

AP - 007

# ANNUAL MONITORING REPORT

YEAR(S):  
2003

AP-07

**ANNUAL MONITORING REPORT**

**EOTT ENERGY, LLC  
DARR ANGELL 1  
LEA COUNTY, NEW MEXICO  
NW ¼ of the SE ¼ of SECTION 11, TOWNSHIP 15 SOUTH, RANGE 37 EAST**

**PREPARED FOR:**

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

**PREPARED BY:**

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

**APRIL 2003**

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Robert B Eidson  
Geologist/ Senior Project Manager

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Chance I. Johnson  
New Mexico Regional Manager

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## **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 text, figures, tables, and appendices. 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 quarterly events in calendar year 2002 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 monitor wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. Monitor wells containing measurable levels of PSH were not sampled.

## **FIELD ACTIVITIES**

The site monitor wells were gauged and sampled on February 19, June 19, September 23 and December 20, 2002. During each sampling event the monitor wells designated to be sampled were purged of approximately three 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 collected 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 (OCD AO SWD-730).

## **GROUNDWATER GRADIENT**

Locations of the monitor wells and the inferred groundwater gradient, as measured on September 23, 2002, are depicted on Figure 2, the Inferred Groundwater Gradient Map. Groundwater elevation data is provided in Table 1. The site groundwater gradient is influenced by a mounding effect attributed to variable lithology at and near the water table and the dispersion of PSH within portions of the mapped area. According to published literature describing regional groundwater conditions, groundwater flow in this area is typically to the southeast. The depth to groundwater, as measured from the top of the well casing, ranged between 57.32 to 66.28 feet in the shallow alluvial aquifer.

A measurable thickness of PSH was detected in recovery and monitor wells RW-1, RW-2, RW-3, MW-1, MW-2, MW-3, MW-5, MW-6, MW-8, MW-9, MW-10, MW-13 and MW-14 during the annual monitoring period. Maximum thicknesses of 9.78 feet in recovery well RW-1, 8.91 feet in recovery well RW-2, 9.10 feet in recovery well RW-3, 9.97 feet in monitor well MW-1, 5.72 feet in monitor well MW-2, 2.04 feet in monitor well MW-3, 9.03 feet in monitor well MW-5, 5.32 feet in monitor well MW-6, 7.13 feet in monitor well MW-8, 9.568 feet in monitor well MW-9, 0.98 feet in monitor well MW-10, 2.97 feet in monitor well MW-13, and 6.14 feet in monitor well MW-14 were recorded during this monitoring period and are recorded in Table 1.

## **LABORATORY RESULTS**

Groundwater samples obtained during the sampling events were delivered to AnalySys Inc., Austin, Texas for determination of Benzene, Toluene, Ethylbenzene and Xylene (BTEX) constituent concentrations by EPA Method SW846-8260b. Cumulative groundwater chemistry data is provided in Table 2 and copies of the Laboratory Reports are provided in Appendix A. Groundwater samples which exceeded regulatory standards for BTEX constituents are indicated on Figure 3, the NMOCD Site Map.

Laboratory results obtained from analysis of the groundwater samples collected from monitor wells MW-4, MW-7, MW-11, MW-15, MW-16, MW-19 and MW-20 during this annual reporting period indicate that BTEX constituent concentrations remain below the regulatory standards. The BTEX constituent concentrations in groundwater contained in monitor well MW-12 remained above the regulatory standards. Groundwater samples collected from monitor wells MW-17 and MW-18 exceeded the NMOCD regulatory standard for benzene in the fourth quarterly monitoring event only.

## **SUMMARY**

This report presents the results of monitoring activities for the annual monitoring period of calendar year 2002. A measurable thickness of PSH was detected in recovery and monitor wells RW-1, RW-2, RW-3, MW-1, MW-2, MW-3, MW-5, MW-6, MW-8, MW-9, MW-10, MW-13, and MW-14 during the annual monitoring period. Maximum thicknesses of 9.78 feet in recovery well RW-1, 8.91 feet in recovery well RW-2, 9.10 feet in recovery well RW-3, 9.97 feet in monitor well MW-1, 5.72 feet in monitor well MW-2, 2.04 feet in monitor well MW-3, 9.03 feet in monitor well MW-5, 5.32 feet in monitor well MW-6, 7.13 feet in monitor well MW-8, 9.568 feet in monitor well MW-9, 0.98 feet in monitor well MW-10, 2.97 feet in monitor well MW-13, and 6.14 feet in monitor well MW-14 were measured in the recovery and monitor wells. Approximately 2,277 gallons of PSH were recovered by the automated recovery system on-site during this reporting period. Recovered PSH was reintroduced into the EOTT transportation system at the Lea Station Facility, Monument, New Mexico.

The site groundwater gradient is influenced by a mounding effect attributed to variable lithology at and near the water table and the dispersion of PSH within portions of the mapped area. The variations in gradient as depicted on Figure 2, are most likely a function of these factors. According to published literature describing regional groundwater conditions, groundwater flow in this area is typically to the southeast.

