1R - 129

REPORTS

DATE:

10-20-1998

5309 Wurzbach, Suite 100
San Antonio, Texas 78238
(210) 680-3767
(210) 680-3763 FAX

October 20, 1998

Mr. Tony Savoie
TEXAS - NEW MEXICO PIPE LINE COMPANY
P.O. Box 1030
Jal, New Mexico 88252

Re: Closure Report
TNM-97-05
Unit J, Section 32, Township 17 South, Range 35 East
Lea County, New Mexico
Job No. 710035-1

Dear Mr. Savoie:

Transmitted with this letter is the final Closure Report for the Texas-New Mexico Pipe Line (TNMPL) site TNM-97-05 located near Buckeye in Lea County, New Mexico.

Please contact me at (210) 680-3767 with your questions or comments.

Respectfully,

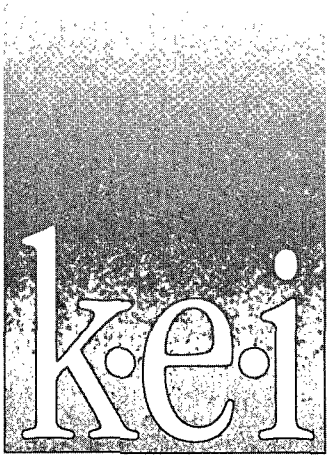
Theresa Nix

Theresa Nix
Project Manager

Enclosure

cc: Marc Oler; Equilon
OCD Hobbs
Bill Olson, OCD Sante Fe

dos\p:\tnmpl\710035\rclosure.doc



RECEIVED

OCT 2 9 1998

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

CLOSURE REPORT

TEXAS - NEW MEXICO PIPE LINE COMPANY
TNM-97-05
UNIT J, SECTION 32, TOWNSHIP 17 SOUTH, RANGE 35 EAST
LEA COUNTY, NEW MEXICO

5309 Wurzbach, Suite 100
San Antonio, Texas 78238
(210) 680-3767
(210) 680-3763 FAX

CLOSURE REPORT

TEXAS - NEW MEXICO PIPE LINE COMPANY
TNM-97-05
UNIT J, SECTION 32, TOWNSHIP 17 SOUTH, RANGE 35 EAST
LEA COUNTY, NEW MEXICO

PREPARED FOR:

TEXAS - NEW MEXICO PIPE LINE COMPANY
P. O. Box 1030
Jal, New Mexico 88252

Mr. Tony Savoie

PREPARED BY:

KEI

Theresa Nix
Project Manager

Pat Bullinger, P.E.

KEI Job No. 710035-1-0

October 20, 1998

TABLE OF CONTENTS

PURPOSE AND SCOPE

The objective of the site closure activities was to obtain closure for the site based on New Mexico Oil Conservation Division (OCD) regulations. The following activities were performed to achieve this objective:

- determination of closure standards
- removal of impacted soil
- characterization of removed impacted soil
- confirmation sampling in excavation
- off-site landfarming of impacted soil

PREVIOUS INVESTIGATION

The Texas - New Mexico Pipe Line Company (TNMPL) alleged release site is located approximately 1.5 miles southeast of Buckeye, Lea County, New Mexico in the SE 1/4, NW 1/4 of Section 32, Township 17 South, Range 35 East. A site location map is presented as FIG. 1. The site is owned by the State of New Mexico. Site details are presented on FIG. 2.

The release was discovered on April 30, 1997. Approximately 20 barrels were released from a 4 inch crude oil pipeline and approximately 12 barrels were recovered. Apparent hydrocarbon impact to soils was identified at the subject site and the leak was excavated and repaired at the time of discovery. Affected soils were excavated and placed on plastic to be remediated.

CLOSURE ACTIVITIES

WATER WELL SURVEY

A registered water well survey was conducted for the area within a 0.5 mile radius of the site. According to the well records provided by the State of New Mexico Engineer Office, one registered water well is possibly located within a 0.5 mile radius of the site. This water well had a depth to water of 86 feet below ground surface when measured on December 20, 1990. The water well records are provided in APPENDIX A.

CLOSURE STANDARDS

The New Mexico OCD Guidelines for Remediation of Leaks, Spills, and Releases contains the standard criteria for remediation activities. A ranking analysis for the site was performed to determine appropriate soil remediation levels. The ranking analysis is as follows:

Depth to Ground Water	Greater than 50 Feet	10 Points
Well Head Protection	Greater Than 1000 Feet to Water Source Greater Than 200 Feet to Private Water Source	0 Points
Surface Water Body	Greater Than 1000 Feet	0 Points
	Total Ranking Score	**10 Points**

Based on the total ranking score, the closure objectives for this site for concentrations of benzene, toluene, ethylbenzene, and xylene (BTEX), and total petroleum hydrocarbons (TPH) are summarized below.

