

**VOLUME CHANGE BEHAVIOUR  
OF COMPACTED RESIDUAL CLAY**

**By**

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## SYNOPSIS

A study on the volume change behaviour on compacted clay was made on disturbed sample. Soil samples were taken from site and were tested in soil laboratory. The type of test conducted were particle size analysis, Atterberg limit test, Compaction test and lastly triaxial compression test.

A series of test were performed in accordance with British Standard 1377 : 1975 method of test for soils for Civil Engineering purpose.

The soil sample can be classification as CLAY silt high plasticity. Cell pressure applied to the specimens was estimated between 100kPa to 600kPa. Base on the data gathering true testing carried out in laboratory, nevertheless, finding of this study are able to reflect to the relationships between cell pressure duration and volume change.

# CHAPTER 1

## INTRODUCTION

### 1.1 General

Soil consist of the products of mechanical and chemical weathering of the rock of the earth crust and are found in a wide range of particle sizes, shape and mineral constituents. The word soil implies a mixture of assorted mineral grains of different sizes and shapes and in its natural state, a soil contains both water and air or gas.

The very small mineral particles formed by chemical processes are crystalline and are call clay, clay colloids , or soil colloids. The mineral which combine to produce clay are chemically the same as those forming the parent rock, but they have a different crystalline structure arising from the solution and recombination of the origin materials.

Compression and collapse can occur in expansive soil depending on the magnitude of the applied load. Compression can take place if the load is large where expansion can occur when the load is low.

Knowledge of the physical character of soil constituents essential to an understanding of soil behavior during construction.