



Johns-Manville

Research & Engineering Center

P. O. Box 1111  
Morgantown, West Virginia  
26507-1111

September 16, 1970

Mr. James F. Morgan  
E. I. duPont de Nemours & Company  
Employee Relations Department  
Wilmington, Delaware 19898

Dear Mr. Morgan:

It was a pleasure hearing from you. I am particularly intrigued by the identification of Grunerite in what I presume is a dust sample at one of your locations.

Grunerite is an amphibole which in most mineralogy books is indicated as being fibrous or columnar. We do not normally regard it as a member of the asbestos family of amphiboles since it is so harsh that it does not yield a "fibrous" product.

Under separate cover I am sending to your attention a sample of Cummingtonite schist from the Homestake Mining Company in Lead, South Dakota. This material has been identified by us as Grunerite with a slight impurity. Attached are the approximate analyses and an electron micrograph of the material.

Confirming our discussion at Philadelphia, we would be very glad to discuss with you at any time your program in connection with employee exposures to asbestos fiber dust and offer any assistance based on our long experience in this field.

Very truly yours,

  
Dr. Sidney Spell, Director  
Corporate, Mining & Pipe Divisions

SS/rs

DUP 0901615

DU 023012

Mr. James F. Morgan  
E. I. duPont

Attachment  
September 16, 1970

Analyses of Grunerite Sample

Sample Description: Cumingtonite Schist  
from - Homestake Mining Company  
Lead, South Dakota

Sample No. 1647-152-1

X-ray Identification: Grunerite  $[(Fe, Mg)_7(OH)_2 Si_8O_{22}]$   
and a trace of chlorite.

Petrographic: Major - amphibole mineral with optical properties  
close to grunerite, a member of the  
cumingtonite series.

Minor - chlorite

Spectrographic:

Major - iron, magnesium, silicon

Minor High - aluminum  
(5-10%)

Minor Low - calcium  
(1-5%)

Small - manganese, sodium  
( $< 1\%$ )

Very Small - chromium, copper, titanium, zirconium  
( $< 0.1\%$ )

Electron Micrograph: Attached

S. Speil

DUP 0901616

DU 023013