

Abstract

The main objective of diploma thesis is to evaluate the impact of the geological structure on the hydrogeological conditions in the northeastern part of Stráž block. The study area in northern Bohemia is characterised by Cenomanian and Turonian sandstone aquifers, which are horizontally divided by Lower Turonian aquitard. The thesis focuses groundwater level analysis and study hydrogeological impacts of faults, neovolcanic veins and disturbances of rock environment caused by uranium mining. First part of the study presents description of general geological and hydrogeological conditions in the area with summary of previous investigations and reports. Various hydraulic interventions during mining, which have great impact on the groundwater level situation are described. Based on the data from collected boreholes, contour maps of groundwater level are prepared to study its shape and temporal changes. Hydraulic communication through aquitard and through Stráž fault zone have been examined by correlations of groundwater levels. The results of the study confirm sealing effect of Stráž fault zone in the examined section. Barrier effect of the neovolcanic veins has been confirmed on several locations and examples of increased hydraulic conductivity as the result of fault disturbances have been located. The correlations of groundwater levels from the Cenomanian and Turonian aquifers suggest there is no communication between the structures.

Key words: hydrogeology, Hamr I mine, Stráž block, Bohemian Cretaceous Basin