



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

LABORATORY ANALYSIS REPORT

ENVIRONMENTAL SCIENCES LABORATORY, K-2

REPORT DATE APR. 30, 1986SAMPLES REC'D APR. 22, 1986REQUEST NUMBER 44336PAGE NUMBER 1 OF REQUEST.

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

SAMPLE NUMBER	ANALYSIS REQUESTED	RESULTS	
		Front	Back
86-14	BENZENE	0.44	<0.01
	XYLENE	<1.0	<1.0
	TOLUENE	<1.0	<1.0
15	BENZENE	0.47	<0.01
	XYLENE	2.7	<1.0
	TOLUENE	<1.0	<1.0
16	ASBESTOS	Fibers/ 72 Flds	Fibers/cc
		100.5	0.30
18	ASBESTOS	Fibers/100 Flds	Fibers/cc
		33	0.23
19	ASBESTOS	56	0.38
20	ASBESTOS	0.5	<0.01
21	ASBESTOS	15.5	0.04
22	ASBESTOS	0	<0.01
BLANK	BLANK.... ASBESTOS		SUBTRACTED
BLANK	BLANK.... ASBESTOS		SUBTRACTED
BLANK	BLANK.... ASBESTOS		SUBTRACTED
BLANK	BLANK.... ASBESTOS		SUBTRACTED
BLANK	BLANK.... BLANK		NONE DETECTED

COMMENTS:

SIGNIFICANT "AS HEXANE" RESULT NOTED ON SAMPLE# 86-15.

< MEANS LESS THAN

METHODS: GAS CHROMATOGRAPHY (ROUTINE)

PHASE CONTRAST MICROSCOPY

THE RESULTS WERE CORRECTED FOR THE FOLLOWING DESORPTION EFFICIENCY:

99% - BENZENE, 98% - XYLENE, 97% - TOLUENE.

Respectfully submitted,

Joan A. Wronski, CIH, Manager
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

SWRf/Asbestos 1380

1B 000514

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE

3-16-86

FACILITY

Southwestern Refinery

DEPARTMENT

Maint

OPERATION/JOB TITLE

Insulator

NUMBER OF SHIFTS

1

EMPLOYEE

Roy Wolford

EMPLOYEE NUMBER

SURVEYOR

C Tuttle

SAMPLE NUMBER

86-16

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

BenOix #3

CALIBRATION DATE

3/6/86

TIME ON

7:47 AM

FLOWRATE

1.9 lpm

TIME OFF

12:15 PM

FLOWRATE

Minutes 268 $\times$ 1.9 Flowrate = Sample Volume

509.2 l

SAMPLING CONDITIONS

TEMPERATURE

HUMIDITY

AIR VELOCITY

BAROMETRIC PRESSURE

CONTROL MEASURES

Handled wet. Disposable coveralls + gloves, respirators, shower after job is complete

JOB DESCRIPTION

Remove asbestos insulation from piping in generator/compressor room

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Results = .30 f/cc

TWA =

$$\frac{.3 + 268}{480}$$

.17 f/cc

SWRf/Asbestos 1373

1B 000507

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE 3-16-86

FACILITY

Southwestern Refinery

DEPARTMENT

Maint

OPERATION/JOB TITLE

Insulator

NUMBER OF SHIFTS

1

EMPLOYEE

Karen Telge

EMPLOYEE NUMBER

SURVEYOR

C Tuttle

SAMPLE NUMBER

86-17

SAMPLE TYPE

☒ Breathing Zone☐ General Air

SPECIAL

FILTER TYPE

millipore 0.8u

☐ Resp.☐ Total

TUBE

☐ Detector☐ Silgel☐ Charcoal

IMPINGER

☐ Midget☐ Bubbler

SOLUTION

CONTAMINANT

Asbestos

PUMP NUMBER

Bendix #4

CALIBRATION DATE

3/6/86

TIME ON

7:47 am

FLOWRATE

1.9

TIME OFF

12:15 pm

FLOWRATE

Minutes 268 X 1.9 Flowrate = Sample Volume 509.2 L

SAMPLING CONDITIONS

TEMPERATURE

HUMIDITY

AIR VELOCITY

BAROMETRIC PRESSURE

CONTROL MEASURES

Handled wet, Disposable coveralls, gloves, respirators
shower after job is complete

JOB DESCRIPTION

Remove asbestos insulation from piping in generator/compressor
room

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Invalid - cassette broke away from fitting - filter destroyed

SWRf/Asbestos 1374

1B 000508

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE

3-19-86

FACILITY

Southwestern Refinery

DEPARTMENT

Maint

OPERATION/JOB TITLE

Insulator

NUMBER OF SHIFTS

1

EMPLOYEE

Karen Telge

EMPLOYEE NUMBER

SURVEYOR

M. Zimmer

SAMPLE NUMBER

86-18

SAMPLE TYPE

☒ Breathing Zone☐ General Air

SPECIAL

FILTER TYPE

millipore 0.8u

☐ Resp.☐ Total

TUBE

☐ Detector☐ Silgel☐ Charcoal

IMPINGER

☐ Midget ☐ Bubbler

SOLUTION

CONTAMINANT

Asbestos

PUMP NUMBER

Bendix #3

CALIBRATION DATE

3/6/86

TIME ON

8:34 a

FLOWRATE

1.9 Lpm

TIME OFF

9:55 a

FLOWRATE

Minute $81 \text{ min} \times 1.9 \text{ Flowrate} = \text{Sample Volume } 153.9 \text{ L}$

