

ANORTHITE



The calcium end member of the plagioclase feldspar series. Found in contact metamorphosed limestones and basic volcanic rocks. Some references may list the sodic anorthites “labradorite” (An₇₀ - An₅₀) and “bytownite” (An₉₀ - An₇₀) as separate species (see albite). Northern Peninsula.

Dickinson County: 1. Groveland mine, near Randville in metagabbro with magnetite and augite (Hawke, 1976). 2. Hawke (1976) also reports “flesh-red cleavable masses [of anorthite] are found with quartz, mica, and hornblende in pegmatite dikes, etc. east of Randville.” In view of non-supporting data and the highly unlikely paragenesis, this occurrence must be considered doubtful at best. 3. “Bytownite” occurs in “intrusions” along a county road about 5 km south of Norway Lake, north of Felch, as well as “in dikes in quarries between Randville and Metropolitan,” Hawke (1976). Lacks verification.

Iron County: Kiernan quadrangle: “Labradorite” is a minor constituent in pegmatitic metagabbro in the West Kiernan sill in NE ¼ section 17, T43N, R31W, and an essential species in a diabase dike cutting the Hemlock Formation in SW ¼ section 10, T44N, R31W (Gair and Wier, 1956). A few crystal laths reach 1 cm in length.

Houghton and Keweenaw Counties: Keweenaw series lavas: Plagioclase in the ophitic basalt in the pegmatitic zone of the Greenstone flow is normally “labradorite” (An₅₀₋₆₂). In some, the original calcic plagioclase has been albitized, especially in flow tops. In the andesite beneath the amygdaloids, the plagioclase is “oligoclase-andesine” (An₂₅₋₃₀) (albite), which grades downward over short distances into “labradorite” (An₅₀₋₆₀). In drill cores south of Eagle Harbor, Jolly and Smith (1972) found a range of plagioclase compositions (An₃₀₋₈₀) in flow interiors, averaging An₆₅. (Cornwall, 1951) reports similar compositions from ophitic basalt zones where the plagioclase is “labradorite-bytownite” (An₅₉-An₇₄).

Marquette County: Large gray phenocrysts of “labradorite” occur in an augite-hornblende matrix

in “gabbro porphyry” near Republic (Hawke, 1976).

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