5. The role of the laboratory in remediation work
6. Health and safety at hazardous waste sites
7. Ground water models – tracking contaminant migration

(2) Remediation

8. Developing the feasibility study
9. The recourse of closure on site
10. The disposition of ground water
11. *In situ* biological treatment of groundwater
12. Correcting leaky underground storage systems
13. Incineration as a disposal alternative
14. Closure through off-site remedies
15. Implementing the remedial measures

In summary, the book thoroughly discusses the approaches practicing engineers can use to implement the U.S. EPA's National Contingency Plan at sites governed by CERCLA regulations. The various chapters show in detail how designs are carried out at remediate sites, i.e. the remedial investigation feasibility study. To that end, the book is well written, well developed and well referenced. For the people described in the opening paragraphs of this review, it will be an invaluable reference and one they should not be without.

GARY F. BENNETT

Volatilization Technologies for Removing Organics from Water, by J.L. Fleming, Noyes Data Corp., Park Ridge, NJ, 1989, ISBN 0-8155-1189-2, 120 pp., $39.00.

This book was originally published by the U.S. Environmental Protection Agency (U.S. EPA) under the title "A Selective Guide for Volatilization Technology for Waste Treatment". It is one of a large number of excellent, practical books that the U.S. EPA has published to assist those working in the waste treatment field.

The book's purpose is to assist engineers in determining whether a particular volatilization technology can successfully remove organic contaminants from water. The author describes the performance of common organic compound removal systems and provides an approach for selecting an appropriate removal technique for a given situation (which is normally cleanup of contaminated water and/or groundwater at an uncontrolled hazardous waste site). Data necessary for the evaluation are described, and whenever possible background data are given, for selected organics.

To use this book, the author suggests a five-step process:

- Preliminary assessment of the feasibility of volatilization
- Site characterization

- Calculation of basic physical properties
- Technical evaluation
- Equipment selection

Discussed are the following types of treatment devices:

- Surface aerators
- Surface sprayers
- Bubble columns
- Cooling towers
- Steam strippers
- Spray columns
- Packed columns
- Impoundments

The book provides the necessary theoretical background and equations for the engineer who wished to make the appropriate calculations. Excellent tables and figures showing the results of the calculations are included. However, I would have liked to have seen several, detailed, worked examples to assist me in duplicating (or checking) these results.

The author discusses VOC emissions from the treatment devices, but does not discuss control of these emissions. I think a section on that topic would have been useful to complete the system design, because air pollution controls are most often needed with these air stripping units, and their cost is not cheap. The cost of an air pollution control system would have to be added to the cost of the chosen volatilization system, and if those cost data had been included, one could calculate a more complete system cost.

The six chapters in the text are:

- Introduction
- Site characterization
- Material properties and estimation methods
- Technology evaluation
- Design basis
- Factors affecting evaluation

GARY F. BENNETT

Chemical Hazards in the Workplace, by R.M. Schott, Lewis Publishers, Chelsea, MI, 1989, ISBN 0-87371-134-3, 196 pp., $39.95.

As an environmental engineer, my concern with chemicals is generally with their impact outdoors, on the aquatic or ambient air environment. And part of this concern is for the toxicological threat to human beings. There is, however, a more serious threat, i.e. indoor exposure of workers. Industrial toxicology addresses that threat and its minimization – and this book will markedly assist