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Asbestosis Mines Stating No Asbestos Minerals Found

October 29, 2004

Ms. Nora Grimbergen, Esquire
Hoagland, Longo, Moran, Dunst & Doukas, L.L.P.
40 Paterson Street
New Brunswick, New Jersey 08903

Dear Ms. Grimbergen:

I have studied the occurrence, properties, and human health effects of minerals and mineral commodities for almost the entire time period for the past 40-years. Among the mineral commodities that I studied were the asbestos minerals, industrial grade talc, consumer talcum products, silica and titania polymorphs, vermiculite, amphibole cleavage fragments, palygorskite, attapulgite, sepiolite, and wollastonite. I have studied talc samples obtained from the R.T. Vanderbilt mine in New York State over this time period as well. My recent studies have focused on recognition (communication) of chemical functionalities on the surfaces of minerals with receptors on mammalian cells.

My studies of the Vanderbilt talc deposit in New York State have included many techniques employed in the study of mineral deposits, including light optical (polarized light microscopy) and electron optical (transmission and scanning microscopy) techniques, crystal spectrometry (electron microprobe) and energy dispersive spectrometry chemistry techniques, electron diffraction studies, and both continuous-scan and step-scan x-ray diffraction techniques. I know much about the mineralogy of this deposit and the nature of the minerals that made up its NYTAL products that entered commerce in the United States over the past several decades.

Based on my studies over the many years I failed to find asbestos minerals, of any form, in that talc. Both tremolite and anthophyllite occur as prismatic cleavage fragments of crushed massive mineral, anthophyllite occasionally occurs as intergrowths with talc, talc forms both plate and fiber (either ribbons or structural intergrowths with one of the amphibole forms present) in the deposit. Even the talc from that deposit exists in the triclinic crystallographic form rather than the monoclinic form usually described for that mineral. This last comment is included to underscore that what has been stated repeatedly in the literature might be incorrect. Tremolite and anthophyllite exist not as asbestiform minerals but rather as elongate fragments produced by the milling process. They are cleavage fragments.



It is important to note that as techniques evolved over the past 20-years or so, and research into the nature of asbestos fibers progressed, many of the statements regarding the occurrence of asbestiform minerals in RTV talc had to be modified. I speak for myself now. What was considered to be asbestos a generation ago is rightly considered standard non-asbestos mineral today. OSHA's most recent asbestos standard correctly reflects this position.

Experimental data, and epidemiological data obtained on workers from the RTV deposit, have failed to show that a problem exists concerning exposure to dust generated from this talc and risk of excess cancers (especially mesothelioma).

Based on this constellation of factors, including those mineralogical, experimental, and epidemiological, I would conclude that the probability that talc products from this deposit are capable of producing mesothelioma in humans roughly approximates zero. I cannot state never as this implies existence of proof of a negative.

If you have any question concerning any of the above statements please do not hesitate to contact me.

Sincerely,

Arthur M. Langer Ph.D.