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## Introduction

As the field of soils mechanics and foundation engineering has grown and developed, the need for determining the *in-situ* characteristics of the soil layers, as opposed to the characteristics of samples as tested in the laboratory, and the relationship of these two sets of data, has long been recognized. Many pieces of equipment, devices, and gimmicks have been constructed and utilized by various engineers over the years to measure the strength of the soils in place.

Two of the most common devices for this purpose are the vane-shear apparatus for tests of cohesive soils and the cone penetration test apparatus for measuring the relative density of soil layers. While there are several different kinds of each of these test devices, the procedures are accepted and used rather broadly, so that the Executive Committee of ASTM Committee D-18 on Soils and Rock for Engineering Purposes determined that standard methods of test should be developed, if possible, for these two procedures.

This symposium was planned to provide an opportunity for presenting descriptions of test procedures and to crystallize a state-of-the-art of the techniques of testing and of the evaluation of the test results for engineering usage. This would provide a basis for the preparation of a tentative method of test and utilization by the membership of the Society and the profession.

A good response was experienced for the vane-shear test, with five papers received. Only one paper relating to cone penetration testing was presented. As a result, a tentative method of test has been drafted by Subcommittee 2, and is now before Committee D-18 for adoption. The method should be published as a part of the manual in 1967. Work is continuing on the preparation of a cone penetration resistance test method.

The efforts of the authors in preparing these excellent papers were most helpful in developing a standardized and useful tool in the study of *in-situ* soil conditions.

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