

## **Second occurrence of okayamalite, $\text{Ca}_2\text{SiB}_2\text{O}_7$ : chemical and TEM characterization**

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### **ABSTRACT**

Okayamalite,  $\text{Ca}_2\text{SiB}_2\text{O}_7$ , was identified in a skarn sample from the Arendal district, Sørlandet, Norway, associated with datolite, calcite, apophyllite, and chlorite. The chemical composition was determined by analyzing both heavy (Ca and Si) and light (B and O) elements using an electron microprobe: the empirical formula based on seven O atoms is  $\text{Ca}_{1.96}\text{Si}_{0.97}\text{B}_{2.07}\text{O}_{7.00}$ . TEM investigation revealed that okayamalite is intergrown on a fine scale with amorphous silica, giving rise to a complex interpenetrating structure at the scale of few hundreds angstroms. Okayamalite probably was formed by a desilication-dehydroxylation process of the associated datolite.