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REPORTS

DATE:

9/30/1999

EOTT ENERGY OPERATING LIMITED

FORMER TNM MONUMENT SITE 11

LEA COUNTY, NEW MEXICO

GROUNDWATER DELINEATION REPORT

September 30, 1999

Prepared For

EOTT Energy Operating Limited
Midland, Texas

Project ES-388

Prepared By

ENERCON SERVICES INC.
P.O. BOX 51138
Midland, Texas 79710-1138
(915) 520-2795

TABLE OF CONTENTS

1.0 Introduction

Enercon Services Inc. (Enercon) has completed the Phase II Groundwater Site Assessment adjacent to a former Texas New Mexico (TNM) pipeline release on State of New Mexico property located approximately 2 miles northwest of Monument, Lea County, New Mexico (Figure 1). The TNM Monument Site #11 is currently owned by EOTT Energy Corporation (EOTT). This report details the installation and sampling of four (4) monitor wells at the location.

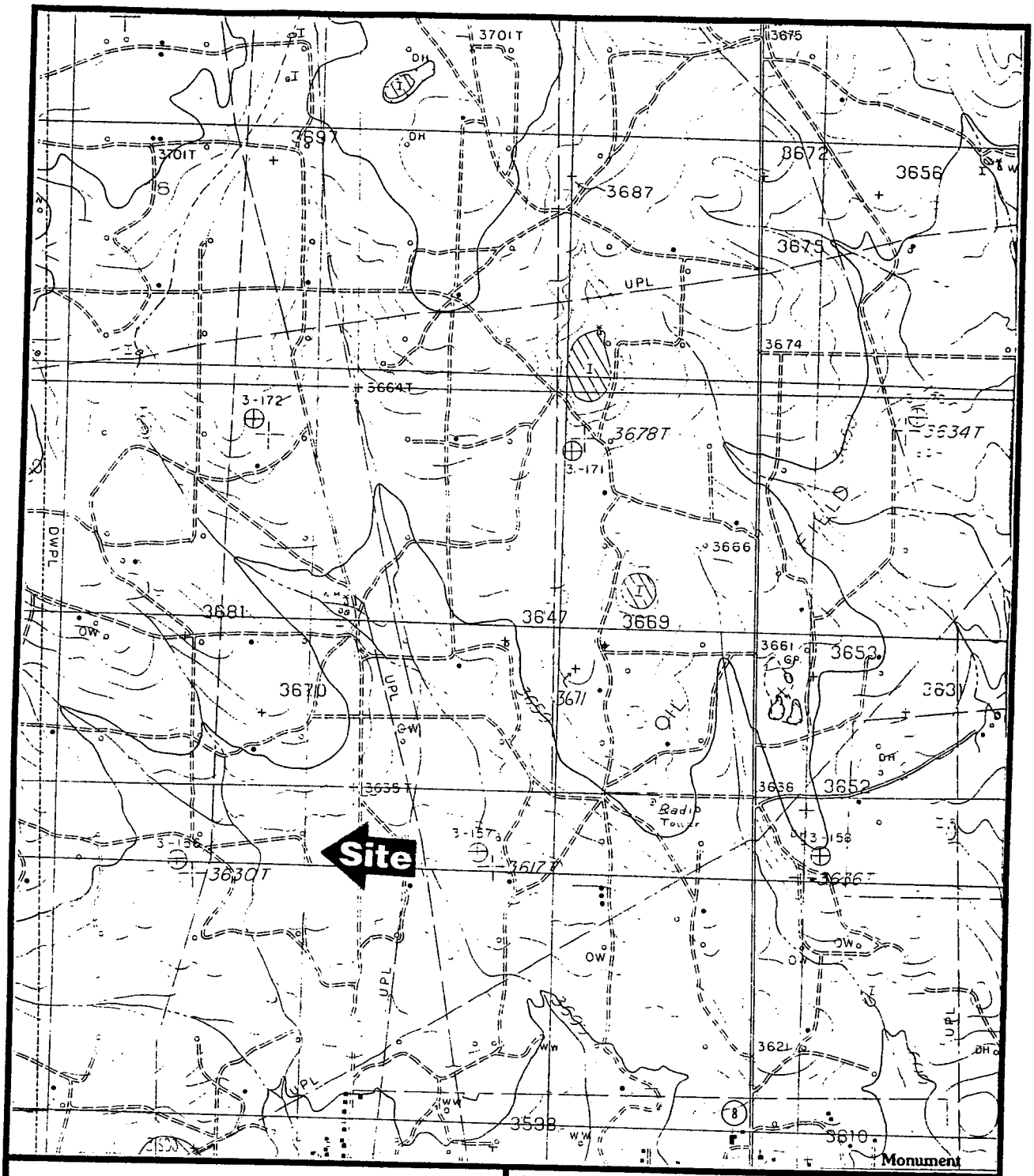
2.0 Project Background

Previous soil investigations were performed at the site in January and November 1998 by KEI consultants of San Antonio, Texas. During these investigations, ten soil borings were advanced to the groundwater to determine the vertical extent of hydrocarbon impacts to the soil. From these investigations, the soils were found to be impacted in the vicinity of the initial release location. Following the completion of the site activities described above, Enercon was retained by EOTT to install and sample four (4) monitor wells to determine if groundwater had also been impacted by the release.

3.0 Subsurface Investigation

As per Enercon's workplan dated August 2, 1999, Enercon personnel were onsite August 24 to 26, 1999, to install and sample four (4) monitor wells (MW-1, MW-2, MW-3, and MW-4) around the perimeter and in the center of the source release (Figure 2). The borings were extended 10 feet into the groundwater table to approximately 34 to 38 feet below ground level (bgl) and completed as monitor wells.

Soil samples were collected from each of the four (4) borings at 5-foot intervals using a split-spoon sampler and were screened in the field for volatile organic constituents by an Enercon representative using a Photoionization Detector (PID) and head space techniques. Two (2) soil samples, one from directly above the groundwater and one from the zone exhibiting the highest PID measurements were collected and submitted to Environmental Labs of Texas, located in Odessa, Texas. The soil samples were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) using EPA method 8020 and total petroleum hydrocarbons–diesel range organics (TPH-DRO) using EPA Method 8015 Modified. The soil sample exhibiting the highest TPH was further analyzed for SPLP-VOC, SPLP SVOC and SPLP-TPH using EPA Methods SW 846-8260, SW 846-1312, 8270C, and SW 846-1312, 418.1, respectively.



ENERCON SERVICES, INC.
An Employee Owned Company

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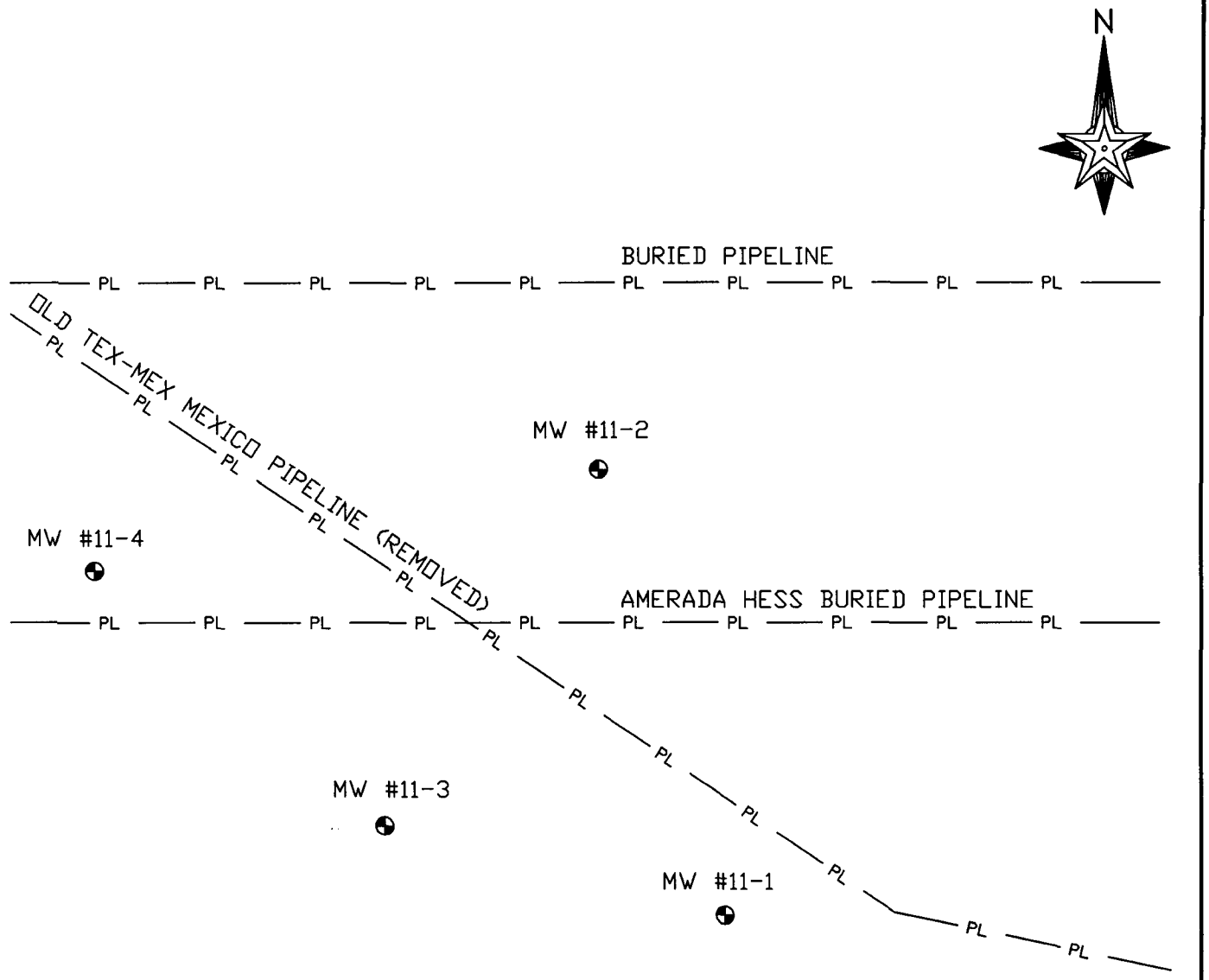
EOTT Energy Corporation
USGS 7.5" Quad
Monument North
New Mexico
Provisional Edition 1985

