ACANTHITE

Ag_2S

One of two Ag_2S polymorphs, the other being argentite. Acanthite is found almost exclusively in silver-bearing hydrothermal veins or as coatings on native silver. Northern Peninsula.

Keweenaw County: 1. Cliff mine: Reported by Williams (1966) as occurring in the Cliff deposit as films of minute twinned blades on silver crystals associated with chalcocite. Probable, but not verified. **2.** Copper Falls mine: A specimen of silver (DM 1130) in the collection of the A. E. Seaman Mineral Museum, Michigan Technological University, shows areas coated by a black mineral giving only Ag and S as its major elements by energy dispersion X-ray micro-analysis. This mineral is most likely acanthite. Associated species include prehnite, analcime, and calcite.

Marquette County: Cliffs Shaft, Ishpeming: Originally misidentified as stromeyerite, a single specimen (DM 22763) in the collection of the A. E. Seaman Mineral Museum, Michigan Technological University, has been shown by X-ray diffraction and energy dispersion X-ray spectrometry to be acanthite. The acanthite occurs as granular black masses in altered siderite with minor azurite. However, the general lack of silver in the Michigan iron ranges, and absence of oxide-zone mineralization with sulfides at the Cliffs shaft, casts suspicion on the validity of this occurrence.

FROM: Robinson, G.W., 2004 Mineralogy of Michigan by E.W. Heinrich updated and revised: published by A.E. Seaman Mineral Museum, Houghton, MI, 252p.

UPDATE

An uncommon late-stage hydrothermal sulfide mineral found in certain silver-bearing vein deposits. This is the first recorded occurrence in Michigan. Northern Peninsula.

Baraga County: Huron River uranium prospect NW ¼ NW ¼ section 1, T51N, R30W: Acanthite has been identified as microscopic black ribbons associated with mercurian silver. Verified by energy dispersion X-ray spectrometry.

Houghton County: Baltic mine, South Range: As small patches resembling chalcocite, with which it occurs in association with crude wires of native silver, quartz and minor barite. Verified by electron microprobe analysis (Buchholz et al., 2010).

Menominee County: Aquila Resources, Inc. Back 40 Project, sections 1 and 12, T35N, R29W: As a minor constituent in oxidized massive sulfide (gossan) (Quigley and Mahin, 2008).

UPDATE FROM: Robinson, G.W., and Carlson, S.M., 2013, Mineralogy of Michigan Update: published online by A.E. Seaman Mineral Museum, Houghton, MI, 46p.