

The Ulkan region – a new rare-earth-rare metal region in the Siberian Platform south east (Russia)

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The main structural element of the region is the Ulkan depression of rift type filled by unmetamorphosed sedimentary-volcanogenic rock masses of the Early Proterozoic Ulkan series intruded by sub-alkaline granitoids with U-Pb isotopic age 1721-1676 Ma. Basal strata of the Ulkan series with the weathering crust at the bottom sharply discordantly overlie the crystalline basement of the Aldan-Stanovoy shield. The Ulkan series strata and granitoids intruding them are superimposed by the platform cover represented here by Riphean carbonaceous-terrigenous sediments.

In the Ulkan region there are known numerous showings and deposits of various mineral resources. Ta, Nb, Be, Th, Li, and Th mineralization is associated with Early Proterozoic magmatites and hydrothermally altered rocks from the Ulkan complex. Ore bodies are represented by various alkaline metasomatites, greisens and pegmatites. The Middle Riphean time is characterized by U-Mo mineralization in structural-stratigraphic zones of "discordant" type and Au, U - in argillizites. No relation of Middle Riphean mineralization with magmatic formations was noted.

From the data available, the Ulkan region is a new potential tantalum-bearing. uranium-gold-bearing rare earth and rare metal region in the Russian East.