Click to view posters.
Poster 1 (13.6mb) Poster 2 (10.5mb) Poster 3
Or right click to download

The Ohio Geological Survey CO_2 Stratigraphic Test Well: A Diverse Team Achieves Common Objectives and Realizes Added Benefits*

Doug Mullett[1] and Larry Wickstrom[1]

Search and Discovery Article #80031 (2008)
Posted November 4, 2008

*Adapted after poster presentation at AAPG Annual Convention, San Antonio, Texas, April 20-23, 2008

[1]Ohio Division of Geological Survey, Columbus, OH (doug.mullett@dnr.state.oh.us; larry.wickstrom@dnr.state.oh.us)

The Ohio deep borehole project brought together a diverse group of stakeholders to evaluate CO_2 injectivity and storage potential of deep saline reservoirs and the effectiveness of confining units at the test site. The State of Ohio budgeted approximately $2.3 million from the general revenue and clean coal research funds to meet the project's objectives. The Ohio Air Quality Development Authority (OAQDA) and the Ohio Division of Geological Survey (ODGS) collaborated with the Midwest Regional Carbon Sequestration Partnership (MRCSP) led by Battelle to drill a stratigraphic test well to the Precambrian in east central Ohio. Both coal and petroleum interests were directly represented, as well as local government, industry, and service companies.

Field operations were coordinated with oil and gas operators on an existing lease. Drilling commenced on May 10, 2007, and was completed on June 9, 2007, at a total depth of 8695 feet. Strong gas shows were encountered within the lower Black River Limestone and Beekmantown Formations. An extensive suite of geophysical well logs and sidewall cores were obtained from the borehole. Slug and constant-pressure injectivity testing was conducted from two zones within the basal Cambrian sandstone and from three zones within the Rose Run sandstone. Approximately 3000 gallons of treated brine were injected into the five zones. The maximum observed downhole pressures were 4,355 psi for the basal Cambrian sandstone and 3,825 psi for the Rose Run interval. Information collected from this project fills data gaps and provides input into continuing local and regional reservoir characterization and modeling efforts.

References

Baranoski, Mark T., 2002, Structure contour map on the Precambrian unconformity surface in Ohio and related basement features: Ohio Division of Geological Survey Map PG-23. Map with 27-p. booklet.

Wickstrom, L.H., E.R. Venteris, J.A. Harper, et al., 2005, Characterization of geologic sequestration opportunities in the MRCSP region: Final report under DOE cooperative agreement DE-PS26-05NT42255, 152 p.