Figure 1
Project No. ES-388
Scale 1:24,00



LEGEND:

— PL — PIPELINE

MONITORING WELL

APPROXIMATE SCALE

0 10 20 30 40 50

1" = 50'

SITE MAP

September 30, 1999

PREPARED FOR:
EOTT TNM MONUMENT SITE #11
LEA COUNTY, NEW MEXICO

PREPARED BY:
ENERCON SERVICES, INC.
2775 VILLA CREEK, SUITE 120
DALLAS, TX 75234
972/484-3854

DRAWN BY: B. Mc

PROJECT NUMBER: ES-388

FIGURE 2

Subsurface conditions were similar in all four (4) borings (see Appendix A Boring Logs). The surface to an approximate depth of 17 feet bgl was composed of a tan/buff, fine-grain sandy limestone intermixed with calcite and chert. Chert layers were encountered from 17 to 24 feet bgl in MW-1 and MW-3. From 17 feet to approximately 24 feet bgl MW-2 and MW-4 were comprised of tan, fine-grain calcareous sand. From 24 feet to the terminus of the borings at approximately 34 to 38 feet bgl, the soils are composed of red sandy clay of high plasticity (red bed).

The monitor wells were constructed of 4-inch diameter schedule 40 PVC casing with 0.020-inch factory slotted well screen (see Appendix B, Monitor Well Completion Diagrams). Fifteen (15) feet of screen was placed at the bottom of each boring. A sand pack was then installed from the bottom of the boring to approximately 2 feet above the casing/screen junction. A clean silica sand with a grain size larger than the well screen (sieve size 12 to 20) was used as the sand pack in the annular space between the casing and borehole. Above the sand pack, a 2-foot bentonite plug was installed in the annulus. Above the bentonite plug, a non-shrinking grout with 3 to 5% bentonite was installed in the annulus to 2 feet bgl. The remaining 2 feet to the surface was completed with cement. The surface completion included an 8-inch diameter steel surface riser, a 4-foot by 4-foot by 4-inch thick concrete pad, and a locking cap on the outer protective casing (see Appendix C, Site Photographs).

4.0 Analytical Results

4.1 Soil Analytical Results

Two (2) soil samples were collected from each of the four (4) monitor wells and submitted to Environmental Labs of Texas, for analysis of BTEX and TPH-DRO. Further analysis for SPLP VOC, SPLP SVOC, and SPLP TPH was performed on the soil sample with the highest TPH value (MW-4 [13-15']). Analytical results are summarized in Table 1 and are included in Appendix D, Laboratory Analytical Reports.

Benzene was not detected in any of the samples collected except for monitor well MW-4 (13-15'), which had a concentration of 0.299 milligrams per kilograms (mg/kg; ppm). Total BTEX ranged from non-detect in MW-1 (24-25'), MW-2 and MW-3 to 7.057 in MW-4 (13-15'). The SPLP SVOC, SPLP TPH, and SPLP VOC were non-detect. TPH-DRO results ranged from non-detect in MW-1, MW-2, MW-3 to 2,400 ppm in MW-4 (13-15'). All analytes analyzed were below New Mexico Oil Conservation Division (NMOCD) standards except for TPH-DRO in MW-4 (13-15') and MW-4 (23-25') with results of 2,440 ppm and 720 ppm, respectively.

TABLE 1
SOIL ANALYSIS
EOTT TNM MONUMENT SITE # 11
LEA COUNTY, NEW MEXICO

Boring	Date	Benzene (in mg/kg)	Toluene (in mg/kg)	Ethylbenzene (in mg/kg)	Xylenes (in mg/kg)	Total BTEX (in mg/kg)	TPH (Dro) (in mg/kg)	SPLP VOC (in mg/kg)	SPLP SVOC (in mg/kg)	SPLP TPH (in mg/kg)
MW-1 (13-15')	08/24/99	<0.100	0.275	0.174	0.317	0.766	<10	NA	NA	NA
MW-1 (24-25')	08/24/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10	NA	NA	NA
MW-2 (8-10')	08/25/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10	NA	NA	NA
MW-2 (23-25')	08/25/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10	NA	NA	NA
MW-3 (13-15')	08/25/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10	NA	NA	NA
MW-3 (24-25')	08/25/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10	NA	NA	NA
MW-4 (13-15')	08/24/99	<0.100	0.653	0.704	5.700	7.057	2,440	*	ND	<1.0
MW-4 (23-25')	08/24/99	0.299	0.561	0.116	0.851	1.827	720	NA	NA	NA
NMOCD Standards		10	NA	NA	NA	50	100	NA	NA	NA

ND = Not detected NA = Not available * See attached analytical results in Appendix D

4.2 Groundwater Analytical Results

Within 24 hours after installation, Enercon personnel were onsite to gauge, develop, and sample the four (4) monitor wells (MW-1, MW-2, MW-3, and MW-4 [Table 2]). The wells were developed by removing three (3) well volumes from each well or until the wells bailed dry. Groundwater gradient is to the southeast (Figure 3).

A water sample from each monitor well was collected and submitted to Environmental Labs of Texas of Texas. The groundwater samples were analyzed for BTEX by EPA Method 8020, polycyclic aromatic hydrocarbons (PAH) by EPA Method 8100, total dissolved solids (TDS), cations and anions, and New Mexico Water Quality Standards using EPA method 6010. The benzene analysis ranged from non-detect in MW-1 to 0.016 milligrams per liter (mg/L; ppm) in MW-4. Total BTEX ranged from non-detect in MW-1 to 0.044 ppm in MW-2. The PAH results were non-detect from all samples except for MW-3, which had a Naphthalene concentration of 0.010 ppm. The following metals were detected in the monitor wells: aluminum, barium, boron, calcium, iron, magnesium, manganese, nickel, potassium, selenium, sodium, strontium, and vanadium. All analytes analyzed were below New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards except for the following: 1) benzene in MW-4 with a result of 0.016 ppm (standard is 0.01 ppm) and 2) chlorides in MW-1 and MW-4 with results of 266 and 284 ppm, respectively (standard is 250 ppm [Tables 3, 4, 5 and 6]).

5.0 Waste Disposal And Disposition

The soils generated during drilling activities were spread out on the ground adjacent to the monitor wells.

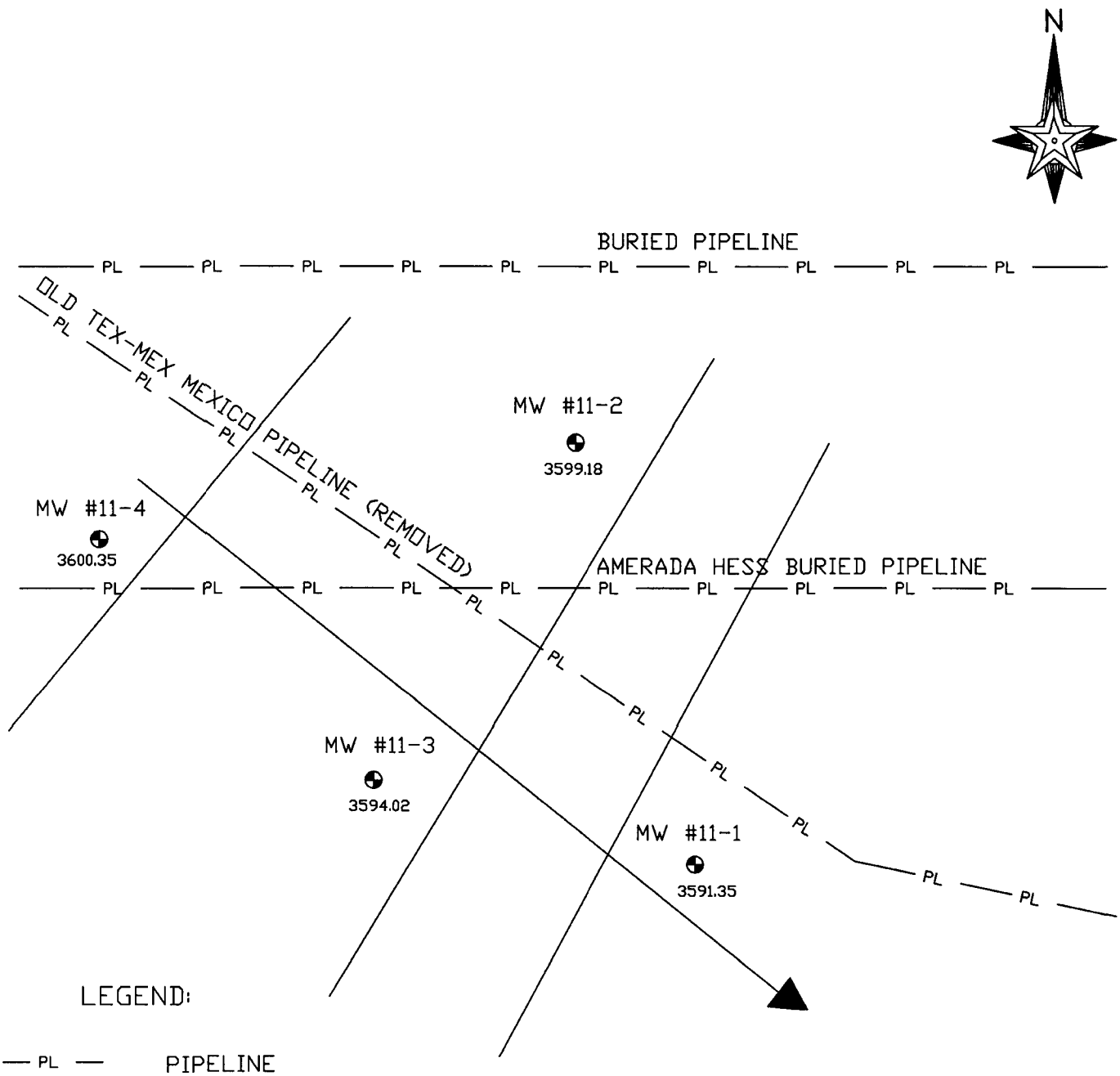
The development water generated from the monitor wells was placed in one (1), 55-gallon drum and stored adjacent to monitor well MW-4.

