TESTING FORUM

Call for Papers

Papers are invited for a Symposium on Mapping and Geographic Information Systems (GIS) sponsored by ASTM Committee D-18 on Soil and Rock. The symposium will be held 21–22 June 1990 in San Francisco, CA in conjunction with the 17–20 June 1990 standards development meetings of Committee D-18.

The purpose of this symposium is to bring together an interdisciplinary and international group of engineers and scientists to provide: (1) a forum for many professional disciplines to exchange experiences and findings related to the needs and methods for GIS, maps, and remote sensing and potential for standardization of some elements of each; (2) learn from both successful and unsuccessful case histories; (3) promote technology transfer between the various disciplines and countries represented; (4) provide an education resource for those attendees who may be considering entering for the first time into use of the three elements (GIS, maps, and remote sensing) that make up an overall land information system. A tour of some interesting related facilities in the field is tentatively planned.

Papers are solicited on each of the three main topics: mapping, remote sensing, and GIS, especially in relation to the general state-of-the-art methods, applications and standards. Suggested topics include:

- Maps of all types—geologic, hydrogeologic, soils, environmental engineering geologic, waste management, mineral, vegetation, and so forth. Poster exhibit space for maps will be included.
- Remote Sensing (RS)—applications of all types and disciplines, hardware and software (especially related to PC computer applications). Papers relating RS to development and interpretation of maps and interface and integration to GIS will be very desirable.
- GIS—hardware and software (especially the use of PC computer systems), interface of maps and remote sensing with GIS; new applications; success and problems; need for data standards and other standards.

The symposium will include platform and poster presentations.

Final manuscripts for the Special Technical Publication (STP) based on this symposium are due by 30 April 1990. This deadline will be rigidly enforced. All papers not submitted to ASTM by this deadline may be forwarded to the appropriate ASTM journal to be considered for publication. ASTM may print and distribute accepted abstracts with the approval of the symposium chairman.

More information is available from Symposium Chairman Ivan Johnson, 7474 Upham Court, Arvada, CO 80003, Telephone: 303-425-5610; and Dorthy Savini, ASTM, 1916 Race St., Philadelphia, PA 19103, Telephone: 215-299-5413.

Symposium on Geosynthetic Testing for Waste Containment Applications

The Symposium on Geosynthetic Testing for Waste Containment Application will be held 23 Jan. 1990 at Las Vegas, NV and is sponsored by ASTM Committee D-35 on Geotextiles. The symposium chairman is Robert Koerner, Geosynthetic Research Institute, Drexel University, Philadelphia, PA 19104.

Since waste facilities are a driving force in the use of all types of geosynthetics, the subject of this symposium should be of widespread interest. It is a critically important topic because its improper or inadequate treatment and development can lead to serious environmental implications.

This symposium will present a state-of-the-art review of test methods and procedures for evaluating geosynthetics for the containment of waste materials. The geosynthetics under consideration are geomembranes (FMLs), geonets, geotextiles, geogrids, geopipe, and geocomposites. The waste containment facilities include landfills, surface impoundments, waste piles, and heap leach pads. Covers for the capping of such facilities are also included. The symposium will provide a forum for information exchange among regulators/permitters, private and public owners, design consultants, testing organizations, research and development organizations and the entire geosynthetic manufacturing community.

Testing Tips

The Testing Tips Editors of the Geotechnical Testing Journal invite readers to respond with their opinions on the three topics presented below. Responses will be collected and discussed in future issues.

1. *Procedures for Squaring Ends of Triaxial Specimens*—At least three devices are currently being used to trim specimen ends to ensure that they are perpendicular to the axis of the specimen and are flat: (1) open mitre box, (2) split mitre box, and (3) a split tube. The open mitre box is a cradle that supports the specimen and provides a guide for trimming the ends. Trimming is generally done from top to bottom where the sides of the specimen are supported. In some cases, it is necessary to rotate the specimen in the cradle to provide support for a portion of the end being trimmed. Moving the specimen in the cradle can cause nonflat ends and specimen disturbance.

The split mitre box consists of two equal sized blocks of metal that are pinned together such that they present a square or circular outer cross section, have a circular inner cross section that has a diameter equal to the diameter of the specimen, and have a length exactly equal to the desired length of the specimen. Once the specimen is trimmed to the proper diameter, the halves of the split mitre box are separated and placed about the specimen with the untrimmed ends of the specimen protruding from each end. This mitre box supports the entire perimeter of the specimen and allows for accurate trimming of the specimen at both ends. Some shortcomings of this device are: (1) if the trimmed specimen diameter is slightly too large, the specimen may be disturbed as the mitre box is placed about the specimen; (2) if the trimmed specimen diameter is slightly too small, the

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specimen perimeter will not be totally supported and the specimen may slide as it is being trimmed, and (3) there exists the possibility of having the soil adhering to the sides of the mitre box as the halves are separated to remove the specimen.

