CORRESPONDENCE

MISC.

Z 765 962 527

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES D

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

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PS Form 3800, March 1993

October 27, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-527

Mr. James D. Lutter
Amoco Pipeline Company
West Texas Business Unit
502 N. West Ave.
Levelland, Texas 79336-3914

RE: SPILL REMEDIATION
DENTON FACILITY

Dear Mr. Lutter:

The New Mexico Oil Conservation Division (OCD) has completed a review of Amoco's November 29, 1995 "SPILL REMEDIATION, DENTON FACILITY" and October 10, 1995 "KING DISCHARGE LINE (DENTON FACILITY) SOIL REMEDIATION. These documents present the results of Amoco's remediation of soils contaminated as a result of spills at Amoco's Denton Facility.

The soil remediation activities as contained in the above referenced documents are approved. Please be advised that OCD approval does not relieve Amoco of liability if, in the future, remaining contaminants are found to pose a threat to surface water, ground water, human health or the environment. In addition, OCD approval does not relieve Amoco of responsibility for compliance with any other federal, state or local laws and/or regulations.

In order to simplify the approval process for both Amoco and the OCD, the OCD requests that future remediation reports include the remediation levels achieved in the base of excavated areas and the final contaminant levels of remediated soils.

If you have questions please contact me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price, OCD Hobbs District Office

Amoco Pipeline Company
West Texas Business District
502 N. West Avenue
Levelland, Texas 79336-3914
806-897-7000

November 29, 1995

State of New Mexico
Oil Conservation Division
Environmental Bureau
Mr. William C. Olson, Hydrogeologist
2040 S Pacheco
Santa Fe, New Mexico 87505

Re: Spill Remediation, Denton Facility

Dear Mr. Olson:

Enclosed with this letter is documentation requested in your letter dated October 27, 1995.

1) The spill depth for each of the spills are as follows:

#1. 5'	This spill had been immediately excavated and placed on plastic.
#2. 3'	This spill had been immediately excavated and placed on plastic.
#3. 40"	On site remediation.

2) Soils analysis for the Denton site are attached.

3) Soils analysis for TPH were conducted on site using a Mega-TPH Petroleum Hydrocarbon Analyzer. Specifications are attached. On site analysis results (in ppb) for the remediated soils are documented on the attached form.

Please contact me at 1-806-897-7017 if further information is required.

Sincerely,

James D. Lutter
EH&S Coordinator

cc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price, OCD Hobbs District Office

LUBBOCK CHRISTIAN UNIVERSITY
INSTITUTE OF WATER RESEARCH

5601 19th Street • Lubbock, TX 79407 • P.O. Drawer 16051 • Lubbock, TX 79490-6051
(806) 796-8900 • 1-800-678-8901 • Fax (806) 796-8902

ANALYTICAL RESULTS FOR
AMOCO PIPELINE CO.
ATTN: JIM LUTTER
502 N. W. AVE.
LEVELLAND, TX 79336
FAX TO: 1-897-7045

Receiving Date: 09/27/94
Reporting Date: 10/03/94
Project Number: DENTON # 1, EMPIRE # 2
Project Name: NONE GIVEN
Project Location: DENTON & EMPIRE - NM
Sample ID: JDL092794-1
Lab Number: L3165-1

Analysis Date: 09/30/94
Sampling Date: 09/27/94
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: RKT
Analyzed By: SL

TCLP VOLATILES (ppm)	EPA LIMIT	Detection Limit	Sample Result L3165-1	Method Blank	QC	%IA	True Value QC
Vinyl chloride	0.20	0.001	<0.001	<0.001	49	98	50
1,1-Dichloroethylene	0.70	0.001	<0.001	<0.001	51	102	50
Methyl ethyl ketone	200.00	0.001	<0.001	<0.001	48	96	50
Chloroform	6.00	0.001	<0.001	<0.001	91	182	50
1,2-Dichloroethane	0.50	0.001	<0.001	<0.001	44	88	50
Benzene	0.50	0.001	<0.001	<0.001	50	100	50
Carbon tetrachloride	0.50	0.001	<0.001	<0.001	51	102	50
Trichloroethylene	0.50	0.001	<0.001	<0.001	51	102	50
Tetrachloroethylene	0.70	0.001	<0.001	<0.001	50	100	50
Chlorobenzene	100.00	0.001	<0.001	<0.001	49	98	50
1,4-Dichlorobenzene	7.50	0.001	<0.001	<0.001	49	98	50

	% RECOVERY	RELATIVE PERCENT DIFFERENCE
Dibromofluoromethane	90	8
Toluene - d8	96	1
Bromofluorobenzene	92	6

METHODS: EPA SW-846-8260, 1311.