Laboratory results obtained from analysis of the groundwater samples collected from monitor wells MW-4, MW-7, MW-11, MW-15, MW-16, MW-19 and MW-20 during this annual reporting period indicate that BTEX constituent concentrations remain below the regulatory standards. The BTEX constituent concentrations in groundwater contained in monitor well MW-12 remained above the regulatory standards. Groundwater samples collected from monitor wells MW-17 and MW-18 exceeded the NMOCD regulatory standard for benzene in the fourth quarterly monitoring event only.

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Quality Control Review



**Location**

NW1/4 SE1/4 Sec 11 T15S R37E

Lat. 33° 01' 36.0"N

Long 103° 10' 00.7"W

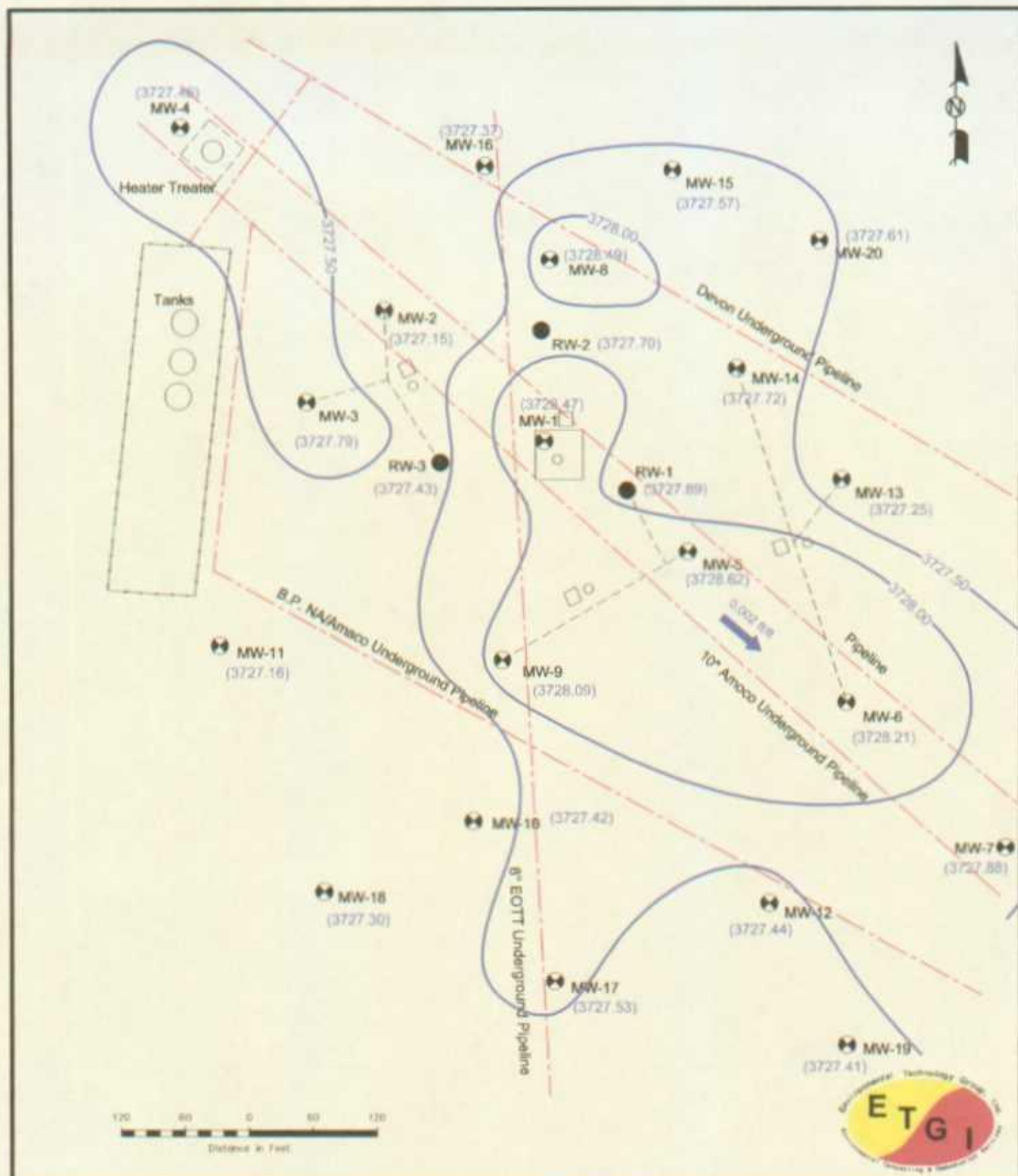
**Figure 1  
Site Location Map**

EOTT Energy, LLC.  
Darr Angell #1  
Lea County, NM

**Environmental Technology  
Group, INC.**

Scale: 1"=200'	Prep By: JGJ	Checked By: RE
July 26, 2000	ETGI Project # E02055	





## Environmental Technology Group, INC.

NW1/4 SE1/4 Sec 11 T15S R37E 33° 01' 36.0"N 103° 10' 00.7"W

Scale: 1"=120'

