

ESRU'93-99 - BASIC SEISMIC TRANSECT OF THE MIDDLE URALS: RESULTS AND PERSPECTIVES OF FURTHER STUDIES

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Studies on the international ESRU (Europrobe Seismic Reflection profiling in the Urals) transect have been started in 1993 by Pilot-project. That work has become the first one in the Urals, which illuminated the entire crust by CDP technique. The ESRU profile is a transect of the Middle Urals, while URSEIS'95 profile with similar scientific targets crosses the Southern Urals. By the end of 1999, several segments of the ESRU profile with total length about 410 km were worked out. The 300-km long section starts at the western slope of the Urals i.e. in highly deformed and metamorphosed sediments of the Riphean-Vendian cover of the East European Craton passive margin. Eastwards it crosses the main geological structures of the Urals e.g. the Main Uralian Fault Zone - the most pronounced suture zone in the Urals. (Here the profile goes near the Uralian Superdeep Borehole SG-4 site.) Further on the profile enters the West-Siberian plain, i.e. collage of the Pre-Paleozoic microcontinents and Paleozoic island arc and marine basins series. The Mesozoic-Cenozoic basin sediments up to 1 km thick cover about 80 km of the eastern part of the section. The Urals in our time is the strongly eroded core of the Paleozoic collision orogen where blocks of different origin and age were accreted during several collision epochs. The ESRU profile is planned to be extended in both eastern and western directions in order to create section about 500 km long and transect the entire orogen including its foreland and hinterland.