

Field Testing of Soils

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FIELD TESTING OF SOILS

Presented at the
SIXTY-FIFTH ANNUAL MEETING
AND
FOURTH PACIFIC AREA NATIONAL MEETING
AMERICAN SOCIETY FOR TESTING AND MATERIALS



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FOREWORD

This volume contains papers presented during 1962 at the Symposium on Field Tests and Measurements for Soils and Foundation Engineering at the Sixty-fifth Annual Meeting in New York City, June 24-29, and at the three sessions on soils at the Fourth Pacific Area National Meeting, Los Angeles, Calif., Sept. 30-Oct. 5. Both the Annual Meeting symposium and the Pacific Area sessions were sponsored by Committee D-18 on Soils for Engineering Purposes.

P. P. Brown, Bureau of Yards and Docks, served as chairman of the first session of the Annual Meeting symposium. W. G. Shockley, Waterways Experiment Station, was chairman of the second session. The following papers in this volume were presented at this Annual Meeting symposium: "Field Percolation Tests for Sanitary Engineering Applications" by T. W. Bendixen, "Development and Installation of Piezometers for the Measurement of Pore-Fluid Pressures in Earth Dams" by W. W. Daehn, "Control of Construction Dewatering by Use of Piezometers" by J. P. Gould, "Field Tests for Determining Permeability of Soil Strata" by H. Q. Golder and A. A. Gass, "Pile Load Tests and Their Evaluation" by G. A. Fletcher, "Prototype Load-Bearing Tests for Foundations of Structures and Pavements" by D. M. Burmister, "The Use of Slope Measuring Devices to Determine Movements in Earth Masses" by S. D. Wilson, and "Deep Bench Marks in Clay and Permafrost Areas" by M. Bozozuk. A second paper by D. M. Burmister ("Physical, Stress-Strain, and Strength Responses of Granular Soils") was submitted later.

The sessions on soils at the Fourth Pacific Area National Meeting were divided into three categories: landslides, subsidence, and general. F. J. Converse, Converse Foundation Engineering Co., presided at the session on landslides, and Raymond Lundgren, Woodward-Clyde-Sherard & Associates, was session chairman. R. G. Hennes, University of Washington, presided at the session on subsidence, and J. A. Bishop, U. S. Naval Civil Engineering Laboratories, was session chairman. R. Horonjeff, University of California, presided at the general session, and S. S. Green, Los Angeles Department of Water and Power, was session chairman.

The following papers in this volume were presented at the Pacific Area sessions on soils: "Foundation Problems Related to Ground Surface Subsidence in Mexico City" by Leonardo Zeevaert, "Investigation of Landslides by Seismic and Electrical Resistivity Methods" by J. A. Trantina, "Cut Slope Design and Landslides" by T. W. Smith and H. R. Cedergren, "Investigation and Correction of Landslides" by E. M. Buckingham, "Use of Slope Indicator to Measure Movements in Earth Slopes and Bulkheads" by R. P. Henderson and M. A. J. Matich, "Investigation and Solution of a

Landslide Problem Involving a High Transmission Tower” by W. G. Holtz, “Areal Fill Settlements and Building Foundation Behavior at the San Francisco Airport” by D. V. Roberts and R. D. Darragh, “Predicting Surface Subsidence from Basic Soil Tests” by H. J. Gibbs and J. P. Bara, “Subsidence of California Highways” by H. R. Cedergren and W. G. Weber, “Engineering Properties of Ocean Floor Soils” by R. J. Smith, and “Lunar Soil Sampling and Testing” by Emanuel Azmon.

NOTE.—The Society is not responsible, as a body, for the statements and opinions advanced in this publication.

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THIS PUBLICATION is one of many issued by the American Society for Testing and Materials in connection with its work of promoting knowledge of the properties of materials and developing standard specifications and tests for materials. Much of the data result from the voluntary contributions of many of the country's leading technical authorities from industry, scientific agencies, and government.

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