



Jurassic-Cretaceous clastic sequences of Chukotka: sedimentation, structural style and geodynamic implications for Russian East Arctic shelf.

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Jurassic-Lower Cretaceous sedimentary sequence, exposed on the Chukotka continental margin is critical for understanding the timing, dynamics and sedimentary setting evolution of Chukotka-Eurasia collisional process (e.g., Sokolov et al., 2002) and so, represents one of the key regional stratigraphic units (Til'man, 1973, Tibilov, 1982; Miller et al., 2002, 2007). From the other hand, this research may shed the light on the widely discussing problem of the Canadian and Makarov basins opening (e.g., Miller, Verzhbitsky, in press). Jurassic-Lower Cretaceous sedimentary complexes of the Chukotka microcontinent are composed of terrigenous deposits.

Those sedimentary complexes are enriched by organic matter, and fresh clastic materials. Fragments of shales, sometimes laminated or cleaved are their indicator constituents. Sandstones are arkosic. The percentage of types of rocks fragments is different in Jurassic and Cretaceous deposits. Chemical composition of the Jurassic-Cretaceous rocks is not uniform too: Upper Jurassic sandstones form one group depleted in Na₂O+K₂O, Cretaceous sandstones, enriched in Na₂O+K₂O. Thus, our investigations indicate that Jurassic-Cretaceous sedimentary basins were related to different source provenance.

We believe, that the stratigraphy and composition of Jurassic-Lower Cretaceous onshore sequences are crucial for prediction of the geological structure of East Siberian and Chukchi Sea shelf (1), understanding the evolution of Mesozoic sedimentary basins of East Arctic (2) and testifying the existing geodynamic models of Amerasian Basin opening (3).

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