

GRAYITE



Grayite is a rare mineral and member of the rhabdophane group. It is the only known essentially thorium phosphate mineral, and has been found in only a few granitic pegmatite occurrences worldwide. Northern Peninsula.

Dickinson County: Small, unnamed pegmatite in SW $\frac{1}{4}$ SE $\frac{1}{4}$ section 30, T42N, R29W: Electron microprobe analyses of heavy mineral separates from this pegmatite have confirmed the presence of grayite (Buchholz et al., 2013a).

Marquette County: Black River pegmatite, NE $\frac{1}{4}$ SE $\frac{1}{4}$ section 20, T47N, R29W: A single, bright orange, transparent, glassy 0.1 mm grain occupying a xenotime(?) cast in fluorite from the Black River pegmatite gave an energy dispersion X-ray spectrum showing Th, P, and O as its only major elements with minor to trace amounts of Ca, Pb, and Si. This mineral is assumed to be grayite, since it is the only known species with such a composition.

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.