SAMPLING CONDITIONS

TEMPERATURE

63°

HUMIDITY

38%

AIR VELOCITY

NE 22-30 mph

BAROMETRIC PRESSURE

30.0 -

CONTROL MEASURES

Handled wet, disposable gloves + overalls, respirators, shower after job is complete

JOB DESCRIPTION

Remove asbestos from ~ 4' piping in the Cat-I Poly reactors

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result = .23 f/cc

TWA ~ .04 f/cc

SWRf/Asbestos 1375

1B 000509

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE

3-19-86

FACILITY

Southwestern Refinery

DEPARTMENT

Maint

OPERATION/JOB TITLE

Insulator

NUMBER OF SHIFTS

1

EMPLOYEE

Louis Miranda

EMPLOYEE NUMBER

SURVEYOR

M. Zimmer

SAMPLE NUMBER

86-19

SAMPLE TYPE

☒ Breathing Zone☐ General Air

SPECIAL

FILTER TYPE

millipore 0.8u

☐ Resp.☐ Total

TUBE

☐ Detector☐ Silgel☐ Charcoal

IMPINGER

☐ Midget☐ Bubbler

SOLUTION

CONTAMINANT

Asbestos

PUMP NUMBER

Bendix #4

CALIBRATION DATE

3/6/86

TIME ON

8:34 am

FLOWRATE

1.9 Lpm

TIME OFF

9:59 am

FLOWRATE

Minutes 85×1.9 Flowrate = Sample Volume 161.5 L

SAMPLING CONDITIONS

TEMPERATURE

63°

HUMIDITY

38%

AIR VELOCITY

NE 22-30 mph

BAROMETRIC PRESSURE

30.0-

CONTROL MEASURES

Handled w/ disposable gloves + coveralls, respirators,
shower after job is complete

JOB DESCRIPTION

Remove asbestos from ~4' piping in the Cat I poly reactors

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Results .38 f/cc

TWA .07 f/cc

SWRf/Asbestos 1376

1B 000510

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE
4-10-86

FACILITY

Southwestern

DEPARTMENT

Maintenance

OPERATION/JOB TITLE

Insulator

NUMBER OF SHIFTS

1

EMPLOYEE

Roy Wolford

EMPLOYEE NUMBER

SURVEYOR

C. Tuttle

SAMPLE NUMBER

86-20

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

4-10-86

TIME ON

10:47

FLOWRATE

2.0 lpm

TIME OFF

11:15

FLOWRATE

Minutes 28 x 2 Flowrate = Sample Volume

56 lpm

SAMPLING CONDITIONS

TEMPERATURE

69°

HUMIDITY

84%

AIR VELOCITY

E 18 mph

BAROMETRIC PRESSURE

30.00 in

CONTROL MEASURES

Disposable gloves, coveralls, half face respirator, handled wet

JOB DESCRIPTION

Removing insulation from piping removed from unit

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Results = $< 0.01 \text{ f/cc}$ TWA = 0.00 f/cc

SWRf/Asbestos 1377

1B 000511

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE
4-11-86

FACILITY Southwestern Refinery		DEPARTMENT Maint.	
OPERATION/JOB TITLE Insulator		NUMBER OF SHIFTS 1	
EMPLOYEE Roy Welford		EMPLOYEE NUMBER	
SURVEYOR C. Tuttle			
SAMPLE NUMBER 86-21	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 BDX #3	CALIBRATION DATE 4-10-86	
TIME ON 7:37	FLOWRATE 1.9 Lpm		
TIME OFF 11:40	FLOWRATE		
Minutes 243×1.9 Flowrate = Sample Volume 461.7 L			

SAMPLING CONDITIONS

TEMPERATURE 68°	HUMIDITY 97%	AIR VELOCITY SE 16 mph	BAROMETRIC PRESSURE 29.86"
CONTROL MEASURES Disposable gloves + overalls, half face respirator, handled wet. Hard hat, safety glasses			

JOB DESCRIPTION Removing insulation around 15 valves on tower in C-1000 unit

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Results = .04 f/cc
TWA = .02 f/cc

SWRf/Asbestos 1378

1B 000512

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE 4-11-86

FACILITY Southwestern Refinery		DEPARTMENT MAINT	
OPERATION/JOB TITLE Insulator		NUMBER OF SHIFTS 1	
EMPLOYEE Karen Telgc		EMPLOYEE NUMBER	
SURVEYOR C Tuttle			
SAMPLE NUMBER 86-22	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 BDX #4	CALIBRATION DATE 4-10-86	
TIME ON 1:22 pm	FLOWRATE 2.0 lpm		
TIME OFF 2:40 pm	FLOWRATE		

Minutes 78 x 2.0 Flowrate = Sample Volume 156 l

SAMPLING CONDITIONS

TEMPERATURE	HUMIDITY	AIR VELOCITY	BAROMETRIC PRESSURE
-------------	----------	--------------	---------------------

CONTROL MEASURES

Disposable gloves, coveralls, half face respirator, handled wet

JOB DESCRIPTION

Removing asbestos from overhead pipe in Alky unit

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Results < 0.01 f/cc

TWA = 0.00 f/cc

SWRI/Asbestos 1379

1B 000513