1R - 436

REPORTS

DATE:

3/2006

2005 ANNUAL GROUNDWATER MONITORING REPORT

WALTER "BUBBA" NORRIS SITE
PLAINS EMS NO. 2000-10500
SE/4, SW/4, SECTION 10, T-17-S, R-37-E
LATITUDE: N 32° 50′ 42″ LONGITUDE: W 103° 14′ 23″
LEA COUNTY, NEW MEXICO

This report is on the L-Drive

Prepared For:
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PLAINS PIPELINE, L.P.
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MARCH 2006
REF. NO. 041671

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1.0 INTRODUCTION

This Annual Groundwater Monitoring Report presents groundwater monitoring data collected at the Walter "Bubba" Norris site (hereafter referred to as the "Site") by Conestoga-Rovers & Associates (CRA) on behalf of Plains Pipeline, L.P. (Plains). Annual groundwater monitoring activities were performed on June 9, 2005.

The Site is located in Lea County, New Mexico (FIGURE 1). The legal description of the Site is the SE/4, SW/4 of Section 10, T-17-S and R-37-E Lea County, New Mexico. The subject release occurred on July 6, 2000 and the line was subsequently de-oiled and taken out-of-service. A New Mexico Oil Conservation Division (NMOCD) Form C-141 (Release Notification and Corrective Action) indicated the crude oil release consisted of 75 barrels released with 40 barrels recovered. A Site details map is presented as FIGURE 2.

Previous assessment activities were performed at the Site by Environmental Technology Group, Inc. (ETGI). A *Preliminary Site Investigation Report and Remediation Work Plan* (ETGI, September 2000) outlined activities associated with the preliminary site investigation and presented means for closure. Remedial excavation activities were performed and the hydrocarbon impacted area was delineated to the extent of approximately 150 feet by 100 feet east of the pipeline release point and approximately seven feet below ground surface (bgs). Six soil borings were also advanced to determine the nature and extent of crude oil impact as a result of the pipeline release. In addition to surface staining, hydrocarbon impact was encountered in soil boring SB-3 from 38 feet to 55 feet bgs. However, ETGI determined that the deeper impacted interval did not appear to be contributable to the subject pipeline release. A groundwater sample was also collected from soil boring SB-3 and the analytical results indicated no hydrocarbon impacts exceeded New Mexico Water Quality Control Commission (NMWQCC) standards.

On March 4, 2004, Link Energy (preceding the Plains acquisition) submitted a *Final Closure Request* to the NMOCD and presented historical data and a summary of the remedial activities. During the remedial activities, approximately 4,529 cubic yards of RCRA Non-Exempt Non-Hazardous impacted soil was excavated by ETGI and remediated onsite by N Diamond Environmental (landowner, Mr. Walter "Bubba" Norris). Subsequent to the *Final Closure Request* submittal and verbal correspondence with NMOCD personnel, a *Work Plan for the Installation of Groundwater Monitor Wells* was submitted (ETGI, April 28, 2004).

On May 20, 2004, ETGI mobilized to the Site and conducted soil and groundwater assessment activities including the installation of monitor wells MW-1, MW-2, and MW-3. Soil and groundwater hydrocarbon impacts were encountered in excess of NMOCD regulatory guidelines and the results were presented in the *Soil and Groundwater Assessment Report* (CRA, August 13, 2004). The Site is currently monitored annually at the request of the NMOCD under the direction of CRA.

2.0 REGULATORY FRAMEWORK

The NMOCD has regulatory jurisdiction over oil and gas production operations including crude oil pipeline spills and closure activities in the State of New Mexico. This project was conducted under the regulatory jurisdiction of the NMOCD, which requires that soil impacted by a crude oil spill be remediated in such a manner that the potential for future affects to groundwater or the environment are minimized. The NMOCD hydrocarbon soil remediation levels are determined by ranking criteria on a site-by-site basis, which is outlined in the NMOCD *Guidelines for Remediation of Spills, Leaks, and Releases*, dated August 13, 1993. The ranking criteria are based on three site characteristics: depth to groundwater, wellhead protection and distance to surface water.

The NMOCD guidelines require groundwater to be analyzed for potential contaminants contained in the waste stream as defined by the NMWQCC regulations. In addition, the NMWQCC regulations present the Human Health Standards for Groundwater. The NMWQCC consists of twelve members representing eight "constituent agencies". The NMWQCC delegates responsibility for administering its regulations to "constituent agencies". The NMOCD is the constituent agency regulating the groundwater impacts at this Site. The NMWQCC is administratively attached to the Environment Department (§§74-6-3.F, NMSA 1978).

Groundwater samples collected as part of monitoring activities were evaluated utilizing NMWQCC Standards for the following analytical parameters:

NMWQCC Human Health Standards for Groundwater

Constituent of Concern	Concentration (mg/L)
Benzene	0.01
Toluene	0.75
Ethylbenzene	0.75
Total Xylenes	0.62

3.0 GROUNDWATER MONITORING AND SAMPLING

One groundwater monitoring event was conducted during the 2005 calendar year (June 9, 2005).

3.1 Field Methodology

The Site is monitored with a network of three monitor wells (MW-1, MW-2 and MW-3). Prior to purging the wells, static fluid levels were measured with an electric interface probe to the nearest hundredth of a foot. After recording fluid levels, samples were collected using the low-flow methodology described in the document "Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures" (EPA/504/S-95/504). The intake of a non-dedicated bladder pump was lowered to approximately two-feet below the groundwater surface. Purging was considered complete when the geochemical field parameters (pH, temperature and conductivity) stabilized to ±10%. New disposable pump tubing was used to purge and sample each well. The bladder pump was decontaminated with a Liquinox® soap and potable water wash, a potable water rinse and a final deionized water rinse to minimize potential cross-contamination between each monitor well. Following the purging process, laboratory-supplied sample containers were filled directly from the bladder pump discharge tubing. No aeration was present in the pump discharge or in the sample containers during sample collection.

Groundwater samples were placed on ice in insulated coolers and chilled to a temperature of approximately 4°C (40°F). The coolers were sealed for shipment and proper chain-of-custody documentation accompanied the samples to the laboratory (TraceAnalysis, Inc. located in Lubbock, Texas) for BTEX analysis by EPA Method 8021B. The fluids recovered during the sampling event were containerized in sealed onsite drums.

3.2 Groundwater Sampling Results

Groundwater gauging data is presented in Table I. Depth to groundwater in the three monitor wells ranged from 68.14 feet to 68.50 feet below the top of casing on June 9, 2005. Groundwater flow at the Site has remained consistent and is toward the east-southeast at approximately 0.003 feet/foot. A groundwater gradient map for June 2005 is presented as FIGURE 3.

Groundwater analytical results are summarized in TABLE II and presented on FIGURE 4. BTEX concentrations were below NMWQCC groundwater standards during the June 2005 sampling event in all three monitor wells. A copy of the certified analytical report and chain-of-custody documentation is attached in APPENDIX A.

4.0 SUMMARY OF FINDINGS

Based on historical data review and groundwater monitoring activities performed at the Site, CRA presents the following summary of findings:

- The Walter "Bubba" Norris pipeline release site is located in Lea County, New Mexico. The legal description of the Site is the SE/4, SW/4 of Section 10, T-17-S and R-37-E. The subject release occurred on July 6, 2000 and the line was subsequently de-oiled and taken out of service. A NMOCD Form C-141 indicated the crude oil release consisted of 75 barrels released with 40 barrels recovered;
- Previous assessment activities were performed at the Site by ETGI. Remedial excavation activities were performed and the hydrocarbon impacted area was delineated to the extent of approximately 150 feet by 100 feet east of the pipeline release point and approximately seven feet bgs. Six soil borings were also advanced to determine the nature and extent of crude oil impact as a result of the pipeline release. In addition to surface staining, hydrocarbon impact was encountered in soil boring SB-3 from 38 feet to 55 feet bgs. However, ETGI determined that the deeper impacted interval did not appear to be contributable to the subject pipeline release. A groundwater sample was also collected from soil boring SB-3 and the analytical results indicated no hydrocarbon impacts exceeded NMWQCC standards;
- Historical data and a summary of the remedial activities were submitted to the NMOCD in a *Final Closure Request* (Link Energy, March 4, 2004). During the remedial activities, approximately 4,529 cubic yards of RCRA Non-Exempt Non-Hazardous impacted soil was excavated by ETGI and remediated onsite by N Diamond Environmental. Subsequent to the *Final Closure Request* submittal and verbal correspondence with NMOCD personnel, a *Work Plan for the Installation of Groundwater Monitor Wells* was submitted (ETGI, April 28, 2004);
- On May 20, 2004, ETGI mobilized to the Site and conducted soil and groundwater assessment activities including the installation of monitor wells MW-1, MW-2, and MW-3. Soil and groundwater hydrocarbon impacts were encountered in excess of NMOCD regulatory guidelines and the results were presented in the *Soil and Groundwater Assessment Report* (CRA, August 13, 2004);
- Annual groundwater monitoring activities were performed by CRA on June 9, 2005. BTEX concentrations were below NMWQCC groundwater standards during the June 2005 sampling event in all three monitor wells.

All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES

Luke D. Markham
Project Manager

James R. Buice
Senior Project Manager

HUMBLE CITY QUADRANGLE
NEW MEXICO

LAT= 32° 50' 42" N
LONG= 103° 14' 23" W

PHOTOREVISED 1977

MAP SERIES 1:24000

0 1/2 1 2
(Miles)

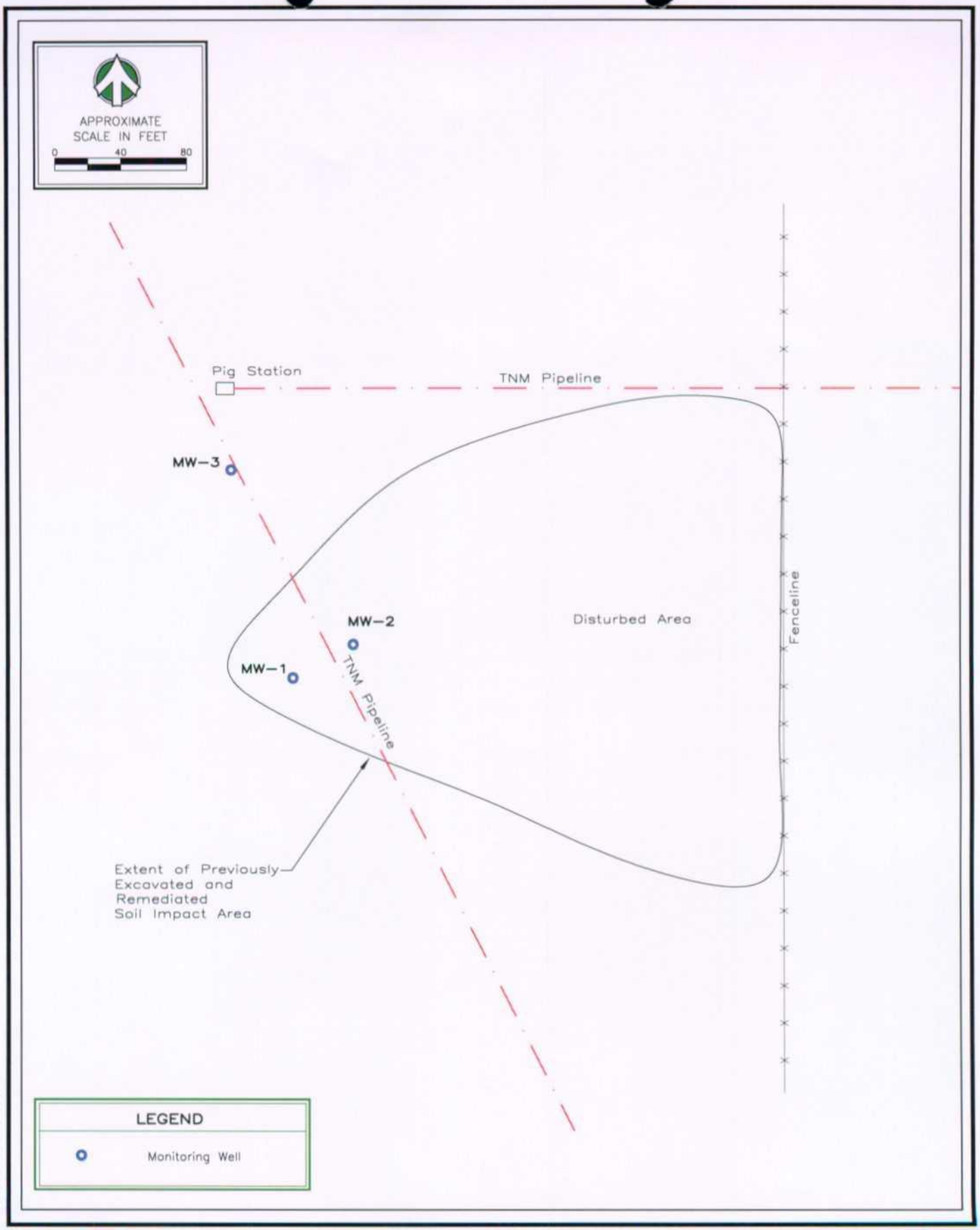
0 2000 4000 6000 8000
(Feet)

CONTOUR INTERVAL 5 FEET

NORTH

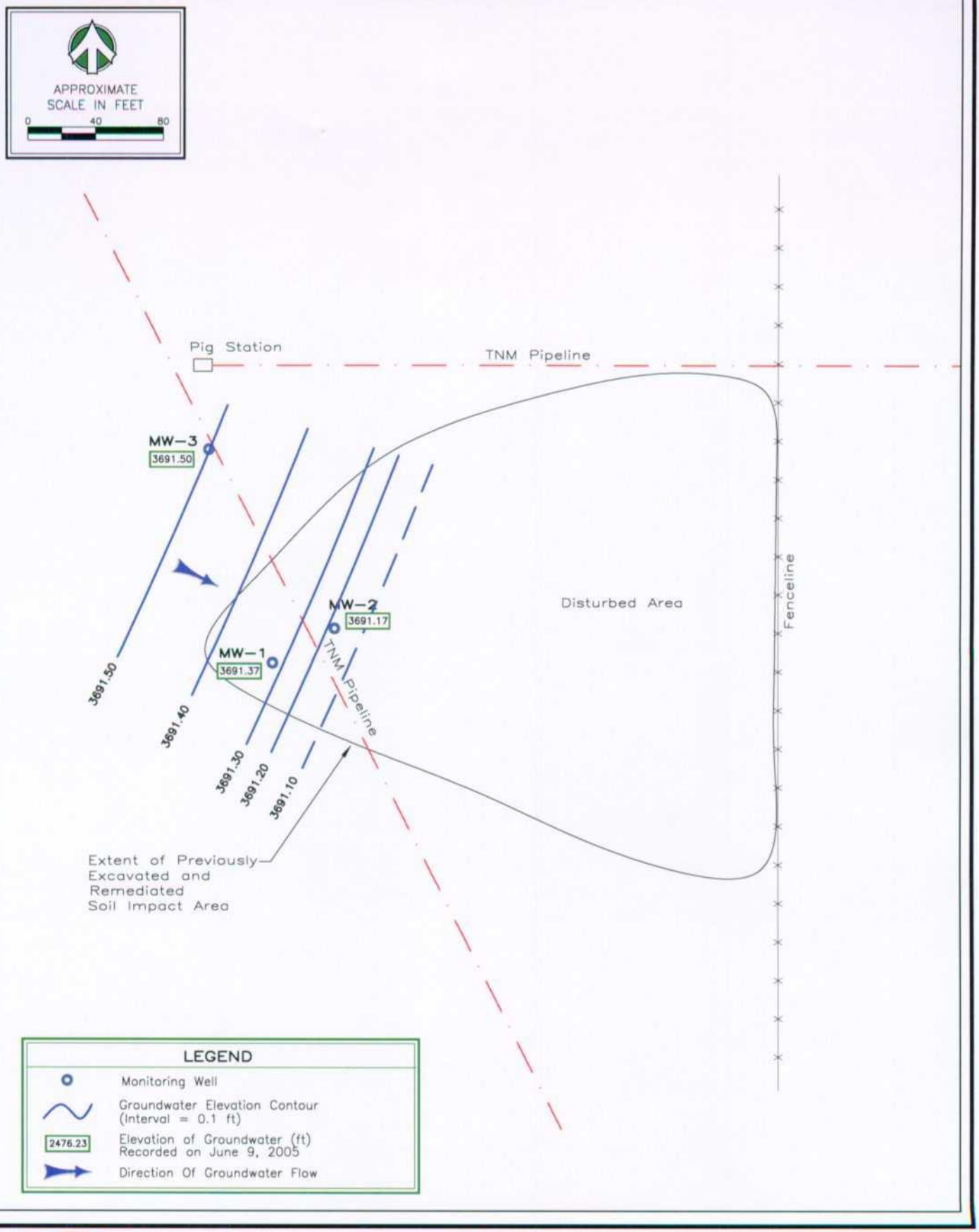
041671 SLR 030706

SITE LOCATION MAP	JOB No. 041671
PLAINS PIPELINE, L.P. WALTER "BUBBA" NORRIS 2000–10500 LEA COUNTY, NEW MEXICO	FIGURE 1



041671 SLR 030706

SITE DETAILS MAP	JOB No. 041671
PLAINS PIPELINE, L.P. WALTER "BUBBA" NORRIS 2000-10500 LEA COUNTY, NEW MEXICO	FIGURE 2



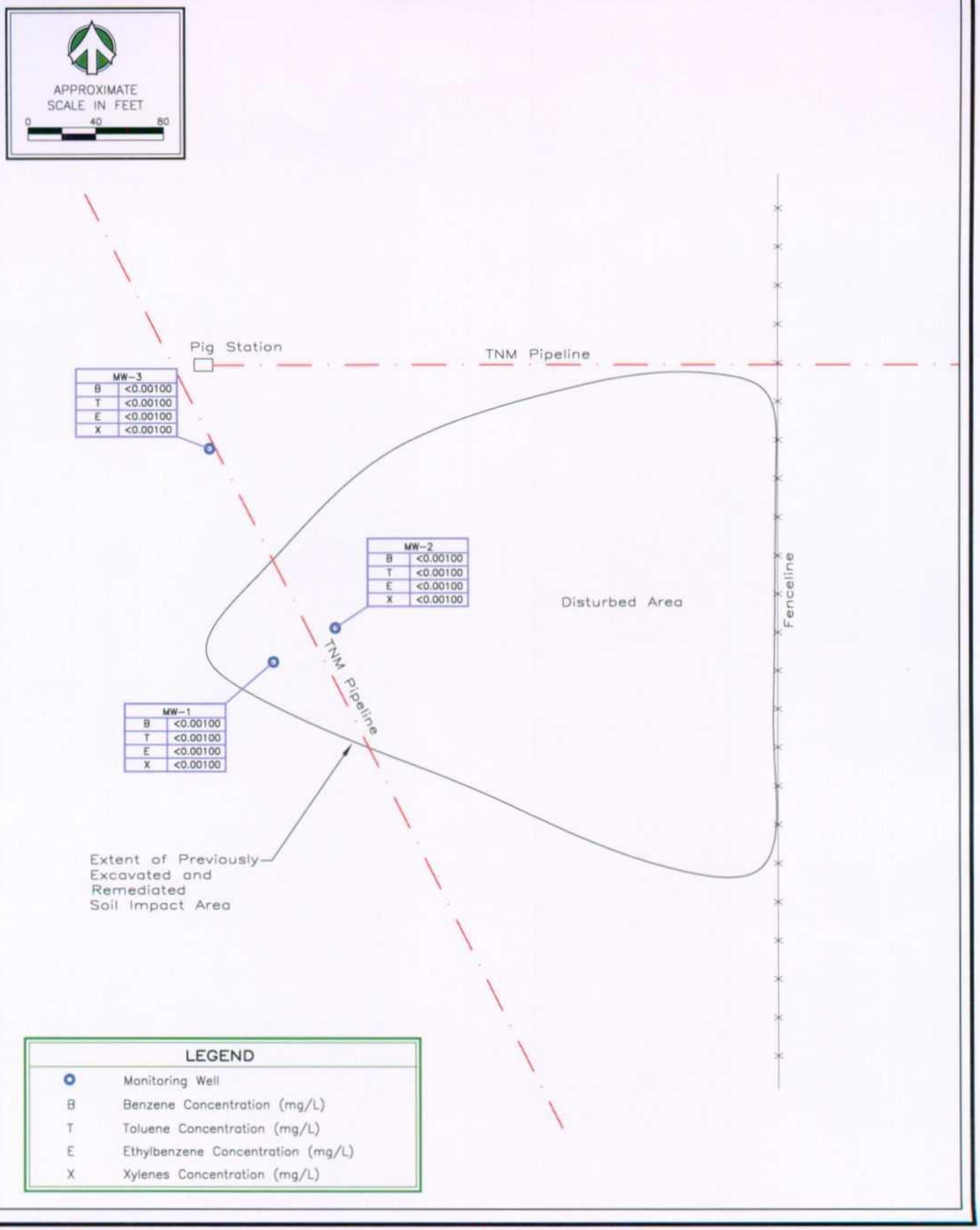
041671 SLR 030706

GROUNDWATER GRADIENT MAP – JUNE 2005

PLAINS PIPELINE, L.P.
WALTER "BUBBA" NORRIS 2000–10500 LEA COUNTY, NEW MEXICO

JOB No. 041671

FIGURE 3



041671 SLR 030706

GROUNDWATER BTEX CONCENTRATION MAP – JUNE 2005

PLAINS PIPELINE, L.P.
WALTER "BUBBA" NORRIS 2000–10500 LEA COUNTY, NEW MEXICO

JOB No. 041671

FIGURE 4

TABLE I
GROUNDWATER GAUGING SUMMARY
PLAINS PIPELINE, L.P.
WALTER "BUBBA" NORRIS #2000-10500
LEA COUNTY, NEW MEXICO

Well ID *TOC Elevation*	Collection Date	Depth to Groundwater (ft TOC)	Depth to LNAPL (ft TOC)	LNAPL Thickness (ft)	Groundwater Elevation (ft)	Well Depth (ft bgs)	Well Screen Interval (ft bgs)
MW-1	6/2/04	67.89	---	---	3691.83	78.00	63 - 78
3759.72	6/9/05	68.35	---	---	3691.37	---	---
MW-2	6/2/04	67.95	---	---	3691.36	78.00	58 - 78
3759.31	6/9/05	68.14	---	---	3691.17	---	---
MW-3	6/2/04	67.97	---	---	3692.03	77.00	58 - 78
3760.00	6/9/05	68.50	---	---	3691.50	---	---

Notes:

1. TOC - Top of Casing.
2. LNAPL - Light non-aqueous phase liquid.
3. bgs - below ground surface.

TABLE II
GROUNDWATER ANALYTICAL SUMMARY
PLAINS PIPELINE, L.P.
WALTER "BUBBA" NORRIS #2000-10500
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	TPH		
						GRO	DRO	Total
New Mexico Water Quality Control Commission Standard								
		0.01	**0.75**	**0.75**	**0.62**	**---**	**---**	**---**
MW-1	6/2/04	0.0255	0.0234	0.0034	0.00494	<0.5	<0.5	<1.0
	6/9/05	<0.00100	<0.00100	<0.00100	<0.00100	---	---	---
MW-2	6/2/04	0.01930	0.0204	0.00315	0.00449	<0.5	0.829	0.829
	6/9/05	<0.00100	<0.00100	<0.00100	<0.00100	---	---	---
MW-3	6/2/04	0.00526	0.01510	0.00428	0.00574	<0.05	1.12	1.12
	6/9/05	<0.00100	<0.00100	<0.00100	<0.00100	---	---	---

Notes:

1. Shaded cells indicate New Mexico Water Quality Control Commission (NMWQCC) exceedance.
2. BTEX analysis by EPA Method 8260B in 2004; BTEX analysis by EPA Method 8021B in 2005.
3. TPH (GRO/DRO) analysis by EPA Method 8015 Modified.
4. Results shown in mg/L.

