1R - 310

GENERAL CORRESPONDENCE

YEAR(S):

2003- 2010

Larson & Associates, Inc.
Environmental Consultants

January 22, 2003

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

Re: Final Closure Report, J. R. Cone, Eubanks Tank Battery Emergency Pit, SW/4, Section 14, Township 21 South, Range 37 East, Lea County, New Mexico

Dear Bill:

This letter constitutes the final closure report for an emergency pit once associated with the Eubanks Tank Battery (Site) operated by J. R. Cone. The Site is located in the southwest quarter (SW/4) of Section 14, Township 21 South, Range 37 East, Lea County, New Mexico. The pit was excavated by Environmental Plus, Inc. (EPI), and approximately 12,664 cubic yards of soil was hauled a centralized waste facility owned by Texaco Exploration and Production Inc., whom is an interest owner in the Site.

Larson and Associates, Inc. (LA) conducted an investigation to determine the concentrations of residual hydrocarbons and chloride in soil following excavation of the pit. Soil samples were collected from four borings drilled around the perimeter of the excavation, and from auger borings and grab samples from the bottom and sides of the excavation. Closure of the excavation was requested in a report submitted to the New Mexico Oil Conservation Division (NMOCD) on March 1, 2001 (*"Emergency Pit Investigation Report, Eubanks Tank Battery, SW/4, Section 14, Township 21 South, Range 37 East, Lea County, New Mexico"*), and approval was granted on April 10, 2001.

During April and May 2001, the excavation was filled to approximately 6 feet below ground surface (bgs). A layer of clay, approximately two (2) feet thick, was placed over the fill and compacted to 95% proctor density. Proctor density was determined by Pettigrew and Associates, Inc., located in Hobbs, New Mexico, using ASTM method D 698. Field compaction tests were performed by Pettigrew and Associates, Inc., and reported measurements from 100.7%, 104.2% and 101.8%. The density report is presented in Appendix A. Approximately three (3) feet of top soil was placed over the clay, after final compaction was achieved, and contoured. Appendix B presents final closure photographs. Please call me at (915) 687-0901 if you have questions.

Sincerely,
Larson and Associates, Inc.

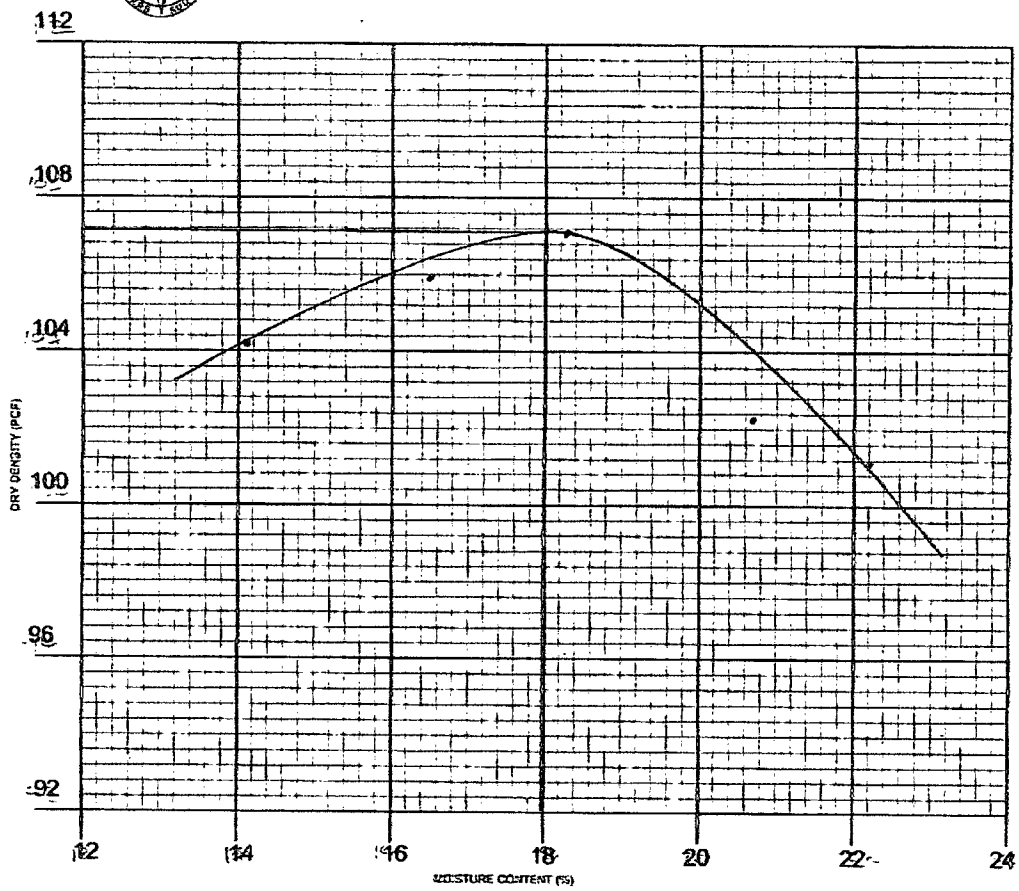
Mark J. Larson, CPG, CGWP
President

Enclosures
cc: Rodney Bailey
J. R. Cone

APPENDIX A

Density Test Report

PETTIGREW and ASSOCIATES
CONSULTING ENGINEERS



CLIENT: Environmental Plus, Inc. PROJECT: General Information

SAMPLE LOCATION: Stockpile

SOIL DESCRIPTION: Red Clay

SOIL CLASSIFICATION: _____ TEST METHOD: ASTM D 698

ATTERBERG: LL ___ PI ___ Sampled & Delivered 02/21/01

DATE: February 23, 2001 LAB NO. 01 493-494

DRY WEIGHT LB/CU. FT. 107.2 MOISTURE CONTENT % 18.0

SIEVE ANALYSIS - % PASSING									

Environmental Plus, Inc.

COPIES:

PETTIGREW and ASSOCIATES

BY: S.E.T.

LABORATORY TEST REPORT
PETTIGREW and ASSOCIATES
1110 N. GRIMES
HOBBS, NM 88240
(505) 393-9827

DEBRA P. HICKS, P.E./L.S.I.
WILLIAM M. HICKS, II, P.E./P.S.

TO: Environmental Plus, Inc.
P.O. Box 1558
Eunice, NM 88231
Attn: Roger Boone

MATERIAL: Red Clay

PROJECT: J.R. Cone - Eubank Battery

TEST METHOD: ASTM D 2922

DATE OF TEST: April 30, 2001

DEPTH: See Below

TEST NO.	LOCATION	DRY DENSITY % Maximum	% MOISTURE	DEPTH
SG-1	Pit - 25' N. and 15' E. of the SW Corner	101.6	10.2	1' Below Finished Subgrade
SG-2	Pit - 15' S. and 20' W. of the NE Corner	100.7	11.7	1' Below Finished Subgrade

CONTROL DENSITY: 107.2
ASTM D 698

OPTIMUM MOISTURE: 18.0%

REQUIRED COMPACTION: 95%

LAB NO.: 01-981-983

COPIES TO: Environmental Plus, Inc.

PETTIGREW and ASSOCIATES

BY: S.E.T.

LABORATORY TEST REPORT

PETTIGREW and ASSOCIATES
1110 N. GRIMES
HOBBS, NM 88240
(505) 393-9827

DEBRA P. HICKS, P.E. / L.S.I.
WILLIAM M. HICKS, III, P.E./P.S.

