

MIS012-07

Room: Function Room B

Time: May 23 10:45-11:05

Calcite precipitation during CO₂ sequestration into geothermal area

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Field experiments of CO₂ sequestration in the Ogachi hot dry rock (HDR) site with a temperature of 200 degree were performed to investigate the mineralization of CO₂ as carbonates through interaction with rocks (Georeactor ? Ca extraction from rocks and carbonate fixation).

Carbonated water (1 wt% CO₂ ? river water with dry ice) was directly injected into well OGC-2 during Test 1 (September 2-9) and Test 2 (September 11-16). Several tracers were also injected simultaneously. Water samples were collected at the depth of about 850m by a sampler and monitored for their chemical and isotopic compositions. The CO₂ concentrations in fluids collected decreased with duration time and were almost 2/3 of the expected concentration from the behavior of tracers. This provided evidence that CO₂ injected into well OGC-2 can be removed from fluid by carbonate fixation.

Keywords: calcite, mineralization, CO₂, sequestration, geothermal