PLAINTIFF'S EXHIBIT
UC-1101

Industrial Hygiene Department PRELIMINARY REPORT	Plant: 510 Date: October 31, 1972	DISTRIBUTION: TO: Mr. M. G. Collins COPIES: See attached list.

PROBLEM: To evaluate personnel exposures to asbestos dust during a tear-out of castelite insulation at No. 1 Olefins. This is an initial evaluation for the OSHA standard.

PROCEDURE: Method 38C-29X4-R1 was followed, as prescribed by OSHA regulations. One sample was collected in the breath zone of Robert Ruiz, Brown & Root insulator, as he tore out Castelite insulation from a 30 foot vertical section of 3 inch 200 pound steam line. The micronair sampler and Milipore filter cartridge were used to collect the sample. Slides were prepared here and counted in Texas City by C. W. Perry using phase contrast microscopy.

RESULTS:

Sample No.	Date	Fibers per cubic centimeter > 5 microns
1	10-19-72	11

Robert was equipped with a MSA Dust Fo-77 Respirator, Part Number 96,000.

RECOMMENDATIONS: Data indicates that this exposure was not only above the five fiber per cubic centimeter longer than 5 micron standard for the eight hour time weighted average, but also, was in excess of the 10 fibers per cubic centimeter longer than five micron ceiling limit. The permanent standard (see 1910.93(c)(2)-(iii)) published June 7, 1972 requires the use of Type C supplied-air or demand respirators during asbestos tear-outs. This data supports this requirement.

REMARKS:

UCTC 09130

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INDUSTRIAL HYGIENE DEPARTMENT

ASBESTOS DUST STUDY

PLANT: 510

Department MAINTENANCE Bldg. #1 OLEFINS Date 10-19-72 Time 8:05 AM

Sampled By: L.G. McALLEN Analyzed By: C.W. PERRY Method: 38C-29XL-R1

General Conditions: SAMPLE WAS COLLECTED IN THE BREATH ZONE OF ROBERT RUIZ, BROWN & ROOT INSULATOR, AS HE TORE OUT CASTELITE INSULATION FROM A 30FT. VERTICAL SECTION OF 3 IN. 200LB. STEAM LINE.

FIBER COUNT (Fibers > 5μ in Length)

	Slide 1		Slide 2	
1	1	11 3	1 1	11 2
2	1	12 1	2 5	12 0
3	3	13 2	3 2	13 1
4	2	14 2	4 1	14 2
5	1	15 1	5 4	15 1
6	0	16 0	6 0	16 2
7	0	17 1	7 3	17 2
8	1	18 3	8 0	18 2
9	2	19 2	9 2	19 1
10	0	20 2	10 1	20 1
Total	28	Avg. 1.4	Total 33	Avg. 1.65

CALCULATIONS

SAMPLE VOLUME: 10 Min. @ 1.6 LPM = 16 LITERS

$$\frac{(\text{Avg.Fiber Count}-\text{Avg.Blank Count})(\text{Total Filter Area})}{(\text{Counting Area})(\text{Vol.Air-Liters})(1000)} = \text{Concentration, Fibers per } \sout{\text{Milliliter}} \text{ CUBIC CENTIMETER} > 5\mu$$

1. $\frac{(1.4 - 0)(855)}{(0.007482)(16)(1000)} = 10$ Fibers per $\sout{\text{Milliliter}}$ CUBIC CENTIMETER > 5μ

2. $\frac{(1.65 - 0)(855)}{(0.007482)(16)(1000)} = 11.8$ Fibers per $\sout{\text{Milliliter}}$ CUBIC CENTIMETER > 5μ

Special Conditions: THIS WAS A PARTICULARLY DUSTY JOB AS ROBERT WAS WORKING FROM A LADDER ON THE DOWN WIND SIDE OF THE PIPE. RESPIRATORY PROTECTION WAS WORN.

Remarks: OTHER FINE DUST PARTICLES WERE PRESENT ON THE SLIDES BESIDES THE ASBESTOS FIBERS. ONLY ASBESTOS FIBERS WERE COUNTED. THE THRESHOLD LIMIT VALUE FOR ASBESTOS IS 5 FIBERS PER CUBIC CENTIMETER LONGER THAN 5 MICRONS FOR THE EIGHT HOUR TIME WEIGHTED AVERAGE WITH A CEILING LIMIT OF 10 FIBERS PER CUBIC CENTIMETER LONGER THAN 5 MICRONS.

UCTC 09131