

Southwest Regional Partnership on Carbon Sequestration

Quarterly Progress Report

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Executive Summary

Phase III Tasks addressed in this quarter were Tasks 1, 2, 3, 4, 6, and 8.

In Task 1– Regional Characterization, SWP continued working on capacity information for SWP and NATCARB. Work began on a geological approach to CO₂ storage resource of the San Andres formation in the Permian Basin of NM.

In Task 2–Public Outreach and Education, the UU continued to maintain the DNS and registration of the SWP websites, subdomains, and satellite domains. Development of the new SWP site, hosted on a third party server, was completed and the new website was ready to launch at the end of the quarter.

In Task 3–Permitting and NEPA Compliance, EQs were completed, submitted, and revised and corrected for all sites that would be working on the project. At the end of December, SWP was notified that the EQs were all accepted and the project CXd.

In Task 4–Site Characterization and Modeling, work progressed in a number of areas. Water Geochemistry analyses of FWU area water were performed at NMT and at UU. Comparison of the values between the labs generally showed the same trends.

Initial reservoir model development focused on three critical aspects, including geomechanical process simulation, geochemical process simulation, and most importantly grid development for the FWU. Geomechanical simulation efforts focused on development of a core-scale geochemical model in order to perform geomechanical testing for rock strength and poroelastic parameters on FWU core, and use the core-scale models to facilitate interpretation of the results. Geochemical model efforts focused on comparison of TOUGHREACT, a multiphase reactive transport code, to Geochemist’s Workbench (GWB), a single phase reactive transport code.

Work on the MVA Work Plan for the FWU site began this quarter. Researchers worked on developing a tiered surface monitoring plan with initial “sweeps” of the field for methane/CO₂ emissions.

For the Simulation Work Plan, the SWP modeling team assembled simple two-dimensional models to evaluate the current and future well patterns (5-spots) planned for the FWU, which are tuned to maximize EOR.

In Task 6– Operational Monitoring and Modeling, AIST took three kinds of gravimetric baseline measurements at the Farnsworth test site, after moving all the equipment from the Gordon Creek Site in Utah to the Farnsworth Unit in Texas.

In Task 8–Project Management, activities for the quarter mostly consisted of work on CELLC’s contract, operational budget and field schedule. The principal achievement of this quarter was SWP’s reception of SWP DOE award # DE-FC26-05NT42591 Mod # 026, which provides a no-cost project extension from 1/31/2013 to 3/31/2013 while the new site budget is fully vetted.