

Rubidium- and cesium-dominant micas in granitic pegmatites

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ABSTRACT

The mode of occurrence and chemical composition of five types of micas with Rb- or Cs-dominant populations of interlayer cations, collected from the Red Cross Lake rare-element pegmatites in north-central Manitoba, are described here. All five micas are candidates for new mineral species but crystal-structural data and Li contents could not be determined to date because of extremely small particle size, restricted to the margins of strongly zoned microcrystals. Based on electron-microprobe analyses, on Li contents estimated from $\text{Li/F (at.)} = 1.0$, and on bulk analysis of ferromagnesian micas for FeO and Fe_2O_3 , the micas correspond to Rb- and Cs-dominant polyolithionite (with representative interlayer populations of $\text{Rb}_{0.82}\text{K}_{0.12}\text{Cs}_{0.07}$ and $\text{Cs}_{0.74}\text{Rb}_{0.12}\text{K}_{0.08}$ apfu, respectively), Rb- and Cs-dominant magnesian annite ($\text{Rb}_{45}\text{K}_{0.37}\text{Cs}_{0.20}$ and $\text{Cs}_{0.67}\text{Rb}_{0.20}\text{K}_{0.12}$ apfu, respectively), and Cs-dominant ferroan phlogopite ($\text{Cs}_{0.92}\text{Rb}_{0.04}\text{K}_{0.02}$ apfu).