

the others that preceded). Sixty-one different papers were presented under seven different major topic headings.:

<u>Session topic</u>	<u>Number of papers</u>
1. Physical/chemical treatment	16
2. Land disposal	7
3. Solidification	7
4. Biological (treatment)	8
5. Waste minimization	9
6. Thermal treatment	9
7. Waste management	5

The papers presented were naturally dominated by researchers from the United States but speakers also came from Sweden, Canada, Poland, Germany, The Netherlands, Switzerland, France, P.R. China and England.

The book is photo-reproduced using the two-column format. This technique leads to a wide variety of type styles, but with the increasing use of computers and laser printing in the preparation of camera ready manuscripts, and desk-top publishing packages, the quality of photo-reproduced books is gradually improving. In this case, there were only few badly reproduced papers in the Proceedings.

Surprisingly, this proceedings volume ends with a Subject Index, a rather unusual aspect of a conference proceedings volume. However, this index has been compiled for this volume (these proceedings) alone; it could be made more useful if the sponsors/editors compiled an index that includes all three (and future) conferences in the series, so the reader would have easy access to the data from all the conferences.

GARY F. BENNETT

Aquatic Humic Substances; Influence on Fate and Treatment of Pollutants, by I.H. Suffet and P. MacCarthy (Eds.), *Advances in Chemistry Series*, 219, American Chemical Society, Washington, DC, 1989, ISBN 0-8412-1428-4, 864 pp., \$109.95.

Aquatic Humic Substances offers a cohesive compilation of recent research results on many aspects of water purification. The book was developed from a symposium sponsored by the Division of Environmental Chemistry of the American Chemical Society, in Denver, Colorado in April 1987. It is unfortunate, however, that it took two years to get the papers into print, but the time-frame is indication of a good peer review process.

In the preface of the book, the editors write:

"The influence of aquatic humic substances on the fate and treatment of pollutants has not been

explored in a cohesive and comprehensive manner, and we are only beginning to understand the multivarious ways in which humic substances influence the fate of chemicals in the aquatic environment. At present, the literature on the environmental influence of humic substances is scattered. It is frequently hidden as the secondary issue in numerous publications. Therefore, we saw the need to consolidate the theoretical and experimental impacts of humic substances in order to develop a consistent body of knowledge in this important area."

To that end, the editors have gathered together 45 papers, some of them solicited for the symposium to fill voids. The papers are grouped under the following topic headings:

- Characterization
 - Environmental impact
 - Interaction in natural waters with organic contaminants
 - Interaction in natural waters with inorganic contaminants
 - Environmental reactions in natural waters
 - Influences of coagulation processes on water treatment
 - Sorption onto activated carbon; influences of water treatment
 - Influences of ozonation and chlorination processes on water treatment
 - Influences of ion exchange and membrane processes on water treatment
- Taken together, these papers indeed fill a very important void in the literature.

GARY F. BENNETT

Workbook of Test Cases for Vapor Cloud Source Dispersion Models, by S. Hanna and D. Strimaitis, Center for Chemical Process Safety of the American Institute of Chemical Engineers, New York, NY, 1989, ISBN 0-8169-0455-3, 122 pp, \$60.00

Modeling of toxic or hazardous releases is an important activity at industrial plants for emergency planning. New models are available to users and old models are being updated almost every day. This book provides a cookbook type of approach for engineers and scientists for carrying out calculations for five specific release cases. The method is not endorsed by the authors. However, the book provides a reasonable approach to solving these problems using publicly available hazardous release models. In the absence of approved regulatory procedures for modeling, one may like to call in the help of this book.

The book is divided into three chapters (and an appendix): (1) Introduction and description of release scenarios, (2) Overview of equations and models, and (3) Applications of models to five scenarios. The appendix consists of computer outputs and covers about one third of the size of the book.

Chapter 1 describes the five hazardous release problems which are solved in the book. The problems involve an elevated dense gas jet, anhydrous ammonia