

URANINITE



A widely distributed uranium mineral in granitic pegmatites, veins, and unoxidized sandstone-type uranium deposits. "Pitchblende" is a synonym. Northern Peninsula.

Baraga County: **1.** Big Eric's Crossing, NW ¼ NW ¼ section 35, T52N R30W: Uraninite is presumed to be the source of radioactivity in a hematite-stained fracture in granite exposed approximately 100 meters north of the bridge at Big Eric's Crossing on the Huron River (Kalliokoski, 1976). **2.** Huron River prospect, NW ¼ NW ¼ section 1, T51N, R30W: "Pitchblende" occurs with calcite, metatyuyamunite, and volborthite in a brecciated quartz vein (thrust fault) exposed in the bank of the Huron River (east branch), near and upstream from the falls (Kalliokoski, 1976).

Dickinson County: **1.** North edge of Felch Trough: Uraninite ("pitchblende")-carbonate mineralization occurs as open-space fillings in the hangingwall and, less extensively, in the footwall of an east-west brittle fault in the Gene Lake Gneiss complex (Archean) (Lehman, 1987). This fault parallels and locally cuts an older mylonitic fault that is parallel with the dominant axis of the Felch Trough. Since the trough is of Middle Precambrian age, the mylonitic fault is at least that old, and the brittle fault is younger. Age determinations based on U and Pb isotopic data suggest that the uranium mineralization was formed 400 m.y. ago (end of the Silurian) and remobilized at least once, at 317 m.y., the close of the Mississippian. Lehman (1987) interprets these data as indicating that the brittle fault and the mineralization are Paleozoic in age and are a reactivation of a Precambrian structure in response to forces forming the Michigan Basin to which the fault forms a north-south hinge line between a stable shelf and a periodically subsiding basin. **2.** Groveland mine: Uranium mineralization (probably uraninite) occurs along an unconformity between Cambrian sandstone and Proterozoic schist (metadiabase) exposed in the Groveland mine in the Felch Trough (Schick, 1996).

Iron County: Sherwood and Buck mines, near Iron River: Found at both mines as thin,

discontinuous post-iron ore seams and disseminated particles in oxidized iron formation adjacent to graphitic slate. It occurs in microscopic grains associated with pyrite, chalcopyrite, sphalerite, and galena. One pod measured 12 mm across (James et al., 1968). At the Buck mine, it is also found with the supergene uranium minerals metatyuyamunite, meta-autunite, metatorbernite, and bassetite (Vickers, 1956b). More recently discovered hydraulic breccias from near the Sherwood mine have a matrix composed primarily of sphalerite, chalcopyrite, and uraninite (Lassin, 1998).

Marquette County: Francis mine, section 27, T45N, R26W: "Pitchblende" has been reported from the Francis mine by Kalliokoski (1976).

Ontonagon County: Bergland (Burke) prospect, NW ¼ SW ¼ section 35, T49N, R42W: With uranophane (q.v.) in fractures in altered felsite (Beroni and Patterson, 1956; Kalliokoski, 1976).

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

Dickinson County: **1.** Near Randville, abandoned pegmatite quarry near center of N ½ NW ¼ section 26, T42N, R30W: As small (~0.7 mm) cubo-octahedral crystals recovered from heavy mineral concentrate. **2.** Unnamed prospect near Channing, section 29, T44N, R29W: As charcoal gray to black grains associated with uranophane, chlorite and other minerals on fracture surfaces of rock. Verified by qualitative energy dispersion X-ray spectrometry.

Gogebic County: Uranium prospect a short distance from the "Paulding Lights" north of Watersmeet: As sooty black grains partially altered to "gummite" in amphibole gneiss. Verified by energy dispersion X-ray spectrometry.

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.