Jane Huang
Jane Huang, Chemist

10-3-94
Date

LUBBOCK CHRISTIAN UNIVERSITY
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(806) 796-8900 • 1-800-678-8901 • Fax (806) 796-8902

ANALYTICAL RESULTS FOR
AMOCO PIPELINE CO.
ATTN: JIM LUTTER
502 N. W. AVE.
LEVELLAND, TX 79336
FAX TO: 1-897-7045

Receiving Date: 09/27/94
Reporting Date: 10/03/94
Project Number: DENTON # 1, EMPIRE # 2
Project Name: NONE GIVEN
Project Location: DENTON & EMPIRE - NM
Sample ID: JDL092794-2
Lab Number: L3165-2

Analysis Date: 09/30/94
Sampling Date: 09/27/94
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: RKT
Analyzed By: SL

TCLP VOLATILES (ppm)	EPA LIMIT	Detection Limit	Sample Result L3165-2	Method Blank	QC	%IA	True Value QC
Vinyl chloride	0.20	0.001	<0.001	<0.001	49	98	50
1,1-Dichloroethylene	0.70	0.001	<0.001	<0.001	51	102	50
Methyl ethyl ketone	200.00	0.001	<0.001	<0.001	48	96	50
Chloroform	6.00	0.001	<0.001	<0.001	91	182	50
1,2-Dichloroethane	0.50	0.001	<0.001	<0.001	44	88	50
Benzene	0.50	0.001	<0.001	<0.001	50	100	50
Carbon tetrachloride	0.50	0.001	<0.001	<0.001	51	102	50
Trichloroethylene	0.50	0.001	<0.001	<0.001	51	102	50
Tetrachloroethylene	0.70	0.001	<0.001	<0.001	50	100	50
Chlorobenzene	100.00	0.001	<0.001	<0.001	49	98	50
1,4-Dichlorobenzene	7.50	0.001	<0.001	<0.001	49	98	50

	% RECOVERY	RELATIVE PERCENT DIFFERENCE
Dibromofluoromethane	90	8
Toluene - d8	98	1
Bromofluorobenzene	90	6

METHODS: EPA SW-846-8260, 1311.

Jane Huang

Jane Huang, Chemist

10-3-94

Date

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ANALYTICAL RESULTS FOR
AMOCO PIPELINE CO.
ATTN: JIM LUTTER
502 N. W. AVE.
LEVELLAND, TX 79336
FAX TO: 1-897-7045

Receiving Date: 09/27/94
Reporting Date: 10/03/94
Project Number: DENTON # 1, EMPIRE # 2
Project Name: NONE GIVEN
Project Location: DENTON & EMPIRE - NM

Sampling Date: 09/27/94
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: RKT
Analyzed By: SL

LAB NUMBER	SAMPLE ID	BENZENE (ppb)	TOLUENE (ppb)	ETHYLBENZENE (ppb)	TOTAL XYLENES (ppb)
ANALYSIS DATE		09/27/94	09/27/94	09/27/94	09/27/94
L3165-1	JDL092794-1	7.0	17.6	25.9	97.3
L3165-2	JDL092794-2	5.3	14.2	20.3	73.3
Quality Control		87.8	79.7	73.5	239.5
True Value QC		86.8	85.3	85.0	250.1
% Accuracy		101	94	86	96
Relative Percent Difference		0	2	6	7

METHOD: EPA SW 846-8020, 5030, Gas Chromatography

Jane Huang
Jane Huang, Chemist

10-3-94
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

BTEX ANALYSIS REPORT

Company: Amoco Pipeline Co. Date: 11/10/95
Address: 302 E. Ave A Lab #: H2283
City, State: Lovington, NM 88260

