



## **Lower Carboniferous carbonates rocks in Chukotka (North-East of Russia): paleogeographical reconstruction and geodynamic events**

Marianna Tuchkova (1), Sergey Sokolov (1), Andrey Khudoley (2), Boris Pokrovsky (1), and Elena Vatrushkina (1)

(1) Geological Institute of RAS, Moscow, Russian Federation (tuchkova@ginras.ru), (2) SPeterburg State University, Sankt-Peterburg, Russian Federation (akhudoley@gmail.com)

Carbonates of Anyui-Chukotka fold belt are widespread in Devonian and Carboniferous age. Mississippian limestones of different tectonic structure were investigated. We examine limestones from i) South-Anyui Suture (Polarny Creek); ii) Alarmaut uplift, iii) Kibera Cape and iv) Wrangel island.

Limestones of Polarny Creek contain fragments of fauna and they occur with basalt-chert rocks (Sizhykh et al., 1977; Sokolov et al., 2006).

Carbonates of Alarmaut uplift have terrigenous materials (sandstones) and are associated with schists. Carboniferous rocks of Kibera Cape consist of sandstones, gravels and conglomerates in the lower part of Mississippian unit. In the upper part they replaced by limestones and dolostones. Lower Carboniferous formation of Wrangel Island is composed of clastic and carbonate rocks with evaporates (Kos'ko et al., 1993, 2003). The lower unit of the Lower Carboniferous formation is composed of conglomerate or gravelstone with fragments of locally derived Devonian rocks. All carbonate rocks contain lenses and interlayers of cherts.

We used geochemical criteria and isotopic data for understanding the Paleogeographic position of different Carboniferous blocks. Sedimentation of carbonates of Wrangel Island and Kibera Cape was in shallow-marine shelf of carbonate platform with lagoon shoal. Carbonates of Alarmaut uplift accumulating in the shallow-marine environment, in active hydrodynamics conditions. Sedimentation of Polarny Creek (SAS) was not near from bioherm reef.

We have demonstrated the different paleogeographic environments for Chukotka's carbonate platform. Sedimentological, geochemical and isotopic data indicate shallow sea-water of carbonate platform for limestones of Alarmaut uplift, Kibera Cape and Wrangel island. Limestones of Polarny Creek (South-Anyui Suture) may be a part of a carbonate sequence formed on a volcanic atoll.

Paleozoic deposits of Wrangel Island are presented as fragment of Arctida-Crockerland basement (Shatsky, 1935; Eardly, 1948; Embry, 1993, 2011). In our opinion, Carboniferous carbonates rocks of Chukotka are the part of carbonate platform of Old continental block, that was existent in the north of Arctic. Lower Carboniferous limestones of South-Anyui Suture cannot be considered an element of the exhumed Paleozoic section of Anyui-Chukotka fold belt (Sokolov et al., 2006).

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