DETERMINATION OF COEFFICIENT OF PERMEABILITY ON

WEATHERED SANDSTONE.

BY

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DECLARATION

I Sharil Maizan Zainal , 2001632944 confirm that the work is my own and the appropriate credit has been given where reference has been made to the work of others.

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ABSTRACT

The permeability of rock mass is an important property that influences the pore water pressure, ground water level, flow rate, and flow velocity of sloping surfaces of rock mass. The study focused on the measuring of the Permeability Constant Pressure Test of Sandstone sample suggested by International Society for Rock Mechanics, ISRM (1981). Weathered sandstone will be collected from Muda quarry. The sample length-to-diameter ratio of the prepared cores ranged from 1 to 1. The laboratory study will be determined basic physical properties of Sandstone. The porosity of a rock, indicated by the dimensionless quantity n, is a friction expressing the proportion of void space to total space in the rock. The good relationship between calculated and measured data demonstrates that this relation can be used to predict permeability from porosity and texture in sandstone cores by each the data from permeability constant pressure into hydraulic units. The hydraulic units are calculated from measured porosity and permeability values. Relationship between porosity and permeability is significant within each hydraulic unit, coefficient of permeability range between 3.871×10^{-8} m/s to 4.329×10^{-8} m/s, the average value of 4.1178×10^{-8} m/s is considered to be a reasonable representation of the average permeability (m/s) of the sandstone. The percentage porosity for each specimen has an average of 13.9 percent and average permeability of 4.1178×10^{-8} m/s. The porosity of weathered sandstone It depends on affecting porosity as sorting, grain shape, size and abundance and the extent of cementing between particles.