6.0 Conclusions And Recommendations

The following conclusions are presented based on field observations, drilling activities, and soil and groundwater laboratory results:

- Hydrocarbon impacts to soil are above NMOCD standards for TPH in monitor well MW-4 (located in center of initial release).

- Groundwater has been impacted at the site with benzene above NMOCD standards in monitor well MW-4.



GROUNDWATER GRADIENT MAP

September 30, 1999

PREPARED FOR:
EOTT TNM MONUMENT SITE #11
LEA COUNTY, NEW MEXICO

PREPARED BY:
ENERCON SERVICES, INC.
2775 VILLA CREEK, SUITE 120
DALLAS, TX 75234
972/484-3854

DRAWN BY: B. Mc

PROJECT NUMBER: ES-388

FIGURE 3

TABLE 2
GROUNDWATER GAUGING DATA
EOTT TNM MONUMENT SITE # 11
LEA COUNTY, NEW MEXICO

Monitor Well	Date	Survey Data (in feet)	Depth to Groundwater (in feet)	Depth to LNAPL (in feet)	LNAPL Thickness (in feet)	Corrected Groundwater (in feet)
MW-1	08/26/99	3624.90	33.55	ND	ND	3591.35
MW-2	08/26/99	3624.91	25.73	ND	ND	3599.18
MW-3	08/26/99	3623.99	24.97	ND	ND	3599.02
MW-4	08/26/99	3624.02	23.67	ND	ND	3600.35

ND = Not detected

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
EOTT TNM MONUMENT SITE # 11
LEA COUNTY, NEW MEXICO

Monitor Well	Date	Benzene (in mg/L)	Toluene (in mg/L)	Ethylbenzene (in mg/L)	Xylene (in mg/L)	Total BTEX (in mg/L)
MW-1	08/26/1999	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	08/26/1999	0.002	0.013	0.004	0.025	0.044
MW-3	08/26/1999	0.004	<0.001	<0.001	0.002	0.006
MW-4	08/26/1999	0.016	0.006	0.004	0.015	0.041
New Mexico WQCC Standards		0.01	0.75	0.75	0.62	NA

NA = Not available ND = Not detected

TABLE 4
GROUNDWATER ANALYTICAL RESULTS
EOTT TNM MONUMENT SITE # 11
LEA COUNTY, NEW MEXICO

Monitor Well	Date	Carbonate (in mg/L)	Bicarbonate (in mg/L)	Chloride (in mg/L)	Sulfate (in mg/L)	Nitrate (in mg/L)	TDS (in mg/L)
MW-1	08/26/1999	0	195	266	168	2.4	NA
MW-2	08/26/1999	0	200	195	159	2.2	830
MW-3	08/26/1999	0	320	77	28	0.6	NA
MW-4	08/26/1999	0	370	284	156	0.7	NA
New Mexico WQCC Drinking Water Stand.		NA	NA	250	600	NA	1000

NA = Not available ND = Not detected

TABLE 5
GROUNDWATER METALS ANALYTICAL RESULTS
EOTT TNM MONUMENT SITE # 11
LEA COUNTY, NEW MEXICO

Analyte	MW-1 (in mg/L)	MW-2 (in mg/L)	MW-3 (in mg/L)	MW-4 (in mg/L)	New Mexico WQCC Standards (in mg/L)
Aluminum	0.900	0.074	0.135	0.064	5.00
Arsenic	ND	ND	ND	ND	0.100
Barium	0.129	0.146	0.117	0.319	1.00
Beryllium	ND	ND	ND	ND	NA
Boron	0.290	0.511	0.148	0.151	0.750
Cadmium	ND	ND	ND	ND	0.010
Calcium	151	128	108	177	NA
Chromium	ND	ND	ND	ND	0.050
Cobalt	ND	ND	ND	ND	0.050
Copper	ND	ND	ND	ND	1.00
Iron	0.262	0.258	0.293	0.433	1.00
Lead	ND	ND	ND	ND	0.050
Magnesium	26.40	23.50	19.20	45.10	NA
Manganese	0.046	0.038	0.050	0.642	0.200
Mercury	ND	ND	ND	ND	0.002
Molybdenum	ND	ND	ND	ND	1.00
Nickel	ND	ND	0.010	0.012	0.200
Potassium	11.20	7.80	6.10	6.70	NA
Selenium	0.006	0.010	0.007	ND	0.050
Silver	ND	ND	ND	ND	0.050
Sodium	125.0	84.0	50.0	96.0	NA
Strontium	1.520	1.340	1.020	2.000	NA
Tin	ND	ND	ND	ND	NA
Vanadium	0.025	ND	ND	ND	NA
Zinc	ND	ND	ND	ND	10.0

NA = Not available ND = Not detected

TABLE 6
GROUNDWATER PAH ANALYTICAL RESULTS
EOTT TNM MONUMENT SITE # 11
LEA COUNTY, NEW MEXICO

Analyte	MW-1 (in mg/L)	MW-2 (in mg/L)	MW-3 (in mg/L)	MW-4 (in mg/L)	New Mexico WQCC Standards (in mg/L)
Acenaphthylene	ND	ND	ND	ND	NA
Acenaphthene	ND	ND	ND	ND	NA
Anthracene	ND	ND	ND	ND	NA
Benzo[a]anthracene	ND	ND	ND	ND	NA
Benzo[b]fluoranthene	ND	ND	ND	ND	NA
Benzon[k]fluoranthene	ND	ND	ND	ND	NA
Benzo[a]pyrene	ND	ND	ND	ND	0.007
Benzo[g,h,I]perylene	ND	ND	ND	ND	NA
Chrysene	ND	ND	ND	ND	NA
Dibenz[a,h]anthracene	ND	ND	ND	ND	NA
Fluoranthene	ND	ND	ND	ND	NA
Fluorene	ND	ND	ND	ND	NA
Indeno[1,2,3-cd]pyrene	ND	ND	ND	ND	NA
Naphthalene	ND	ND	0.010	ND	0.030
Phenanthrene	ND	ND	ND	ND	NA
Pyrene	ND	ND	ND	ND	NA

NA = Not available ND = Not detected

Based on the findings of the Phase II Groundwater Investigation, Enercon recommends the following:

- Excavate and remove or perform insitu-remediation of the impacted soil in the vicinity of monitor well MW-4.
- Pursue natural attenuation of the groundwater at the site, since analytical results are at or below NMOCD and NMWQCC standards.
- Perform quarterly sampling at the site.

APPENDIX A

BORING LOGS

ENERCON SERVICES, INC. P.O. Box 51138 Midland, Texas 79710-1138	RECORD OF SUBSURFACE EXPLORATION	
Project #: ES-388	Well/Boring #: MW-1	Date Drilled: 08/24/1999
Project: EOTT TNM Monument Site 11 Lea County, NM	Drilling Company: Eades Drilling	Drilling Method: Air Rotary
	Driller: Alan Eades	Logged By: JWK

DEPTH (FEET)	SOIL DESCRIPTION	SAMPLE NUMBER	SAMPLE TYPE	OVA (PPM)	REMARKS
0.0	Buff/Tan fine-grained sandy limestone (dry)		SS	0	No hydrocarbon odor or staining crumbles easily
5.0					
10.0	increasing amount of chert (dry)		SS	0	No hydrocarbon odor or staining
15.0	with calcite and chert (slight moisture)	13-15'	SS	0	No hydrocarbon odor or staining
20.0	Buff/Tan calcareous sand intermixed with clay (dry)		SS	0	No hydrocarbon odor or staining crumbles easily
	Red/Tan hard chert layer (dry)				
25.0	Red mottled clay (Red Bed) with minor constituents of fine-grain sand (slight moisture)	24-25'	SS	0	No hydrocarbon odor or staining Water on rods at 25 feet
30.0					
35.0					
	Boring terminated at 38 feet				
40.0					

ABBREVIATIONS AND SYMBOLS

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
THD - Texas Highway Department Cone
CT-5' - Continous Sampler

HSA - Hollow Stem Auger
CFA - Continous Flight Augers
DC - Driving Casing
MD - Mud Drilling

ENERCON SERVICES, INC. P.O. Box 51138 Midland, Texas 79710-1138	RECORD OF SUBSURFACE EXPLORATION	
Project #: ES-388	Well/Boring #: MW-2	Date Drilled: 08/25/1999
Project: EOTT TNM Monument Site 11 Lea County, NM	Drilling Company: Eades Drilling	Drilling Method: Air Rotary
	Driller: Alan Eades	Logged By: JWK

