



NATLSCO

National Loss Control Service Corporation

ENVIRONMENTAL SCIENCES LABORATORY, K-2
Rte. 22 and Kemper Drive
Long Grove, IL 60049 • 312/540-2488

Name Caroline Tuttle
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Firm Southwestern Refinery
Address P.O. Box 9217
Corpus Christi, TX 78405
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Nº 44338

ANALYSIS REQUEST

FIELD NUMBER	SAMPLING VOLUME	ANALYZE FOR—	LABORATORY NO.	RESULTS
86-34	115.2 L	Asbestos		
86-33	110.5 L	Asbestos		
86-35	374 L	Asbestos		
86-36	383.4 L	Asbestos		
86-37	104.4 L	Asbestos		
86-38	9.5 L	Benzene, Xylene, Toluene		
86-39	7.7 L	Benzene, Xylene, Toluene		
86-40	55.8 L	Benzene, Xylene, Toluene		
86-41	46.8 L	Benzene, Xylene, Toluene		
86-42	12 L	unknown		
86-43	12 L	unknown		

COMMENTS:

DATE SAMPLES TAKEN

DATE RECEIVED BY
LABORATORY

DATE COMPLETED

ANALYTICAL METHOD:

SWRf/Asbestos 1338

1B 000472

**NATLSCO****LABORATORY ANALYSIS REPORT**

National Loss Control Service Corporation
Long Grove, Illinois 60049 (312) 540-2488

ENVIRONMENTAL SCIENCES LABORATORY, K-2

REPORT DATE JUL. 18, 1986SAMPLES REC'D JUL. 11, 1986REQUEST NUMBER 44338

PAGE NUMBER 1 OF REQUEST.

TO: CAROLINE TUTTLE
SOUTHWESTERN REFINING CO.
P.O. BOX 9217
CORPUS CHRISTI TX 78469

SAMPLE NUMBER	ANALYSIS REQUESTED	RESULTS	
		Fibers/100 Flds	Fibers/cc
86-34	ASBESTOS	101	0.96
33	ASBESTOS	UNABLE TO ANALYZE, SAMPLE COLLECTED ON BACK-UP PAD	
		Fibers/100 Flds	Fibers/cc
35	ASBESTOS	50.5	0.15
36	ASBESTOS	11	0.03
37	ASBESTOS	1.5	0.02
		Front	Back
38	BENZENE	0.10	0.07
	XYLENE	<1.0	<1.0
	TOLUENE	<1.0	<1.0
39	BENZENE	0.05	<0.04
	XYLENE	<1.0	<1.0
	TOLUENE	<1.0	<1.0
40	BENZENE	0.83	<0.01
	XYLENE	<1.0	<1.0
	TOLUENE	1.1	<1.0
41	BENZENE	0.25	<0.01
	XYLENE	<1.0	<1.0
	TOLUENE	<1.0	<1.0
42	REST AS HEXANE	<1.0	<1.0
43	REST AS HEXANE	<1.0	<1.0

BLANK

BLANK....

ASBESTOS

SUBTRACTED

< MEANS LESS THAN

METHODS: PHASE CONTRAST MICROSCOPY
GAS CHROMATOGRAPHY (ROUTINE)THE RESULTS WERE CORRECTED FOR THE FOLLOWING DESORPTION EFFICIENCY:
99% - BENZENE, 98% - XYLENE, 97% - TOLUENE, 100% - REST AS HEXANE.

Respectfully submitted,

Joan A. Wronski, CIH, Manager
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

SWRI/Asbestos 1340

1B 000474

**NATLSCO****LABORATORY ANALYSIS REPORT**

National Loss Control Service Corporation
Long Grove, Illinois 60049 (312) 540-2488

ENVIRONMENTAL SCIENCES LABORATORY, K-2

REPORT DATE JUL. 18. 1986SAMPLES REC'D JUL. 11. 1986REQUEST NUMBER 44338

PAGE NUMBER 2 OF REQUEST.

