PLAINTIFF'S EXHIBIT

KRC-429

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

986054.1

DATE 9-25-86

FACILITY: Southwestern Refinery

DEPARTMENT: Maint

OPERATION/JOB TITLE: Insulator

NUMBER OF SHIFTS:

EMPLOYEE: Roy Walford

EMPLOYEE NUMBER: 453-23-1404

SURVEYOR: C. Tuttle

SAMPLE NUMBER	SAMPLE TYPE	SPECIAL
86-54	[X] Breathing Zone [ ] General Air	
FILTER TYPE	**TUBE**	
0.8 u	[ ] Resp. [ ] Total	[ ] Detector [ ] Silgel [ ] Charcoal
IMPINGER	**SOLUTION**	
[ ] Midget [ ] Bubbler		

CONTAMINANT	PUMP NUMBER	CALIBRATION DATE
Asbestos	BDX #4	9-18-86
TIME ON	**FLOWRATE**	
10:55	2.0 lpm	
TIME OFF	**FLOWRATE**	
11 22		

Minutes 27 x 2 Flowrate = Sample Volume 54 l

SAMPLING CONDITIONS

TEMPERATURE	HUMIDITY	AIR VELOCITY	BAROMETRIC PRESSURE
88°	63%	5 20-25 mph	29.91

CONTROL MEASURES

Handled wet, disposable gloves, coveralls, rubber boots, half face resp. w/ H cartridge, Hard hat, safety glasses

JOB DESCRIPTION

Remove asbestos from piping in scrapyard

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result < .5 f/cc

$$\frac{.5 \times 27}{480} = < .03 \text{ f/cc T.W.A.}$$

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

996055.1

DATE: 9-25-86

FACILITY: Southwestern Refinery

DEPARTMENT: Maint.

OPERATION/JOB TITLE: Insulator

NUMBER OF SHIFTS: 1

EMPLOYEE: Victor Vallejo

EMPLOYEE NUMBER: 464-58-272

SURVEYOR: CTuttle

SAMPLE NUMBER: 86-55

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: BDX #3

CALIBRATION DATE: 9-18-86

TIME ON: 10:58

FLOWRATE: 2.0 lpm

TIME OFF: 11:22

FLOWRATE:

Minutes 24 X 2 Flowrate = Sample Volume 48 l

SAMPLING CONDITIONS

TEMPERATURE	HUMIDITY	AIR VELOCITY	BAROMETRIC PRESSURE
88°	63%	5 2025 mph	2991 -

CONTROL MEASURES: Handled wet, Disposable gloves, coveralls, rubber boots, half face resp w/ H cartridge Hard hat, safety glasses

JOB DESCRIPTION: Remove asbestos from pipe in scrap yard

ANALYTICAL TECHNIQUE:

EXPOSURE CONCENTRATION CALCULATION

Lab Result <.5 f/cc

$\frac{.5 \times 24}{480}$ = <.025 f/cc

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

9860761

DATE: 11-20-86

FACILITY: Southwestern Refinery

DEPARTMENT: Maint

OPERATION/JOB TITLE: Insulator

NUMBER OF SHIFTS:

EMPLOYEE: Louis Miranda

EMPLOYEE NUMBER: 464-08-5201

SURVEYOR: C Tuttle

SAMPLE NUMBER: 86-76

SAMPLE TYPE: [X] Breathing Zone [ ] General Air

SPECIAL:

FILTER TYPE: 0.8μ 25mm

[ ] Resp. [ ] Total

TUBE: [ ] Detector [ ] Silgel [ ] Charcoal

IMPINGER: [ ] Midget [ ] Bubbler

SOLUTION:

CONTAMINANT: Asbestos

PUMP NUMBER: BDX#3

CALIBRATION DATE: 10-24-86

TIME ON: 0845

FLOWRATE: 2 Lpm

TIME OFF: 0940

FLOWRATE:

Minutes 55 x 2 Flowrate = Sample Volume 110 l

SAMPLING CONDITIONS

TEMPERATURE	HUMIDITY	AIR VELOCITY	BAROMETRIC PRESSURE

CONTROL MEASURES

Disposable gloves, coveralls, hard hat, safety glasses, half face resp - H cartridge, handled wet

JOB DESCRIPTION

Removing insulation from 8 ft pipes in warehouse

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result → .07 F/cc

$\frac{.07 \times 55}{480}$ = .008 f/cc T.W.A.

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293 986085.1 12 10 04

FACILITY: Southwestern Refinery	DEPARTMENT: Maintenance
OPERATION/JOB TITLE: Insulator	NUMBER OF SHIFTS:
EMPLOYEE: Roy Wolford	EMPLOYEE NUMBER: 453-23-1404
SURVEYOR: C. Tuttle	

SAMPLE NUMBER: 86-85	SAMPLE TYPE: ☒ Breathing Zone ☐ General Air	SPECIAL:
FILTER TYPE:	☐ Resp. ☐ Total	TUBE: ☐ Detector ☐ Silgel ☐ Charcoal
IMPINGER: ☐ Midget ☐ Bubbler	SOLUTION:	
CONTAMINANT: Asbestos	PUMP NUMBER: BDX #1	CALIBRATION DATE: 12
TIME ON: 0752	FLOWRATE: 2.0 Lpm	
TIME OFF: 0820	FLOWRATE:	

Minutes 28 x 2 Flowrate = Sample Volume 56 l

SAMPLING CONDITIONS

TEMPERATURE	HUMIDITY	AIR VELOCITY	BAROMETRIC PRESSURE
58°	96%	E 8 mph	30.21

CONTROL MEASURES

Disposable gloves coveralls, hard hat Safety glasses
Half face resp. w/H cartridge
Handled wet

JOB DESCRIPTION

Removing asbestos from 12 foot line in sulfolane unit...
Pipe on ground

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result = < .02 f/cc

$\frac{< .02 \times 28}{480}$ = < .001 f/cc T.W.A.

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE: 11-4-86

FACILITY: Southwestern Refinery

DEPARTMENT: Insulation / Maint

OPERATION/JOB TITLE: Insulator

NUMBER OF SHIFTS:

EMPLOYEE: V. Vallejo

EMPLOYEE NUMBER:

SURVEYOR: C. Tuttle

SAMPLE NUMBER: 86-74

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 #2

CALIBRATION DATE: 1024-86

TIME ON: 1535

FLOWRATE: 2.0 lpm

TIME OFF: 1610

FLOWRATE:

Minutes 35 x 2 Flowrate = Sample Volume 70 l

SAMPLING CONDITIONS

TEMPERATURE	HUMIDITY	AIR VELOCITY	BAROMETRIC PRESSURE

CONTROL MEASURES: Disposable gloves, coveralls, half face respirator, hard hat, safety glasses.

JOB DESCRIPTION: Rebagging asbestos in storage area.

ANALYTICAL TECHNIQUE:

EXPOSURE CONCENTRATION CALCULATION:

Lab Result = .06 f/cc

$\frac{.06 \times 35}{480} = .004$ f/cc T.W.A

SWRf/Asbestos 9949

1B 000537