ICAM8 Abstracts

Lower Mesozoic paleogeography of circum-Arctic basins

Correlation of the Triassic deposits of Chukotka, Wrangel Island and Mendeleev's Rise.

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Mineral-petrographic, geochemical, geochronological data of sandstones of Mendeleev Rise, Wrangel Island and continental Chukotka have been studied. The composition of sandstones and geochronological age of detrital zircons are similar for these three objects. At the same time, there are certain differences in the depositional environments. The sandstones of the Mendeleev's Rise are characterized by a high content of detrital quartz with microfractures, which indicates the genesis from continental land. The number of quartz grains with microfractures decreases from Mendeleev Rise to Wrangel Island and Chukotka. Geochemical and petrographic parameters of sandstones indicate the gradual maturation of sandstones from continental Chukotka to Mendeleev Rise. In the samples from Mendeleev Rise, there is no geochemical evidence of redeposition of clastic material, and weathering of sources rocks, which indirectly indicates the absence of significant tectonic rearrangements in the feeding province and its prolonged exposure.The sandstones of the Mendeleev Rise were deposited in the coastal-marine, near-continental environment. The paleogeographic setting were more marine in the south, from Wrangel Island to Chukotka region. Geochronological data show that all analyzed samples are characterized by practically identical populations of zircons. The young population of zircons is 234-282 Ma, and there is also a population of old zircons, of which the most significant is the peak of 1800 Ma.

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