APPENDIX A

CERTIFIED LABORATORY REPORTS

Summary Report

Luke Markham
CRA-Midland
2135 South Loop 250 West
Midland, TX 79703

Report Date: June 13, 2005

Work Order: 5061012

Project Location: Bubba Norris
Project Name: Plains all American
Project Number: 041671

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
64855	MW-1	water	2005-06-09	13:14	2005-06-10
64856	MW-2	water	2005-06-09	12:35	2005-06-10
64857	MW-3	water	2005-06-09	11:56	2005-06-10

	BTEX				MTBE
Sample - Field Code	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)	MTBE (mg/L)
64855 - MW-1	<0.00100	<0.00100	<0.00100	<0.00100	
64856 - MW-2	<0.00100	<0.00100	<0.00100	<0.00100	
64857 - MW-3	<0.00100	<0.00100	<0.00100	<0.00100	

Analytical and Quality Control Report

Luke Markham
CRA-Midland
2135 South Loop 250 West
Midland, TX 79703

Report Date: June 13, 2005

Work Order: 5061012

Project Location: Bubba Norris
Project Name: Plains all American
Project Number: 041671

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
64855	MW-1	water	2005-06-09	13:14	2005-06-10
64856	MW-2	water	2005-06-09	12:35	2005-06-10
64857	MW-3	water	2005-06-09	11:56	2005-06-10

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Michael Abel

Dr. Blair Leftwich, Director

Analytical Report

Sample: 64855 - MW-1

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	18792	Date Analyzed:	2005-06-10	Analyzed By:	
Prep Batch:	16515	Sample Preparation:	2005-06-10	Prepared By:	

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0890	mg/L	1	0.100	89	48.4 - 119
4-Bromofluorobenzene (4-BFB)		0.0923	mg/L	1	0.100	92	17.1 - 138

Sample: 64856 - MW-2

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	18792	Date Analyzed:	2005-06-10	Analyzed By:	
Prep Batch:	16515	Sample Preparation:	2005-06-10	Prepared By:	

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0897	mg/L	1	0.100	90	48.4 - 119
4-Bromofluorobenzene (4-BFB)		0.0936	mg/L	1	0.100	94	17.1 - 138

Sample: 64857 - MW-3

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	18792	Date Analyzed:	2005-06-10	Analyzed By:	
Prep Batch:	16515	Sample Preparation:	2005-06-10	Prepared By:	

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0907	mg/L	1	0.100	91	48.4 - 119
4-Bromofluorobenzene (4-BFB)		0.0933	mg/L	1	0.100	93	17.1 - 138

Method Blank (1) QC Batch: 18792

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000650	mg/L	0.001
Toluene		<0.00101	mg/L	0.001
Ethylbenzene		<0.000840	mg/L	0.001
Xylene		<0.000737	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0909	mg/L	1	0.100	91	48.4 - 119
4-Bromofluorobenzene (4-BFB)		0.0931	mg/L	1	0.100	93	17.1 - 138

Laboratory Control Spike (LCS-1) QC Batch: 18792

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.0890	0.0898	mg/L	1	0.100	<0.000650	89	1	81.9 - 114	20
Toluene	0.0884	0.0897	mg/L	1	0.100	<0.00101	88	1	82.8 - 112	20
Ethylbenzene	0.0885	0.0904	mg/L	1	0.100	<0.000840	88	2	82.2 - 111	20
Xylene	0.267	0.272	mg/L	1	0.300	<0.000737	89	2	83.5 - 112	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0888	0.0887	mg/L	1	0.100	89	89	48.4 - 119
4-Bromofluorobenzene (4-BFB)	0.0883	0.0894	mg/L	1	0.100	88	89	17.1 - 138

Matrix Spike (MS-1) QC Batch: 18792 Spiked Sample: 64627

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.0890	0.0925	mg/L	1	0.100	<0.000650	89	4	81.9 - 114	20
Toluene	0.0883	0.0899	mg/L	1	0.100	<0.00101	88	2	82.8 - 112	20
Ethylbenzene	0.0885	0.0908	mg/L	1	0.100	<0.000840	88	3	82.2 - 111	20
Xylene	0.266	0.272	mg/L	1	0.300	<0.000737	89	2	83.5 - 112	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0870	0.0891	mg/L	1	0.1	87	89	65.4 - 116

continued ...

matrix spikes continued . . .

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
4-Bromofluorobenzene (4-BFB)	0.0869	0.0881	mg/L	1	0.1	87	88	75.7 - 116

Standard (ICV-1) QC Batch: 18792

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0905	90	85 - 115	2005-06-10
Toluene		mg/L	0.100	0.0900	90	85 - 115	2005-06-10
Ethylbenzene		mg/L	0.100	0.0900	90	85 - 115	2005-06-10
Xylene		mg/L	0.300	0.272	91	85 - 115	2005-06-10

Standard (CCV-1) QC Batch: 18792

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0901	90	85 - 115	2005-06-10
Toluene		mg/L	0.100	0.0880	88	85 - 115	2005-06-10
Ethylbenzene		mg/L	0.100	0.0890	89	85 - 115	2005-06-10
Xylene		mg/L	0.300	0.266	89	85 - 115	2005-06-10

Standard (CCV-2) QC Batch: 18792

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0896	90	85 - 115	2005-06-10
Toluene		mg/L	0.100	0.0893	89	85 - 115	2005-06-10
Ethylbenzene		mg/L	0.100	0.0899	90	85 - 115	2005-06-10
Xylene		mg/L	0.300	0.270	90	85 - 115	2005-06-10

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

155 McCutcheon,Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 5061012

Company Name: CRA
Phone #: 432-686-0086
Address: (Street, City, Zip) 2135 S. Loop 250 W.
Fax #: 686-0186
Contact Person: Luke Markham
Invoice to: (If different from above) Camille Reynolds w/ Plains All American
Project #: 041671
Project Name: Plains All American
Project Location: Bubba Norris
Sampler Signature: Joe Mireles

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol 8260B/624	GC/MS Semi Vol 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD TSS pH	Temp					Turn Around Time if different from standard	Hold
64855	MW-1	3	VOA	X				X				X		5-9	1314		2																				
56	MW-2	2	VOA	X				X				X		6-9	1235		2																				
57	MW-3	2	VOA	X				X				X		6-9	1156		2																				
58	~~Trip~~ NO SAMPLE	2	VOA	X				X				X		—	—		2																				
	Temp	1	250ML	X								X		—	—																1						

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Joe Mireles	6-9-05	1700	Ellen Shelton	6/09/05	1700
Ellen Shelton	6/09/05	1745			
			Received at Laboratory by:	Date:	Time:
				6/10/05	9:15

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp 4 °
Log-in Review MA

REMARKS:

Check If Special Reporting Limits Are Needed

Carrier # Fine Star P1394353

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

Report Date: June 13, 2005
041671

Work Order: 5061012
Plains all American

Page Number: 5 of 5
Bubba Norris

APPENDIX B

REGULATORY CORRESPONDENCE (FORM C-141)

2000-10500

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☑ Initial Report ☐ Final Report

Name of Company **EOTT Energy Pipeline Limited Partnership**	Contact ***Glen Waldrop***
Address **P.O. Box 1660, Midland, TX 79702**	Telephone No. **915/684-3453**
Facility Name **Dean 6"**	Facility Type **Pipeline**

Surface Owner **Walter Norris**	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	9&10	**16S**	**37E**					**Lea**

NATURE OF RELEASE

Type of Release **Crude Oil**	Volume of Release **75 barrels**	Volume Recovered **40 barrels**
Source of Release **Pipeline**	Date and Hour of Occurrence **July 6, 2000**	Date and Hour of Discovery **12:50 PM**
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? **Donna Williams**	
By Whom? **Wayne Brunette**	Date and Hour **July 6, 2000, 1:30 pm**	
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Release was caused by internal corrosion. Leak was clamped off.

Describe Area Affected and Cleanup Action Taken.*
Remediation will be handled by ENTRIX.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION
Printed Name: **Glen Waldrop**	Approved by District Supervisor:
Title: **District Manager**	Approval Date: / Expiration Date:
Date: **July 17, 2000** Phone: **915/684-3453**	Conditions of Approval: / Attached ☐

* Attach Additional Sheets If Necessary

PLAINS
MARKETING, L.P.

August 13, 2004

Mr. Ed martin
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Soil and Groundwater Assessment Report
Plains Marketing, L.P. (formerly Link Energy) - Bubba Norris Site
SE/4, SW/4 of Section 10, Township 17 South and Range 37 East
Plains EMS No.: 2000-10500
Lea County, New Mexico

Dear Mr. Martin:

Pursuant to the request of Mr. Larry Johnson of the New Mexico Oil Conservation Division (NMOCD) office in Hobbs, New Mexico, Plains conducted an evaluation of the groundwater at the above-referenced site in response to a closure request that Link Energy had submitted to the NMOCD for a surface soil issue at this site. Based on the results of the additional groundwater evaluation that was conducted, it has been concluded that groundwater has been impacted above the New Mexico Water Quality Control Commission (WQCC) standards. Upon receipt of laboratory data confirming exceedance of the WQCC standards, Plains notified the NMOCD of the groundwater impact.

Please find enclosed copies of the recent Soil and Groundwater Assessment report along with copies of previous reports for the above-referenced site. The surface soil has been remediated and a report on those activities was submitted to the NMOCD. However, during the initial investigation phase of this site, a deeper zone of petroleum hydrocarbon impacted soil was discovered. The OCD (Hobbs District) requested that we go back in and delineate this deeper impact and attempt to determine the source of the deeper impacted soils (and now groundwater).

The results of the multiple investigations conducted at the site indicate that the release area has been sufficiently evaluated (and remediated) and the data shows that the release which occurred in July 2000 was confined to the surface and near surface soils. The field screening results and soil sample data indicate that the release impacted soils to a depth of approximately 5 feet below grade surface (bgs). However, during the evaluation of groundwater in July 2000, a zone of petroleum hydrocarbon impacted soil was encountered between approximately 38 to 55 feet bgs. Based on the field screening results and laboratory data, there is approximately 30 feet of non-impacted

soil between the base of the impacted soil in the release area and the top of the deeper impacted zone at approximately 38 feet bgs.

It is Plains opinion, based on the data presented in the enclosed reports, that the release in July 2000 did not contribute to the deeper soil and groundwater impacts identified in this area. Plains complied with the NMOCD's request to evaluate groundwater and installed three permanent groundwater monitor wells at the site. As you are aware, there has been a significant amount of oil and gas activity in this area for decades. As such, the possibility exists that the deeper soil and groundwater impacts may be attributed to historic activities in the area (i.e. old pits, flowlines, etc.). Plains believes that the results of the recent investigation support our conclusion and we request that the NMOCD issue Plains a "no further action" letter.

Should you have any questions or comments concerning this information, please contact me at (713) 646-4657.

Sincerely,

Jeffrey P. Dann, P.G.
Sr. Environmental Specialist
Plains All American

Enclosures: Preliminary Site Investigation Report and Remediation Plan
Final Closure Request
Work Plan for the Installation of Groundwater Monitor Wells

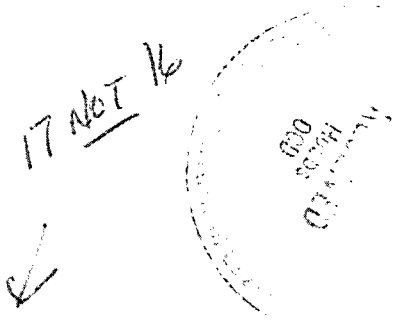
CC: Camille Reynolds, Plains All American
Luke Markham, BNC Environmental
file

File: c/jeff-files/2000-10500-OCDcover1

Link Energy Limited Partnership
P.O. Box 4666
Houston, Texas 77210-4666
www.linkenergy.com

March 4, 2004

Mr. Larry Johnson
New Mexico Oil Conservation Division
District 1
1625 N. French Drive
Hobbs, New Mexico 88240



Re: Final Closure Request
Link Energy – Bubba Norris Dean Line Release Site
SE/4, SE/4 Section 9 and SW/4, SW/4 Section 10, T16S and R37E
6 Miles Southeast of Lovington, Lea County, New Mexico

Dear Mr. Johnson:

On July 6, 2000 Eott Energy (predecessor to Link Energy) had a release from our Dean Line at the above-referenced location. The release was reported to be approximately 75 barrels of crude oil of which approximately 40 barrels were recovered. The following is a summary of the assessment and remediation activities for the impacted soil. Supporting documentation is attached.

- The saturated surface soils were excavated and placed in a stockpile adjacent to the excavation area. The impacted area was excavated to an average depth of one foot.

- Eott Energy engaged Environmental Technology Group, Inc. (ETGI) to conduct a subsurface site investigation to delineate the extent of the impacted soils and to evaluate potential impact to groundwater. The results of the investigation indicated the extent of impacted soil was limited to the surface and near surface soils around the visibly stained area and that groundwater was not impacted. A copy of the investigation/delineation report entitled "Preliminary Site Investigation Report and Remediation Work Plan" dated September 2000 is attached for your review.

- Based on the limited horizontal and vertical extent of impacted soil identified during the site investigation/delineation, Eott Energy engaged N Diamond Environmental (landowner, Mr. Walter "Bubba" Norris) to remediate the release area and treat the stockpiled soils. The stockpiled soils were treated by spreading out the soil to a uniform thickness of 6 inches over the area adjacent to the excavation. Nutrients and fertilizer were added and blended into these soils by tilling or deep discing. The treated soils were watered and disced on a regular basis for a period of two years. The base of the excavation area was also deep disced down to the top of the caliche during this time period. Five confirmation soil samples were collected for laboratory analysis and the results indicated concentrations of total

LinkEnergy

petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and xylene (BTEX) below the New Mexico Oil Conservation Division (NMOCD) cleanup criteria. A summary of the activities conducted by N Diamond Ranch along with the laboratory data sheets from the confirmation samples are attached. A total of 4,529 cubic yards of soil were remediated.

Based on the results of the soil and groundwater investigation which indicated hydrocarbon (crude oil) impacts were limited to surface and near surface soils and the results of the confirmation soil samples collected following the remediation activities, Link Energy request formal closure of this case by the NMOCD. A C-141 form is also attached.

If you have any questions, please feel free to contact me at (713) 993-5352.

Sincerely,

Jeffrey P. Dann, C.P.G.
Environmental Specialist
Link Energy

Attachments: Preliminary Site Investigation Report and Remediation Work Plan
N Diamond Ranch – Job Completion Overview and Laboratory Data
NMOCD C-141 Form

File: c/envproject/2000/2000-10500/NMOCD-ClosureReq1

N Diamond Ranch
Walter Norris
11700 N. Grimes
Hobbs, NM 88242
Business/Fax 505/392-7220
Fed. ID # 525-06-0372

February 1, 2004

RE: Contract Number 03PL-ESA-200
Work Offer Number 03PLP-200-01

Job Completion Overview

- N Diamond Environmental mobilized equipment to the N Diamond Ranch #1 remediation site located near Lovington, New Mexico to remediate the soil from the existing pipeline leak.

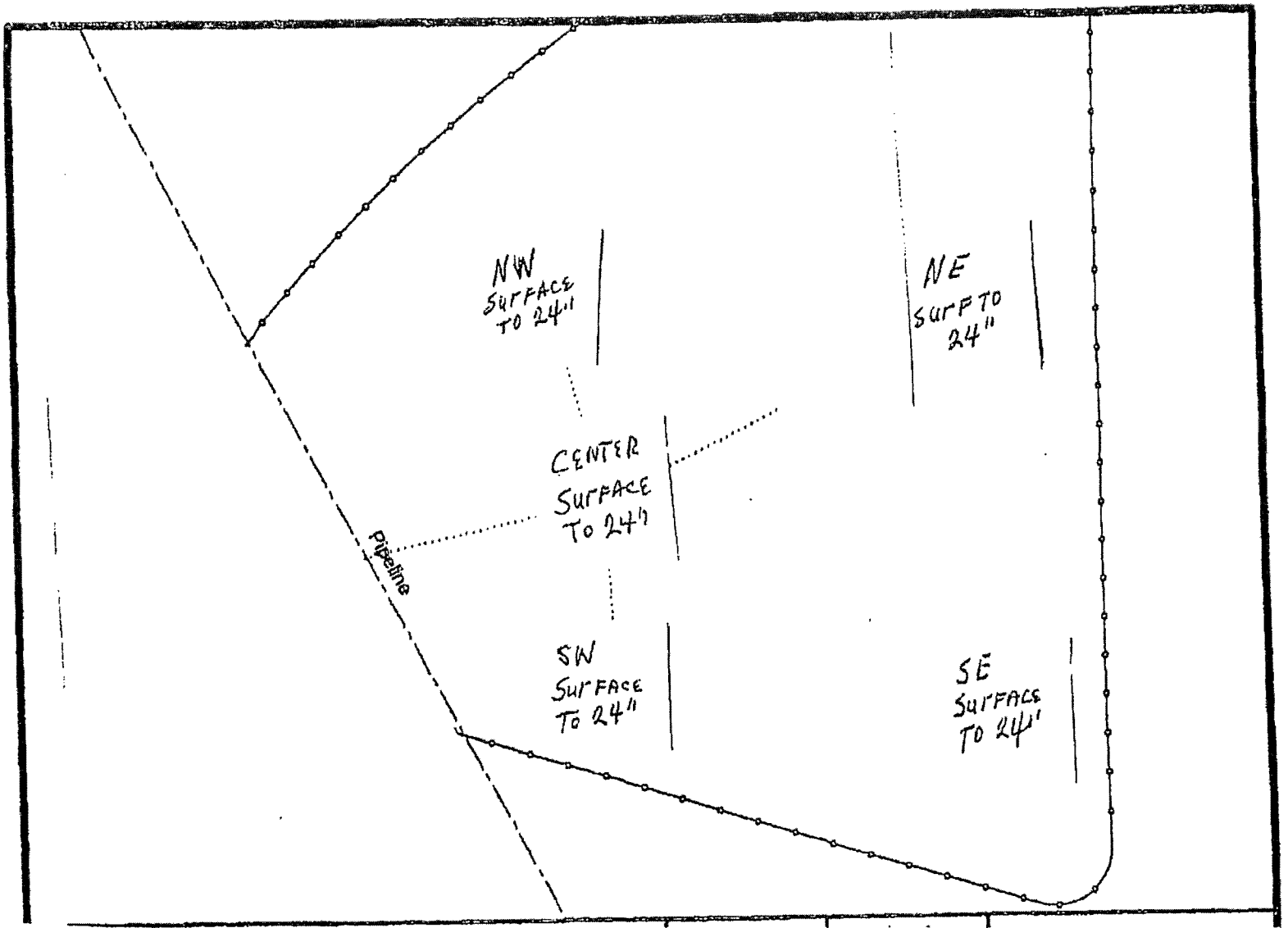
- The size of the remediation was 1513 square yards. The total contaminated yardage was 4,529 yards.

- The site was leveled to a minimum of 6 inches, then a layer of nutrient plus fertilizer was applied and water was applied and soaked to a depth of 24 inches. The following 12 months the field was disked at a depth of 18 inches and watered on a monthly basis. After a period of 2 years, laboratory analysis show that the final TPH and BTEX levels were well below acceptable NMOCD limits for the closure of unlined surface impoundments.

