

To: Mr. D. G. Wilson
General Superintendent
Homestead Works

Date: August 17, 1976

From: W. C. Janes, Manager
Environmental Health

Subject: Asbestos Content
of Vermiculite

Environmental Health has received two samples of vermiculite used at Homestead for analysis of possible asbestos content. These samples were purchased from Insolite Refractories Company under the trade name, "Zonolite" and from J. P. Austin Associates, Inc. under the name, "A-Tops."

Vermiculite is a hydrated magnesium-aluminum-iron silicate which expands to approximately 6 to 20 times its original volume when heated to 2000°F. Its principal use is as an insulating material. It is found chiefly in Montana but also in North Carolina, South Carolina, Wyoming, Colorado and South Africa.

W. R. Grace & Co., a major miner, processor and supplier of vermiculite, has informed us that vermiculite ore deposits contain a "tramp" material which they have identified as tremolite, defined by OSHA as one of the asbestos family. Grace has found tremolite in the ore from both of its deposits, in Montana and South Carolina. Grace distributes its vermiculite under the trade name Zonolite. All suppliers selling vermiculite under this name purchase the product from Grace & Co.

Examination of both Homestead vermiculite samples by optical microscopy using phase contrast illumination indicated a small amount of asbestos in each sample. Environmental Health recently conducted identical examinations on samples submitted by all U.S. Steel plants using vermiculite. These analyses indicated a considerable number of asbestos fibers in the unexpanded vermiculite ore. It appears that most of the asbestos is removed during the ore expansion process. However, even with the expanded vermiculite, asbestos fibers were observed in virtually every sample. A. S. Patterson, Supervisor of Safety, was notified of these findings in a letter dated August 10, 1976.



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