



February 21, 1994

Ms. Barbara Pope
Southwestern Refining Company, Inc.
P.O. Box 9217
Corpus Christi, Texas 78469-9217

Dear Ms. Pope:

Enclosed is written confirmation of analytical results for the five air samples, numbers 94010, 94011, 94012, 94013, and 94014, received at our laboratory at 10:00 a.m. on Friday, February 18, 1994.

Calculations of f/cc are based solely on the volumes supplied by Southwestern Refining Company. Envirotest Inc. assumes no responsibility for whether the supplied samples accurately represent the regulated area nor for any subsequent use or interpretations of the analytical results.

The air sample analyses were performed in our Houston laboratory by NIOSH 582-certified personnel with a Nikon Alphaphot microscope equipped with 400X magnification, Walton-Beckett graticule, and positive phase contrast. The NIOSH 7400 method was used. Envirotest, Inc. is licensed by the Texas Department of Health (#30-0005) for asbestos laboratory analysis.

This report and the findings contained herein shall not, in whole or in part, be altered, dispersed, or disclosed to any other party. It is provided for your sole use and may not be used or relied upon by any other party, in whole or in part, without prior written consent from Envirotest, Inc.

If you have any questions regarding the sample analyses, please call. We appreciate the opportunity to be of service to Southwestern Refining Company, Inc.

Sincerely,

Daniel J. Gerhardt, C.P.G.
President
Envirotest, Inc.

DJG/ajf

1B 047143

Envirotest, Inc. Laboratory Air Sample Analysis Report

SOUTHWESTERN REFINING COMPANY, INC.

RECD: FEBRUARY 18, 1994

ANALYZED BY : AJF

SAMPLE #	FLOW L/M	TIME MIN.	VOLUME LITERS	NUMBER FIELDS	NUMBER FIBERS	BLANK COUNT	F/MM2	F/CC
94010	.00	0	48.9	100	2.0	.00	8.9	< .070
94011	.00	0	42.0	100	1.0	.00	8.9	< .082
94012	.00	0	89.6	100	3.0	.00	8.9	< .038
94013	.00	0	77.0	100	1.5	.00	8.9	< .045
94014 FIELD BLANK	.00	0	.0	100	.0	.00	.0	.000

IN ANALYTICAL REQUEST

Client:

Southwestern Refining Company, Inc.

P. O. Box 9217

Corpus Christi, TX 78469

Case No:

Date Recd:

Shipment Method:

Del. agent:

Rec. agent:

Investigation: BTX - Chem Whse

[illegible]

Report Comments: _____

SWRf/Asbestos 1282

File Comments:

1B 047145

Dept Insulation
Site Corpus Christi
Area BTR

KERR MCGEE REFINING CORPORATION
INDUSTRIAL HYGIENE DATA FORM

Accession _____
File No. 93-0441
Stall Use _____

ID										CAS Registry Code No.										K										Yr.										Mo.										Day										Sheet No.																																																																																																													
1 2 3										11 12 13 14										15 16 17 18										19										24																																																																																																																																	
Elapsed										Time, Min										MFE										L/G										Concentration										U										P										Parameter										Prot										No																																																																															
S										T										D										Time, Min										MFE										L/G										Concentration										U										P										Parameter										Prot										No																																																											
25										26										27										28										30										31										32										33										37										38										39										40										44										45										46										47										49									
X										Site Locator Codes										SSN										50										51										55										60										65										70										71										75										80																																																											

FOR SITE USE

Monitoring For: Asbestos

(Common Chemical Name)

IN: _____ Person Sampled Welford, Ray
(Site Designation) (Last Name) (First) (Initial)

DATA/OBSERVATIONS

Protective Equipment Used resp (N2 fac)
Sample No. 9400 Avg Temp. 66 Avg Air Press. _____ Predominant Wind Direction SE Avg Speed 14
Sampler Pump/Make MSA Model Flow Lite Ser. No. 7961 No. _____
Calibration Method _____ Reference _____ By Nancy Logue Date _____

PUMP SETTING		ELAPSED		CALIBRATED FLOW RATE		VOLUME SAMPLED, LITERS	
Start	Stop	Min.	Strokes	Vol/Min	Vol/Stroke	Uncorrected	Corrected
0906	0936	30		1.63			48.90

Sampling Method _____ Reference _____ Precision _____ Accuracy _____

Make _____ Model _____ Adsorbent _____ Lot No. _____

Anal. Method _____ Reference _____ Precision _____ Accuracy _____

Anal. Equip _____ Manufacturer _____ Model _____ Ser. No. _____

Analytical				Results		
No	Reference	Analyst	Analyte	Mass/No Particles	Concentration	Units
					0.070	f/cc

CALCULATIONS: (Additional data, remarks, etc.)

