

## **The Riphean rift basins of the Siberian craton**

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The Riphean deposits of the Siberian craton are overlain by the thick Vendian-Cambrian and Middle-Upper Paleozoic strata. Therefore, they were studied by geophysical methods and deep drilling.

Based on integrated interpretation of geological and geophysical data, seismotomographic and geological-density sections of the crust have been constructed as well as maps for the relief of the crystalline basement surface, crust thickness and its density heterogeneities which were used as a base for the construction of the map for the Riphean sedimentary basins.

The Riphean basins are divided into two groups: marginal cratonic and intracratonic. The first group includes sedimentary basins of pericratonic troughs and foredeeps, marginal and transverse aulacogens. The second group incorporates intracratonic aulacogens and cataplatform troughs and depressions.

The Riphean petroleum potential of the Siberian Platform is much controlled by structural features of passive margin basins, marginal cratonic and intracratonic rift basins.

Distribution of the organic matter and its genesis suggest the Riphean to be considered as a main complex of oil and gas generation. Both lateral and vertical hydrocarbon migration from the above mentioned basins promoted formation of large commercial oil and gas fields in the Riphean and Vendian-Lower Cambrian sediments. Such fields have been discovered on the Siberian craton within the Baikit and Nepa-Botuoba anteklises.