

RB-SR AND SM-ND ISOTOPE CHARACTERISTICS OF PROTEROZOIC CARBONATITE OF TIKSHEOZERO MASSIF (NORTHERN KARELIA, RUSSIA).

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Tiksheozero alkaline massif is situated in the eastern part of the Baltic Shield and earlier it was referred to Precambrian alkaline-gabbro formation. It lies within tonalite-granodiorite rocks of Pyazozero block, which represents, perhaps, a part of the ancient basement. The massif itself is of irregular crescent form and occupies the area of 20 km². Tiksheozero massif polyphase in composition is one of representatives of Karelia-Kola alkaline province of Proterozoic age. Massifs of Gremyakha-Vyrmes and Soustova also belong to this type. This group of massifs were formed during the last stage of Svekofennian orogenesis seized vast territories to the west of Karelian megablock at 1.88 Ga. But Tiksheozero massif is the only one formational analogue to Paleozoic carbonatite complexes characterized by some special features. Six carbonatite samples of different temperature facies from Tikshozero alkaline-ultrabasic massif were investigated. Rb-Sr system of these samples appeared to be disturbed in past-crystallization time and didn't allow to obtain any isochron correlations. The age of biotite from the sample of high temperature carbonatite of albite-calcite facies is 1762 \pm 12 Ma ($I_{Sr}=0.70313$). At the same time Sm-Nd system was more stable and it's investigation allowed to obtain inner isochrons for all samples with the following ages: 1745 \pm 100 Ma for albite-calcite facies, 1869 \pm 140 Ma for amphibole-dolomite-calcite facies, 1827 \pm 91 and 1777 \pm 55 Ma for chlorite-sericite facies; primary Nd isotope composition varies within 1.5 σ from $\epsilon_{Nd} = -0.5$ to $\epsilon_{Nd} = -2.0$. Thus, within the limits of determination the age and primary Nd isotope composition for different temperature facies of carbonatites coincide with each other.