Prep By: JGJ

Checked By: RE

April 10, 2003

ETGI Project # EOT2006



<p><b>Figure 3</b> NMOC D Site Map (9/23/02)</p> <p>EOTT Energ, L.L.C. Darr Angell #1 Lea County, NM</p>	<p><b>Environmental Technology Group, INC.</b></p> <p>NW1/4 SE1/4 Sec 11 T15S R37E 33° 01' 36.0"N 103° 10' 00.2"W</p> <p>Scale: 1"=120' Prep By: JDU Checked By: RE</p> <p>April 10, 2003 ETOI Project # E02055</p>
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TABLE 1  
GROUNDWATER ELEVATION TABLE

EOTT ENERGY, LLC  
DARR ANGELL#1  
LEA COUNTY, NEW MEXICO  
PROJECT # EO 2055

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 1	05/05/00	3,785.74	54.88	61.57	6.69	3,729.86
	09/13/00	3,785.74	54.58	63.92	9.34	3,729.76
	11/15/00	3,785.74	54.71	64.73	10.02	3,729.53
	02/23/01	3,785.74	54.80	64.61	9.81	3,729.47
	05/15/01	3,785.74	55.74	62.25	6.51	3,729.02
	08/07/01	3,785.74	55.39	65.14	9.75	3,728.89
	11/01/01	3,785.74	55.15	65.03	9.88	3,729.11
	02/19/02	3,785.74	55.24	65.21	9.97	3,729.00
	06/19/02	3,785.74	57.50	62.34	4.84	3,727.51
	09/23/02	3,785.74	55.88	65.12	9.24	3,728.47
MW - 2	05/05/00	3,785.88	55.85	58.84	2.99	3,729.58
	09/13/00	3,785.88	55.43	61.79	6.36	3,729.50
	11/15/00	3,785.88	55.80	60.97	5.17	3,729.30
	02/23/01	3,785.88	57.18	58.09	0.91	3,728.56
	05/15/01	3,785.88	56.79	57.01	0.22	3,729.06
	08/07/01	3,785.88	56.55	60.08	3.53	3,728.80
	11/01/01	3,785.88	56.14	61.90	5.76	3,728.88
	02/19/02	3,785.88	56.38	62.10	5.72	3,728.64
	06/19/02	3,785.88	58.22	58.49	0.27	3,727.62
	09/23/02	3,785.88	58.70	58.90	0.20	3,727.15
MW - 3	05/05/00	3,786.05	56.28	59.84	3.56	3,729.24
	09/13/00	3,786.05	56.17	61.36	5.19	3,729.10
	11/15/00	3,786.05	56.97	58.42	1.45	3,728.86
	02/23/01	3,786.05	56.53	57.98	1.45	3,729.30
	05/15/01	3,786.05	57.38	58.09	0.71	3,728.56
	08/07/01	3,786.05	57.45	57.99	0.54	3,728.52
	11/01/01	3,786.05	57.35	59.16	1.81	3,728.43
	02/19/02	3,786.05	57.60	59.64	2.04	3,728.14
	06/19/02	3,786.05	58.29	59.24	0.95	3,727.62
	09/23/02	3,786.05	58.02	59.64	1.62	3,727.79

TABLE 1  
GROUNDWATER ELEVATION TABLE

EOTT ENERGY, LLC  
DARR ANGELL#1  
LEA COUNTY, NEW MEXICO  
PROJECT # EO 2055

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 4	05/05/00	3,786.47	-	57.74	0.00	3,728.73
	09/13/00	3,786.47	-	57.93	0.00	3,728.54
	11/15/00	3,786.47	-	58.08	0.00	3,728.39
	02/23/01	3,786.47	-	58.08	0.00	3,728.39
	05/15/01	3,786.47	-	58.26	0.00	3,728.21
	09/13/01	3,786.47	-	58.40	0.00	3,728.07
	11/01/01	3,786.47	-	58.51	0.00	3,727.96
	02/19/02	3,786.47	-	58.66	0.00	3,727.81
	06/19/02	3,786.47	-	58.80	0.00	3,727.67
	09/23/02	3,786.47	-	59.01	0.00	3,727.46
	12/20/02	3,786.47	-	59.11	0.00	3,727.36
MW - 5	05/05/00	3,785.55	54.25	63.46	9.21	3,729.92
	09/13/00	3,785.55	54.44	63.43	8.99	3,729.76
	11/15/00	3,785.55	54.54	63.91	9.37	3,729.60
	02/23/01	3,785.55	54.63	63.95	9.32	3,729.52
	05/15/01	3,785.55	54.88	63.90	9.02	3,729.32
	08/07/01	3,785.55	54.92	64.33	9.41	3,729.22
	11/01/01	3,785.55	54.97	64.35	9.38	3,729.17
	02/19/02	3,785.55	55.71	64.74	9.03	3,728.49
	06/19/02	3,785.55	57.72	58.19	0.47	3,727.76
	09/23/02	3,785.55	55.70	63.91	8.21	3,728.62
MW - 6	05/05/00	3,785.47	56.02	56.08	0.06	3,729.44
	09/13/00	3,785.47	55.23	60.63	5.40	3,729.43
	11/15/00	3,785.47	55.38	60.65	5.27	3,729.30
	02/23/01	3,785.47	55.97	58.60	2.63	3,729.11
	05/15/01	3,785.47	56.36	57.86	1.50	3,728.89
	08/07/01	3,785.47	55.82	60.91	5.09	3,728.89
	11/01/01	3,785.47	55.89	61.10	5.21	3,728.80
	02/19/02	3,785.47	56.06	61.38	5.32	3,728.61
	06/19/02	3,785.47	57.81	57.97	0.16	3,727.64
	09/23/02	3,785.47	56.97	58.90	1.93	3,728.21

