NEW MINERAL RAW MATERIAL OF THE NORTHWEST OF RUSSIA – THE HYDROTHERMAL-SEDIMENTARY BENTONITES AND THEIR CONNECTION WITH DIAMONDIFEROUS OF THE EAST-EUROPEAN PLATFORM

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For the first time in the Northwest region of Russia the large bentonite clay deposit is revealed. The productive body has the bedded form of the sustained thickness and is connected with sediments of the Serpukhovian stage of Lower Carboniferous. The clays are combined mainly by Ca-Mg montmorillonite and can be used in an iron and steel industry and for manufacture of drilling fluids.

The deposit discovery became possible due to reconsideration of the usual concept of the East-European platform geological history in Paleozoic. As against to the existing performances about terrigenous origin of the clays, the model of hydrothermal-sedimentary formation is offered for the explanation of the bentonite bed geological structure and composition features. The bentonite clays are considered to be a product of underwater crystallization of colloidal-disperced material delivered on the sea bottom by low-temperature hydrothermal solutions. It is supposed, that the hydrothermal activity is connected to a final stage of the tectonic-magmatic activization (D3-C1) accompanied by kymberlite magmatism in the north of the East-European platform.

The thesis about connection both kymberlites and bentonite clays with uniform processes of activization requires an additional study. In case of its confirmation, the prospects to reveal diamondiferous kymberlites in the Northwest region of Russia are improved.