CONSTITUENT	CLOSURE CONCENTRATIONS (mg/kg)
BENZENE	10
BTEX	50
TPH	1000 + Background Concentration

SOIL EXCAVATION, CHARACTERIZATION, LANDFARMING, AND CONFIRMATION

At the time of the release, hydrocarbon impacted soil was excavated and stockpiled on plastic. The measurements of the excavation and soils removed are summarized below:

MEASUREMENT	VALUE
Length	24 to 45 feet
Width	35 to 67 feet
Area	2,300 square feet
Depth	0 to 6 inches
Volume Landfarmed	40 cubic yards
Approximate Depth to Water (based on well records within a 0.5 mile radius of the site)	86 feet

Soils were hauled to C&C Landfarm on August 17, 1998. Disposal documentation is included in APPENDIX D. Analytical results from composite samples of the stockpile indicated the following concentration ranges:

CONSTITUENT	CONCENTRATION RANGE (mg/kg)
BENZENE	ND
BTEX	ND
TPH	8,270 to 12,000

During an investigation performed by KEI, 2 composite soil samples from the scraped area were submitted for determination of BTEX and TPH concentrations. The scraped area was divided into 2 sections, Section A and Section B. Concentration ranges are summarized below:

CONSTITUENT	SECTION A (mg/kg)	SECTION B (mg/kg)
BENZENE	ND	ND
BTEX	ND	ND
TPH	15.5	53.2

Soil analytical results are summarized in TABLE I. The laboratory report and chain-of-custody documentation are provided in APPENDIX B.

CLOSURE SUMMARY

The following can be summarized from field and laboratory data:

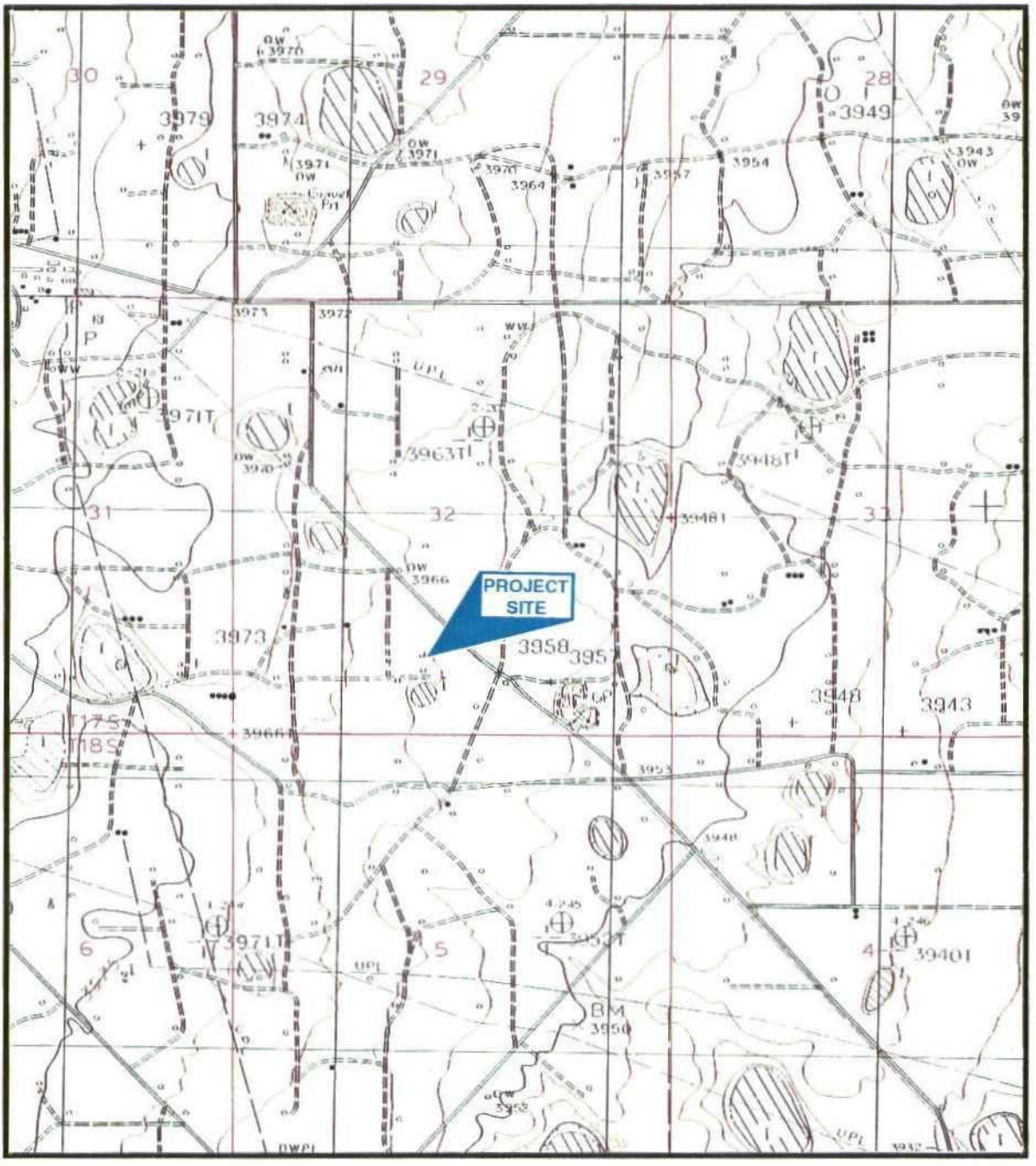
- Previously impacted soil was excavated, stockpiled, and landfarmed off-site.
- A sample obtained from the excavated area of the site indicated BTEX and TPH concentrations below closure standards.

