again with little change in chapter 6, “Flow and Solute Transport Modeling.” Chapter 9, “Ground Water Modeling and Statistics,” provides formulae for calculating standard test statistics such as Student’s t and the F-statistic, but does not discuss applications. Again, one wonders why this information was included.

Another problem with many chapters is the indiscriminate use of references. Throughout the book the authors cite numerous research projects with only a cursory description (often a single sentence) of what each study entailed. Oftentimes the literature covered seems to have been selected almost at random, with little focus on reviewing the key citations on the subject. On the other hand, important references are often omitted.

The quality of the figures is another disappointment. Some figures are little more than rough, hand-drawn sketches, and many are difficult to read due to poor reproduction. Another annoying technical aspect is the inconsistency of units; both English and metric units are used in various places throughout the text.

The major problem with this book, however, is that it lacks synthesis and interpretation; many sections are little more than a collection of facts and references of greater or lesser relevance, leaving the reader rather confused. While there is useful information here, it is difficult for the reader to focus on the important issues; he/she must often wade through a sea of unrelated/inconsequential information, attempting to pick out truly relevant items. Nonetheless, because the book provides a broad scope in an area of much current interest, it will undoubtedly find a place on the bookshelf of many professionals and students.—ROBERT S. BOWMAN, Department of Geoscience, New Mexico Institute of Mining and Technology, Socorro, NM 87801.

Innovative Approaches to Mined Land Reclamation

Edited by Claire L. Carlson and James H. Swisher, Southern Illinois University Press, P.O. Box 3697, Carbondale, IL 62902-3697. 1987. 752 p. $50.00.

The passage of the 1977 Surface Mining Control and Reclamation Act (SMCRA) caused many changes to be instituted for reclaiming lands disturbed by mining activities. This book is a compilation of papers and posters presented at the National Mined Land Reclamation Conference held in St. Louis, MO, in 1986. Authors included those from academic institutions, government, private industry, and research centers.

Many subject matters are covered within this book ranging from concepts that entered into the passage of SMCRA and regulatory issues dealing with it to specific reclamation research.

Ground Water Quality Protection


This book provides a general overview of matters subject of groundwater quality. The first three chapters give a brief introduction to groundwater hydrology, sources of literature on groundwater quality; discuss groundwater pollution sources and their chapters 10 and 11 deal with pollution control methods, and management. Tables abound in the book, especially for use in the classroom. Data, formulation, parameter estimation, and field study not presented and unsaturated flow is neglected.

The emphasis of the book is largely qualitative; models are discussed no details concerning the phenomena are provided. Case histories or problems with arithmetic calculations would enhance the book, especially for use in the classroom. These omissions and the style of the book, which is the vein of a compendium and is short on didactics, diminish the utility of the book as a text in an engineering course. Nevertheless, the book should provide a useful background source of information for those entering into the field of groundwater hydrology.—T. KUPPUSAMY, Department of Geosciences, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.