

PERSIDANGAN GEOSAINS NASIONAL 2006
NATIONAL GEOSCIENCE CONFERENCE 2006
12-13 JUNE 2006, ARMADA HOTEL, PETALING JAYA

DISCONTINUITY CONTROLLED CUT-SLOPE FAILURES ON WEATHERED LOW GRADE METAMORPHIC ROCKS ALONG THE EAST-WEST HIGHWAY, GRIK TO JELI

MUSTAFA KAMAL SHUIB¹, SAMSUDIN HJ TAIB¹ & MAZLAN ABDULLAH²

¹ Jabatan Geologi, Universiti Malaya, 50603 Kuala Lumpur

² GAC BUILDERS SDN BHD, 25-1 Jln. Putra Permai 1A,
 Equine Park Commercial Centre Equine Park, 43300 Sri Kembangan

ABSTRACT: This paper describes the occurrence and mechanism of discontinuity-controlled cut-slope failures within the residual soil zone and the underlying weathered metasedimentary and metamorphic rocks, drawing on the experience gained from investigations of a number of landslides observed on the cut-slopes of the East-West Highway. These slope failures highlighted the important influence that discontinuities in residual soils and weathered rocks can have on slope stability. The slope movements recognised in the metasedimentary and metamorphic rock slopes along the East-West Highway are: - A) movements of rock-soil cover through: (i) movement of loose soil and weathered fragments, and ii) rotational sliding movements or slumps, B) movements of loosened blocks (rockfalls), C) movement of intact rocks along predetermined planes (slides), D) progressive complex movements. Slope failures are found to be largely controlled by the unfavourable orientation of discontinuities with respect to the slope face compounded by the weathered nature of the rock and the infiltration of water and continuous traffic flow that triggered movement down slope. The occurrence of landslides in slopes, which have been investigated and engineered, may be the result of inadequate attention to structural features in the weathered rock mass during site investigations and construction (design).