TO: Environmental Plus, Inc.
P.O. Box 1558
Eunice, NM 88231
Attn: Roger Boone

MATERIAL: Red Clay

PROJECT: J.R. Cone - Eubank Battery

TEST METHOD: ASTM D 2922

DATE OF TEST: May 1, 2001

DEPTH: Finished Subgrade

TEST NO.	LOCATION	DRY DENSITY % Maximum	% MOISTURE	DEPTH
SG-3	NW Corner of Pit	104.2	8.5	
SG-4	Pit - 20' N. and 10' W. of the SE Corner	102.2	9.2	

CONTROL DENSITY: 107.2
ASTM D 698

OPTIMUM MOISTURE: 18.0%

REQUIRED COMPACTION: 95%

LAB NO.: 01 986-888

COPIES TO: Environmental Plus, Inc.

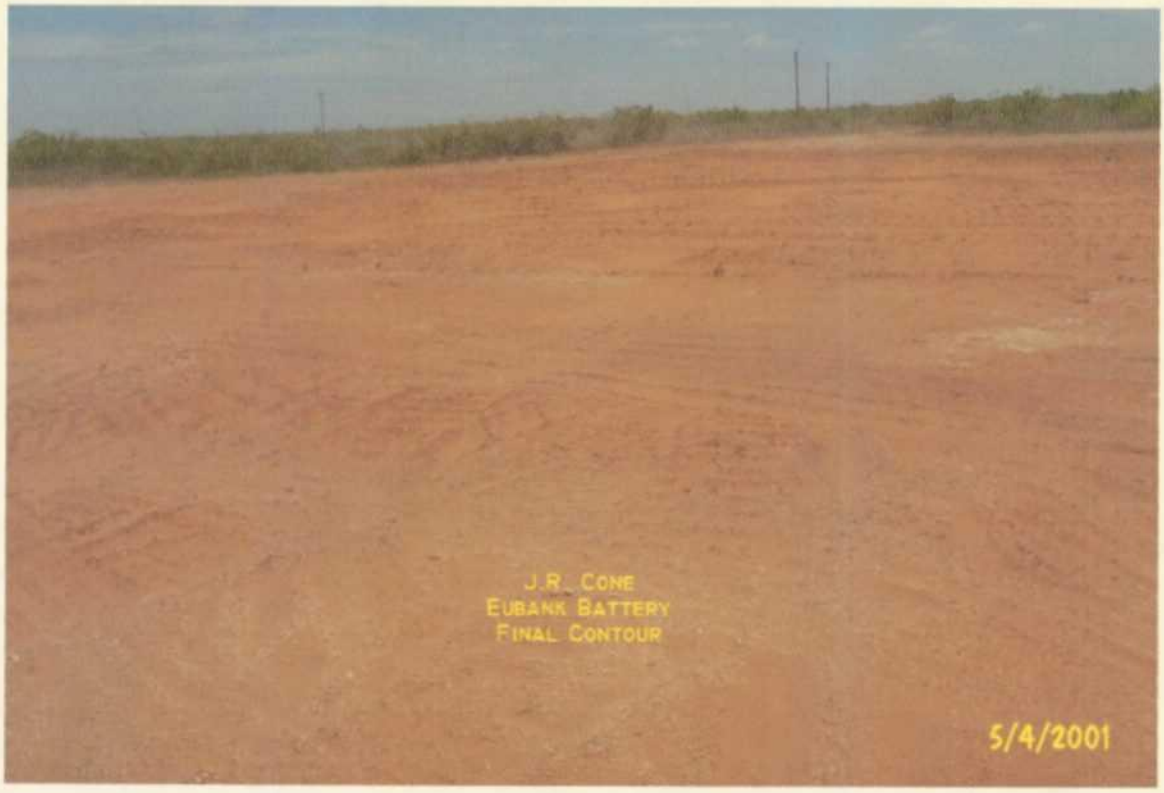
PETTIGREW and ASSOCIATES

BY:

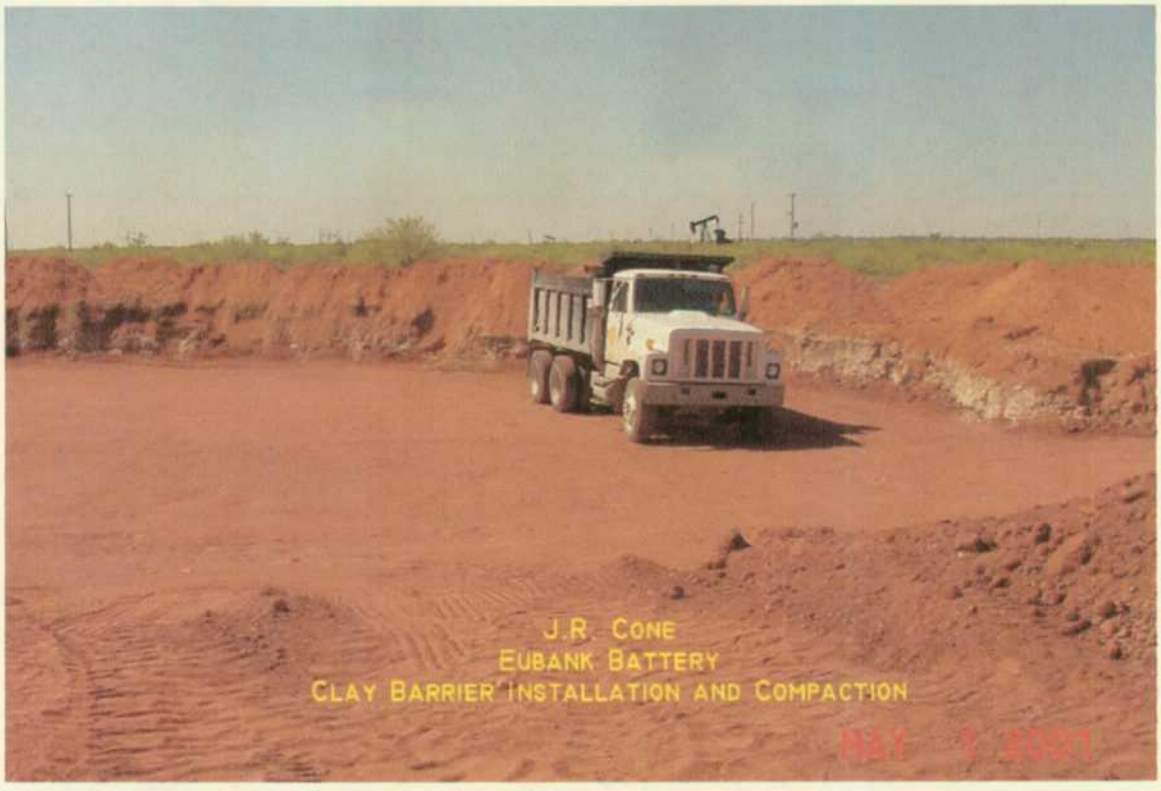
APPENDIX B

Photographs


J.R. CONE
EUBANK BATTERY
FINAL CONTOUR
5/4/2001


J.R. CONE
EUBANK BATTERY
FINAL CONTOUR
5/4/2001


J.R. CONE
EUBANK BATTERY
CLAY BARRIER INSTALLATION AND COMPACTION


J.R. CONE
EUBANK BATTERY
CLAY BARRIER INSTALLATION AND COMPACTION


J.R. CONE
EUBANK BATTERY
PREPARING BOTTOM FOR CLAY BARRIER INSTALLATION
4/27/2001


J.R. CONE
EUBANK BATTERY
CLAY BARRIER INSTALLATION
4/27/2001

FAX Cover

PREPARED BY	MJL
DATE	3/26/01

To: Bill Olson pages: 11

FROM: Mark Larson

Re: J R Cone - Eubanks Tank Battery Emergency Pit Report

Bill: Per my call on Friday, please find the above-reference report attached. Texaco and J. R. Cone wish to close the excavation upon your approval. The landowner, Charlie Bettis, is also in agreement.

