

## BARITE



A common and widespread mineral of a variety of parageneses. Occurs in veins with copper sulfides cutting the native copper lodes. It is also found in the amygdaloids and the Calumet and Hecla Conglomerate (especially in iron-rich, chloritized felsite pebbles replaced by copper), and as a vein mineral in the White Pine copper sulfide deposits. Barite occurs as a vug mineral in both sedimentary iron and limestone deposits in Michigan. Mainly Northern Peninsula, but also found in the Southern Peninsula.

**Alpena County:** LaFarge Corporation, Great Lakes Region (formerly National Gypsum Company quarry, formerly Huron-Portland Cement Company) quarry at Alpena with calcite, dolomite, and rare chalcopryrite, marcasite, pyrite, sphalerite, and strontianite (Morris, 1983).

**Baraga County:** 1. Point Abbaye: Veins and concretions (up to 15 cm) in red Jacobsville Sandstone. 2. Taylor mine, Alberta: With Mn-minerals, goethite, and graphite (Morris, 1983).

**Delta County:** Stonington Rock quarry, near Stonington: As opaque, white, divergent crystal sprays with calcite on fracture surfaces in dolostone (M. J. Elder, personal communication, 2003).

**Dickinson County:** 1. Chapin mine, Iron Mountain (T. M. Bee, personal communication, 1999).

**Eaton County:** *Cheney quarry* near Bellevue: Fine bladed crystals to 5 cm in cavities in limestone (D. Slaughter, written communication, 1996); pink, bladed crystals and spherical crystal aggregates to 5 cm (T. M. Bee, personal communication, 1999).



Figure 39: Blue barite with calcite on hematite from the Penokee mine, Ironwood, Gogebic County. Barite crystal is 5.6 cm across. Ishpeming Rock and Mineral Club collection, Jeffrey Scovil photograph.

**Gogebic County:** *Ironwood:* Found at a number of the mines in iron formation, sometimes in fine crystals (Newport, Geneva, Ashland, *Penokee*, Norrie, Townsite, *Yale*, *Plymouth*). One specimen (DM 751) from the Yale mine in the collection of the A. E. Seaman Mineral Museum, Michigan Technological University, consists of a group of hematite-stained blue crystals to 6 cm over half a meter across.

**Houghton County:** 1. Centennial mine: As tabular, colorless to bluish crystals on epidote crystals (Moore and Beger, 1963). 2. Calumet and Hecla Number 6, 36th level: Rare (Lane, 1911). 3. *Isle Royale mine Numbers 4, 5 and 6:* As hematite-stained tabular white crystals over 2.5 cm across, with calcite and quartz (Lane, 1911; Spiroff, 1938, 1964). 4. Huron mine. 5. East side Slate Harbor: In a 1.2 meter-wide vein. 6. Baltic mine: Rare except in fissures.

**Iron County:** 1. *Hiawatha Number 2 mine*, 16th level: Zoned, white to flesh colored crystals up to 2.5 cm in diameter as post-ore vug fillings associated with pyrite, chalcopryrite, quartz, and calcite (James et al., 1968). 2. Buck mine, Gastra: With sulfides and uranium minerals. 3. Homer-Wauseca mine, Iron River (2, 3, Morris, 1983). 4. Bristol mine, Crystal Falls district (T. M. Bee, personal communication, 1999).



Figure 40: Barite with native copper from the Phoenix mine, Phoenix, Keweenaw County. 5 × 8 cm. A. E. Seaman Mineral Museum specimen No. DM 22767, Jeffrey Scovil photograph.

**Keweenaw County:** 1. *Phoenix mine* (Lane, 1911). The collection of the A. E. Seaman Mineral Museum, Michigan Technological University, contains a specimen of lustrous, colorless-to-white bladed crystals of barite approximately 13 cm across from the West Vein shaft (J. T. Reeder collection, specimen JTR 1732). 2. Manganese prospect near Copper Harbor: With braunite. 3. Mouth of Gratiot River: White, 2.5 cm comb-structured plates in Nonesuch Sandstone (L. L. Babcock, personal communication). 4. Beacon: 1 to 2 cm crystals in Freda Sandstone (L. L. Babcock, personal communication). 5. Mount Bohemia: 5 cm fissure vein. 6. Seneca Number 2 mine, 34th level south: Dipyramidal crystals. 7. Mandan mine (Hawke, 1976): Crystals of unusual complexity were found by Williams (1966) at the Avery shaft. They occur as encrustations on prehnite associated with chalcocite and hematite. One complex crystal showed forms {001}, {010}, {100}, {230}, {110}, {430}, {210}, {410}, {103}, {203}, {101}, {111}, {214}, {213}, {212}, {856}, and {211}. 8. *Agate Harbor*: Iron-stained plates of crested white barite crystals have been collected from a vein with calcite near Agate Harbor (e.g., specimen DM 21431, A. E. Seaman Mineral Museum, Michigan Technological University). 9. *Cliff mine*: As translucent, bladed white crystals with native copper, similar to those from the Phoenix mine.



