

SURVEILLANCE OF THE ATMOSPHERE

This section will indicate the method that is currently recommended by the Department of Labor to be used for evaluating environmental conditions of asbestos operations. But, before this is undertaken a review is to be made of the first method--impinger collection and the subsequent change to the present procedure of filter collection.

The first standard for controlling exposure to asbestos was recommended in 1938. This was based on a study by Dreessen, et al.* of four asbestos textile plants. The study was a joint effort by the U.S. Public Health Service and the North Carolina State Board of Health. A tentative limit of 5 million particles per cubic foot (mppcf), using the impinger collection technique and light field microscopy, was suggested. These investigators found numerous cases of pneumoconiosis where concentrations exceeded this value and only three possible cases when the concentrations were below this value. To recall a point, the latent period for development of disease is on the order of 10 to 20 years. In this study, only five persons had been exposed for more than ten years to concentrations from 0 to 4.9 mppcf. None of 39 persons exposed to concentrations below 2.5 mppcf showed evidence of asbestosis. In addition, only six of these 39 had been employed more than five years. Another factor of this study was the length of employment of these workers. Of the total 541 employed, 333 of them had worked less than five years in the textile industry, 66 were employed for as long as ten years and only two for more than twenty years. The average age of these textile workers was about 32 years.

*Dreessen, W. C., J. M. Dallavalle, J. I. Edwards, J. W. Miller, and R. R. Sayers, A Study of Asbestosis in the Asbestos Textile Industry, Public Health Bulletin #241, 1938.