SC_DENH0012S4

INTER-OFFICE COMMUNICATION

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From: Al Davidson

Subject: Vermiculite Ore - Asbestos Monitoring

Date: June 23, 1980

Samples of vermiculite ore from Grace Libby, Virginia, and American Vermiculite(African) prepared per the Grace concentration scheme were submitted to McCrone Associates for asbestos analysis on May 7, 1980. Samples were analyzed by x-ray diffraction and polarized light microscopy/dispersion staining. Results are as follows:

A. X-ray diffraction studies indicated the presence of amphiboles in samples--African(-100M), Virginia Pole Barn(-100M), Virginia Marysville(-70+100M), Virginia Marysville(-100M), and Libby Marysville(-100M).

B. Optical Microscopy studies revealed the presence of 0.5-1% tremolite-actinolite in samples

1) Virginia Pole Barn(-100M)	0.013 to 0.026%
2) Virginia Marysville(-100M)	0.025 to 0.050%
3) Libby Marysville(-100M)	0.006 to 0.0112%

Per McCrone "the tremolite-actinolite in these samples is of the massive variety, however, much of it has cleaved to form fragments with aspect ratios of 3:1 or greater." The percentages shown above are converted to represent percent in total sample.

The indication of tremolite-actinolite in the African(-100M) fraction was not confirmed by optical microscopy. Also, the optical studies revealed the presence of several percent hornblende in the Virginia-Polebarn(-100M), Virginia-Marysville(-100M), and Virginia-Marysville (-70+100M) samples.

C. White-gray particles were removed from another portion of the Grace-Libby vermiculite ore used above. The particles were examined by optical microscopy by McCrone and found to "consist of approximately 90% tremolite-actinolite(probably actinolite) and appears to be of the asbestiform variety."

D. The optical microscopy studies did not detect the presence of asbestos minerals or other amphiboles in any of the African ore fractions or in any of the larger mesh Virginia and Libby fractions.

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JUN 25 1980

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