

Slope stability assessment using modified d-slope method of western part of Sandakan, Sabah

ABSTRACT

Slope stability assessment using modified D-Slope method is been conducted on five (5) rock slopes from Sandakan, Sabah. D-slope method comprises of G-Rating determination and Potential Instability. G-Rating includes 17 parameters of field observation and laboratory analysis to assess the slope condition. Kinematic analysis is used for Potential Instability analysis to determine the type of failures for each slope. This later is to determine the level of slope's risk: No Risk, Low Risk, Moderate Risk or High Risk. Based on the results of G-Rating, only slope C1 and C2 have value more than 0.4 while other slopes have less than 0.4 which indicates stable slopes. Based on kinematic analysis, slope C1 and C3 experienced wedge failures, slope C4 with toppling failure, slope C5 with wedge/planar failures and no failure shown for slope C2. D-slope analysis indicates that slope C1 is considered as Low Risk with mitigation suggestions of stream system inspection and vegetation on exposed area of the slopes, while other slopes (C2, C3, C4 and C5) have no suggestion for mitigation as been assessed as No Risk.