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# GEOCHRONOLOGY OF ALKALINE MAGMATIC ROCKS AND METASOMATITES OF THE RYABINOVY STOCK (SOUTH YAKUTIA) BASED ON ZIRCON (U-Pb, REE) ISOTOPIC AND GEOCHEMICAL INVESTIGATIONS

New data on the geochronology of alkaline magmatic rocks and associated metasomatites of the Ryabinovy stock (South Yakutia) is based on U-Pb isotopic (SHRIMP-II) and REE geochemical investigations (ion-microprobe) of zircons. Geochronological age of crystallization of aegirine-augite alkali-feldspar syenites of the plutonic Aldan Complex is 142-143 Ma, whereas alkaline lamprophyres and eruptive breccias with lamproitic matrix of the hypabyssal Tobuk Complex were formed in the age range of 136-141 Ma. Syenite-porphyries of dyke series of the Aldan Complex yield a crystallization age of 133±5 Ma. High-temperature aegirine-bearing feldspathic alteration was formed in the age range of 132±2 Ma, whereas its replacement by gumbeitic (qtz+kfs+ser/ms+ank+/-bar) alteration dates at 125-133 Ma. Temperature of zircon crystallization of syenites of the Aldan Complex, revealed by *«Ti in zircon»* geothermometer, is estimated at 830ºC, of syenite-porphyry at 880ºC, and of gumbeitic wallrock alteration is approximately 650ºC. Zircons from feldspathic altered rocks are less enriched in REE (from 30 to 1000 ppm) than zircons from haloes of gumbeitic alteration. REE contents of gumbeites vary from 1500 to 7000 ppm, comparable with the values of REE concentrations in accessory zircons from initial magmatic alkaline rocks of the Aldan (400-7000 ppm) and Tobuk (300-3000 ppm) Complexes, respectively.