ORIENTITE

$Ca_2Mn^{2+}Mn^{3+}_2Si_3O_{10}(OH)_4$

A very rare manganese mineral. Northern Peninsula.



Figure 105: Orientite crystals to 0.6 mm from the Manganese mine, near Lake Manganese, Keweenaw County. Ramon DeMark specimen, Dan Behnke photograph.

Keweenaw County: *Manganese mine* near Lake Manganese, about 1.6 km south of Copper Harbor: Found in calcite veins in basalt as reddish-brown radial aggregates of small lathlike crystals with various manganese oxide minerals and macfallite (q.v.). Verified by X-ray diffraction. This occurrence was the second in the world (Moore, 1965; Heinrich, 1974; Moore et al., 1979).

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.