

Change of fluid chemistry and reservoir of Hijiori HDR test field

Norio Yanagisawa[1]

[1] AIST

Recently, hot dry rock geothermal system (HDR/EGS) is developing in Australia, USA and EC. This system is one of power generating system using production hot fluid heated underground reservoir by injecting cool water.

In Japan, Hijiori field in Yamagata Prefecture and Ogachi field in Akita Hot dry rock system was researched and developed until 2002. And production,

temperature depth profile survey, analyzing fluid chemistry, tracer test and scale minerals collection were carried out.

And in volcanic region Japan only 2000 meter drilling need to reach 250 degree for heat water, but in Australia 5000 meter drilling need. And then in Japan, easy to get injection water due to rain fall.

But coolwater cause to reservoir cooling and calcite and anhydrite scaling.

Recently, development geothermal energy and hot dry rock system need to overcome the global warming problem.

In this paper, I will review the reservoir condition, temperature and chemical fluid change and scaling mechanism in Hijiori HDR test field. And I will estimate the potential of development geothermal HDR/EGS system in Japan.