TO:

CAROLINE TUTTLE
SOUTHWESTERN REFINING CO.
P.O. BOX 9217
CORPUS CHRISTI TX 78469

SAMPLE NUMBER	ANALYSIS REQUESTED	RESULTS
BLANK	BLANK.... BLANK	NONE DETECTED
BLANK	BLANK.... ASBESTOS	SUBTRACTED
BLANK	BLANK.... ASBESTOS	SUBTRACTED

METHODS: GAS CHROMATOGRAPHY (ROUTINE)
PHASE CONTRAST MICROSCOPY

Respectfully submitted,

Joan A. Wronski, CIH, Manager
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

SWRf/Asbestos 1339

1B 000473

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE

5/22/86

FACILITY

SOUTHWESTERN REFINING

DEPARTMENT

MAINTENANCE

OPERATION/JOB TITLE

INSULATOR

NUMBER OF SHIFTS

1

EMPLOYEE

LUIS MIRANDA

EMPLOYEE NUMBER

SURVEYOR

M ZIMMER

SAMPLE NUMBER

86-33

SAMPLE TYPE

☒ Breathing Zone☐ General Air

SPECIAL

FILTER TYPE

MILLIPORE 0.8 μ ☐ Resp.☐ Total

TUBE

☐ Detector☐ Silgel☐ Charcoal

IMPINGER

☐ Midget☐ Bubbler

SOLUTION

CONTAMINANT

ASBESTOS

PUMP NUMBER

BENDIX # 3

CALIBRATION DATE

6-12-86

TIME ON

7:45

FLOWRATE

1.7 lpm

TIME OFF

8:55

FLOWRATE

Minutes 65×1.7 Flowrate = Sample Volume

110.5 l

SAMPLING CONDITIONS

TEMPERATURE

65 ° F

HUMIDITY

97 %

AIR VELOCITY

5 7 MPH

BAROMETRIC PRESSURE

29.82 ↑

CONTROL MEASURES

DISPOSABLE COVERALS W/ HOOD AND BOOTIES, RESPIRATOR, GLOVES,

ALL MATERIAL HANDLED WET

JOB DESCRIPTION

REMOVE SUSPECTED ASBESTOS INSULATION FROM PIPES IN CRUDE I AND

SULFOLANE

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Invalid - sample not collected on filter

SWRf/Asbestos 1343

1B 000477

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE 5/22/86

FACILITY SOUTHWESTERN REFINING		DEPARTMENT MAINTENANCE	
OPERATION/JOB TITLE INSULATOR		NUMBER OF SHIFTS 1	
EMPLOYEE KAREN TELGE		EMPLOYEE NUMBER	
SURVEYOR M ZIMMER			
SAMPLE NUMBER 86-34	SAMPLE TYPE ☒ Breathing Zone ☐ General Air	SPECIAL	
FILTER TYPE MILIPORE 0.8 μ	☐ Resp. ☐ Total	TUBE ☐ Detector ☐ Silgel ☐ Charcoal	
IMPINGER ☐ Midget ☐ Bubbler	SOLUTION		
CONTAMINANT ASBESTOS	PUMP NUMBER BENDIX # 4	CALIBRATION DATE 6-12-86	
TIME ON 7:46	FLOWRATE 1.8 lpm		
TIME OFF 8:55	FLOWRATE		

Minutes 64 $\times$ 1.8 Flowrate = Sample Volume 115.2

SAMPLING CONDITIONS

TEMPERATURE 65°F	HUMIDITY 97%	AIR VELOCITY 5.7 MPH	BAROMETRIC PRESSURE 29.82 in
CONTROL MEASURES DISPOSABLE COVERINGS w/ HOOD AND BOOTES, RESPIRATOR, GLOVES ALL MATERIAL HANDLED WET			