Project Name: King Discharge Line
Location: not given
Sampled by: JH Date: 11/8/95 Time: 1300
Analyzed by: MI Date: 11/9/95 Time: 2217
Sample Type: Soil Sample Condition: Intact Units: ppm

Samp #	Field Code	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE
1	King Discharge Line	0.066	0.036	0.086	0.016	0.020	0.075
	QC Recovery	0.790	0.755	0.919	0.850	0.782	0.783
	QC Spike	0.872	0.858	0.856	0.844	0.854	0.844
	Accuracy	90.4%	87.9%	107.2%	100.6%	91.5%	92.7%
	Air Blank	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY
- EPA SW-846; 8020

Mitch Irvin

11/10/95
Date

gac GENERAL ANALYSIS CORPORATION

Mega-TPH PETROLEUM HYDROCARBON ANALYZER INSTRUCTION MANUAL*

October, 1992

* Applicable to Mega-TPH Analyzers with S/N: 1139 and higher.

140 Water Street, Box 528 • South Norwalk, Connecticut 06856-0528 • (203) 852-8999 • Fax: (203) 838-1551 • Telex: 4933096

OPERATING INSTRUCTIONS FOR THE MEGA-TPH ANALYZER

A. DESCRIPTION

1. INSTRUMENT DESCRIPTION

The Mega-TPH Analyzer is a wavelength-specific, dual channel, portable infrared filtometer.

The analytical wavelength used to quantify Total Petroleum Hydrocarbons is 3.4 µm as is specified in EPA Method 418.1, "Petroleum Hydrocarbons, Total Recoverable".[1] The reference wavelength, which is out of the C-H stretch band, provides a signal which is constantly ratiod against the analytical signal for increased electronic stability.

The sample cells are standard quartz transmission cuvettes with a 10 mm pathlength for low TPH concentration, and 1 mm pathlength for high TPH concentrations. The 1 mm cells are used with a metal spacer, manually inserted into the sample cell chamber.

The Mega-TPH Analyzer is factory calibrated with EPA Method 418.1 Reference Oil. The low range is calibrated with 0-1,000 mg/l TPH; the high range is calibrated in the range of 0-10,000 mg/l TPH. Calibration accuracy is ± 7.5%.

With a 10:1 dilution, the sample extract can be analyzed in the range of 0-100,000 mg/l (10%) TPH. If needed, subsequent dilutions can expand the range even further. Such dilutions must have the following equation applied to the digital read-out to correct for concentration differences:

$$C = R \frac{V}{W}$$

where R = instrument read-out in mg/l
V = solvent volume in ml
w = sample weight in grams
C = concentration of TPH in mg/l

The Analyzer can be operated from any 12 volt DC source capable of supplying at least 1 amp such as a battery pack or automobile battery. It can also operate from standard AC power in the laboratory using an adapter that is supplied as standard equipment.

---

[1] "The Manual of Methods for Chemical Analysis of Water and Wastes", Environmental Monitoring and Support Lab, Environmental Research Center, Cincinnati, OH 45268.

B. OPERATING PRINCIPLES

1. INFRARED THEORY

The Mega-TPH Analyzer is based on infrared absorption, a measuring technique long used in laboratories to identify and quantify materials. Most materials have characteristic infrared spectra, i.e. they absorb infrared energy at certain frequencies called absorption bands. It is possible to compute the concentration of each of the materials by measuring the intensity of the characteristic infrared absorption bands.