Based on activities completed at the site and analytical results from selected soil samples, we request the site be closed under OCD regulations.

LOVINGTON SW QUADRANGLE

NEW MEXICO-LEA CO.

PROVISIONAL EDITION 1985



SCALE 1:24000

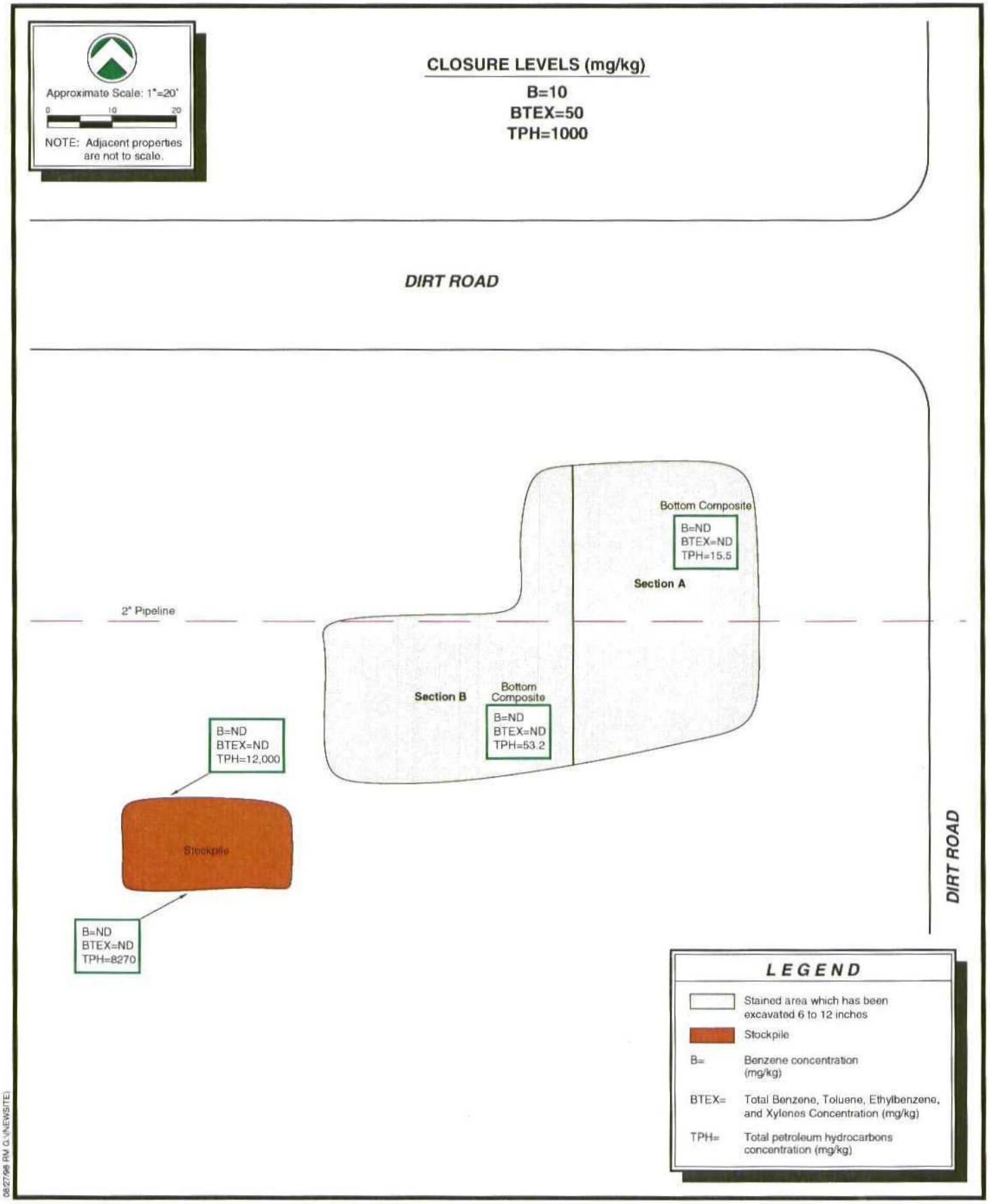
1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 5 FEET

k·e·i	*SITE LOCATION MAP*	710035
	TEXAS - NEW MEXICO PIPE LINE CO. TNM-97-05 LEA COUNTY, NEW MEXICO	FIG 1



08/27/96 RM G:\NEWSITE\

k·e·i	SITE DETAILS	710035
	TEXAS - NEW MEXICO PIPE LINE CO. TNM-97-05 LEA COUNTY, NEW MEXICO	FIG 2

GENERAL NOTES

ND - Indicates constituent was not detected above the method detection or reporting limit.

