

# CASE HISTORY

## LINKING LATERALS TOGETHER WITH HALO RSS

### APPLICATION

Multi-well pad optimization  
Large step-out with 50° inclination  
Complex 3D curve  
One-run curve/lateral

### TECHNOLOGY

HALO Rotary Steerable System  
Falcon MWD

### LOCATION

Northeast, US

### CLIENT CHALLENGE

An operator in the Northeastern United States intended to optimize lateral well paths while utilizing an existing surface location on an adjacent lease. Their development strategy hinged on the ability to drill their intermediate section with a large step-out, a complex 3-D curve, and to stay 100% in-zone for their lateral section. This complex well design was considered to be unachievable with conventional mud motor BHAs due to the excessive directional control requirement.

### SCIENTIFIC SOLUTION

Scientific Drilling proposed utilizing its HALO High-Performance Rotary Steerable System to drill the intermediate section's step-out to 50° inclination, then holding this tangent for approximately 4000' until KOP. After reaching KOP, a new HALO BHA was to be configured in the "flex" configuration to drill the curve and lateral section.

With the HALO system's ability to build up to 15°/100, the curve and lateral is able to be drilled in a single-run. While drilling the horizontal section, the HALO's autopilot feature minimizes unexpected dogleg severity by using both inclination-hold and azimuth-hold for a smooth wellbore and normal tripping operations after reaching TD.

### CLIENT VALUE

By utilizing the existing multi-well pad location, the operator was able to reduce their surface footprint and optimize the production equipment utilization that was already on the pad. With this unique well design, they were able to combine two short laterals into one longer lateral.

The HALO system used in the intermediate section performed a flawless execution of the planned 4°/100 build in the step-out and held the tangent with minimal dogleg severity until KOP. After picking up the HALO "flex" BHA at KOP, the curve and lateral was drilled in a single-run. This BHA consistently output doglegs of 10-11°/100 through the 3-D curve to ensure the well was landed on target. In total, 10,589' of production section was drilled with only 88.93 circulating hours for the run. Average lateral doglegs were 0.89°/100, which allowed for a majority of the tripping operations after reaching TD to be done simply on elevators.

