



Geochemistry of Lower Cretaceous strata of northern Priverkhoyansk Foreland Basin (NE SIBERIA): implications for provenance

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The study area is located in the lower reaches of the Lena R., in between Chekurovka and Chucha Capes. The Lower Cretaceous clastic rocks of the northern part of the Priverkhoyansk foreland basin adjacent to the front of the Verkhoyansk fold-and-thrust belt have been studied. The Lower Cretaceous sections are composed of marine and fluvial terrigenous rocks. Marine deposits are represented by alternating sandstones and siltstones, while continental ones by alternating thick sandstones units (up to 400 m) and shale units with subordinate sandstones beds. The thickness of studied strata varies from 800-1900 m.

The whole-rock geochemical analyses were done for 121 samples

The geochemical study show:

1) uniform, persistent chemical composition close to that of acid igneous rocks; 2) low TiO_2 content; 3) low MgO and FeO^* values; 4) prevalence of FeO over Fe_2O_3 ; 5) high alkalies content with prevailing Na_2O ; 6) positive correlation between TiO_2 and FeO^* contents and negative correlation between $\text{Na}_2\text{O} + \text{K}_2\text{O}$ and FeO^* values. The data point to the same source of sediments both for marine and fluvial deposits with prevailing felsic rocks in provenance area.

This research was supported by RFBR grants 14-05-31298, 13-05-00700, 13-05-00943 research grant of Saint Petersburg State University and Grant of President of Russia for Young Scientist MK-2902.2013.5.