

**Flow of Fluids Through Porous Materials**, R. E. Collins, Reinhold Publishing Co., New York (1961). 270 pages. \$12.50.

The problem of flow of liquids and gases through, around, and in-between solids arises in most chemical engineering applications. This book is a successful attempt by a physicist to put the mathematical analysis of laminar flow through porous rocks and the like in a well-organized textbook form. Within this prescribed area the content is detailed and comprehensive. Complex multidimensional flow problems involving transients, two fluid phases, and moving boundaries are described with fundamental relationships and appropriate models. The peculiar characteristics of porous materials are concisely and quantitatively presented. In addition some important problems arising in petroleum production, such as viscous fingering, are explained, and important research methods, such as scaling models, are described. The author is also to be commended for use of consistent, simple units in an area of application where unusual combinations of units are frequently found. Although symbols are defined where they are introduced, a table of notation would have been useful.

Although the book is mostly concerned with petroleum problems, the content is obviously applicable to many soil mechanics problems, such as those of ground water flow and dispersal of radioactive wastes.

This book is no ordinary qualitative discussion of a particular application. It is a quantitative, advanced text about general phenomena and is of considerable value for describing and explaining complex mechanisms and also, thereby, very useful for design purposes.

JOHN A. TALLMADGE  
YALE UNIVERSITY

**Progress in Very High Pressure Research**, F. P. Bundy, W. R. Hibbard, Jr., and H. M. Strong, ed., John Wiley & Sons, Inc., New York (1961). 314 pages. \$12.00.

This book consists of the papers and discussions presented at an International Conference held at Bolton Landing, Lake George, New York, June 13-14, 1960. The conference was sponsored jointly by the Materials Central, Wright Air Development Division of the United States Air Force, and the Research Laboratory of the General Electric Company.

The twenty-seven papers are mainly concerned with equipment and technique, structure of materials formed under high pressure, and behavior of matter at high pressure. High pressure is a purely relative term, but in this book it refers mainly to the range between 10,000 and 100,000 atm. Some of the papers report research in the range of 1,000 to 10,000 atm., and at least one paper reports pressures up to 400,000 atm. (The last paper of the

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