Republic of Iraq

Ministry of Higher Education

and Scientific Research

University of Technology

Building and Construction Engineering Department

Highway and Bridge Engineering Branch

Strength Properties of Soft Clays Stabilized With Saw Dust Ashes

A Project

Submitted to the Building & Construction Engineering Department

University of Technology in Partial Fulfillment of the Requirements for

the degree of *Bachelor's in Building and Construction Engineering*

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2013-2014

ABSTRACT

Soft clay is a type of fine-grained soils which always bring the problems of soil unstable andstructure settlement. Therefore, the construction of buildings, road, bridges canals and railway in softclay has always been associated with stability problem and settlement. Soft clays were a type of fine-grained soils which change volume when different from elasticdeformation, consolidation and secondary compression. As soft clays are disturbedcohesive soil whose water content is higher than its liquid limit; such materials display extremely lowyield stresses and represent difficult construction conditions.

In Iraq, the problems of this soil taken space from the attention of geologists and civil engineers, because about 35% of the Iraqi clay soils (especially southern Iraq) are weak. So, necessity to improve soil properties for road building has resulted in the use of various stabilizers.The objectives of this study are to determine the index properties, and to correlate between index properties. This project investigates the laboratory evaluation of soft clay that are stabilized with saw dust ash with different percentages (2.0%, 4.0%, 6.0%,8.0% and 10% by dry weight of soil) will be tested. The mixture of saw dust ashes with soft clay soils improves the consistency limits and also their mechanical properties of the soil, as expressed by a reduction in the compression coefficients (C_c and C_r) and increasing the undrained shear strength C_u. This study has revealed that saw dust satisfactorily acts as a cheap stabilizing agent for sub-grade and sub-base purposes in soft clay soil.