

TESTING FORUM

Committee D-18 News

This report of activities of ASTM Committee D-18 on Soil and Rock for Engineering Purposes is based primarily on subcommittee reports prepared following the January 1979 meeting of the committee in Fort Lauderdale and the June 1979 meeting in Philadelphia. It is by no means a complete resume of activities, since some subcommittees have not held meetings and reports on other subcommittee meetings were not available.

Subcommittee Organization

In an effort to better organize the work load of the subcommittees and to respond to new needs and challenges, several changes have been made in subcommittee responsibilities and a number of new subcommittees have been formed. The most recent changes started in 1978 with the formation of Subcommittee D18.15 on Stabilization with Admixtures and the transfer of standards in this area from Subcommittee D18.08 on Special and Construction Control Tests. This was followed by the transfer of standards on moisture-density relations and relative density from D18.03 on Texture, Plasticity, and Density Characteristics of Soils to D18.08.

New subcommittees have been organized in the following areas: D18.16 on Grouting, D18.17 on Rock for Erosion Control, and D18.18 on Peat and Related Materials. The latter subcommittee is currently in process of organization; it is to take over standards relating to peat that formerly were under the jurisdiction of Committee D-29 on Peats, Mosses, Humus, and Related Products, which has been dissolved.

Subcommittee Activities

D18.01 on Surface and Subsurface Reconnaissance—K. S. Antony has prepared a method for subsurface testing by electrical resistivity measurements. C. O. Riggs is developing a proposed procedure for down-hole permeability tests in rock. W. E. Teasdale has analyzed results of a questionnaire for the need of a recommended practice on bored-hole geophysics; the response was in favor of such a standard.

D18.02 on Sampling and Related Field Testing for Soil Investigations—The subcommittee is working on future revisions to D 2573, Field Vane Shear Test in Cohesive Soils, in the area of vane size, blade thickness, and rod diameter. It is also working on tightened requirements for D 1586, Penetration Test and Split Barrel Sampling of Soils. New procedures being considered include a standard practice for the transportation of soil samples and a standard method for pressure meter tests.

D18.03 on Texture, Plasticity, and Density Characteristics of Soils—Revision is underway on D 422, Particle Size Analysis of Soils. M. J. Buckley has completely rewritten D 423, Test for Liquid Limit of Soils, and D 424, Test for Plastic Limit and Plasticity Index of Soils. B. N. MacIver has revised D 1140,

Amount of Material in Soils Finer than the No. 200 (75 μm) Sieve. D 2049, Test for Relative Density of Cohesionless Soils, is being completely rewritten by R. S. Ladd and G. N. Durham. The plan is to replace D 2049 with two new standards on maximum density index using vibrating table and minimum density index. The new standard on moisture-density relations of soil aggregate mixtures is being rewritten because of the large number of negative votes on the initial ballot. I. V. Kalcheff has prepared a draft standard on coarse aggregate correction.

D18.05 on Structural Properties of Soils—A task force comprised of R. T. Donaghe and Stein Sture is working on a revision to D 2850, Test for Unconsolidated, Undrained Strength of Cohesive Soils in Triaxial Compression. R. J. Stephenson is working on a new standard for residual strength by direct shear tests. V. P. Drnevich is working on a standard for controlled strain-rate consolidation tests. J. D. Nelson has been assigned the preparation of a new standard on consolidated-undrained strength of cohesive soils in triaxial compression.

D18.07 on Identification and Classification of Soils—Revisions are being proposed to D 2488, Recommended Practice for Description of Soils (Visual-Manual Procedure), to provide orderly procedures for naming soils, describing their moisture condition, and describing their structure. A proposed classification system for frozen soils was published in the December 1979 issue of the *Geotechnical Testing Journal* to encourage comment by the membership. Other items being considered are a classification system for residual soils, a publication containing guidelines for soil classification, and an assessment of methods for teaching soil classification.

D18.08 on Special and Construction Control Tests—D. A. Tiedeman is checking the three-point rapid compaction control method using the $\frac{1}{8}$ -in. cubic mold. Several rapid test methods are under study; current thinking is that these should not be published as standards but should be made available as a separate publication.

D18.09 on Dynamic Properties of Soils—Two round robin test programs are under way. One is concerned with dynamic properties and the other with resonant column test procedures. Laboratory tests on both are complete and reports are in preparation. M. J. Buckley has prepared a test procedure for sample preparation using the zero-height raining technique.

D18.10 on Bearing Tests of Soils In Place—This subcommittee is working on procedures for load deflection by the benkleman beam apparatus and bearing ratios of soil in place.

D18.11 on Deep Foundations—The subcommittee is working on a revision to D 1143, Testing Piles Under Axial Compressive Load.

