

**Bell Laboratories**

subject: Asbestos Survey - New Jersey Bell
Telephone Co., Central Office
(Pleasantville, N. J.)
Case: 48106-3
Ref.: 1740

date: July 28, 1983
from: P. Huggins
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MEMORANDUM FOR RECORD

On July 22, 1983, a survey was conducted at the New Jersey Bell Telephone Company Central Office facility (423 Washington Avenue, Pleasantville, N. J.). Sampling was conducted to identify building materials containing asbestos and air-borne fiber concentrations at various building locations.

This survey was requested by Mr. D. McCartney, Associate Staff Manager Safety, New Jersey Bell Telephone Co. in response to employee concerns regarding potential asbestos exposure within the building.

Conclusions and Recommendations

- All fiber concentrations measured during this survey are below applicable Occupational Safety and Health Administration (OSHA) exposure standards.
- Employees should be informed of the results of this survey.
- The asbestos containing insulation in the "Old Air Handling Room" should be repaired and maintained as required to insure this material is kept intact.
- Signs should be posted in the "Old Air Handling Room" indicating the insulation contains asbestos.

Materials and Methods

Air sampling and filter analysis were conducted in accordance with National Institute for Occupational Safety & Health (NIOSH) methodology (NIOSH P&CAM 239) - "Asbestos Fibers in Air". Sampling was performed using DuPont Model P2000, Bendix Model HD 55 and MSA Model G personal

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sampling pumps and 0.8µm mixed cellulose ester filters (Millipore Corp). Pumps were operated at a flow rate of approximately 2.0 liters per minute (LPM) and calibrated before and after sampling using a Gilmont precision rotameter (No. B9165). Filter analyses was conducted by sizing and counting fibers using a phase contrast microscope. All fibers which have a physical dimension longer than 5 micrometers (µm) and a length to diameter ratio of 3 to 1 or greater, were counted.

Bulk samples were collected in glass vials and analyzed by polarized light microscopy using dispersion staining techniques. This method permits identification of fibers with optical and morphological characteristics of asbestos fibers.

Results

Source of bulk samples collected in the "Old Air Handling Room" are listed below:

- AC 1-1, discharge duct
- AC 2-5, top surface
- AC 2-4, rear, top of unit
- AC 2-4, outside air duct.

All of these samples were found to contain chrysotile asbestos. A sample of insulation was also collected from an air supply duct in the ceiling of the cafeteria. This sample contained mineral wool; no asbestos was present.

Results of air sampling data are listed in Table 1. Airborne fiber concentrations ranged from 0.001 to 0.016 fibers per cubic centimeter (fibers/cm³).

Discussion

Airborne fiber concentrations (Table 1) at all indoor sampling locations ranged from 0.002 to 0.011 fibers/cm³. Concentrations in outside air were 0.01 and 0.016 fibers/cm³. The Occupational Safety and Health Administration (OSHA) permissible exposure limit for asbestos is 2 fibers/cm³. The effective OSHA action level (AL) for asbestos is 0.1 fibers/cm³. All concentrations measured are well below the OSHA PEL and AL. In addition airborne fiber concentrations indoors are generally lower than those measured for outside air.

The insulation covering all air handling units, discharge ducts and supply ducts in the "Old Air Handling Room" was found to contain chrysotile asbestos. This insulation is covered on the outer surface by a paint layer however this protective coat has been

disturbed at a number of sites, leaving the underlying asbestos insulation loose and friable. Disturbed sites should be repaired and the area maintained to ensure the insulation coating is kept intact. Employees involved in work in this area, requiring handling or disturbing insulation material, should be required to utilize controls and to use adequate protective equipment. Wetting the insulation prior to handling is recommended. Signs should be posted indicating the insulation material contains asbestos.

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Table 1

Airborne Asbestos Fiber Concentrations
New Jersey Bell Telephone Co. - Pleasantville
Central Office (7/22/83)

Sample No.	Sample Location	Sample Duration (Mins.)	Volume of Air Sampled (L)	Fibers Counted	Concentration* (Fibers/cc)
1	Directory Assistance Office	279	560.8	4	0.001
2	Directory Assistance Office	273	543.3	11	0.011
3	Lunch Room	265	511.5	4	0.002
4	Lunch Room	266	489.4	5	0.003
5	Lounge (Adjacent to Lunch Room)	262	489.9	4	0.002
6	Air Handling Room ¹	260	507.0	5	0.003
7	Air Handling Room ¹	260	512.2	6	0.005
8	On Roof of Building (outdoors)	206	407.9	8	0.010
9	On Roof of Building (Outdoors)	205	379.3	11	0.016

*Concentrations reported are corrected for blank.

¹Old Air Handling Room - supplies ventilation for Lunch Room and Lounge.

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