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December 29, 1967

REVIEWS

PROBLEMS IN ENGINEERING SOILS; ATOMIC ABSORPTION SPECTROMETRY IN GEOLOGY

HAMILTON M. JOHNSON

PROFESSOR OF GEOLOGY AND GEOPHYSICS
TULANE UNIVERSITY

PROBLEMS IN ENGINEERING SOILS by P. L. Capper, W. F. Cassie, and J. D. Geddes, a new volume in the Spon's Civil Engineering Series. Published by E. and F. N. Spon Ltd., London, 1966, vii + 183 p., paperback \$3.50, cloth \$5.75. Distributed in the USA exclusively by Barnes and Noble, Inc., New York

In the years since Dr. Karl Terzaghi "fathered" the science of soil mechanics, it has advanced through the efforts of engineers from every part of the world. The book under review, written by teachers from London, Newcastle upon Tyne, and Cardiff, continues to broaden the usefulness of the theory and practice of modern soil mechanics. This little book is essentially a "problems" book, designed as a companion volume and supplement to a much larger text (the Mechanics of Engineering Soils) co-authored by the senior two of the present authors. The material covered is that normally encountered in advanced technology and university courses in this subject. The treatment is thorough with most topics receiving full guiding explanations. The problems are those which might arise in field practice and thus the book is extremely

practical. Students in soil mechanics and geologists and engineers not engaged in the daily application of soil engineering will find this book of great aid as a simplifier, a refresher, and a fast reference.

ATOMIC ABSORPTION SPECTROMETRY IN GEOLOGY by Ernest E. Angino and Gale K. Billings, volume seven in the series *Methods in Geochemistry and Geophysics*. Published by Elsevier Publishing Co., Inc., New York, 1967, x + 144 p., \$11.75

Evidently the excellent "keys" to content, *i.e.*, thorough table of contents, extensive bibliography, carefully prepared index, etc., of the other volumes of this series are a result of editorial policy for the same treatment is found here. Fifteen percent of the total number of pages is a remarkable total for such data, and yet the ease of search provided is of extremely great value in a methods reference book of this type. Users of the book will be particularly grateful; may the policy continue!

In a time of increasing attention to quantification of principles and concepts within all phases of the broad field of geology, this series of volumes is beginning to occupy a

place of primary importance. This particular volume, dealing with analytical techniques in the study of chemical petrology, chemical weathering, ore solutions, and related subjects, fits perfectly into its niche within the series. More than 45 metallic and semi-metallic elements may be determined quantitatively through analysis of their atomic absorption spectra; in addition, application of the technique is relatively simple, sensitive, reliable, and involves no great initial cost. This means that a useful and practical tool has been developed. The objective of this small book has been to pull together the widely scattered literature of this very recent application within the geological sciences and thus to make the use of the tool more widespread and meaningful to research geologists and petrologists.

Exactly what is "atomic absorption spectroscopy"? When substances are dispersed as an atomic vapor, they possess the property of absorbing characteristic radiations identical to that which the same substance can emit. Excellent instrumentation has provided good spectral resolution with a high degree of element specificity. The authors infer that most of the problems which arise in the use of the techniques do so during

preparation of the samples; operation of the instrumentation itself is quite simple. Therefore the latter half of the book deals with methods and applications. However, because the development of new applications and the effort to obtain maximum benefit from known applications requires some knowledge of theory and instrumentation, the first half is dedicated to these phases of the subject. The authors admit that treatment of the theories involved, as well as the instrumentation used, has been greatly simplified from that common for physicists but do claim that their explanations provide a geologist with sufficient understanding of the basic principles. This last may be true, but, to this reviewer at least, it seems that the theory may be a little too simplified for use in the development of new applications. This is a minor criticism, for surely any geologist working in this field would be led to further theoretical studies on his own in the technical publications dealing with spectroscopy.

The book is highly recommended for a text for one entering this field of analysis and as a most useful reference for the absorption characteristics of those metals now being studied in this manner.

PALEONTOLOGICAL NOTE

DISCOASTER DRUGGI *nom. nov. pro* DISCOASTER EXTENSUS

Bramlette & Wilcoxon, 1967, *non* Hay, 1967

M. N. BRAMLETTE and J. A. WILCOXON

SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA, CALIFORNIA, AND
CHEVRON RESEARCH COMPANY, LA HABRA, CALIFORNIA

Discoaster extensus Bramlette & Wilcoxon, 1967, *Tulane Stud. Geol.*, v. 5, p. 110, pl. 8, figs. 2-8 (November 20, 1967) is a homonym of *Discoaster extensus* Hay *in* Hay, Mohler, Roth, Schmidt & Boud-

reaux, 1967, *Trans. Gulf Coast Assoc. Geol. Soc.*, v. 17, p. 451, pl. 3, figs. 10, 12; pl. 4, figs. 1, 2 (October 25, 1967). *Discoaster druggi* is here proposed as a replacement name for *D. extensus* Bramlette & Wilcoxon.

December 29, 1967