

BEHAVIOR OF FLY ASH STABILIZED CLAY IN TRIAXIAL APPARATUS

Final Project

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Faculty of Engineering
Department of Civil Engineering
International S1 Program
2010**

APPROVAL

Final Project

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has been approved

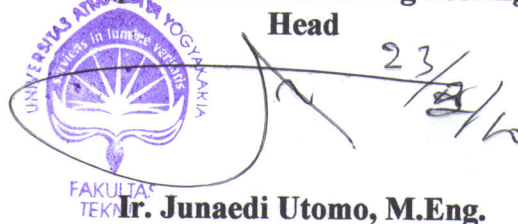
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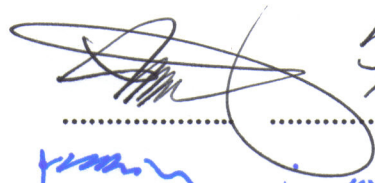

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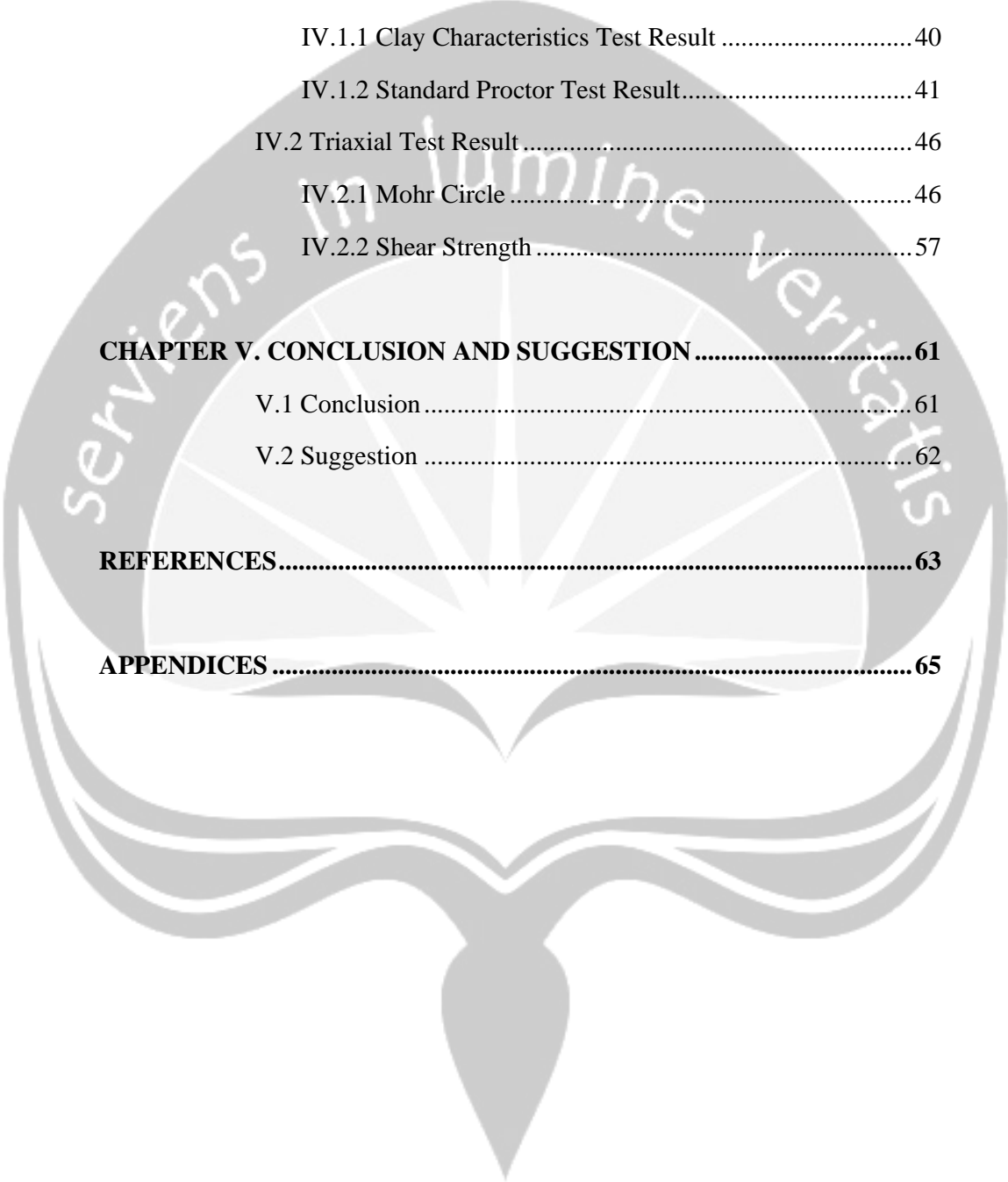
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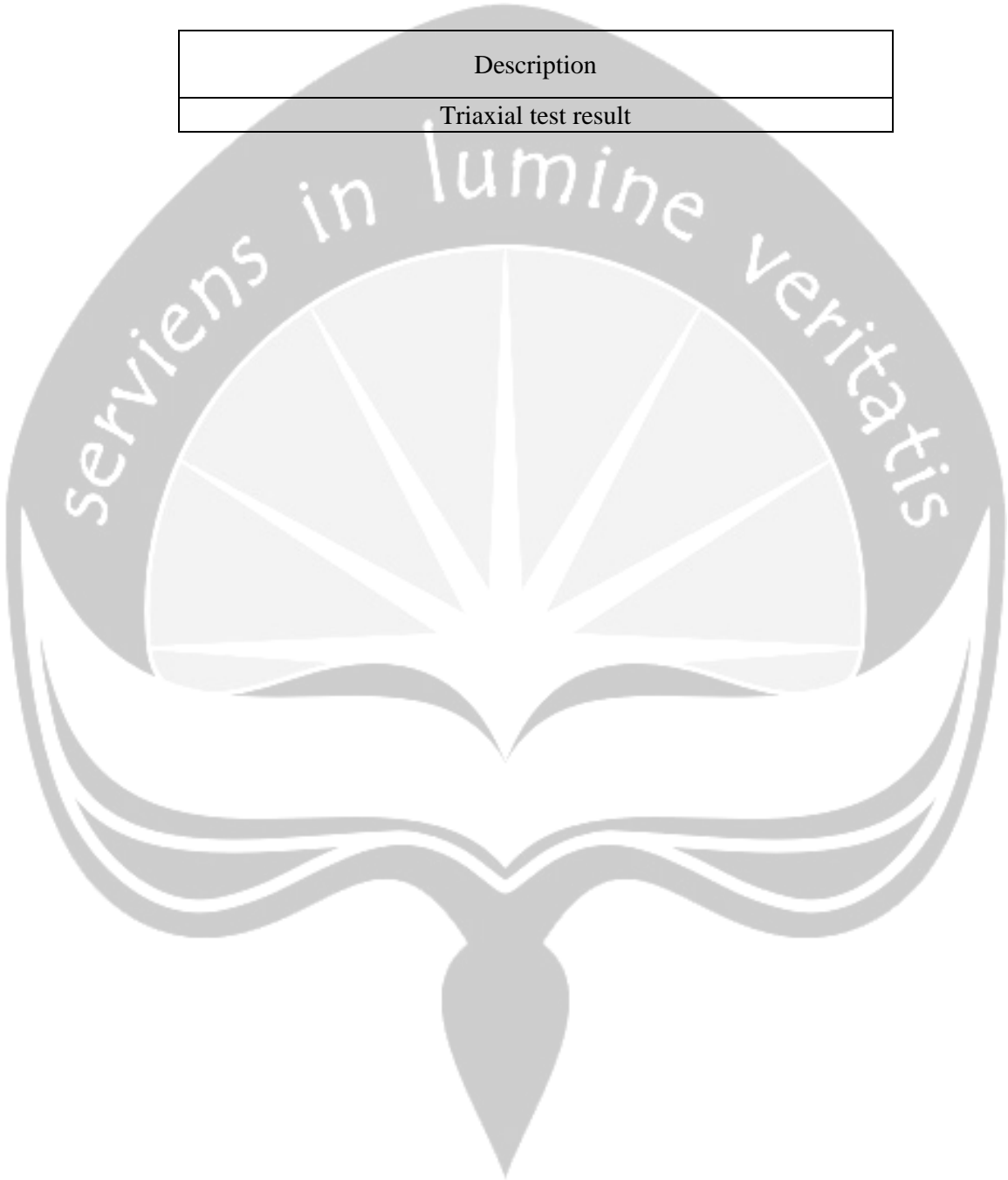
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ABSTRACT

