the typical (001) and (110) cleavages and a moderate transparency. Optical characteristics observed on the specimens from Kentucky are given below and are essentially identical with those published for normal celestite:

$$\alpha = 1.622, \quad \beta = 1.624, \quad \gamma = 1.630, \quad 2V = 51°,$$

optically positive, distinct dispersion $r < v$.

The celestite is believed to have been deposited by hydrothermal solutions closely allied to those depositing the fluorspar ore bodies of the district.

DIHYDRITE FROM MINERAL COUNTY, NEVADA

HATFIELD GOUDEY, *Yerington, Nevada.*

Emerald green to blackish green, minutely botryoidal crusts in the outcrop of the Calavada Mine, Mineral County, Nevada, appeared somewhat different from the malachite and chrysocolla common to the area. The first supposition was that the mineral might be conichalcite.

Mean refractive index determined by immersion is about 1.76. Microchemical tests using potassium mercuric thiocyante, ammonium molybdate, magnesium sulfate and silver nitrate showed copper and phosphate with a little arsenate. Traces of calcium and iron, probably due to admixed impurities, were also found.

Under the binocular microscope the mineral appears as very shiny, transparent botryoidal forms with no apparent crystalline structure. With high magnification under the polarizing microscope a radiating subfibrous structure and strong anisotropism are observed.

The above characteristics agree with those published for dihydrite and no other known mineral. It may be of interest that specimens from this locality, as observed under the binocular, are very similar to those from New Jersey.

OCCURRENCE OF NEMALITE IN ALASKA*

WILLIAM C. FACKLER,
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The first Alaskan occurrence of nemalite, the fibrous variety of brucite, was found by Mr. Eskil Anderson, Associate Mining Engineer, Department of Mines, Territory of Alaska, while examining tremolite and chrysotile asbestos deposits in the Kobuk River valley. Upon the con-

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clusion of the 1944 field season, samples of the mineral were brought to the School of Mines, University of Alaska, for examination. In addition, samples were sent to Drs. F. F. Grout and J. W. Gruner of the University of Minnesota and to Mr. C. S. Ross and Miss Jewell Glass of the U. S. Geological Survey for examination and further investigation.

Mr. Anderson[1] found "the nemalite to be common in the asbestos deposits on Shungnak River and Cosmos Creek, about ten miles above their mouths. In both places it has been found in serpentine where it is closely associated with chrysotile. The only fibrous brucite that I observed in place was in pockets in sheared serpentine. The pockets were usually from one to three inches thick and up to a foot or two long as exposed. When the asbestos zone is more thoroughly examined, nemalite could probably be found in many places between Jade Mountain and the Kogoluktuk River."

Megascopically the specimen is composed of aggregates of hair-like fibers, eight to nine inches long, with such perfect cleavage that very fine filaments may be separated from the specimen. It is colorless to grayish or greenish white. Luster is vitreous to pearly. Fibers are brittle and transparent.

It is completely soluble in cold hydrochloric acid. Infusible, giving a brilliant incandescence. Contains a large amount of water and some iron. The presence of iron is at least partly accounted for by small inclusions of magnetite.

The mineral is optically[2] biaxial positive with 2V varying from 30° to 70°, but commonly about 30°. Good interference figures well centered were frequently observed. Parallel extinction with X parallel to the elongation of the fibers. Indices of refraction[3] are: $\alpha = 1.565$, $\beta = 1.571$, $\gamma = 1.584$; $B = .019$. The birefringence and anomalous interference colors are those of ordinary brucite.

Dr. J. W. Gruner[4] of the University of Minnesota reports that "the x-ray pattern of this mineral checks line for line with brucite."

[1] Personal communication.

[2] Optical determinations by Mr. C. S. Ross and Miss Jewell Glass of the U.S.G.S., Dr. F. F. Grout of the University of Minnesota, and the author.

[3] Determined by Mr. C. S. Ross and Miss Jewell Glass.

[4] Personal communication.