

On the Problem of a stratigraphic boundary Stratotype between Lower Proterozoic and Riphean (Paleoproterozoic and Mesoproterozoic)

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The Siberian platform south-east belongs to a few regions in the world where Lower Riphean sediments contact the youngest Pre-Riphean formations. On the basis of a complex investigation of sections in the Uchur region, the structure of the Lower Riphean in the Siberian hypostratotype of the Riphean, Lower Proterozoic and their relationship were characterized in detail. In this region the following stratons are recognized (from bottom): 1. Lower Proterozoic (Upper Carelian): the Ulkan series: the Toporikan, Ulkachan, Aelgaetay suites; 2. Lower Riphean: the Uyan series: the Birindin, Konkulin, Adargai suites; the Uchur series: the Gonam, Omakhtian, and Aenninian suites.

It has been shown for the first time that the Lower Riphean section in the Uchur region begins with the Uyan series including the Birindin, Konkulin, and recently recognized Aedaergay suites. It has been determined that the Uyan series Lower Riphean basal conglomerates unconformably overlie the weathering crust of the Aelgaetay suite acidic volcanites of the Lower Proterozoic Ulkan series intruded by granites with U-Pb age of 1676-1721 Ma. The boundary between two compositionally contrasting sedimentary complexes – the Ulkan and Uyan ones – is geologically well expressed. By the isotopic age it coincides with the lower Riphean boundary of the stratigraphic scale of the Russian Precambrian - 1650 \pm 50 Ma. It can be chosen as a stratotype of a stratigraphic boundary between big stratons of the Precambrian stratigraphic scale.