Title: Stability Analysis and Stability Chart for Unsaturated Residual Soil Slope

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Abstract: In tropical residual soils most hill slope failures are caused by rainfall. It is therefore important to consider dynamic hydrological conditions when attempting to analyze the stability of residual soil slopes. This paper describes a coupled hydrology/stability model that has been developed to overcome the limitations of the standard method of analysis used to investigate stability of tropical soil slopes. A computational hydrology – limit equilibrium stability analysis model is outlined and examples are provided of the model output capabilities in terms of design charts. Although nowadays most realistic problem should be analyzed by computer and stability charts are mainly used to analyze simple slopes, they can be useful for preliminary analysis and enable the designer to quickly assess the sensitivity of a problem to changes in different input parameters.