Method reporting/detection limits:

TPH - 10.0 to 400 mg/kg
BTEX - 0.10 to 0.20 mg/kg

Laboratory test methods:

BTEX - EPA Method SW846-8020
TPH - Modified EPA Method 8015 Diesel Range Organics

TABLE I

SUMMARY OF SOIL RESULTS - BTEX AND TPH
TEXAS - NEW MEXICO PIPE LINE COMPANY
TNM-97-05
LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	TPH (mg/kg)
Section A	06/10/98	ND	ND	ND	ND	ND	15.5
Section B	06/10/98	ND	ND	ND	ND	ND	53.2
North Side Stockpile	06/10/98	ND	ND	ND	ND	ND	12000
South Side Stockpile	06/10/98	ND	ND	ND	ND	ND	8270

Office of the State Engineer

1900 W. Second St.
Roswell, NM 88201
(505) 622-6521 800-231-8933
Fax: (505) 623-8559

FAX TRANSMISSION COVER SHEET

Date: *June 5, 1998*

To: *Daryl Stacey, Project Manager*

Fax: *210-680-3763*

Re: *Well info*

Sender: *Eric C. Milstead*

YOU SHOULD RECEIVE 6 PAGE(S), INCLUDING THIS COVER SHEET. IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL (505) 622-6521 800-231-8933.

As per your request of June 5, I have tried to locate wells within the sections you specified during our phone call. Accompanying this letter, you will find the information one of the sections you were interested in at this time, T17S R35E 32 SE1/4 NW1/4. The rest of the information is of all the sections around the one you requested since we do not have that section available.

I hope this information is helpful in your endeavors. If you have any further questions, please call. Thank you for your request.

DATE	WATER LEVEL MS
OCT 02, 1980	81.40 V

SITE ID: 324657103292801
LOC: 17S.35E.31.43411
OTID 11343
ELEV: 3968.00
USE: U
DEPTH: 146
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
FEB 16, 1961	63.92	FEB 12, 1971	67.38	JAN 20, 1981	82.27	APR 04, 1986	91.89
MAR 17, 1966	65.63	MAR 04, 1976	71.12	JUN 17	83.25	JAN 15, 1991	95.01

HIGHEST 63.92 FEB 16, 1961
LOWEST 95.01 JAN 15, 1991

SITE ID: 324740103282801
LOC: 17S.35E.32.21142
OTID 12856
ELEV: 3965.00
USE: H
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 04, 1976	69.56	JAN 20, 1981	72.31	APR 04, 1986	83.75	DEC 20, 1990	86.08

HIGHEST 69.56 MAR 04, 1976
LOWEST 86.08 DEC 20, 1990

SITE ID: 324720103280101
LOC: 17S.35E.33.13321
OTID 13498
ELEV: 3952.00
USE: U
DEPTH: 220
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS
JAN 21, 1981	61.18

ELEV: 3592.00
USE: U
DEPTH: 242
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
NOV 12, 1953	205.47	JAN 22, 1976	204.96	MAR 19, 1986	205.01		
MAR 19, 1968	205.79	MAY 03, 1977	204.92	APR 16, 1991	204.57		
DEC 10, 1970	205.30	MAR 04, 1981	204.92	MAR 07, 1996	204.62 SR		

HIGHEST 204.57 APR 16, 1991
LOWEST 205.79 MAR 19, 1968

SITE ID: 322531103153401
LOC: 21S.36E.34.33341
OTID 13047
ELEV: 3559.00
USE: S
DEPTH:
GEO. UNIT: 231CHNL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
DEC 10, 1970	142.16	MAR 04, 1981	182.99	APR 16, 1991	185.92		
JUN 30, 1976	164.25 R	MAR 19, 1986	186.40	MAR 07, 1996	198.78 SR		

HIGHEST 142.16 DEC 10, 1970
LOWEST 186.40 MAR 19, 1986

SITE ID: 323025103062501
LOC: 21S.37E.01.242422
OTID 11474
ELEV: 3557.00
USE: S
DEPTH: 90
GEO. UNIT: 110AVMB

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 08, 1961	61.48	MAR 09, 1966	73.01	DEC 16, 1970	63.81 R		
NOV 04, 1965	35.64	MAR 12, 1968	35.47 R	FEB 23, 1977	72.63		

HIGHEST 35.64 NOV 04, 1965
LOWEST 73.01 MAR 09, 1966

SITE ID: 323016103092001
LOC: 21S.37E.03.31221
OTID 11475
ELEV: 3424.10

DATE	WATER LEVEL MS
APR 03, 1968	702.23

SITE ID: 322502103182401
LOC: 22S.36E.06.32111
OTID 12775
ELEV: 3585.00
USE: S
DEPTH: 220
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 21, 1976	180.40	MAR 07, 1986	180.24	FEB 14, 1996	179.53 S		
MAR 09, 1981	180.43	MAY 01, 1991	179.86				

