

## 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” (An<sub>70</sub> - An<sub>50</sub>) and “bytownite” (An<sub>90</sub> - An<sub>70</sub>) 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” (An<sub>50-62</sub>). In some, the original calcic plagioclase has been albitized, especially in flow tops. In the andesite beneath the amygdaloids, the plagioclase is “oligoclase-andesine” (An<sub>25-30</sub>) (albite), which grades downward over short distances into “labradorite” (An<sub>50-60</sub>). In drill cores south of Eagle Harbor, Jolly and Smith (1972) found a range of plagioclase compositions (An<sub>30-80</sub>) in flow interiors, averaging An<sub>65</sub>. (Cornwall, 1951) reports similar compositions from ophitic basalt zones where the plagioclase is “labradorite-bytownite” (An<sub>59</sub>-An<sub>74</sub>).

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

in “gabbro porphyry” near Republic (Hawke, 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.**