

Exploring New Geosequestration Horizons in the Appalachian Basin: Midwest Regional Carbon Sequestration Partnership R.E. Burger Test Site, Joel Sminchak, Phil Jagucki, Jackie Gerst, and Neeraj Gupta, -Battelle, Columbus, OH 43201, jagucki@battelle.org, sminchak@battelle.org, gerstj@battelle.org, gupta@battelle.org

Geological sequestration targets were identified and explored in a 2,555-meter-deep test well drilled at the Midwest Regional Carbon Sequestration Partnership R.E. Burger test site outside of Shadyside, Ohio. The well was drilled to the Queenston Shale at the FirstEnergy R.E. Burger power plant to facilitate CO₂ injection testing. Wireline logging, mud logging, and sidewall coring were completed to characterize geological sequestration potential and caprocks in the well. Well-known targets were present in the Oriskany Sandstone and the “Clinton”-Medina sandstone. However, drilling events and subsequent analysis of test data suggested that less-obvious rock formations such as the Hamilton Group and Lockport-Newburg should be considered for injection intervals in the test well. Information obtained from regional sequestration exploration wells was utilized to refine sequestration potential in the new horizons. Additional analysis and test procedures were developed to evaluate the units along with the more established rock formations. Overall, the project suggests that new horizons may hold additional potential for geological sequestration in the Appalachian Basin.