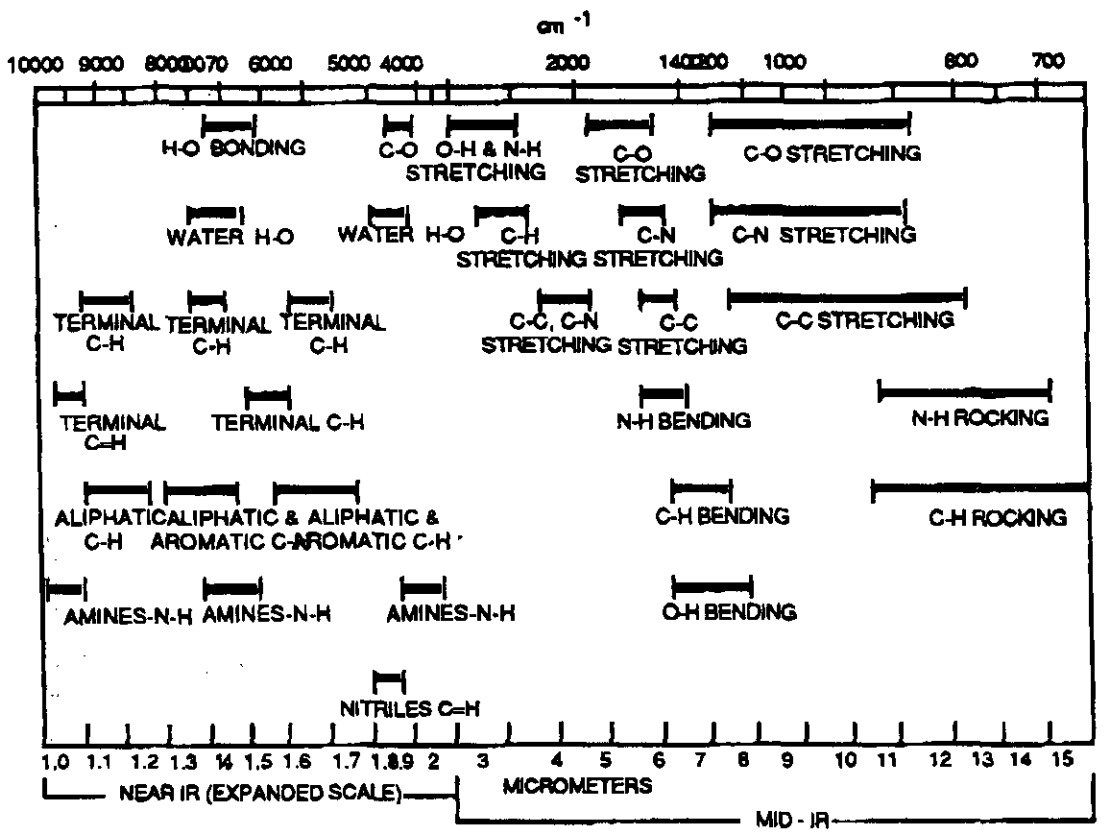


Figure B.1: Infrared Functional Group Chart

The computation to determine concentration from the absorption measurement is based upon the Beer-Lambert law, which states that concentration is directly proportional to the absorbance of the sample when the optical pathlength is held constant.

$$A = abc = -\log (I/I_o)$$

A = Absorbance
I = % Transmission with Sample
I_o = % Transmission without Sample
a = Absorption coefficient
b = Sample Pathlength
c = Sample Concentration

2. OPTICAL SYSTEM

The optical system of the Mega-TPH is shown below.