- Soil samples have been field-tested using Environmental Protection Agency (EPA) method for 18.1 for total petroleum hydrocarbons (TPH) and are acceptable to the EPA guidelines.

- There are 1513 square yards of usable rangeland as the result of the remediation of N Diamond Environmental. Blue gramma and buffalo grass combination have been planted and will come up with spring moisture. The site is acceptable to the landowner and all involved.

N DIAMOND RANCH ENVIRONMENTAL #1



CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
N DIAMOND RANCH
ATTN: BUBBA NORRIS
11700 N. GRIMES
HOBBS, NM 88242
FAX TO:

Receiving Date: 01/28/04
Reporting Date: 01/30/04
Project Number: NOT GIVEN
Project Name: N DIAMOND RANCH #1
Project Location: NOT GIVEN

Sampling Date: 01/24/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: GP/BC

LAB NO.	SAMPLE ID	TPH (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		01/29/04	01/28/04	01/28/04	01/28/04	01/28/04
H8417-1	NE-SURF-24" COMP.	22.4	<0.005	<0.005	<0.005	<0.015
H8417-2	NW-SURF-24" COMP.	<10	<0.005	<0.005	<0.005	<0.015
H8417-3	SE-SURF-24" COMP.	<10	<0.005	<0.005	<0.005	<0.015
H8417-4	SW-SURF-24" COMP.	<10	<0.005	<0.005	<0.005	<0.015
H8417-5	CENTER-SURF-24" COMP.	<10	<0.005	<0.005	<0.005	<0.015
Quality Control		233	0.091	0.094	0.092	0.282
True Value QC		240	0.100	0.100	0.100	0.300
% Recovery		96.9	90.9	93.8	92.4	93.9
Relative Percent Difference		13.3	5.0	4.7	9.8	9.9

METHODS: TRPHC-EPA 600/4-79-020 418.1; BTEX -EPA SW-846 8260

Burgess J. A. Cooke, Ph. D.

1/30/04
Date

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020
101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page____ of ____

Company Name: N Diamond Ranch	BILL TO PO #:
Project Manager: Bubba Nowlin	Company:
Address: 1700 N. Turner	Attn:
City: Hobbs State: NM Zip: 88242	Address:
Phone #: 505 342 7220	City:
Fax #: ~~505~~ same	State: Zip:
Project #: Project Owner:	Phone #:
Project Name: N. Diamond Ranch #1	Fax #:
Project Location:	

ANALYSIS REQUEST: BTEX, TPH 418.1

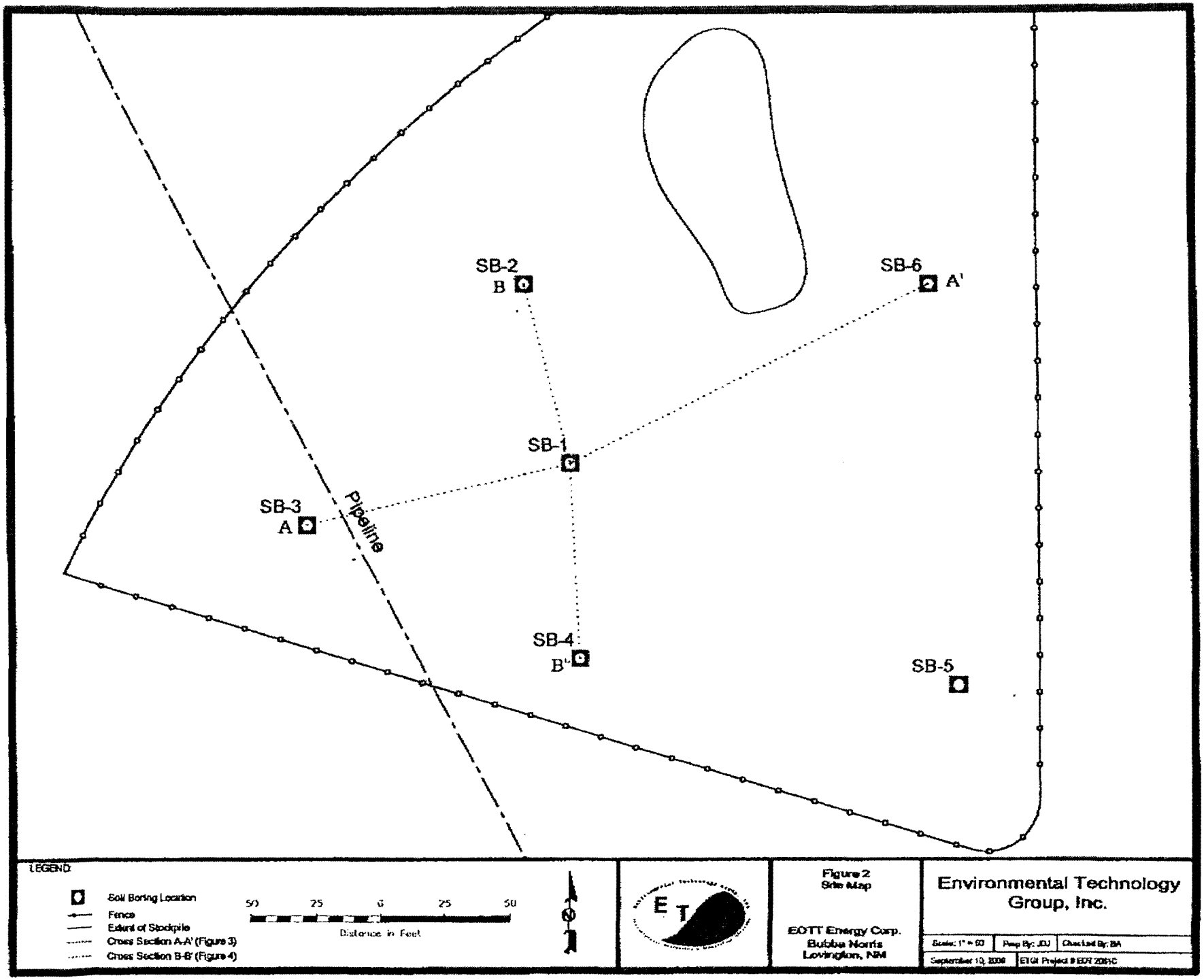
FOR LAB USE ONLY LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRES.: ACID:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	BTEX, TPH 418.1
H8417-1	NE - Surf - 24"	C	1			X							1/24/04		X
-2	NW - Surf - 24"	C	1			X									X
-3	SE Surf - 24"	C	1			X									X
-4	SW Surf - 24"	C	1			X									X
-5	Center Surf - 24"	C	1			X									X

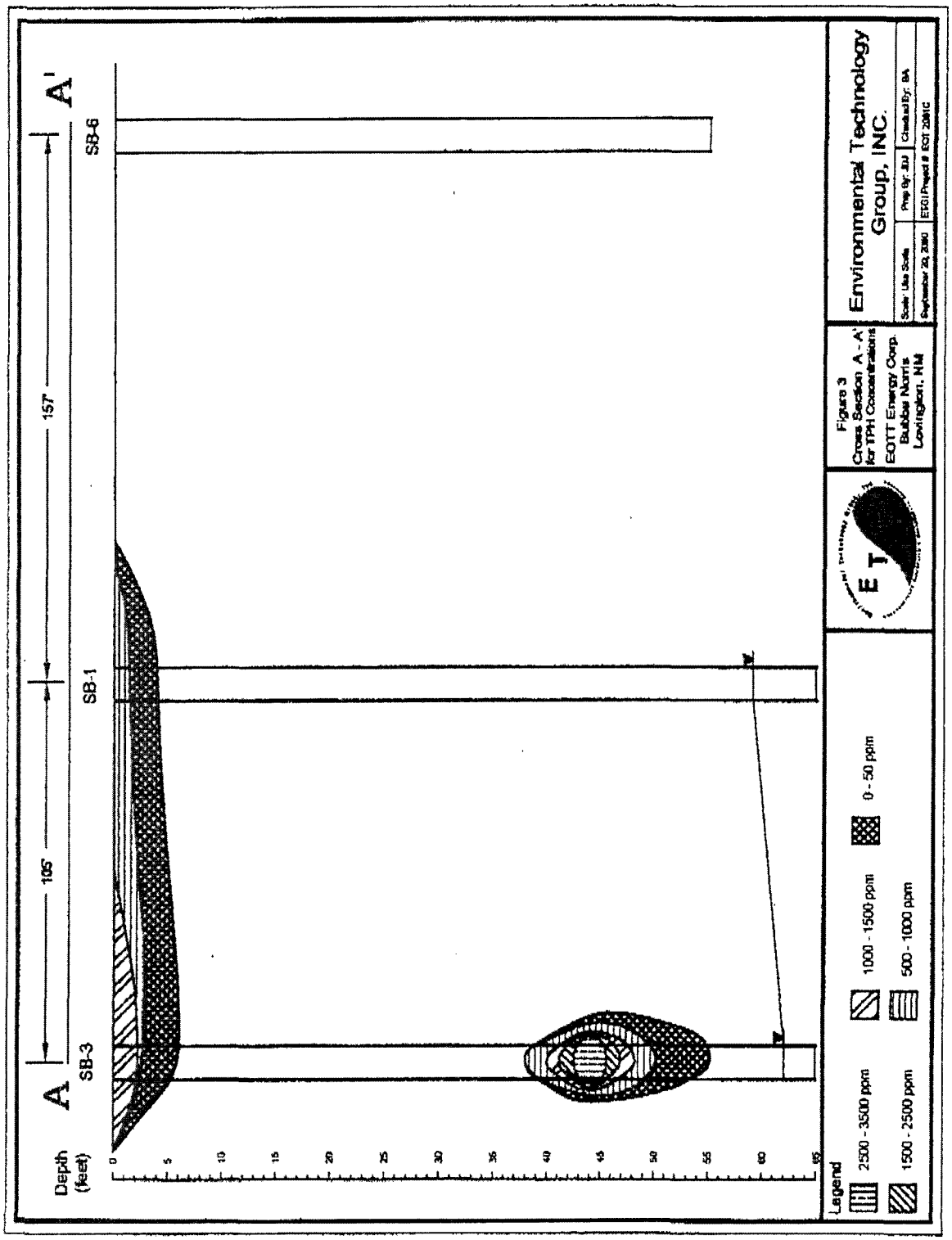
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

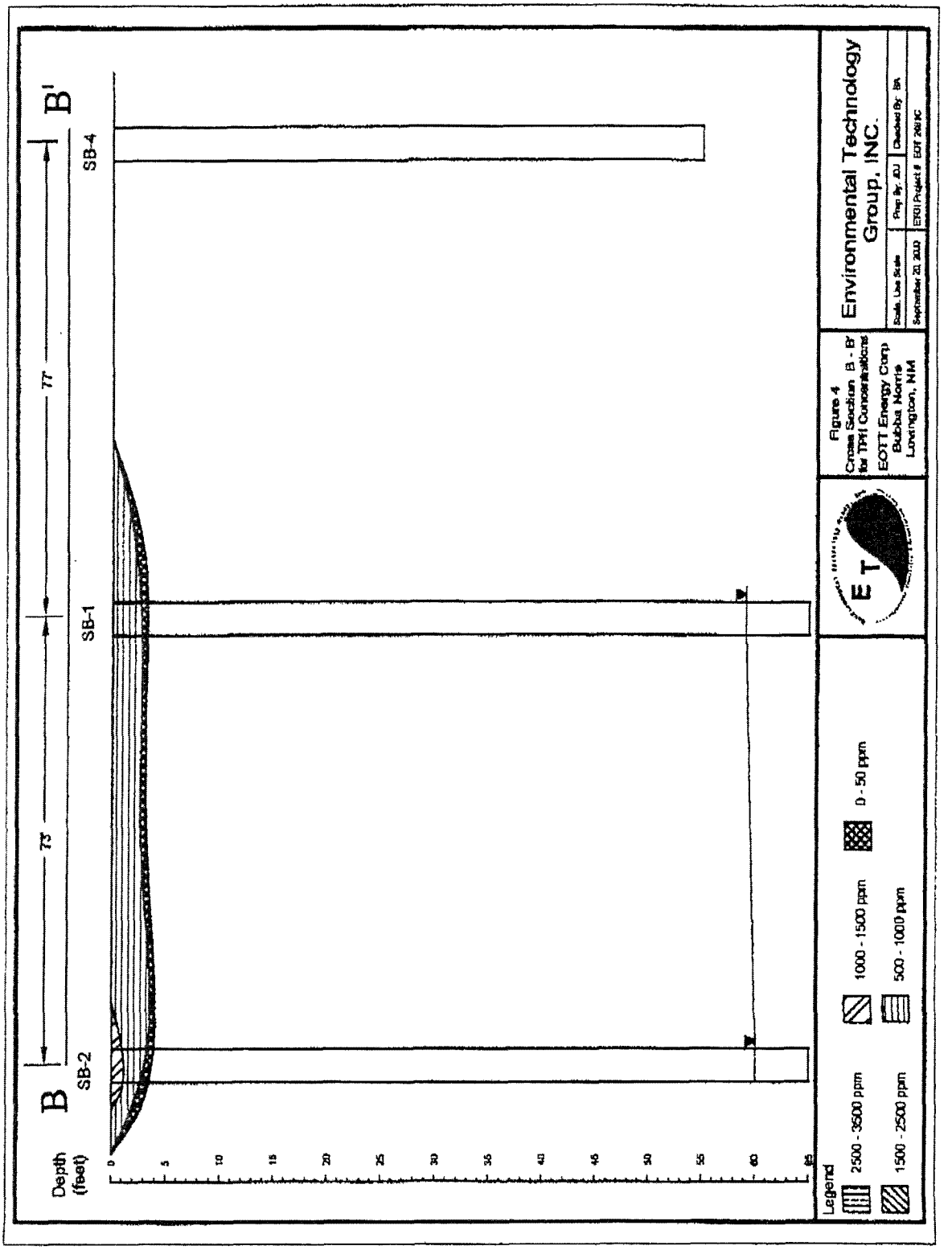
Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date:	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time:		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 1/24/04	Received By: (Lab Staff)	REMARKS:
	Time: 12:05		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition: Cool ☒ Yes ☐ No; Intact ☐ Yes ☐ No	CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.




A
A'
SB-3
SB-1
SB-6
105'
157'
Depth (feet)
0
5
10
15
20
25
30
35
40
45
50
55
60
65
Legend
2500 - 3500 ppm
1000 - 1500 ppm
0 - 50 ppm
1500 - 2500 ppm
500 - 1000 ppm
Figure 3
Cross Section A - A'
for TPH Concentrations
EOTT Energy Corp.
Bubbie Norris
Lovington, NM
Environmental Technology Group, INC.
Scale: Like Scale
Prep By: JDJ
Checked By: BA
September 29, 2000
ETGI Project # EOT 2001C


B
B'
75'
77'
SB-2
SB-1
SB-4
Depth (feet)
0
5
10
15
20
25
30
35
40
45
50
55
60
65
Legend
2500 - 3500 ppm
1500 - 2500 ppm
1000 - 1500 ppm
500 - 1000 ppm
0 - 50 ppm
Figure 4
Cross Section B - B'
for TPH Concentrations
EOTT Energy Corp
Bubba Norris
Lovington, NM
Environmental Technology Group, INC.
Scale: Like Scale
Prep By: JDJ
Checked By: BA
September 21, 2000
ETGI Project # EOT 2630C

Soil Boring SB-1

Depth (feet)	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0		4.0	Slight	Light	Sand - (SP) - Brown, very fine grained, well sorted.
5		3.7	Slight	Light	Sand stone layer
10		3.7	Slight	Light	Caliche layer
15		3.7	None	Light	
20		3.3	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
25		3.0	None	None	Sand stone layer Sand - (SP) - Red tan, very fine grained, well sorted, with large sand stone nodules.
30		2.7	None	None	Sand stone layer
35		2.9	None	None	
40		2.6	None	None	
45		2.8	None	None	
50		2.5	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
55		2.8	None	None	
60 ▼		3.2	None	None	
65	TD				

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector. All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 26 / 00

Backfilled with soil

Soil Boring Log Details

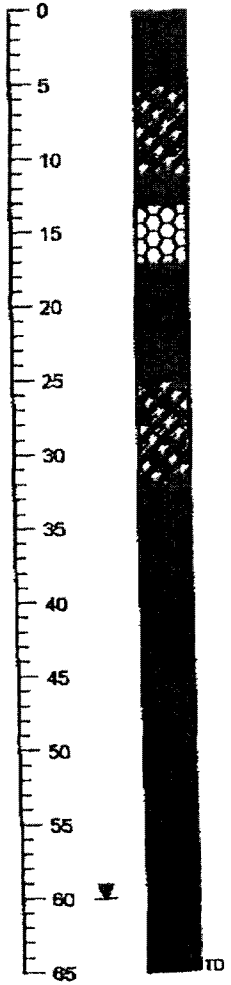
Soil Boring SB-1

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 28, 2000	ETGI Project # EOT 2061C	

Soil Boring SB-2



Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	2.1	Slight	Light	Sand - (SP) - Brown, very fine grained, well sorted.
5	2.3	Slight	Light	
10	2.6	None	None	Sand stone layer Sand - (SP) - Tan, very fine grained, well sorted.
15	2.6	None	None	Caliche layer
20	2.4	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
25	2.3	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
30	2.1	None	None	Sand stone layer
35	2.2	None	None	
40	2.5	None	None	
45	2.1	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
50	2.1	None	None	
55	2.3	None	None	
60 ▼	2.1	None	None	Sand - (SP) - Red brown, very fine grained, well sorted, wet.
65 TD	2.4	None	None	

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.
All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07/26/00
Backfilled with soil

Soil Boring Log Details

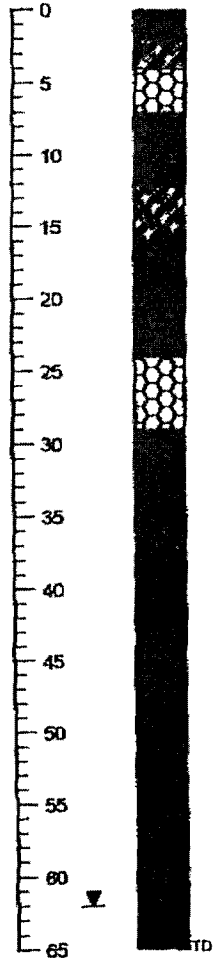
Soil Boring SB-2

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 26, 2000	ETGI Project # EOT 2061C	

Soil Boring SB-3



Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	227	Heavy	Moderate	Sand - (SP) - Brown, very fine grained, well sorted.
5	41.7	Heavy	Heavy	Sand stone layer Caliche layer
10	22.1	Slight	Light	Sand - (SP) - Red tan, very fine grained, well sorted.
15	14.5	Slight	None	Sand stone layer
20	11.1	None	None	Sand - (SP) - Red brown, very fine grained, well sorted, *with large sand stone nodules.*
25	15.1	None	None	Caliche layer
30	10.2	None	None	
35	15.6	None	None	Sand - (SP) - Red brown, very fine grained, well sorted, with large sand stone nodules.
40	159	Moderate	None	
45	368	Moderate	Light	
50	63.2	Slight	None	Sand - (SP) - Red brown, very fine grained, well sorted.
55	44.2	None	None	
60	30.3	None	None	
65	26.6	None	None	Sand - (SP) - Red brown, very fine grained, well sorted, moist.

