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Inter Office
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Personnel Services Section
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Personnel and Organization Staff

Subject: Asbestos in Air Sampling - Research and Engineering Center *J. A. Keller*

As a follow-up procedure, under the authority of the Occupational Safety and Health Act of 1970, in Section 1910.93a of the Federal Register dated October 18, 1972, this Section completed a study to determine asbestos in air concentrations at several different operations at the Research and Engineering Center. Results of this study and the instrumentation employed are attached.

The operations in the Scientific Building involves the compounding and destructive testing of brake materials. The operation location in the Experimental Garage consists of grinding and dressing of replacement brake shoes and pads. Local exhaust ventilation is used as control at both locations. In addition to local exhaust ventilation of the operations in the Scientific Building, the concerned employee wore an approved dust respirator.

The Threshold Limit Value (TLV) for asbestos is 5 fibers greater than 5 microns in length per milliliter of air sampled. This is an eight hour time-weighted average exposure limit. The ceiling limit for exposure is 10 fibers greater than 5 microns in length per milliliter of air sampled.

Results indicate that no time weighted average sample exceeded the 5 fiber limit. Sample number I-A. 4 represents the cutting and filing cycle of the destructive testing and, therefore, should be considered a peak sample with the 10 fiber ceiling limit applicable.

These operations will be studied once again in November 1973 relative to the monitoring provision of OSHA 1910.93A subparagraph f.

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Attachment

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Date Sheet

Research and Engineering Center

Concentrations of Fibers
Greater than 5 Microns
in Length per Milliliters of Air

Location

OSHA Asbestos Fiber Threshold Limit Value - TLV	
8 Hour Time-Weighted Average Exposure	5.0
OSHA TLV as of July 1, 1976	2.0
OSHA Ceiling Limit	10.0

I. Scientific Building

A. Brake Research Operations

1. E. Blais, SS #6921	
2. Breathing zone samples	
3. Room #E1151 - Compounding brake material	1.3
4. Room #E1160 - Cutting and filing brake material	5.8
5. Room #E1158 - Friction testing of brake material	1.7
6. Calculated time-weighted average exposure	2.1

B. General Air Samples Relative to Above Samples

1. Room #E1151	0.2
2. Room #E1160	1.5
3. Room #E1158	0.8

C. Employee wore respirator at all times - Willson BM 2170

D. Experimental Garage - Brake Room - Brake lining grinding - Barrett Machine, B.T. #P471542 - machine exhaust ventilated - Breathing zone sample - W. Kett, SS #7137	1.5
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Instrumentation: MSA Model G Portable Pumps - Flow rate: 2 liters per minute
Millipore Type AA Membrane Filters

Analysis: 430 X Phase Contrast Microscopy by Environmental Health Laboratories; Farmington, Michigan

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