

GEORGIA INSTITUTE OF TECHNOLOGY

ATLANTA, GEORGIA 30332

February 9, 1965

Make file
A232-255



Central
Files

Mr. T. D. Oulton
Research Supervisor
Minerals and Chemicals Philipp Corp.
Menlo Park, New Jersey 08837

Re: Project A232-255

Dear Mr. Oulton:

Electron micrographs of ultra microtome sections of your sample SA 354-64-B (No. 1) are enclosed.

The sample was dried from the original suspension, lightly ground with a mortar and pestle, and dispersed into a capsule of epoxy resin by stirring. Sections were cut from an area about 1/4 mm square.

The sections are complex in appearance and will require some study to interpret. Cross-section views of many spicules are seen, and some apparently show holes.

Very truly yours,

John L. Brown, Head
Analytical Instrumentation
Laboratories

JB/jy

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GEORGIA INSTITUTE OF TECHNOLOGY

ENGINEERING EXPERIMENT STATION

ATLANTA, GEORGIA 30332

February 25, 1965



*Central
Files*

Mr. T. D. Oulton
Research Supervisor
Minerals & Chemicals Philip Corp.
Menlo Park, New Jersey 08837

Re: Proj. A232-255

Dear Mr. Oulton:

Electron micrographs and diffraction patterns of some typical non-attapulgite material are enclosed. The patterns were made using the selected area technique. The rectangular area within a given micrograph is the only portion contributing to the diffraction pattern. All lines of the original pattern do not show on the print; analysis was done using the original negatives.

In selected area diffraction of layer minerals the sample is observed in a highly preferred orientation. The basal reflection does not occur, and other reflections are lost or have their intensities changed. Thus it is difficult to compare experimental data with the ASTM x-ray file. The identifications given are based on comparative d values and observed morphology.

Unknown #1

d/
3.42
2.06
1.23

Beta quartz

d/
3.42
2.05
1.225

Unknown #5

d/
4.42
2.55
2.23
1.75
1.67
1.55

Montmorillonite [$\text{Al/Si}_2\text{O}_6(\text{OH})_2$]

d/
4.45
2.56
2.23
1.69

Unknown #6

d/
4.61
2.61
2.27
1.52

Chlorite

d/
4.63
2.60
2.26
1.54

COPY

Two d values of attapulgite are 4.49 and 2.55; very close to those of montmorillonite. In some cases the values were used as standards for measuring the unknowns.

Other unknowns were micrographed but the patterns were either too weak to measure or no fit could be obtained with known data.

If you have any questions on this work please contact me.

Cordially,

John L. Brown, Head
Analytical Instrumentation Labs

JLB/lm