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.
All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 27 / 00
Backfilled with soil

Soil Boring Log Details

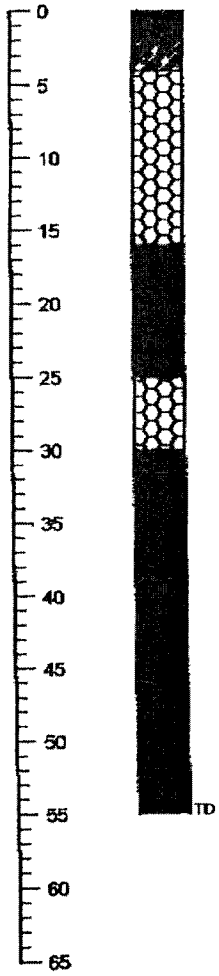
Soil Boring SB-3

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 27, 2000	ETGI Project # EOT 2051C	

Soil Boring SB-4



Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	5.5	Slight	None	Sand - (SP) - Brown, very fine grained, well sorted.
5	6.8	None	None	Sand stone layer
10	5.9	None	None	Caliche layer
15	6.8	None	None	
20	6.1	None	None	Sand - (SP) - Red tan, very fine grained, well sorted, with abundant caliche nodules.
25	5.0	None	None	
30	5.0	None	None	Caliche layer
35	5.0	None	None	
40	5.7	None	None	
45	7.1	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
50	5.8	None	None	
55	4.2	None	None	
60				
65				

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.
All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 27 / 00
Backfilled with soil

Soil Boring Log Details

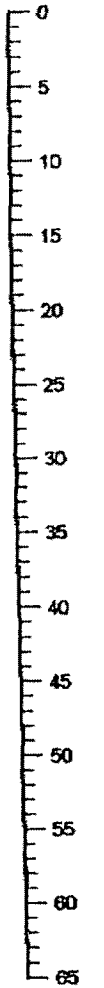
Soil Boring SB-4

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 27, 2000	ETGI Project # EOT 2081C	

Soil Boring SB-5



Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	5.0	None	None	Sand - (SP) - Brown, very fine grained, well sorted.
5	4.2	None	Light	Sand stone layer
10	5.6	None	None	Caliche layer
15	5.6	None	None	
20	5.3	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
25	4.8	None	None	Caliche layer
30	4.4	None	None	
35	4.3	None	None	
40	4.3	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
45	3.6	None	None	
50	5.1	None	None	
55	4.7	None	None	

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.
All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 28 / 00
Backfilled with soil

Soil Boring Log Details

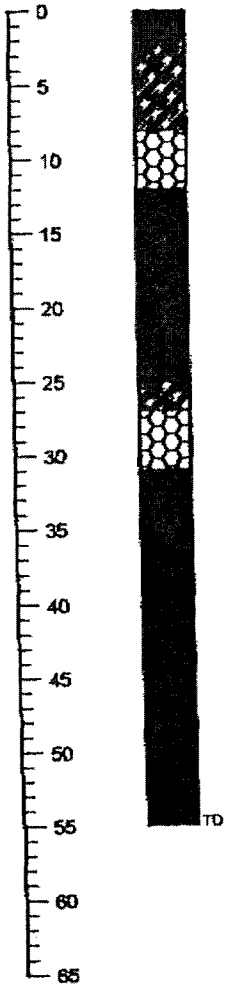
Soil Boring SB-5

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 28, 2000	ETGI Project # EOT 2051C	

Soil Boring SB-6



Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	5.5	None	None	Sand - (SP) - Brown, very fine grained, well sorted.
5	5.0	None	None	Sand stone layer
10	5.5	None	None	Caliche layer
15	5.0	None	None	
20	4.8	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
25	4.5	None	None	Sand - (SP) - Red brown, very fine grained, well sorted, with large sand stone nodules. Sand stone layer
30	4.2	None	None	Caliche layer
35	3.7	None	None	
40	3.7	None	None	
45	4.6	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
50	4.1	None	None	
55	2.9	None	None	

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.
All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 28 / 00
Backfilled with soil

Soil Boring Log Details

Soil Boring SB-6

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 28, 2000	ETGI Project # EOT 2061C	

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS,N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/26/00
Receiving Date: 07/28/00
Analysis Date: 07/28/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
28686	SB-1 0-2'	<10	653
28687	SB-1 3-5'	<10	<10
28688	SB-1 8-10'	<10	<10
28689	SB-1 13-15'	<10	<10
28690	SB-1 18-20'	<10	<10
28691	SB-1 23-25'	<10	<10
28692	SB-1 28-30'	<10	<10
28693	SB-1 33-35'	<10	<10
28694	SB-1 38-40'	<10	<10
28695	SB-1 43-45'	<10	<10
28696	SB-1 48-50'	<10	<10
28697	SB-1 53-55'	<10	<10
28698	SB-1 58-60'	<10	<10
28699	SB-2 0-2'	<10	1326
28700	SB-2 3-5'	<10	48
28701	SB-2 8-10'	<10	12
28702	SB-2 13-15'	<10	<10
28703	SB-2 18-20'	<10	<10
	% IA	88	110
	% EA	89	92
	BLANK	<10	<10

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS,N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 28 deg. F
Project #: EOT 2081C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/28/00
Receiving Date: 07/28/00
Analysis Date: 07/30/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
28704	SB-2 23-25'	<10	<10
28705	SB-2 28-30'	<10	<10
28706	SB-2 33-35'	<10	<10
28707	SB-2 38-40'	<10	<10
28708	SB-2 43-45'	<10	<10
28709	SB-2 48-50'	<10	<10
	% IA	82	93
	% EA	74	81
	BLANK	<10	<10

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS,N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: See Below
Receiving Date: 07/28/00
Analysis Date: 07/30/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg	SAMPLE DATE
28710	SB-2 53-55'	<10	<10	07/26/00
28711	SB-2 58-60'	<10	<10	07/26/00
28712	SB-2 63-65'	<10	<10	07/26/00
28713	SB-3 0-2'	235	833	07/27/00
28714	SB-3 3-5'	19	273	07/27/00
28715	SB-3 8-10'	<10	<10	07/27/00
28716	SB-3 13-15'	<10	<10	07/27/00
28717	SB-3 18-20'	<10	<10	07/27/00
28718	SB-3 23-25'	<10	<10	07/27/00
28719	SB-3 28-30'	<10	<10	07/27/00
28720	SB-3 33-35'	<10	<10	07/27/00
28721	SB-3 38-40'	90	504	07/27/00
28722	SB-3 43-45'	612	2133	07/27/00
28723	SB-3 48-50'	<10	57	07/27/00
28724	SB-3 53-55'	<10	42	07/27/00
	% IA	79	96	
	% EA	77	104	
	BLANK	<10	<10	

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

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"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS,N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 28 deg. F
Project #: EOT 2081C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 07/31/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
28725	SB-3 58-60'	<10	<10
28726	SB-3 63-65'	<10	<10
28728	SB-4 0-2'	<10	13
28729	SB-4 3-5'	<10	<10
28730	SB-4 8-10'	<10	<10
28731	SB-4 13-15'	<10	<10
28732	SB-4 18-20'	<10	<10
28733	SB-4 23-25'	<10	<10
28734	SB-4 28-30'	<10	<10
28735	SB-4 33-35'	<10	<10
28736	SB-4 38-40'	<10	<10
28737	SB-4 43-45'	<10	<10
28738	SB-4 48-50'	<10	<10
28739	SB-4 53-55'	<10	<10
	% IA	89	114
	% EA	86	99
	BLANK	<10	<10

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

Sample Type: Soil
Sample Condition: Intact/Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 07/31/00

ELT#	FIELD CODE	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	m,p-XYLENE (mg/kg)	o-XYLENE (mg/kg)
26713	SB-3 0-2'	2.50	12.0	8.16	10.3	3.99
28721	SB-3 38-40'	<0.100	0.222	0.241	0.726	0.37
28722	SB-3 43-45'	<0.100	<0.100	0.782	3.34	<0.100
%IA		92	90	90	98	91
%EA		89	89	90	100	93
BLANK		<0.100	<0.100	<0.100	<0.100	<0.100

METHODS: EPA SW 846-8021B,5030

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

Sample Type: Water
Sample Condition: Intact/Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 08/02/00

ELT#	FIELD CODE	GRO mg/l	DRO mg/l
28727	SB-3	<1	<1
	% Instrument Accuracy	95	119
	% Extraction Accuracy	106	114
	Blank	<1	<1

METHODS: SW 846-8015M

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

Sample Type: Water
Sample Condition: Intact/Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 07/31/00

ELT#	FIELD CODE	TDS mg/L
28727	SB-3	379
BLANK		<10

METHODS: EPA 160.1

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

Sample Type: Water
Sample Condition: Intact/Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 07/31/00

ELT#	FIELD CODE	TDS mg/L
28727	SB-3	379
BLANK		<10

METHODS: EPA 160.1

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

Sample Type: Water
Sample Condition: Intact/Iced/ HCl/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 08/01/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE (mg/kg)
28727	SB-3	0.005	0.020	0.015	0.018	0.009
%IA		87	86	85	94	87
%EA		86	89	89	100	89
BLANK		<0.001	<0.001	<0.001	<0.001	<0.001

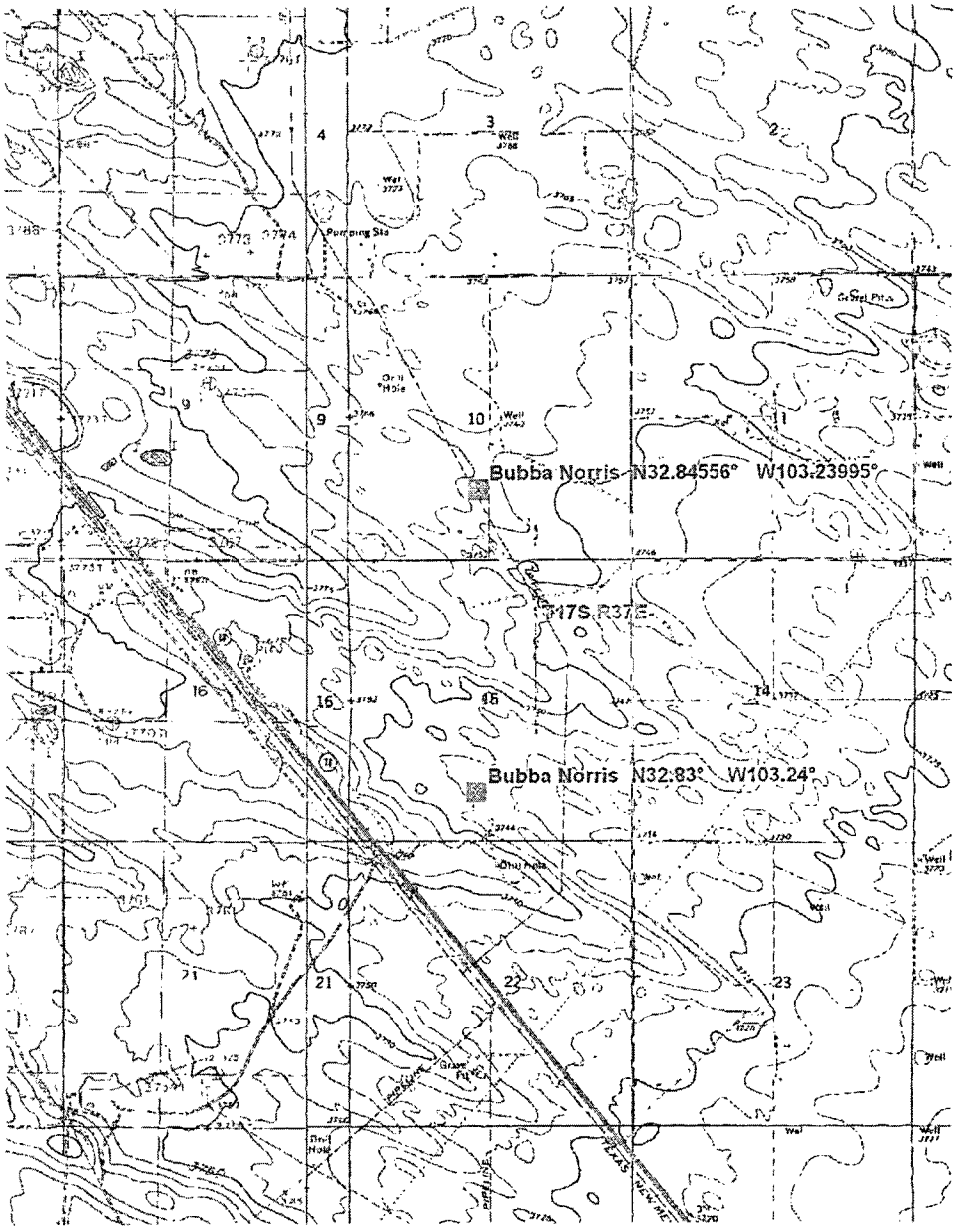
METHODS: EPA SW 846-8021B,5030

Raland K. Tuttle

8-2-00
Date

3-30-04 - MEET w/ [redacted] & LARRY H - DISCUSS FURTHER DELIN ON THIS SITE & OFFSITE ON COURSE FROM 2 YR AGO.

7-22-04 - CAM REYNOLDS OBTAIN CORRECT LEGALS



T 17 NOT 16

ENVIRONMENTAL PLUS, INC. Micro-Blaze Micro-Blaze Out™
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

December 11, 2001

Cutty Cunningham
ENRON
333 Clay Street Suite 400
3 Allen Center
Houston, Texas 77002-7361

Subject: Walter "Bubba" Norris 10" Pipeline contaminated soil volume estimate

Dear Mr. Cunningham,

At the request of Mr. Frank Hernandez, Environmental Plus, Inc. has reviewed the delineation report generated by ETGI and estimated the volume of contaminated soil at the site. The area of SB3 was contaminated to ~5' below ground surface ('bgs), SB2 and SB1 to ~2'bgs, and SB4, SB5, and SB6 were not contaminated. The initial response to the leak scraped and stockpiled approximately 1' from the site in general. An annotated site map is attached for reference.

Soil volumes are as follows;

SB3 ~1,513 yd^3
SB1 and SB2 ~807 yd^3
Spoils Pile ~ 2,209 yd^3

Total contaminated soil volume is ~4,529 yd^3

If questions arise or clarification is needed, please call either Ben Miller or myself at the office or at 505.390.0288 or 505.390.7864, respectively.

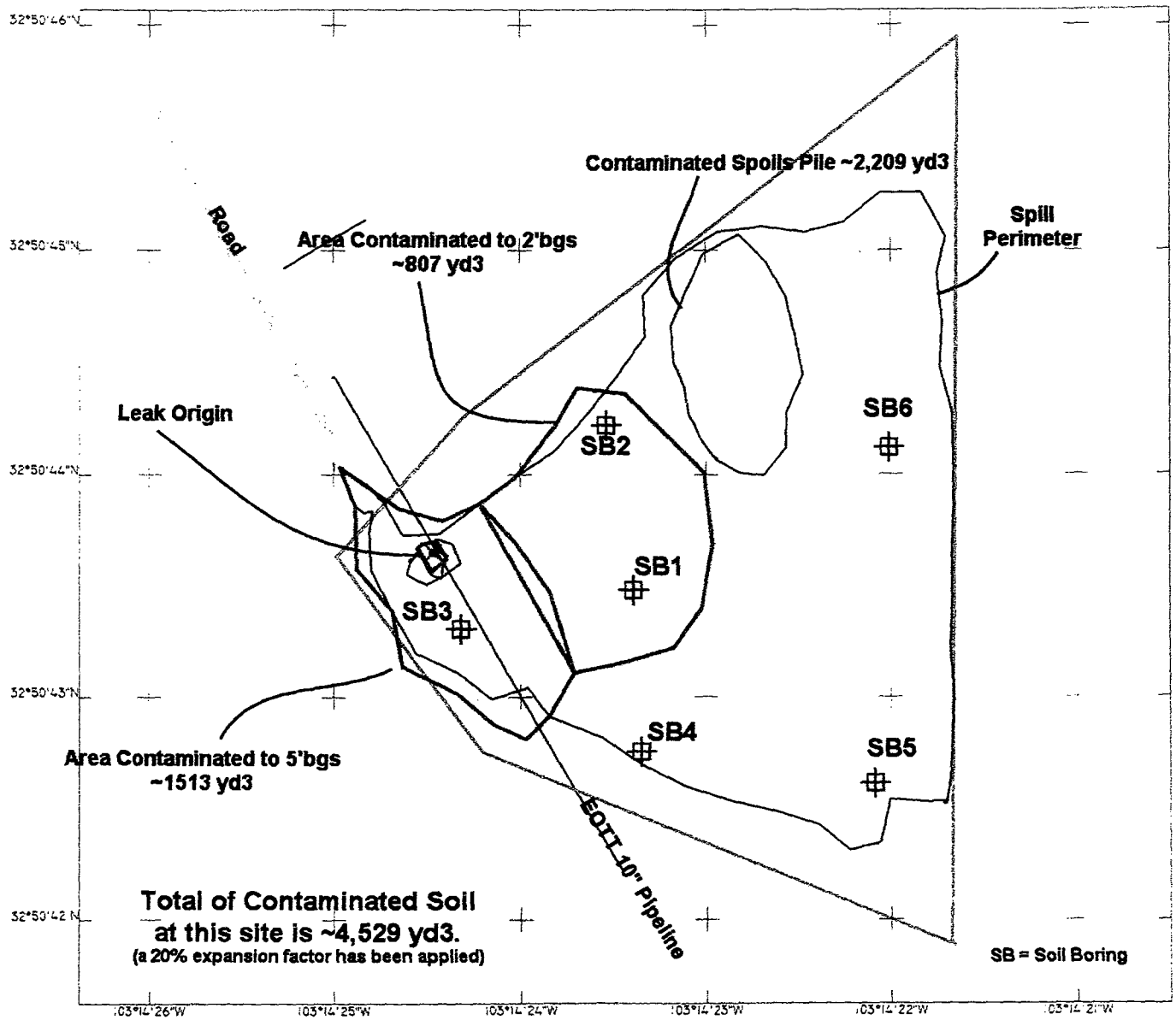
Sincerely,

Pat McCasland
EPI Technical Services Manager

cc: Frank Hernandez, ETS, DES
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.

P.O. BOX 1558 ••• 2100 WEST AVENUE O ••• EUNICE, NEW MEXICO 88231
TELEPHONE 505•394•3481 FAX 505•394•2601



EOTT ENERGY
PIPELINE
WALTER BUBBA
NORRIS 10"
PIPELINE
~~SE/4 OF SEC 9~~ NE/4 of SW/4 UL-K
SW/4 OF SEC 10
~~T16S~~ T17S R37E
LEA COUNTY
NEW MEXICO

N

SCALE 1 IN : 75.0 FT

0 100.0

FEET

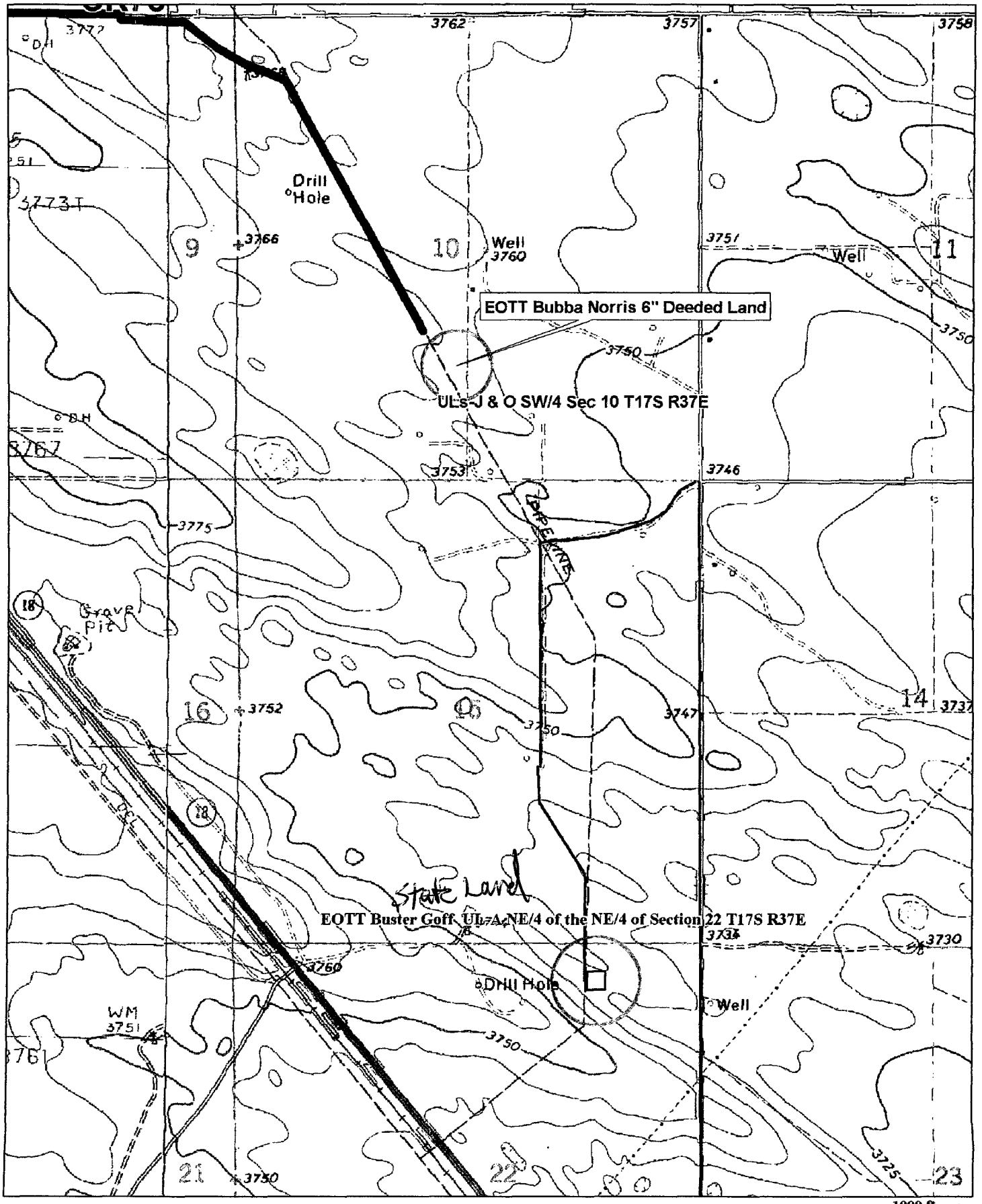
LAT/LONG
WGS 1984

BUBBANORRISA.COR

12/11/2001

Roper
Billy Hall Estate
Box 50
Maljamar NM

Lawrence Family Trust
Box 2710
Hobbs, NM


Drill Hole
Well
3760
Well
EOTT Bubba Norris 6" Deeded Land
ULs-J & O SW/4 Sec 10 T17S R37E
Gravel Pit
State Land
EOTT Buster Goff, UL-A, NE/4 of the NE/4 of Section 22 T17S R37E
Drill Hole
Well
WM
3751
3762
3757
3758
3766
3751
3750
3753
3746
3775
3752
3747
3737
3730
3760
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3725
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23
Copyright © 2000 DeLorme. TopoTools Advanced Print Kit TE. Scale: 1 : 17,600 Zoom Level: 13-0 Datum: WGS84
1000 ft

2100 Avenue O
P.O. Box 1558
Eunice, New Mexico 88231
TEL: 505.394.3481
FAX: 505.394.2601

ENVIRONMENTAL PLUS, INC.

Fax

Micro-Blaze

To:	Cutty Cunningham / ENRON	**From:**	Pat McCasland
Fax:	713.646.7867	**Pages:**	16
Phone:	713.646.6013	**Date:**	12/13/2001
Re:	Bubba Norris Work Plan	**CC:**	

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

Cutty,

Attached is the Preliminary Site Investigation Report and Remediation Work Plan for the Walter "Bubba" Norris 10" Pipeline that you requested. As we discussed, the initial yardage estimate of 4,529 yd³ can reasonably be reduced to 3,424 yd³.