D18.13 on Marine Geotechnics—The subcommittee is conducting a survey to determine the number of laboratories that correct soil test results for soluble salt effects and the methods they use to determine the soluble salts present. Standards under the jurisdiction of Committee D-18 are being reviewed with respect to recommended changes to account for their use in the

TESTING FORUM

marine environment. R. C. Chaney and K. R. Demars are preparing a recommended practice for packaging, handling, and preparation of marine soil samples.

D18.14 on Soil and Rock Pollution—D. E. Clark has prepared a draft standard for the determination of the distribution coefficient. R. V. Manam is working on a standard on dispersivity. Keros Cartwright and G. M. Hughes have prepared a position paper on "Geologic Considerations in Waste Disposal."

D18.15 on Stabilization by Additives—The subcommittee is considering a quick test for lime or cement content at the project site and a pH method for lime content.

D18.17 on Rock for Erosion Control—I. V. Kalcheff and C. R. Marek are working on a proposed specification for gradation and size requirements. W. H. Childres is working on methods of quality assurance.

D18.92 on Papers—The *Geotechnical Testing Journal* is doing very well. Subscriptions are above 1500 and a backlog of papers is developing.

D18.94 on Education and Training—The subcommittee is considering training standards for geotechnical technicians. Individual test methods are being examined and checklists for individual technician competence are being developed.

—Submitted by W. G. Shockley

ASCE/ASTM Joint Program

The Soil Properties Committee of the American Society of Civil Engineers and a planning group from ASTM Committee D-18 on Soil and Rock for Engineering Purposes have organized a three-part program on the study of soil strength, plasticity, and generalized stress-strain application in geotechnical engineering. The program will include two symposia and a workshop, all scheduled for 1980.

The first of the meetings, in May 1980, will be a North American Workshop on Plasticity Theories and Generalized Stress-Strain Modeling of Soils. The workshop, which is jointly sponsored by the U.S. National Science Foundation and the Natural Sciences and Engineering Research Council of Canada, will be held at McGill University in Montreal. Participation will be by invitation and the number of participants will be limited to 52.

In June 1980, ASTM will hold a one-day symposium, "Shear Strength of Soils," in Chicago. This symposium, which was described in detail in the December 1978 issue of the *Geotechnical Testing Journal*, will include a morning session, "Stress-Strain and Strength Testing Methods and Requirements," and an afternoon session, "Data Reduction and Application of Mea-

surements for Analytical Modeling." Cochairmen of the symposium are Dr. Raymond N. Yong of McGill University and Dr. Frank C. Townsend of the University of Florida.

Finally, in October 1980, a one-day symposium entitled "Application of Limit Equilibrium Plasticity and Generalized Stress-Strain Models in Geotechnical Engineering" will take place during ASCE's annual meeting in Hollywood, Fla. Contributions for this meeting will be accepted through 31 September 1979; prospective authors should submit abstracts of about 500 words to Dr. Raymond N. Yong, Geotechnical Research Centre, McGill University, 817 Sherbrooke St. W., Montreal, P.Q. H3A 2K6. All papers will be subject to the normal review procedures of the ASCE Geotechnical Engineering Division; those that are accepted will be published as a special GED bound volume.

Anyone wishing further information on any of these programs may contact Dr. Yong at the address given above.

Rock Mechanics Symposium

Papers are invited for the 21st U.S. National Symposium on Rock Mechanics, which will take place at the University of Missouri-Rolla in May 1980. The symposium is intended to cover the broad interests of the rock mechanics community; topics of interest include, but are not limited to, rock fragmentation, ground support (both artificial and by design), coal mining, in-situ methods, rock property measurements, rock instrumentation, rock modeling and analysis, explosives, geothermal conditions, oil field conditions, tunneling drilling, earthquake prediction, underground storage, subsidence, and general rock mechanics.

Papers are particularly encouraged on rock mechanics and ground control and the implications of state and federal regulations for associated technology, and on industrial applications of rock mechanics. The symposium organizers would like to develop a review session on education in rock mechanics, and papers are particularly solicited on this topic as well.

Prospective authors should submit an abstract of 200 words or less, for use in the printed program, and an extended abstract of 1000 to 1500 words, with one or two graphs if possible, for the use of the reviewers compiling the sessions. Tentative deadlines for submittals are 30 November 1979 for abstracts, 31 December for selection of papers, and 28 February 1980 for the completed manuscripts. The tentative dates for the symposium itself are 27-30 May 1980.

Anyone wishing to submit an abstract, or to obtain more information, is referred to Professor David A. Summers, University of Missouri-Rolla, Rock Mechanics and Explosives Research Center, Rolla, Mo. 64501 (314/341-4365).

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