A COMPARATIVE STUDY ON DETERMINING THE UNDRAINED SHEAR STRENGTH PARAMETER OF SOIL BY USING THE H-OMETER TEST AND THE UNCONFINED COMPRESSION TEST (UCT)

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ABSTRACT

There are many new types of equipment developed in the market for soil testing and compaction control ranging from a simple penetration gadget, to more sophisticated high-tech equipment. The prices for these more sophisticated high-tech equipments are relatively very high. The H-Ometer is test equipment which is relatively cheaper and easier to use in terms of operation. Thus, it may provide an alternative in determining the soil parameters if proven to produce reliable results.

This study aims on confirming the accuracy and reliability of the results obtained from H-Ometer which is determined by comparing its readings to the readings from the Unconfined Compression Test (UCT) as UCT is established as a reliable testing equipment in determining the Undrained Shear Strength (S_u) parameter.

A comparison in terms of consistency of both testings was also conducted and the more consistent results from both tests could be distinguished.

The findings revealed that the S_u values obtained from the H-Ometer test is higher from the S_u values obtained from the UCT test and the H-Ometer test gives a more consistent reading in comparison to the UCT test. These findings support H-Ometer test as a reliable alternative to UCT test in determining the Undrained Shear Strength (S_u).