Larson & Associates, Inc.
Environmental Consultants

March 1, 2001

Via Facsimile: (505) 393-0720

Mr. Chris Williams
New Mexico Oil Conservation Division
1625 North French Drive
Hobbs, New Mexico 88240

Re: Emergency Pit Investigation Report, Eubanks Tank Battery, SW/4, Section 14, Township 21 South, Range 37 East, Lea County, New Mexico

Dear Mr. Williams:

Texaco Exploration and Production, Inc. (Texaco) and J.R. Cone (collectively referred to as "the companies") have retained Larson and Associates, Inc. (LA) to conduct an investigation of a former emergency pit located at the Eubanks Tank Battery (Site). The Site is located near the center of the southwest quarter (SW/4), Section 14, Township 21 South, Range 37 East, Lea County, New Mexico. The investigation was conducted during January 2001 in accordance with a work plan submitted to the New Mexico Oil Conservation Division (NMOCD) on November 28, 2000. The work plan was approved on December 13, 2000. Figure 1 presents a location and topographic map.

Background

Texaco is an interest owner in the Site, which is operated by J. R. Cone. J. R. Cone retained Rhino Environmental Services, Inc. (Rhino) to excavate the emergency pit. Rhino excavated approximately 9,240 yards of soil between August and September 2000 that was transported to Texaco's centralized treatment facility (landfarm) located near Jal, New Mexico. On August 16, 2000, Texaco personnel collected a composite soil sample from the bottom of the excavation at approximately 13 to 15 feet below ground surface (BGS). The sample was delivered under chain-of-custody control to Cardinal Laboratories, Inc., located in Hobbs, New Mexico, and analyzed for benzene, toluene, ethylbenzene, xylenes (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH), including gasoline (GRO) and diesel (DRO) range organics. Benzene and toluene were not reported above the test method detection limits. Ethylbenzene and xylenes were reported at 0.032 milligrams per kilogram (mg/kg) and 0.124 mg/kg, respectively. The GRO concentration was below the test method detection limit of 50 mg/kg and DRO was 1350 mg/kg.

On August 28, 2000, NMOCD personnel inspected the Site, and collected composite soil samples from 24 and 32 feet BGS. The samples were analyzed for BTEX, TPH, chloride, fluoride, nitrate, sulfate, calcium, magnesium, potassium, sodium, alkalinity (hydroxide, carbonate and bicarbonate), specific conductivity, pH, and total dissolved

solids (TDS). Trace Analysis, Inc., located in Lubbock, Texas, performed the analyses. BTEX was reported in the sample from 24 feet at 0.081 mg/kg (benzene), 0.41 mg/kg (toluene), 1.74 mg/kg (ethylbenzene) and 7.94 mg/kg (xylenes). No benzene, toluene or ethylbenzene was detected in the sample from 32 feet BGS. Xylenes were reported at 0.342 mg/kg in the sample from 32 feet BGS. The GRO concentrations were 166 mg/kg (24 feet) and 37.3 mg/kg). The DRO concentrations were 7477 mg/kg (24 feet) and 8319 mg/kg (32 feet). The NMOCD required J. R. Cone to excavate additional soil, and the excavation was deepened to about 40 feet BGS.

Setting

The Site is located approximately 1.8 miles northeast of Eunice, New Mexico, at an elevation approximately 3410 feet above mean sea level (AMSL). Monument Draw is located approximately 2,000 feet east of the Site. The Site is underlain by the Tertiary age Ogallala formation, which consists of poorly to well-cemented sand and sandstone, interbedded with caliche, clay, silt and gravel. The Ogallala formation overlies the Triassic-age Chinle formation (commonly referred to as "red bed"). The Chinle formation consists of interbedded mudstone, siltstone and sandstone. Borings drilled at the Site during January 2001 encountered red bed between 58 and 61 feet BGS.

No water wells were observed in the vicinity of the Site, and groundwater was not observed in the borings. The New Mexico State Engineer (communication with Mr. Juan Hernandez, February 27, 2001) stated that it had no records of wells in Section 14, Township 21 South, and Range 37 East.

Current Investigation

On January 16, 2001, personnel of LA collected soil samples from the bottom and sides of the excavation. A composite sample consisting of six (6) grab samples was collected from each side to a height about 6 feet above the bottom of the excavation due to near vertical slopes. A hand boring was also drilled to about 3 feet below the excavation near each corner. A soil sample was from approximately 3 feet below the excavation at locations AH-2 (southeast) and AH-3 (southwest); however, auger refusal was encountered at approximately 2.8 feet BGS and 2.7 feet BGS at locations AH-1 (northeast) and AH-4 (northwest). The samples were placed in glass sample jars, labeled, chilled in an ice chest, and hand delivered under chain-of-custody control to Environmental Lab of Texas, Inc. A portion of each sample was retained in a plastic sample bag, and analyzed with a photoionization detector (PID). The samples were analyzed for benzene, toluene, ethylbenzene, xylenes (collectively referred to as BTEX), total petroleum hydrocarbon (TPH), including gasoline range organics (GRO) and diesel range organics (DRO), and chloride. Table 1 presents a summary of the PID and laboratory analyses. Appendix A presents the laboratory report. Figure 2 presents a Site drawing, and Figure 3 presents a detailed drawing of the bottom of the excavation.

Environmental Plus, Inc. (EPI) drill a boring (BH-1) near the north side of the excavation using a trailer-mounted hollowstem auger drilling rig January 17, 2001. Auger refusal was encountered approximately 28 feet BGS. Soil samples were collected using a 4-foot long core sampler at 5, 10 and 20 feet BGS. The soil samples were placed in glass sample jars, labeled, chilled in an ice chest, and hand delivered under chain-of-custody control to Environmental Lab of Texas, Inc. A portion of each sample was retained in a plastic sample bag, and analyzed with the PID. The boring was filled to ground surface with bentonite chips hydrated with potable water.

Eades Drilling and Pump Service mobilized an air-rotary drilling rig to the Site on January 30, 2001, and drilled borings BH-1A, BH-2 and BH-3. Boring BH-1A was located approximately 18 feet north of boring BH-1, and borings BH-2 and BH-3 were drilled near the southeast and southwest corners of the excavation, respectively. The borings terminated in red bed at approximately 62 feet BGS, and soil samples were collected at 10, 20, 30, 40, 50 and 60 feet BGS using a 2-foot long split-spoon sampler. Red bed was encountered at 58 feet BGS (BH-3), 59 feet BGS (BH-2) and 61 feet BGS (BH-1A). The soil samples were placed in glass sample jars, labeled, chilled in an ice chest, and hand delivered under chain-of-custody control to Environmental Lab of Texas, Inc. A portion of each sample was retained in a plastic sample bag, and analyzed with the PID. Soil samples were selected for laboratory analysis based on the PID readings, and were analyzed for BTEX, TPH and chloride. A geologic log was prepared for each boring based on visually examination of the soil samples and drill cuttings. Groundwater was not observed in the borings following drilling or February 1, 2001. Table 1 presents a summary of the PID and laboratory analyses. Appendix A presents the laboratory report. Appendix B presents the geologic logs. Figure 2 presents the boring locations.

