

NEOPROTEROZOIC OF NORTH-WESTERN RUSSIA

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Neoproterozoic sediments of the North of the East-European continent (hyperboreal) are well exposed on Sredni and Rybachi Peninsulas, Kildin Island and the Aynov islands in the Barents Sea. These rocks are shelf and turbidite assemblages deposited in a shallow coastal zone and at the foot of the continental slope. The shelf and slope sediments join along a tectonic suture, which is observed in outcrops at the isthmus between Sredni and Rybachi. This fault is traceable on Varanger Peninsula to the west and Kanin Cape in the east, and farther through the Timans to the Middle Urals. Because of this fault, the chronostratigraphic correlations of shelf and turbidite sediments are uncertain. The continental margin evolution is interpreted differently: (1) progressive development with the paleomargin moving towards the paleocraton, (2) retrograde, with the shelf zone retreating inwards the basin, (3) stationary, with the inner shelf boundary remaining the same over the entire late Precambrian period to the present. Numerous paleocurrent orientation measurements indicate a persistent position of the source area in the south and that of sedimentation in the north. Subaqueous slumping proceeded in northern direction, whereas synsedimentary and subsequent deformations had an opposite orientation. Tectonic plates constituting olistostromes also moved in northern direction. The slumping occurred from the south, from the continent located within the East-European platform, to the north, towards the North Atlantic and Arctic oceanic trough. The Neoproterozoic nappe in the north of the European continent is promising for the search for hydrocarbon deposits.