**TABLE 1**  
**GROUNDWATER ELEVATION TABLE**

**EOTT ENERGY, LLC**  
**DARR ANGELL#1**  
**LEA COUNTY, NEW MEXICO**  
**PROJECT # EO 2055**

<b>WELL NUMBER</b>	<b>DATE MEASURED</b>	<b>TOP OF CASING ELEVATION</b>	<b>DEPTH TO PRODUCT</b>	<b>DEPTH TO WATER</b>	<b>PSH THICKNESS</b>	<b>CORRECTED GROUNDWATER ELEVATION</b>
MW - 7	05/05/00	3,785.48	-	56.42	0.00	3,729.06
	09/13/00	3,785.48	-	56.57	0.00	3,728.91
	11/15/00	3,785.48	-	56.74	0.00	3,728.74
	02/23/01	3,785.48	-	56.80	0.00	3,728.68
	05/15/01	3,785.48	-	56.91	0.00	3,728.57
	08/07/01	3,785.48	-	57.03	0.00	3,728.45
	11/01/01	3,785.48	-	57.16	0.00	3,728.32
	02/19/02	3,785.48	-	57.32	0.00	3,728.16
	06/19/02	3,785.48	-	57.48	0.00	3,728.00
	09/23/02	3,785.48	-	57.60	0.00	3,727.88
	11/20/02	3,785.48	-	57.75	0.00	3,727.73
MW - 8	05/05/00	3,785.76	55.40	59.51	4.11	3,729.74
	09/13/00	3,785.76	55.05	62.09	7.04	3,729.65
	11/15/00	3,785.76	55.18	62.37	7.19	3,729.50
	02/23/01	3,785.76	55.94	59.35	3.41	3,729.31
	05/15/01	3,785.76	56.23	59.02	2.79	3,729.11
	08/07/01	3,785.76	55.61	61.98	6.37	3,729.19
	11/01/01	3,785.76	55.61	62.93	7.32	3,729.05
	02/19/02	3,785.76	55.90	63.03	7.13	3,728.79
	06/19/02	3,785.76	56.65	62.76	6.11	3,728.19
	09/23/02	3,785.76	56.25	63.03	6.78	3,728.49
MW - 9	05/05/00	3,785.79	56.34	57.84	1.50	3,729.23
	09/13/00	3,785.79	55.05	64.47	9.42	3,729.33
	11/15/00	3,785.79	55.18	65.03	9.85	3,729.13
	02/23/01	3,785.79	55.25	65.00	9.75	3,729.08
	05/15/01	3,785.79	55.60	64.44	8.84	3,728.86
	08/07/01	3,785.79	55.52	65.28	9.76	3,728.81
	11/01/01	3,785.79	55.59	65.47	9.88	3,728.72
	02/19/02	3,785.79	55.82	65.38	9.56	3,728.54
	06/19/02	3,785.79	58.05	58.56	0.51	3,727.66
	09/23/02	3,785.79	57.00	61.70	4.70	3,728.09
	01/08/03	3,785.79	56.45	65.34	8.89	3,728.01
	01/13/03	3,785.79	57.01	60.19	3.18	3,728.30
	02/18/03	3,785.79	56.41	65.61	9.20	3,728.00
	02/25/03	3,785.79	56.42	56.81	0.39	3,729.31

