REPORT OF DUST STUDY MADE IN MULE SPINNING DEPARTMENT OF GENERAL ASBESTOS AND RUBBER CO. NORTH CHARLESTON, S. C.

By

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At the request of the management of the General Asbestos and Rubber Company plant at North Charleston, S. C., a dust study supplementary to those previously made, was conducted in the North Charleston plant during the week of April 4, 1938. This study was made for the purpose of determining the concentrations of asbestos dust to which workers in the mule spinning department were exposed. This information had previously been obtained during the study made in January and February 1937 but a recheck was desired.

The mule spinning department is a large, long room with a high ceiling and well ventilated naturally on three sides by large windows. It is the only department in the entire plant in which exhaust ventilation equipment was not installed because, from a knowledge of the processing of asbestos and from dust determinations made in the room, it was found to be unnecessary.

Due to the fact that control mechanism has not always been on the twisting, cop winding, and foster winding machinery, (on the same floor of plant but separated completely in the case of the former two operations by a permanent wall and to a large extent in the case of the latter operation by a high partition) it was deemed desirable to find what possible effect no dust control on these three above mentioned operations would have on the mule spinning department. Accordingly, no control was operated on twisting, cop winding, and foster winding for one whole morning during which time samples were being collected on the mule spinning operation.

The Greenburg-Smith Impinger was used in collecting the samples and the procedure recommended by the U. S. Public Health Service was

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followed in determining the dust concentrations. The sampling solution was 25% grain alcohol. The results of the study, tabulated together with values previously obtained are as follows: (all figures represent dust concentrations in millions of particles per cubic foot of air.)

Samples Taken in Mule Spinning Dept.

Dust concentrations in millions of particles per cubic foot of air

Jan.-Feb. 1937	April 1938	April 1938 (Conditions made to represent those in 1930)
.46	1.17	.82
.81	.85	.82
1.09	1.20	.84
.55	1.17	1.81
.90	1.63	1.44
1.30	1.00	
	1.17	
Avg. .85	Avg. 1.17	Avg. 1.15

The first column of the table represents the six samples taken in the mule spinning department during normal operation in the Jan.-Feb. 1937 survey. The second column shows the values obtained during the normal operation in the April 1938 study. The third column indicates the concentrations obtained with absolutely no control measures at all on the operations on the entire floor which houses the mule spinning department. In all cases, the concentrations were extremely low.

Conclusions

From information in the literature available today and present day knowledge of asbestos and its processing, it is concluded, in the light

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of the figures obtained in this study, that dust concentrations in the mule spinning department are far below that minimum necessary to cause asbestosis in the workers; that a need for exhaust ventilation equipment in this department is in no wise indicated; that from conditions reconstructed to represent those in the plant in 1930 it cannot be shown that the dust concentrations in the mule spinning department were raised by dust arising from other operations.

Acknowledgement is made of the cooperation of the management of the General Asbestos and Rubber Company in helping to carry out this study and appreciation is expressed for courtesies rendered during the study.

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