

pilot-and-bench-scale units. I was pleased to see real life application data bases and more real data on operation: temperature, flow rate, concentration, etc.

6. Limitations — Or how to decide whether or not waste can be treated by thermal desorption.

7. Technology prognosis — A short segment which identifies other processes or elements of process that require future research and demonstration before full-scale application can be considered.

8. Appendix — Seven in number discussing other treatment alternatives, list of vendors' acronyms, references and discussion of the Waukegan Harbor Project.

My overall assessment is that this first book in the series is an excellent start on a remediation series. I hope the other books in the series are equal to this one.

GARY F. BENNETT

Waste-to-Energy in the United States: A Social and Economic Assessment, by T.R. Curlee, S.M. Schexnayder, D.P. Vogt, A.K. Wolfe, M.P. Kelsay and D.L. Feldman, Quorum Books, Westport, CT, 1994, 260 pages, price US\$ 65, ISBN 0-89930-844-9

In recent years, the public has become increasingly aware that the United States has a problem with municipal solid waste (MSW) disposal. According to the authors, recent events involving bargeloads and trainloads of unwanted garbage wandering the country's waterways and railroads for disposal sites along with the usual media coverage have compounded the arguments and discussions concerning MSW. Recent and projected increases in MSW quantity are made more problematic by recent trends in the number and costs of landfills, which have been, historically, the primary means of managing MSW in the United States. Other sources of waste management have been and are recycling, composting, and source reduction; however, each of these alternative means of managing MSW are becoming more limited because of cost or lack of a definite improvement in the waste problem. The authors discuss an alternative waste management tool that has been used in the past — incineration, typically without heat recovery. However, the technology of waste-to-energy (WTE) or incineration with heat recovery has recently been on the rise as a means of managing MSW and was expected to see tremendous growth in this country well into the next century. According to the authors, this growth has not occurred due to a variety of factors such as disagreements about potential environmental damages, legislative and regulatory uncertainties, the future cost and availability of alternative management methods, constraints and uncertainties about financing methods, questions about the reliability and applicability of existing technologies, and failures in local decision-making processes.

To examine the effects of these barriers on the use of WTE, the authors used a three-pronged approach to collect and assess information on WTE: (1) aggregate socioeconomic analysis, (2) financial issue focus, and (3) case studies. In the course of the book, four case studies are used to discuss the use of WTE in counties across the United States — two case studies directed at communities that have accepted WTE

and two communities that have abandoned the technology. In addition, the authors discuss potential health and environmental risks posed by WTE and alternative waste practices.

The authors stress that they are not attempting to oppose or promote WTE or any other method to manage municipal waste. However, they have described in a neutral fashion the social and economic issues that are often central to decisions about particular WTE projects and will play a key role in determining the overall viability of WTE in the future or at all.

BETH LADD
CURTIS C. TRAVIS

Hydrology: An Environmental Assessment, by Ian Watson and Alister D. Burnett, Buchanan Books Cambridge, Ft. Lauderdale, FL, 1993, 702 pages, price US\$ 39, ISBN 1-5667008-7-6

The public seldom appreciates the world's sources of water until these sources are in short supply. Recently, water shortages have been more common internationally, and aquifer contamination has become more widespread. Watson and Burnett have attempted, in textbook style, to define the field of hydrology and the need for geologists and engineers to preserve, protect, and restore the quality of both surface water and groundwater, which are highly prized resources worldwide.

Hydrology is the study of water and deals with surface water and groundwater, their interdependence, and their interaction with earth materials. This textbook covers all aspects of the hydrologic cycle, including atmospheric phenomena such as precipitation and evapotranspiration. The book also covers several areas of investigation that could be better defined as *engineering hydrology* and include flooding, flood analysis, flood control, and seepage through earth dams. Topics such as well hydraulics, solute transport, aquifer contamination and facets of the field that relate specifically to geology (i.e., influence of joints, fractures, and faults in groundwater seepage through rock) are also covered.

In addition to discussions of the specific study areas of hydrology, the authors also discuss hazardous waste and its effect on the environment. Radioactive and hazardous chemical waste products pose a threat to the environment, and Watson and Burnett contend that the interest of the hydrologist to the problem of hazardous waste pollution should be to adequately design and competently manage disposal areas that may have an impact on water supplies.

Watson and Burnett stress that hydrology must be more of a field-based art than a mathematical science. Nevertheless, computer modeling is introduced in a local way, and a diskette is provided for a hands-on approach to learning. The focus of the book is in understanding basic concepts and application of these concepts to real situations. All in all, this is a solid undergraduate text in hydrology and hydrogeology.

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