

## ALGODONITE



Algodonite and domeykite (q.v.) are the two principal copper arsenide species found in the arsenic-rich veins that cut the Lake Superior native copper deposits and those parts of the lodes in their proximity. Because these two minerals are often intimately intergrown with arsenian copper, skutterudite, nickel skutterudite, and other metallic phases, older wet-chemical analyses of such mixtures historically resulted in a long list of obsolete species names being applied to them (Genth, 1859, 1862; Koenig, 1900, 1902, 1903; Richards, 1901; Murdoch, 1916; Borgström, 1916; Ramsdell, 1929; Butler and Burbank, 1929; Schwartz and Forsyth, 1937; Palache et al., 1944; Berry and Thompson, 1962; Williams, 1963a; Skinner and Luce, 1971; and Moore, 1971). Those minerals are no longer considered valid species and include:  $\alpha$ - and  $\beta$ -algodonite, argentoalgodonite,  $\alpha$ -,  $\beta$ - and  $\gamma$ -domeykite, keweenawite, ledouxite, metadomeykite, mohawk-algodonite, mohawk-domeykite, mohawk-whitneyite, mohawkite, semi-whitneyite, stibiodomeykite, and whitneyite. Northern Peninsula.

**Baraga County:** Found as float (Ramsdell, 1929).

**Houghton County:** 1. *Painesdale*: Sharp, fantastically distorted crystals in parallel overgrowth on poorly formed crystals of arsenian copper. The masses are copper-rich in their outer parts with arsenic content increasing inward. Algodonite is interstitial to quartz and calcite. Crystal forms reported are  $\{0001\}$ ,  $\{10\ \uparrow\ \bar{6}\{-0\}$ ,  $\{11\ \uparrow\ \bar{6}\{-0\}$ ,  $\{30\ \uparrow\ \bar{6}\{-1\}$ ,  $\{22\ \uparrow\ \bar{6}\{-1\}$  (Williams, 1963a). 2. *Champion mine*: Intimately mixed with calcite (Koenig, 1902). 1 and 2 are probably the same locality. 3. *Pewabic mine*: Nodular masses covered with “whitneyite” from the Quincy amygdaloid (Koenig, 1900). 4. Dana (1892) reports that a transported mass of algodonite and “whitneyite” weighing about 45 kilograms was found along the St. Louis River, a small stream southeast of Laurium, draining into Trap Rock Creek.



Figure 31: Algodonite from the Abmeek Number 2 mine, Abmeek, Keweenaw County. Field of view approximately  $6 \times 9$  cm. A. E. Seaman Mineral Museum specimen No. DM 23125, Jeffrey Scovil photograph.

**Keweenaw County:** 1. *Mobank mine*: Especially abundant as large masses and typically intergrown with other copper arsenides. Also as small crystals suitable for micromounts. Between 1900 and 1901, 105 metric tons of “mohawkite” were taken from this mine. Dumps rich in “mohawkite” were used to build the road to the Kingston mine. 2. *Seneca Number 2 mine* (Stoiber and Davidson, 1959). 3. *Abmeek Number 2, 3, and 4 mines*: Algodonite and arsenian copper were encountered in enormous masses (Moore, 1962).

**Ontonagon County:** *White Pine mine*: Noted by Hamilton (1967) as a microscopic constituent in one polished section of ore from the chloritic facies of the Copper Harbor Conglomerate.

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