

TESTING FORUM

Committee D-18 News

Symposium on Impermeable Barriers

Restricting the migration of liquids in the ground is the subject of a one-day symposium on 25 June 1984 sponsored by ASTM Committee D-18 on Soil and Rock and cosponsored by the U.S. Committee on Large Dams (USCOLD) of the International Commission on Large Dams. Impermeable Barriers for Soil and Rock, the first symposium of its kind, will address the interaction of the various barrier systems with soil and rock for containment of liquid. The containment of liquids will be explored in relation to geotechnical engineering projects such as slurry walls, tailings and waste containment ponds, landfills, solar and biomass ponds, ditches, canals, and reservoirs.

Slurry walls will be the topic of the first session of the symposium with eight papers addressing the subject. The second session will concentrate on clay and soil-admix liners, with ten more papers being presented. Ivan Johnson, of Woodward-Clyde Consultants in Denver, CO, and Ron Frobels of the U.S. Bureau of Reclamation in Denver will co-chair the symposium (Fig. 1). According to Johnson, "Because the field of impermeable barriers is so broad and complex, this one-day symposium is the first in a planned series on the subject."

The symposium will be preceded by the International Conference on Geomembranes to be held 20-24 June 1984. The conference is sponsored by the Industrial Fabrics Association International (IFAI), in cooperation with ASTM and eleven other organizations, including the American Society of Civil Engineers, National Solid Waste Management Association, and the Environmental Protection Agency (EPA). Twelve technical sessions are planned, covering such topics as: pond liners and floating covers, dams and embankments, pollution control applications, durability, seams and leakage monitoring, water storage, and more. The use of synthetic rubber

and plastic impermeable liners and barriers will be the focus of the conference. A trade show with exhibits from 45 manufacturers is also planned for June 21 and 22.

Two interesting tours have been arranged for the weekend between the conference and the ASTM symposium. A Saturday afternoon tour consists of a visit to the Bureau of Reclamation Laboratories in Denver, CO. On Sunday, an all-day tour of Mt. Elbert Forebay Reservoir and Power Plant, one of the largest geomembrane impoundments in the world, is also scheduled.

For information on the Symposium on Impermeable Barriers for Soil and Rock contact the cochairmen: A. Ivan Johnson, Woodward-Clyde Consultants, Harlequin Plaza North, 7600 E. Orchard Rd., Englewood, CO 80111 (303/694-2770) or R. K. Frobels, U.S. Bureau of Reclamation, MC 1521, Box 25007, Denver Federal Center, Denver, CO 80225 (303/234-3152) or Robert J. Morgan, ASTM (215/199-5505).

The following is the program for the symposium.

Session I—Slurry Walls

Monday, June 25, 8:30 a.m.

"Slurry Cut-off Walls: Applications in the Control of Hazardous Wastes"—C. R. Ryan, Geo-Con, Pittsburgh, PA

"Subsurface Pollution Containment Using a Composite System"—G. Druback and S. Arlotta, Wehran Engineering, Midletown, NY

"Thin Slurry Cut-off Walls Installed by the Vibrated Beam Method: Application to Permanent Seepage Cutoffs"—G. A. Leonards, J. L. Chambau, and S. Diamond, Purdue University, West Lafayette, IN; and F. Schmednecht, Slurry Systems, Gary, IN

"Evaluation of Two Methods for Constructing Vertical Cut-off Walls at Waste Containment Sites"—C. P. Jepsen and Mark Place, American Colloid, Skokie, IL

"Inorganic Permeant Effects Upon Bentonite"—G. R. Alther, International Minerals and Chemical Corp., Detroit, MI; J. C. Evans, Woodward-Clyde Consultants, Plymouth Meeting, PA; K. A. Witmer, D. W. Landfill, Inc., Dewart, PA; and H. Y. Fang, Lehigh University, Bethlehem, PA

"Laboratory Testing of Cement Bentonite Mix for Proposed Plastic Diaphragm Wall for Complexe La Grande Reservoir Caniapiscau, James Bay, Canada"—S. A. Gill and B. R. Christopher, STS Consultants, Northbrook, IL

"Design of Soil-Bentonite Slurry Trench Cut-offs to Contain Leachates from Hazardous Wastes"—D. J. D'Appolonia, Waste Management Services, Pittsburgh, PA

"Effect of Various Liquids on Clay Soil-Bentonite Slurry Mixtures"—D. C. Anderson, W. Crawley, and D. Zabcik, K. W. Brown Associates, College Station, TX

Session II—Clay and Soil-Admix Liners

Monday, June 25, 1:30 p.m.

