

Formation of the Neoproterozoic oceanic crust in the southeastern periphery of the Siberian craton and mantle plume activity

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Neoproterozoic greenstones(mainly pillow lavas), in the Beret area, south of Krasnoyarsk, are mostly OIT. Within the ocean basalt unit, higher SiO₂(52-57) rocks are intercalated. They show comparatively high MgO. Similar higher SiO₂ and MgO rocks occur in the large igneous province related to the continental crust break-up by mantle plume activity, such as Rajmahal basalts in Eastern India, Faeroes basalts of Rockall Plateau in northern Atlantic ocean and so on. Trace elements data in the Beret area are also consistent with those basalts mentioned above.

Thus, oceanic basalts in the Mana river area may have been derived from similar tectonic setting,i.e.,break-up of Rodinia by mantle plume activity.