THE KHAMAR-DABAN PROVINCE OF RARE METAL GRANITES AND ONGONITES WITH LI, TA, SN AND W MINERALIZATION (BAIKAL REGION)

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The Khamar-Daban Province of Rare Metal Granites and Ongonites with Li, Ta, Sn and W mineralization (Baikal Region)V.S. Antipin, M.A. Mitichkin, E.A.SavinaInstitute of Geochemistry SB RAS, Irkutsk, Russia, E-mail: antipin@igc.irk.ru The Urugudey-Utulik belt of intrusive-subvolcanic rocks in Pribaikalia is about 100km long and 5-6km wide. The studies of rare metal Li-F granites and their subvolcanic analogue ongonites in this area form a complex of Paleozoic and Mesozoic hypabyssal and subvolcanic intrusions within Pre-Cambrian rocks of the Khamar-Daban block.The early granitic rocks of the subalkaline series are commonly fluorite-bearing with the average content of F 0,44-0,58% (K/Na?1). The contents of Sn, are 47-228 ppm and Ta 8,8-10,2 ppm correspondingly (Ta/Nb = 0,24-0,16). The younger topaz-bearing leucogranites, microcline (amazonite)-albite granites contain diverse Li-micas, from protolithionite to zinnwaldite and lepidolite, which are associated with Li phengite-muscovite. The Li-F granites of the late stage (Kharagul, Urugudey), ongonites (Utulik) are characterized by predominance Na over K and contain of F 1,8-4,5 %. These rare metal rocks have contents of Sn and Ta up to 110 ppm and 62 ppm, (Ta/Nb ?1).

The Li-F granites and ongonites of the Khamar-Daban Province are richest in F, Li, Rb, Sn and Ta among all the Baikal granites. Tantalum and tin mineralization was found in the zones with high tantalite-columbite and cassiterite. The quartz-cassiterite-wolframite and quartz-topaz-cryolite veins occur in the area of Utulik dike belt. Mineralized breccias contain topaz, fluorite, cryolite, cassiterite, wolframite, beryl.

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