

## Soil Mechanics - New Horizons

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In many papers only the objective and sampling programs are reported because the laboratory analyses were not available. The report would be much more informative if these results were included.

This report represents a monumental effort on the part of authors, editors, producers, and others. The rapid reporting on last year's activities represents a major achievement. Clearly this report should be in every geological library in North America to inform earth scientists of the activities of our largest geological institution.

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## **Soil Mechanics - New Horizons**

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Edited by I. K. Lee  
*American Elsevier Publishing Company, Inc.,*  
 New York, 286 p., 1974.  
 \$28.50

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This book would be of little interest and of little value to the non-specialist professional earth scientist and of little additional interest and value to the specialist earth scientist. It is largely directed towards the geotechnical engineering community and, specifically, to those persons in that community specializing in predicting quantitatively the behaviour of soil.

The title is very misleading. As a person who is slightly bored in his present technical rut I was looking forward to reading the book, anticipating that I would be challenged by new findings and new ideas related to the "new horizons". I was disappointed in what I found, which was a collection of seven rather unrelated chapters, six of which concern topics which have been parts of soil mechanics and foundation engineering for a long time. This is not to say that the materials contained in the chapters were of pedestrian quality - in most cases the materials were very recent theoretical and analytical achievements concerning these topics, and a title of *Soil Mechanics - Some Recent Theoretical and Analytical Achievements* would have better described the contents but perhaps would not have sold as many copies. The Preface states that the book is a complementary volume to an earlier book *Soil Mechanics - Selected Topics* by the same editor and published by Butterworths, London (1968), and, no doubt, the new book would be valuable if used in this way.

There is one chapter which is an exception to the previous comments and it is entitled *Application of Statistics in Soil Mechanics* by Peter Lumb. This is a new horizon in soil mechanics where it has been traditional to take the

deterministic approach when evaluating soil properties and predicting soil behaviour, and Lumb rightly states, as others have done previously, that there are variations in soils which must exist because of random characteristics of certain natural processes. The suggestion that probability theory could help has not been widely accepted by "soil mechanics" people. For my personal taste the chapter is too heavily weighted towards mathematical techniques, which are excellently presented, and it does not deal adequately (in the opinion of a non-user of statistics) with questions concerning the relative merits of deterministic and probabilistic approaches to certain soil mechanics topics and nothing is said concerning the selection of data prior to their inclusion into any analysis.

The book is not worth the price of nearly thirty dollars.

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