The borings were filled with cement and bentonite grout. All down-hole sampling equipment (i.e., split-spoon and core samplers, etc.) were thoroughly washed between sample events using laboratory-grade detergent and rinses with distilled water. The drilling rig, rods and drill bets were washed between drilling locations with a high-pressure sprayer and hot water.

Remediation action levels for benzene, total BTEX and TPH were calculated in accordance with NMOCD guidelines ("Unlined Surface Impoundment Closure Guidelines, February 1993"). Remediation levels for benzene, total BTEX and TPH were calculated using the following risk-based criteria:

Criteria	Result	Ranking Score
Depth-to-Groundwater	>100	0
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1000 Horizontal Feet	0
		Total Score: 0

The NMOCD recommended remediation action levels for benzene, total BTEX and TPH are as follows:

Benzene	**10 mg/kg**
Total BTEX	**50 mg/kg**
TPH	**5000 mg/kg**

Referring to Table I, the highest benzene, total BTEX and TPH concentrations were reported in the sample from hand boring AH-1 (2.8 feet BGS) at 0.402 milligrams per kilogram (mg/kg), 35.272 mg/kg, and 4222 mg/kg, respectively. Chloride was highest in the sample from hand auger boring AH-1 (2.8 feet BGS), and was reported at 4398 mg/kg. The highest chloride value reported in samples from borings drilled on the exterior of the excavation was 69 mg/kg (BH-1, 20 to 21 feet BGS). The analyses indicate that the impact is limited to the emergency pit area. Impact to groundwater is not apparent groundwater was not observed in borings were drilled to red bed or 24 hours after drilling.

The companies propose to fill the excavation with clean soil to approximately 2 feet BGS. A layer of clay approximately 2 feet thick will be placed over the clean soil, contoured and compacted to 95% proctor density to limit infiltration of precipitation. The clay cap will be covered with a layer of topsoil and seeded to grass. The companies will submit a final report to the NMOCD following closure of the excavation. Please call Mr. Rodney Bailey with Texaco at (915) 688-2971, or myself at (915) 687-0901 if you have questions.

Sincerely,
Larson and Associates, Inc.

Mark J. Larson, CPG, CGWP
President

Encl.

cc: Rodney Bailey
J.R. Cone

solids (TDS). Trace Analysis, Inc., located in Lubbock, Texas, performed the analyses. BTEX was reported in the sample from 24 feet at 0.081 mg/kg (benzene), 0.41 mg/kg (toluene), 1.74 mg/kg (ethylbenzene) and 7.94 mg/kg (xylenes). No benzene, toluene or ethylbenzene was detected in the sample from 32 feet BGS. Xylenes were reported at 0.342 mg/kg in the sample from 32 feet BGS. The GRO concentrations were 166 mg/kg (24 feet) and 37.3 mg/kg). The DRO concentrations were 7477 mg/kg (24 feet) and 8319 mg/kg (32 feet). The NMOCD required J. R. Cone to excavate additional soil, and the excavation was deepened to about 40 feet BGS.

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Distance to Surface Water Body	>1000 Horizontal Feet	0
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The NMOCD recommended remediation action levels for benzene, total BTEX and TPH are as follows:

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The companies propose to fill the excavation with clean soil to approximately 2 feet BGS. A layer of clay approximately 2 feet thick will be placed over the clean soil, contoured and compacted to 95% proctor density to limit infiltration of precipitation. The clay cap will be covered with a layer of topsoil and seeded to grass. The companies will submit a final report to the NMOCD following closure of the excavation. Please call Mr. Rodney Bailey with Texaco at (915) 688-2971, or myself at (915) 687-0901 if you have questions.

Sincerely,
Larson and Associates, Inc.

Mark J. Larson, CPG, CGWP
President

Encl.

cc: Rodney Bailey
J.R. Cone

Table 1: Summary of Headspace and Laboratory Analyses of Soil Samples
Texaco Exploration and Production Inc. and J. R. Cone
Eubanks Tank Battery Emergency Pit, SW/4, Section 14, Township 21 South, Range 37 East
Lea County, New Mexico

Sample Date	Soil Number	Depth Interval Feet (BGS)	PID (ppm)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	Chloride (mg/kg)
16-Jan-01	North	--	115.9	116	1793	1909	<0.025	<0.025	<0.025	0.044	0.044	3900
16-Jan-01	East	--	169.3	398	3169	3567	.0.073	1.54	1.85	6.16	9.623	3909
16-Jan-01	South	--	40.6	88	1507	1595	.0.073	1.54	1.85	6.16	9.623	2233
16-Jan-01	West	--	24.0	114	2097	2211	<0.025	<0.025	<0.025	<0.025	<0.1	434
16-Jan-01	AH-1	2.8	100.3	966	3256	4222	0.402	5.99	6.23	22.65	35.272	4398
16-Jan-01	AH-2	3.0	9.7	<10	11	11	<0.025	0.077	0.059	0.110	0.246	35
16-Jan-01	AH-3	3.0	8.6	<10	<10	<20	<0.025	<0.025	<0.025	<0.025	<0.1	18
16-Jan-01	AH-4	2.7	13.0	<10	19	19	<0.025	<0.025	<0.025	<0.025	<0.1	465
17-Jan-01	BH-1	5 - 6	12.7	<10	<10	<20	<0.025	<0.025	<0.025	<0.025	<0.1	59
		10 - 10.7	10.0									
		20 -21	11.5	<10	<10	<20	<0.025	<0.025	<0.025	<0.025	<0.1	69
30-Jan-01	BH-1A	10 - 12	6.2	--	--	--	--	--	--	--	--	--
		20 - 21.3	8.9	<10	<10	<20	<0.025	<0.025	<0.025	<0.025	<0.1	35
		30 - 31.7	6.2	--	--	--	--	--	--	--	--	--
		40 - 41.3	6.9	--	--	--	--	--	--	--	--	--
		50 - 52	19.0	<10	<10	<20	<0.025	<0.025	<0.025	<0.025	<0.1	18
		60 - 61.5	22.7	--	--	--	--	--	--	--	--	--
30-Jan-01	BH-2	10 - 11.1	44.5	<10	<10	<20	<0.025	<0.025	<0.025	<0.025	<0.1	33
		20 - 21.4	32.3	--	--	--	--	--	--	--	--	--
		30 - 32	39.0	--	--	--	--	--	--	--	--	--

Notes: Analysis performed by Enviromental Lab of Texas, Inc., Odessa, Texas

1. BGS: Sample depth in feet below ground surface
2. PID: Photoionization detector
3. PPM: Parts per million
4. DRO: Diesel-range organics
5. GRO: Gasoline-range organics
6. TPH: Total petroleum hydrocarbons (Sum of DRO + GRO)
7. mg/kg: Milligrams per kilogram
8. --: No data available
9. <: Below method detection limit

Table 1: Summary of Headspace and Laboratory Analyses of Soil Samples
Texaco Exploration and Production Inc. and J. R. Cone
Eubanks Tank Battery Emergency Pit, SW/4, Section 14, Township 21 South, Range 37 East
Lea County, New Mexico

