

COMPILATION OF THE GEOSCIENCE TRANSECT FROM EUROPE TO ASIA

Kostyuchenko, A. S., Egorkin, A. V., Kostyuchenko, S. L. and Solodilov, L.N.
Center GEON, Moscow, Russia.

The regional geoscience transect, which is about 1600 km of length, was completed in form consistent with ILP in scale 1:1,000,000. From the SW to NE, it transects the eastern margin of the East European craton, the Middle Urals in the area when Uralian super-deep borehole (SG-4) occurs, and the West Siberian province from the west boundary to the Tyumen super-deep borehole in the northern portion of the province. The 100-km wide geologic, Bouguer gravity and magnetic field strip maps were taken from the state geologic survey in scale 1:1,000,000. In the line of the transect, the Center GEON collected a deep seismic refraction/wide-angle reflection data in 1991, and created 2-D gravity and 3-D magnetic models for the crust along seismic profiles in 1996-1998. The silica content in the consolidated crust was estimated based on compressional and shear wave velocity values. The published results from near-vertical reflection seismic experiments obtained along ESRU-93 and ESRU-95 profiles were incorporated in the cross section. Geologic cross section shows the lithostratigraphy, age and structural properties of the uppermost earth crust from the earth surface to depth of 5-7 km. In the area of study, the interpretive cross section displays the structure of the crust. Time-space diagram is accomplice of transect. We assume that the Urals, which is the linear orogen between Europe and Asia, was formed in terms of overthrusting of the West-Siberian crustal plate to the west onto the East European craton. The total amplitude of this thrust is about 100-150 km. The Early Triassic rifts took places in the area of West Siberia and initiated the West-Siberian basin formation.