

HEULANDITE



A relatively common zeolite mineral occurring in cavities in basaltic rocks. There are four known species in the heulandite series whose nomenclature depends on the dominance of the specific extra-framework cations Na^+ , Ca^{2+} , K^+ , or Sr^{2+} . Northern Peninsula.

Houghton County: **1.** Isle Royale mine: As colorless-to-pinkish (due to staining by iron oxide) coffin-shaped crystals to 5mm in vugs in quartz-prehnite veins. Qualitative energy dispersion X-ray spectra suggest this is heulandite-Ca. **2.** Huron Creek, west Houghton: As pale pink crystals to 3 mm coating quartz (A. E. Seaman Mineral Museum, specimen No. WAS 900).

Keweenaw County: Top of Kearsarge flow at east tip of Keweenaw Peninsula: One of the rarest zeolites in the native copper district (Butler and Burbank, 1929; Stoiber and Davidson, 1959). Orange-white cleavages of heulandite up to 2 cm have been identified from an outcrop approximately 0.8 km east of High Rock Bay on Keweenaw Point (T. M. Bee, personal communication, 2001), and may be the occurrence cited; a second occurrence is at a small outcrop approximately 8 to 10 km west of Copper Harbor on highway M-26, where a single pale orange specimen approximately 4 cm in diameter was collected (T. M. Bee, personal communication, 2001). Specimens of orange-red crystals to 2mm in cavities in basalt and labeled as coming from Keweenaw County are in the collection of the A. E. Seaman Mineral Museum, Michigan Technological University (specimen RTC 451). Identification has been confirmed by X-ray diffraction, and energy dispersion X-ray spectra suggest the species is intermediate between heulandite-Ca and heulandite-K.

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