Other very interesting features were a cost analysis chapter (7), recommendations for future research (8), and a reference section (9) where approximately 250 works were cited.

The last half of the book is devoted to:

- field project case histories
- literature summary database
- hypothetical site cost studies.

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PII: S0304-3894(00)00167-9

Soil Vapor Extraction Using Radio Frequency Heating: Resource Manual and Technology Demonstration Donald F. Lowe, Carroll L. Oubre, and C. Herb Ward, Eds., Lewis Publishers, Boca Raton, FL, 1999, 328 p., US$69.95, ISBN: 1-56670-464-2.

A work product of a Department of Defense-funded Advanced Applied Technology Demonstration Facility at Rice University in Houston, TX was a series of 10 manuals (published as texts by Lewis Publishers) [the first book reviewed by the reviewer was entitled *Surfactant and Cosolvents for NAPL Remediation: a Technology Practices Manual*].

This text (which appears to be the second in the series) discusses one of the most widely used techniques for treating soils contaminated with volatile organic compounds — soil vapor extraction (SVE). In the text, the SVE system is modified by heating the soil, thus increasing the vapor pressure and enhancing the removal of semi-volatile compounds. Soil can be heated in situ by injecting hot air or steam by direct resistive heating or by applying electromagnetic energy in the radio frequency range. To date, experiments with this method of soil treatment have been entirely successful, since the project was initiated at Kirtland Air Force Base, Albuquerque, NM.

The test site used for the demonstration of this technology was a former fire training pit that contaminated a variety of fuels, oil and lubricants at concentration (of total petroleum hydrocarbons) from 500–2900 mg/kg of dry soil. Based on their tests, the researchers evaluated a hypothetical RF-SVE design for a full-scale process. Studied were both the economics and the design sensitivity of the RF-SVE process. They concluded that the process can be efficient, but less so on a cost basis if soil volumes are large. Thus, they recommend consideration of this technology for small volumes of soil and relatively high molecular weight compounds, and soils that are moist and permeable.

The report has six chapters entitled:

1. Introduction
2. Measurement Procedures
3. Summary of Technology Demonstration

4. Engineering Design
5. Costs and Economic Analysis
6. Potential Applications.

The chapter material cited above takes up only the first 102 pages of the book. Eleven Appendices plus the reference section make up the rest. Here is where the data and details of the process are found.

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PII: S0304-3894(00)00170-9