HAUSMANNITE

 $Mn^{2+}(Mn^{3+})_2O_4$

A recrystallization product in metamorphosed sedimentary manganese and manganiferous iron ores. Northern Peninsula.



Figure 90: Hausmannite crystals on hematite from the Bengal (Cannon) mine, Stambaugh, Iron County. Largest crystal is 4 mm. A. E. Seaman Mineral Museum specimen No. DM 18921, Jeffrey Scovil photograph.

Iron County: 1. Bengal (Cannon) mine, Stambaugh: Medium- to coarse-grained hausmannite occurs in highly irregular veins in brecciated goethitic iron formation, particularly on the 5th and 6th levels. Solid coarse-grained masses up to 30 cm or more across have been found with individual crystals up to 2.5 cm across (James et al., 1968; Brower, 1968; Lassin, 1998). Veins of pink, manganiferous carbonate cut the manganese oxide ore which also contains manganite, pyrolusite, braunite, and rhodonite (Kustra, 1961). Hausmannite is the most abundant manganese species. Much of it is granular, some is colloform, but rare pseudooctahedral, pyramidal crystals also have been found. 2. Caspian mine, Caspian: Small black crystals similar to those from the Bengal mine.

Marquette County: 1. Negaunee: Specimen in the Harvard University collection. **2.** Marquette area: Several mines (Hewett, 1972).

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

Iron County: Hausmannite occurs at the Homer-Wauseca mine as lustrous black pseudo-octahedral crystals. Confirmed by energy dispersion X-ray spectroscopy and crystal morphology.

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.