DEPTH (FEET)	SOIL DESCRIPTION	SAMPLE NUMBER	SAMPLE TYPE	OVA (PPM)	REMARKS
0.0	Buff/Tan fine-grain sandy limestone (dry)		SS	0	No hydrocarbon odor or staining crumbles easily
5.0					
10.0	increasing amount of chert (dry)	8-10'	SS	0	No hydrocarbon odor or staining
15.0	Red/Tan hard chert (dry)		SS	0	No hydrocarbon odor or staining
20.0	Tan/buff fine-grain calcareous fine-grain sand (dry)		SS	0	No hydrocarbon odor or staining crumbles easily
25.0	Red mottled clay (Red Bed) with minor constituents of fine-grain sand (slight moisture)	24-25'	SS	0	No hydrocarbon odor or staining Water on rods at 25 feet
30.0					
35.0	Boring terminated at 34 feet				
40.0					

ABBREVIATIONS AND SYMBOLS

SS - Driven Split Spoon
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HSA - Hollow Stem Auger
CFA - Continous Flight Augers
DC - Driving Casing
MD - Mud Drilling

ENERCON SERVICES, INC. P.O. Box 51138 Midland, Texas 79710-1138	RECORD OF SUBSURFACE EXPLORATION	
Project #: ES-388	Well/Boring #: MW-3	Date Drilled: 08/25/1999
Project: EOTT TNM Monument Site 11 Lea County, NM	Drilling Company: Eades Drilling	Drilling Method: Air Rotary
	Driller: Alan Eades	Logged By: JWK

DEPTH (FEET)	SOIL DESCRIPTION	SAMPLE NUMBER	SAMPLE TYPE	OVA (PPM)	REMARKS
0.0	Brown silty clay to 4"				
	Buff/tan fine-grain sandy calcitic limestone (dry)		SS	0	No hydrocarbon odor or staining crumbles easily
5.0					
			SS	0	No hydrocarbon odor or staining
10.0					
		13-15'	SS	0	No hydrocarbon odor or staining
15.0					
	Red/tan hard chert (dry)				No sample collected material to hard
20.0					
		24-25'	SS	0	
25.0	Red mottled clay (Red Bed) with minor constituents of fine-grain sand (slight moisture)				No hydrocarbon odor or staining Water on rods at 25 feet
30.0					
35.0	Boring terminated at 35'				
40.0					

ABBREVIATIONS AND SYMBOLS

SS - Driven Split Spoon
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CT-5' - Continous Sampler

HSA - Hollow Stem Auger
CFA - Continous Flight Augers
DC - Driving Casing
MD - Mud Drilling

ENERCON SERVICES, INC. P.O. Box 51138 Midland, Texas 79710-1138	RECORD OF SUBSURFACE EXPLORATION	
Project #: ES-388	Well/Boring #: MW-4	Date Drilled: 08/24/1999
Project: EOTT TNM Monument Site 11 Lea County, NM	Drilling Company: Eades Drilling	Drilling Method: Air Rotary
	Driller: Alan Eades	Logged By: JWK

DEPTH (FEET)	SOIL DESCRIPTION	SAMPLE NUMBER	SAMPLE TYPE	OVA (PPM)	REMARKS
0.0	Black tar to 4 feet				
	Tan clayey fine-grain silt (dry)		SS	186	Strong hydrocarbon odor and staining
5.0					
10.0	Buff/tan fine-grain sandy limestone (dry)		SS	90	Strong hydrocarbon odor with no staining
15.0	with calcite and chert (dry)	13-15'	SS	273	Strong hydrocarbon odor with no staining
20.0	Buff/tan clayey calcareous sand (dry)		SS	270	Strong hydrocarbon odor with no staining
25.0	Red mottled clay (Red Bed) with minor constituents of fine-grain sand (dry)	23-24'	SS	35	Slight hydrocarbon odor with no staining Water on rods at 24 feet
30.0					
35.0	Boring terminated at 34 feet				
40.0					

ABBREVIATIONS AND SYMBOLS

SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
THD - Texas Highway Department Cone
CT-5' - Continous Sampler

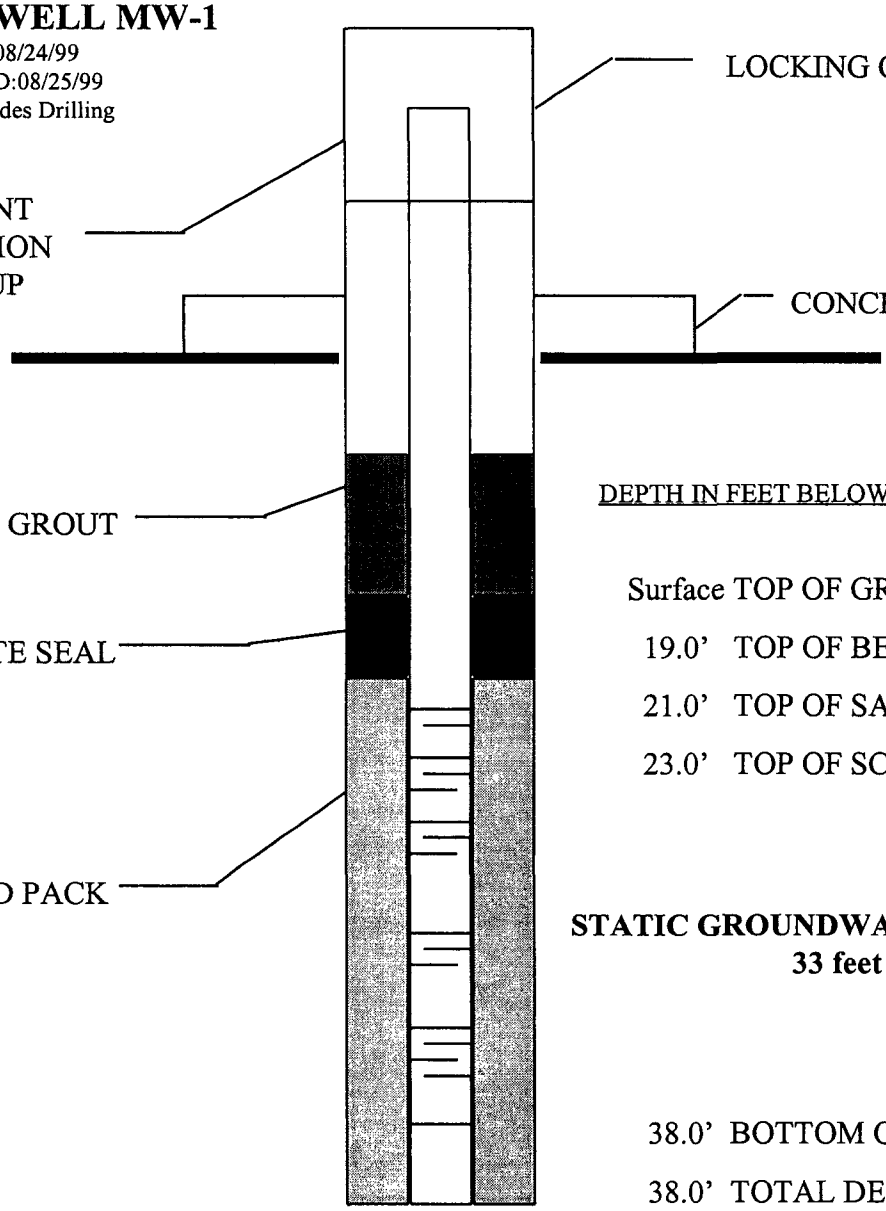
HSA - Hollow Stem Auger
CFA - Continous Flight Augers
DC - Driving Casing
MD - Mud Drilling

