GW - 195

PERMITS, RENEWALS, & MODS Application

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of c	heck No. 1/12/96,				
or cash received on	in the amount of \$ 5600				
from Emran Corp					
for Tetaca Bilbre	2 GW 195				
Submitted by:	o Date:				
Submitted to ASD by: Rallus	Date: 3/25/96				
Received in ASD by: Angela	Herrera Date: 3-29-96				
Filing Fee X New Facility	Renewal				
Modification Other					
·	(squarity)				
Organization Code	Applicable Fy 96				
To be deposited in the Water Quality Management Fund.					
Full Payment or Annual Increment					

ENRON

TRANSWESTERN PIPELINE COMPANY P.O. BOX 1188 HOUSTON, TEXAS 77251-1188

2-20

No.

01/12/96

PAY TO THE ORDER OF

NMED-WATER QUALITY MANAGEMENT OIL CONSERVATION DIVISION 2040 SOUTH PACHECO ST SANTA FE, NM 87504-

\$\$\$\$\$\$\$\$\$\$\$\$50.00

NOT VALID AFTER 80 DAYS

Fifty and 00/100 Dollars

AUTHORIZED SIGNATURE

CITIBANK DELAWARE, A SUBSIDIARY OF CITICORP ONE PENN'S WAY, NEW CASTLE, DE 19720 TRANSWESTERN PIPELINE COMPANY
P.O. BOX 1188
HOUSTON, JEXAS 77251-18-8



01/12/96 co46278 SD 7573 EMSA3

NMED-WATER QUALITY MANAGEMENT
OIL CONSERVATION DIVISION
2040 SOUTH PACHECO ST
SANTA FE, NM
87504

PG 1 OF 1

VENDOR NO. #B22134121 REMITTANCE STATEMENT

VOUCHER	INVOICE DATE	INVOICE NUMBER	PURCHASE ORDER	AMOUNT			
NO.				GROSS	DISCOUNT	NET	
601000710	01/09/96	Z-765-962-739		50.00	0.00	50.00	
SW 195						TOTAL 50.00	
				교교 610 - 192 분주 30 교통 등장 등등 - 등급등 결정 보호 등	불지 보니 왕인 보는 전		
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				시간을 기계하는 등로 취임된 1987년 - 1981년 기계로 보고 의			
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					[편집 시간 : 1 : 토리 (프라이스 12 : 12 : 12 : 12 : 12 : 12 : 12 : 12		

PECIAL INSTRUCTIONS:

MAIL TO: TW 6381 N.MAIN ROSWELL,NM 88201 - OVERNIGHT



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

January 9, 1996

CERTIFIED MAIL RETURN RECEIPT NO. Z-765-962-739

Mr. Larry Campbell Transwestern Pipeline Company 6381 North Main Street Roswell, New Mexico 88201

RE: Discharge Plan Approval GW-195

Texaco Bilbrey Compressor Station

Lea County, New Mexico

Dear Mr. Campbell:

The discharge plan GW-195 for the Transwestern Pipeline Company, Texaco Bilbrey Compressor Station located in Section 4, Township 22 South, Range 32 East, NMPM, Lea County, New Mexico, is hereby approved under the conditions contained in the enclosed attachment. The application consists of the discharge plan dated May 9, 1995, and additional information dated December 15, 1995.

The discharge plan was submitted pursuant to Section 3106 of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 3109.A. Please note Sections 3109.E and 3109.F. which provide for possible future amendments or modifications of the plan. Please be advised the approval of this plan does not relieve you of liability should your operation result in pollution of surface water, ground water, or the environment.

Please be advised that all exposed pits, including lined pits and open tanks (tanks exceeding 16 feet in diameter), shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Mr. Larry Campbell January 9, 1996 Page 2

Please note that Section 3104 of the regulations require "When a facility has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3107.C. you are required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3109.G.4., this plan is for a period of five (5) years. This approval will expire on January 9, 2001, and you should submit an application for renewal in ample time before this date. It should be noted that all discharge plan facilities will be required to submit plans for, or the results of, an underground drainage testing program as a requirement for discharge plan renewal.

The discharge plan application for the Transwestern Pipeline Company, Texaco Bilbrey Compressor Station is subject to WQCC Regulation 3114. Every billable facility submitting a discharge plan will be assessed a fee equal to the filing fee of \$50. There is no flat fee for compressor stations with a combined horsepower of 1000 or less. The New Mexico Oil Conservation Division (OCD) has not received your \$50 filing fee. The \$50 filing fee shall be submitted upon receipt of this approval.

