

Interrelation of neotectonics and mineral deposits, caustobioliths, Olenek uplift

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The paper presents the results of a comprehensive study of Olenek uplift and its southern framing, the complex includes geological, structural-geomorphological and tectonophysical methods.

The study area is confined to the Lena and Olenek rivers in the North-East of the Siberian platform. The presence of alluvial diamonds [1; 2; 5; 6] and data on the Olenek Bitum Deposit [3], as well as the relatively difficult accessibility of the area, necessitated a detailed study of the latest tectonics of the area.

The main purpose of the work was to compare the latest tectonic structures with the latest and modern geodynamics of the area. At the same time it is important to establish the relationship between ancient and modern structures. Identification of patterns of distribution of minerals in connection with geodynamics.

Structurally geomorphological method of analysis of echelon fracture, based on the principles of tectonophysical modeling [4], showed that the formation of most faults, regardless of their strike and rank, occurs mainly in the setting of transpression. The conditions of transtension are extremely rare and are typical only for the latest depression structures. Analysis of the morphology of new structures in combination with the tectonophysical method allowed to

divide the territory of the Lena-Olenek interfluvium into several areas with different geodynamic conditions of formation of structures. The main sources that affect the features of the structural plan of the study area are the latest actively developing Olenek uplift and Verkhoyansk Range. The general nature of the distribution of minerals has shown that combustible minerals are localized in the stretching zones along the northern rim of the Olenek Rise, forming in sediments of the newest deflections. Primary diamond deposits are localized in the center of the uplift, in kimberlite bodies, which in the newest stage were subjected to severe erosion.

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