Pump Calibration $X = 60 \text{ sec} \times \# \text{ ml}$

sec

Please Retain Pink Copy for Your Records
Please Do Not Pull Form Set Apart

Investigator (Signature) B. Pope Date 2-8-94

Received by (Signature) _____ Date/Time _____

Completed by (Signature) _____ Date/Time _____

CODES

K-Monitoring Standard
A-8 Hour TWA
B-12 Hour TWA
C-Short Term TWA
D-Instantaneous Peak
E-Duration of Task
O-Other

S-Sample
A-General Area
B-Breathing Zone
C-Continuous
H-Blood (Z2 only)
O-Other
P-Personal
S-Source Sample
U-Urinalysis (Z2 only)

T-Type
F-Full Period Single
G-Series Grab
L-Full Period Consecutive
O-Other
P-Partial Period
S-Single Grab

D-Device
A-Absorption Tube
B-Passive Dosimeter
D-Direct Instrument
F-Filter
G-Grab Sample
I-Impinger/Bubbler
O-Other
R-Filter, Respirable Dust
T-Detector Tube

U-Unit
B-Billion
C-Cubic
D-Decibels
J-jg/100 g blood (Z2 only)
K-kg/ml (urine Z2 only)
L-kg/ml (urine Z2 only)
M-Million
O-Other
P-Percent
U-gm3
X-mgm3

P-Statistic
G-Geometric Mean and Geometric Std. Dev
L-50 Percentile and 95th Percentile
O-Other
X-Arithmetic Mean and Std. Deviation

Protective Equipment
A-Air Supplied Respirator, Continuous Flow
B-Air Supplied Respirator, Demand
E-Cover All Goggles
F-Face Shield
G-Imperious Goggles
H-Air Supplied Respirator, Pressure Demand
I-Hearing Protection-Inserts
J-Imperious Suit-Not Air Supplied
M-Hearing Protection-Muffs
N-None Required
O-Other
P-Air Purifying Respirator, Full Face
Q-Air Purifying Respirator, Half Face
R-Air Purifying Respirator, Quarter Face
S-Self-Contained Respirator, Pressure Demand
T-Self-Contained Respirator, Demand
U-Imperious Suit-Air Supplied
V-Power Air Purifying Respirator
W-Disposable Respirator-Dust

M-Measured Value
E-Estimated Value
L-Less Than
G-Greater Than

Dept Insulation
Site Corpus Christi
Area BTX

KERR MCGEE REFINING CORPORATION
INDUSTRIAL HYGIENE DATA FORM

Accession _____
File No. 93-0441
Site Use _____

ID		CAS Registry Code No.		K	Yr.	Mo.	Day	Sheet No.	
				E	94	02	08		
1 2 3		11 12 13 14		15 16 17 18		19		24	
Elapsed		Time, Min		MFE	L/G	Concentration	U	P	Parameter Value
S T D		30					C		
25 26 27 28		31 32 33		37 38 39		44 45 46		47 49	
X		Site Locator Codes		SSN					
50		51		55		60		65	
								70 71 75 80	

