FILE NAME: RT Vanderbilt (RTV)

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DOCUMENT DESCRIPTION: Letter to RTV from EMventions Lab Director with Test Results Showing it Likely that Tremolite is in Their Talc

EMVENTIONS INC.
MICROANALYSIS LABORATORY

June 1, 1975

Dr. C. S. Thompson
R.T. Vanderbilt Company, Inc.
33 Winfield Street
East Norwalk, Connecticut 06855

Dear Dr. Thompson:

Enclosed are the results of the SEM (scanning electron microscopy)/EDS (energy dispersive spectrometer) x-ray analysis of the six talc samples you submitted for analysis. Also provided are the photographs of the non-asbestiform anthophyllite sample.

A comparison was made between our fibrous anthophyllite standard and the #3 Gouverneur Mine non-asbestiform anthophyllite. The fibrous form maintained a Si:Mg ratio of 2:1.1. This fibrous form also had a significant concentration of Fe present. This non-fibrous form showed a Si:Mg ratio of 2:0.8. The non-fibrous anthophyllite also contained concentrations of Ca (5%) and Mn (approximately 10%).

Examination of samples CPS 1-6 for the presence of chrysotile asbestos was performed using an acceleration potential of 20Kv and a beam current of approximately 10^{-9} amps. Each of the six samples was mounted on a specimen stub using double sided adhesive tape. The talc particulate was collected on the exposed tape surface and the excess sample removed by an air blast. The samples were then placed in a vacuum evaporator and pumped down to a vacuum of 5×10^{-5} Torr, and coated with a thin film of Au/Pd for conductivity.

Each of the six samples was then examined in our Hitachi HiScan SEM at 10,000X magnification using the rapid TV scan mode. A minimum of 25 fibers was analyzed on each sample to determine their relative chemical constituents. In all six samples the search revealed no fibers which exhibited the characteristic morphology of chrysotile asbestos or the characteristic x-ray spectrum of chrysotile asbestos. At low magnifications the lath fibrous strips appear to be fibers, but as the magnification is increased their fine structure is revealed.

It is entirely possible that tremolite is present within the talc. This assumption was made after careful evaluation of the x-ray spectra obtained from the samples and examination of other mineral standards present in our laboratory.

Sincerely,

Richard J. Harniman

Richard J. Harniman
Laboratory Director

RJH/mlg:Encl.

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