TABLE 1  
GROUNDWATER ELEVATION TABLE

EOTT ENERGY, LLC  
DARR ANGELL#1  
LEA COUNTY, NEW MEXICO  
PROJECT # EO 2055

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 10	06/27/00	3,785.99	-	57.46	0.00	3,728.53
	09/13/00	3,785.99	-	57.52	0.00	3,728.47
	11/15/00	3,785.99	57.67	57.67	0.00	3,728.32
	02/23/01	3,785.99	57.76	57.76	0.00	3,728.23
	05/15/01	3,785.99	57.88	57.88	0.00	3,728.11
	08/07/01	3,785.99	58.01	58.02	0.01	3,727.98
	11/01/01	3,785.99	58.11	58.15	0.04	3,727.87
	02/19/02	3,785.99	58.25	58.44	0.19	3,727.71
	06/19/02	3,785.99	58.33	59.00	0.67	3,727.56
	09/23/02	3,785.99	58.42	59.40	0.98	3,727.42
	06/27/00	3,786.32	-	58.05	0.00	3,728.27
	09/13/00	3,786.32	-	58.12	0.00	3,728.20
MW - 11	11/15/00	3,786.32	-	58.17	0.00	3,728.15
	02/23/01	3,786.32	-	58.31	0.00	3,728.01
	05/15/01	3,786.32	-	58.45	0.00	3,727.87
	08/07/01	3,786.32	-	58.57	0.00	3,727.75
	11/01/01	3,786.32	-	58.70	0.00	3,727.62
	02/19/02	3,786.32	-	58.80	0.00	3,727.52
	06/19/02	3,786.32	-	59.02	0.00	3,727.30
	09/23/02	3,786.32	-	59.16	0.00	3,727.16
	12/20/02	3,786.32	-	59.28	0.00	3,727.04
	06/27/00	3,785.79	-	57.24	0.00	3,728.55
	09/13/00	3,785.79	-	57.31	0.00	3,728.48
	11/15/00	3,785.79	-	57.46	0.00	3,728.33
MW - 12	02/23/01	3,785.79	-	57.52	0.00	3,728.27
	05/15/01	3,785.79	-	57.64	0.00	3,728.15
	08/07/01	3,785.79	-	57.75	0.00	3,728.04
	11/01/01	3,785.79	-	57.88	0.00	3,727.91
	02/19/02	3,785.79	-	58.04	0.00	3,727.75
	06/19/02	3,785.79	-	58.19	0.00	3,727.60
	09/23/02	3,785.79	-	58.35	0.00	3,727.44

TABLE 1  
GROUNDWATER ELEVATION TABLE

EOTT ENERGY, LLC  
DARR ANGELL#1  
LEA COUNTY, NEW MEXICO  
PROJECT # EO 2055

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 13	06/27/00	3,786.01	-	57.60	0.00	3,728.41
	09/13/00	3,786.01	57.63	57.82	0.19	3,728.35
	11/15/00	3,786.01	57.74	58.39	0.65	3,728.17
	02/23/01	3,786.01	57.83	58.41	0.58	3,728.09
	05/15/01	3,786.01	57.82	59.31	1.49	3,727.97
	08/07/01	3,786.01	57.80	58.21	0.41	3,728.15
	11/01/01	3,786.01	57.82	60.55	2.73	3,727.78
	02/19/02	3,786.01	57.98	60.88	2.90	3,727.60
	06/19/02	3,786.01	58.60	58.94	0.34	3,727.36
	09/23/02	3,786.01	58.49	60.27	1.78	3,727.25
	12/20/02	3,786.01	58.38	61.35	2.97	3,727.18
MW - 14	06/27/00	3,786.06	-	57.62	0.00	3,728.44
	09/13/00	3,786.06	56.76	61.34	4.58	3,728.61
	11/15/00	3,786.06	56.43	63.20	6.77	3,728.61
	02/23/01	3,786.06	56.47	63.14	6.67	3,728.59
	05/15/01	3,786.06	56.74	63.22	6.48	3,728.35
	08/07/01	3,786.06	56.91	57.38	0.47	3,729.08
	11/01/01	3,786.06	56.81	63.20	6.39	3,728.29
	02/19/02	3,786.06	57.09	63.23	6.14	3,728.05
	06/19/02	3,786.06	57.29	63.20	5.91	3,727.88
	09/23/02	3,786.06	57.49	63.15	5.66	3,727.72
	12/20/02	3,786.06	57.67	63.17	5.50	3,727.57
MW - 15	06/27/00	3,786.13	-	57.42	0.00	3,728.71
	09/13/00	3,786.13	-	57.50	0.00	3,728.63
	11/15/00	3,786.13	-	57.65	0.00	3,728.48
	02/23/01	3,786.13	-	57.73	0.00	3,728.40
	05/15/01	3,786.13	-	57.81	0.00	3,728.32
	08/07/01	3,786.13	-	57.92	0.00	3,728.21
	11/01/01	3,786.13	-	58.09	0.00	3,728.04
	02/19/02	3,786.13	-	58.24	0.00	3,727.89
	06/19/02	3,786.13	-	58.40	0.00	3,727.73
	09/23/02	3,786.13	-	58.56	0.00	3,727.57
	12/20/02	3,786.13	-	58.68	0.00	3,727.45

