ANKERITE

$Ca(Fe^{2+},Mg,Mn)(CO_3)_2$

(see also dolomite)

The Fe^{2+} analogue of dolomite. Ankerite is commonly reported from both the copper sulfide and copper arsenide veins that cut the native copper lodes, as well as a lode mineral in parts of the Baltic lode. In the sulfide veins it usually occurs adjacent to the walls with copper sulfides concentrated in central parts of veins. It lines cavities in the lode itself and replaces wall rock, again with sulfides in the center of cavities. It may be associated with calcite, which is younger (Butler and Burbank, 1929). Stoiber and Davidson (1959) report ankerite as a replacement mineral of the matrix of the amygdaloid, the amygdaloid minerals, and the minerals occupying cavities, including quartz and epidote. All such replacements are near large fissures.

In spite of hundreds of reported worldwide occurrences, ankerite is a comparatively rare mineral. Most "ankerite" when checked by X-ray diffraction and chemical analysis, is found to be ferroan dolomite or siderite. Without such data, occurrences should not be considered confirmed, including these listed here. Northern and Southern Peninsulas.

Alpena County: Alpena: 5 mm crystals on siderite.

Houghton County: **1.** Baltic mine: Associated are chalcocite, bornite, and chalcopyrite. **2.** Isle Royale mine.

Keweenaw County: **1.** Near Copper Harbor: In veins with manganese oxide minerals in amygdaloidal basalt (P. B. Moore, written communication). **2.** Mohawk mines (Morris, 1983).

Marquette County: **1.** Champion iron mine: In manganiferous quartz shear veins cutting the manganese-rich Negaunee Iron Formation with quartz, hematite, chlorite, and minor chalcopyrite (Babcock, 1966b). **2.** Republic iron mine (Morris, 1983). **3.** Beacon Hill: Rhombohedral crystals, verified by X-ray (T. M. Bee, written communication, 1985). **4.** Tilden mine: In small veins cutting iron ore (T. M. Bee, personal communication, 1999).

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