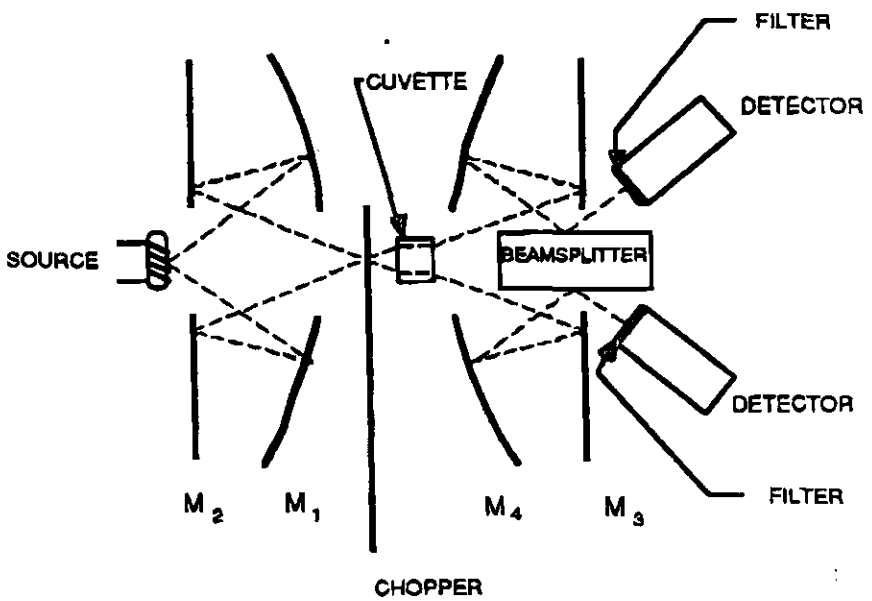


Figure B.2: Optical System

A pair of short-focal-length, large aperture mirrors collect radiation from a glowing wire source. A chopper, driven by a clock motor (the only moving part in the instrument), chops all of the beams simultaneously as they are focused into the quartz cuvette. The radiation exiting the cuvette is collected by a pair of mirrors and split into segments - one for the reference wavelength and one for the analytical wavelength. Each segment is focused on an individual detector which has an infrared filter as its window.

The output from the analytical detector is fed to two linearizer boards - one for the HIGH range and one for the LOW range. In this way, the signal to each range can be optimally linearized during factory calibration.

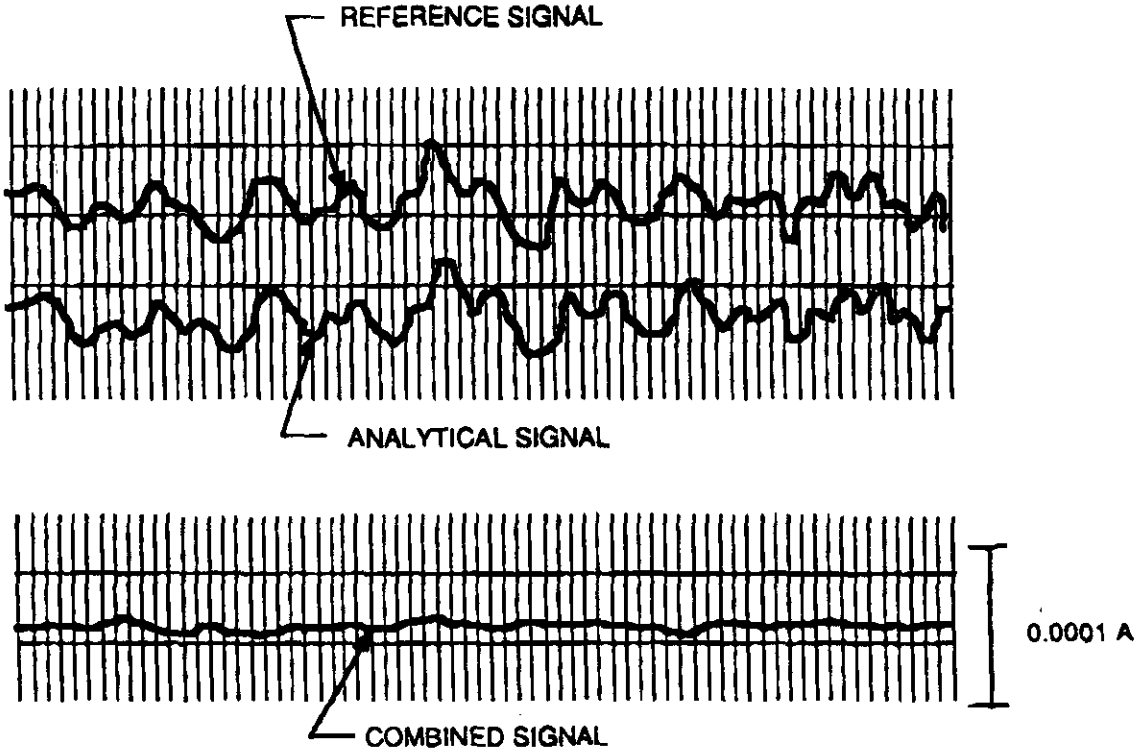


Figure B.3: Noise Reduction from Simultaneous Beam Chopping

The large aperture, equivalent to f/0.6, results in very high energy throughput. This, plus the fact that the reference detector and analytical detector see radiation from the source at exactly the same instant of time act to cancel out short-term source variations, and produce an exceptionally high signal-to-noise ratio with very little drift (Fig. B.3).

