

**AZURITE**  
 $\text{Cu}^{2+}_3(\text{CO}_3)_2(\text{OH})_2$

A supergene copper mineral formed by weathering of copper sulfides in veins and lodes. In Michigan, much less common than malachite. Northern Peninsula.

**Dickinson County:** 1. NW  $\frac{1}{4}$  section 24, T39N, R28W: With malachite, as an alteration of concretionary masses of chalcopyrite in siliceous dolomitic marble (Randville?) (Rominger, 1881). 2. Breen mine, section 22, T39R, R28W: (T. M. Bee, personal communication, 2000).

**Houghton County:** 1. From a small prospect on the west side of Boston road, approximately 0.4 km from its intersection with Highway 41, north of Hancock. As microcrystals in cavities in hydrothermally altered basalt. 2. Microcrystals of azurite perched on rings of malachite have been found at the Isle Royale Number 1 mine (T. Rosemeyer, personal communication, 1999). 3. Champion mine, Painesdale: As small crystals to 2 mm in cavities in chalcocite (T. M. Bee, personal communication, 1999).

**Keweenaw County:** 1. Abundant in one pit near the North Cliff mine: In veinlets at the edge of cuprite nodules with copper and silver, commonly coated by vermicular malachite; also in growth-distorted crystals. Three crystals showed forms {001}, {100}, {120}, {470}, {340}, {110}, {013}, {102}, {101},  $\{s\sqrt{6}(-01)\}$ , {302}, {111}, {332},  $\{s\sqrt{6}(-13)\}$ , and  $\{s\sqrt{6}(-32)\}$  (Williams, 1966). 2. A small water-worn specimen of banded solid blue azurite in the collection of the A.E. Seaman Mineral Museum, Michigan Technological University (specimen DM 23004), was found adjacent to a large mass of copper on the floor of Lake Superior in Great Sand Bay (R. Barron, personal communication, 1999).

**Marquette County:** 1. Marquette iron range: Coatings in copper-bearing veins in slates of the Kona Formation (Reed, 1965). 2. Captain Daniels' mine, north of Marquette: As microcrystals in quartz-chalcocite veins (DeMark, 2000).

**Ontonagon County:** National mine: As dark blue vein fillings and microcrystals to 1mm, associated with malachite and tenorite.

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**UPDATE**

(see Part IV, Baraga County)

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