Please make all checks payable to: NMED-Water Quality Management and addressed to the OCD Santa Fe Office.

On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,

William J. LeMay

Director

WJL/mwa Attachment

xc: OCD Hobbs Office

ATTACHMENT TO THE DISCHARGE PLAN GW-195 APPROVAL TRANSWESTERN PIPELINE COMPANY TEXACO BILBREY COMPRESSOR STATION DISCHARGE PLAN REQUIREMENTS (January 9, 1996)

- 1. Payment of Discharge Plan Fees: The \$50 filing fee shall be submitted upon receipt of this approval.
- 2. <u>Transwestern Commitments:</u> Transwestern will abide by all commitments submitted in the application letter dated May 9, 1995, and the additional information letter dated December 15, 1995.
- 3. <u>Drum Storage:</u> All drums containing materials other than fresh water must be stored on an impermeable pad (i.e. concrete, asphalt, or other suitable containment) with curbing. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets should also be stored on an impermeable pad with curbing.
- 4. <u>Below Grade Tanks/Sump:</u> All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks or sumps.
- 5. <u>Above Ground Tanks:</u> All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad.
- 6. <u>Above Ground Saddle Tanks</u>: Above ground saddle tanks must have impermeable type pad and curb containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure. No berms are required for saddle tanks.
- 7. Spills: All spills and/or leaks will be reported to the OCD Santa Fe and Hobbs District Offices pursuant to WQCC Rule 1203 and OCD Rule 116.

- 8. Housekeeping: All systems designed for spill collection/prevention should be inspected to ensure proper operation and to prevent overtopping or system failure.
- 9. Transfer of Discharge Plan: Prior to any transfer of ownership, control, or possession of your facility, the OCD will be notified. A written request must be submitted and approved by the OCD prior to the transaction.
- 10. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

	Z 755 96	2 739				
	Receipt for Certified Mail No Insurance Coverage Provided Do not use for International Mail					
	Sent to					
	Street and No.					
	P.O., State and ZIP Code					
	Postage	\$				
	Certified Fee					
	Special Delivery Fee					
2	Restricted Delivery Fee					
196	Return Receipt Showing to Whom & Date Delivered					
Marc	Return Receipt Showing to Whom, Date, and Addressee's Address					
, ,	TOTAL Postage & Fees	\$				
PS Form 3800, March 1993	Postmark or Date					
בֿ						

Transwestern Pipeline Company

TECHNICAL OPERATIONS
6381 North Main • Roswell, New Mexico 88201

December 15, 1995

Mr. Roger Anderson New Mexico Oil Conservation Division 2040 South Pacheco Santa Fe, New Mexico 87504

Re: Discharge Plan Application Transwestern Pipeline Company, Texaco Bilbrey Compressor

Dear Mr. Anderson:

Enclosed find three (3) copies of a discharge plan application for the above referenced facility. This document is being resubmitted to your agency on behalf of Transwestern Pipeline Company, pursuant to Section 3-106 of the New Mexico Water Quality Control Commission Regulations.

This discharge plan resubmittal includes figures and attachments accidentally omitted from the original submittal of May 9, 1994. Please discard the previous applications and replace them with the enclosed.

I apologize for any inconvenience caused by this resubmittal. If you require any additional information or clarification concerning this discharge plan application, please contact our Roswell Technical Operations at (505) 625-8022.

Sincerely.

Larry Campbell

Division Environmental Specialist

RECEIVED

DEC 2 2 1995

Environmental Bureau
Oil Conservation Division

xc:

Greg McIlwain w/o attachments

Rich Jolly

Merlyn Coffman

file

I. GENERAL INFORMATION

A. Discharger/Legally Responsible Party

Name:

Transwestern Pipeline Company

Attn:

Merlyn Coffman, Team Leader

Mailing Address:

Transwestern Pipeline Company

6381 North Main Street Roswell, New Mexico 88201

(505) 625-8022

B. Local Representative or Contact Person

Larry Campbell, Division Environmental Specialist

C. Location of Discharge

Legal Description:

Township 22 South, Range 32 East, Section 4, Lea County

UTM Zone 13 UTMH 623.720 UTMV 3587.580

A state of New Mexico USGS map of the immediate site vacinity and a plot plan showing location of the compressor station layout and equipment are presented in APPENDIX A.

