

***Status report and direction of Chevron's RD&D pilot oil shale project,
Piceance Basin, Colorado***

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As one of four companies to be awarded a Research, Development and Demonstration (RD&D) lease by the U. S. Bureau of Land Management (BLM) in 2006, Chevron USA has been making steady progress in laboratory, modeling, and field data collection in an effort to demonstrate technology capable of commercially and environmentally sustainable in situ oil production from oil shale from Colorado's Piceance Basin. Twenty wells were drilled on Chevron's oil shale pilot lease, allowing comprehensive core and log analysis through the Green River Formation as well as providing an array for water quality monitoring and hydraulic testing. Over eighteen hundred feet of core and hundreds of discrete analyses of petrophysical, mineralogical, mechanical, and organic properties are assisting with log interpretation, resource estimates, fracture assessment, and conversion technologies. Core data and Formation MicroImager (FMI) logs have enabled development of conceptual models for tectonic and compaction-induced fractures. Fracture density, direction, and permeability, which may have stratigraphic influence, will provide key data for the controlled rubblelization phase of the reservoir and containment of production fluids. Refraction Seismic Velocity Profiling (RSVP) and cross-well seismic profiles are providing data to delineate oil shale sequences, continuity, and potential aquifer communication via faulting and dissolution pathways. The Chevron-ConocoPhillips (Red Point) oil shale mine north of De Beque, CO, dormant since 1984, may provide a key facility to test and validate fracture modeling. To characterize the aquifer hydrology and protect water resources, a tracer test design has been completed for the aquifer above the oil shale target zone. Aquifer properties determined from the tracer will be used in larger-scale groundwater and transport models to assist environmental monitoring. As research continues, field activities for 2011 include hydrology monitoring, tracer studies, fracture experiments, and preparation of the oil shale mine for possible future use.