

Geologic Evaluation of the Newburg Sandstone as a CO₂ Sequestration Target

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The West Virginia Division of Energy is currently in phase II of an evaluation of several deep saline formations in the Appalachian Basin of West Virginia that may be potential CO₂ sequestration targets. Phase II focuses on the storage capacity of selected zones including the Oriskany, Tuscarora and Newburg sandstones. The Silurian Newburg sandstone is present across central WV and separates the Salina evaporites from the Lockport Dolomite. As a high energy marine deposit, most of the hydrocarbon fields in the Newburg saline formation are combination structural/stratigraphic traps separated by down-dip salt water contacts or dry holes. The Newburg is uncharacteristically over-pressured compared to most gas fields in the basin. Six to seven years appears to be the average life span of Newburg wells which suggests well-developed porosity and permeability, especially in the pay zone, which is in the upper 3-10 feet of the interval. Due to the large number of CO₂ point sources in the region and the obvious reservoir properties of the unit, a serious evaluation of the Newburg Sandstone will serve to expand our knowledge about potential for sequestering CO₂.