TABLE 1  
GROUNDWATER ELEVATION TABLE

EOTT ENERGY, LLC  
DARR ANGELL#1  
LEA COUNTY, NEW MEXICO  
PROJECT # EO 2055

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 16	06/27/00	3,786.33	-	57.83	0.00	3,728.50
	09/13/00	3,786.33	-	57.91	0.00	3,728.42
	11/15/00	3,786.33	-	58.06	0.00	3,728.27
	02/23/01	3,786.33	-	58.07	0.00	3,728.26
	05/15/01	3,786.33	-	58.24	0.00	3,728.09
	08/07/01	3,786.33	-	58.30	0.00	3,728.03
	11/01/01	3,786.33	-	58.50	0.00	3,727.83
	02/19/02	3,786.33	-	58.65	0.00	3,727.68
	06/19/02	3,786.33	-	58.78	0.00	3,727.55
	09/23/02	3,786.33	-	58.96	0.00	3,727.37
	12/20/02	3,786.33	-	59.09	0.00	3,727.24
MW - 17	09/13/00	3,785.83	-	57.27	0.00	3,728.56
	11/15/00	3,785.83	-	57.43	0.00	3,728.40
	02/23/01	3,785.83	-	57.50	0.00	3,728.33
	05/15/01	3,785.83	-	57.61	0.00	3,728.22
	08/07/01	3,785.83	-	57.73	0.00	3,728.10
	11/01/01	3,785.83	-	57.87	0.00	3,727.96
	02/19/02	3,785.83	-	58.01	0.00	3,727.82
	06/19/02	3,785.83	-	58.18	0.00	3,727.65
	09/23/02	3,785.83	-	58.30	0.00	3,727.53
	12/20/02	3,785.83	-	58.45	0.00	3,727.38
MW - 18	09/13/00	3,786.10	-	57.74	0.00	3,728.36
	11/15/00	3,786.10	-	57.93	0.00	3,728.17
	02/23/01	3,786.10	-	57.97	0.00	3,728.13
	05/15/01	3,786.10	-	58.10	0.00	3,728.00
	08/07/01	3,786.10	-	58.22	0.00	3,727.88
	11/01/01	3,786.10	-	58.35	0.00	3,727.75
	02/19/02	3,786.10	-	58.51	0.00	3,727.59
	06/19/02	3,786.10	-	58.66	0.00	3,727.44
	09/23/02	3,786.10	-	58.80	0.00	3,727.30
	12/20/02	3,786.10	-	58.92	0.00	3,727.18



**TABLE 1**  
**GROUNDWATER ELEVATION TABLE**

EOTT ENERGY, LLC  
DARR ANGELL#1  
LEA COUNTY, NEW MEXICO  
PROJECT # EO 2055

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW - 19	09/13/00	3,785.71	-	57.29	0.00	3,728.42
	11/15/00	3,785.71	-	57.44	0.00	3,728.27
	02/23/01	3,785.71	-	57.52	0.00	3,728.19
	05/15/01	3,785.71	-	57.60	0.00	3,728.11
	08/07/01	3,785.71	-	57.75	0.00	3,727.96
	11/01/01	3,785.71	-	57.89	0.00	3,727.82
	02/19/02	3,785.71	-	57.97	0.00	3,727.74
	06/19/02	3,785.71	-	58.18	0.00	3,727.53
	09/23/02	3,785.71	-	58.30	0.00	3,727.41
	12/20/02	3,785.71	-	58.46	0.00	3,727.25
	09/13/00	3,786.00	-	57.36	0.00	3,728.64
	11/15/00	3,786.00	-	57.41	0.00	3,728.59
MW - 20	02/23/01	3,786.00	-	57.59	0.00	3,728.41
	05/15/01	3,786.00	-	57.69	0.00	3,728.31
	08/07/01	3,786.00	-	57.82	0.00	3,728.18
	11/01/01	3,786.00	-	57.95	0.00	3,728.05
	02/19/02	3,786.00	-	58.10	0.00	3,727.90
	06/19/02	3,786.00	-	58.26	0.00	3,727.74
	09/23/02	3,786.00	-	58.39	0.00	3,727.61
	12/20/02	3,786.00	-	58.52	0.00	3,727.48
	09/13/00	3,785.94	56.00	62.41	6.41	3,728.98
	11/15/00	3,785.94	55.52	65.41	9.89	3,728.94
	02/23/01	3,785.94	55.68	65.22	9.54	3,728.83
	05/15/01	3,785.94	55.99	64.84	8.85	3,728.62
RW - 1	08/07/01	3,785.94	55.91	65.68	9.77	3,728.56
	11/01/01	3,785.94	55.99	65.82	9.83	3,728.48
	02/19/02	3,785.94	56.24	66.02	9.78	3,728.23
	06/19/02	3,785.94	56.35	65.89	9.54	3,728.16
	09/23/02	3,785.94	56.60	66.28	9.68	3,727.89
	12/20/02	3,785.94	56.77	66.2	9.43	3,727.76