Sample Date	Soil Number	Depth Interval Feet (BGS)	PID (ppm)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	BTEX (mg/kg)	Chloride (mg/kg)
30-Jan-01	BH-2	40 - 41.1	12.7	--	--	--	--	--	--	--	--	--
	(Cont.)	50 - 52	20.6	<10	<10	<20	<0.025	<0.025	<0.025	<0.025	<0.1	35
		60 - 62	11.1	--	--	--	--	--	--	--	--	--
30-Jan-01	BH-3	10 - 11	17.3	--	--	--	--	--	--	--	--	--
		20 - 21	22.1	<10	<10	<20	<0.025	<0.025	<0.025	<0.025	<0.1	35
		30 - 31.5	10.7	--	--	--	--	--	--	--	--	--
		40 - 41.5	11.3	--	--	--	--	--	--	--	--	--
		50 - 52	9.7	<10	<10	<20	<0.025	<0.025	<0.025	<0.025	<0.1	18
		60 - 61.4	7.6	--	--	--	--	--	--	--	--	--

Notes: Analysis performed by Enviromental Lab of Texas, Inc., Odessa, Texas

1. BGS: Sample depth in feet below ground surface
2. PID: Photoionization detector
3. PPM: Parts per million
4. DRO: Diesel-range organics
5. GRO: Gasoline-range organics
6. TPH: Total petroleum hydrocarbons (Sum of DRO + GRO)
7. mg/kg: Milligrams per kilogram
8. --: No data available
9. <: Below method detection limit