PRELIMINARY SITE INVESTIGATION REPORT
AND
REMEDIATION WORK PLAN

WALTER "BUBBA" NORRIS 10" PIPELINE
Lea County, New Mexico

Prepared For:

EOTT Energy Corp.
5805 East Highway 80
Midland, Texas 79701

ETGI Project # EOT2061C

Prepared By:
Environmental Technology Group, Inc.
2540 W. Marland
Hobbs, New Mexico 88240

September 2000

Beth Aldrich
Geologist/Sr. Project Manager

Jerry D. Nickell
Managing Principal

Table of Contents

Tables

Figures

Attachments

1.0 INTRODUCTION

EOTT Energy Pipeline Limited Partnership (EOTT) is submitting this *Preliminary Site Investigation and Remediation Work Plan* as a summary of activities completed to date, and to establish future actions to be completed at the Walter "Bubba" Norris 6" Pipeline release site in Lea County, New Mexico. For reference, a site location and site map are provided in Figure 1 and 2, respectively. Site investigation activities, completed to date, were conducted to define the vertical and lateral extent of crude oil impact at the site. In addition, the proposed work plan has been developed to remediate impacted soils to acceptable regulatory levels. The proposed remedial activities will be completed following submittal and approval by the New Mexico Oil Conservation Division (NMOCD).

Crude oil leaking from a 6" EOTT pipeline running north/south was initially discovered on the Walter "Bubba" Norris property on July 6, 2000. The site is located approximately six miles southeast of Lovington, New Mexico, ~~in the SE ¼, SE ¼ of Section 9~~ and SW ¼, SW ¼ of Section 10, Township ~~16~~ 17 South, Range 37 East. The release resulted in a surface stain of crude oil from the release point measuring approximately 140 feet in length by 90 feet in width to the east of the pipeline release point. As required by the NMOCD's *Guidelines for Remediation of Leaks, Spills and Releases,* dated August 1993 (NMOCD, 1993), EOTT conducted initial response actions and site assessment activities as summarized below.

The remediation work plan, as outlined in this document, will serve as a "Work Plan Supplement" as referenced in the "General Work Plan for Remediation of EOTT Pipeline Spills, Leaks, and Releases in New Mexico" approved by NMOCD on August 1, 2000. The General Work Plan for Remediation (GWPR) was developed to ensure consistency of response and closure at all release sites. The overall closure strategy for this release site will be consistent with that discussed in the NMOCD approved GWPR. To reiterate the site closure strategy, upon completion of delineation activities, EOTT intends to seek regulatory closure by the following means:

- Delineate the nature and extent of contamination in soil and groundwater.
- Regardless of the fact that constituent action levels may be below approved site action levels, treat saturated/contaminated soils that were excavated at the release site (to a maximum root zone depth of 3 feet) by shredding and adding nutrients.
- Sample treated soils to ascertain that constituent concentrations are below approved site action levels. Back-fill treated soils and re-seed the area with native grass.
- Evaluate groundwater quality/use by analyzing for total dissolved solids (TDS). If TDS is $\leq$ 10,000 mg/L, submit Stage 2 Abatement Plan to mitigate groundwater constituent levels to New Mexico Water Quality Control Commission (WQCC) standards, if applicable. If TDS is > 10,000 mg/L, then such a plan is not warranted per NMOCD regulations.

- Address subsurface contamination by risk assessment methods.

Documentation supporting the aforementioned closure strategy will be submitted for NMOCD's approval at the appropriate time. Upon approval of this Preliminary Site Investigation and Remediation Work Plan by NMOCD, EOTT will commence remediation activities at the site.

2.0 SUMMARY OF FIELD ACTIVITIES

Upon discovery of the release and completion of initial response actions, which included repair of the leaking pipeline and removal of crude oil from the surface stain area, the surface stain area to the east of the release point was excavated to a depth of three to six inches to determine the lateral extent of contamination and prevent further downward migration of the crude oil. The shallow excavation area is approximately 145 feet wide and 90 feet in length. The impacted soils were stockpiled to the northeast of the surface stain area. Following this work, it was determined that contamination extended beyond the depth of the surface excavation and that a subsurface investigation would be required.

Environmental Technology Group, Inc. (ETGI) mobilized a rotary drilling rig on July 26, 2000 to conduct a preliminary site investigation and determine the nature and extent of crude oil impact as a result of the pipeline release. ETGI completed a total of six soil borings adjacent to and surrounding the release area to a maximum depth of approximately 65 feet, which was the prevailing depth to sufficiently assess the potential for groundwater impact. Each boring was sampled at five–foot intervals and field screened with a photoionization detector (PID). All samples demonstrating PID readings in excess of 100ppm for Volatile Organic Compounds (VOCs) were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), as well as total petroleum hydrocarbons – gasoline range organics/diesel range organics (TPH-GRO/DRO) by EPA SW 846 Methods 8021B and 8015B, respectively. Based on field screening and laboratory results, hydrocarbon impacted soils in excess of NMOCD criteria were determined to exist to a depth of 5 feet in the area immediately adjacent to the release point and to the northeast, underlying the surface stain area, although volatile organic concentrations appeared to be decreasing with depth based on PID readings. All soil boring logs are provided in Attachment 1.

3.0 SITE DESCRIPTION

3.1 Soil Geology/Hydrogeology

In the site vicinity, the surface is composed of unconsolidated, wind blown sands and finer materials associated with the Tertiary Ogallala Formation, which serves as a major aquifer for southeastern New Mexico and several high plains states. Alluvial, unconfined ground water is typically present in these sands at varying depths and generally flows from the north to the south. These aquifers are typically characterized by relatively high hydraulic conductivity and transmissivity.

The Ogallala is underlain by the Triassic Dockum Formation, commonly referred to as the "red beds". While there are sand lenses within the Dockum, it is more typically characterized by red silts and shales in which detectable groundwater is often absent or limited in extent. Where ground water is present, the aquifer is usually characterized by relatively low hydraulic conductivity and transmissivity.

3.2 Site Geology/Hydrology

At the site, the subsurface is composed of approximately 60 feet of sand, sandstone and caliche that unconformably overlies a horizon of red clay. A two to five foot sandstone layer lies near the surface throughout the site. The red clay corresponds to the Dockum Formation or "red beds". The top of the Dockum Formation represents an erosional surface on which the sands were later deposited. Areas of thick sand sections correspond to areas of greater erosion of the Dockum. The ground water table occurs near the interface of sand and clay at the site.

3.3 New Mexico Oil Conservation Division (NMOCD) Soil Classification

A groundwater sample was collected and analyzed for BTEX, TPH (GRO/DRO) and TDS to determine if the water meets the NMOCD definition of "beneficial use" (i.e. $\geq$ 10,000 mg/L TDS). Based on the following facts: depth to water being approximately 59 feet, the nearest surface water body being greater than 1,000 feet away, and the distance of the nearest water well head being at least 1,000 feet away, according to the NMOCD ranking system (NMOCD, 1993), the site can be assigned a ranking in the range of greater than 10 but less than 19. Therefore, target remediation action levels are 1000 mg/kg for TPH, 50 mg/kg for total BTEX, and 10 mg/kg for benzene in soils. Based on TDS concentrations of less than 10,000 mg/L at this site, the aquifer is considered to be of beneficial use and must meet New Mexico Water Quality Control Commission (WQCC) standards for each contaminant.

The site action levels will be used in conjunction with risk/exposure assessment techniques to demonstrate to NMOCD that human health and the environment are adequately protected at the site. Regulatory closure will be sought based on such a demonstration.

3.4 Distribution of Hydrocarbons in the Unsaturated Zone

At the surface, oil staining was observed at the release point and extended to the east into a pooling area. Subsequent to surface excavation of the impacted area, soil samples were collected in the subsurface using an air rotary drilling rig to determine the vertical and horizontal extent of hydrocarbon contamination in the soil. To date, six soil borings were advanced at the site to delineate impact from the pipeline release. Cross sections of the lateral extent of TPH concentrations, depicted in Figures 3 and 4, indicate that soil contamination exists only to a depth of 5 feet, above the groundwater depth of 59 feet. The presence of hydrocarbon-contaminated soil in the unsaturated zone (surface to 59' bgs) was detected at three of the soil borings at the near surface (zero to five feet bgs). In addition to surface staining (0-5 feet bgs), soil boring SB-3, adjacent to the pipeline, indicated contamination at the 38-55 feet bgs level. Based on the analytical data for the soil samples from five to 38 feet bgs, which indicate no hydrocarbon contamination, the contamination indicated at the 38 to 55 bgs level appears not to be contributable to this pipeline release. Table 1 provides the analytical results for TPH concentrations for all of the soil borings.

The distribution of hydrocarbons in the unsaturated one has been estimated by utilizing the following techniques:

- Visual observations of soils from the excavation walls and floor;
- Visual observations of subsurface soil samples;
- Laboratory analyses of selected soil samples.

3.5 Distribution of Hydrocarbons in the Saturated Zone

Sample analysis of groundwater from soil boring SB-3 indicates that the groundwater is not impacted with dissolved phase hydrocarbons at the site. All groundwater analytical results are provided in Table 2.

4.0 RECOMMENDATIONS

The soil analytical data collected during the initial site investigation indicates that the hydrocarbon impacted area, as a result of the EOTT release, is delineated to the extent of approximately 150 feet by 100 feet east of the pipeline release point and approximately 7 feet below the ground surface. Based on the analytical results for the soil samples taken from the borings advanced at the site, areas with TPH levels above the NMOCD regulatory action limits will be excavated, stockpiled, shredded and bioremediated to below action limits. Soil sampling will be performed on the treated soils to determine contaminant level reduction. Once contaminant levels are confirmed below regulatory limits, the soils will be backfilled into the excavation, contoured to grade, and seeded with native grasses.

In addition, based on the current groundwater monitoring data, no remedial action is required for the groundwater.

Remedial activities will continue at this site to clean up soils impacted by EOTT's 6" pipeline release. The following activities are proposed to assist in obtaining regulatory closure for the site:

1) Excavate additional contaminated soils from the area east of the release point.

2) Sample the bottom and sidewalls of the new excavation to confirm contaminant levels are below regulatory action levels.

3) Stockpile the excavated soil onsite, shred and bioremediate soils to below action levels, backfill the treated soils into the excavation areas, contour to grade, and re-seed with native grasses.

4) Once the above steps are completed, EOTT will use risk assessment methods to address the potential for any residual subsurface contamination to impact groundwater or adversely affect human health and the environment.

Documentation of the aforementioned actions will be submitted to the NMOCD in the final subsurface investigation and site remediation report. Upon receipt of NMOCD's approval this Preliminary Site Investigation and Remediation Work Plan, the activities described above will be implemented.

5.0 QA/QC PROCEDURES

5.1 Soil Sampling

Samples of subsurface soils were obtained utilizing either a split spoon sampler (air rotary drilling rig) or a two-inch, continuous sampling tube with a clean polybuterate liner (Geo-Probe®). Representative soil samples were divided into two separate portions using clean, disposable gloves and clean sampling tools. One portion of the soil sample was placed in a disposable sample bag. The bag was labeled and sealed for headspace analysis using a photoionization detector (PID) calibrated to a 100 ppm isobutylene standard. Each sample was allowed to volatilize for approximately thirty minutes at ambient temperature prior to conducting the analysis.

The other portion of the soil sample was placed in a sterile glass container equipped with a Teflon-lined lid furnished by the analytical laboratory. The container was filled to capacity to limit the amount of headspace present. Each container was labeled and placed on ice in an insulated cooler. Upon selection of samples for analysis, the cooler was sealed for shipment to the laboratory. Proper chain-of-custody documentation was maintained throughout the sampling process.

Soil samples were delivered to Environmental Lab of Texas, Inc. in Midland, Texas for BTEX and TPH analyses using the methods described below. Soil samples were analyzed for BTEX and TPH-GRO/DRO within fourteen days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH concentrations in accordance with modified EPA Method 8015M GRO/DRO

5.2 Ground Water Sampling

After the advancement of soil boring SB-3, a 20-minute interval was allowed for development of groundwater in the boring. Personnel wearing clean, disposable gloves collected groundwater samples from the boring with a disposable Teflon sampler and polyethylene line. Ground water sample containers were filled in the order of decreasing volatilization sensitivity (i.e., BTEX containers will be filled first and PAH containers second).

Ground water samples, collected for BTEX analysis, were placed in 40 ml glass VOA vials equipped with Teflon-lined caps. The containers were provided by the analytical laboratory. The vials were filled to a positive meniscus, sealed, and visually checked to ensure the absence of air bubbles.

Ground water samples, collected for TPH and TDS analysis, were filled to capacity in sterile, 1liter plastic containers equipped with Teflon-lined caps. The containers were provided by the analytical laboratory.

The filled containers were labeled and placed on ice in an insulated cooler. The cooler was sealed for transportation to the analytical laboratory. Proper chain-of-custody documentation was maintained throughout the sampling process.

The ground water samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH concentrations in accordance with modified EPA Method 8015M-GRO/DRO
- TDS concentrations in accordance with EPA Method 160.1

5.3 Decontamination Of Equipment

Cleaning of drilling equipment was the responsibility of the drilling company. In general, the cleaning procedures consisted of using high pressure steam to wash the drilling and sampling equipment prior to drilling and prior to starting each hole. Prior

to use, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

5.4 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

6.0 LIMITATIONS

Environmental Technology Group, Inc. has prepared this Preliminary Investigation Report and Remediation Work Plan to the best of its ability. No other warranty, expressed or implied, is made or intended.

Environmental Technology Group, Inc. has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Environmental Technology Group, Inc. has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Environmental Technology Group, Inc. has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Environmental Technology Group, Inc. also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of EOTT Energy Corp. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of Environmental Technology Group, Inc. and/or EOTT Energy Corp.

7.0 DISTRIBUTION

Copy 1 to: Glenn Waldrop
EOTT Energy Corp.
5805 East Highway 80
Midland, Texas 79701

Copy 2 to: Mike Kelly
EOTT Energy Corp.
1330 Post Oak Blvd. Rm. 2700
Houston, Texas 77056

Copy 3 to: Kiran Srinivasan
ENTRIX
5252 Westchester, Suite 250
Houston, Texas 77005

Copy 4 to: Environmental Technology Group, Inc.
4600 West Wall Street
Midland, Texas 79703

Copy 5 to: Environmental Technology Group, Inc. (Hobbs Office)
2540 W. Marland
Hobbs, New Mexico 88240

COPY NO.:_____

Quality Control Reviewer

TABLES

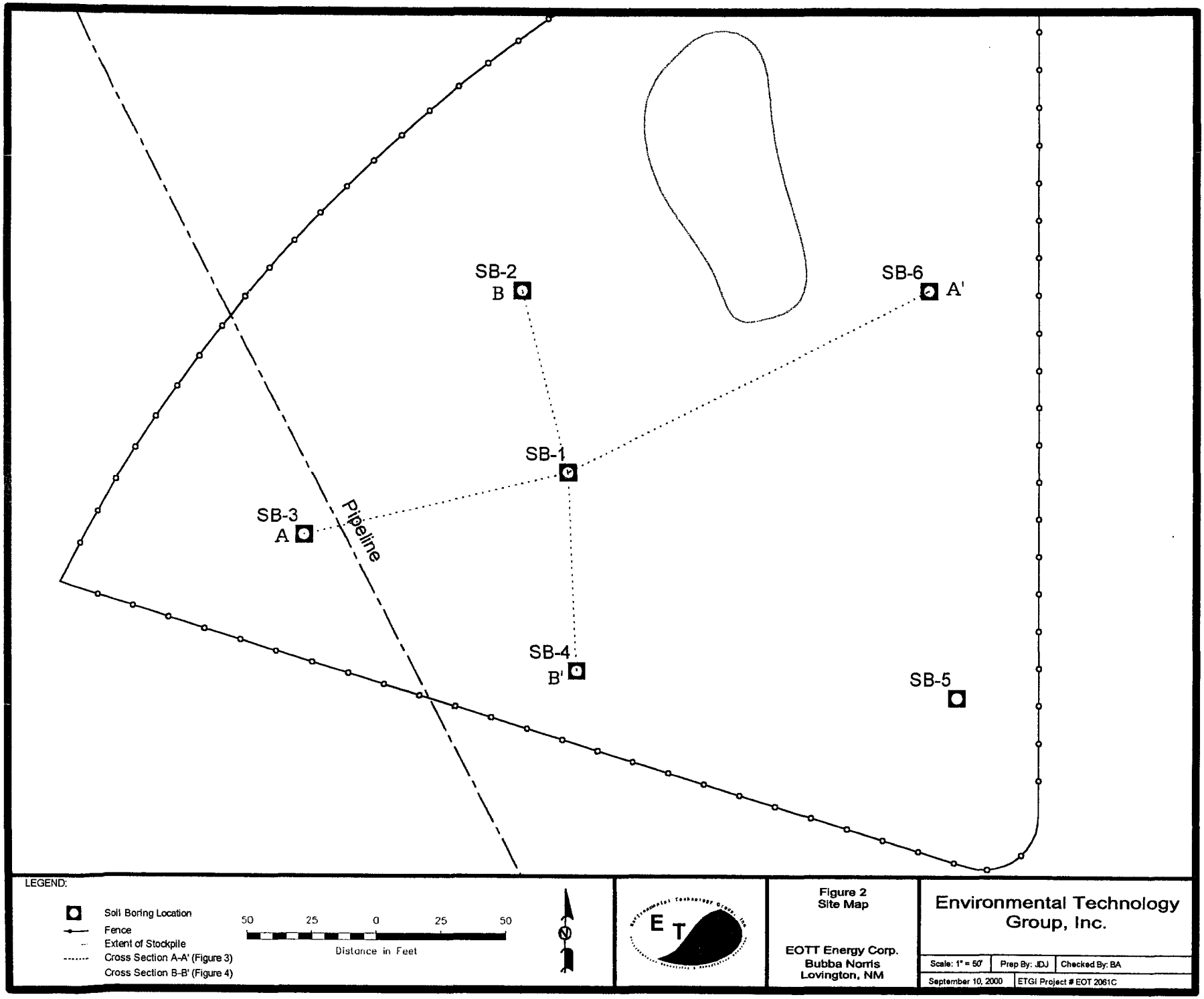

SB-2
B
SB-6
A'
SB-1
SB-3
A
Pipeline
SB-4
B'
SB-5
LEGEND:
Soil Boring Location
Fence
Extent of Stockpile
Cross Section A-A' (Figure 3)
Cross Section B-B' (Figure 4)
50 25 0 25 50
Distance in Feet
N
E T
Figure 2
Site Map
EOTT Energy Corp.
Bubba Norris
Lovington, NM
Environmental Technology Group, Inc.
Scale: 1" = 50'
Prep By: JDJ
Checked By: BA
September 10, 2000
ETGI Project # EOT 2061C

Table 1

CONCENTRATIONS OF TPH & BTEX IN SOIL

EOTT ENERGY PIPELINE LIMITED PARTNERSHIP
WALTER "BUBBA" NORRIS
LEA COUNTY, NEW MEXICO
ETGI Project # EOT 2061C

All concentrations are in mg/kg

SAMPLE DATE	SAMPLE LOCATION	SW 846-8015M GRO/DRO		SW 846-8021B, 5030					
		GRO C_6-C_{10}	DRO >C_{10}-C_{28}	BENZENE	TOLUENE	ETHYL-BENZENE	M,P-XYLENES	O-XYLENES	BTEX
7/26/00	SB-1 0-2'	<10	653						
7/26/00	SB-1 3-5'	<10	<10						
7/26/00	SB-1 8-10'	<10	<10						
7/26/00	SB-1 13-15'	<10	<10						
7/26/00	SB-1 18-20'	<10	<10						
7/26/00	SB-1 23-25'	<10	<10						
7/26/00	SB-1 28-30'	<10	<10						
7/26/00	SB-1 33-35'	<10	<10						
7/26/00	SB-1 38-40'	<10	<10						
7/26/00	SB-1 43-45'	<10	<10						
7/26/00	SB-1 48-50'	<10	<10						
7/26/00	SB-1 53-55'	<10	<10						
7/26/00	SB-1 58-60'	<10	<10						
7/26/00	SB-2 0-2'	<10	1326						
7/26/00	SB-2 3-5'	<10	48						
7/26/00	SB-2 8-10'	<10	12						
7/26/00	SB-2 13-15'	<10	<10						
7/26/00	SB-2 18-20'	<10	<10						
7/26/00	SB-2 23-25'	<10	<10						
7/26/00	SB-2 28-30'	<10	<10						
7/26/00	SB-2 33-35'	<10	<10						
7/26/00	SB-2 38-40'	<10	<10						
7/26/00	SB-2 43-45'	<10	<10						
7/26/00	SB-2 48-50'	<10	<10						
7/26/00	SB-2 53-55'	<10	<10						
7/26/00	SB-2 58-60'	<10	<10						
7/26/00	SB-2 63-65'	<10	<10						
7/27/00	SB-3 0-2'	235	833	2.50	12.0	8.16	10.3	3.99	36.95
7/27/00	SB-3 3-5'	19	273						
7/27/00	SB-3 8-10'	<10	<10						
7/27/00	SB-3 13-15'	<10	<10						
7/27/00	SB-3 18-20'	<10	<10						
7/27/00	SB-3 23-25'	<10	<10						
7/27/00	SB-3 28-30'	<10	<10						
7/27/00	SB-3 33-35'	<10	<10						
7/27/00	SB-3 38-40'	90	604	<0.100	0.222	0.241	0.726	0.37	1.559
7/27/00	SB-3 43-45'	612	2133	<0.100	<0.100	0.782	3.34	<0.100	4.122
7/27/00	SB-3 48-50'	<10	57						
7/27/00	SB-3 53-55'	<10	42						
7/27/00	SB-3 58-60'	<10	<10						
7/27/00	SB-3 63-65'	<10	<10						
7/27/00	SB-4 0-2'	<10	13						
7/27/00	SB-4 3-5'	<10	<10						
7/27/00	SB-4 8-10'	<10	<10						
7/27/00	SB-4 13-15'	<10	<10						
7/27/00	SB-4 18-20'	<10	<10						
7/27/00	SB-4 23-25'	<10	<10						
7/27/00	SB-4 28-30'	<10	<10						
7/27/00	SB-4 33-35'	<10	<10						
7/27/00	SB-4 38-40'	<10	<10						
7/27/00	SB-4 43-45'	<10	<10						
7/27/00	SB-4 48-50'	<10	<10						

