Early crust of an Aldan-Stanovoy shield (East Siberia): a mode of origin.

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The early crustal formations of the Aldan-Stanovoy shield are represented by a stratified metabasite-enderbitic formation. The established regular distribution of the main petrogenic elements and impurities which led us conclude that protoliths of the metabasite-enderbitic formation were the volcanites of calc-alkaline and komatiite-tholeiitic petrochemical series. The formation model of the early crust suggests varying partial melting of a substance of a mantle plume and partial melting of the primary basalt crust basis above the plume head. This process caused the forming of komatiitic, tholeiitic, andesitic and dacitic melts of protoliths of metabasite-enderbitic formation. The ancient sialic core of the Aldan-Stanovoy shield formed 3,4 b.y. ago (SHRIMP method) above the centre of the rising mantle plume. Later on, accumulation of the thermal energy within the lower mantle brought about younger mantle diapirs in the peripheries. The latters caused lateral growth of the early sialic crust. Our inferences can be supported by rejuvenation of the metabasite-enderbitic formation that took place in the direction from the core to peripheries parts of the Aldan-Stanovoy shield: 3.2, 3.1, 2.7 b.y. (U-Pb, Sm-Nd methods).