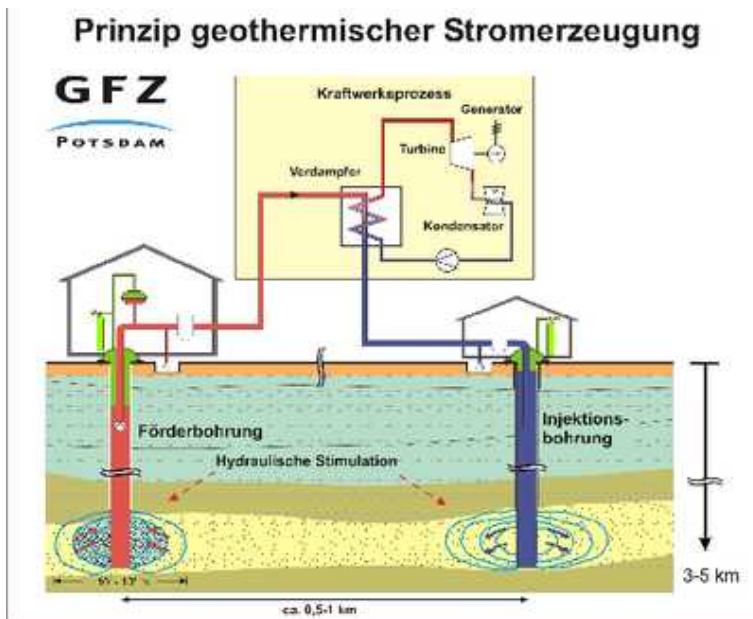


Rocks under High Water Pressure



Today, Thursday the 9th of August 2007, the GFZ Potsdam, Germany's National Lab for Geosciences is starting a new series of experiments at the geothermal research site Gross Schönebeck.

In these so called hydraulic fracturing experiments, huge amounts of water are being pressed under high pressure into the underground, in a 4.4 km deep wellbore. Natural fractures and fissures will be widened through the waterpressure, and new flowpaths generated. The experiments will last about 6 weeks.

Similar test were successfully performed already in a second well at Gross Schönebeck in 2003, when 12 Million literes of water were pumped into the underground. The experiments are aiming at using geothermal energy not just for heating purposes, but for generating electricity. For this, hot natural water will be produced from one well, utilized in a future geothermal powerplant, and than pumped back into the underground, through a second wellbore - a closed water circle.

"Under the local geological conditions, only in a depth of more than 4 km the minimum temperature of 150 °C is found, which is necessary for an electrical power generation. Under these conditions, as much naturally hot water has to be produced from the well as possible, in order to operate a geothermal powerplant successfully" explains Project Manager Dr. Ernst Huenges of the GFZ Potsdam. "The more permeable the underground rocks are, the more water flows through the reservoir into the production well".

The stimulation will be performed in three injection phases in various rock layers. After Ernst Huenges, it can be excluded, that the stimulations will cause any weak earthquakes. "We have performed similar experiments in 2003 already at the same location, with its sedimentary rocks that are typical for the northgerman basin - without any recognizable seismicity." Routinely the progress of the hydro-frac experiment will be observed by highly sensitive seismic monitoring instruments. A later long term experiment between the two wells shall prove the success of the stimulation, and document the increased water flowrates.

At the GFZ-Geothermal Laboratory Gross Schönebeck, scientific experiments and investigations aiming at geothermal electrical power generation are being performed since 2001 already. An earlier natural gas well from the 90s was reopened by the GFZ Potsdam for this purpose and deepened to a depth of 4,3 km. In

January 2007 the second well was completed with a final depth of 4,4 km, in which the stimulation experiments are being performed now.

Source: GFZ Potsdam

This document is subject to copyright. Apart from any fair dealing for the purpose of private study, research, no part may be reproduced without the written permission. The content is provided for information purposes only.