

SITE CLASSIFICATION FOR SOFT SOIL AT THE EAST COAST
PETROCHEMICAL INDUSTRIAL CORRIDOR

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ABSTRACT

SITE CLASSIFICATION FOR SOFT SOIL IN THE EAST COAST PETROCHEMICAL CORRIDOR

The east coast industrial corridor is located between Gebeng in Pahang to Paka in Terengganu. Based on study conducted, the geology of the area consisted of beach ridges formed by the storm wave action of South China Sea. Further, for this study soil boring and CPT tests were conducted. For sampling, special sampling equipment was fabricated to sample the sandy soil. Sieve analysis conducted found the soil to be silty sand of Poorly Graded Sand (SP) or Well Graded Sand (SW). Classification from CPT test could only provide indication of soil type present. Direct shear test conducted found the sandy soil to have internal angle of friction of around 30 degrees. The results of shear strength parameters (C and ϕ) from direct shear test was then compared with values obtained correlated using equation by Campanella and Robertson (1983). The result of comparison found that the equation by Campanella and Robertson would give higher ϕ values than the direct shear test. The values would closer if C values is 0 (zero). This indicate presents of cohesion, C , reduced the accuracy of the equation.

CHAPTER ONE

INTRODUCTION

1.1 OVERVIEW

There are various layers in the surficial soil of the earth. These layers are called soil horizons and vertically they arrange themselves as soil profile of the area down to the bedrock. Soil horizons differ in a number of easily seen physical soil properties such as soil type and other features such as color, texture, structure, and thickness. Other properties are less visible. Chemical properties such as chemical and mineral content, consistency, reaction, and mechanical properties such as shear strength and additionally consolidation property for cohesive soil require special laboratory tests. All these properties are used to define types of soil horizons. Knowing soil profile of an area is very important for engineering works. This knowledge assists in planning, design and construction of the work in that area.

The study on site classification for soft soil at the east coast petrochemical industrial corridor focused on Kerteh, Kemaman district, Terengganu. Kertih is a town located within the state of Terengganu. It is identified as the biggest petrochemical area in Peninsular Malaysia. Figure 1 shows the location of Kertih. It is also a town located by the beach on the east coast of Peninsular Malaysia.