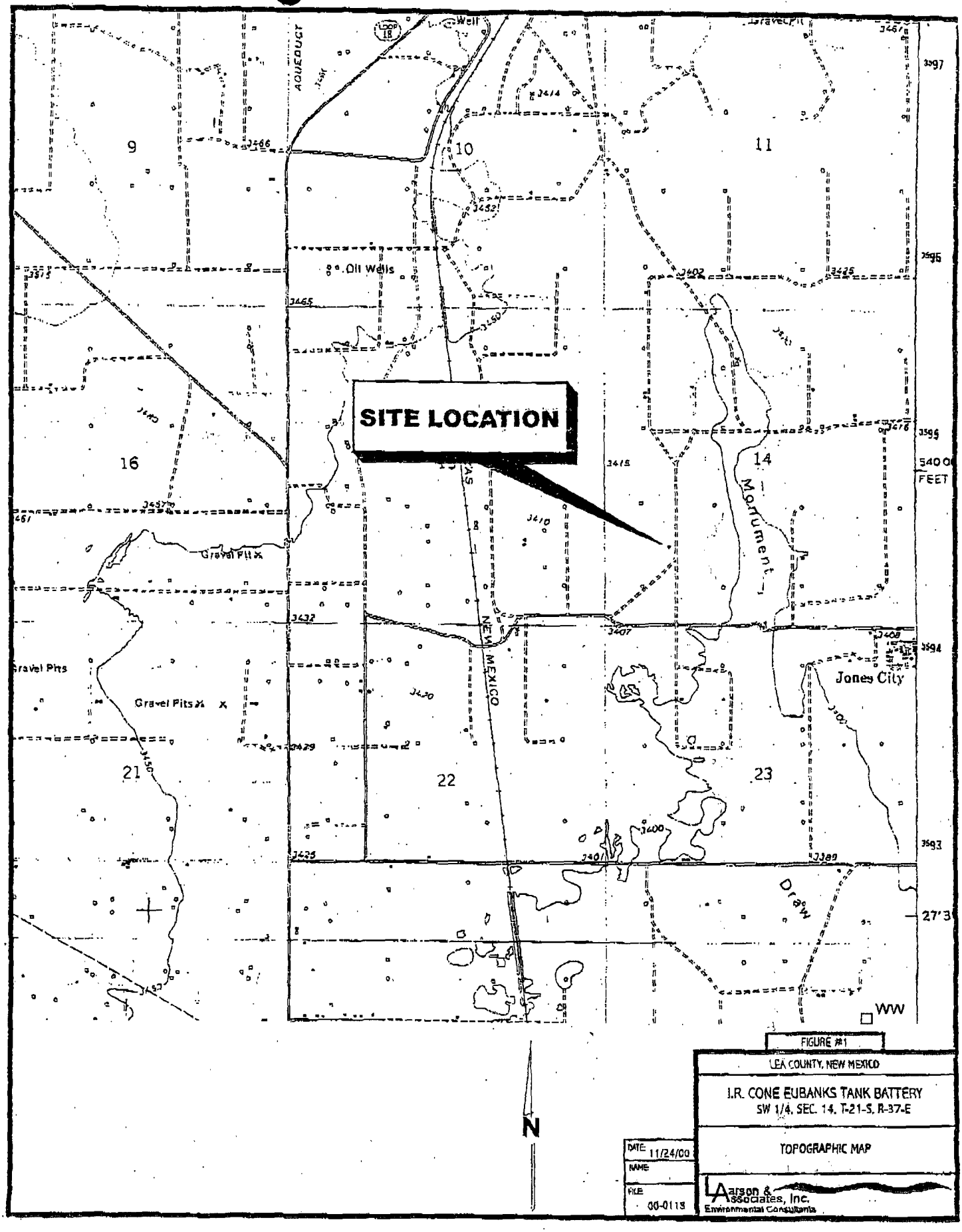

FIGURE #1

LEA COUNTY, NEW MEXICO

I.R. CONE EUBANKS TANK BATTERY
SW 1/4, SEC. 14, T-21-S, R-37-E

TOPOGRAPHIC MAP

DATE: 11/24/00
NAME:
FILE: 00-0113

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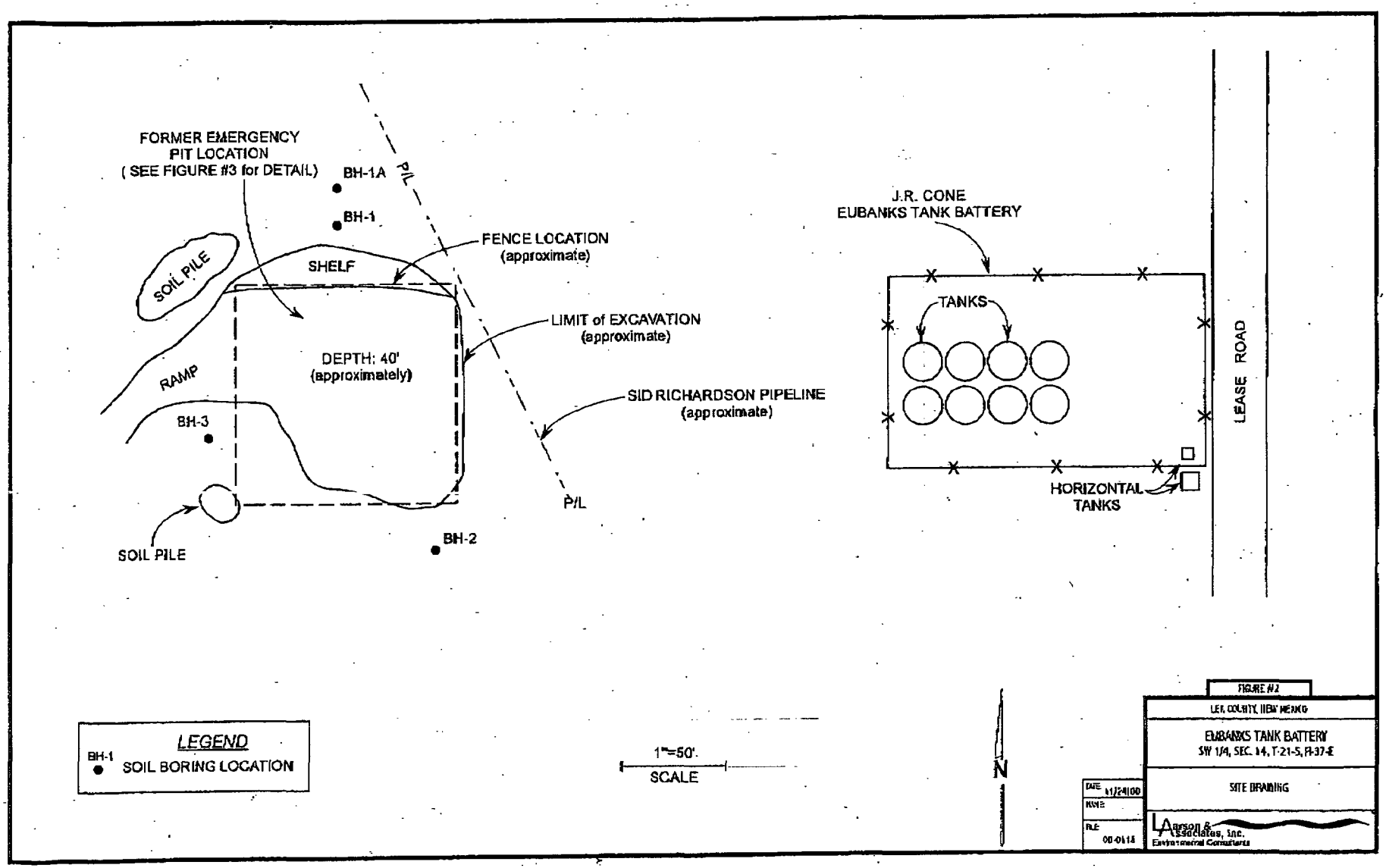
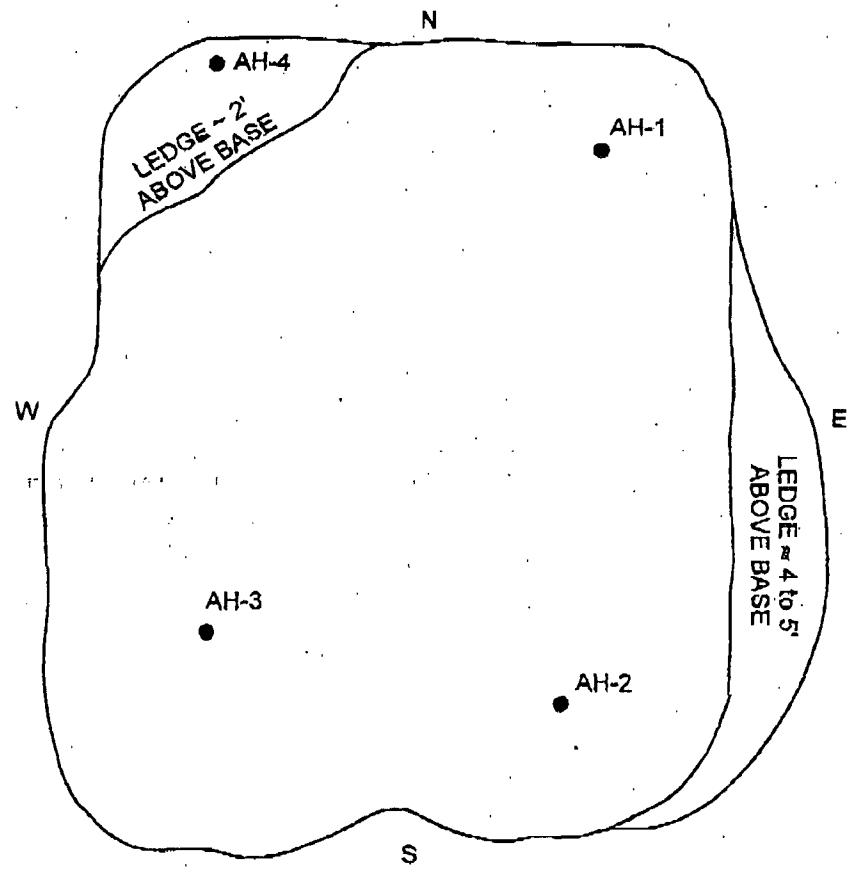

FORMER EMERGENCY
PIT LOCATION
(SEE FIGURE #3 for DETAIL)
BH-1A
BH-1
P/L
FENCE LOCATION
(approximate)
SHELF
SOIL PILE
LIMIT of EXCAVATION
(approximate)
DEPTH: 40'
(approximately)
RAMP
SID RICHARDSON PIPELINE
(approximate)
BH-3
P/L
BH-2
SOIL PILE
J.R. CONE
EUBANKS TANK BATTERY
TANKS
LEASE ROAD
HORIZONTAL
TANKS
LEGEND
BH-1
SOIL BORING LOCATION
1"=50'
SCALE
N
FIGURE #2
LEA COUNTY, NEW MEXICO
EUBANKS TANK BATTERY
SW 1/4, SEC. 14, T-21-S, R-37-E
SITE DRAWING
DATE 1/24/00
NAME
FILE 00-0114
Larson & Associates, Inc.
Environmental Consultants



(SEE FIGURE #2 for DETAIL LOCATION)

N

SCALE: 1"=15'

LEGEND

AH-3 ● HAND AUGER BORING LOCATION

S COMPOSITE SOIL SAMPLE LOCATION

FIGURE #3

LEA COUNTY, NEW MEXICO

EUBANKS TANK BATTERY
SW 1/4, SEC. 14, T-21-S, R-37-E

BOTTOM of EXCAVATION DETAIL

DATE: 11/24/00
NAME:
FILE: 00-0118

Larson & Associates, Inc.
Environmental Consultants

LARSON & ASSOCIATES, INC.
Environmental Consultants

November 28, 2000

Via: Facsimile: (505) 393-0920

Ms. Donna Williams
New Mexico Oil Conservation Division
1625 North French Drive
Hobbs, New Mexico 88240

Re: Investigation Work Plan, Eubanks Tank Battery Emergency Pit, SW/4, Section 14, Township 21 South, Range 37 East, Lea County, New Mexico

Dear Ms. Williams:

Texaco Exploration and Production, Inc. and J.R. Cone ("the Companies") have retained LARSON and Associates, Inc. (LA) to prepare an investigation plan for a former emergency pit located at the Eubanks Tank Battery (Site). The New Mexico Oil Conservation Division (NMOCD) requested the investigation plan following a request by the companies to discontinue excavating the emergency pit. The Site is located approximately 1.8 miles northeast of Eunice, New Mexico, near the center of the southwest quarter (SW/4) of Section 14, Township 21 South, Range 37 East. Figure 1 presents a location and topographic map.

Background

J.R. Cone currently operates the Site, and retained Rhino Environmental Services, Inc. (Rhino) to excavate the emergency pit. Rhino excavated approximately 9,240 yards of hydrocarbon-affected soil through September 30, 2000. The soil was hauled to Texaco's centralized treatment facility (landfarm) located northwest of Jal, New Mexico, since Texaco is a current interest owner.

On August 16, 2000, Texaco personnel collected a composite soil sample from the bottom of the excavation at about 13 to 15 feet below ground surface (BGS). The sample was delivered under chain-of-custody control to Cardinal Laboratories, Inc., located in Hobbs, New Mexico. The sample was analyzed for benzene, toluene, ethylbenzene, xylenes (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH). The TPH analyses reported the gasoline (GRO) and diesel (DRO) range hydrocarbons. Benzene and toluene were not reported above the test method detection limits. Ethylbenzene and xylenes were reported at 0.032 milligrams per kilogram (mg/kg) and 0.124 mg/kg, respectively. The GRO concentration was below the test method detection limit of 50 mg/kg, and DRO was 1350 mg/kg. Appendix A presents a copy of the laboratory report.