CODES
K—Monitoring Standard
A—8 Hour TWA
B—12 Hour TWA
C—Short Term TWA
D—Instantaneous Peak
E—Duration of Task
O—Other
S—Sample
A—General Area
B—Breathing Zone
C—Continuous
H—Blood (ZZ only)
O—Other
P—Personal
S—Source Sample
U—Urinalysis (ZZ only)
T—Type
F—Full Period Single
G—Series Grab
L—Full Period, Consecutive
O—Other
P—Partial Period
S—Single Grab
D—Device
A—Adsorption Tube
B—Passive Dosimeter
D—Direct Instrument
F—Filter
G—Grab Sample
H—Impinger/Bubbler
O—Other
R—Filter, Respirable Dust
T—Detector Tube
U—Units
B—Parts/ Billion
C—Fiber/cm
D—Decibels
J—µg/100 g (blood ZZ only)
K—µg/mL (urine ZZ only)
L—µg/mL (urine ZZ only)
M—Parts/Million
O—Other
P—Percent
U—µm³
X—mg/m³
P—Statistical Parameter
G—Geometric Mean and Geometric Std. Dev
L—50 Percentile and 95th Percentile
O—Other
X—Arithmetic Mean and Std. Deviation

FOR SITE USE

Monitoring For: Asbestos

(Common Chemical Name)

IN: _____ Person Sampled Area
(Site Designation) (Last Name) First Initial

DATA/OBSERVATIONS

Protective Equipment Used _____

Sample No. 94010 Avg Temp. 66 Avg Atm Press. _____ Predominant Wind Direction SE Avg Speed 14
Sampler MSA Model Flow Life Ser. No. 8027 No. _____
Pump Make _____ Calibration Method _____ Reference _____ By Nancy Lodge Date 2-8-94

PUMP SETTING		ELAPSED		CALIBRATED FLOW RATE		VOLUME SAMPLED, LITERS	
Start	Stop	Min	Strokes	Vol/Min	Vol/Stroke	Uncorrected	Corrected
0905	0935	30		1.40			42.00

Sampling Method _____ Reference _____ Precision _____ Accuracy _____
Make _____ Model _____ Adsorbent _____ Lot No. _____
Anal. Method _____ Reference _____ Precision _____ Accuracy _____
Anal. Equip. _____ Manufacturer _____ Model _____ Ser. No. _____

Analytical				Results		
No	Reference	Analyst	Analyte	Mass/No Particles	Concentration	Units
					40.082	PCC

CALCULATIONS: (Additional data, remarks, etc.)

Pump Calibration $X = 60 \text{ sec} \times \# \text{ ml}$

sec

Please Retain Pink Copy for Your Records
Please Do Not Pull Form Set Apart

Investigator (Signature) B. Pope Date 2-8-94
Received by (Signature) _____ Date/Time _____
Completed by (Signature) _____ Date/Time _____

Protective Equipment worn
A—Air Supplied Respirator, Continuous Flow
B—Air Supplied Respirator, Demand
E—Cover All Goggles
F—Face Shield
G—Impervious Gloves
H—Air Supplied Respirator, Pressure Demand
I—Hearing Protection—Inserts
J—Impervious Suit—Not Air Supplied
M—Hearing Protection—Muffs
N—None Required
O—Other
P—Air Purifying Respirator, Full Face
Q—Air Purifying Respirator, Half Face
R—Air Purifying Respirator, Quarter Face
S—Self-Contained Respirator, Pressure Demand
T—Self-Contained Respirator, Demand
U—Impervious Suit—Air Supplied
V—Power Air Purifying Respirator
W—Disposable Respirator—Dust

M—Measured Value
E—Estimated Value
L—Less Than
G—Greater Than

Dept Insulation
Site Carpus Christi
Area Chrom Whse

KERR MCGEE REFINING CORPORATION
INDUSTRIAL HYGIENE DATA FORM

Accession _____
File No. 93-0441
Site/Use _____

ID		CAS Registry Code No.		K	Yr.	Mo.	Day	Sheet No.	
				E	94	02	08		
1 2 3		11 12 13 14		15 16 17 18		19		24	
Elapsed									
S	T	D	Time, Min	MFE	L/G	Concentration	U	P	Parameter Value
B	O	K							
25	26	27	28	30	31	32	33	37	38
Site Locator Codes									
SSN									
453-23-1404									
50 51 55 60 65 70 71 75 80									