Note: All onsite routine operational discharges are directed to sumps or above-ground tanks with subsequent transfer offsite for appropriate disposal and/or recycling. This activity is conducted by an appropriate disposal company. No onsite discharges of any liquid or solid are intentionally performed at this location. All waste streams at this facility are segregated and directed into dedicated tanks.

D. Type of Natural Gas Operation

This field compressor station provides compression for the transmission of natural gas in the collected from producing wells in the area. Once compressed at the facility, the natural gas is transported and taken into the 24" mainline system and is delivered to Transwestern's Wt-1 compressor station located approximately 35 miles east of Carlsbad, New Mexico.

E. Copies

Three copies of the discharge plan application are enclosed.

F. Affirmation

I hereby certify that I am familiar with the information contained in and submitted with the application that such information is true, accurate and complete to the best of my knowledge and belief.

Sincerely,

Larry Campbell
Division Environmental Specialist

II. PLANT FACILITIES

- A. Sources and quantities of effluent and plant fluids. For each source, primary quality type (e.g., high TDS water, hydrocarbons, washwater, sewage), estimated quantities, and major additives, if any are provided.
- 1. Scrubbers. The incoming gas stream to this facility contains liquids in the form of natural gas pipeline liquids, or condensate. These entrained liquids are then removed by the operation of the onsite inlet scrubbers. These liquids are then transferred for collection in a 65 bbl. pipeline liquids tank and transferred to the pipeline liquids tank. The volume of pipeline liquids collected on a daily basis is determined by operation of the onsite engine and the flow through volumes of the gas into the facility. However, as a general rule, approximately [<5] gallons/day of pipeline liquids are collected by this system.
- 2. Engine cooling water. The antifreeze/water solution used to cool the engine is stored onsite in a 55 gallon drum.
- 3. Domestic Sewage. Domestic sewage is collected into portable containers and transferred offsite.
- 4. Engine Wash Down Water and Floor Drains: Small quantities of wastewater collected within containment areas from cleaning and washdown operations is allowed to evaporate. Small quantities of water collecting within the containments from rain or snow melt is also allowed to evaporate.
- 5. Waste Engines Oils: Lubrication oil changeouts from the one onsite engine occur during repair or maintenance periods. During periods when this activity occurs, the used oil is removed and transferred to a series of 55 gallon drums and transported to an offsite used oil tank for recycling. Prior to removal from this facility, oil samples are collected and analyzed from the tank for proper recycling or recovered as boiler fuel makeup. Results of this analysis is presented in APPENDIX B.

Chemical materials used in support activities at this location in excess of 55 gallons may include: gear and engine oil, methanol, biodegradable soap and solvent, steam cleaner degreaser. These chemicals are stored in the concrete secondary containments onsite.

B: Quality Characteristics

Presented below are the characteristics of the individual waste streams which are generated on site. All waste streams have been separated and are segregated into dedicated sumps and tanks.

- 1. Pipeline Liquids: Exempt. This material is marketed for burner fuel or recycled into a fuel product.
- 2. Used Engine Oil: Prior to removal from the facility for recycling, this material is sampled as per 40 CFR 266. The results of this analysis is presented in APPENDIX B.
- 3. Oily Wastewater. Not generated.

C. Transfer and Storage of Fluids and Effluent

- 1. Water and wastewater plan schematics are not applicable as there is no individual water treatment units onsite. Liquid wastes are not discharged onsite. All liquids and liquid wastes are temporarily stored in sumps and tanks until they are transferred offsite for recycling and/or disposal.
- 2. Potential surface and groundwater contaminants, which may be discharged within the compressor station would be associated with sumps, above ground storage tanks and connecting ground pipes. Sumps and tanks are visually inspected periodically. All tanks have been engineered to be visually inspected for tank leakage and contained in concrete secondary containment of capacities which equal 150%. This surpasses the OCD requirement for 130 % containment storage.
- a. Pipeline liquids tank 65 bbl. capacity, steel walled; contains liquids received from the scrubber. Liquids are tested periodically and removed from the tank at scheduled intervals for offsite recycling.
 - b. Oil storage tank 750 gallon capacity, containing Citgo Pacemaker 840.
- 3. Underground wastewater pipes, their age and specification are: All underground piping materials are constructed of 0.25 inch schedule 80 grade B seamless steel.
- a. All underground pipes are designed and constructed according to Transwestern's specifications. They are made of coated steel and connected to the facility rectifier system for corrosion control. The existing underground pipes were installed in 1994.

