

microbubble sparging, propane oxidizing bacteria, bioventing, and natural attenuation. The latter section of the book described above contains an abundance of site-specific information on (as noted) full-scale cleanup by a wide variety of processes.

The book ends with two appendices. The first appendix "... describes the occurrence of MTBE in surface and ground water including the last 10 years of sampling results for the United States Geological Survey (USGS) National Water Assessment (NAWQA) Program." The second appendix contains the names and addresses (both postal and e-mail) of the contributors to this book; this is an excellent section giving interested readers a means of contacting contributors.

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**Hari D. Sharma, Krishna R. Reddy, Geoenvironmental Engineering: Site Remediation, Waste Containment, and Emerging Waste Management Technologies, John Wiley & Sons Inc., Hoboken, NJ, 2004, 986 pp., US\$ 195.00, ISBN 0-471-21599-6.**

An area of environmental engineering that has emerged in the last several years (certainly since Love Canal) is that of geotechnical engineering, which is a discipline that addresses both the prevention and remediation of soil contamination. Sharma and Reddy cover the topic thoroughly in this book, which they note has had prior use in university courses. The authors, much to my liking, have included a discussion of "... basic principles, example problems, case histories and questions/problems with lists of comprehensive up-to-date references at the end of each chapter".

"The book is divided into four major parts: Part I, Basic Principles; Part II, Remediation Technologies; Part III, Landfills and Surface Impoundments; Part IV, Emerging Technologies."

In Part I, the authors discuss "... environmental laws and regulations, chemical and geochemistry background, geotechnical background, groundwater flow, and contaminant fate and transport. In Part II [they] discuss sources of contamination, contaminated site characterization, risk assessment, in situ waste containment, and soil and groundwater remediation technologies. In Part III [they] present information on design and evaluation of landfills and surface impoundments ... ." "Finally, in Part IV [they] outline various emerging technologies, such as beneficial uses of closed landfills,

recycling, bioreactors, and in situ capping subaquatic waste sediments."

The final section of the text contains some very up-to-date material with chapters entitled: Beneficial use of waste materials; recycling, end uses of closed landfills, bioreactor landfills and subaquatic sediment waste; in situ capping. I note that the last chapter on sediment waste is a very recent topic covered in the literature. Indeed, I very recently reviewed for the *Journal of Hazardous Materials* a Battelle Conference on the remediation of contaminated sediments.

Reviewing an almost 1000-page text is a daunting task, especially for a "general" environmental engineer who is familiar with but not an expert on geotechnical issues. I was, however, able to read and reasonably understand the material in the text even on topics unfamiliar to me. That is much to the credit of the authors' writing.

Each chapter I noted above ends with a relatively extensive list of questions and problems for student use. Readers of these reviews will know that is an inclusion I look for. Also, I note that the Table of Contents is very well developed. Covering 12 pages, the authors list, the titles of all sections, and subsections in the book.

I conclude the review with apologies to the authors for not being more specific about the contents. However, my evaluation is that this is an excellent text that may very well dominate this field for several years.

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**Lawrence K. Wang, Norman C. Pereira, Yung-Tse Hung (Eds.), Air Pollution Control Engineering, Humana Press, Totowa, NJ, 2004, ISBN 1-59259-778-5, 521 pp., US\$ 175.00.**

This book is the first of three to be published in a series entitled *Handbook of Environmental Engineering* whose goal is "... (1) to cover the entire range of environmental fields, including air and noise pollution control, solid waste processing and resource recovery, biological treatment processes, water resources, natural control processes, radioactive waste disposal, thermal pollution control, and physicochemical treatment processes; (2) to employ a multithematic approach to environmental pollution control since air, water, land, and energy are interrelated." I have not seen the other