.001	<0.001	0.002	<0.001	<0.001
24110	MW-5	<0.001	<0.001	<0.001	<0.001	<0.001
24111	MW-7	<0.001	<0.001	<0.001	<0.001	<0.001
24112	MW-8	<0.001	<0.001	<0.001	<0.001	<0.001

% IA	96	89	89	100	86
% EA	98	92	88	98	86
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B.5030


Roland K. Tuttle

3-16-00
Date

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Coc 101

Project: Jesse Taylor

Phone #: (915) 664-9166
FAX #: (505) 392-3760

Company Name & Address: **LTG I**

54845

Project #:

LOT 1015C

Project Name :

400 90-23

Project Location:

Sampler Signature:

LEA COUNTY NM

Signature: Simon Louis

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD					SAMPLING		TIME
				AIR	SOIL	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER	DATE		
	MW1-	2	V	X	X	X	X	X	X	X	X	X	3-8	1331	X
	MW3-													1348	
	MW4-													1413	
	MW5-													1402	
	MW7-													1325	
	MW8-													1340	

Relinquished by:

Unpublished by:
Lemon Caves

Date:

3-10-00

Time:

1600

Received

REMARKS

MAN RESISTS! K. BOTTOM ON

Relinquished by:

Approved by:

Date:

Time:

Received by:

Received by:

Relinquished by:

Անգլիական իշխանությունները:

Date:

Times:

Received by Laboratory:

Received by Laboratory:

Twining: Lennan Fast 1015M

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

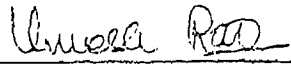
SampleType: Water
Sample Condition: Intact/ Iced/HCl/ 39 deg. C
Project #: EOT 1015C
Project Name: HDO-90-23
Project Location: Lea County, N.M.

Sampling Date: 05/12/00
Receiving Date: 05/12/00
Analysis Date: 05/15 & 05/16/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
25675	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001
25676	MW 3	0.545	0.004	0.259	<0.001	<0.001
25677	MW 4	<0.001	<0.001	<0.001	<0.001	<0.001
25678	MW 5	<0.001	<0.001	<0.001	<0.001	<0.001
25679	MW 7	<0.001	<0.001	<0.001	<0.001	<0.001
25680	MW 8	<0.001	<0.001	<0.001	<0.001	<0.001

% IA	101	97	98	107	96
% EA	104	101	103	111	101
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B, 5030


Umesh Rao, Ph. D.

5/16/00
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

CAC 135

Project Manager: ✓ GSC TAYLOR Phone #: (505) 392-8731
FAX #: (505) 392-3260

ANALYSIS REQUEST

Company Name & Address: ERTCI
702 W GUN NM 84240

Project #: EOT 1015C Project Name: HD 0-90-23

Project Location: Los Comany NM Sampler Signature: Simon Reed

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX						PRESERVATIVE METHOD				DATE	SAMPLING TIME
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER		
25675	MW1	2	✓	✓						✓				572	1045
25676	MW3														1218
25677	MW4														1200
25678	MW5														1440
25679	MW7														1045
25680	MW8														1108

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

BTEX 8120/50

Relinquished by: <u>Simon Reed</u>	Date: <u>5-12-00</u>	Times: <u>1300</u>	Received by: <u>[Signature]</u>
Relinquished by: <u>[Signature]</u>	Date: <u>5-12-00</u>	Times: <u>5:40 PM</u>	Received by: <u>Kalucke</u>
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

None Request: K. DUTTON

(Rec. 39°F)

INVOICE: EOT 1015M

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: 505-397-4701

SampleType: Water

Sample Condition: Intact/ Iced/ HCl/ 1 deg. C

Project #: EOT 2019C

Project Name: HDO 90-23

Project Location: Eunice, N.M.

Sampling Date: 09/11/00

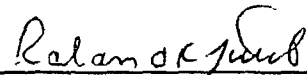
Receiving Date: 09/11/00

Analysis Date: 09/11/00

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
30632	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
30633	MW 3	0.572	0.013	1.490	<0.010	<0.010	2.075
30634	MW 4	<0.001	0.002	<0.001	<0.001	<0.001	0.002
30635	MW 5	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
30636	MW 7	0.002	<0.001	<0.001	<0.001	<0.001	0.002
30637	MW 8	<0.001	<0.001	0.002	<0.001	<0.001	0.002
30638	EB 1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

% IA	92	91	91	94	87
% EA	90	90	91	94	88
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030


Ralanda K. Tuttle

9-12-00
Date

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST
COC # 226

Phone #: 505) 391-4882

HTH 505392-478

2540 N MARINA HOBS NM 88248

Project Name:

400 96-23

Samplers: Siemens:

Mr. Farnice nm

Sample Signature: *Simon Cases*

[illegible]

Mar 02 01 04:11p

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: 505-397-4701

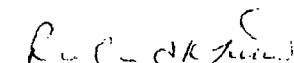
Sample Type: Water
Sample Condition: Intact/ Iced/ HCl/ -2.5 deg. C
Project #: EOT 2019C
Project Name: MDO 90-23
Project Location: Lea County, N.M.

Sampling Date: 12/11/00
Receiving Date: 12/16/00
Analysis Date: 12/19/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
35352	MW 1	<0.001	<0.001	<0.001	<0.001	<0.001
35353	MW 3	0.372	<0.010	1.57	0.038	<0.010
35354	MW 4	<0.001	<0.001	0.001	<0.001	<0.001
35355	MW 5	<0.001	<0.001	<0.001	<0.001	<0.001
35356	MW 7	<0.001	<0.001	<0.001	<0.001	<0.001
35357	MW 8	<0.001	<0.001	<0.001	<0.001	<0.001
35358	EB 1	<0.001	<0.001	<0.001	<0.001	<0.001

%IA	106	109	110	113	106
%EA	96	100	104	104	99
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8021B, 5030


Roland K. Tuttle

12-20-00
Date