D. Spill/Leak Prevention and Housekeeping Procedures

1. SPCC Plan: Procedures addressing spill containment and cleanup, including proposed schedule for OCD notification of spills will be described in the facility's Spill Prevention Control and Countermeasures (SPCC) plan. This document is permanently filed onsite at the facility. The following contractors are presently used for disposal of the following liquid waste streams:

Used lubrication and gear oil:

Mesa Oil Co. 4701 Broadway SE Albuquerque, New Mexico 87105 (505) 877-8855

Used Oil filters:

Waste Management of Southeast New Mexico 2608 Lovington Highway Hobbs, New Mexico 88240 (505) 392-6571

Other solid waste:

Waste Management of Southeast New Mexico 2608 Lovington Highway Hobbs, New Mexico (505) 392-6571

- 2. Housekeeping: Precipitation and runoff is directed from the station facility. All chemicals and products are contained in concrete secondary containment. Containments have also been constructed around the engine.
- 3. Leak Detection: All aboveground tank systems are visually inspected monthly to detect leaks and ensure tank integrity. Visual sump inspections are performed annually.
- 4. Water Well System: There is no domestic well system onsite. Water used at the facility is brought in portable containers for use.

IV. SITE CHARACTERISTICS

a. Site Features

The approximate 0.10 acre site has approximately 0 feet of relief across the extent of the property. Permanent features which are present on the site include: the engine and tank and containments.

The closest existing residential development is the town of Carlsbad, New Mexico located 35 miles to the west of the facility.

1. Geology: The Texaco Bilbrey Compressor Station is located in southern Lea County, in section 4, T. 22 S., R. 32 E. This area lies within the High Plains subdivision of the Great Plains Physiographic Province. The facility is located on the north side of the Antelope Ridge area. West of the site is a west-facing scarp called The Divide. The Antelope Ridge area consists of a relatively flat, sand covered, surface underlain by consolidated caliche. West of The Divide sand dunes rest unconformily on Triassic rocks.

This region in southern Lea County is within the Delaware basin of the Permian Basin and is underlain by a thick (more than 17,000 feet) stratigraphic sequence containing units ranging in age from Paleozoic through Quaternary. Table 1 shows the units of significance and their general character:

Table 1. Stratigraphic Units in Southern Lea County, New Mexico (1)

Geologic Age Geologic Unit		General Character		
(Quaternary) Recent	Sand	Dune sand, unconsolidated stabilized to drifting, semiconsolidated at depth; fine to medium-grained.		
(Quaternary) Pleistocene	Alluvium	Channel and lake deposits; alternating thickbedded calcareous silt, fine sand, and clay; thickest in San Simon Swale; less than 100 feet thick in most places.		
(Tertiary) Pliocene	Ogallala Formation	Semiconsolidated fine-grained calcareous sand capped with thick layer of caliche; contains some clay, silt, and gravel.		
(Triassic) Dockum group	Chinle Formation	Claystone, red and green; minor fine-grained sandstones and siltstones; underlies all of eastern part of southern Lea County area; thins westward; absent in extreme west.		
(Triassic) Dockum group	Santa Rosa Sandstone	Sandstone, chiefly red but locally white, gray, or greenish-gray; fine- to coarse-grained; exposed in extreme west; underlies Cenozoic rocks in western part of area, and is presen at depth in eastern part.		

The Antelope Ridge area is covered by a stable dune sand cover a few feet thick. The underlying surface is comprised of the hard caliche of the Ogallala or Quaternary Alluvium sediments. The thickness of the flat lying formations (mainly the Ogallala) are dependent on the irregular erosional surface cut into the Triassic rocks. Thickness of the Ogallala ranges from a few feet to more than 100 feet.

Beneath the terrestrial sediments of the Ogallala and Quaternary Alluvium is the Dockum Group of Triassic age. The Dockum Group is mainly a sequence of red beds that is divided into the Chinle Formation and the Santa Rosa Sandstone. The uppermost Chinle Group ranges in thickness from zero to 1,270 feet. It is missing in the western portion of the county where erosion has removed it. The Santa Rosa Sandstone ranges in thickness from 140 to more than 300 feet. In the western portion of the county these Triassic rocks generally dip toward the southeast or east.

Potable ground water is found in the Dockum Group, the Ogallala Formation, and the Quaternary Alluvium. The Santa Rosa Sandstone is the principal aquifer in the western third of the county. This unit is recharged by precipitation on the sand dunes directly overlying the sandstone, precipitation and runoff on to out crops, and ground water flow down through the overlying Ogallala and alluvium. Wells completed in the Dockum Group generally have low because of the low permeability of the formations.