CONCENTRATIONS OF TPH & BTEX IN SOIL

EOTT ENERGY PIPELINE LIMITED PARTNERSHIP
WALTER "BUBBA" NORRIS
LEA COUNTY, NEW MEXICO
ETGI Project # EOT 2061C

All concentrations are in mg/kg

SAMPLE DATE	SAMPLE LOCATION	SW 846-8015M GRO/DRO		SW 846-8021B, 5030					
		GRO C_6-C_{10}	DRO >C_{10}-C_{28}	BENZENE	TOLUENE	ETHYL-BENZENE	M,P-XYLENES	O-XYLENES	BTEX
7/27/00	SB-4 53-55'	<10	<10						
7/28/00	SB-5 0-2'	<10	<10						
7/28/00	SB-5 3-5'	<10	<10						
7/28/00	SB-5 8-10'	<10	<10						
7/28/00	SB-5 13-15'	<10	<10						
7/28/00	SB-5 18-20'	<10	<10						
7/28/00	SB-5 23-25'	<10	<10						
7/28/00	SB-5 28-30'	<10	<10						
7/28/00	SB-5 33-35'	<10	<10						
7/28/00	SB-5 38-40'	<10	<10						
7/28/00	SB-5 43-45'	<10	<10						
7/28/00	SB-5 48-50'	<10	<10						
7/28/00	SB-5 53-55'	<10	<10						
7/28/00	SB-6 0-2'	<10	<10						
7/28/00	SB-6 3-5'	<10	<10						
7/28/00	SB-6 8-10'	<10	<10						
7/28/00	SB-6 13-15'	<10	<10						
7/28/00	SB-6 18-20'	<10	<10						
7/28/00	SB-6 23-25'	<10	<10						
7/28/00	SB-6 28-30'	<10	<10						
7/28/00	SB-6 33-35'	<10	<10						
7/28/00	SB-6 38-40'	<10	<10						
7/28/00	SB-6 43-45'	<10	<10						
7/28/00	SB-6 48-50'	<10	<10						
7/28/00	SB-6 53-55'	<10	<10						

Table 2

CONCENTRATIONS OF TPH & BTEX IN GROUNDWATER

EOTT ENERGY PIPELINE LIMITED PARTNERSHIP
WALTER "BUBBA" NORRIS
LEA COUNTY, NEW MEXICO
ETGI Project #EOT 2061C

All concentrations are in mg/L

SAMPLE DATE	SAMPLE LOCATION	SW 846-8015M GRO/DRO		SW 846-8021B, 5030					
		GRO C_6-C_{10}	DRO >C_{10}-C_{28}	BENZENE	TOLUENE	ETHYL-BENZENE	M,P-XYLENES	O-XYLENES	BTEX
7/27/00	SB-3	<1	<1	0.005	0.02	0.015	0.018	0.009	0.067

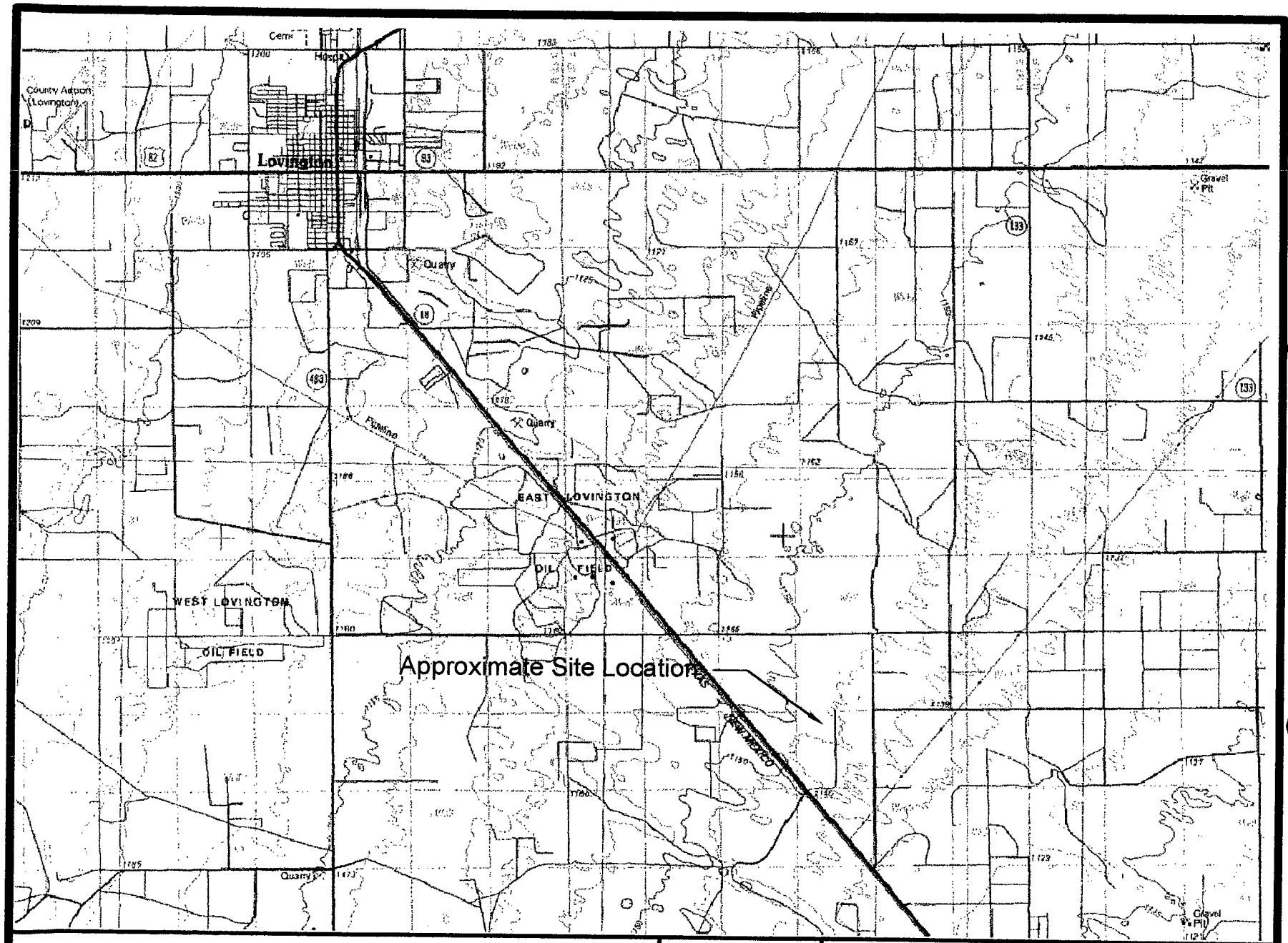


Figure 1
Site Location Map

EOTT Energy Corp.
Bubba Norris
Lovington, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: JDJ	Checked By: KD
September 10, 2000	ETGI Project # EOT 2061C	

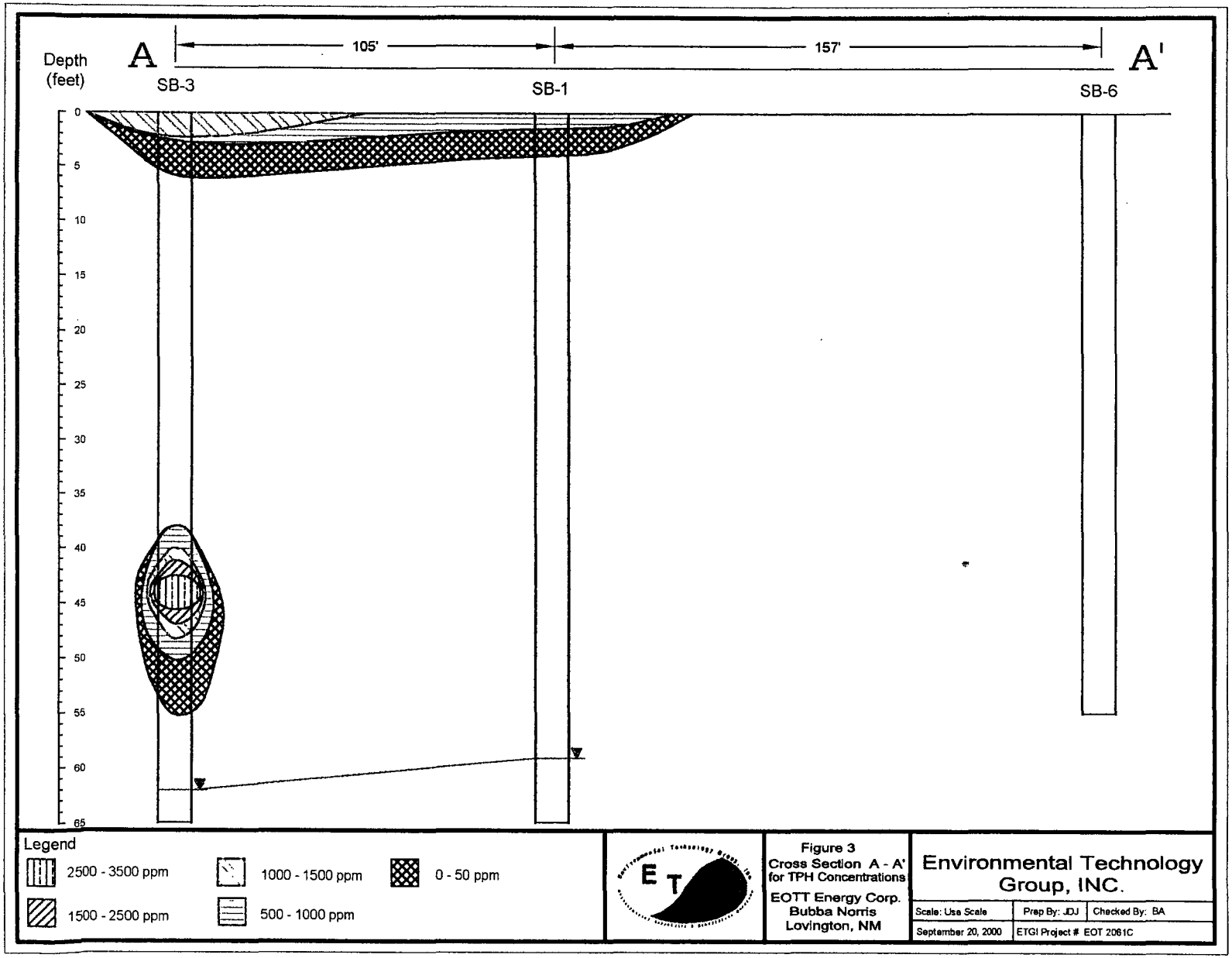
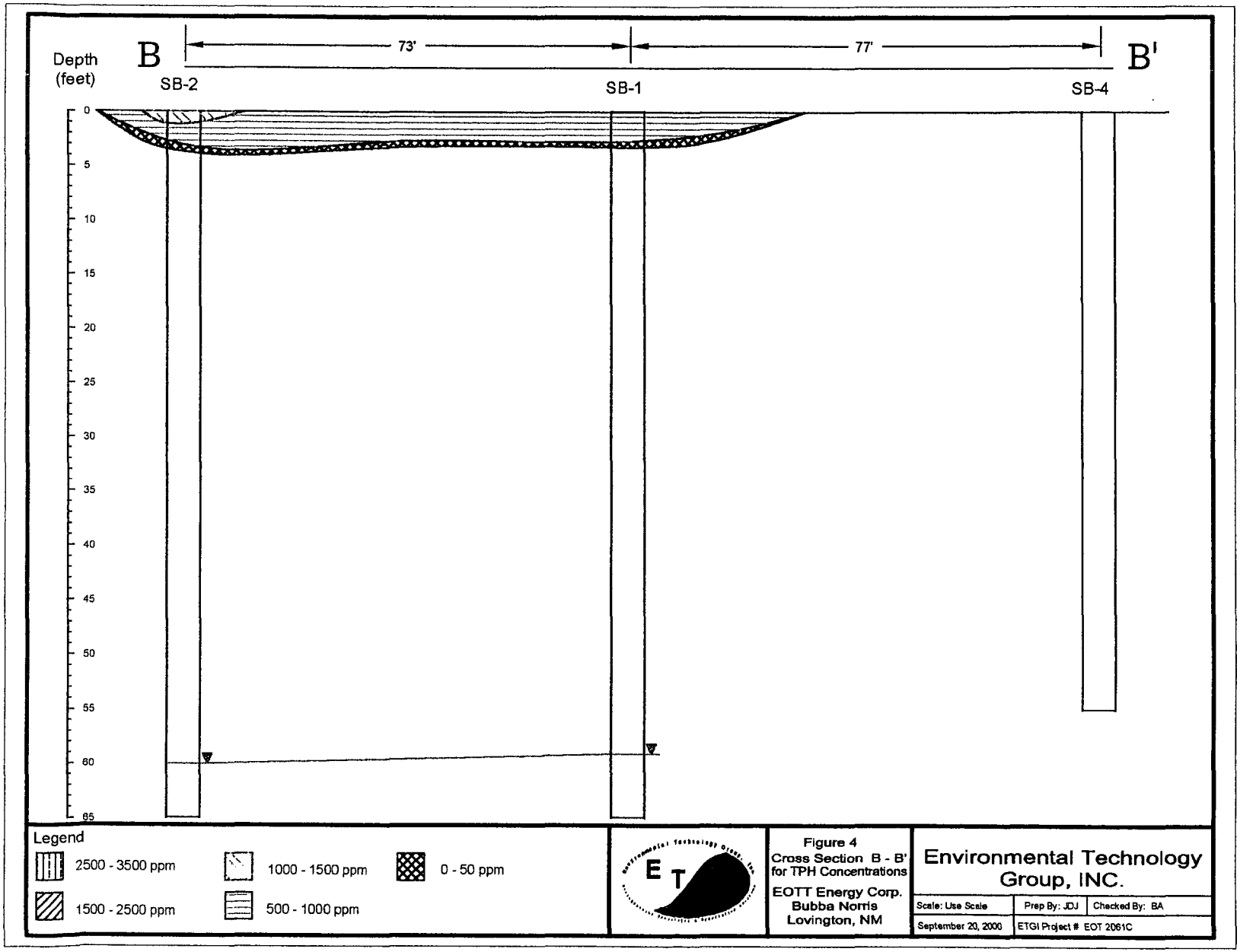


Figure 3
Cross Section A - A' for TPH Concentrations
EOTT Energy Corp.
Bubba Norris
Lovington, NM

Environmental Technology Group, INC.

Scale: Use Scale	Prep By: JDJ	Checked By: BA
September 20, 2000	ETGI Project # EOT 2061C	


Depth
(feet)
B
B'
73'
77'
SB-2
SB-1
SB-4
0
5
10
15
20
25
30
35
40
45
50
55
60
65
Legend
2500 - 3500 ppm
1000 - 1500 ppm
0 - 50 ppm
1500 - 2500 ppm
500 - 1000 ppm
E T
Figure 4
Cross Section B - B'
for TPH Concentrations
EOTT Energy Corp.
Bubba Norris
Lovington, NM
Environmental Technology
Group, INC.
Scale: Use Scale
Prep By: JDJ
Checked By: BA
September 20, 2000
ETGI Project # EOT 2061C

FIGURES

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS,N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/26/00
Receiving Date: 07/28/00
Analysis Date: 07/28/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
28686	SB-1 0-2'	<10	653
28687	SB-1 3-5'	<10	<10
28688	SB-1 8-10'	<10	<10
28689	SB-1 13-15'	<10	<10
28690	SB-1 18-20'	<10	<10
28691	SB-1 23-25'	<10	<10
28692	SB-1 28-30'	<10	<10
28693	SB-1 33-35'	<10	<10
28694	SB-1 38-40'	<10	<10
28695	SB-1 43-45'	<10	<10
28696	SB-1 48-50'	<10	<10
28697	SB-1 53-55'	<10	<10
28698	SB-1 58-60'	<10	<10
28699	SB-2 0-2'	<10	1326
28700	SB-2 3-5'	<10	48
28701	SB-2 8-10'	<10	12
28702	SB-2 13-15'	<10	<10
28703	SB-2 18-20'	<10	<10
	% IA	88	110
	% EA	89	92
	BLANK	<10	<10

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS,N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/26/00
Receiving Date: 07/28/00
Analysis Date: 07/30/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
28704	SB-2 23-25'	<10	<10
28705	SB-2 28-30'	<10	<10
28706	SB-2 33-35'	<10	<10
28707	SB-2 38-40'	<10	<10
28708	SB-2 43-45'	<10	<10
28709	SB-2 48-50'	<10	<10
% IA		82	93
% EA		74	81
BLANK		<10	<10

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS,N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: See Below
Receiving Date: 07/28/00
Analysis Date: 07/30/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg	SAMPLE DATE
28710	SB-2 53-55'	<10	<10	07/26/00
28711	SB-2 58-60'	<10	<10	07/26/00
28712	SB-2 63-65'	<10	<10	07/26/00
28713	SB-3 0-2'	235	833	07/27/00
28714	SB-3 3-5'	19	273	07/27/00
28715	SB-3 8-10'	<10	<10	07/27/00
28716	SB-3 13-15'	<10	<10	07/27/00
28717	SB-3 18-20'	<10	<10	07/27/00
28718	SB-3 23-25'	<10	<10	07/27/00
28719	SB-3 28-30'	<10	<10	07/27/00
28720	SB-3 33-35'	<10	<10	07/27/00
28721	SB-3 38-40'	90	604	07/27/00
28722	SB-3 43-45'	612	2133	07/27/00
28723	SB-3 48-50'	<10	57	07/27/00
28724	SB-3 53-55'	<10	42	07/27/00
	% IA	79	96	
	% EA	77	104	
	BLANK	<10	<10	

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS,N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 07/31/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
28725	SB-3 58-60'	<10	<10
28726	SB-3 63-65'	<10	<10
28728	SB-4 0-2'	<10	13
28729	SB-4 3-5'	<10	<10
28730	SB-4 8-10'	<10	<10
28731	SB-4 13-15'	<10	<10
28732	SB-4 18-20'	<10	<10
28733	SB-4 23-25'	<10	<10
28734	SB-4 28-30'	<10	<10
28735	SB-4 33-35'	<10	<10
28736	SB-4 38-40'	<10	<10
28737	SB-4 43-45'	<10	<10
28738	SB-4 48-50'	<10	<10
28739	SB-4 53-55'	<10	<10
% IA		89	114
% EA		86	99
BLANK		<10	<10

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

Sample Type: Soil
Sample Condition: Intact/Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 07/31/00

ELT#	FIELD CODE	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	m,p-XYLENE (mg/kg)	o-XYLENE (mg/kg)
28713	SB-3 0-2'	2.50	12.0	8.16	10.3	3.99
28721	SB-3 38-40'	<0.100	0.222	0.241	0.726	0.37
28722	SB-3 43-45'	<0.100	<0.100	0.782	3.34	<0.100
%IA		92	90	90	98	91
%EA		89	89	90	100	93
BLANK		<0.100	<0.100	<0.100	<0.100	<0.100

METHODS: EPA SW 846-8021B,5030

Raland K. Tuttle

Raland K. Tuttle

8-2-00

Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

Sample Type: Water
Sample Condition: Intact/Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 08/02/00

ELT#	FIELD CODE	GRO mg/l	DRO mg/l
28727	SB-3	<1	<1
	% Instrument Accuracy	95	119
	% Extraction Accuracy	106	114
	Blank	<1	<1

METHODS: SW 846-8015M

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

Sample Type: Water
Sample Condition: Intact/Iced/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 07/31/00

ELT#	FIELD CODE	TDS mg/L
28727	SB-3	379
	BLANK	<10

METHODS: EPA 160.1

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 W. MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

Sample Type: Water
Sample Condition: Intact/Iced/ HCl/ 28 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/27/00
Receiving Date: 07/28/00
Analysis Date: 08/01/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE (mg/kg)
28727	SB-3	0.005	0.020	0.015	0.018	0.009
%IA		87	86	85	94	87
%EA		86	89	89	100	89
BLANK		<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8021B,5030

Raland K. Tuttle

8-2-00
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

COC 197

Project Manager: KEN DUTTON
Phone #: (505) 397-4882
FAX #: (505) 397-4701

Company Name & Address: ETGI
2540 W MARLAND HOBBS NM 88242

Project #: EOT 2061C
Project Name: BUBBA NORRIS

Project Location: LEA COUNTY, NM
Sampler Signature: Simon Casas

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 8015 DRO/GRO	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
28686	SB-1 0-2	1	40Z		X						X			7-24	1018		X						
28687	SB 1 3-5'														1028								
28688	SB 1 8-10'														1044								
28689	SB 1 13-15'														1051								
28690	SB 1 18-20'														1105								
28691	SB 1 23-25'														1122								
28692	SB 1 28-30'														1133								
28693	SB 1 33-35'														1145								
28694	SB 1 38-40'														1200								
28695	SB 1 43-45'														1215								
28696	SB 1 48-50'														1232								

