DELHI TECHNOLOGICAL UNIVERSITY, DELHI

Declaration

I, hereby declare that the work embodied in the dissertation entitled "Experimental & Numerical Estimation of Consolidation for Bentonite & Sand Mixture" submitted in partial fulfilment for the award of degree of MASTER of TECHNOLOGY in "GEOTECHNICAL ENGINEERING", is an original piece of work carried out by me under the supervision of Prof. A. Trivedi, Department of Civil Engineering, Delhi Technological University. The matter of this work either full or in part have not been submitted to any other institution or University for the award of any other Diploma or Degree or any other purpose what so ever.

Manish Kumar

M.Tech (Geotechnical Engineering)

Roll No. 2K12/GTE/11

DELHI TECHNOLOGICAL UNIVERSITY, DELHI

Certificate

This is to certify that the project report entitled "Experimental & Numerical Estimation of Consolidation for Bentonite & Sand Mixture" is a bona fide record of work carried out by Manish Kumar (Roll No. 2K12/GTE/11) under my guidance and supervision, during the session 2014 in partial fulfilment of the requirement for the degree of Master of Technology (Geotechnical Engineering) from Delhi Technological University, Delhi.

The work embodied in this major project has not been submitted for the award of any other institution or University for the award of any other Degree or any other purpose.

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Abstract

In the present study consolidation test performed on different percentage of bentonite sand mixed sample has been performed. Rate of consolidation has been compared for all the samples. The variation of consolidation properties for all samples is compared.

By increasing the percentage of bentonite deformation of sample increases and the rate of consolidation decreases. This study represents how the variation of consolidation behaviour increases by increasing the clay minerals in soil. The sand bentonite mixture with different percentage of bentonite mix shows large variation in consolidation behaviour, which is helpful in a comparison analysis by different method.

The analysis of rate of consolidation can be done with different way, and analysed. The future aspect of the project is analysing the rate of consolidation with Numerical solution in one dimension and compared with the Fourier series solution.

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