TABLE 1  
GROUNDWATER ELEVATION TABLE

EOTT ENERGY, LLC  
DARR ANGELL#1  
LEA COUNTY, NEW MEXICO  
PROJECT # EO 2055

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
RW - 2	09/13/00	3,786.14	56.34	62.78	6.44	3,728.83
	11/15/00	3,786.14	56.05	65.14	9.09	3,728.73
	02/23/01	3,786.14	56.21	64.85	8.64	3,728.63
	05/15/01	3,786.14	56.89	62.88	5.99	3,728.35
	08/07/01	3,786.14	56.51	65.16	8.65	3,728.33
	11/01/01	3,786.14	56.51	65.37	8.86	3,728.30
	02/19/02	3,786.14	56.75	65.66	8.91	3,728.05
	06/19/02	3,786.14	58.45	58.66	0.21	3,727.66
	09/23/02	3,786.14	57.21	65.44	8.23	3,727.70
RW - 3	09/13/00	3,786.14	56.53	62.02	5.49	3,728.79
	11/15/00	3,786.14	55.96	65.48	9.52	3,728.75
	02/23/01	3,786.14	56.14	65.12	8.98	3,728.65
	05/15/01	3,786.14	56.75	63.48	6.73	3,728.38
	08/07/01	3,786.14	56.44	65.16	8.72	3,728.39
	11/01/01	3,786.14	56.48	65.67	9.19	3,728.28
	02/19/02	3,786.14	56.75	65.85	9.10	3,728.03
	06/19/02	3,786.14	58.38	58.70	0.32	3,727.71
	09/23/02	3,786.14	58.65	59.03	0.38	3,727.43

TABLE 2

## GROUNDWATER CHEMISTRY

EOTT ENERGY, LLC  
DARR ANGEL #1  
MONUMENT, NEW MEXICO  
PROJECT # EO 2055

*All Concentrations are in mg/L*

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8260b			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-4	05/05/00	<0.001	<0.001	<0.001	<0.001
	09/13/00	<0.001	<0.001	<0.001	<0.001
	11/16/00	<0.001	<0.001	<0.001	<0.001
	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.001	<0.001	<0.001	<0.001
	08/07/01	<0.001	<0.001	<0.001	<0.001
	11/01/01	<0.001	<0.001	<0.001	<0.001
	02/19/02	<0.001	<0.001	<0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	<0.001	<0.001	<0.001	<0.001
MW-7	05/05/00	<0.001	<0.001	<0.001	<0.001
	09/13/00	<0.001	<0.001	<0.001	<0.001
	11/16/00	<0.001	<0.001	<0.001	<0.001
	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.001	<0.001	<0.001	<0.001
	08/07/01	<0.001	<0.001	<0.001	<0.001
	11/01/01	<0.001	<0.001	<0.001	<0.001
	02/19/02	<0.001	<0.001	<0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	<0.001	<0.001	<0.001	<0.001
MW-10	06/27/00	1.520	0.787	0.303	0.973
MW-11	06/27/00	0.007	0.006	0.003	0.010
	09/13/00	<0.001	<0.001	<0.001	<0.001
	11/16/00	<0.001	<0.001	<0.001	<0.001
	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.005	<0.005	<0.005	<0.005
	08/07/01	<0.001	<0.001	<0.001	<0.001
	11/01/01	<0.001	<0.001	<0.001	<0.001
	02/19/02	<0.001	<0.001	<0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	<0.001	<0.001	<0.001	<0.001

TABLE 2

## GROUNDWATER CHEMISTRY

EOTT ENERGY, LLC  
DARR ANGEL #1  
MONUMENT, NEW MEXICO  
PROJECT # EO 2055

All Concentrations are in mg/L

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8260b			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-12	06/27/00	1.360	<0.050	<0.050	0.151
	09/13/00	1.250	<0.010	<0.010	0.085
	11/16/00	0.942	0.002	0.002	0.103
	02/23/01	0.712	<0.005	<0.005	0.078
	05/15/01	1.770	<0.005	0.005	0.139
	08/07/01	1.740	<0.001	0.004	0.101
	11/01/01	2.070	<0.001	0.005	0.072
	02/19/02	2.120	<0.001	0.005	0.017
	06/19/02	2.050	<0.001	0.005	0.017
	09/23/02	2.510	<0.001	0.006	0.010
	12/20/02	1.300	0.003	0.008	0.015
MW-13	06/27/00	2.730	0.186	0.115	0.414
MW-15	06/27/00	0.011	0.003	0.001	0.005
	09/13/00	0.002	<0.001	<0.001	<0.001
	11/16/00	0.002	<0.001	<0.001	0.005
	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.005	<0.005	<0.005	<0.005
	08/07/01	0.002	<0.001	<0.001	<0.001
	11/01/01	0.001	<0.001	<0.001	<0.001
	02/19/02	0.001	0.001	0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	0.006	0.003	0.002	0.004
MW-16	06/27/00	0.008	0.004	0.001	0.004
	09/13/00	<0.001	<0.001	<0.001	<0.001
	11/16/00	<0.001	<0.001	<0.001	<0.001
	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.005	<0.005	<0.005	<0.005
	08/07/01	<0.001	<0.001	<0.001	<0.001
	11/01/01	<0.001	<0.001	<0.001	<0.001
	02/19/02	<0.001	<0.001	<0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	0.007	0.003	0.002	0.005