OIL CONSERVATION DIVISION
2040 S. Pacheco
Santa Fe, New Mexico 87505

October 27, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-499

Mr. James D. Lutter
Amoco Pipeline Company
West Texas Business Unit
502 N. West Ave.
Levelland, Texas 79336-3914

RE: SPILL REMEDIATION
DENTON FACILITY

Dear Mr. Lutter:

The New Mexico Oil Conservation Division (OCD) has reviewed Amoco's October 10, 1995 "KING DISCHARGE LINE (DENTON FACILITY) SOIL REMEDIATION. This document presents the results of Amoco's remediation of soils contaminated as a result of spills at Amoco's Denton Facility.

The soil remedial activities appear satisfactory. However, in order to complete a review of this document the OCD has the following comments and requests for information:

1. The document does not contain any information on the vertical extent of contamination related to the spills. Please provide the OCD with this information.

2. Please provide the OCD with benzene, toluene, ethylbenzene and xylene (BTEX) concentrations of the remediated soils.

   NOTE: The OCD's "Guidelines For Remediation Of Leaks, Spills And Releases" allows a field soil vapor headspace measurement of 100 parts per million or less to be substituted for a laboratory analysis of the benzene and BTEX recommended remediation levels.

3. Please provide the OCD with the total petroleum hydrocarbons (TPH) laboratory analysis sheets for the analyses referenced in the report.

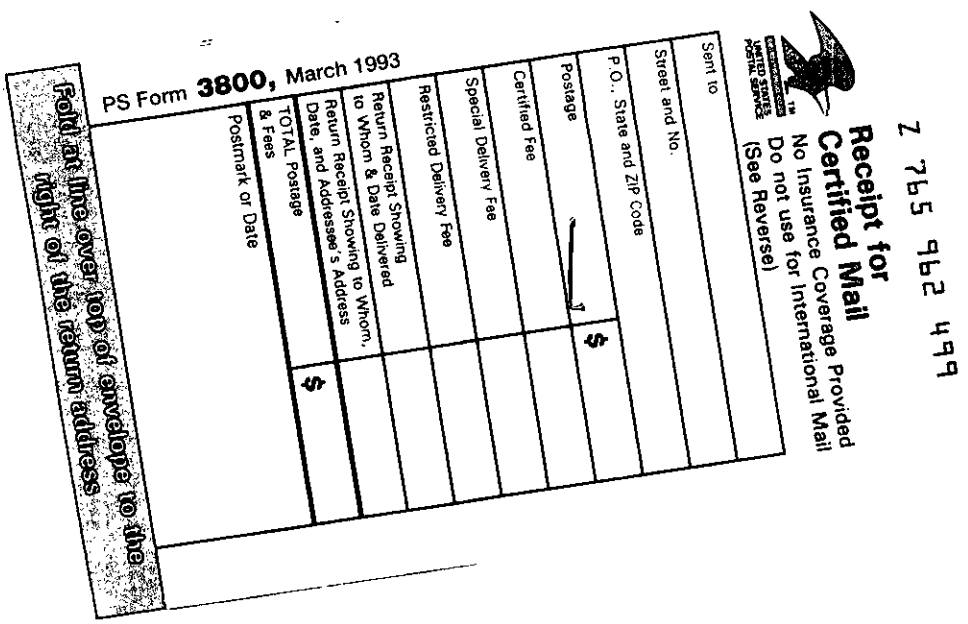
Submission of the above information will allow the OCD to complete a review of the above referenced document.

If you have question please contact me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price, OCD Hobbs District Office



NMOCD Inter-Correspondence

To: Gary Wink-NMOCD District I

From: Wayne Price-Environmental Engineer District I

Date: October 20, 1995

Reference: Amoco Pipe Line

Subject: Denton Gathering spill report (attached)

Comments:

Gary, I received the final remediation report (attached) from Amoco-Jim Lutter. If you don't mind could you have one of your field rep's go by and confirm.

I have sent Bill Olson the original since he originally signed the C-103 and copied Karen Sharp so she can close it out in the spill report file.

Thanks!

cc: Jerry Sexton-District I Supervisor
Bill Olson-Santa Fe

Attachments-2