ABSTRACT

In an effort to mitigate the increase in atmospheric concentrations of carbon dioxide (CO₂) caused by emissions from large stationary sources, governmental and regulatory entities are pursuing geological storage of CO₂ as one approach in a portfolio of greenhouse gas reduction strategies. Over the past decade, various storage projects have been established to monitor injection and recovery of CO₂ in deep subsurface formations. The DOE–IEAGHG Study: CO₂ Storage Efficiency in Deep Saline Formations – Stage 2 is a project to improve our understanding of the practical feasibility of storing CO₂ in deep saline formations. This study uses numerical simulations to investigate the accuracy of dissolved CO₂ calculations as a function of grid detail. The project builds on the framework established through the Stage 1 project work (IEAGHG, 2014). Stage 1 efforts focused on comparing volumetrically and dynamically derived CO₂ storage efficiency factors for basin-scale models while achieving ultimate storage capacity (IEAGHG, 2014). The aim of this work is to introduce the understanding of potential CO₂ storage resource and efficiency by examining a simulation case, a petrophysical case, and a geological case. We aim to enhance the understanding of potential CO₂ storage resource and efficiency by examining a simulation case, a petrophysical case, and a geological case. We aim to improve our understanding of potential CO₂ storage resource and efficiency by examining a simulation case, a petrophysical case, and a geological case. We aim to improve our understanding of potential CO₂ storage resource and efficiency by examining a simulation case, a petrophysical case, and a geological case. We aim to improve our understanding of potential CO₂ storage resource and efficiency by examining a simulation case, a petrophysical case, and a geological case. We aim to improve our understanding of potential CO₂ storage resource and efficiency by examining a simulation case, a petrophysical case, and a geological case. We aim to improve our understanding of potential CO₂ storage resource and efficiency by examining a simulation case, a petrophysical case, and a geological case. We aim to improve our understanding of potential CO₂ storage resource and efficiency by examining a simulation case, a petrophysical case, and a geological case. We aim to improve our understanding of potential CO₂ storage resource and efficiency by examining a simulation case, a petrophysical case, and a geological case.