JOB DESCRIPTION
REMOVE SUSPECT ASBESTOS INSULATION FROM PIPES IN CRUDE I AND SULFURAGE

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Results = .96 f/cc

$$\frac{.96 \times 64}{480} = .13 \text{ f/cc T.W.A.}$$

SWRf/Asbestos 1341

1B 000475

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE 6-9-86

FACILITY Southwestern Refinery		DEPARTMENT Maintenance	
OPERATION/JOB TITLE Insulator		NUMBER OF SHIFTS	
EMPLOYEE Ray WOLFORD		EMPLOYEE NUMBER	
SURVEYOR C. Tuttle			
SAMPLE NUMBER 86-35	SAMPLE TYPE ☒ Breathing Zone ☐ General Air	SPECIAL	
FILTER TYPE 0.8u	☐ Resp. ☐ Total	TUBE ☐ Detector ☐ Silgel ☐ Charcoal	
IMPINGER ☐ Midget ☐ Bubbler	SOLUTION		
CONTAMINANT Asbestos	PUMP NUMBER BOX #3	CALIBRATION DATE 6-12-86	
TIME ON 0820	FLOWRATE 1.7 lpm		
TIME OFF 12:00	FLOWRATE		
Minutes 220×1.7 Flowrate = Sample Volume 374 l			

SAMPLING CONDITIONS

TEMPERATURE	HUMIDITY	AIR VELOCITY	BAROMETRIC PRESSURE
CONTROL MEASURES Disposable Class B type clothing, respirator, handled wet			

JOB DESCRIPTION
Removing asbestos from Iso Butane Heater in AIK unit

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result = .15 F/cc

$$\frac{220 \times .15}{480} = .07 \text{ F/cc T.W.A.}$$

SWRf/Asbestos 1344

1B 000478

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE 6-9-86

FACILITY Southwestern Refinery		DEPARTMENT Maintenance	
OPERATION/JOB TITLE Insulator		NUMBER OF SHIFTS	
EMPLOYEE Victor Vallejo		EMPLOYEE NUMBER	
SURVEYOR C Tuttle			
SAMPLE NUMBER 86-36	SAMPLE TYPE ☒ Breathing Zone ☐ General Air	SPECIAL	
FILTER TYPE 0.8u	☐ Resp. ☐ Total	TUBE ☐ Detector ☐ Silgel ☐ Charcoal	
IMPINGER ☐ Midget ☐ Bubbler	SOLUTION		
CONTAMINANT Asbestos	PUMP NUMBER BOX #4	CALIBRATION DATE 6-12-86	
TIME ON 0827	FLOWRATE 1.8 lpm		
TIME OFF 12:00	FLOWRATE		

Minutes 213 x 1.8 Flowrate = Sample Volume 383.4 L

SAMPLING CONDITIONS

TEMPERATURE 80°	HUMIDITY 88%	AIR VELOCITY calm	BAROMETRIC PRESSURE 29.82"
CONTROL MEASURES Class B type clothing, half face respirator - Hearnridge, hands wet			

JOB DESCRIPTION
Removing Asbestos from Isobutane Heater in Alky Unit

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Results = .03 f/cc

$$\frac{.03 \times 213}{480} = .01 \text{ f/cc T.W.A.}$$

SWRf/Asbestos 1345

1B 000479

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE 6-12-86

FACILITY Southwestern Refinery		DEPARTMENT Maint	
OPERATION/JOB TITLE Insulator		NUMBER OF SHIFTS	
EMPLOYEE Roy Wolford		EMPLOYEE NUMBER	
SURVEYOR C. Tuttle			
SAMPLE NUMBER 86-37	SAMPLE TYPE ☒ Breathing Zone ☐ General Air	SPECIAL	
FILTER TYPE 0.8 µ	☐ Resp. ☐ Total	TUBE ☐ Detector ☐ Silgel ☐ Charcoal	
IMPINGER ☐ Midget ☐ Bubbler	SOLUTION		
CONTAMINANT Asbestos		PUMP NUMBER BOX #4	CALIBRATION DATE 6-12-86
TIME ON 0847		FLOWRATE 1.8 3 lpm	
TIME OFF 0943		FLOWRATE	

Minutes 58 X 1.8 lpm Flowrate = Sample Volume ~~127~~ 104.4 l

SAMPLING CONDITIONS

TEMPERATURE 80°	HUMIDITY 94%	AIR VELOCITY SE 5 mph	BAROMETRIC PRESSURE 30.02 ↑
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CONTROL MEASURES
Handled wet, Disposable gloves, coveralls, half-face respiratorJOB DESCRIPTION
Removing insulation from overhead pipeline in crude

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result = .02 f/cc

$$\frac{.02 \times 58}{480} = .002 \text{ f/cc}$$

SWRf/Asbestos 1346

1B 000480