

KINOITE



The second world occurrence of kinoite, a rare calcium copper silicate, was recorded by Ruotsala and Wilson (1977) from the Laurium mine, south of Calumet. In its Arizona occurrence the mineral is part of a skarn assemblage, but in Michigan it belongs to the native copper paragenesis of the Northern Peninsula.

Houghton County: 1. *Laurium mine*, about 3 kilometers south of Calumet, within the southwestern extremity of the mineralized part of the Kearsarge flow. Subhedral to euhedral blue crystals as large as 1.5 x 0.3 x 0.1 mm occur in vesicles in albitized basalt. Associated minerals are epidote, pumpellyite, copper, silver, quartz, calcite, chlorite, and saponite. Kinoite, as well as copper, occurs as inclusions in calcite and quartz crystals in vugs. In the latter, kinoite may form “phantoms” (Ruotsala and Wilson, 1977; Wilson, 1977; Behnke, 1983). 2. *Oneco mine*, Oneco Location: As a bright blue coating on fracture surfaces in basalt. 3. *Kearsarge Number 4 mine*: As bright blue microcrystals in calcite veins similar to those from the Laurium mine (2, 3 identification based on energy dispersion X-ray spectrometry). 4. *Centennial mine*, Centennial: Minute blue prisms in calcite (T. M. Bee, personal communication, 2000). 5. *Osceola Number 3 mine*: Bright blue micro crystal inclusions in quartz similar to those from the Laurium mine (J. Hall, personal communication, 2001).

Keweenaw County: *South Cliff mine*: As microscopic blue prismatic crystals in white calcite, similar to other occurrences (J. Heyman, personal communication, 2000). Verified by energy dispersion X-ray spectrometry.

Ontonagon County: *Algomah mine*: As microscopic blue crystals in calcite.

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