ABSTRACT

The submitted diploma thesis deals with relative dating of the youngest glacigenic sediments (moraines) in the upper parts of some selected valleys in the High Tatra Mountains. These moraines were stabilized after the last cold events of the last glaciation cycle. The Schmidt hammer (SH) test was used for the assessment of their relative age. This method is based on the assumption that there is a mutual relation between the degree of weathering of a tested surface and the duration of its exposure. Information about the degree of weathering is expressed by the Rebound (R) value. The measurements were taken on fifteen moraines in four valleys in the High Tatra Mountains (Mengusovská, Velká Studená, Malá Studená and Litvorova valley). A large statistical population of measurements obtained from moraine surfaces were used to analyse the variability of R values means in the same lithology. The moraines were divided on the base of SH measurements into two groups of different age. R value means and standard deviation for these groups (SK_1: R=53,5±1,2 a SK_2: R=58,6±1,5) are significantly statistically different. The results of the weathering indexes were used for the reconstruction of the pattern of deglaciation in selected upper parts of valleys (cirques).

Key words: relative dating, the Schmidt Hammer, glaciation, High Tatra Mts.