FROM TOM FLORES

OPERATIONS

July 18, 1973

TO MR. A. A. RAMBIKUR

OPERATIONS

cc: Mr. C. L. Green - Bldg. I
Mr. T. B. Bonney - Pittsburgh
Dr. V. H. Barbour - Bldg. I

Route: Mr. F. S. Williams - Bldg. R-139
Mr. R. S. Cain - Bldg. R-141

RE: NIOSH SCHOOL FOR EVALUATION OF ASBESTOS DUST

The course was held on June 26, 27 and 28 in the Federal Building by the National Institute for Occupational Safety and Health, Division of Training and the course director was Mr. Stephen G. Bayer. Of the fifteen courses Mr. Bayer has conducted, this was his largest class with seventeen present. Attending the course with the writer was Mr. A. J. Filla. Also attending for the company were Mr. George H. Farrah of Alcoa Technical Center, Merwin, Pa. and Mr. G. S. McGhee of Alcoa, Tenn.

The first sessions were on the effects of asbestos dust on man. The talks were video taped with Dr. Howard Raymond presenting the material. He went back into the history of the disease, asbestosis, explaining when it was finally recognized as a disease and talked about the symptoms. He then explained briefly the respiratory system of man and the effects asbestos dust has on it. To clarify some of his points, we were shown color photographs of diseased lungs taken from people who had died of asbestosis in their late thirties. They were mostly South Africans who worked in the asbestos mines there. He stated that the peculiar symptom, clubbing of the extremeties, is being used in a study of some 2500 asbestos workers here in the U. S. to determine if asbestosis is occurring. Clubbing is measured by drawing a line from the first joint of a finger to the cuticle, to the end of the fingernail. In a normal person, these three points lie in a straight line. In an affected person the line would slant downward. This line is measured by placing the workers finger under a bright light and marking the three points from the fingers shadow on a sheet of paper, then connecting the three points.

Color slides were shown of the different types of asbestos. The most common are chrysotile and amosite. Crocidolite is rarely found in the U.S. Being a product of South Africa, it is sometimes referred to as "African Blue" because of its' bluish tint when viewed under a microscope.

We were instructed in the use of the microscope. How to adjust the illuminator, the iris, condenser and phase rings. Our microscopes' only adjustment is the phase rings. There are three types of objectives, achromatic, fluorite and apochromatic. The ultimate in objectives and the most expensive is the apochromatic. Our microscope uses the achromatic type. All the microscopes used in the course were in the $1300 to $1900 price range and included Bausch and Lomb, Leitz, Niko, Zeiss and American Optical units.

Some time was spent in calibrating the microscope with the Porton reticle, cutting and mounting the membrane filter on glass slides, and counting asbestos fibers. We were given nine rules to follow in counting asbestos fibers.

PLAINTIFF'S EXHIBIT
AL-491

It was reassuring to the writer to know that the techniques being used in Point Comfort since November 1972 were the same ones taught in the course.

One thing we discovered upon our return was that it does make a difference which brand of membrane filter is used in formulating mounting solution. The Gelman GA-4 filter with the same pore size and diameter will not dissolve to as clear a mounting solution as the millipore type AA. We have since discarded our old mounting solution and made up some new which we expect will cause our fiber count to go up due to the increased clarity of the slides.

A bubble burette was demonstrated as a primary standard with which to calibrate the small personal sampling pumps. This simple and accurate apparatus has already been used to check and set our pumps.

One of the things that raised a number of questions was the way NIOSH calculates the time-weighted average for determining the fiber concentration of asbestos. After a lengthly discussion the matter was dropped by Mr. Bayer and nothing concrete was ever decided.

Because of restricted government spending, our course was the last one offered without a charge for tuition.

This course is being offered now approximately every month and a half for a tuition fee of $200.00.

TOM FLORES

TF:djw

FROM

THOMAS B. BONNEY

PITTSBURGH OFFICE - 7

TO

MR. A. A. RAMBIKUR

POINT COMFORT OPERATIONS

August 22, 1974

RE: CLEAN-UP OF ASBESTOS DUST

Although 1, too, was under the impression that the captioned required the use of a vacuum cleaner, a review of 1910.93(a) revealed that this is not the case. The only reference to cleaning is in Section (h)(1) which states that all surfaces be kept free of "accumulations of asbestos fibers" if upon dispersion they would create excessive concentrations. Note that presence of asbestos fibers rather than dust, per se, determines the need for clean up. Therefore, your interest in knowing if asbestos is present in the settled dust is most appropriate.

Obviously, from an industrial hygiene point of view, vacuuming presents the best method of clean-up, since it results in minimum redispersion of dust into the room. If vacuuming proves not to be practical in a given situation, the standard still permits sweeping. However, if sweeping is done, you will have to know if there are asbestos fibers in the sweepings. If there are, air sampling to evaluate the sweeper's exposure is in order. If concentrations prove to be excessive, appropriate control (other than respiratory protection) is required. This will have to be done by work practices (e.g., wetting down the floor) or engineering control, which brings you right back to vacuum cleaning.

THOMAS B. BONNEY

TBB:gk

cc: R. E. Podhora - Point Comfort Operations

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