APPENDIX B

MONITOR WELL COMPLETION

MONITOR WELL MW-1

DATE STARTED: 08/24/99
DATE COMPLETED:08/25/99
INSTALLED BY:Eades Drilling



DEPTH IN FEET BELOW LAND SURFACE

Surface TOP OF GROUT
19.0' TOP OF BENTONITE SEAL
21.0' TOP OF SAND PACK
23.0' TOP OF SCREEN

STATIC GROUNDWATER DEPTH:
33 feet

38.0' BOTTOM OF SCREEN
38.0' TOTAL DEPTH

CASING TYPE: 4" SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC 0.020 SLOT
GRAVEL PACK: 12/20 VOLUME SILICA SAND

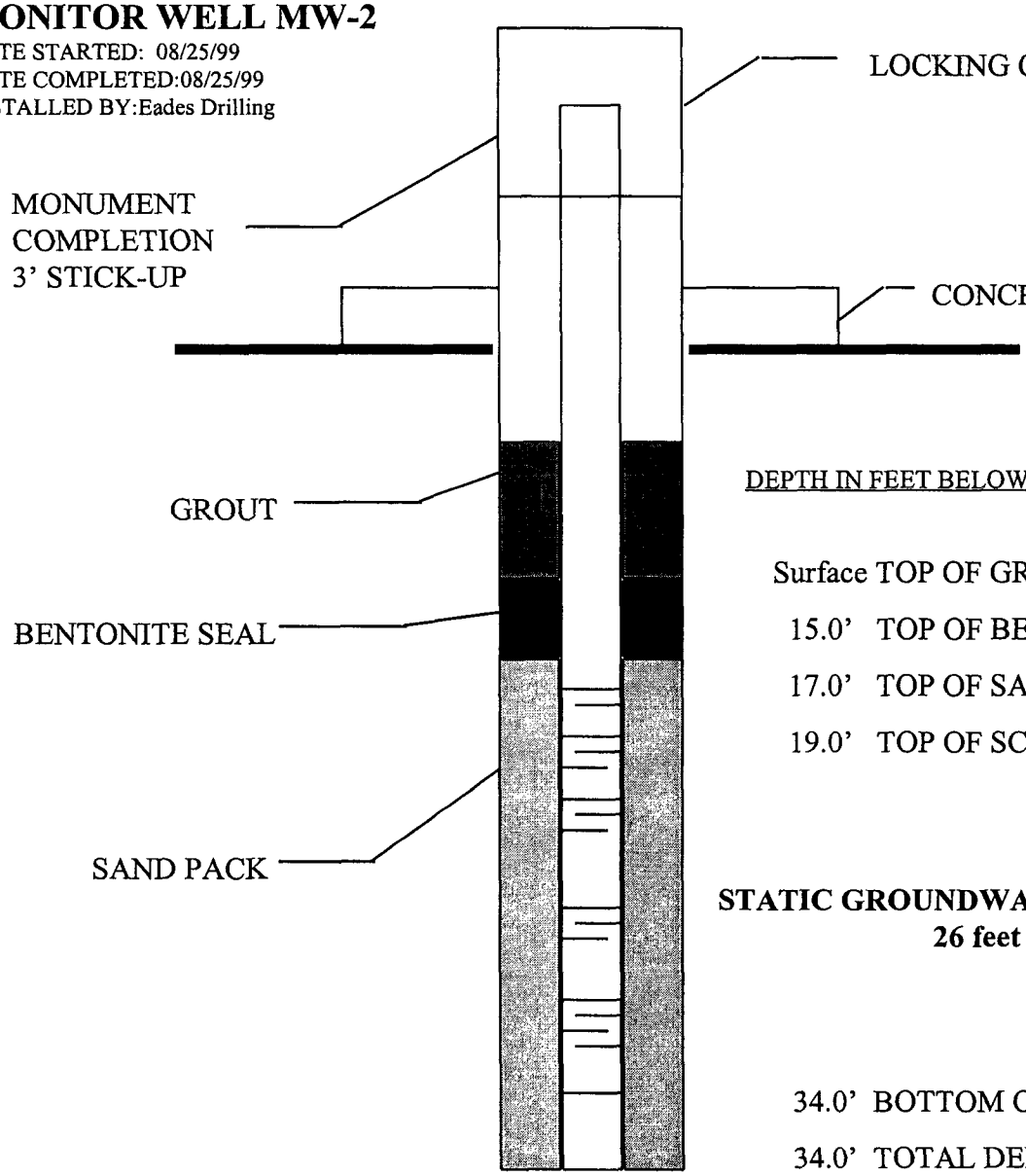
ENERCON SERVICES INC

Monitor Well Installation Diagram

EOTTTNM MONUMENT SITE 11
LEA CO., NEW MEXICO
ES-388

MONITOR WELL MW-2

DATE STARTED: 08/25/99
DATE COMPLETED:08/25/99
INSTALLED BY:Eades Drilling



DEPTH IN FEET BELOW LAND SURFACE

Surface TOP OF GROUT

15.0' TOP OF BENTONITE SEAL

17.0' TOP OF SAND PACK

19.0' TOP OF SCREEN

STATIC GROUNDWATER DEPTH:
26 feet

34.0' BOTTOM OF SCREEN

34.0' TOTAL DEPTH

CASING TYPE: 4" SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC 0.020 SLOT
GRAVEL PACK: 12/20 VOLUME SILICA SAND

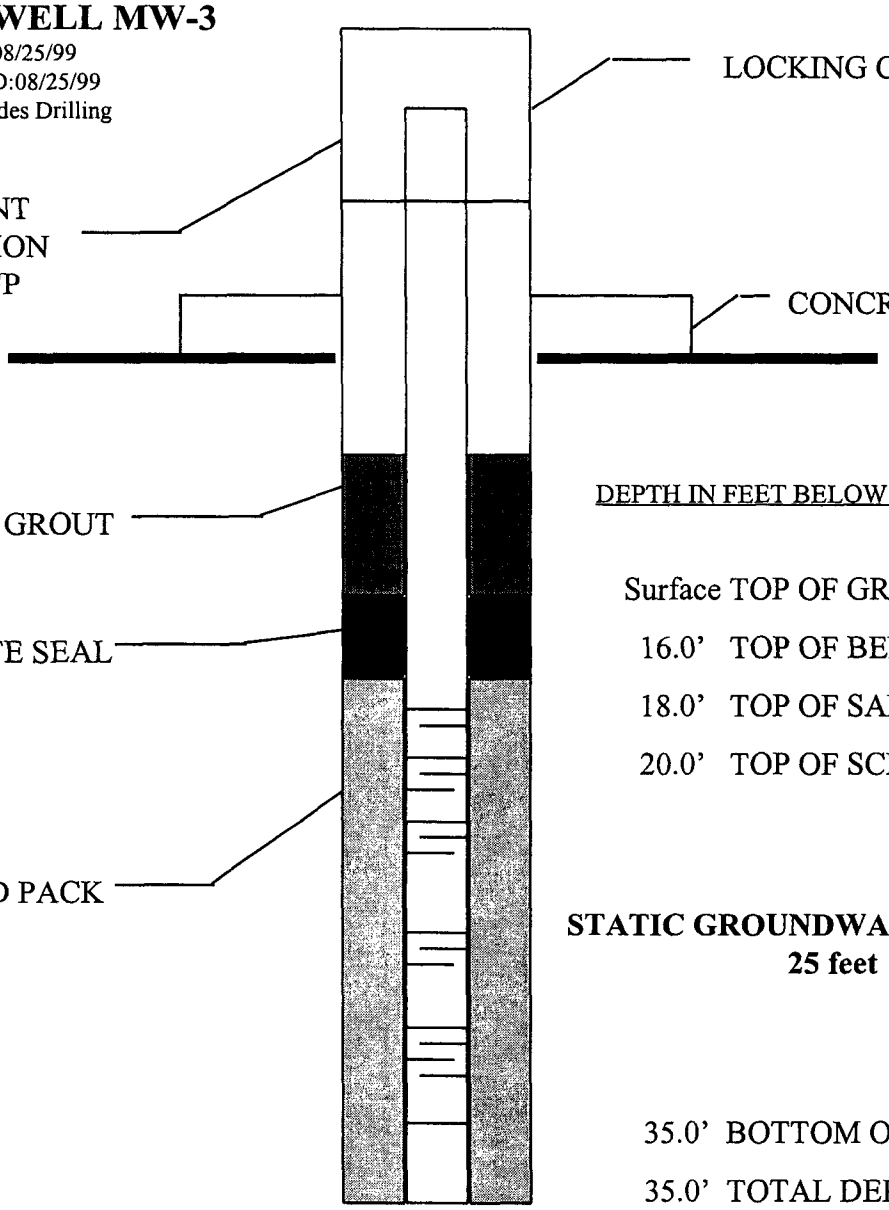
ENERCON SERVICES INC

Monitor Well Installation Diagram

EOTTTNM MONUMENT SITE 11
LEA CO., NEW MEXICO
ES-388

MONITOR WELL MW-3

DATE STARTED: 08/25/99
DATE COMPLETED:08/25/99
INSTALLED BY:Eades Drilling



DEPTH IN FEET BELOW LAND SURFACE

Surface TOP OF GROUT

16.0' TOP OF BENTONITE SEAL

18.0' TOP OF SAND PACK

20.0' TOP OF SCREEN

STATIC GROUNDWATER DEPTH: 25 feet

35.0' BOTTOM OF SCREEN

35.0' TOTAL DEPTH

CASING TYPE: 4" SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC 0.020 SLOT
GRAVEL PACK: 12/20 VOLUME SILICA SAND

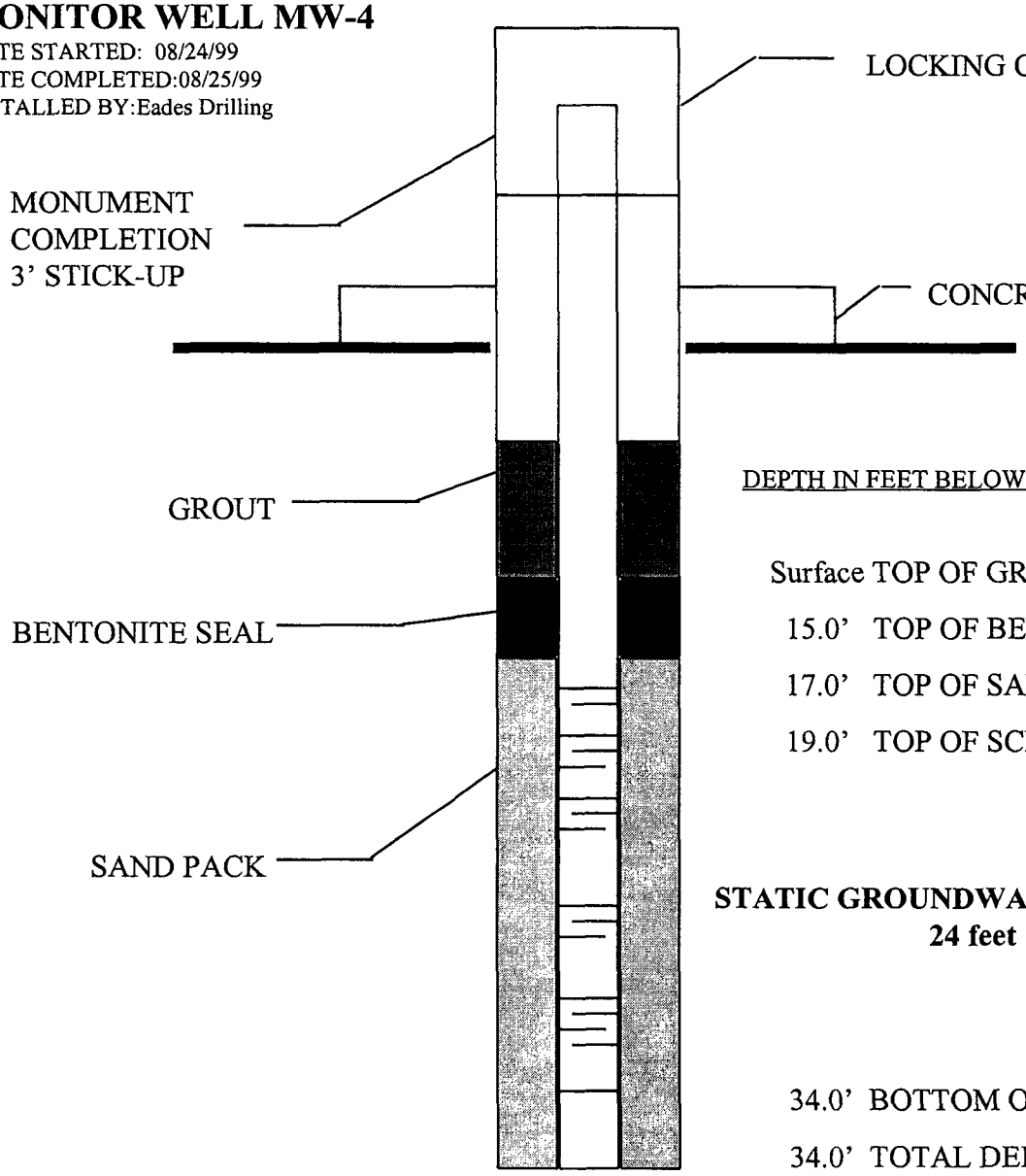
ENERCON SERVICES INC

Monitor Well Installation Diagram

EOTTTNM MONUMENT SITE 11
LEA CO., NEW MEXICO
ES-388

MONITOR WELL MW-4

DATE STARTED: 08/24/99
DATE COMPLETED:08/25/99
INSTALLED BY:Eades Drilling



DEPTH IN FEET BELOW LAND SURFACE

Surface TOP OF GROUT
15.0' TOP OF BENTONITE SEAL
17.0' TOP OF SAND PACK
19.0' TOP OF SCREEN

STATIC GROUNDWATER DEPTH: 24 feet

34.0' BOTTOM OF SCREEN
34.0' TOTAL DEPTH

CASING TYPE: 4" SCH. 40 PVC
SCREEN TYPE: SCH. 40 PVC 0.020 SLOT
GRAVEL PACK: 12/20 VOLUME SILICA SAND

ENERCON SERVICES INC

Monitor Well Installation Diagram

EOTTTNM MONUMENT SITE 11
LEA CO., NEW MEXICO
ES-388

APPENDIX C

SITE PHOTOGRAPHS

Photo 1: Drilling of monitor well MW-1.

Photo 2 : Installation of monitor well MW-1.

Photo 3: Drilling of monitor well MW-2.

Photo 4: Installation of monitor well MW-2.

Photo 5: Drilling of monitor well MW-3.

Photo 6: Installation of monitor well MW-3.

Photo 7: Drilling of monitor well MW-4.

Photo 8: Installation of monitor well MW-4.

APPENDIX D

LABORATORY ANALYSIS

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENERCON SERVICES, INC.
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Soil
Sample Condition: Intact/ Iced
Project #: ES-388
Project Name: TNM Monument #11
Project Location: Monument, New Mexico

Sampling Date: 08/26/99
Receiving Date: 08/26/99
Extraction Date: 08/31/99
Analysis Date: 09/06/99

ELT#	FIELD CODE	SPLP TPH (mg/L)
19583	MW-4 (13-15')	<1
	QUALITY CONTROL	440
	TRUE VALUE	432
	% PRECISION	102
	BLANK	<1

Methods: SW 846-1312, EPA 418.1

Raland K. Tuttle

9-16-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENERCON SERVICES
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Soil
Sample Condition: Intact
Project #: ES-338
Project Name: TNM Monument #11
Project Location: Monument, New Mexico

Sampling Date: See Below
Receving Date: 08/26/99
Analysis Date: BTEX 9/01/99
Analysis Date: DRO 8/27/99

ELT#	FIELD CODE / SAMPLE DATE	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	m,p-XYLENE (mg/kg)	o-XYLENE (mg/kg)	DRO C10-C28 (mg/kg)