HIGHEST 179.53 FEB 14, 1996
LOWEST 180.43 MAR 09, 1981

SITE ID: 322501103175601
LOC: 22S.36E.06.41200
OTID 11914
ELEV: 3574.00
USE: S
DEPTH: 174
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 19, 1968	170.47 R	JAN 21, 1976	171.25	MAR 07, 1986	171.02		
DEC 03, 1970	171.44	MAR 09, 1981	171.03	MAY 01, 1991	171.04		

HIGHEST 171.02 MAR 07, 1986
LOWEST 171.44 DEC 03, 1970

SITE ID: 322356103161803
LOC: 22S.36E.09.341221
OTID 12776
ELEV: 3552.00
USE: U
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JAN 21, 1976	171.52	MAR 07, 1986	171.64	MAY 01, 1991	171.75

HIGHEST 171.52 JAN 21, 1976
LOWEST 171.75 MAY 01, 1991

SITE ID: 322356103161801
LOC: 22S.36E.09.341223
OTID 11915
ELEV: 3552.00
USE: S
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
NOV 19, 1965	171.26	MAR 19, 1966	171.37	DEC 03, 1970	172.27 P

HIGHEST 171.26 NOV 19, 1965
LOWEST 171.37 MAR 19, 1966

SITE ID: 322356103161802
LOC: 22S.36E.09.341223A
OTID 12699
ELEV: 3552.00
USE: U
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	
DEC 03, 1970	178.05	S

SITE ID: 322423103134701
LOC: 22S.36E.11.22344
OTID 11916
ELEV: 3510.40
USE: U
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
NOV 12, 1953	113.86	NOV 04, 1965	126.32	MAR 19, 1966	124.80	DEC 03, 1970	125.42

HIGHEST 113.86 NOV 12, 1953
LOWEST 126.32 NOV 04, 1965

SITE ID: 322409103133501
LOC: 22S.36E.12.31112
OTID 11917

ELEV: 3498.00
USE: U
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
NOV 02, 1965	78.36	DEC 04, 1970	77.00	MAR 18, 1981	77.30	MAY 01, 1991	78.16
JUN 10, 1968	76.88	DEC 16, 1976	77.10	MAR 21, 1986	77.67	FEB 16, 1996	78.29 ST

HIGHEST 76.88 JUN 10, 1968
LOWEST 78.36 NOV 02, 1965

SITE ID: 322439103133501
LOC: 22S.36E.01.333322
OTID 12774
ELEV: 3492.00
USE: U
DEPTH: 150
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS
NOV 12, 1953	111.24

SITE ID: 322443103134001
LOC: 22S.36E.02.442441
OTID 11912
ELEV: 3495.40
USE: S
DEPTH:
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
NOV 04, 1965	115.43	DEC 03, 1970	116.69 R	JAN 20, 1976	118.48

HIGHEST 115.43 NOV 04, 1965
LOWEST 118.48 JAN 20, 1976

SITE ID: 322526103154401
LOC: 22S.36E.04.222144
OTID 11913
ELEV: 3560.00
USE: U
DEPTH: 1370
GEO. UNIT: 313SADR

April 3, 1968 702.23

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

ANALYTICAL REPORT 1-82213

for

K.E.I. Consultants, Inc.

Project Manager: Theresa Nix

Project Name: Buckeye

Project Id: 710035-1-0

June 23, 1998

HOUSTON - DALLAS - SAN ANTONIO

11381 Meadowglen Lane Suite L * Houston, Texas 77082-2647
Phone (281) 589-0692 Fax (281) 589-0695

XENCO Laboratories

11381 Meadowglen Suite L
Houston, Texas 77082-2647
(281) 589-0692 Fax: (281) 589-0695
Houston - Dallas - San Antonio - Latin America

June 23, 1998

Project Manager: Theresa Nix
K.E.I. Consultants, Inc.
5309 Wurzbach Rd. Suite 100
San Antonio, TX 78238

Reference: **XENCO Report No.: 1-82213**
Project Name: Buckeye
Project ID: 710035-1-0
Project Address: Buckeye, NM

Dear Theresa Nix:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with XENCO Chain of Custody Number 1-82213. All results being reported to you apply only to the samples analyzed, properly identified with a Laboratory ID number. This letter documents the official transmission of the contents of the report and validates the information contained within.

All the results for the quality control samples passed thorough examination. Also, all parameters for data reduction and validation checked satisfactorily. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 3 years in our archives and after that time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 1-82213 will be filed for 60 days, and after that time they will be properly disposed of without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

XENCO operates under the A2LA guidelines. Our Quality System meets ISO/IEC Guide 25 requirements which is strictly implemented and enforced through our standard QA/QC procedures.

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Sincerely,

Eddie L. Clemons, II
QA/QC Manager

XENCO Laboratories

CERTIFICATE OF ANALYSIS SUMMARY 1-82213

K.E.I. Consultants, Inc.

