

Supporting an Oil Shale Research and Development Pilot Program

Piceance Creek Basin, Colorado

Layne played a pivotal role in American Oil Shale, LLC's oil shale research and development pilot program, which focused on determining the economic feasibility of oil shale production. To support the program, Layne drilled a total of seven wells and deepened one existing well.

Two different drilling operations were required for the project. Five new tomography wells were drilled and one existing tomography well was deepened with a Schramm T130XD drill rig. These wells were installed so that the surrounding water and soil conditions could be monitored before and after the oil shale heating. In order for the tomography wells to be effective, precise locations were required for the monitoring devices to yield credible data. The exact placement of these wells was provided through the application of directional drill tooling. Each tomography well was drilled within a 2 ft. radius of the original borehole, and the wells had an average depth of 2,200 ft.

Two additional wells were drilled with a modified Challenger 360 rig to facilitate the use of directional tooling. The production well was drilled to a depth of 2,500 ft. with a deviation of less than 2 ft. from the surface. The heater well intersected the production well from a distance of 700 ft. and at a depth of 2,300 ft. Additionally, an upper lateral on the heater well was drilled to facilitate the return of fluids/cuttings during under reaming operations.

Each rig was operated by two separate 3-man crews with each crew working a 12-hour shift per day. Layne provided a full-time, on-site supervisor throughout the duration of the project. In addition, Layne's in-house health and safety department provided key support in the preparation and implementation of the health and safety plan. Daily tailgate meetings preceded each work shift to identify any potential work hazards and periodic random safety inspections were completed throughout the course of the project. As a testament to Layne's culture of safety, this project was successfully completed with 24-hour operations over a 4-month time period with no recordable incidents or accidents.

Key Project Areas

Directional Drilling

Well Installation

Safety

