

The SCS double hydrometer test in dispersive soil identification

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Abstract

The standard testing procedures for the Soil Conservation Service (SCS) Double Hydrometer test, the Pinhole Test, Crumb test and chemical analyses for the identification of potentially dispersive soils have recently been studied and problems/anomalies identified. Recent testing suggests that many of the shortcomings related to testing of dispersive soils may have been overlooked during past routine investigations. A comparative study involving the testing of three samples using one standard laboratory test, namely the SCS double hydrometer test was carried out and some potential means of overcoming the problems have been identified. The investigation has highlighted the differences that can be obtained on a single soil as a function of the variation in test procedures. The variability of the results obtained from the double hydrometer test in particular appears to be the cause of many of the ambiguities and discrepancies in the classification systems studied during this research. Problems related to the double hydrometer tests pose the potential for misleading results since the test has been used as the basis for identifying the potential dispersiveness of soils during the development of rating systems.