Project Name: Buckeye

Project ID: 710035-1-0
Project Manager: Theresa Nix
Project Location: Buckeye, NM

Date Received in Lab : Jun 16, 1998 11:00
Date Report Faxed: Jun 23, 1998
XENCO contact : Carlos Castro/Eddie Clemons

Analysis Requested	*Lab ID:* / *Field ID:* / *Depth:* / *Matrix:* / *Sampled:*	182213 001 Section A Solid 06/10/98 08:52		182213 002 Section B Solid 06/10/98 08:56		182213 003 North S-SP Solid 06/10/98 09:00		182213 004 South S-SP Solid 06/10/98 09:06	
TPH-DRO (Diesel) **EPA 8015 M**	*Analyzed:* *Units:*	06/18/98 mg/kg	R.L.	06/18/98 mg/kg	R.L.	06/18/98 mg/kg	R.L.	06/18/98 mg/kg	R.L.
Total Petroleum Hydrocarbons		15.5	(10.0)	53.2	(10.0)	12000	(400)	8270	(400)
BTEX **EPA 8020**	*Analyzed:* *Units:*	06/17/98 ppm	R.L.	06/17/98 ppm	R.L.	06/17/98 ppm	R.L.	06/17/98 ppm	R.L.
Benzene		< 0.10	(0.10)	< 0.10	(0.10)	< 0.10	(0.10)	< 0.10	(0.10)
Toluene		< 0.10	(0.10)	< 0.10	(0.10)	< 0.10	(0.10)	< 0.10	(0.10)
Ethylbenzene		< 0.10	(0.10)	< 0.10	(0.10)	< 0.10	(0.10)	< 0.10	(0.10)
m,p-Xylenes		< 0.20	(0.20)	< 0.20	(0.20)	< 0.20	(0.20)	< 0.20	(0.20)
o-Xylene		< 0.10	(0.10)	< 0.10	(0.10)	< 0.10	(0.10)	< 0.10	(0.10)
Total BTEX			N.D.		N.D.		N.D.		N.D.

Eddie L. Clemons, II
QA/QC Manager

XENCO Laboratories

Certificate Of Quality Control for Batch : 18A02B79

SW-846 8015 M TPH-DRO (Diesel)

Date Validated: Jun 23, 1998 14:50
Date Analyzed: Jun 18, 1998 19:36

Analyst: LC
Matrix: Solid

BLANK SPIKE ANALYSIS

Parameter	[A] Blank Result mg/kg	[B] Blank Spike Result mg/kg	[C] Blank Spike Amount mg/kg	[D] Detection Limit mg/kg	[E] QC Blank Spike Recovery %	[F] LIMITS Recovery Range %	[G] Qualifier
Total Petroleum Hydrocarbons	< 10.00	211	200	10.00	105.5	65-135	

Blank Spike Recovery [E] = 100*(B-A)/(C)
N.C. = Not calculated, data below detection limit
N.D. = Below detection limit
All results are based on MDL and validated for QC purposes only

Eddie L. Clemons, II
QA/QC Manager

XENCO Laboratories

Certificate Of Quality Control for Batch : 18A02B79

SW-846 8015 M TPH-DRO (Diesel)

Date Validated: Jun 23, 1998 14:50
Date Analyzed: Jun 18, 1998 23:25

Analyst: LC
Matrix: Solid

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE AND RECOVERY										
Q.C. Sample ID 182238-002	[A] Sample Result	[B] Matrix Spike Result	[C] Matrix Spike Duplicate Result	[D] Matrix Spike Amount	[E] Detection Limit	Matrix Limit Relative Difference	[F] QC Spike Relative Difference	[G] QC Matrix Spike Recovery	[H] QC M.S.D. Recovery	[I] Matrix Spike Recovery Range	[J] Qualifier
Parameter	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	%	
Total Petroleum Hydrocarbons	11.31	198	196	200	10.00	30.0	1.0	93.3	92.3	65-135	

Spike Relative Difference [F] = 200*(B-C)/(B+C)
Matrix Spike Recovery [G] = 100*(B-A)/[D]
M.S.D. = Matrix Spike Duplicate
M.S.D. Recovery [H] = 100*(C-A)/[D]
N.D. = Below detection limit or not detected
All results are based on MDL and validated for QC purposes

Eddie L. Clemons, II
QA/QC Manager

XENCO Laboratories

Certificate Of Quality Control for Batch : 18A25B88

SW- 846 5030/8020 BTEX

Date Validated: Jun 17, 1998 15:30
Date Analyzed: Jun 17, 1998 10:24

Analyst: OL
Matrix: Solid

	BLANK SPIKE ANALYSIS						
Parameter	[A] Blank Result ppm	[B] Blank Spike Result ppm	[C] Blank Spike Amount ppm	[D] Detection Limit ppm	[E] QC Blank Spike Recovery %	[F] LIMITS Recovery Range %	[G] Qualifier
Benzene	< 0.0010	0.1080	0.1000	0.0010	108.0	65-135	
Toluene	< 0.0010	0.0965	0.1000	0.0010	96.5	65-135	
Ethylbenzene	< 0.0010	0.0958	0.1000	0.0010	95.8	65-135	
m,p-Xylenes	< 0.0020	0.2020	0.2000	0.0020	101.0	65-135	
o-Xylene	< 0.0010	0.0992	0.1000	0.0010	99.2	65-135	