The Ogallala Formation generally produces higher yields and better quality water. In the Grama Ridge area the Ogallala Formation is present but is unsaturated in most areas. If present, ground water is limited to the basal few feet of the formation. Ground water is also produced from Quaternary fill in Triassic surface depressions.

Ground water flow in the Triassic rocks appears to be away from recharge areas, which in this area is to the south and southeast. Ground water flow in the Ogallala Formation follows the surface contour of the Triassic rocks. The only water well in the same township and range as the Compressor Station is located in the southwest quadrant of Section 14. The well, producing from the Santa Rosa Sandstone, measured ground water level at 378 feet below ground surface.

- 2. Soils: Refer to Geology Section.
- 3. Vegetation: The vegetation of the area is typical for the climate and site aspect present at the facility. The potential plant community on this unit is short and mid grasses and shrubs.

A. Hydrologic features

- 1. Bodies of Water: There are no none permanent bodies of water located within one mile of the facility.
- 2. Depth to Groundwater: Refer to Geology Section.
- 3. Water Chemistry: Potable water for the facility is brought in with portable containers.

B. Flood Protection

- 1. Flood Potential: There is no known record or indication of flooding onsite.
- 2. Flood Protection: Secondary containments have been constructed to retain all rainwater collected in tank areas. There have been no onsite hydrocarbon releases to the adjacent undisturbed soils.

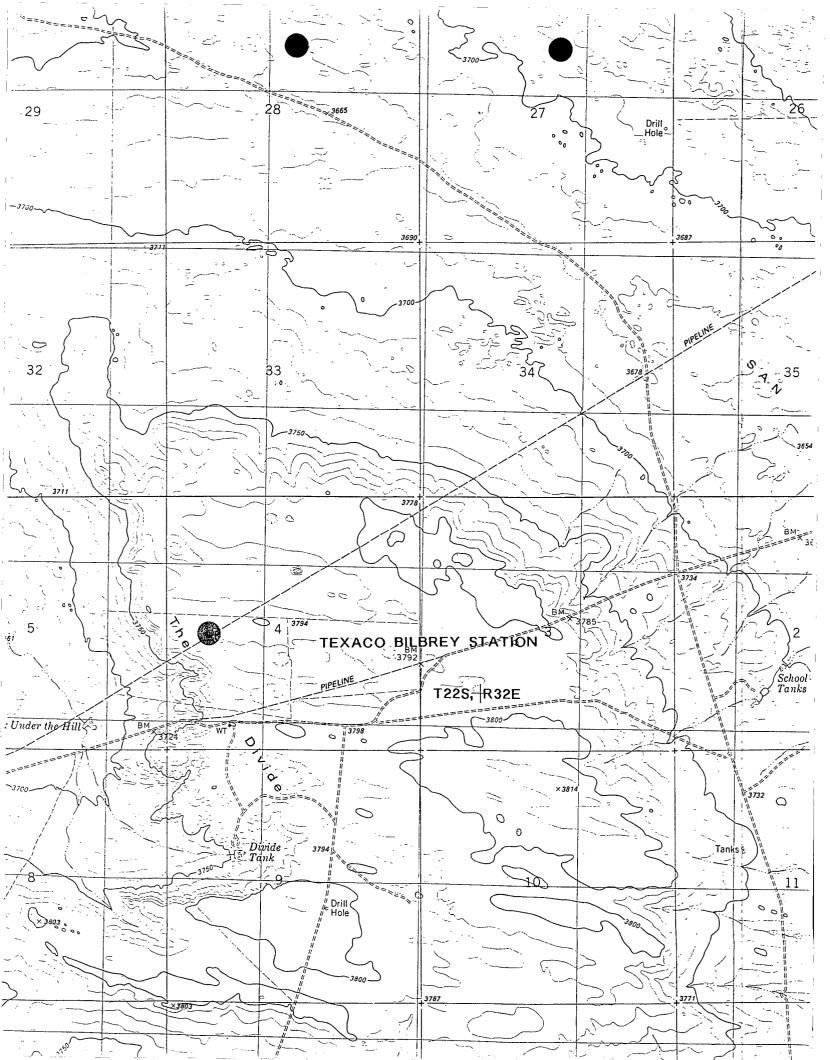
V ADDITIONAL INFORMATION

To be supplied upon request from the Oil Conservation Division.