Relinquished by:	Date:	Times:	Received by:
Simon Casas	7-28-00	0800	
	7-28-00	1255	
			Received by Laboratory:

REMARKS

20°

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

2 of 5

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

COC 197

Project Manager: KEN DUTTON
Phone #: (505) 397-4882
FAX #: (505) 397-4701

Company Name & Address: ETGI
2540 W MARLAND HOBBS NM 88242

Project #: EOT 2061C
Project Name: BUBBA NORRIS

Project Location: LEA COUNTY, NM
Sampler Signature: Lemon Casas

ANALYSIS REQUEST

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	TPH 8015 DRO/GRO	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
28697	SB1 53-55'	1	40z		X						X			7-26	1248		X						
28698	SB1 58-60'														1305								
28699	SB2 0-2'														1340								
28700	SB2 3-5'														1345								
28701	SB2 8-10'														1348								
28702	SB2 13-15'														1355								
28703	SB2 18-20'														1405								
28704	SB2 23-25'														1420								
28705	SB2 28-30'														1435								
28706	SB2 33-35'														1448								
28707	SB2 38-40'														1501								

Relinquished by:	Date:	Time:	Received by:
Lemon Casas	7-28-00	0800	
	7-28-00	1255	
			Received by Laboratory:

REMARKS:
FAX RESULTS: HOBBS OFFICE
MAIL ORIGINALS: EOTT
INVOICE: EOTT
28°

3 of 5

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

COC 197

Project Manager: KEN DUTTON
Phone #: (505) 397-4882
FAX #: (505) 397-4701

Company Name & Address: ETGI
2540 W MARLAND HOBBS NM 88242

Project #: EOT 2061C
Project Name: BUBBA NORRIS

Project Location: LEA COUNTY, NM
Sampler Signature: Simon Casas

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 8021/8260	TPH 418.1/8015 GRO/DRO	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
28708	SB2 43-45'	1	4oz		X						X			7-26	1521		X						
28709	SB2 48-50'														1546								
28710	SB2 53-55'														1606								
28711	SB2 58-60'														1636								
28712	SB2 63-65'													↓	1655								
28713	SB-3 0-2'													7-27	0914	X							
28714	SB-3 3-5'														0921								
28715	SB 3 8-10'														0933								
28716	SB 3 13-15'														0941								
28717	SB 3 18-20'														0956								
28718	SB 3 23-25'	↓	↓		↓						↓			↓	1003		↓						

Relinquished by:	Date:	Times:	Received by:
Simon Casas	7-28-00	0800	
Relinquished by:	Date:	Times:	Received by:
	7-28-00	1255	
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS

28°

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

4 of 5

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

COC 197

Project Manager: KEN DUTTON
Phone #: (505) 397-4882
FAX #: (505) 397-4701

Company Name & Address: ETGI
2540 W MARLAND HOBBS NM 88242

Project #: EOT 2061C
Project Name: BUBBA NORRIS

Project Location: LEA COUNTY, NM
Sampler Signature: Lemon Casas

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 8015 Mod GRO	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 160.1	RCI
28719	SB 3 28-30'	1	4oz		X						X			7-27	1012								
28720	SB 3 33-35'														1023								
28721	SB 3 38'-40'														1040	X							
28722	SB 3 43-45'														1100	X							
28723	SB 3 48'-50'														1119								
28724	SB 3 53'-55'														1142								
28725	SB3 58-60'														1200								
28726	SB3 63-65'														1222								
28727	SB 3	4	1402 V.S	X					X		X				1345	X	X				X		
28728	SB 4 0-2'	1	4oz		X										1414								
28729	SB 4 3'-5'														1426								

Relinquished by:	Date:	Time:	Received by:
Lemon Casas	7-28-00	0800	
Relinquished by:	Date:	Time:	Received by:
	7-28-00	1255	
Relinquished by:	Date:	Time:	Received by Laboratory:

REMARKS: 28°

5 of 5

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

COC 197

Project Manager: KEN DUTTON
Phone #: (505) 397-4882
FAX #: (505) 397-4701

Company Name & Address: ETGI
2540 W MARLAND HOBBS NM 88242

Project #: EOT 2061C
Project Name: BUBBA NORRIS

Project Location: LEA COUNTY, NM
Sampler Signature: Simon Coops

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 8021/~~8260~~	TPH ~~418.1~~ 8015/1005	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
28730	SB 4 8-10'	1	40z		X						X			7-27	1435		X						
28731	SB 4 13-15'														1440								
28732	SB 4 18-20'														1445								
28733	SB 4 23-25'														1454								
28734	SB 4 28-30'														1500								
28735	SB 4 33-35'														1511								
28736	SB 4 38-40'														1525								
28737	SB 4 43-45'														1535								
28738	SB 4 48-50'														1547								
28739	SB 4 53-55'	↓	↓		↓						↓			↓	1600		↓						

Relinquished by:	Date:	Times:	Received by:
Simon Coops	7-28-00	0800	
Relinquished by:	Date:	Times:	Received by:
	7-28-00	1255	
Relinquished by:	Date:	Times:	Received by Laboratory:

REMARKS: 28°

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 27 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/28/00
Receiving Date: 07/31/00
Analysis Date: 08/01/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
28742	SB-5 0-2'	<10	<10
28743	SB-5 3-5'	<10	<10
28744	SB-5 8-10'	<10	<10
28745	SB-5 13-15'	<10	<10
28746	SB-5 18-20'	<10	<10
28747	SB-5 23-25'	<10	<10
28748	SB-5 28-30'	<10	<10
28749	SB-5 33-35'	<10	<10
28750	SB-5 38-40'	<10	<10
28751	SB-5 43-45'	<10	<10
28752	SB-5 48-50'	<10	<10
28753	SB-5 53-55'	<10	<10
28754	SB-6 0-2'	<10	<10
28755	SB-6 3-5'	<10	<10
28756	SB-6 8-10'	<10	<10
28757	SB-6 13-15'	<10	<10
28758	SB-6 18-20'	<10	<10
28759	SB-6 23-25'	<10	<10
28760	SB-6 28-30'	<10	<10
% IA		96	101
% EA		95	100
BLANK		<10	<10

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. KEN DUTTON
2540 MARLAND
HOBBS, N.M. 88242
FAX: 505-397-4701
FAX: 915-520-4310

SampleType: Soil
Sample Condition: Intact/ Iced/ 27 deg. F
Project #: EOT 2061C
Project Name: Bubba Norris
Project Location: Lea County, N.M.

Sampling Date: 07/28/00
Receiving Date: 07/31/00
Analysis Date: 08/01/00

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
28761	SB-6 33-35'	<10	<10
28762	SB-6 38-40'	<10	<10
28763	SB-6 43-45'	<10	<10
28764	SB-6 48-50'	<10	<10
28765	SB-6 53-55'	<10	<10
% IA		84	97
% EA		95	100
BLANK		<10	<10

METHODS: SW 846-8015M GRO/DRO

Raland K. Tuttle

8-2-00
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

1063

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

COC 198

Project Manager: KEN DUTTON
Phone #: (505) 397-4882
FAX #: (505) 397-4701

Company Name & Address: E.T.G.I.
2540 W MARLAND HOBBS NM 88242

Project #: EOT 2061 C
Project Name: BUBBA NORRIS

Project Location: LEA COUNTY NM
Sampler Signature:

ANALYSIS REQUEST

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 8015 GRO DRO	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
28742	SB-5 0-2'	1	4oz	X							X			7-28	0900		X						
28743	SB5 3-5'														0910								
28744	SB5 8-10														0915								
28745	SB5 13-15'														0921								
28746	SB5 18-20'														0927								
28747	SB5 23-25'														0939								
28748	SB5 28-30'														0950								
28749	SB5 33-35'														0958								
28750	SB5 38-40'														1005								
28751	SB5 43-45'														1029								
28752	SB5 48-50'														1044								

Relinquished by:	Date:	Time:	Received by:
	7-31-00	0815	
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory:
	07-31-00	1250	

REMARKS
MAIL ORIGINAL RESULTS: EOTT
FAX RESULTS: ETGI/HOBBS OFFICE
INVOICE: EOTT
Rec. 27°F

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

2 of 3

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Cover

Project Manager: KEN DUTTON
Phone #: (505) 397-4882
FAX #: (505) 397-4701

Company Name & Address: E.T.G.I.
2540 W MARLAND, HOBBS NM 88242

Project #: EOT 2061
Project Name: BUBBA NORRIS

Project Location: LEA COUNTY
Sampler Signature: Simon Casas

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 8015 DRO GRO	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	TOS	RCI
28753	SB5 53-55'	1	40B		X						X			7-28	1101		X						
28754	SB6 0-2'														1216								
28755	SB6 3-5'														1221								
28756	SB6 8-10'														1226								
28757	SB6 13-15'														1232								
28758	SB6 18-20'														1240								
28759	SB6 23-25'														1249								
28760	SB6 28-30'														1312								
28761	SB6 33-35'														1322								
28762	SB6 38-40'														1334								
28763	SB6 43-45	↓	↓		↓						↓			↓	1346		↓						

Relinquished by:	Date:	Time:	Received by:
Simon Casas	7-31-00	0815	Tracy Tetter
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory:
Tracy Tetter	07-31-00	1250	g mcmurry

REMARKS

Rec 27°F

Aug 02 00 02:15p

p.4

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

3 of 3

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Cox 198

Project Manager: KEN DUTTON
Phone #: (505) 397-4882
FAX #: (505) 397-4701

Company Name & Address: ETGI
2540 W. MARLAND, HOBBS, NM 88242

Project #: EOT 2061 C
Project Name: BUBBA NORRIS

Project Location: LEA COUNTY NM
Sampler Signature: Simon Casas

ANALYSIS REQUEST

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 8015 GRO GRO	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
28764	SB6 48-50'	1	40z	X							X			7-28	1403		X						
28765	SB6 - 53-55	1	40z	X							X			7-28	1430		X						

Relinquished by:	Date:	Times:	Received by:
Simon Casas	7-31-00	0815	Tracy Peterson
Relinquished by:	Date:	Times:	Received by:
Relinquished by:	Date:	Times:	Received by Laboratory:
Tracy Peterson	07-31-00	1250	JMcMurrey

REMARKS: Rec 27°F

ATTACHMENTS

Soil Boring SB-1

Depth (feet)	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0		4.0	Slight	Light	Sand - (SP) - Brown, very fine grained, well sorted.
5		3.7	Slight	Light	Sand stone layer
10		3.7	Slight	Light	Caliche layer
15		3.7	None	Light	
20		3.3	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
25		3.0	None	None	Sand stone layer Sand - (SP) - Red tan, very fine grained, well sorted, with large sand stone nodules.
30		2.7	None	None	Sand stone layer
35		2.9	None	None	
40		2.6	None	None	
45		2.8	None	None	
50		2.5	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
55		2.8	None	None	
60 ▼		3.2	None	None	
65	TD				

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.
All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 26 / 00
Backfilled with soil

Soil Boring Log Details

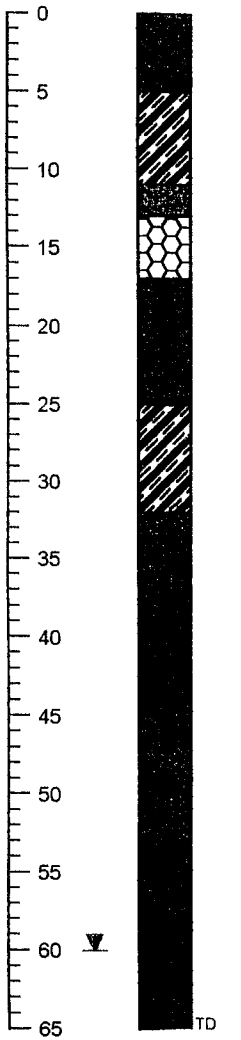
Soil Boring SB-1

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 26, 2000	ETGI Project # EOT 2061C	

Soil Boring SB-2



Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	2.1	Slight	Light	Sand - (SP) - Brown, very fine grained, well sorted.
5	2.3	Slight	Light	
10	2.6	None	None	Sand stone layer Sand - (SP) - Tan, very fine grained, well sorted.
15	2.6	None	None	Caliche layer
20	2.4	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
25	2.3	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
30	2.1	None	None	Sand stone layer
35	2.2	None	None	
40	2.5	None	None	
45	2.1	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
50	2.1	None	None	
55	2.3	None	None	
60	2.1	None	None	
65	2.4	None	None	Sand - (SP) - Red brown, very fine grained, well sorted, wet.

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.
All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 26 / 00
Backfilled with soil

Soil Boring Log Details

Soil Boring SB-2

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 26, 2000	ETGI Project # EOT 2061C	

Soil Boring SB-3

Depth (feet)	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0		227	Heavy	Moderate	Sand - (SP) - Brown, very fine grained, well sorted.
5		41.7	Heavy	Heavy	Sand stone layer Caliche layer
10		22.1	Slight	Light	Sand - (SP) - Red tan, very fine grained, well sorted.
15		14.5	Slight	None	Sand stone layer
20		11.1	None	None	Sand - (SP) - Red brown, very fine grained, well sorted, with large sand stone nodules.
25		15.1	None	None	Caliche layer
30		10.2	None	None	
35		15.6	None	None	Sand - (SP) - Red brown, very fine grained, well sorted, with large sand stone nodules.
40		159	Moderate	None	
45		368	Moderate	Light	
50		63.2	Slight	None	Sand - (SP) - Red brown, very fine grained, well sorted.
55		44.2	None	None	
60 ▼		30.3	None	None	
65	TD	26.6	None	None	Sand - (SP) - Red brown, very fine grained, well sorted, moist.

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.

All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 27 / 00

Backfilled with soil

Soil Boring Log Details

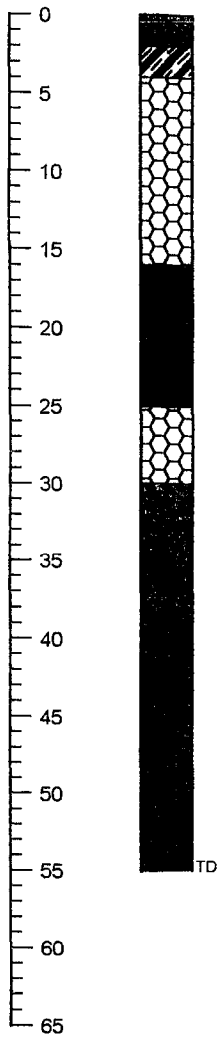
Soil Boring SB-3

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 27, 2000	ETGI Project # EOT 2061C	

Soil Boring SB-4



Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	5.5	Slight	None	Sand - (SP) - Brown, very fine grained, well sorted.
5	6.8	None	None	Sand stone layer
10	5.9	None	None	Caliche layer
15	6.8	None	None	
20	6.1	None	None	Sand - (SP) - Red tan, very fine grained, well sorted, with abundant caliche nodules.
25	5.0	None	None	
30	5.0	None	None	Caliche layer
35	5.0	None	None	
40	5.7	None	None	
45	7.1	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
50	5.8	None	None	
55	4.2	None	None	

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.

All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 27 / 00

Backfilled with soil

Soil Boring Log Details

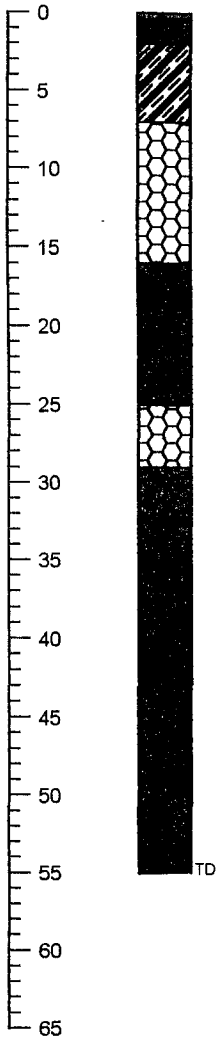
Soil Boring SB-4

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 27, 2000	ETGI Project # EOT 2061C	

Soil Boring SB-5



Depth (feet)	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0	5.0	None	None	Sand - (SP) - Brown, very fine grained, well sorted.
5	4.2	None	Light	Sand stone layer
10	5.6	None	None	Caliche layer
15	5.6	None	None	
20	5.3	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
25	4.8	None	None	Caliche layer
30	4.4	None	None	
35	4.3	None	None	
40	4.3	None	None	Sand - (SP) - Red brown, very fine grained, well sorted.
45	3.6	None	None	
50	5.1	None	None	
55	4.7	None	None	

Legend

PID Head-space reading in ppm obtained *with a photo-ionization detector.*
All samples were analyzed for TPH, if ≤ 100 BTEX was run.

Soil Boring Details

Date Drilled 07 / 28 / 00
Backfilled with soil

Soil Boring Log Details

Soil Boring SB-5

EOTT Energy Corp. Bubba Norris Lea County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
July 28, 2000	ETGI Project # EOT 2061C	

PRELIMINARY SITE INVESTIGATION REPORT AND REMEDIATION WORK PLAN

WALTER "BUBBA" NORRIS 10" PIPELINE
Lea County, New Mexico

Prepared For:

EOTT Energy Corp.
5805 East Highway 80
Midland, Texas 79701

ETGI Project # EOT2061C

Prepared By:
Environmental Technology Group, Inc.
2540 W. Marland
Hobbs, New Mexico 88240

September 2000

Beth Aldrich
Geologist/Sr. Project Manager

Jerry D. Nickell
Managing Principal

Table of Contents

1.0 INTRODUCTION

EOTT Energy Pipeline Limited Partnership (EOTT) is submitting this *Preliminary Site Investigation and Remediation Work Plan* as a summary of activities completed to date, and to establish future actions to be completed at the Walter "Bubba" Norris 6" Pipeline release site in Lea County, New Mexico. For reference, a site location and site map are provided in Figure 1 and 2, respectively. Site investigation activities, completed to date, were conducted to define the vertical and lateral extent of crude oil impact at the site. In addition, the proposed work plan has been developed to remediate impacted soils to acceptable regulatory levels. The proposed remedial activities will be completed following submittal and approval by the New Mexico Oil Conservation Division (NMOCD).

Crude oil leaking from a 6" EOTT pipeline running north/south was initially discovered on the Walter "Bubba" Norris property on July 6, 2000. The site is located approximately six miles southeast of Lovington, New Mexico, in the SE ¼, SE ¼ of Section 9 and SW ¼, SW ¼ of Section 10, Township 16 South, Range 37 East. The release resulted in a surface stain of crude oil from the release point measuring approximately 140 feet in length by 90 feet in width to the east of the pipeline release point. As required by the NMOCD's *Guidelines for Remediation of Leaks, Spills and Releases,* dated August 1993 (NMOCD, 1993), EOTT conducted initial response actions and site assessment activities as summarized below.

The remediation work plan, as outlined in this document, will serve as a "Work Plan Supplement" as referenced in the "General Work Plan for Remediation of EOTT Pipeline Spills, Leaks, and Releases in New Mexico" approved by NMOCD on August 1, 2000. The General Work Plan for Remediation (GWPR) was developed to ensure consistency of response and closure at all release sites. The overall closure strategy for this release site will be consistent with that discussed in the NMOCD approved GWPR. To reiterate the site closure strategy, upon completion of delineation activities, EOTT intends to seek regulatory closure by the following means:

- Delineate the nature and extent of contamination in soil and groundwater.
- Regardless of the fact that constituent action levels may be below approved site action levels, treat saturated/contaminated soils that were excavated at the release site (to a maximum root zone depth of 3 feet) by shredding and adding nutrients.
- Sample treated soils to ascertain that constituent concentrations are below approved site action levels. Back-fill treated soils and re-seed the area with native grass.
- Evaluate groundwater quality/use by analyzing for total dissolved solids (TDS). If TDS is $\leq$ 10,000 mg/L, submit Stage 2 Abatement Plan to mitigate groundwater constituent levels to New Mexico Water Quality Control Commission (WQCC) standards, if applicable. If TDS is > 10,000 mg/L, then such a plan is not warranted per NMOCD regulations.

- Address subsurface contamination by risk assessment methods.

Documentation supporting the aforementioned closure strategy will be submitted for NMOCD's approval at the appropriate time. Upon approval of this Preliminary Site Investigation and Remediation Work Plan by NMOCD, EOTT will commence remediation activities at the site.

2.0 SUMMARY OF FIELD ACTIVITIES

Upon discovery of the release and completion of initial response actions, which included repair of the leaking pipeline and removal of crude oil from the surface stain area, the surface stain area to the east of the release point was excavated to a depth of three to six inches to determine the lateral extent of contamination and prevent further downward migration of the crude oil. The shallow excavation area is approximately 145 feet wide and 90 feet in length. The impacted soils were stockpiled to the northeast of the surface stain area. Following this work, it was determined that contamination extended beyond the depth of the surface excavation and that a subsurface investigation would be required.

