in the Kolmitz gneiss. It is folded by open to isoclinal F2 folds with westerly dipping axial planes and subhorizontal hinges. This folding leads to almost complete transposition producing moderately westerly dipping anatectic foliation, which is a dominant structure in all units. Metre-scale late post-metamorphic folds with subvertical NE-SW trending axial planes locally modify the generally westerly dipping fabric pattern.

In order to estimate the PT evolution in individual lithologies, the metamorphic assemblages and chemistry of the minerals from selected samples were compared with pseudosections constructed in the NCKFMASH system. The Gfohl gneiss contains relics of Ky enveloped by feldspars indicating the earlier HP metamorphic stage. The dominant assemblage within the S2 foliation is Sill-Grt-Plg-Kfs-Bt determining conditions of the metamorphic overprint at 8-10 kbar and 850 °C. Similar evolution is documented in the Kolmitz gneiss where abundant relics of Ky within feldspars were found in both the gneiss and in the coarse-grained melts. The dominant assemblage is identical to that of the Gfohl gneiss thus indicating the same conditions of D2 reworking at 8-10 kbar and 850 °C. The serpentinites at the western border of the Gfohl gneiss mark the first west-vergent thrust of the Gfohl unit over the Monotonous unit, while the Ky-Kfs felsic granulites and Cpx-Grt mafic granulites along the eastern border of the Gfohl gneiss mark the second east-vergent HP thrust of the Gfohl orthogneiss over the Raabs unit. The development of spinel in the Ky-Kfs granulites and Opx-Plg in mafic granulites along the eastern border of the Gfohl gneiss indicate, that thrusting continued to shallow depths at still high temperature.

The observed structural pattern is interpreted in terms of episodic evolution of lower crustal accretionary wedge. The Monotonous series is seen as more rigid indenting continental crust causing the west-vergent thrusting and exhumation of the deepest part of the lower crust and upper mantle represented by the western margin of the Gfohl unit. Almost complete reworking of earlier east-vergent fabric by moderately westerly dipping foliations and initiation of east-vergent HP thrust located at the eastern border of the Gfohl orthogneiss is interpreted to have been caused by underthrusting of the Brunovistulian foreland further to the east. The exhumation of the rocks along east-vergent fabric continues from ca10kbars to ca 6kbars at still high temperature. Local reworking of both fabrics by steep NE-SW trending folds indicate continuous compression at shallow crustal levels, while the extruding steep or intermediate dipping fabrics are locally affected by flat shear zones accommodating the gravitational collapse of the whole wedge structure.

Structural Configuration and Lithofacies of the Southeastern Part of the Carpathian Foredeep Basin as Defined by Subsurface Data

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The Carpathian Foredeep represents a peripheral foreland basin formed as the result of peripheral down-buckling of the passive North European Plate margin (represented by the Bohemian Massif in the area of study) in the foreland of the Alpine–Carpathian orogenic belt. The basin fill in the study area is formed by Neogene sediments (Egerian to Lower Badenian, i.e. 22.5 Ma to 15.5 Ma). Their maximum thickness exceeds 1500 m.

The study area is located in the proximal (i.e., adjacent to the active thrust front) part of the basin with strong dominance of basinal deposit. These deposits are exposed to only a very limited degree. Subsurface data (seismic reflection profiles, wireline logs and drill cores) represent the main tool for the recognition of the basin evolution and depositional architecture. Further aim of the present study of the subsurface data was also to collect data for the lithostratigraphy of the basin and to apply "alternative" stratigraphic techniques.

Several macro-elements can be followed within the studied part of the basin in seismic reflection profiles calibrated by wells. The recognized elements represent "superior" evolutionary stages in the basin development. Basin configuration in these stages differed considerably. Tectonic setting (both extensional and compressional) within the accretionary wedge was the dominant ruling factor of these processes. Significant differences in lithology and petrography of the sedimentary fill of the basin reflect the existence of depositional cycles of several orders. These can be followed mainly in well logs.

Erosion and tectonic deformation contributed to the relatively narrow shape of the basin. Large volumes of deposits (especially of Karpatian and Lower Badenian age) were eroded. Strong dominance of basinal lithofacies (Karpatian *schlier* and Lower Badenian *tegel*) and the almost complete absence or their marginal/distal equivalents supported the role of these processes.

Basement of the basin, formed by crystalline rocks of the Bohemian Massif and its Mesozoic and Paleogene sedimentary cover, was also significantly affected by the tectonics of the active thrust front.

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