

Part VI

Case Histories of Subsurface Contamination by Industrial and Environmental Brines: Field Data Analysis and Modeling of Migration Processes

This part of the work demonstrates the potential for using numerical groundwater flow and transport models in environmental risk assessment of subsurface contamination by dense or light miscible liquid waste. We apply modeling technique to the analysis of cases that are common in hydrogeological practice and connected with:

- (1) leakage of hazardous dense wastes from a surface reservoir to the near-surface environment,
- (2) seawater intrusion into coastal aquifers,
- (3) uncontrolled discharge of a deep brine into mine drainage systems,
- (4) disposal of industrial waste in a deep geological formation using injection well clusters.

The designing of numerical models is accompanied by analysis of a variety of real field and experimental data drawn from many different field sites that can be of some interest for bridging the gaps still existing in our knowledge of contaminant hydrogeology.