

THORITE



An uncommon accessory mineral of some granitic pegmatites and a few granites. Radioactive. Most thorite also contains some uranium, and in the past has been called “uranothorite,” though uranium thorite is the proper terminology. Northern Peninsula.

Marquette County: 3.2 km south of Humboldt: A body of rare metal-rich albite granite carries accessory thorite (“uranothorite”), topaz, molybdenite, cassiterite, ferrocolumbite, and fluorite (Hoffman, 1987; Schulz et al., 1988).

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

Marquette County: Crockley pegmatite, section 22, T47N, R29W: As small reddish brown grains in pegmatite. Wavelength dispersion electron microprobe analyses give relatively low totals (~82.00 wt%), suggesting the mineral is heavily hydrated and probably metamict. Normalizing the totals to 100% and calculating a formula based on 4 oxygen atoms, yields a composition consistent with a yttrium-rich thorite: $(\text{Th}_{.60}\text{Y}_{.45}\text{Fe}_{.06}\text{Ca}_{.04}\text{U}_{.03}\text{W}_{.01}\text{Nb}_{.01}\text{Pb}_{.01})(\text{Si}_{.93}\text{Al}_{.01})\text{O}_4$.

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.