

NOTES AND NEWS

CELESTITE FROM LIVINGSTON COUNTY, KENTUCKY*

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Celestite which has not been hitherto reported from the Kentucky-Illinois fluorspar district, was found during the past year at the Jameson prospect, 8 miles northwest of Salem, Livingston County, Kentucky. It occurs as a small stringer in calcite.

The celestite stringer was encountered at a depth of 30 feet in the shaft. The miners, believing that the material was fluorite, brought a specimen to the writers who determined the mineral to be celestite. Possibly this mineral has been overlooked in this district in the past because of its physical resemblance to fluorite.

The celestite-bearing vein occurs in fault No. 20¹ which is in the Golconda quadrangle, Livingston County, Kentucky. The fault strikes N. 10° W. at the Jameson prospect, and the nearly vertical fault plane dips slightly westward. The fault brings into contact at the surface the Bethel sandstone and the Renault formation, of Mississippian age. The stratigraphic displacement is about 60 feet. The vein is about 4½ feet wide and consists mainly of limestone-calcite breccia and some gouge. Along the footwall is a persistent calcite veinlet 18 to 20 inches wide. The celestite stringer was pockety, averaging 1 to 2 inches in thickness. It cut through the shaft and passed into the rock on each side so the linear extent could not be measured. The veinlet did not persist in depth, having a vertical extent of only 10 feet. That part of the stringer seen consisted chiefly of small celestite crystals and crystal aggregates lining a narrow fissure in the limestone-calcite breccia. Fluorite did not occur in the vein until a depth of 60 feet was reached, but several vugs filled with small quartz crystals were noted. Below 60 feet, the vein is 2 to 4 feet wide and is composed largely of massive brown fluorite with fine-grained barite and disseminated marcasite. A drift on the 100-foot level has been driven northwest for about 120 feet in this material but no more celestite was found.

The light sky-blue celestite is chiefly in distorted tabular crystals, about 2 centimeters wide and half a centimeter thick, and in crystalline aggregates. When the crushed mineral was examined in oils, it exhibited

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¹ Weller, Stuart, *Geology of the Golconda Quadrangle: Ky. Geol. Survey*, p. 125 (1921).

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:

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

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

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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 thiocyanate, 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 sub-fibrous 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*

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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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