TABLE 2

## GROUNDWATER CHEMISTRY

EOTT ENERGY, LLC  
DARR ANGEL #1  
MONUMENT, NEW MEXICO  
PROJECT # EO 2055

*All Concentrations are in mg/L*

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8260b			
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES
MW-17	09/13/00	0.003	<0.001	<0.001	0.002
	11/16/00	<0.001	<0.001	<0.001	<0.001
	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.001	<0.001	<0.001	<0.001
	08/07/01	<0.001	<0.001	<0.001	<0.001
	11/01/01	<0.001	<0.001	<0.001	<0.001
	02/19/02	<0.001	<0.001	<0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	0.032	0.004	0.003	0.006
MW-18	09/13/00	0.002	<0.001	<0.001	<0.001
	11/16/00	<0.001	<0.001	<0.001	<0.001
	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.001	<0.001	<0.001	<0.001
	08/07/01	<0.001	<0.001	<0.001	<0.001
	11/01/01	<0.001	<0.001	<0.001	<0.001
	02/19/02	<0.001	<0.001	<0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	0.016	0.004	0.003	0.005
MW-19	09/13/00	0.004	<0.001	0.001	<0.001
	11/16/00	<0.001	<0.001	<0.001	<0.001
	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.001	<0.001	<0.001	<0.001
	08/07/01	<0.001	<0.001	<0.001	<0.001
	11/01/01	<0.001	<0.001	<0.001	<0.001
	02/19/02	<0.001	<0.001	<0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	0.008	0.006	0.003	0.006
MW-20	09/13/00	<0.001	<0.001	<0.001	<0.001
	11/16/00	<0.001	<0.001	<0.001	0.001
	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.001	<0.001	<0.001	<0.001
	08/07/01	<0.001	<0.001	<0.001	<0.001
	11/01/01	<0.001	<0.001	<0.001	<0.001
	02/19/02	<0.001	<0.001	<0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	<0.001	<0.001	<0.001	<0.001

TABLE 2

## GROUNDWATER CHEMISTRY

EOTT ENERGY, LLC  
DARR ANGEL #1  
MONUMENT, NEW MEXICO  
PROJECT # EO 2055

*All Concentrations are in mg/L*

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8260b			
		BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES
EB - 1	02/23/01	<0.001	<0.001	<0.001	<0.001
	05/15/01	<0.001	<0.001	<0.001	<0.001
	08/07/01	<0.001	<0.001	<0.001	<0.001
	11/01/01	<0.001	<0.001	<0.001	<0.001
	02/19/02	<0.001	<0.001	<0.001	<0.001
	06/19/02	<0.001	<0.001	<0.001	<0.001
	09/23/02	<0.001	<0.001	<0.001	<0.001
	12/20/02	<0.001	<0.001	<0.001	<0.001

## **DARR ANGELL 1 ETGI Project # 2055**

- Leak occurred: 5/1/97;
- A reported 25 barrels were released with 15 barrels recovered;
- No excavation conducted on-site;
- 20 monitor wells and 3 recovery wells are on-site and are monitored on a quarterly basis; 8 MW's have been retro-fitted with PSH skimming pumps and are connected to the automated recovery system; one existing MW (MW-10) will be retro-fitted with a skimming pump and incorporated into the automated recovery system; 8 additional RW's (RW-4 through RW11) have been installed within the delineated PSH plume to increase PSH recovery efficiency rates; of these newly installed recovery wells, RW-4, RW-5, RW-6, and RW-8 will be incorporated into the automated recovery system; RW-7, RW-9, RW-10, and RW-11 have had absorbent booms installed and are monitored weekly; PSH recovery/containment areas were consolidated into two areas, dissolved phase constituent concentrations exceeding the NMOCD benzene standards have been documented in monitor wells MW-10, MW-12 and MW-13, (prior to the detection of PSH at MW-10 and 13), MW-17 and MW-18;
- Approximately 8,956 gallons of PSH (213 barrels) have been recovered;
- Stage II Abatement Plan submitted October 2002, Annual Groundwater Monitoring Report too be submitted by April 1, 2003, Addendum to the Stage II Abatement Plan will be prepared and submitted upon completion of the additional RW's and other system upgrades.

ONE CALL	1/22/2003			
DARR ANGELL #1	CO. ID: 739			
EFFECTIVE: Jan. 24 - Feb. 7, 2003				
				CONTACTED
DA-1	NW, SE Sec 11, T 15S, R37E			
	250 Yd Radius			
	Confirmation #2003041577			
	AMOCO			
	EOTT			
Directions:	From Lovington East on 82 for 11.2 miles. Turn at first			
	Cattle guard past the Davis Gas Plant to the south. Turn			
	immediatley east and proceed .2 mi, turn south, proceed			
	1.3 mile. Turn west for .3 mi., turn north proceed .1 mile .			