## **CRYPTOMELANE** $K(Mn^{4+},Mn^{2+})_8O_{16}$

One of several supergene manganese oxide minerals commonly formed under surface conditions and found in weathered manganiferous iron formations. It is often mixed with other manganese or iron oxide minerals, and is probably more common than has been noted. Much of what is labelled "psilomelane" is probably cryptomelane (often barium-rich), admixed with romanechite (q.v.), hollandite (q.v.), or other manganese oxide minerals. These species require X-ray diffraction and/or chemical data for positive identification. Northern Peninsula.



Figure 67: Botryoidal cryptomelane on goethite from Ironwood, Gogebic County. Field of view 7.5 x 10.5 cm. A. E. Seaman Mineral Museum specimen No. JTR 1656, Jeffrey Scovil photograph.

**Dickinson County:** Vulcan mine: Black botryoidal aggregates.

**Gogebic County:** 1. Norrie (Townsite) mine, SE <sup>1</sup>/<sub>4</sub> section 22, T47N R47W, Ironwood: Large botryoidal and stalactitic aggregates. 2. Ashland mine near Ironwood: Black botryoidal masses. 3. Yale (Valley) mine, NW <sup>1</sup>/<sub>4</sub> section 16, T47N, R46W, Bessemer: Botryoidal masses of flattened aggregates over half a meter across. 4. Newport (Bonnie) mine, N <sup>1</sup>/<sub>2</sub> section 24, T47N, R47W, Ironwood: Large, reniform masses. 5. Peterson mine, Bessemer: Black, reniform specimens.

**Marquette County:** 1. Jackson mine, Negaunee: as gray-black matted aggregates of acicular microcrystals in vugs in quartz veins (DeMark, 2000). **2.** Lucy mine: As black, botryoidal and stalctitic growths.

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