- CODES
- K—Monitoring Standard
- A—8 Hour TWA
- B—12 Hour TWA
- C—Short Term TWA
- D—Instantaneous Peak
- E—Duration of Task
- O—Other
- S—Sample
- A—General Area
- B—Breathing Zone
- C—Continuous
- H—Blood (ZZ only)
- O—Other
- P—Personal
- S—Source Sample
- U—Urinalysis (ZZ only)
- T—Type
- F—Full Period Single
- G—Series Grab
- L—Full Pd. Consecutive
- O—Other
- P—Partial Period
- S—Single Grab
- D—Device
- A—Adsorption Tube
- B—Passive Dosimeter
- D—Direct Instrument
- F—Filter
- G—Grab Sample
- I—Impinger/Bubbler
- O—Other
- R—Filter, Respirable Dust
- T—Detector Tube
- U—Units
- B—Parts/Billion
- C—Fiber/cm³
- D—Decibels
- J— μ g/100 g blood (ZZ only)
- K— μ g/mL (urine ZZ only)
- L— μ g/mL (urine ZZ only)
- M—Parts/Million
- O—Other
- P—Percent
- U—gm/3
- X—mg/m³
- P—Statistical Parameter
- G—Geometric Mean and Geometric Std. Dev
- L—50 Percentile
- O—Other
- X—Arithmetic Mean and Std. Deviation

FOR SITE USE

Monitoring For: Asbestos

(Common Chemical Name)

By: _____ Person Sampled Arden Wolfard Roy
(Site Designation) (Last Name First Initial)

DATA/OBSERVATIONS

Protective Equipment Used Disp. Coveralls, 1/2 face resp.

Sample No. 94012 Avg Temp. 66 Avg Air Press. _____ Predominant Wind Direction SE Avg Speed 14
Sampler Pump/Make MISA Model Flow 1.4 Ser. No. 7761 No. _____
Calibration Method _____ Reference _____ By Nancy Legue Date 2-8-94

PUMP SETTING		ELAPSED		CALIBRATED FLOW RATE		VOLUME SAMPLED, LITERS	
Start	Stop	Min.	Strokes	Vol/Min	Vol/Stroke	Uncorrected	Corrected
1015	1110	55		1.63			89.65

Sampling Method _____ Reference _____ Precision _____ Accuracy _____
Make _____ Model _____ Adsorbent _____ Lot No. _____
Anal. Method _____ Reference _____ Precision _____ Accuracy _____
Anal. Equip _____ Manufacturer _____ Model _____ Ser. No. _____

Analytical				Results		
No	Reference	Analyst	Analyte	Mass/No Particles	Concentration	Units
					40.038	f/cc

CALCULATIONS: (Additional data, remarks, etc.)

Pump Calibration X = 60 sec x # ml

sec

Please Retain Pink Copy for Your Records
Please Do Not Pull Form Set Apart

Investigator (Signature) B. Roy Date 2-8-94
Received by (Signature) _____ Date/Time _____
Completed by (Signature) _____ Date/Time _____

- Protective Equipment
- A—Air Supplied Respirator, Continuous Flow
- B—Air Supplied Respirator, Demand
- E—Cover All Goggles
- F—Face Shield
- G—Impervious Gloves
- H—Air Supplied Respirator, Pressure Demand
- I—Hearing Protection—Inserts
- J—Impervious Suit—Not Air Supplied
- M—Hearing Protection—Muffs
- N—None Required
- O—Other
- P—Air Purifying Respirator, Full Face
- Q—Air Purifying Respirator, Half Face
- R—Air Purifying Respirator, quarter Face
- S—Self-Contained Respirator, Pressure Demand
- T—Self-Contained Respirator, Demand
- U—Impervious Suit—Air Supplied
- V—Power Air Purifying Respirator
- W—Disposable Respirator—Dust
- M—Measured Value
- E—Estimated Value
- L—Less Than
- G—Greater Than

Dept Insulation
Site Copper Christi
Area Chrom. Whse

KERR MCGEE REFINING CORPORATION
INDUSTRIAL HYGIENE DATA FORM

Accession _____
File No. 93-041
Site Use _____

ID	CAS	Registry	Code No.	K	Yr.	Mo.	Day	Sheet No.								
				E	94	08	08									
1	2	3		11	12	13	14	15	16	17	18	19	24			
Elapsed																
S	T	D	Time, Min	MFE	L/G	Concentration	U	P	Parameter Value	Prot Equip.	No	Samp.				
4	0	F					C									
25	26	27	28	30	31	32	33	37	38	39	40	44	45	46	47	49
Site Locator Codes																
X														SSN		
50	51	55				60	65	70	71	75				80		

