

Abstrakt

The diploma thesis studies lithofacies and cyclic pattern of about 200 m thick upper part of the Poruba Member (Serpukhovian) in the Karviná area of the Ostrava-Karviná coalfield. The objective of this thesis is to identify laterally persistent cycles from the local ones by the set of cross-sections and to better understand their formation, especially the role of glacio-eustatic sea level changes. Set of cross-sections constructed from boreholes were used for this study. The three genetic cycles were identified in the thesis based on previous studies of Gastaldo et al. (2009). From base to top the cycles are the (i) Max, (ii) Otakar a (iii) Gaebler. Their thickness fluctuates between 19.9 and 109.9 meters. The genetic cycles are bounded, with one exception, by a transgressive erosional surface of important faunal marine bands. From the set of cross-sections and maps of thickness and sand content (%), constructed for individual genetic cycles, it is obvious that the area of maximum thickness corresponds to area of increased content of medium- and coarse-grained sandstone. Maxima of sand content and thicknesses follow NNE-SSW direction, which is in agreement with basin axis. These maxima are interpreted as areas occupied by fluvial channels that are responsible for deposition of coarse-grained clastics. These fluvial channels followed the synsedimentary fault, which was active during the all three genetic cycles sedimentation. The cross-sections have proved the lateral persistence of the genetic cycles in the studied area and support an idea that they are transgressive – regressive allocycles, earlier named as cyklothems. Within the genetic cycles, it is possible to define thinner cycles of lower order (usually sandstone - siltstone - coal - faunal elements). These cycles are not as laterally widespread as the genetic cycles so that we can consider them, at least partially, as the autocycles influenced by sedimentary system inner dynamics. For more detailed identification of these lower order cycles, analysis of the Poruba Member over a larger area will be needed in the future.

Keywords

Upper Silesian Basin, Poruba Member, cyclic pattern, carboniferous, genetic cycles