

# Operator Maximizes Lateral Well Contact in Complex Mid-Continent Reservoir

## iCRUISE® INTELLIGENT ROTARY STEERABLE SYSTEM PLACES WELL ACCURATELY IN ZONE

SPRINGER SHALE FORMATION, OKLAHOMA

### CHALLENGES

- » Drill through a long lateral section characterized by a challenging geological environment with varying dip angles
- » Quickly process a large amount of formation data in real time to enable accurate well placement

### SOLUTION

Collaborated with the operator to engineer a drilling solution comprised of an intelligent BHA design., including:

- » iCruise® intelligent rotary steerable system (RSS) to quickly process complex, large-scale downhole computations
- » ADR™ azimuthal deep resistivity service to optimize wellbore placement
- » GeoTech® intelligent bit, designed by using the DatCI<sup>SM</sup> process and also Direction by Design® software, to allow for precise directional control and a good rate of penetration

### RESULTS

- » Delivered high performance, greater reliability, and maximum efficiency on the run of this new RSS tool
- » Drilled to produce 100 percent in zone under challenging directional drilling conditions
- » Drilled 5,226 feet (1,593 meters) at an average ROP of 49.5 feet (15 meters) per hour, thus reducing well time

### OVERVIEW

An operator drilling in the Springer shale formation – located in the South Central Oklahoma Oil Province (SCOOP) play – needed to maximize reservoir contact in a long lateral section, traversing a formation where dip angles varied from 89° to 93° over a very short interval.

Halliburton Sperry Drilling recommended deploying the new iCruise® intelligent rotary steerable system (RSS), which is designed to reduce well time and place wells accurately. The system was able to reduce dogleg severity, while also precisely steering the well in the zone for the entire 5,226-foot (1,593-meter) lateral, thus helping the operator maximize asset value. This precise control was maintained by highly accurate directional data processed at the rate of 1,000 measurements a minute.

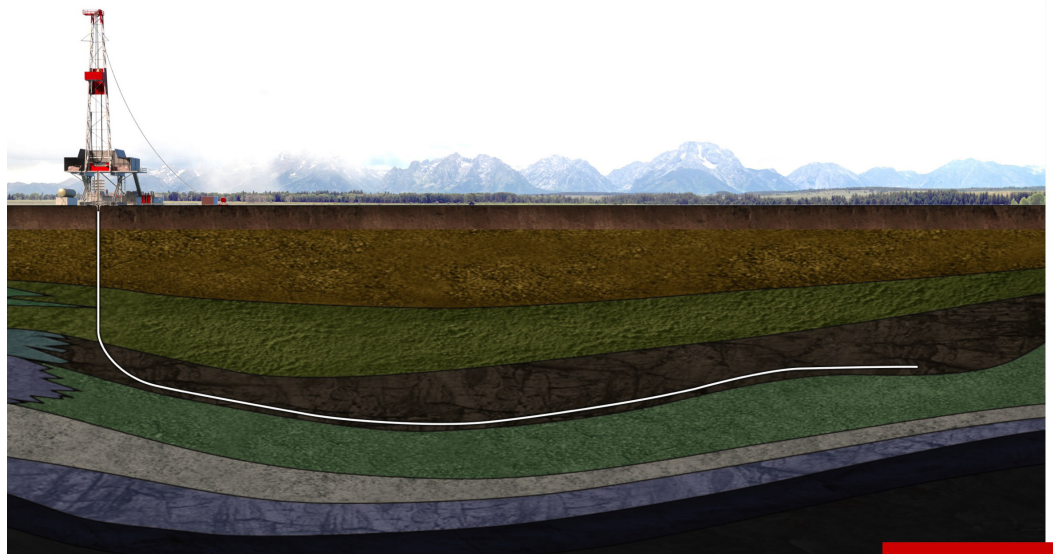


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### ENGINEERED DRILLING SOLUTION COMPRISES INTELLIGENT BHA DESIGN

Halliburton collaborated with the operator so that the iCruise bottomhole assembly (BHA) was properly configured to achieve the directional drilling objectives. The BHA included the ADR™ azimuthal deep resistivity service for interpreting formation dips, along with the iCruise intelligent RSS matched with a GeoTech® (GTi) drill bit designed via the Design at the Customer Interface (DatCI<sup>SM</sup>) process. Direction by Design® (DxD) software was used to add enhanced capabilities that gave the RSS an increased rate of penetration (ROP), along with more accurate steerability and better control.

This engineered drilling solution enabled the operator to drill 5,226 feet (1,593 meters) in 105.5 IADC hours, with an average rate of penetration (ROP) of 49.5 feet (15 meters) per hour – all while traversing the steep inclines encountered in this geological environment. The rugged design of the iCruise RSS allowed the section to be drilled in a one-bit run.



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*Using the iCruise® intelligent RSS solution enables a Mid-Continent operator to achieve accurate well placement by steering 100 percent in zone, and to maximize reservoir performance by drilling a long lateral – over 5,226 feet (1,593 meters) – in a one-bit run.*

### **iCRUISE INTELLIGENT RSS MAXIMIZES ASSET VALUE FOR MID-CONTINENT OPERATOR**

Sperry Drilling helped the operator drill to produce by remaining 100 percent in zone, while also reducing well time by drilling the long lateral section in one run, thereby helping the operator maximize the value of the asset. Due to the successful results of the iCruise intelligent RSS, the operator decided to also deploy the new system in other wells in the same area.

[www.halliburton.com/iCruise](http://www.halliburton.com/iCruise)

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