

Abstract submitted for NETL's Second National Conference on Carbon Sequestration  
Topic: Sequestration of carbon emissions in geologic formations - saline aquifers

**Development of a Well-Testing Program for a CO<sub>2</sub> Sequestration Pilot  
in a Brine Formation**

Christine Doughty, Karsten Pruess, and Sally M. Benson  
Earth Sciences Division  
E.O. Lawrence Berkeley National Laboratory  
Berkeley, California 94720

Pressure-transient monitoring will play an important role in both site characterization and CO<sub>2</sub> plume monitoring for an upcoming pilot test to inject CO<sub>2</sub> in a brine-bearing sand of the fluvial-deltaic Frio formation in the upper Texas gulf coast. Pre-test site-characterization goals include estimation of single-phase flow properties, determination of appropriate lateral boundary conditions for the sub-vertical faults bounding the pilot site, assessment of the integrity of inter-sand shale layers, and analysis of ambient phase conditions within the formation (although nominally brine-saturated, the pilot-site sands may harbor immobile gas-phase or dissolved hydrocarbons). Pressure-transient monitoring during CO<sub>2</sub> injection will enable estimation of two-phase flow properties and help track the movement of the injected CO<sub>2</sub> plume.

**Contact Information:**

Christine Doughty  
Addr: Earth Sciences Division  
Mailstop 90-1116  
Lawrence Berkeley Natl. Lab.  
#1 Cyclotron Rd.  
Berkeley, CA 94720  
Phone: (510) 486-6453  
Fax: (510) 486-4159  
Email: [CADoughty@lbl.gov](mailto:CADoughty@lbl.gov)

Sally M. Benson (presenter)  
Addr: Earth Sciences Division  
Mailstop 50A-4112  
Lawrence Berkeley Natl. Lab.  
#1 Cyclotron Rd.  
Berkeley, CA 94720  
Phone: (510) 486-5875  
Fax: (510) 486-6498  
Email: [SMBenson@lbl.gov](mailto:SMBenson@lbl.gov)

Karsten Pruess  
Addr: Earth Sciences Division  
Mailstop 90-1116  
Lawrence Berkeley Natl. Lab.  
#1 Cyclotron Rd.  
Berkeley, CA 94720  
Phone: (510) 486-6732  
Fax: (510) 486-5686  
Email: [K\\_Pruess@lbl.gov](mailto:K_Pruess@lbl.gov)