"Fixed-Wall versus Flexible-Wall Permeameters"—D. E. Daniel and D. C. Anderson, University of Texas, Austin, TX

FIG. 1—Program committee for impermeable barriers symposium meet in Denver to plan program. Shown left to right are: N. J. Cavalli, ICOS Corp. of America, New York, NY; A. Ivan Johnson, Woodward-Clyde Consultants, Englewood, CO; C. B. F. Pettersson, Brown and Root, Inc., Houston, TX; and R. K. Frobels, U.S. Bureau of Reclamation, Denver, CO. All four are officers of ASTM Subcommittee D18.20 on Impermeable Barriers.

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"The Permeability of Clay to Acidic and Caustic Permeants"—R. W. Lentz and J. O. Uppot, University of Missouri, Rolla, MO; and W. D. Horst, Anderson Engineering, Springfield, MO

"Permeability Testing of Clayey Soil and Silty Sand-Bentonite Mixture Using Acid Liquor"—A. H. Gipson, Woodward-Clyde Consultants, Englewood, CO

"Organic Leachate Effects on Hydraulic Conductivity of Compacted Kaolinite"—A. B. Hamidon, L. Scott, Y. B. Acar, S. D. Field, Louisiana State University, Baton Rouge, LA

"Laboratory Comparison of Effects of Water and Paper Mill Waste Leachate on the Permeability of Compacted Native Soils"—A. G. Eklund, Radian Corp., Austin, TX

"Effects of Brine on the Soil Lining of an Evaporation Pond"—C. W. Jones, U.S. Bureau of Reclamation, Denver, CO

"The Long-Term Stability of Natural Liner Materials in Contact with Acidic Uranium Mill Tailings Solution"—S. R. Peterson, R. L. Erikson, and G. W. Gee, Battelle Pacific Northwest Laboratory, Richland, WA

"Dessication Cracking of Soil Barriers"—J. H. Kleppe, Golder Associates, Seattle, WA; R. E. Olson, University of Texas, Austin, TX

"Field Permeability Test for Clay Liners"—S. R. Day, D. E. Daniel, University of Texas, College Station, TX

"Soil-Cement Liners"—W. S. Adaska, Portland Cement, Skokie, IL

New Committee on Geotextiles

In response to the need of the civil engineering community for standards for textiles related to geotechnical applications, ASTM will establish Committee D-35 on Geotextiles.

Geotextiles are defined by ASTM as any permeable textile mate-

rial used with foundation, soil, rock, earth, or any other geotechnical engineering related material as an integral part of a man-made project, structure, or system. Examples of such textile applications include use in drains as filters, stabilization of soft ground for construction of roadways, and both land and shoreline erosion control systems. Over 50 such applications have been established.

The committee will evolve from the work of the ASTM joint Subcommittee D13.61/D18.19 on Geotextiles and Their Applications. The subcommittee was established in 1977 as a branch of Committee D-13 on Textiles and, in 1980, joined Committee D-18 on Soil and Rock.

The subcommittee has served both producers (textile manufacturers, representatives, and distributors) and users (design engineers, architects, and contractors) in developing standard test methods to meet their individual needs. With 150 members and over 20 standards under development, the work of the joint subcommittee can be handled faster and more efficiently through conversion to main committee status.

Members of Committee D-35 will continue to develop standards in the general categories of mechanical properties, hydraulic properties, and endurance properties. A fourth section of the committee concerns geotextile related terminology.

