



Bell Laboratories

subject: Sampling for Asbestos
in South Central Bell
Garages During Brake
Work
Case 48106-3 -

date: December 1, 1976

from: V. R. Cohen

MEMORANDUM FOR RECORD

In accordance with the Medical Surveillance Program recently established for Bell System motor vehicle mechanics involved with brake, clutch and brake drum removal operations, employees are given medical examinations (see GL: 77-07-024). Medical examination of a South Central Bell System garage employee in New Orleans revealed a diagnosis of asbestosis. Although the employee is not disabled, he is no longer performing any brake or clutch work to prevent further exposure. However, to determine his typical exposure to airborne asbestos fibers while changing brakes, a series of personal samples were collected. After having been given medical approval, he was fitted for and instructed in the usage of a NIOSH approved single-use disposable respirator (3M-8710) which he wore while being sampled.

Summary:

At the request of Mr. R. G. Giesler, District Staff Manager of Safety, South Central Bell Telephone Company, an industrial hygiene survey was performed to evaluate employee exposure to airborne asbestos fibers. On October 17th and 18th, Ms. V. R. Cohen of the Bell System Services Group at Bell Laboratories took air samples at three garage locations in New Orleans where brake maintenance operations were performed. The airborne fiber concentrations were well below the current Occupational Safety and Health Administration (OSHA) Standard and National Institute for Occupational Safety and Health (NIOSH) recommended standards.

Standards:

The present standard for asbestos promulgated by 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 permissible exposure limit and includes a ten fiber per cubic centimeter ceiling concentration which is not to be exceeded.

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Table II

Asbestos Samples Collected in a South Central Bell Telephone Company Garage
330 Gravier Street, New Orleans, Louisiana, October 18, 1978

<u>Description</u>	<u>Duration</u> (minutes)	<u>Volume</u> (liters)	<u>Lower Limit</u> of Detection (fibers/cc)	<u>Number of</u> Fibers Observed	<u>Concentration</u> (fibers/cc)	<u>Analytical</u> Method
Personal Sample: Roger Johanson changing 8 brakes on 2 Chevy vans	335	670	.008 .001	0 5	BDL .006	TEM LM
Area Sample: 1) in office on file cabinet	350	700	.001	7	.008	LM
2) in garage adjacent to work area	335	670	.001	7	.008	LM

+ -- Used wet rag and bucket of water to clean
brake drums and other parts

BDL - Below Detection Limit

TEM - Transmission Electron Microscopy

LM - Light Microscopy (phase contrast)

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