CODES
K—Monitoring Standard
A—1 Hour TWA
B—12 Hour TWA
C—Short Term TWA
D—Instantaneous Peak
E—Duration of Task
O—Other
S—Sample
A—General Area
B—Breathing Zone
C—Continuous
H—Blood (ZZ only)
O—Other
P—Personal
S—Source Sample
U—Urinalysis (ZZ only)

T—Type
F—Full Period Sample
Q—Series Grab
L—Full Pct. Consecutive
O—Other
P—Partial Period
S—Single Grab

D—Device
A—Aspiration Tube
B—Passive Dosimeter
D—Direct Instrument
F—Filter
G—Grab Sample
I—Impinger/Bubbler
O—Other
R—Filter, Respirable Dust
T—Detector Tube

U—Units
B—Parts/Billion
C—Fiber/cm
D—Decibels
J— $\mu\text{g}/100 \text{ g blood}$ (ZZ only)
K— $\mu\text{g}/\text{ml}$ (urine ZZ only)
L— $\mu\text{g}/\text{ml}$ (urine ZZ only)
M—Parts/Million
O—Other
P—Percent
U— g/m^3
X— mg/m^3

P—Statistical Parameter
G—Geometric Mean and Geometric Std. Dev
L—50 Percentile and 95th Percentile
O—Other
X—Arithmetic Mean and Std. Deviation

Protective Equipment
A—Air Supplied Respirator, Continuous Flow
B—Air Supplied Respirator, Demand
E—Cover All Goggles
F—Face Shield
G—Impervious Gloves
H—Air Supplied Respirator, Pressure Demand
I—Hearing Protection—Inserts
J—Impervious Suit—Not Air Supplied
M—Hearing Protection—Muffs
N—None Required
O—Other
P—Air Purifying Respirator, Full Face
Q—Air Purifying Respirator, Half Face
R—Air Purifying Respirator, Quarter Face
S—Self-Contained Respirator, Pressure Demand
T—Self-Contained Respirator, Demand
U—Impervious Suit—Air Supplied
V—Power Air Purifying Respirator
W—Disposable Respirator—Dust

M—Measured Value
E—Estimated Value
L—Less Than
G—Greater Than

FOR SITE USE

Monitoring For: Asbestos

(Common Chemical Name)

IN: _____ Person Sampled to Area
(Site Designation) (Last Name) First Initial

DATA/OBSERVATIONS

Protective Equipment Used _____

Sample No. 94013 Avg Temp. 66 Avg Atm Press. _____ Predominant Wind Direction SE Avg Speed 14
Sampler MSA Model Flow Life Ser. No. _____ No. _____
Calibration Method _____ Reference _____ By B. Pope Date 2-8-94

PUMP SETTING		ELAPSED		CALIBRATED FLOW RATE		VOLUME SAMPLED, LITERS	
Start	Stop	Min.	Strokes	Vol/Min	Vol/Stroke	Uncorrected	Corrected
1015	1110	55		1.40			77.00

Sampling Method _____ Reference _____ Precision _____ Accuracy _____
Make _____ Model _____ Adsorbent _____ Lot No. _____
Anal. Method _____ Reference _____ Precision _____ Accuracy _____
Anal. Equip. _____ Manufacturer _____ Model _____ Ser. No. _____

Analytical				Results		
No	Reference	Analyst	Analyte	Mass/No. Particles	Concentration	Units
					10.095	PFCC

CALCULATIONS: (Additional data, remarks, etc.)

Pump Calibration $X = 60 \text{ sec} \times \# \text{ ml}$

sec

Please Retain Pink Copy for Your Records
Please Do Not Pull Form Set Apart

Investigator (Signature) B. Pope Date 2-8-94
Received by (Signature) _____ Date/Time _____
Completed by (Signature) _____ Date/Time _____

