

Book review

CONTAMINATED LAND MANAGEMENT READY REFERENCE

J. Nathanail, P. Bardos and P. Nathanail. EPP Publications/Land Quality Press, 2002. ISBN 1 900 95506 9, £99, 500 pp.

This 'ready reference' is a first-stop for the contaminated land community when information on basic concepts or a quick overview of available technical information is needed. One of the major benefits with this volume is the huge amount of summary information distilled from a wide range of technical literature that is often not at hand. This book will be particularly comforting for the uninitiated confronted with their first experience of bad news from the site or the lab, and as an *aide memoire* for the hardened veteran.

Chapter 1 deals with the development of conceptual models as part of site assessment. It is framed within the 'source-pathway-receptor (SPR)' approach. The scope is very good and the reader is provided with appropriate examples. My only concern is that it is essentially descriptive, without considering analysis of natural processes controlling fate and transport and their parameterisation. Chapter 2 provides a description of data sources and the methodology supporting desk studies for the design of contaminated land investigations. I found this to be a very comprehensive summary of all relevant information needs and sources. The main benefit of this chapter is outlining good practice in the design, implementation and review of desk studies for contaminated sites.

Chapter 3 outlines in a general sense the strategies for sampling soils, groundwater and gases to assess contamination. In the groundwater sampling section, I thought the user would benefit from descriptions of possible variations in well field layout to meet the different sampling goals, and the possible risk of vertical contaminant migration if wells are installed in (particularly) dense non-aqueous phase liquid source areas. Chapter 4 provides a comprehensive list of site investigation techniques, including advantages and limitations of each. These include non-intrusive geophysical methods and intrusive methods such as trial pits and boreholes. The final section outlines summary statistics for data description. The discussion of the pros and cons of various spatial interpolation methods is very useful as many do not understand the dangers in misapplied techniques.

Chapter 5 is a comprehensive summary of the bureaucratic complexities of risk assessment. It deals with soil and ground-water and summarises the procedures for ecology, buildings, gas, health and property. Guideline values are summarised, including the superseded ones such as the Inter-departmental Committee for the Redevelopment of Contaminated Land, because one is still likely to find them in old reports. The text and tables aim to highlight the key issues for each method, report or set of values. Chapter 6 is a short introduction to risk management techniques, i.e. remediation technologies. It is written at a fairly general level, with details provided in subsequent chapters. Chapter 7 provides the detail about the risk management techniques introduced previously. This chapter constitutes the "heart" of the book, with over 100 pages of summary information. The range of techniques is covered in four sections: civil engineering methods; *in situ* remediation technologies; *ex situ* treatment methods; and methods to protect buildings from hazardous sub-surface gases. Chapter 8 describes methods to select techniques and calculate outline costs for risk management options. Two important summary tables are provided. The first extends over six pages and lists classes of possible risk management options for combinations of the type of pollutants and the geological material hosting the contamination. The second table provides data for indicative costs of various risk management methods.

With absolutely no pun intended – this book covers a lot of ground. The publishers need to include a table of contents and it would have helped me to see some objectives and instructions up-front on how to use this book before being confronted with the density of information that starts on page 2. However, I am extremely impressed with the breadth of effort and expertise demonstrated by the authors. I will use this reference frequently, both to get a quick overview on a topic, and to find the detailed literature when I need to dig deeper. Any quibbles I might have over some details are heavily outweighed by the value of putting this information all together in one place. The loose-leaf style of binding suggests that updates and amendments will be forthcoming. Given the 'handbook' style of this volume, my remaining question is when will the online version be available?

STEVEN A. BANWART