

SYMPOSIUM ON THE USE OF RADIOISOTOPES IN SOIL MECHANICS

Presented at a
MEETING OF COMMITTEE D-18 ON
SOILS FOR ENGINEERING PURPOSES
Cleveland, Ohio, March 5, 1952



ASTM Special Technical Publication No. 134

Published by the
AMERICAN SOCIETY FOR TESTING MATERIALS
1916 Race St., Philadelphia 3, Pa.

SYMPOSIUM ON THE USE OF RADIOISOTOPES IN SOIL MECHANICS

Presented at a
MEETING OF COMMITTEE D-18 ON
SOILS FOR ENGINEERING PURPOSES
Cleveland, Ohio, March 5, 1952



Reg. U. S. Pat. Off.

ASTM Special Technical Publication No. 134

Published by the
AMERICAN SOCIETY FOR TESTING MATERIALS
1916 Race St., Philadelphia 3, Pa.

COPYRIGHT, 1953
BY THE
AMERICAN SOCIETY FOR TESTING MATERIALS

Printed in Baltimore, Md.
February, 1953

FOREWORD

The papers included in this book were presented at a Symposium on the Use of Radioisotopes in Soil Mechanics held at a meeting of Committee D-18 on Soils for Engineering Purposes. This meeting was held during the 1952 Spring Committee Week of the American Society for Testing Materials in Cleveland, Ohio, March 5, 1952.

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

CONTENTS

	PAGE
Introduction—Miles D. Catton.....	1
Radioisotopes and Nuclear Reactions Applied to Soil Mechanics Problems—Harold E. Hosticka.....	3
Use of Radioactive Material to Measure Soil Moisture and Density—Donald J. Bel- cher, Raymond C. Herner, T. R. Cuykendall, and H. S. Sack.....	10
Determining Soil Moisture and Density by Nuclear Radiations—D. A. Lane, B. B. Torchinsky, and J. W. T. Spinks.....	23

THIS PUBLICATION is one of many issued by the American Society for Testing Materials in connection with its work of promoting knowledge of the properties of materials and developing standard specifications and tests for materials. Over the years the Society has published many technical symposiums, reports, and special books. These may consist of a series of technical papers, reports by the A.S.T.M. technical committees, or compilations of data developed in special Society groups with many organizations co-operating. A list of A.S.T.M. publications and information on the work of the Society will be furnished on request.

THIS PUBLICATION is one of many issued by the American Society for Testing Materials in connection with its work of promoting knowledge of the properties of materials and developing standard specifications and tests for materials. Over the years the Society has published many technical symposiums, reports, and special books. These may consist of a series of technical papers, reports by the A.S.T.M. technical committees, or compilations of data developed in special Society groups with many organizations co-operating. A list of A.S.T.M. publications and information on the work of the Society will be furnished on request.