19577	MW-1 (13-15') 8/24/99	<0.100	0.275	0.174	0.214	0.103	<10
19578	MW-1 (24-25') 8/24/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10
19579	MW-2 (8-10') 8/25/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10
19580	MW-2 (23-25') 8/25/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10
19581	MW-3 (13-15') 8/25/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10
19582	MW-3 (24-25') 8/25/99	<0.100	<0.100	<0.100	<0.100	<0.100	<10
19583	MW-4 (13-15') 8/24/99	<0.100	0.653	0.704	3.56	2.14	2440
19584	MW-4 (23-24') 8/24/99	0.299	0.561	0.116	0.592	0.259	720
	%IA	91	89	88	86	87	89
	%EA	98	91	89	90	890	*
	BLANK	<0.100	<0.100	<0.100	<0.100	<0.100	<10

METHODS: EPA SW 846-8020,5030, 8015M DRO

Raland K. Tuttle

9-15-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENERCON SERVICES, INC.
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Soil
Sample Condition: Intact
Project #: ES-388
Project Name: TNM Monument #11
Project Location: Mounment, New Mexico

Sampling Date: 08/24/99
Receiving Date: 08/26/99
Analysis Date: 09/09/99
Field Code: MW-4 (13-15')

Volatiles EPA SW 846-8260, (mg/l) Compounds SPLP	ELT# 19583	PQL	%Dev	Method Blank	% EA
Chloromethane	ND	0.001	4.2	ND	
Vinyl chloride	ND	0.001	-5.1	ND	
Bromomethane	ND	0.001	-9.7	ND	
Chloroethane	ND	0.001	-17.8	ND	
Trichlorofluoromethane	ND	0.001	-7.8	ND	
Acetone	ND	0.010	16.6	ND	
1,1-Dichloroethene	ND	0.001	-4.0	ND	99
Iodomethane	ND	0.010	-4.7	ND	
Vinyl Acetate	ND	0.010	2.4	ND	
Carbon Disulfide	ND	0.001	-2.3	ND	
Methylene Chloride	ND	0.001	-5.0	ND	
trans-1,2-Dichloroethene	ND	0.001	-8.4	ND	
1,1-Dichloroethane	ND	0.001	-3.4	ND	
2-Butanone	ND	0.010	4.0	ND	
cis-1,2-dichloroethene	ND	0.001	-3.7	ND	
Bromochloromethane	ND	0.001	3.6	ND	
Chloroform	ND	0.001	-0.4	ND	
1,1,1-Trichloroethane	ND	0.001	-3.8	ND	
Carbon Tetrachloride	ND	0.001	-6.4	ND	
Benzene	ND	0.001	-7.0	ND	100
1,2 Dichloroethane	ND	0.001	-0.8	ND	
Trichloroethene	ND	0.001	0.4	ND	94
1,2-Dichloropropane	ND	0.001	-4.2	ND	
Dibromomethane	ND	0.001	-4.8	ND	
Bromodichloromethane	ND	0.001	1.1	ND	
2-Hexanone	ND	0.010	3.3	ND	
2-Chloroethyl Vinyl ether	ND	0.010	3.7	ND	
4-Methyl 2-Pentanone	ND	0.010	-0.2	ND	
cis 1,3 Dichloropropene	ND	0.001	-4.9	ND	
Toluene	0.013	0.001	-3.9	ND	92
trans 1,3-Dichloropropene	ND	0.001	-4.2	ND	
1,1,2-Trichloroethane	ND	0.001	-3.8	ND	
Dibromochloromethane	ND	0.001	-7.9	ND	

ENERCON SERVICES, INC.
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Soil
Sample Condition: Intact
Project #: ES-388
Project Name: TNM Monument #11
Project Location: Monument, New Mexico

Sampling Date: 08/24/99
Receiving Date: 08/26/99
Analysis Date: 09/09/99
Field Code: MW-4 (13-15')

Volatiles EPA SW 846-8260, (mg/l) Compounds SPLP	ELT# 19583	PQL	%Dev	Method Blank	% EA
Tetrachloroethene	ND	0.001	-1.1	ND	
Chlorobenzene	ND	0.001	-4.5	ND	97
1,1,1,2-Tetrachloroethane	ND	0.001	-2.4	ND	
Ethylbenzene	0.003	0.001	-3.2	ND	
m&p Xylene	0.004	0.001	-4.3	ND	
o-Xylene	0.004	0.001	-3.1	ND	
Styrene	ND	0.001	-2.8	ND	
Bromoform	ND	0.001	-11.7	ND	
1,1,2,2-Tetrachloroethane	ND	0.001	-4.4	ND	
1,2,3-Trichloropropane	ND	0.001	-8.3	ND	
1,4-Dichlorobenzene	ND	0.001	-5.1	ND	
1,2-Dichlorobenzene	ND	0.001	-4.3	ND	
1,2-Dibromo-3-Chloropropane	ND	0.001	1.4	ND	

SYSTEM MONITORING COMPOUNDS	% RECOVERY
Dibromofluoromethane	103
Toluene-d8	100
4-Bromofluorobenzene	97

ND=<PQL

Methods: SW846-1312, 8260

Raland K. Tuttle

9-15-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENERCON SERVICES, INC.
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Soil
Sample Condition: Intact/ Iced
Project #: ES-388
Project Name: TNM Monument
Project Location: Monument, New Mexico
ELT# 19583