Blank Spike Recovery [E] = 100*(B-A)/(C)
N.C. = Not calculated, data below detection limit
N.D. = Below detection limit
All results are based on MDL and validated for QC purposes only

Eddie Clemons
QA/QC Manager

XENCO Laboratories

Certificate Of Quality Control for Batch : 18A25B88

SW- 846 5030/8020 BTEX

Date Validated: Jun 17, 1998 15:30
Date Analyzed: Jun 17, 1998 10:56

Analyst: OL
Matrix: Solid

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE AND RECOVERY										
Q.C. Sample ID 182204- 001	[A] Sample Result	[B] Matrix Spike Result	[C] Matrix Spike Duplicate Result	[D] Matrix Spike Amount	[E] Detection Limit	Matrix Limit Relative Difference	[F] QC Spike Relative Difference	[G] QC Matrix Spike Recovery	[H] QC M.S.D. Recovery	[I] Matrix Spike Recovery Range	[J] Qualifier
Parameter	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	
Benzene	< 0.020	2.020	2.040	2.000	0.020	25.0	1.0	101.0	102.0	65-135	
Toluene	< 0.020	1.748	1.744	2.000	0.020	25.0	0.2	87.4	87.2	65-135	
Ethylbenzene	< 0.020	1.754	1.790	2.000	0.020	25.0	2.0	87.7	89.5	65-135	
m,p-Xylenes	< 0.040	3.680	3.720	4.000	0.040	25.0	1.1	92.0	93.0	65-135	
o-Xylene	< 0.020	1.806	1.824	2.000	0.020	25.0	1.0	90.3	91.2	65-135	

Spike Relative Difference [F] = 200*(B-C)/(B+C)
Matrix Spike Recovery [G] = 100*(B-A)/[D]
M.S.D. = Matrix Spike Duplicate
M.S.D. Recovery [H] = 100*(C-A)/[D]
N.D. = Below detection limit or not detected
All results are based on MDL and validated for QC purposes

Eddie Clemons
QA/QC Manager

XENCO Laboratories

ANALYTICAL CHAIN OF CUSTODY REPORT
CHRONOLOGY OF SAMPLES

K.E.I. Consultants, Inc.

Project ID: 710035-1-0
Project Manager: Theresa Nix
Project Location: Buckeye, NM

Project Name: Buckeye

XENCO COC#: 1-82213
Date Received in Lab: Jun 16, 1998 11:00 by CC
XENCO contact : Carlos Castro/Eddie Clemons

	Field ID	Lab. ID	Method Name	Method ID	Units	Turn Around	Date and Time: Sample Collected	Date and Time: Addition Requested	Date and Time: Extraction	Date and Time: Analysis
1	Section A	182213-001	BTEX	SW-846	ppm	10 days	Jun 10, 1998 08:52		Jun 17, 1998 by OL	Jun 17, 1998 12:00 by OL
2			TPH8015M-D	SW-846 8015 M	mg/kg	10 days	Jun 10, 1998 08:52		Jun 18, 1998 by OG	Jun 18, 1998 20:43 by LC
3	Section B	182213-002	BTEX	SW-846	ppm	10 days	Jun 10, 1998 08:56		Jun 17, 1998 by OL	Jun 17, 1998 12:16 by OL
4			TPH8015M-D	SW-846 8015 M	mg/kg	10 days	Jun 10, 1998 08:56		Jun 18, 1998 by OG	Jun 18, 1998 21:16 by LC
5	Northside Stockpile	182213-003	BTEX	SW-846	ppm	10 days	Jun 10, 1998 09:00		Jun 17, 1998 by OL	Jun 17, 1998 12:33 by OL
6			TPH8015M-D	SW-846 8015 M	mg/kg	10 days	Jun 10, 1998 09:00		Jun 18, 1998 by OG	Jun 18, 1998 21:49 by LC
7	Southside of Stockpile	182213-004	BTEX	SW-846	ppm	10 days	Jun 10, 1998 09:06		Jun 17, 1998 by OL	Jun 17, 1998 12:49 by OL
8			TPH8015M-D	SW-846 8015 M	mg/kg	10 days	Jun 10, 1998 09:06		Jun 18, 1998 by OG	Jun 18, 1998 22:21 by LC

XENCO Laboratories

11381 Meadowglen Suite L Houston, Texas 77082
(713) 589-0692 Fax (713) 589-0695

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Lab. Batch # 182213-SA

Contractor: K.E.I Consultants — Phone: (210) 680-3767

Address: 5309 Wurzbach, Ste. 100 San Antonio, TX 78238

Project Name: Buckeye — Project Director: Mike Hawthorne

Project Location: Buckeye, NM — Project Manager: Theresa Nix

Sampler Signature: Stanley J. Shores — Project No.: 710035-1-0

No. coolers this shipment:

Carrier: UPS

Airbill No.:

Contractor COC # 148

Quote #:

P.O. No.: 710035-1-0

	Field ID	Date	Time	Depth	Soil	Water	Comp	Grab	Container Size	Container Type P, G	Preservative Ice	Preservative Other	Sample Description	No of Containers Total	BTEX (SW846-8020, 5030)	TPH (418.1) EPA Method Modified DRO 8015	Please Hold	Remarks	LAB ONLY ID #
1	Section A	10 June 98	8:52		/		/		9oz		/			1	/	/		Call Daryl Stacey IF you have any Questions: 210-680-3767	1
2	Section B	10 June 98	8:54		/		/		9oz		/			1	/	/		"	2
3	North side stockpile	10 June 98	9:00		/		/		9oz		/			1	/	/		"	3
4	South side of stockpile	10 June 98	9:06		/		/		9oz		/			1	/	/		"	4
5																			5
6																			6
7																			7
8																			8
9																			9
10																			10

SAMPLE CHARACTERIZATION

Preservative: Unl Dies Ker Unknown

Waste Oil

PIT No: Tank No:

Turn-around: * ASAP * 24 hrs 48 hrs (Standard)

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	DATE	TIME
Stanley J. Shores Jr.	June 10, 98	1500			(UPS)
			Received For Laboratory by:	6/16/98	11:00

Remarks: Fax Analytical Results To Daryl Stacey at: 210-680-3767

- BTEX: EPA method SW-846-8020, 5030
- TPH: EPA method Modified DRO 8015

Have any Question Please call Daryl Stacey at: 210-680-3767

Pink (Contractor), Yellow & White (Lab).

* Pre-scheduling is recommended

Precision Analytical Services

QA/QC PROCEDURES

SOIL SAMPLING

Representative soil samples selected for analysis were placed in sterile glass containers equipped with a Teflon-lined lid furnished by the analytical laboratory. The container was filled to capacity with soil to limit the amount of head-space present. The container was labeled and placed on ice in an insulated cooler. The cooler was sealed for shipment to XENCO Laboratories in San Antonio, Texas for determination of the following constituents:

- BTEX concentrations by EPA Method SW846-8020
- TPH concentrations by EPA Method 8015

Proper chain-of-custody documentation was maintained throughout the sampling process.

LABORATORY PROTOCOL

The laboratory was responsible for proper QA/QC procedures. These procedures are either transmitted with the laboratory reports or are on file at the laboratory.

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 S. First
Artesia, NM 88210
District III - (505) 334-6178
) Rio Brazos Road
ec, NM 87410
District IV - (505) 827-7131

New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Form C-1
Originated 8/8

Submit Orig
Plus 1 C
to appropr
District Of

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☑ BY L Price 8/18/98 Verbal Approval Received: Yes ☒ No ☐	4. Generator TNMPLCo.
	5. Originating Site TNM-97-05
2. Management Facility Destination C&C LandFarm Inc.	6. Transporter ALLstate Srv. Env.
3. Address of Facility Operator 2 mi South of Monument N.M.	8. State N.M.
7. Location of Material (Street Address or ULSTR) S-32, T17S, R-35E	

9. Circle One:

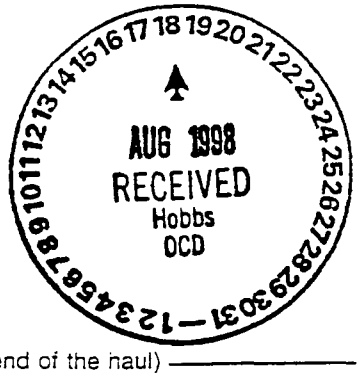
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

(B.) All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.

All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

Crude Oil Affected Soil
Non-Hazardous By Knowledge OF Process Aproval



Estimated Volume 30 cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Jimmie T Cooper Waste Management Facility/Authorized Agent TITLE: President DATE: 8-17-98

TYPE OR PRINT NAME: Jimmie T Cooper TELEPHONE NO. 397-2045

(This space for State Use)

APPROVED BY: _____ TITLE: Envr Engr DATE: 8/18/98

APPROVED BY: _____ TITLE: _____ DATE: _____

CERTIFICATE OF WASTE STATUS

NON-EXEMPT WASTE MATERIAL

Originating Location: Site # TNM-97-05

Source: Crude Oil Pipe Line Spill

Disposal Location: C&C LandFarm Inc. 2mi. South of Monument N.M.

As a condition of acceptance for disposal, I hereby certify that this waste is a non-exempt waste as defined by the Environmental Protection Agency's July 1988 Regulatory Determination. To my knowledge, this waste will either be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous or has been verified non-hazardous due to "Knowledge of Process." I further certify that to my knowledge no "hazardous or listed wastes" pursuant to the provisions of 40 CFR Part 261, Subparts C and D, has been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 261.3 (b).

I, the undersigned as the agent for the Texas-N.M. Pipe Line Co. concur with the status of the waste from the subject site.

NAME John A. Savoie

TITLE/AGENCY Env. Rep.

ADRESS P.O. Box 1030 Jal, N.M. 88252

SIGNATURE J. A. Savoie

DATE 8-13-98