



Utilization of geothermal water

Development and optimization of a process for the production of mother water and salts with a naturally high magnesium content

The characterization of electrolytic systems is an essential pre-requisite for studying deep geothermal systems or the sequestration of CO₂ in saline aquifers. Following a local issue, the LaTEP called on its skills in thermodynamics and processes in order to produce mother water and thermal salt with a consistent and controlled composition.

The first step of this work consisted in developing a dynamic model of the three-phase "geothermal air-water-precipitates" system. The Pitzer model was chosen to characterize the thermodynamics of geothermal water.

Simulation of the process and its optimization served to develop an experimental prototype for the production of mother water with a consistent and controlled composition and the production of a thermal salt with a naturally high magnesium content.