

PERTEMUAN PERSATUAN Meetings of the Society

Ceramah Teknik (Technical Talk)

Slope failures vs material types

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Laporan (Report)

To set a good example as Chairman, and to start the ball rolling on the year's activities of the Working Group on Engineering Geology and Hydrogeology, Boon Kong gave the above talk on Wednesday 10th January 2001 at 5.30 pm at the Geology Department, University of Malaya.

Digging into his treasure chest of numerous case studies, he was able to clearly show the distinctive role played by material types in slope failures.

Abstrak (Abstract)

Slope failures constitute one of the more common failures related to geotechnical works. The causes and factors contributory to slope failures are multi-faceted and site specific. One of the more common factors of slope failures is, of course, the material type forming the slope, with some material types (either soil or rock types) being more prone to failures than others.

This paper highlights the role of material types in the incidence of slope failures. The objective of the paper is to put in record the occurrences of certain soil and rock types which have been identified or recognised to be particularly susceptible to slope failures. Soil types



commonly involved in slope failures include: fill materials, colluvial deposits, alluvial soils including the Old Alluvium/Old river terrace deposits, mine tailings, residual soils of graphitic and quartz-mica schists, granitic soils with core boulders, etc. The Pinosuk Gravels, a unique glacial deposit in the Kundasan area of Sabah, is also the subject of a recent study on landslide. Rock types commonly involved in slope failures include interbedded sedimentary rocks such as sandstone/shale interbeds, highly jointed and faulted granite, and limestone as in subvertical to overhanging limestone cliffs. Major dykes intersecting other country rocks can, depending on the nature of the dykes, be sources of problems or contribute to slope instability.

Some case studies of slope failures associated with various engineering works in Peninsular Malaysia, Sabah and Sarawak are provided to illustrate the role of material types in slope failures.

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