On August 28, 2000, NMOCD personnel collected composite soil samples from 24 and 32 feet BGS. The samples were analyzed for BTEX, TPH, chloride, fluoride, nitrate, sulfate, calcium, magnesium, potassium, sodium, alkalinity (hydroxide, carbonate and bicarbonate), specific conductivity, pH, and total dissolved solids (TDS). Trace Analysis, Inc., located in Lubbock, Texas, performed the analyses. BTEX was reported in the sample from 24 feet at 0.081 mg/kg (benzene), 0.41 mg/kg (toluene), 1.74 mg/kg (ethylbenzene) and 7.94 mg/kg (xylenes). No benzene, toluene or ethylbenzene was detected in the sample from 32 feet BGS. Xylenes were reported at 0.342 mg/kg in the sample from 32 feet BGS. The GRO concentrations were 166

mg/kg (24 feet) and 37.3 mg/kg). The DRO concentrations were 7477 mg/kg (24 feet) and 8319 mg/kg (32 feet). The NMOCD required the operator to excavate additional soil following receipt of its analyses. The emergency pit has been excavated to about 40 feet BGS.

Groundwater was not observed in the excavation. The saturated portion of the Ogallala formation (Tertiary) does not extend onto the Site, according to published information (Nicholson and Clebsch, 1961). A well was reportedly drilled to 133 feet BGS near the southwest quarter of Section 8. Township 21 South, Range 37 East, and was dry. The NMOCD suggested that groundwater could be present at about 65 feet BGS, based on data from the New Mexico State Engineer.

Proposed Investigation

A composite sample will be collected from each side to a height about 6 feet above the bottom of the excavation due to near vertical slopes. A composite sample will also be collected from approximately three (3) below the bottom of the excavation. The soil samples will be analyzed for BTEX, TPH and chloride.

Three borings will be drilled at locations shown on Figure 2. The borings will be drilled to about 65 feet BGS using an air-rotary drilling rig. Soil samples will be collected for laboratory analysis using a split-spoon or core sampler. Samples will be collected approximately every 10 feet. The samples will be visually inspected for lithology and field screened using a PID. A geologic log will be prepared for each boring. The sample exhibiting the highest PID reading and the deepest sample from the boring will be analyzed for BTEX, TPH and chloride. Additional samples may be analyzed following receipt of the initial sample results. The borings may extend beyond 65 feet BGS if PID readings suggest significant impact. However, drilling will terminate if groundwater is encountered. The companies will submit a final report upon completion of the investigation, including field and laboratory data, borehole logs, discussions of the field sampling techniques and conclusions.

Please call Mr. Rodney Bailey with Texaco at (915) 688-2971, or myself at (915) 687-0901 if you have questions.

Sincerely,
LARSON and Associates, Inc.

Mark J. Larson, CPG, CGWP
President

Encl.

