PLAINTIFF'S EXHIBIT

SWB-156

Bell Laboratories

subject: Asbestos Sampling in a New England Telephone Company Business Office Manchester, New Hampshire Case 48106-3

date: January 4, 1980

from: V. R. Cohen

MEMORANDUM FOR RECORD

Environmental sampling for asbestos was performed at a New England Telephone Company Business Office on December 5, 1979. Employee concern over flaking fire retardant material during renovation of the new cafeteria on the 1st floor and welding operations on the 3rd floor prompted this study. Previous analysis of the bulk fire retardant material by Mr. C. P. Lichtenwalner of Bell Laboratories revealed 10% - 25% chrysotile asbestos by weight (x-ray diffraction analysis). The result of this analysis was sent to Mr. C. R. Gunderson on May 12, 1978. A report dated June 20, 1978 indicated that the airborne fiber concentrations at this location were less than 0.02 fibers per cubic centimeter.

Summary

On December 5, 1979 airborne asbestos sampling was conducted at a New England Telephone Company Business Office, 770 Elm Street, Manchester, New Hampshire. Ms. V. R. Cohen and Mr. D. Rainer of Bell Laboratories and Mr. J. D. Ludwig District Staff Manager for Safety, NET, performed the measurements. Phase contrast microscopy revealed fiber concentrations less than or equal to 0.02 fibers per cubic centimeter.

Standards

The present standard for asbestos promulgated by the Occupational Safety and Health Administration (OSHA) is two fibers per cubic centimeter greater than five micrometers (μm) in length. This two fiber limit refers to an eight-hour time weighted average (TWA) permissible exposure limit and includes a ten fiber per cubic centimeter ceiling concentration which is not to be exceeded.

The recommended standard proposed by the National Institute for Occupational Safety and Health (NIOSH) is 0.1 fibers per cubic centimeter greater than five μm in length as an eight-hour time weighted average permissible exposure limit and a 0.5 fiber per cubic centimeter ceiling concentration.

The seven or eight-hour time weighted average exposure level at which medical examinations become mandatory is 0.1 fibers per cubic centimeter or greater (see OSHA Program Directive #300-16).

Sampling Techniques

Samples were collected on 37mm open faced Millipore cellulose ester filters with a 0.8μm nominal pore size diameter. Air was pulled through the filters with portable, battery powered Bendix Corporation and MSA pumps at 2.0 liters per minute.

The pumps were calibrated with the soap bubble flow-meter technique. Analysis for asbestos using phase contrast microscopy as recommended by NIOSH was performed at Bell Laboratories by Ms. V. R. Cohen.

Results

The results of this study are found in Table I. No evidence of excessive fiber concentrations was detected as a result of the recent renovations.

V. R. Cohen

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D. Rainer
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G. M. Wilkening

The seven or eight-hour time weighted average exposure level at which medical examinations become mandatory is 0.1 fibers per cubic centimeter or greater (see OSHA Program Directive #300-16).

Sampling Techniques:

Samples were collected on 37mm open faced Millipore cellulose ester filters with a 0.8 μm nominal pore size diameter. Air was pulled through the filters with portable, battery powered Mine Safety Appliance Corporation pumps at 2.0 liters per minute.

The pumps were calibrated with the soap bubble flow meter technique. Analysis for asbestos using phase contrast microscopy as recommended by NIOSH was performed at Bell Laboratories by Ms. Cohen.

The bulk samples were split and analyzed by both Bell Laboratories and McCrone Associates. At Bell Laboratories, analytical techniques included x-ray diffraction and optical microscopy. At McCrone Associates dispersion staining with polarized light microscopy was used.

Results:

The results of this survey are found in Tables I and II. The bulk samples were found to contain 8% asbestos at the Keystone Building, 99 High Street, and 10% asbestos at 101 Huntington Avenue. Fiber concentrations ranged from 0.003 to 0.072 fibers per cubic centimeter. These concentrations indicate a safe working environment.

V. R. Cohen

MH-7885-VRC-th

V. R. Cohen
Industrial Hygienist

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TABLE I

Asbestos Samples Collected in a New England Telephone Company Business Office, 770 Elm Street, Manchester, New Hampshire, December 5, 1979.

Description	Duration (Minutes)	Volume (liters)	Lower limit of Detection (fibers/cc)	Number of Fibers Detected	Concentration (fibers/cc)
1st Floor					
Office adjoinng new cafeteria	237	417	.002	12	0.02
Switching closet new cafeteria	219	405	.002	11	0.02
Hung ceiling new cafeteria	215	430	.002	10	0.02
3rd Floor					
Hallway opposite elevators	222	422	.C01	8	0.01
Accounting CRB	221	403	.001	8	0.01
4th Floor					
Outside roof	215	430	.002	3	<0.01