DESTRESS

Demonstration of soft stimulation treatments of geothermal reservoirs

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Dr. Maren Brehme is an assistant professor in Geo-fluids and Geothermal Engineering at the Delft University of Technology. In her research, she focuses on Geo-fluids using hydro-geochemistry and hydro-tectonics with the aim to understand sub-surface fluid flow using multidisciplinary approaches for sustainable underground exploration strategies (geothermal, CO2, H2, heat, drinking water).

Approach to Avoid and Treat Injection Problems: Lessons learnt

Reasons for injectivity decline were investigated at different geothermal sites in Europe. Due to low injectivities, production rates have to be reduced, and the site faces negative commercial implications. In addition to historical operation data, fluid and rock samples were investigated in the laboratory. Analysis and experiments focus on physical, chemical and biological processes and their interaction. Results show different processes being responsible for injection-triggered occlusion of flow pathways, e.g. fines migration, precipitation, micro-biological activity, aquifer properties, corrosion or O2 inflow. Lessons learned will be shown, from the preparation of large-scale projects, from monitoring programmes towards the sustainable operation.

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