BEHAVIOR OF FLY ASH STABILIZED CLAY IN TRIAXIAL APPARATUS, prepared by Aloysius Cahyo Kurniawan, SN: 00 13 09977, year of 2010, Civil Engineering, Engineering Faculty, Atma Jaya Yogyakarta University.

Research about stabilization of clay with many kind of stabilizers such as cement, lime soil, cane pulp ash are commonly done. However, study of clay stabilization soil is still interesting subject to be investigated. This research investigates the shear strength of fly ash stabilized clay which is due to cohesive value (c) and friction angle value (Φ).

The research divided into 2 steps of test, for the initial test in order to find the OMC (Optimum Moisture Content) condition of clay, this step covers clay characteristics test (water content test) and standard proctor test (compaction method). The second step is triaxial test, in order to find the shear strength of clay stabilized with fly ash. The percentage of fly ash which is added is: 0%; 15%, 20%, 25%, and 30%. By using Mohr circle, the cohesive value (c) and friction angle value (Φ) can be found.

The results of the research are: clay reach the optimum moisture content when added with 901.54 ml of water, and reach the maximum shear strength when added fly ash as much as 30% with 2 kg/cm^2 pressure given. Exchange of positive ion between clay and fly ash results the change of friction angle value (Φ), whereas hydration reaction get the increment of cohesive value (c). Friction angle value reach the optimum value on 7th day of curing time, and cohesive value increment determined by fly ash addition and curing time period. By fly ash addition, the shear strength of clay increases.

Keywords: Clay, fly ash, triaxial, cohesive value, friction angle value, shear strength