References

- 1. <u>Geology and Ground Water Conditions in Southern Lea County, New Mexico</u>, by A. Nicholson, Jr. and A. Clebsch Jr., 1961, 123p.
- Mineral and Water Resources of New Mexico, compiled in cooperation with U. S. Geological Survey, State Engineer of New Mexico, New Mexico Oil Conservation Commission, and U.S. Bureau of Mines, 1965, reprinted 1982, 437 p.
- 3. Roadside Geology of New Mexico, by Halka Chronic, 5th printing 1992, 255 p.
- 4. New Mexico State Engineers Office, Roswell, New Mexico.

APPENDIX A MAP AND FACILITY LAYOUT



APPENDIX B WASTE/USED OIL ANALYTICAL RESULTS

TE LABORATORIES, LTD. 2525 SOUTH SHORE BLVD, SUITE 100 LEAGUE CITY, TX 77573 713/334-5052 FAX 713/334-3116

LAB ANALYSIS REPORT

Report Date: SEPT 28 1995

Page # 1

TRANSWESTERN PIPELINE-CARLSBAD NEW MEXIC

Reviewed by:DKP

621 S. Main

Carlsbad

, NM

38220 Job Number:

Attn: Youngblood, Shane

Date Collected:09/10/95

Sample Number: 95005172

Time Collected:0 Sample Type: GRAB

Project Name:

Sample ID: 053 TEXACO BILBERY USED OIL

Date Received: 09/14/95

Test Code	Analyte	Result	Units	Method	Analyst
PCBOX'D PCBO'D PCB10160 PCB12210 PCB12320 PCB12420 PCB12480 PCB12540 PCB12600 DCBP0 TCMX0 TOX'D TOX'S FLSHPT'D PMFLSHPT DICPS'D	Waste Dilution (D/T) PCB Analysis (Date/Time) Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-1260 DCBP (surr) TCMX (surr) TOX Analysis (Date/Time) Total Organic Halogen Flashpoint Analysis(Date/Time Flashpoint, Pensky-Marten ICP Acid Digest.(D/T)	09/21 1100 09/23 0937 < 2 < 2 < 2 < 2 < 2 < 2 < 2 < 2 < 2 < 2	init. init. mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg init. mg/kg init. deg. F init.	Method 	Analyst SAK
ICP'S1'D AsICPs CdICPs	ICP1 Analysis(Date/Time) Arsenic Cadmium	09/22 0939 < 6.1 .72	init. mg/kg mg/kg	6-6010 6-6010 6-6010	EMJ EMJ EMJ
CrICPs	Chromium	< 0.36	mg/kg	6-6010	EMJ

LABORATORIES, LTD. 2525 SOUTH SHORE BLVD, SUITE 100 LEAGUE CITY, TX 77573 713/334-5052 FAX 713/334-3116

LAB ANALYSIS REPORT

Report Date: SEPT 28 1995

Page # 2

Reviewed by:DKP

TRANSWESTERN PIPELINE-CARLSBAD NEW MEXIC

621 S. Main

Carlsbad , NM Attn: Youngblood, Shane

Job Number:

Date Collected: 09/10/95

Time Collected:0 Sample Type: GRAB

Sample Number: 95005172

Project Name:

Date Received: 09/14/95

Sample ID: 053 TEXACO BILBERY USED OIL

Test Code Analyte Result Units Method Analyst

PbICPs Lead

mg/kg 6-6010 EMJ

COMMENTS:

FOOTNOTES: MI - Surrogate recovery is not reportable due to matrix interferences Dil.Fx.- Minimum dilution required to allow acceptable quantitation ppm = mg/L(Liquid), mg/kg(Solid) ppb = ug/L(Liquid), ug/kg(Solid) init = date & time initiated B=found in blank J=>mdl< reporting limit

Preparation and Analysis Method References:

- ASTM: American Society for Testing and Materials, 1984. 1.
- EPA-600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1978 (revised 1983).
- EPA-600/4-82-057, Methods for Organic Chemical Analysis of Municipal & Industrial Wastewater, 1982.
- HACH: Test Methods, accepted by EPA in November, 1983.
- SM: Standard Methods for the Examination of Water and Wastewater, 18th 5. edition.
- SW: SW-846, Test Methods for Evaluation of Solid Waste, Third edition. Update I, July 1992.
- EPA/SW references followed by L refer to accepted minor modifications made to the methods for use with Lachat QuikChem 8000 Autoanalyzer.