A split tube type mitre box is formed by taking a piece of heavy wall metal or rigid plastic tubing whose diameter is slightly larger than the trimmed diameter of the specimen and whose length is equal to the desired length of the specimen. A single cut is made through the wall of the tube along its axis. Once the specimen is trimmed to the proper diameter, the tube is placed over the specimen and its diameter is compressed around the specimen with a clamping device such as worm screw hose clamps. The clamps are tightened to support the perimeter of the specimen but not tight enough to disturb the specimen. Trimming is done against the square ends of the tube. This device more easily accommodates specimens whose diameters may be slightly larger or smaller than the target diameters. To remove the specimen, the clamps are released and the tube is lifted from the specimen. The possibility of soil sticking to the tube still exists. Also, if the clamps are not properly installed, the tube may not be circular and may not have parallel ends (slight spiraling occurs).

(a) Which of the three methods listed above is the best one to use for getting specimen ends parallel and flat?

(b) Are there advantages or shortcomings to any one of the methods that were not covered in the above discussion?

(c) Are there other methods of trimming specimen ends that are superior to those listed above?

(d) What are the best trimming tools to use in conjunction with these mitre boxes? Wire saws? Sharpened straight edge? Blunt straight edge?

2. *Placement of Drainage Holes and Grooves in Triaxial Test End Platens*—It is generally agreed that triaxial end platens have two drainage holes placed in them. Questions remain concerning the diameter and placement of the holes and whether there should be grooves of some sort in the face of the platen that interconnect the two drainage holes. Specifically, the following questions need to be answered:

(a) What is the range of acceptable hole diameters to be placed in end platens?

(b) Are hole diameters related to or independent of the specimen diameter?

(c) At what radius should the holes be placed from the axis of the specimen?

(d) Should the holes be interconnected with drainage channels? If yes, what are the appropriate patterns and cross sections for these drainage channels?

3. *Circumferential Grooves on the Sides of Triaxial End Platens for O-rings*—Some triaxial end platens have smooth sides while others contain one or more grooves to accommodate O-ring seals. Some questions are as follows:

(a) Does the O-ring seal the membrane to the base and cap better if there is a groove for it?

(b) Does having a groove cause other problems such as specimen saturation, O-ring removal, membrane puncturing, etc.?

(c) If O-ring grooves are preferable, what cross section should they have and where should they be placed relative to the face of the platen that comes in contact with the specimen?

Comments and opinions on these items should be sent by 15 Feb. 1990 to the Testing Tips Editors:

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In addition, the readers are invited to submit topics to be addressed in upcoming issues. Further, if problems are encountered in performing a test according to a standard, these should be submitted to the Testing Tips Editors for possible discussion.

D-18 Awards

Awards given by Committee D-18 on Soil and Rock at June 1989 Meeting in Orlando are as follows:

Hogentogler Award

The 1989 C.A. Hogentogler Award was given to Peter A. Ruygrok, an engineer with Delft Geotechnics, Department of Applied Physical and Geophysical Research, Delft, Netherlands, for his paper on "Evaluation of the Gamma and Neutron Radiation Scattering and Transmission Methods for Soil Density and Moisture Determination. This award was established in honor of Committee D18s first chairman and given in recognition of a paper of outstanding merit on soils for engineering purposes.

New Honorary Members of ASTM

Robert Packard who is with the Portland Cement Association. He is a former Secretary of Committee D-18 and current Chairman of Subcommittee D18.98 on Awards.

Special Service Awards

Donald G. Fohs who, in Subcommittee D18.15 on Stabilization with Admixtures, was responsible for a standard on screen-

FIG. 1—*Woodland G. Schockley (chairman of D-18) presenting the Award of Honorary Membership to Robert J. Stephenson who is with the South Atlantic Division Lab of the U.S. Army Corps of Engineers. He is a former Membership Secretary and the current Secretary of Committee D-18.*

ing chemicals for use in soil stabilization and for service to Subcommittee D18.15.

Standards Development Awards

This award is to give tangible recognition to writers of specific D-18 standards. It is given to a writer or writers (probably limited to two persons) of a significant portion of a new standard or a substantially revised standard.

Twenty Five Years of Service Award

This award is given to members of ASTM who have completed 25 years of service to ASTM.

