Lithological Unit Thickness Approach for Determining Intact Rock Strength (IRS) Of Slope Forming Rock Material of Crocker Formation

ABSTRACT

The Intact Rock Strength (IRS) of slope forming rock material of the heterogeneous Crocker Formation has been determined using "Lithological Unit Thickness" approach in order to evaluate the slope stability. Four slopes in CPSB Stone Quarry were selected in this study namely slope B1, B2, B3, and B4. The "Lithological Unit Thickness" approach in this paper consists of slope geological mapping, slope geometry, lithological thickness measurement, petrographic analysis, intact rock strength testing and modeling. The intact rock strength was measured using Unconfined Compressive Strength test and Point Load test. The results show that the estimation of intact rock strength of the slope forming rock material by 'lithological unit thickness' approach is more representative and the value for slopes B1, B2, B3 and B4 are 129 MPa, 108 MPa, 117 MPa and 148 MPa, respectively. The intact rock strength for the slopes forming rock material in the study area can also be classified as 'strong' rock masses.