Figure 41: White barite rosettes on manganite from the Lucy mine, Negaunee, Marquette County. Largest rosette is 7.5 cm across. A. E. Seaman Mineral Museum specimen No. LLH 984, Jeffrey Scovil photograph.

**Marquette County:** 1. *Lucy iron mine*, South Jackson pit (formerly the McComber mine), SW ¼ section 6, T47N, R26W: This locality has produced remarkable specimens. Markert (1960) waxed ecstatic, describing them as “the most unusual and beautiful crested barite on manganite that ever graced a collection.” Hobbs (1895a) describes this barite as forming fairly well-developed tabular crystals arranged radially and averaging 1 to 2 cm in length with a superficial pink color. Associated are manganite and gypsum (Mann, 1953). Some crystals are pale yellowish green. In the A. E. Seaman Mineral Museum collection, Michigan Technological University, is an extraordinary mass of botryoidal aggregates, each composed of thin platy crystals, the whole measuring about half a meter across (specimen DM 676). A specimen from “Marquette County,” and very likely from the Lucy mine locality, contains 3.3% SrO (Heinrich and Vian, 1967). 2. Beacon mine (Dorr and Eschman, 1970). 3. Blueberry mine, Snowville near Diorite. 4. *Pendill mine*. In masses of 10 cm rosettes of flesh-colored plates penetrated by tubes of goethite. 5. Barron mine near Humboldt (Hawke, 1976). 6. Parsons mine: Veinlets in iron ore contained barite, quartz, specular hematite, and kaolinite (Rominger, 1881).

7. *Republic mine* at Republic: Etched tabular beige-white crystals to 5 cm on quartz in pockets in brecciated iron formation. 8. National mine, Ishpeming: In globular botryoidal aggregates. 9. Ishpeming: Bladed white barite crystals up to 5 cm have been found in iron formation excavated during construction for the Jubilee I. G. A. store on the north side of highway 41 in the village of Ishpeming (M. P. Basal, personal communication, 1999). 10. Section 16 mine, Ishpeming: As pale pink-to-white hemispheres to 1 cm in diameter with quartz on fracture surfaces in iron formation. 11. Lighthouse Point, Marquette: As bladed, pinkish white crystals to 1 cm with minor calcite and “adularia,” in thin veins in rock.

**Monroe County:** Ida quarry along with calcite, celestine, and strontianite (Morris, 1983).

**Ontonagon County:** 1. *National mine* at Rockland: In tabular white crystal aggregates. 2. *White Pine mine*: As veinlets in the Nonesuch Formation (Ensign et al., 1968) and as minor disseminated grains in the chloritic facies of the Copper Harbor Conglomerate (Hamilton, 1967). In the southwest orebody, perfectly formed water-clear crystals up to 6 cm were found; some with inclusions of native copper and hematite (Rosemeyer, 1999). 3. Cranberry Creek area: Amber barite and water-clear barite with white calcite (fluoresces red) in veins with spectacular cockade structures in Freda Sandstone (L. L. Babcock, personal communication). 4. Cunningham Creek area: White to dark, fine-grained vein 9 meters long in Nonesuch Shale with chalcocite.

**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



*A 1.8 cm long barite crystal showing phantoms outlined by iron oxide from Ontonagon County. A. E. Seaman Mineral Museum specimen DM 28011, George Robinson photograph.*

**Ontonagon County:** Small, tabular crystals of colorless to gray-white barite occur in a vein cutting a sandy unit of the Copper Harbor Conglomerate at a presently undisclosed locality in Ontonagon County. The crystals seldom exceed 2-3 cm in maximum dimension, but delicate plates of crystals up to 10 cm have been recovered. Some crystals show phantoms dusted with bright orange to brick red iron oxide, making particularly attractive specimens (Carlson and Elder, 2008).

**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.