FIG. 2—*Woodland G. Shockley presenting the Special Service Award to Louis Kirkalde for editing STP 984, Rock Classification Systems for Engineering Purposes, associated with the symposium held in June of 1987 in Cincinnati.*

FIG. 3—*Woodland G. Shockley presenting the Special Service Award to Robert J. Morgan, ASTM Staff Manager for Committee D-18 for his continued and diligent service to the Committee.*

FIG 4.—*Woodland G. Shockley presenting the Special Service Award to A. Ivan Johnson. Johnson, Past Chairman of Committee D-18, was given two Special Service Awards, one for co-editing (with Bernt Pettersson) of STP 967 on Geotechnical Applications of Remote Sensing and Remote Data Transmission and one for co-editing (with Gene Collins) of STP 963 on Ground-Water Contamination: Field Methods, both held in Cocoa Beach, FL in early 1986.*

FIG. 5—*Woodland G. Shockley presenting the Special Service Award to Gene Collins for co-editing (with A. Ivan Johnson) of STP 963 on Ground-Water Contamination: Field Methods, held in Cocoa Beach, FL in early 1986.*

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FIG. 6—*Woodland G. Shockley presenting the Standards Development Award to Jan Wildman of Ardaman & Association, Orlando, FL, co-authors of D 4767, Standard Test Method for Consolidated–Undrained Triaxial Compression Test on Cohesive Soils.*

FIG. 9—*Amster Howard, Geological Sciences Branch, U.S. Dept. of the Interior, Bureau of Reclamation, Denver, CO, receives the Standards Development Award from Woodland G. Shockley for D 4832, Standard Test Method for Preparation and Testing of Soil-Cement Slurry Test Cylinders.*

FIG. 7—*Woodland G. Shockley presenting the Standards Development Award to Robert Donaghe, U.S. Army Engineer, Waterways Experiment Station, Vicksburg, MS, co-authors of D 4767, Standard Test Method for Consolidated-Undrained Triaxial Compression Test on Cohesive Soils.*

FIG. 10—*Woodland G. Shockley presenting the Standards Development Award to Lawrence Johnson, U.S. Army Engineer, Waterways Experiment Station, Vicksburg, MS, for D 4829 Standard Test Method for Expansion Index of Soils.*

FIG. 8—*Woodland G. Shockley presenting the Standards Development Award to Charles McElroy, Soil Conservation Service, Fort Worth, TX for D 4647, Standard Test Method for Identification and Classification of Dispersive Clay Soils by the Pinhole Test.*

FIG. 11—*Woodland Shockley, Chairman of Committee D-18 on Soil and Rock, Vicksburg, MS, receives the Standards Development Award from Richard Ladd for D 4718, Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles.*

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FIG. 12—*Richard G. Ahlvin, retired from U.S. Army Corps of Engineers, Vicksburg, MS, receives the 25 years of service award from Woodland G. Shockley.*

Erratum

In the Sept. 1989 issue, Vol. 12, "Discussion of 'Determination of Collapse Potential of Soils' by A. J. Lutenegger and R. T. Saber" by Yakov M. Reznik on p. 248, Eqs 1 and 3 should read as follows

$$\mathrm{CI} = \frac{e_L - e}{1 + e} \tag{1}$$

$$i_e = \left(\frac{1}{E_w} - \frac{1}{E}\right) \Delta P \tag{3}$$

Another Changing of the Guard

In June 1985, Dr. Vincent P. Drnevich assumed the position of Technical Editor of the Geotechnical Testing Journal, replacing Dr. Ernest T. Selig, the founder and first editor of the Journal. At that time Vince set forth his goals as: (1) maintaining the standards of quality, (2) promote the *Journal* to a wider audience, (3) increase its responsiveness to the testing community, and (4) to increase its service to ASTM Committees.

The time has now come for another changing of the guard, as Vince Drnevich has decided to step aside as Technical Editor. He is to be replaced by Paul Knodel of the Bureau of Reclamation. Looking back at the four goals set at the beginning of his term, it is evident that Vince has admirably succeeded in achieving them. The *Geotechnical Testing Journal* has high standing in the geotechnical profession, the readership has increased, authors of papers are recognized members of the profession from all over the world, and the *Journal* provides an excellent forum for ASTM Committees engaged in geotechnical testing.

On behalf of Committee D-18 I wish to extend thanks to Dr. Vincent P. Drnevich for a very effective term as Technical Editor of the Geotechnical Testing Journal. His dedication and efforts are greatly appreciated.

Woodland G. Shockley
Chairman, Committee D-18

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