

## PRACTICAL PROBLEMS IN NUMERICAL SIMULATION OF GEOTHERMAL RESERVOIRS

A.J. Menzies, E.U. Antunez and S.K. Sanyal

GeothermEx, Inc.

Richmond, California

(USA)

Numerical simulation is becoming increasingly important to the overall assessment of geothermal reservoirs as it is essentially the only tool available for simulating the future behavior of a reservoir in response to different production scenarios. The aim of numerical simulation is therefore to provide a computer model that mathematically describes the geothermal reservoir with sufficient accuracy so that the simulated future behavior can be used confidently as a prediction of the performance of the real reservoir.

In setting up a computer model, it is first necessary to have a good physical understanding or "conceptual model" of the geothermal reservoir. The conceptual model is based on a multi-disciplinary assessment of the physical and chemical data collected during both the exploration and development of a geothermal reservoir.

The aim of this paper is to present the practical problems that sometimes arise when setting up a numerical model of a geothermal system and in using the model for simulating future changes in reservoir conditions. It should be emphasized that the problems discussed in this paper do not appear in every situation.