

Evaluation of the Newburg Sandstone as a CO₂ Storage Unit in Central West Virginia

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The West Virginia Department of Energy (WVDOE) is currently evaluating several deep saline formations in the Appalachian Basin of West Virginia, which may be potential CO₂ sequestration targets. As an extensive and porous unit, especially in the upper 3-10 ft of the interval, the Upper Silurian Newburg Sandstone is thought to possess the necessary characteristics that would allow mineralization from the sequestration process to form over long injection periods. Short life spans of gas wells suggest well developed porosity, permeability and connectivity in this marine sand unit and high initial pressures imply that the overlying Salina Formation will make for a competent seal. Although production has been limited to primarily five fields separated by salt water contacts and dry holes, this study will focus on the unit at a regional scale. Additionally, the Newburg proximity to CO₂ point sources may make it a technically and economically viable storage formation.