

AltaRock EGS Demonstration Project Status with NCPA at The Geysers

On September 2, 2009, AltaRock Energy Inc. announced it had suspended its drilling operations in the southeast Geysers on the Northern California Power Agency (NCPA) leasehold. AltaRock had planned to redrill NCPA well E-7 into the felsite, the intrusive rock underlying the Geysers steam reservoir, to a total depth of 12,000 ft as part of a DOE-funded Enhanced Geothermal Systems project to demonstrate the ability to create multiple fracture zones in one well. Following the redrill, the plan was to inject at low temperature and pressure to create multiple stimulated zones. E-7 was originally drilled in 1988 and was an active injector at the time of the workover.

An Environmental Assessment was completed, including an analysis of the risk of induced seismicity, for the Bureau of Land Management as part of NEPA/CEQA compliance for the project. The BLM issued a Finding of No Significant Impact (FONSI) with mitigation for the project on June 9, 2009. The BLM and AltaRock are in the process of negotiating a protocol for mitigation of any potential impacts from the stimulation. Separate NEPA compliance is required for the DOE grant and that process is currently in review while AltaRock redesigns its drilling plan with input from NCPA.

AltaRock attempted to redrill E-7 three separate times from starting depths of 3202 ft, 1674 ft and 2733 ft. Each attempt reached a total depth in the range of 4100-4400 ft, before the drilling assembly became stuck due to the hole collapsing in the unstable serpentine and mélangé. AltaRock is currently reviewing the reasons for the particularly unstable behavior of the formation below E-7. However, long term injection into the area may have contributed to the problems.

Drilling is an inherently risky business with significant challenges. The Geysers is an especially difficult and unusual drilling environment because of the existence of serpentinized peridotite, which contains clays and fibrous material that will become unstable and collapse or flow when exposed to water over an extended period of time. Below the serpentine, the mélangé (a jumble of large blocks of varied lithologies, including more serpentine) and fractured greywacke present additional challenges. Lastly, reworking an existing well limited the possible range of solutions to drilling and completion problems.

EGS power can impact the environmental and economic landscape of America by delivering baseload, carbon-free power. In cooperation with NCPA and the US Department of Energy, we are evaluating possible paths for demonstrating our capabilities. Currently AltaRock has a portfolio of about 20 patent filings relating to EGS and is actively continuing to develop its proprietary technology in this area. We believe EGS is a clean, renewable-energy alternative that holds the potential to significantly reduce our country's dependence on fossil fuels and create a more sustainable future.