Sampling Date: 08/24/99
Receiving Date: 08/26/99
SPLP Extraction: 08/31/99
Extraction Date: 09/02/99
Analysis Date: 09/05/99

8270 COMPOUNDS SPLP	REPORTING LIMIT	MW-4 (13-15') Concentration mg/L	%Recovery	RPD	% EA
Acenaphthene	0.0111	ND	92	5.41	76
Acenaphthylene	0.0111	ND	86		
Anthracene	0.0111	ND	98		
Benzo (a) anthracene	0.0111	ND	102		
Benzo (a) pyrene	0.0111	ND	104		
Benzo (b) fluoranthene	0.0111	ND	84		
Benzo (g, h, i) perylene	0.0111	ND	114		
Benzo (k) fluoranthene	0.0111	ND	118		
4 - Bromophenyl - phenylether	0.0111	ND	96		
Butylbenzylphthalate	0.0111	ND	76		
Carbazole	0.0111	ND	102		
4 - Chloro - 3 - methylphenol	0.0111	ND	84	1.18	84
4-Chloroaniline	0.0111	ND	82		
Bis (2 - chloroethoxy) methane	0.0111	ND	76		
Bis (2 - chloroethyl) ether	0.0111	ND	64		
Bis (2 - chloroisopropyl) ether	0.0111	ND	70		
2 - Chloronaphthalene	0.0111	ND	88		
2 - Chlorophenol	0.0111	ND	72	4.44	66
4 - Chlorophenyl - phenylether	0.0111	ND	96		
Chrysene	0.0111	ND	118		
Dibenzofuran	0.0111	ND	86		
Dibenz (a, h) anthracene	0.0111	ND	118		
1, 2 - Dichlorobenzene	0.0111	ND	84		
1, 3 - Dichlorobenzene	0.0111	ND	70		
1, 4 - Dichlorobenzene	0.0111	ND	88	1.29	78
3, 3' - Dichlorobenzidine	0.0222	ND	N/A		
2, 4 - Dichlorophenol	0.0111	ND	84		
Diethylphthalate	0.0111	ND	98		
2, 4 - Dimethylphenol	0.0111	ND	62		
Dimethylphthalate	0.0111	ND	90		
Di - n - Butylphthalate	0.0111	ND	102		
4, 6 - Dinitro - 2 - methylphenol	0.0278	ND	110		
2, 4 - Dinitrophenol	0.0278	ND	90		
2, 4 - Dinitrotoluene	0.0111	ND	102	3.47	88

ELT# 17312 South wall

8270 COMPOUNDS SPLP	Reporting Limits	Concentration mg/L	% Recovery	RPD	%EA	
2, 6 - Dinitrotoluene	0.0111	ND	106			
Di - n - octylphthalate	0.0111	ND	72			
Fluoranthene	0.0111	ND	112			
Fluorene	0.0111	ND	92			
Hexachlorobenzene	0.0111	ND	108			
Hexachlorobutadiene	0.0111	ND	102			
Hexachlorocyclopentadiene	0.0111	ND	70			
Hexachloroethane	0.0111	ND	98			
Indeno (1, 2, 3 -cd) pyrene	0.0111	ND	120			
Isophorone	0.0111	ND	88			
2 - Methylnaphthalene	0.0111	ND	82			
2 - Methylphenol	0.0111	ND	82			
3 and 4 - Methylphenol	0.0111	ND	84			
Naphthalene	0.0111	ND	76			
2 - Nitroaniline	0.0278	ND	94			
3 - Nitroaniline	0.0278	ND	94			
4 - Nitroaniline	0.0278	ND	90			
Nitrobenzene	0.0111	ND	90			
2 - Nitrophenol	0.0111	ND	84			
4 - Nitrophenol	0.0278	ND	94	6.74	92	
N - Nitroso - Di - n - Propylamine	0.0111	ND	90	4.71	87	
N - Nitrosodiphenylamine	0.0111	ND	86			
Pentachlorophenol	0.0278	ND	78	14.63	76	
Phenanthrene	0.0111	ND	100			
Phenol	0.0111	ND	80	5.26	78	
Pyrene	0.0111	ND	96	10.71	59	
Bis (2 - ethylhexyl) phthalate	0.0111	ND	76			
1, 2, 4 - Trichlorobenzene	0.0111	ND	90	1.04	96	
2, 4, 5 - Trichlorophenol	0.0278	ND	94			
2, 4, 6 - Trichlorophenol	0.0111	ND	90			

METHOD: EPA SW 846-1312, 8270C, 3510

SURROGATES	% RECOVERY
Nitrobenzene - d5	65
2 - Fluorobiphenyl	66
Terphenyl d14	74
Phenol d5	27
2 - Fluorophenol	17
2, 4, 6 - Tribromophenol	98

Raland K. Tuttle

9-16-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENERCON SERVICES
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX; 915-520-2795

Sample Type: Water
Sample Condition: Intact
Project #: ES-338
Project Name: TNM Monument #11
Project Location: Monument, New Mexico

Sampling Date: 08/26/99
Receving Date: 08/26/99
Analysis Date: 09/01/99

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
19585	MW-1	<0.001	<0.001	<0.001	<0.001	<0.001
19586	MW-2	0.002	0.013	0.004	0.016	0.009
19587	MW-3	0.004	<0.001	<0.001	0.002	<0.001
19588	MW-4	0.016	0.006	0.004	0.015	<0.001
	%IA	91	89	88	86	87
	%EA	94	89	89	88	89
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8020,5030

Raland K. Tuttle

9-15-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENERCON SERVICES
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Water
Sample Condition: Intact
Project #: ES-338
Project Name: TNM Monument #11
Project Location: Monument, New Mexico

Sampling Date: 08/26/99
Receving Date: 08/26/99
Analysis Date: See Below

ELT#	FIELD CODE	Carbonate (mg/L)	Bicarbonate (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	TDS (mg/L)
19585	MW-1	0	195	266	168	2.4	*
19586	MW-2	0	200	195	159	2.2	830
19587	MW-3	0	320	77	28	0.6	*
19588	MW-4	0	370	284	156	0.7	*
	QUALITY CONTROL	*	*	5140	53.5	8.8	*
	TRUE VALUE	*	*	5000	50.0	10.0	*
	% PRECISION	*	*	103	107	88	*
	ANALYSIS DATE	9/06/99	9/06/99	9/06/99	9/06/99	8/28/99	9/05/99

METHODS: EPA 310.1,325.3, 375.4, 353.3, 160.1

Raland K. Tuttle

9-16-99
Date

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ENERCON SERVICES
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Water
Sample Condition: Intact/Iced/HNO3
Project #: ES-388
Project Name: TNM Monument #11
Project Location: Monument, New Mexico

Sample Date: 08/26/99
Receiving Date: 08/26/99
Analysis Date: 09/01/99

Analyte (mg/L)	MW-1 19585	MW-2 19586	MW-3 19587	MW-4 19588	Reporting Limit	%IA	%EA	BLANK	RPD
Aluminum	0.0900	0.0740	0.1350	0.0640	0.0500	115	99	<0.0500	5.64
Arsenic	ND	ND	ND	0.0110	0.0050	104	96	<0.0050	2.11
Barium	0.1290	0.1460	0.1170	0.3190	0.0100	107	98	<0.0100	5.71
Beryllium	ND	ND	ND	ND	0.0040	97	102	<0.0040	6.06
Cadmium	ND	ND	ND	ND	0.0010	100	96	<0.0010	6.45
Calcium	151.0	128.0	108.0	177.0	1.000	96	*	<1.000	0.15
Chromium	ND	ND	ND	ND	0.0050	104	98	<0.0050	5.21
Cobalt	ND	ND	ND	ND	0.0200	103	96	<0.0200	4.90
Copper	ND	ND	ND	ND	0.0100	105	98	<0.0100	6.72
Iron	0.2620	0.2580	0.2930	0.4330	0.0500	107	97	<0.0500	6.06
Lead	ND	ND	ND	ND	0.0030	97	94	<0.0030	6.06
Magnesium	26.40	23.50	19.20	45.10	1.000	98	*	<1.000	0.35
Manganese	0.0460	0.0380	0.0500	0.6420	0.0150	100	100	<0.0150	4.37
Mercury	ND	ND	ND	ND	0.00020	112	106	<0.00020	8.87
Molybdenum	ND	ND	ND	ND	0.050	98	102	<0.050	4.63
Nickel	ND	ND	0.0100	0.0120	0.0100	105	99	<0.0100	6.44
Potassium	11.20	7.800	6.100	6.700	1.000	*	*	<1.000	*
Selenium	0.0060	0.0100	0.0070	ND	0.0050	103	104	<0.0050	1.94
Silver	ND	ND	ND	ND	0.0050	104	96	<0.0050	4.26
Sodium	125.0	84.00	50.00	96.00	1.000	*	*	<1.000	*
Tin	ND	ND	ND	ND	0.0500	*	79	<0.0500	10.01
Vanadium	0.0250	ND	ND	ND	0.0200	96	97	<0.0200	5.07
Zinc	ND	ND	ND	ND	0.0200	108	101	<0.0200	4.44
Boron	0.290	0.511	0.148	0.151	0.050	118	79	<0.050	4.11
Strontium	1.52	1.34	1.02	2.00	0.050	101	82	<0.050	10.89

ND = Below Reporting Limit
METHOD: EPA SW846-6010B, 7470

Raland K. Tuttle

9-16-99
Date

ENVIRONMENTAL LAB OF , INC.

