

Environmental synergy in the Romanian Plain (to the East of Olt river)

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The objective of the study is the detection of areas and the functioning mechanisms of the oropedo-hydro-geographic and hydrogeologic systems within the Romanian Plain. Geological conditions, especially the hydrogeological ones (groundwater depth and flow) largely influence superficial and underground drainage system. The influence of groundwater dynamics in the padding interfluvial microrelief in direct connection with the thick of loess deposits, is a conditional variable in the occurrence and development of microdepressions towards drainage systems. The analysis of data shows a discrepancy between the supply of the maximum piezometric levels and rainfall, so the groundwater level oscillations are influenced by overlapping rainfall in previous years. To highlight the close link that exists between the microforms of relief and soil covering there have been made correlations between reappearance of padding soils with the distribution of compaction microdepressions. The large arteries assert the direction drainage of the groundwater and the groundwater depth climbs as it bears away from the hydrographic arteries; it results that density relief's fragmentation is directly proportional with the increasing of the groundwater depth.

Tectonic deformation in the East European Craton (Baltica) and Malopolska Block (European Palaeozoic Platform) border zone (TESZ) – The structural evolution of Cambrian sediments in the exploration boreholes

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The boreholes Wola Obszańska-8, Książpol-12 and Dzików-17 are located in the NE marginal zone of the Małopolska Block. It is situated beside the Holy Cross dislocation, which probably continues in this region and divides the Małopolska Block from the Łysogóry Block. The Malopolska Block occurs at south western foreland of the East European Craton within the Central European part of the Palaeozoic Platform. They are components of a collage of crustal blocks of various age and origin (Trans-European Suture Zone).

The exploration boreholes Wola Obszańska-8, Książpol-12 and Dzików-17 were drilled of the Cambrian and were cored in part. The exploration borehole Wola Obszańska-8 was drilled to 1100m. Was cored examine in parts: 1100,0 – 1093,0, 1069,0 – 1060,0, 1012,0 – 1003,0 (The Upper Cambrian). The borehole Książpol 12 was drilled to 978m and was cored in part to -in interval 946,0 – 955,0 are measures The Upper Cambrian. The borehole Dzików-17 was drilled to 1108m and was cored in part: 1108-1099, 1040-1031 and 1031-1022 (The Middle Cambrian)

These sediments are poorly and strong involved tectonic. Sediment layers are mostly placed horizontally, vertical and sub vertical. These sediments in these boreholes display large variability of pitch of sedimentary surfaces. Angle of fall oscillates within bounds: 0-90 degrees. In the borehole Książpol-12 angle of fall oscillate within bounds: 5-65 degrees (layers are inclined high – pitched) and in the borehole Wola Obszańska 8, layers fall into in generally to angle 0-20 degrees (are display horizontal, subhorizontal fall). In the exploration borehole Dzików-17 angle of fall oscillate within bounds: 30-90 degrees.

The main part in sediments of the Cambrian is dark gray mudstones. In their area are situated into some centimeters interval alternate thin layer dark gray claystones and mudstones, light gray sandstones. Sediments of the Upper Cambrian in the borehole Wola