Environmental Technology Group, Inc. (ETGI) mobilized a rotary drilling rig on July 26, 2000 to conduct a preliminary site investigation and determine the nature and extent of crude oil impact as a result of the pipeline release. ETGI completed a total of six soil borings adjacent to and surrounding the release area to a maximum depth of approximately 65 feet, which was the prevailing depth to sufficiently assess the potential for groundwater impact. Each boring was sampled at five–foot intervals and field screened with a photoionization detector (PID). All samples demonstrating PID readings in excess of 100ppm for Volatile Organic Compounds (VOCs) were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), as well as total petroleum hydrocarbons – gasoline range organics/diesel range organics (TPH-GRO/DRO) by EPA SW 846 Methods 8021B and 8015B, respectively. Based on field screening and laboratory results, hydrocarbon impacted soils in excess of NMOCD criteria were determined to exist to a depth of 5 feet in the area immediately adjacent to the release point and to the northeast, underlying the surface stain area, although volatile organic concentrations appeared to be decreasing with depth based on PID readings. All soil boring logs are provided in Attachment 1.

3.0 SITE DESCRIPTION

3.1 Soil Geology/Hydrogeology

In the site vicinity, the surface is composed of unconsolidated, wind blown sands and finer materials associated with the Tertiary Ogallala Formation, which serves as a major aquifer for southeastern New Mexico and several high plains states. Alluvial, unconfined ground water is typically present in these sands at varying depths and generally flows from the north to the south. These aquifers are typically characterized by relatively high hydraulic conductivity and transmissivity.

The Ogallala is underlain by the Triassic Dockum Formation, commonly referred to as the "red beds". While there are sand lenses within the Dockum, it is more typically characterized by red silts and shales in which detectable groundwater is often absent or limited in extent. Where ground water is present, the aquifer is usually characterized by relatively low hydraulic conductivity and transmissivity.

3.2 Site Geology/Hydrology

At the site, the subsurface is composed of approximately 60 feet of sand, sandstone and caliche that unconformably overlies a horizon of red clay. A two to five foot sandstone layer lies near the surface throughout the site. The red clay corresponds to the Dockum Formation or "red beds". The top of the Dockum Formation represents an erosional surface on which the sands were later deposited. Areas of thick sand sections correspond to areas of greater erosion of the Dockum. The ground water table occurs near the interface of sand and clay at the site.

3.3 New Mexico Oil Conservation Division (NMOCD) Soil Classification

A groundwater sample was collected and analyzed for BTEX, TPH (GRO/DRO) and TDS to determine if the water meets the NMOCD definition of "beneficial use" (i.e. $\geq$ 10,000 mg/L TDS). Based on the following facts: depth to water being approximately 59 feet, the nearest surface water body being greater than 1,000 feet away, and the distance of the nearest water well head being at least 1,000 feet away, according to the NMOCD ranking system (NMOCD, 1993), the site can be assigned a ranking in the range of greater than 10 but less than 19. Therefore, target remediation action levels are 1000 mg/kg for TPH, 50 mg/kg for total BTEX, and 10 mg/kg for benzene in soils. Based on TDS concentrations of less than 10,000 mg/L at this site, the aquifer is considered to be of beneficial use and must meet New Mexico Water Quality Control Commission (WQCC) standards for each contaminant.

The site action levels will be used in conjunction with risk/exposure assessment techniques to demonstrate to NMOCD that human health and the environment are adequately protected at the site. Regulatory closure will be sought based on such a demonstration.

3.4 Distribution of Hydrocarbons in the Unsaturated Zone

At the surface, oil staining was observed at the release point and extended to the east into a pooling area. Subsequent to surface excavation of the impacted area, soil samples were collected in the subsurface using an air rotary drilling rig to determine the vertical and horizontal extent of hydrocarbon contamination in the soil. To date, six soil borings were advanced at the site to delineate impact from the pipeline release. Cross sections of the lateral extent of TPH concentrations, depicted in Figures 3 and 4, indicate that soil contamination exists only to a depth of 5 feet, above the groundwater depth of 59 feet. The presence of hydrocarbon-contaminated soil in the unsaturated zone (surface to 59' bgs) was detected at three of the soil borings at the near surface (zero to five feet bgs). In addition to surface staining (0-5 feet bgs), soil boring SB-3, adjacent to the pipeline, indicated contamination at the 38-55 feet bgs level. Based on the analytical data for the soil samples from five to 38 feet bgs, which indicate no hydrocarbon contamination, the contamination indicated at the 38 to 55 bgs level appears not to be contributable to this pipeline release. Table 1 provides the analytical results for TPH concentrations for all of the soil borings.

The distribution of hydrocarbons in the unsaturated one has been estimated by utilizing the following techniques:

- Visual observations of soils from the excavation walls and floor;
- Visual observations of subsurface soil samples;
- Laboratory analyses of selected soil samples.

3.5 Distribution of Hydrocarbons in the Saturated Zone

Sample analysis of groundwater from soil boring SB-3 indicates that the groundwater is not impacted with dissolved phase hydrocarbons at the site. All groundwater analytical results are provided in Table 2.

4.0 RECOMMENDATIONS

The soil analytical data collected during the initial site investigation indicates that the hydrocarbon impacted area, as a result of the EOTT release, is delineated to the extent of approximately 150 feet by 100 feet east of the pipeline release point and approximately 7 feet below the ground surface. Based on the analytical results for the soil samples taken from the borings advanced at the site, areas with TPH levels above the NMOCD regulatory action limits will be excavated, stockpiled, shredded and bioremediated to below action limits. Soil sampling will be performed on the treated soils to determine contaminant level reduction. Once contaminant levels are confirmed below regulatory limits, the soils will be backfilled into the excavation, contoured to grade, and seeded with native grasses.

In addition, based on the current groundwater monitoring data, no remedial action is required for the groundwater.

Remedial activities will continue at this site to clean up soils impacted by EOTT's 6" pipeline release. The following activities are proposed to assist in obtaining regulatory closure for the site:

1) Excavate additional contaminated soils from the area east of the release point.

2) Sample the bottom and sidewalls of the new excavation to confirm contaminant levels are below regulatory action levels.

3) Stockpile the excavated soil onsite, shred and bioremediate soils to below action levels, backfill the treated soils into the excavation areas, contour to grade, and re-seed with native grasses.

4) Once the above steps are completed, EOTT will use risk assessment methods to address the potential for any residual subsurface contamination to impact groundwater or adversely affect human health and the environment.

Documentation of the aforementioned actions will be submitted to the NMOCD in the final subsurface investigation and site remediation report. Upon receipt of NMOCD's approval this Preliminary Site Investigation and Remediation Work Plan, the activities described above will be implemented.

5.0 QA/QC PROCEDURES

5.1 Soil Sampling

Samples of subsurface soils were obtained utilizing either a split spoon sampler (air rotary drilling rig) or a two-inch, continuous sampling tube with a clean polybuterate liner (Geo-Probe®). Representative soil samples were divided into two separate portions using clean, disposable gloves and clean sampling tools. One portion of the soil sample was placed in a disposable sample bag. The bag was labeled and sealed for headspace analysis using a photoionization detector (PID) calibrated to a 100 ppm isobutylene standard. Each sample was allowed to volatilize for approximately thirty minutes at ambient temperature prior to conducting the analysis.

The other portion of the soil sample was placed in a sterile glass container equipped with a Teflon-lined lid furnished by the analytical laboratory. The container was filled to capacity to limit the amount of headspace present. Each container was labeled and placed on ice in an insulated cooler. Upon selection of samples for analysis, the cooler was sealed for shipment to the laboratory. Proper chain-of-custody documentation was maintained throughout the sampling process.

Soil samples were delivered to Environmental Lab of Texas, Inc. in Midland, Texas for BTEX and TPH analyses using the methods described below. Soil samples were analyzed for BTEX and TPH-GRO/DRO within fourteen days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH concentrations in accordance with modified EPA Method 8015M GRO/DRO

5.2 Ground Water Sampling

After the advancement of soil boring SB-3, a 20-minute interval was allowed for development of groundwater in the boring. Personnel wearing clean, disposable gloves collected groundwater samples from the boring with a disposable Teflon sampler and polyethylene line. Ground water sample containers were filled in the order of decreasing volatilization sensitivity (i.e., BTEX containers will be filled first and PAH containers second).

Ground water samples, collected for BTEX analysis, were placed in 40 ml glass VOA vials equipped with Teflon-lined caps. The containers were provided by the analytical laboratory. The vials were filled to a positive meniscus, sealed, and visually checked to ensure the absence of air bubbles.

Ground water samples, collected for TPH and TDS analysis, were filled to capacity in sterile, 1liter plastic containers equipped with Teflon-lined caps. The containers were provided by the analytical laboratory.

The filled containers were labeled and placed on ice in an insulated cooler. The cooler was sealed for transportation to the analytical laboratory. Proper chain-of-custody documentation was maintained throughout the sampling process.

The ground water samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH concentrations in accordance with modified EPA Method 8015M-GRO/DRO
- TDS concentrations in accordance with EPA Method 160.1

5.3 Decontamination Of Equipment

Cleaning of drilling equipment was the responsibility of the drilling company. In general, the cleaning procedures consisted of using high pressure steam to wash the drilling and sampling equipment prior to drilling and prior to starting each hole. Prior

to use, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

5.4 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

6.0 LIMITATIONS

Environmental Technology Group, Inc. has prepared this Preliminary Investigation Report and Remediation Work Plan to the best of its ability. No other warranty, expressed or implied, is made or intended.

Environmental Technology Group, Inc. has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Environmental Technology Group, Inc. has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Environmental Technology Group, Inc. has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Environmental Technology Group, Inc. also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of EOTT Energy Corp. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of Environmental Technology Group, Inc. and/or EOTT Energy Corp.

7.0 DISTRIBUTION

Copy 1 to: Glenn Waldrop
EOTT Energy Corp.
5805 East Highway 80
Midland, Texas 79701

Copy 2 to: Mike Kelly
EOTT Energy Corp.
1330 Post Oak Blvd. Rm. 2700
Houston, Texas 77056

Copy 3 to: Kiran Srinivasan
ENTRIX
5252 Westchester, Suite 250
Houston, Texas 77005

Copy 4 to: Environmental Technology Group, Inc.
4600 West Wall Street
Midland, Texas 79703

Copy 5 to: Environmental Technology Group, Inc. (Hobbs Office)
2540 W. Marland
Hobbs, New Mexico 88240

COPY NO.: _____

Quality Control Reviewer

TABLES

Table 1

CONCENTRATIONS OF TPH & BTEX IN SOIL

EOTT ENERGY PIPELINE LIMITED PARTNERSHIP
WALTER "BUBBA" NORRIS
LEA COUNTY, NEW MEXICO
ETGI Project # EOT 2061C

All concentrations are in mg/kg

SAMPLE DATE	SAMPLE LOCATION	SW 846-8015M GRO/DRO		SW 846-8021B, 5030					
		GRO C_6-C_{10}	DRO >C_{10}-C_{28}	BENZENE	TOLUENE	ETHYL-BENZENE	M,P-XYLENES	O-XYLENES	BTEX
7/26/00	SB-1 0-2'	<10	653						
7/26/00	SB-1 3-5'	<10	<10						
7/26/00	SB-1 8-10'	<10	<10						
7/26/00	SB-1 13-15'	<10	<10						
7/26/00	SB-1 18-20'	<10	<10						
7/26/00	SB-1 23-25'	<10	<10						
7/26/00	SB-1 28-30'	<10	<10						
7/26/00	SB-1 33-35'	<10	<10						
7/26/00	SB-1 38-40'	<10	<10						
7/26/00	SB-1 43-45'	<10	<10						
7/26/00	SB-1 48-50'	<10	<10						
7/26/00	SB-1 53-55'	<10	<10						
7/26/00	SB-1 58-60'	<10	<10						
7/26/00	SB-2 0-2'	<10	1326						
7/26/00	SB-2 3-5'	<10	48						
7/26/00	SB-2 8-10'	<10	12						
7/26/00	SB-2 13-15'	<10	<10						
7/26/00	SB-2 18-20'	<10	<10						
7/26/00	SB-2 23-25'	<10	<10						
7/26/00	SB-2 28-30'	<10	<10						
7/26/00	SB-2 33-35'	<10	<10						
7/26/00	SB-2 38-40'	<10	<10						
7/26/00	SB-2 43-45'	<10	<10						
7/26/00	SB-2 48-50'	<10	<10						
7/26/00	SB-2 53-55'	<10	<10						
7/26/00	SB-2 58-60'	<10	<10						
7/26/00	SB-2 63-65'	<10	<10						
7/27/00	SB-3 0-2'	235	833	2.50	12.0	8.16	10.3	3.99	36.95
7/27/00	SB-3 3-5'	16	273						
7/27/00	SB-3 8-10'	<10	<10						
7/27/00	SB-3 13-15'	<10	<10						
7/27/00	SB-3 18-20'	<10	<10						
7/27/00	SB-3 23-25'	<10	<10						
7/27/00	SB-3 28-30'	<10	<10						
7/27/00	SB-3 33-35'	<10	<10						
7/27/00	SB-3 38-40'	90	804	<0.100	0.222	0.241	0.726	0.37	1.559
7/27/00	SB-3 43-45'	812	2133	<0.100	<0.100	0.782	3.34	<0.100	4.122
7/27/00	SB-3 48-50'	<10	57						
7/27/00	SB-3 53-55'	<10	42						
7/27/00	SB-3 58-60'	<10	<10						
7/27/00	SB-3 63-65'	<10	<10						
7/27/00	SB-4 0-2'	<10	13						
7/27/00	SB-4 3-5'	<10	<10						
7/27/00	SB-4 8-10'	<10	<10						
7/27/00	SB-4 13-15'	<10	<10						
7/27/00	SB-4 18-20'	<10	<10						
7/27/00	SB-4 23-25'	<10	<10						
7/27/00	SB-4 28-30'	<10	<10						
7/27/00	SB-4 33-35'	<10	<10						
7/27/00	SB-4 38-40'	<10	<10						
7/27/00	SB-4 43-45'	<10	<10						
7/27/00	SB-4 48-50'	<10	<10						

CONCENTRATIONS OF TPH & BTEX IN SOIL

EOTT ENERGY PIPELINE LIMITED PARTNERSHIP
WALTER "BUBBA" NORRIS
LEA COUNTY, NEW MEXICO
ETGI Project # EOT 2061C

All concentrations are in mg/kg

SAMPLE DATE	SAMPLE LOCATION	SW 846-8015M GRO/DRO		SW 846-8021B, 5030					
		GRO C_6-C_{10}	DRO >C_{10}-C_{28}	BENZENE	TOLUENE	ETHYL-BENZENE	M,P-XYLENES	O-XYLENES	BTEX
7/27/00	SB-4 53-55'	<10	<10						
7/28/00	SB-5 0-2'	<10	<10						
7/28/00	SB-5 3-5'	<10	<10						
7/28/00	SB-5 8-10'	<10	<10						
7/28/00	SB-5 13-15'	<10	<10						
7/28/00	SB-5 18-20'	<10	<10						
7/28/00	SB-5 23-25'	<10	<10						
7/28/00	SB-5 28-30'	<10	<10						
7/28/00	SB-5 33-35'	<10	<10						
7/28/00	SB-5 38-40'	<10	<10						
7/28/00	SB-5 43-45'	<10	<10						
7/28/00	SB-5 48-50'	<10	<10						
7/28/00	SB-5 53-55'	<10	<10						
7/28/00	SB-6 0-2'	<10	<10						
7/28/00	SB-6 3-5'	<10	<10						
7/28/00	SB-6 8-10'	<10	<10						
7/28/00	SB-6 13-15'	<10	<10						
7/28/00	SB-6 18-20'	<10	<10						
7/28/00	SB-6 23-25'	<10	<10						
7/28/00	SB-6 28-30'	<10	<10						
7/28/00	SB-6 33-35'	<10	<10						
7/28/00	SB-6 38-40'	<10	<10						
7/28/00	SB-6 43-45'	<10	<10						
7/28/00	SB-6 48-50'	<10	<10						
7/28/00	SB-6 53-55'	<10	<10						

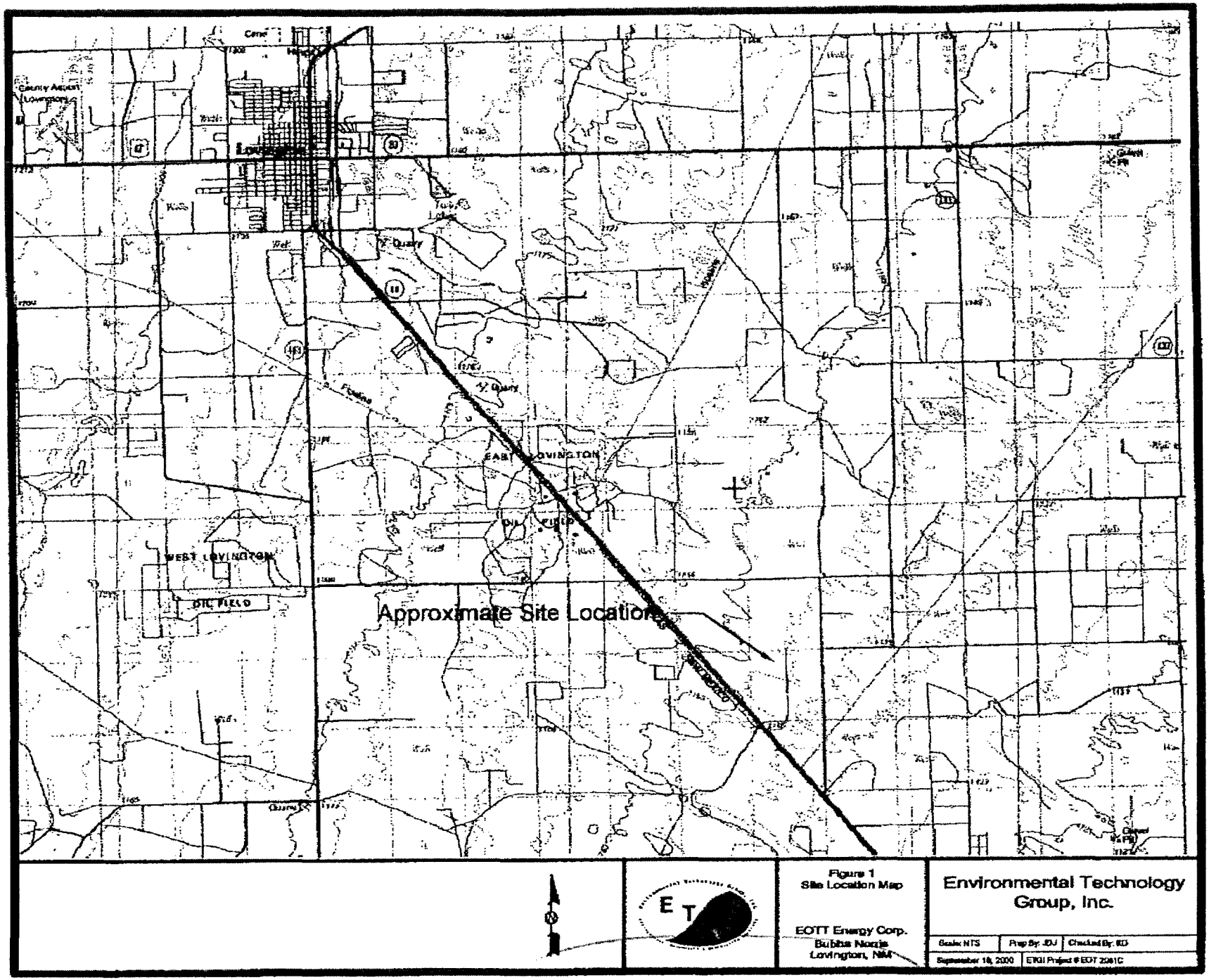
Table 2

CONCENTRATIONS OF TPH & BTEX IN GROUNDWATER

EOTT ENERGY PIPELINE LIMITED PARTNERSHIP
WALTER "BUBBA" NORRIS
LEA COUNTY, NEW MEXICO
ETGI Project #EOT 2061C

All concentrations are in mg/L

SAMPLE DATE	SAMPLE LOCATION	SW 846-8015M GRO/DRO		SW 846-8021B, 5030					
		GRO C_6-C_{10}	DRO >C_{10}-C_{28}	BENZENE	TOLUENE	ETHYL-BENZENE	M,P-XYLENES	O-XYLENES	BTEX
7/27/00	SB-3	<1	<1	0.005	0.02	0.015	0.018	0.009	0.067



WRONG SITE SHOWN

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☑ Final Report

Name of Company	Contact
Link Energy LLC	**Frank Hernandez**
Address	Telephone No.
P.O. Box 1660 Midland, TX 79702	**(432) 638-3799**
Facility Name	Facility Type
Walter "Bubba" Norris Release Site	**Pipeline**

Surface Owner	Mineral Owner	Lease No.
Walter Norris	**NA**	**NA**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude	Latitude	County:
	9, 10	**16S**	**37E**			**N 32.830**	**W 103.240**	**Lea**

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Crude Oil Release and associated components	**75 bbl**	**40 bbl**
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
6" Steel Pipeline	**7/6/2000**	**7/6/00**
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? **Unable to verify NMOCD person that was contacted.**	
By Whom? **Unable to verify person within Eott (Link) that reported the release.**	Date and Hour **Unable to verify time of incident report.**	
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Volume Impacting the Watercourse. **NA**	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Internal corrosion. Line was de-oiled and taken out of service.

Describe Area Affected and Cleanup Action Taken.*
~13,000-ft^2 surface area affected; 75-bbl of product released, 40 recovered; 4,529 cubic yards of RCRA Non-Exempt Non-hazardous contaminated soil was excavated and treated onsite.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Frank Hernandez	**OIL CONSERVATION DIVISION**	
Printed Name: **Frank Hernandez**	Approved by District Supervisor:	
Title: **District Environmental Supv.**	Approval Date:	Expiration Date:
E-Mail **frank.hernandez@linkenergy.com**	Conditions of Approval:	☐ Attached
Date: **3/4/04** Phone: **(432) 638-3799**		