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ENERCON SERVICES, INC.
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Water
Sample Condition: Intact/ Iced/HNO3
Project #: ES-388
Project Name: TNM Monument #11
Project Location: Monument, New Mexico
Field Code: MW-1

Sampling Date: 08/26/99
Receiving Date: 08/26/99
Extraction Date: 08/30/99
Analysis Date: 09/02/99

EPA SW846 8100 (mg/l)	REPORT LIMIT	ELT# 19585	RPD	%EA	%IA
Naphthalene	0.005	ND	1.87	53	63
Acenaphthylene	0.005	ND	0.00	56	66
Acenaphthene	0.005	ND	0.00	56	65
Fluorene	0.005	ND	0.00	59	69
Phenanthrene	0.005	ND	0.00	57	66
Anthracene	0.005	ND	2.20	45	53
Fluoranthene	0.005	ND	1.68	59	69
Pyrene	0.005	ND	1.63	61	67
Benzo[a]anthracene	0.005	ND	3.33	63	69
Chrysene	0.005	ND	1.60	62	72
Benzo[b]fluoranthene	0.005	ND	2.86	71	71
Benzo[k]fluoranthene	0.005	ND	5.26	74	72
Benzo [a]pyrene	0.005	ND	3.12	63	73
Indeno[1,2,3-cd]pyrene	0.005	ND	3.08	33	81
Dibenz[a,h]anthracene	0.005	ND	0.00	39	87
Benzo[g,h,i]perylene	0.005	ND	0.00	27	82
		% RECOVERY			
PAH Surrogate		29			

ND= NOT DETECTED

Method: EPA SW 846 8100 , 3510

Raland K. Tuttle

9-15-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENERCON SERVICES, INC.
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Water
Sample Condition: Intact/ Iced/HNO3
Project #: ES-388
Project Name: TNM Monument #11
Project Location: Monument, New Mexico
Field Code: MW-2

Sampling Date: 08/26/99
Receiving Date: 08/26/99
Extraction Date: 08/30/99
Analysis Date: 09/02/99

EPA SW846 8100 (mg/l)	REPORT LIMIT	ELT# 19586	RPD	%EA	%IA
Naphthalene	0.005	ND	1.87	53	63
Acenaphthylene	0.005	ND	0.00	56	66
Acenaphthene	0.005	ND	0.00	56	65
Fluorene	0.005	ND	0.00	59	69
Phenanthrene	0.005	ND	0.00	57	66
Anthracene	0.005	ND	2.20	45	53
Fluoranthene	0.005	ND	1.68	59	69
Pyrene	0.005	ND	1.63	61	67
Benzo[a]anthracene	0.005	ND	3.33	63	69
Chrysene	0.005	ND	1.60	62	72
Benzo[b]fluoranthene	0.005	ND	2.86	71	71
Benzo[k]fluoranthene	0.005	ND	5.26	74	72
Benzo [a]pyrene	0.005	ND	3.12	63	73
Indeno[1,2,3-cd]pyrene	0.005	ND	3.08	33	81
Dibenz[a,h]anthracene	0.005	ND	0.00	39	87
Benzo[g,h,i]perylene	0.005	ND	0.00	27	82
		% RECOVERY			
PAH Surrogate		32			

ND= NOT DETECTED

Method: EPA SW 846 8100 , 3510

Raland K. Tuttle

9-15-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENERCON SERVICES, INC.
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Water
Sample Condition: Intact/ Iced/HNO3
Project #: ES-388
Project Name: TNM Monument #11
Project Location: Monument, New Mexico
Field Code: MW-3

Sampling Date: 08/26/99
Receiving Date: 08/26/99
Extraction Date: 08/30/99
Analysis Date: 09/02/99

EPA SW846 8100 (mg/l)	REPORT LIMIT	ELT# 19587	RPD	%EA	%IA
Naphthalene	0.005	0.010	1.87	53	63
Acenaphthylene	0.005	ND	0.00	56	66
Acenaphthene	0.005	ND	0.00	56	65
Fluorene	0.005	ND	0.00	59	69
Phenanthrene	0.005	ND	0.00	57	66
Anthracene	0.005	ND	2.20	45	53
Fluoranthene	0.005	ND	1.68	59	69
Pyrene	0.005	ND	1.63	61	67
Benzo[a]anthracene	0.005	ND	3.33	63	69
Chrysene	0.005	ND	1.60	62	72
Benzo[b]fluoranthene	0.005	ND	2.86	71	71
Benzo[k]fluoranthene	0.005	ND	5.26	74	72
Benzo [a]pyrene	0.005	ND	3.12	63	73
Indeno[1,2,3-cd]pyrene	0.005	ND	3.08	33	81
Dibenz[a,h]anthracene	0.005	ND	0.00	39	87
Benzo[g,h,i]perylene	0.005	ND	0.00	27	82

	% RECOVERY
PAH Surrogate	31

ND= NOT DETECTED

Method: EPA SW 846 8100 , 3510

Raland K. Tuttle

9-16-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENERCON SERVICES, INC.
ATTN: MR. JEFFREY KINDLEY
P.O. BOX 51138
MIDLAND, TEXAS 79710-1138
FAX: 915-520-2795

Sample Type: Water
Sample Condition: Intact/ Iced/HNO3
Project #: ES-388
Project Name: TNM Monument #11
Project Location: Monument, New Mexico
Field Code: MW-4

Sampling Date: 08/26/99
Receiving Date: 08/26/99
Extraction Date: 08/30/99
Analysis Date: 09/02/99

EPA SW846 8100 (mg/l)	REPORT LIMIT	ELT# 19588	RPD	%EA	%IA
Naphthalene	0.005	ND	1.87	53	63
Acenaphthylene	0.005	ND	0.00	56	66
Acenaphthene	0.005	ND	0.00	56	65
Fluorene	0.005	ND	0.00	59	69
Phenanthrene	0.005	ND	0.00	57	66
Anthracene	0.005	ND	2.20	45	53
Fluoranthene	0.005	ND	1.68	59	69
Pyrene	0.005	ND	1.63	61	67
Benzo[a]anthracene	0.005	ND	3.33	63	69
Chrysene	0.005	ND	1.60	62	72
Benzo[b]fluoranthene	0.005	ND	2.86	71	71
Benzo[k]fluoranthene	0.005	ND	5.26	74	72
Benzo [a]pyrene	0.005	ND	3.12	63	73
Indeno[1,2,3-cd]pyrene	0.005	ND	3.08	33	81
Dibenz[a,h]anthracene	0.005	ND	0.00	39	87
Benzo[g,h,i]perylene	0.005	ND	0.00	27	82
		% RECOVERY			
PAH Surrogate		30			

ND= NOT DETECTED

Method: EPA SW 846 8100 , 3510

Raland K. Tuttle

9-16-99
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

Project Manager: Jeffrey Kindley
Phone #: (915) 520-2795
FAX #: (915) 520-2795

Company Name & Address: Enron Service Inc
P.O. Box 51138
Midland, Tx 79710-1138

Project #: ES-388
Project Name: TNM Monument #11

Project Location: Monument, New Mexico
Sampler Signature: Jeffrey Kindley

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8021B/5030	TPH 418.1 (DRO Range)	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	SPLC-VOC, SPLC-SVOC, SPLC-TPH PAH (EPA 8100)	TDS Cational Anions Metals (New Mexico Water Quality Standards) (6010)
19577	MW-1 (13-15')	1	4oz	✓								✓		08/24/99	0925	✓	✓							*	
19578	MW-1 (24-25')	1	4oz	✓								✓		08/31/99	1010	✓	✓							*	
19579	MW-2 (8-10')	1	4oz	✓								✓		08/25/99	0910	✓	✓							*	
19580	MW-2 (23-25')	1	4oz	✓								✓		08/25/99	1015	✓	✓							*	
19581	MW-3 (13-15')	1	4oz	✓								✓		08/25/99	1315	✓	✓							*	
19582	MW-3 (24-25')	1	4oz	✓								✓		08/25/99	1345	✓	✓							*	
19583	MW-4 (13-15')	1	4oz	✓								✓		08/24/99	1216	✓	✓							(*)	
19584	MW-4 (23-24')	1	4oz	✓								✓		08/24/99	1305	✓	✓							*	
19585	MW-1	5		✓					✓	✓		✓		08/26/99	0730	✓								✓	✓ ✓
19586	MW-2	5		✓					✓	✓		✓		08/26/99	0815	✓								✓	✓ ✓ ✓
19587	MW-3	5		✓					✓	✓		✓		08/26/99	0845	✓								✓	✓ ✓

Relinquished by:	Date:	Time:	Received by:
Jeffrey Kindley	August 26, 1999	1230	Rolandk Jurel
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory:

REMARKS * Run SPLC-VOC, SPLC-SVOC, SPLC-TPH on highest TPH soil sample.

Normal Turnaround

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

Project Manager: Jeffrey Kindley

Phone #: (915) 520-2795

FAX #: (915) 520-2795

Company Name & Address: Environ Services Inc
P.O. Box 51138
Midland, Tx 79710 - 1138

Project #: ES-388

Project Name: TNM Monument #11

Project Location: Monument, New Mexico

Sampler Signature:

ANALYSIS REQUEST

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	HOME	OTHER	SAMPLING: DATE	TIME	BTEX 8021B/5030	TPH ~~418.1~~ 8015 (DRO Range)	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	PAH (EPA 8100)	TDS	Cations/Anions	Metals (NM water quality standards) 6010
19588	MW-4	5		✓					✓	✓		✓		08/26/99	0900									✓	✓	✓	✓

Relinquished by:	Date:	Time:	Received by:
Jeffrey Kindley	August 26, 1999	1230	Rebecca Jones
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory:

REMARKS

Normal Turnaround.