BRAUNITE

 $Mn^{2+}Mn^{3+}{}_{6}SiO_{12}$

A widespread manganese mineral of both hypogene and supergene origin in metamorphic manganese-iron formations, usually as veins and lenses. Northern Peninsula.

Iron County: Bengal (Cannon) mine near Stambaugh: Found in Young's iron ore body in the Riverton Iron Formation as a post-iron ore mineral with hausmannite (James et al., 1968), manganite, pyrolusite, and psilomelane (Brower, 1968). It is also reported as pseudomorphs after rhodochrosite (Kustra, 1961).

Keweenaw County: 1. Near Copper Harbor: Found in the manganese oxide prospect pits in amygdaloid below conglomerate. It occurs as blebs in calcite veins which also have pyrolusite and orientite (P. B. Moore, personal communication). 2. A braunite-like mineral that has been called "braunite II" has been identified by S. A. Williams (written communication, 1987) by electron microprobe analysis in a matrix of neltnerite (q.v.) in a manganese deposit on Manganese Creek, 3.2 km southwest of the Lake Manganese deposit. "Braunite II" has not been officially verified as an independent, valid species. Considerable dispute marks its interpretation. It contains significant Ca, implicating a solid-solution series between it and neltnerite (q.v.), and it has a ccell parameter twice that of braunite, suggesting the two minerals are simply polytypoids. 3. Eagle Harbor: Ramsdell (1932) confirmed the presence of braunite in a specimen of manganese ore from here by X-ray diffraction. It occurs with barite.

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