An organizational meeting for Committee D-35 will be held during the ASTM meeting week, 22-27 Jan. 1984 at the Town and Country Hotel in San Diego, CA. There is no fee to attend this or any ASTM standards development meeting.

Interested persons are urged to attend the organizational meeting. For more information, contact Committee Chairman Barry R. Christopher, STS Consultants, 111 Pfingsten Road, Northbrook, IL 60062, 312/272-6520; or Bob Morgan, ASTM Standards Development Division, 1916 Race Street, Philadelphia, PA 19103, 215/299-5505.

ASTM Committee D-18 on Soil and Rock

Scope

The promotion of knowledge; stimulation of research; the development of specifications and methods for sampling and testing; and the development of nomenclature, definitions, and practices relating to the properties and behavior of soil, rock, and the fluids contained therein. Excluded are the uses of rock for building stone and for constituent materials in portland cement and bituminous paving and structures coming under the jurisdiction of other committees. Included are the properties and behavior of: (1) soil-like materials such as peats and related organic materials, (2) geotextiles, and (3) fluids occupying the pore spaces, fissures, and other voids in soil and rock insofar as such fluids may influence the properties, behavior, and uses of the soil and rock materials.

Officers

Chairman: Adrian Pelzner, U.S. Agricultural Forest Service, Engineering Div., P.O. Box 2417, Washington, DC 20013.

First Vice-Chairman: Robert C. Deen, University of Kentucky, Kentucky Transportation Research Program, Transportation Research Bldg., Lexington, KY 40506.

Second Vice-Chairman: R. E. Gray, GAI Consultants, 570 Beatty Rd., Monroeville, PA 15146.

Third Vice-Chairman: W. G. Shockley, 326 Lake Hill Dr., Vicksburg, MS 39180.

Secretary: D. A. Tiedemann, U.S. Bureau of Reclamation, DFC, P.O. Box 25007, D1543, Denver, CO 80225.

Membership Secretary: R. J. Stephenson, U.S. Army Corps of Engineers Div. Lab., P.O. Box 51, Marietta, GA 30060.

Subcommittees and Their Chairmen

TECHNICAL

D18.01 Surface and Subsurface Reconnaissance

C. P. Fisher, Jr.

D 18.02 Sampling and Related Field Testing for Soil Investigations

H. E. Davis

D18.03 Texture, Plasticity, and Density Characteristics of Soils

R. S. Ladd

D18.04 Hydrologic Properties of Soil and Rock

C. O. Riggs

D18.05 Structural Properties of Soils

R. T. Donaghe

D18.06 Physico-Chemical Properties of Soils and Rocks

G. R. Olhoeft

D18.07 Identification and Classification of Soils

C. W. Britzius

D18.08 Special and Construction Control Tests

J. R. Talbot

D18.09 Dynamic Properties of Soils

M. L. Silver

D18.10 Bearing Tests of Soils in Place

G. Y. Balardi

D18.11 Deep Foundations

F. M. Fuller

D18.12 Rock Mechanics

H. J. Pincus

D18.13 Marine Geotechnics

R. C. Chaney

D18.14 Geotechnics of Waste Management

D. E. Clark

D18.15 Stabilization by Additives

M. C. Anday

D18.16 Chemical Grouting

R. H. Karol

D18.17 Rock for Erosion Control

K. L. Saucier

D18.18 Peats and Organic Soils

P. M. Jarrett

D18.19 Geotextiles and Their Applications

B. Christopher

D18.20 Impermeable Barriers

A. I. Johnson

ADMINISTRATIVE

D18.91 Editorial

R. C. Deen

D18.92 Papers

E. T. Selig

D18.93 Nomenclature for Soil and Rock Mechanics

A. I. Johnson

D18.94 Education and Training

N. O. Schmidt

D18.95 Information Retrieval and Data Automation

Carl D. Tockstein

D18.96 Research Steering and Standards Development

W. G. Shockley

D18.97 Special Awards

R. G. Packard

D18.98 Hogentogler Award

R. E. Gray

D18.99 Quality Control

L. P. Kaufman