

Southwest Regional Partnership on Carbon Sequestration

Quarterly Progress Report

Reporting Period: April 1, 2018–June 30, 2018

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Executive Summary

Task 2–Public Outreach and Education: SWP continued to support the Domain Name System (DNS) and registration of the SWP Internet presence. The project team also continued improvements to the MVA data website to allow for more secure and user-friendly SWP-wide access. Researchers continued to maintain SWP-Velo with no significant bugs reported.

Task 6–Operational Monitoring and Modeling: the MVA Database was maintained and updated. In *6.1 Surface and Near-Surface:* A critical milestone for this Task was achieved with the installation of the eddy flux tower. CO₂ and water samples were not taken, and no gravity measurements were made. In *6.2 Subsurface:* CO₂ accounting resumed. Tracer test analysis was ongoing, and researchers continued analysis of CMR logs from well #13-10A prior to CO₂ injection. In *6.3 Seismic:* velocity data were estimated from Killingsworth well data and analysis of time-lapse seismic data from FWU continued. In *6.4 Reservoir Modeling:* Researchers focused on building and executing a STOMP three-phase reactive transport model for a five-spot well pattern based on Farnsworth Morrow B formation water chemistry and mineralogy. Tracer transport simulations of the 1-3-6-NSDA tracer with STOMP-EOR for the 13-10a five spot pattern were completed. Performance assessment of CO₂ storage and oil recovery within the FWU continued, using the updated forecast model. Researchers continued to work on multiphase flow characterization, with flow-through core experiments, wellbore leakage analysis with a slightly modified model developed by SWP, and a new approach to relative permeability relationships with MICP capillary pressure data. Analysis of noble gas data continued to progress. In *6.5 Risk Assessment:* Work progressed with NRAP IAM CS to estimate leakage risk from wellbores. Work on the Caprock Integrity Report continued. Column experiment preparations began. The Risk Group authored a number of publications and presentations.

Task 8–Project Management and Oversight: The contract with Perdure Petroleum, new owners of the FWU, was finalized. Data from the fourth VSP survey was processed and delivered in June. Preparation for the BP3 review and the BP4 Workplan occupied significant time from personnel around the Partnership. SWP met with DOE in Pittsburgh on June 6, 2018. Project PIs requested a no-cost extension for BP3 until November 30, 2018. At the end of April, the Final Report for the Risk FEP Workshop in December was submitted to SWP and the Quarterly report was submitted to DOE. Carbon accounting was completed, and the memo delivered in May. In June, the SWP Advisory Committee meeting was held and the Committee was updated on BP3 activities and BP4 plans. All Working Groups progressed with book chapters. Some reevaluation of the Springer contract was done before SWP signed the Open Source agreement.