Dept _____
Site _____
Area _____

KERR MCGEE REFINING CORPORATION INDUSTRIAL HYGIENE DATA FORM

Accession _____
File No. 93-0441
Site Use _____

ID	CAS Registry Code No.	K	Yr.	Mo.	Day	Sheet No.										
			<u>09</u>	<u>02</u>	<u>08</u>											
1	2	3	11	12	13	14	15	16	17	18	19	24				
Elapsed																
S	T	D	Time, Min	MFE	L/G	Concentration	U	P	Parameter Value	Prot Equip.	No	Samp.				
<u>0</u>	<u>0</u>	<u>0</u>														
25	26	27	28	30	31	32	33	37	38	39	40	44	45	46	47	49
Site Locator Codes													SSN			
X																
50	51		55		60		65		70	71		75		80		

FOR SITE USE

Monitoring For: Asbestos

IN: _____ Person Sampled Blank (Common Chemical Name)
(Site Designation) (Last Name First Initial)

DATA/OBSERVATIONS

Protective Equipment Used _____

Sample No. 94014 Avg Temp. _____ Avg _____ Predominant Wind Direction _____ Avg Speed _____
Sampler Pump/Make _____ Model _____ Ser. No. _____ No. _____
Calibration Method _____ Reference _____ By Nancy Logue Date _____

PUMP SETTING		ELAPSED		CALIBRATED FLOW RATE		VOLUME SAMPLED, LITERS	
Start	Stop	Min.	Strokes	Vol/Min	Vol/Stroke	Uncorrected	Corrected

Sampling Method _____ Reference _____ Precision _____ Accuracy _____

Make _____ Model _____ Adsorbent _____ Lot No. _____

Anal. Method _____ Reference _____ Precision _____ Accuracy _____

Anal. Equip. _____ Manufacturer _____ Model _____ Ser. No. _____

Analytical				Results		
No	Reference	Analyst	Analyte	Mass/No Particles	Concentration	Units
					<u>0.00</u>	<u>g/cc</u>

CALCULATIONS: (Additional data, remarks, etc.)

Pump Calibration X = 60 sec x # ml

sec

Please Retain Pink Copy for Your Records
Please Do Not Pull Form Set Apart

Investigator (Signature) B. Pine Date _____

Received by (Signature) _____ Date/Time _____

Completed by (Signature) _____ Date/Time _____

CODES

K - Monitoring Standard
A - 8 Hour TWA
B - 12 Hour TWA
C - Short Term TWA
D - Instantaneous Peak
E - Duration of Task
O - Other

S - Sample
A - General Area
B - Breathing Zone
C - Continuous
H - Blood (Z2 only)
O - Other
P - Personal
S - Source Sample
U - Urine (Z2 only)

T - Type
F - Full Period Single
G - Series Grab
L - Full Pd. Consecutive
O - Other
P - Partial Period
S - Single Grab

D - Device
A - Adsorption Tube
B - Passive Dosimeter
D - Direct Instrument
F - Filter
G - Grab Sample
I - Impinger/Bubbler
O - Other
R - Filter, Respirable Dust
T - Detector Tube

U - Units
B - Particulation
C - Fiber/cm
D - Decibels
J - $\mu\text{g}/100 \text{ g blood Z2 only}$
K - $\mu\text{g}/\text{mL}$ (urine Z2 only)
L - $\mu\text{g}/\text{mL}$ (urine Z2 only)
M - Particulation
O - Other
P - Percent
U - $\text{gm}/3$
X - mg/m^3

P - Statistical Parameter
G - Geometric Mean and
Geometric Std. Dev
L - 50 Percentile and
95th Percentile
O - Other
X - Arithmetic Mean and
Std. Deviation

Protective Equipment
A - Air supplied Respirator,
Continuous Flow
B - Air supplied Respirator,
Demand
E - Cover All Goggles
F - Face Shield
G - Impervious Gloves
H - Air supplied Respirator,
Pressure Demand
I - Hearing Protection -
Inserts
J - Impervious Suit -
Not Air Supplied
M - Hearing Protection -
Muffs
N - None Required
O - Other
P - Air Purifying Respirator,
Full Face
Q - Air Purifying Respirator,
Half Face
R - Air Purifying Respirator,
quarter Face
S - Self-Contained Respirator,
Pressure Demand
T - Self-Contained Respirator,
Demand
U - Impervious Suit -
Air Supplied
V - Power Air Purifying
Respirator
W - Disposable Respirator -
Dust

M - Measured Value
E - Estimated Value
L - Less Than
G - Greater Than