cc: Rodney Bailey
J.R. Cone
Bill Olson - NMOCD Santa Fe

Figures

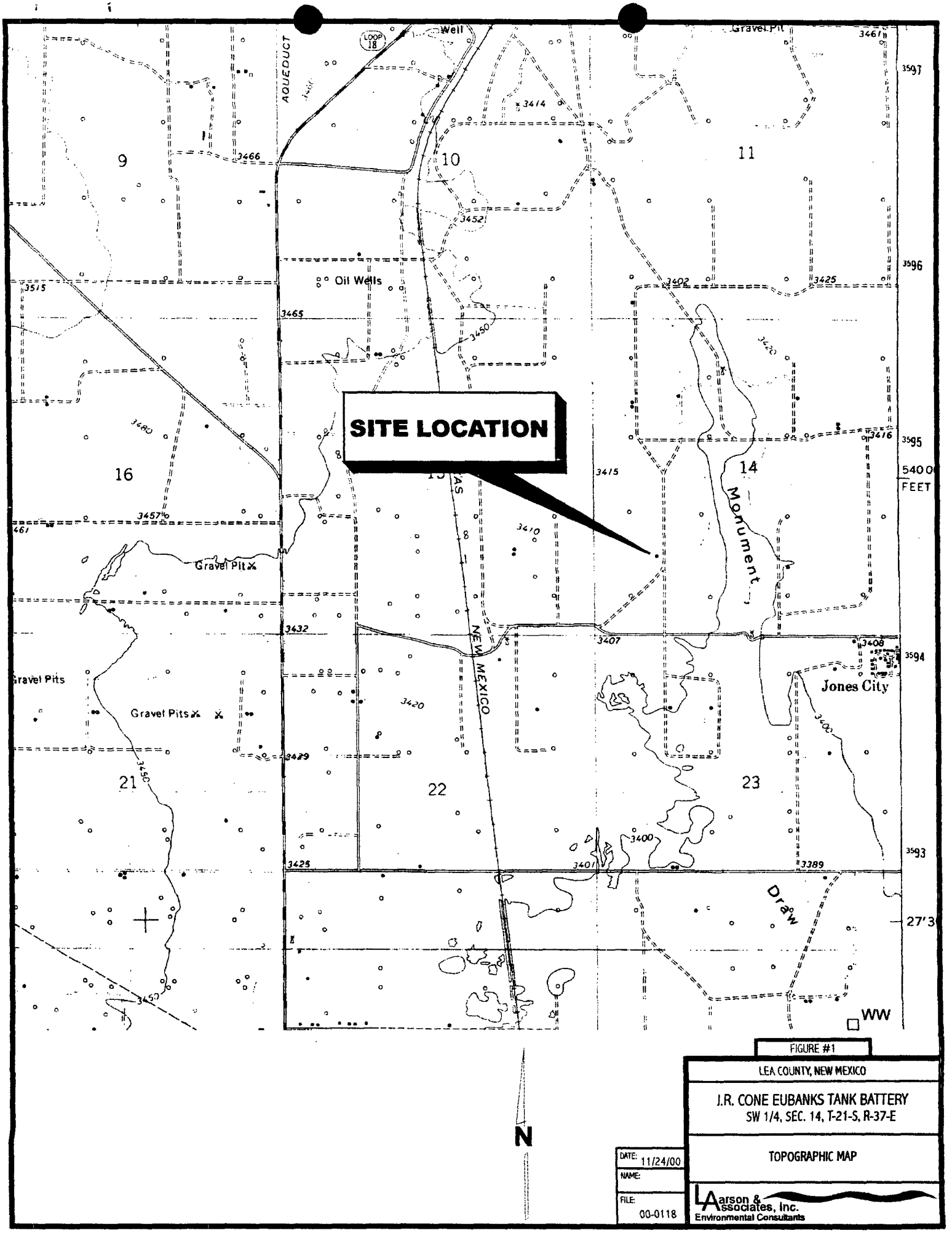


FIGURE #1

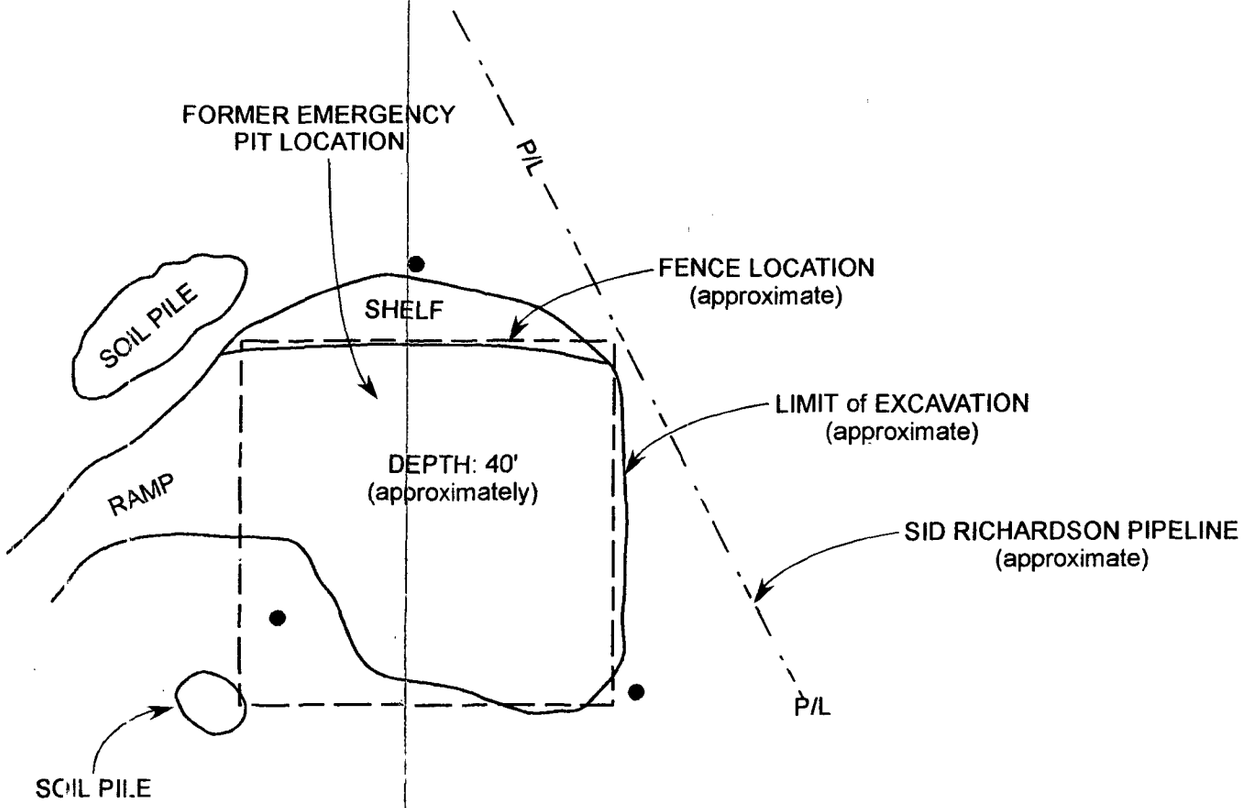
LEA COUNTY, NEW MEXICO

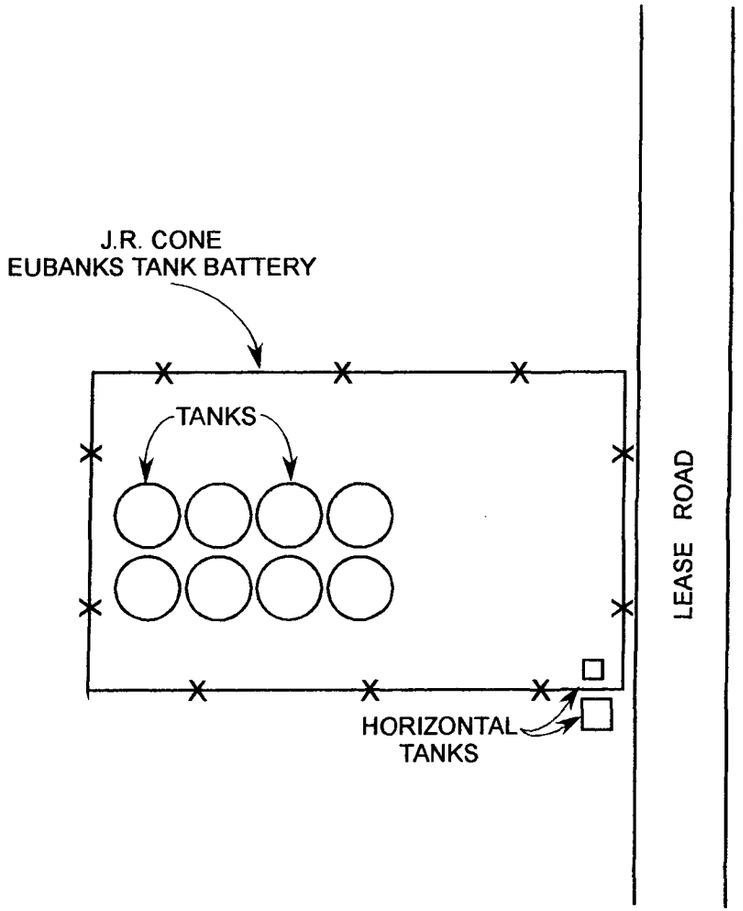
J.R. CONE EUBANKS TANK BATTERY
SW 1/4, SEC. 14, T-21-S, R-37-E

TOPOGRAPHIC MAP

DATE: 11/24/00
NAME:
FILE: 00-0118

Larson & Associates, Inc.
Environmental Consultants





LEGEND

PROPOSED BORING LOCATION

1"=50'
SCALE

N

FIGURE #2

LEA COUNTY, NEW MEXICO

J.R. CONE EUBANKS TANK BATTERY
SW 1/4, SEC. 14, T-21-S, R-37-E

SITE DRAWING

DATE: 11/24/00
NAME:
FILE: 00-0118

Larson & Associates, Inc.
Environmental Consultants

Appendix A

Cardinal Laboratories Report

2501 Learmont Drive ◆ Midland, Texas 79705 ◆ Ph. (915) 687-0901 ◆ Fax (915) 687-0456

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
TEXACO E&P, INC.
ATTN: RODNEY BAILEY
P.O. BOX 3109
MIDLAND, TX 79702
FAX TO:

Receiving Date: 08/16/00
Reporting Date: 08/16/00
Project Number: NOT GIVEN
Project Name: J.R.CONE
Project Location: NOT GIVEN

Sampling Date: 08/16/00
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:	08/16/00	08/16/00	08/16/00	08/16/00	08/16/00	08/16/00
H5100-1 -	<50	1350	<0.005	<0.005	0.032	0.124
Quality Control	822	956	0.095	0.101	0.100	0.301
True Value QC	1000	1000	0.100	0.100	0.100	0.300
% Recovery	82.2	95.6	94.9	101	99.9	100
Relative Percent Difference	4.5	9.5	9.2	9.8	8.7	8.1

METHODS: TPH GRO & DRO - EPASW-846 8015 M; BTEX - SW-846 8260.

Burgess J. A. Cooke. Ph. D.

8/16/00
Date

H5100.XLS

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page____ of____

Company Name:	Texaco E&P Inc.	**BILL TO**	
Project Manager:	Rodney Bailey	P.O. #:	
Address:	500 N. Loraine	Company:	
City:	Midland State: Tx Zip: 79705	Attn:	
Phone #:	915-688-2971 Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	J. R. Cone	State: Zip:	
Project Location:		Phone #:	
Sampler Name:		Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	ANALYSIS REQUEST: X BTEX, SOLS
H5100-1	—					✓							8/16/00		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: Rodney Bailey	Date:	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Time:		Fax Result: ☐ Yes ☐ No Add'l Fax #:
	Date: 8/16/00	Received By: (Lab Staff)	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Time:	Sample Condition: Cool ☒ Yes ☐ No; Intact ☒ Yes ☐ No	CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.