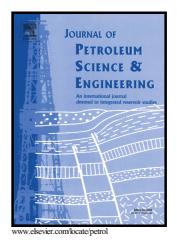
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Numerical Simulation of a Hidden Fault at Different Stages of Evolution in a Carbon Dioxide-Enhanced Saline Water Recovery Site

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Abstract

 CO_2 geological storage combining with deep saline water (or brine) recovery (CO_2 -EWR), which is a novel geoengineering approach of CO_2 geological utilization and storage, is presented to solve the dilemma between increasing carbon emissions and water scarcity in China. The major idea of CO_2 -EWR is to use the pressure buildup from CO_2 injection to enhance the recovery of deep saline water. However, avoiding all the buried faults in the reservoir at CO_2 -EWR sites is impossible. Some faults may penetrate through the reservoir into the caprock and basement. Both the fault zone's architecture and the related permeability structure affect the fluid flow in

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