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THE UNIVERSITY OF MARYLAND

COLLEGE PARK CAMPUS
Department of Geology

Dr. C.S. Thompson
R.T. Vanderbilt Company, Inc.
30 Winfield Street
Norwalk, Connecticut 06852

July 28, 1989

Dear Dr. Thompson,

I have examined the sample of Mouldene(S-158) which you sent to me on July 19, 1989. The material consists primarily of fibrous talc with small amounts of tremolite, anthophyllite, carbonate, quartz, platy talc and feldspar.

The fibrous talc occurs in fiber bundles with splayed ends and as what appear to be individual fibers. The indices of refraction of this material are highly variable,. Parallel to elongation, γ ranges from 1.594 to 1.576; however, most of the fibers and fiber bundles have γ's between 1.582 and 1.588. Perpendicular to elongation the indices of refraction are much more variable, ranging from 1.536 to 1.578. These values represent the range in α and β. In general, the more the fibers display the classical characteristics of asbestos, i.e., fiber bundles with splayed ends, small fibril width, curved fibers,etc., the lower are the indices of refraction within the ranges given above.

The anthophyllite does not display asbestiform characteristics. It is most easily recognized by its peculiar striped extinction pattern which also appears to be reflected in plain light as variable indices of refraction. These characteristics might be explained as an intergrowth of anthophyllite and talc. γ for anthophyllite is always greater than 1.600 while α was measured as 1.596.

Tremolite, like anthophyllite, does not display the characteristics of asbestos. It is generally blocky, but an occasional particle has an aspect ratio in excess of 10:1. α for tremolite was measured as 1.600, and γ for tremolite is greater than 1.600.

Tremolite and anthophyllite are about equally abundant, Together they total 5-10% of the sample. A few percent of the sample is carbonate, a little less is quartz and feldspar occurs only in trace quantities.

If you have any questions, please let me know.

Sincerely yours,

Ann G. Wylie

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