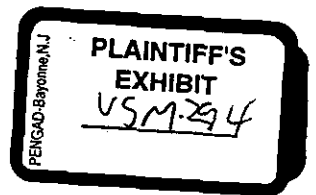


William R. Bradley and Associates

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July 2, 1969

Mr. Frank M. Stumpf
Chairman, Technical Committee
Sprayed Mineral Fiber Manufacturers Association, Inc.
P.O. Box 427
Westfield, New Jersey 07090

Re: Air Sampling Study -
Environmental Dust Determination
For Asbestos Fibers

Environmental Health Study

Air samples were collected June 9, 1969 using a small impinger technique and membrane filter technique in occupied space in the new Federal Building, Broad Street, Newark, New Jersey, and in the main passenger terminal area of the Trans World Airlines building at J. F. Kennedy Airport, New York City.

The Federal building in Newark had received a coating of sprayed mineral fiber, including asbestos, applied to the cellular deck. In the 6th floor central office area and 8th floor corridor, where air samples were collected, there has been installed a suspended mineral tile ceiling. The enclosed space acts as a plenum chamber for the distribution of air through the occupied portion of the floor area.

The high exposed ceiling of the Trans World Airlines terminal at J. F. Kennedy Airport has been sprayed with mineral fiber including asbestos and a sprayed-on coating.

Comparative air samples were collected in the Federal Post Office building in Newark, which is of concrete construction with painted surfaces, and has no asbestos applied to the structure. In addition, an air sample was collected outdoors between the Post Office and the Federal building in Newark, in a small park area. An additional outdoor sample was collected in the drive way area directly outside the main entrance to the Trans World Airlines terminal building at J. F. Kennedy Airport.

Air Sampling Technique

Two types of air sample were collected. The first air sample at each location was collected in triple distilled water using the midget impinger. The sample was collected for ten minutes. The second sample was collected for ten minutes on a millipore membrane filter. The impinger sample was analysed for the millions of particles per cubic foot of air sampled, for respirable size grains and for fibers.

The millipore filter sample was analysed according to the technique of Edwards and Lynch as proved in the annals of Occupational Hygiene, volume 11, pages 1-6. This technique

reports the number of fibers per cc. of sample:

Sample No.	Location	Impinger Sample	Membrane Sample
		Millions of Particles Per Cubic Foot	Fibers/ cc.
1	Federal Building	0.5	0.02
2	Federal Building	0.5	0.02
3	Post Office Building	0.8	0.03
4	Outdoor Sample, Newark	1.2	0.08
5	Trans World Airlines Terminal	0.6	0.02
6	Trans World Airlines Terminal	0.6	0.02
7	Outdoors, J. F. Kennedy Airport	1.3	0.08

The impinger count in millions of particles per cubic foot includes both dust grains and fibers of respirable size. Microscopic examination showed no fibers that could be classified as asbestos. The fibers noted were:

- Cotton Lint
- Synthetic fibers
- Fibers of dead grass, or
plant life
- Fibers from insect wings.

as well as other fibers not identified as asbestos. Grass fibers and insect wing fibers were found mainly in outdoor air samples.

In the membrane filter samples no asbestos fibers were found in the outdoor samples or in the Newark Post Office sample.

A few fibers of mineral tile were noted in the Newark Federal Building samples but that the particle size exceeded 50 microns in diameter, and represented a chunk of material rather than a fiber.

Summary

It has been determined by air sampling and microscopic evaluation that there is no exposure to asbestos fibers of respirable size in the work environment in the new Federal Building in Newark, New Jersey, or in the main rotunda of the Trans World Airlines terminal building at J. F. Kennedy Airport, New York City. There is no exposure of dust in general that would lead to lung involvement on the part of employees, or the general public in the three buildings. Greatest exposure to dusts of any nature occurs outdoors, in the area occupied frequently by the general public and not within the buildings studied.

W. R. Bradley
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