

### **Riftogenic Structures of the West-Arctic Continental Margin.**

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Sevmorgeo has carried out refraction and reflection shooting, gravity/magnetic measurements along deep seismic profile, 1100 km length in 1995-1998. This profile connects the 3-superdeep hole on the Kola Peninsula with the hole 1-Hayes on the Franz Joseph Land. These data let to compose the full section of Earth's crust. Basement of the Barents Plate is the top of granite-metamorphic strata represented Archean rocks and less dislocation Lower Proterozoic rocks. Several riftogenic complexes are distinguished in sedimentary cover. They belongs to the Riphean Timan-Kanin aulacogen, Vendian-Ordovician West-Kola graben, Devonian Demidovskiy aulacogen and Late Paleozoic-Triassic Barents-NorthKara Megabasin. On the strength of similarity of the Vendian-Lower Paleozoic section of the West-Kola Graben and synchronous sections of the Shpitsbergen and Pechora Syncline, a conclusion has been done that these sections were formed in common riftogenic paleo-graben. Analogous conclusion has been done for the Diksonovskiy (Shpitsbergen), Demidovskiy and Denisovskiy aulacogens, forming common system of Devonian riftogenic structures.

Availability of uninterrupted lateral series of riftogenic supracrustal complexes, where each of complexes replaces conformably previous complexes by a scheme of clinoformal increase, testifies to continuity of extensible processes of crust from Riphean to Triassic. A result of, gradual transformation from mobile marginal-continental conditions to stable platform and complexes of basement to sedimentary complexes took place without collision processes. In this way the heterogeneous Barents Plate is considered as an example of gradual and long accretion of passive margin of the ancient East-European Platform.