

ADR™ Azimuthal Deep Resistivity Service

DEEP-READING RESISTIVITY FOR WELL PLACEMENT AND RESERVOIR EVALUATION

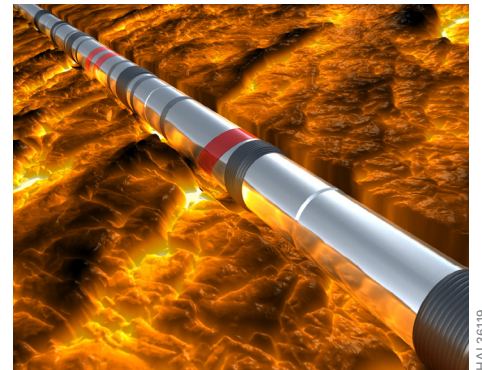
OVERVIEW

Development of mature or marginal fields requires that each well be placed as accurately as possible in the most productive zone in order to maximize the value of the asset. The ADR™ azimuthal deep resistivity service from Halliburton Sperry Drilling provides a solution for optimized wellbore placement, while maximizing production and extending field life. The ADR sensor combines a deep-reading geosteering sensor with a traditional multifrequency compensated resistivity sensor, delivering over 2,000 unique measurements for accurate wellbore placement and petrophysical analysis.

OPTIMIZE WELL PLACEMENT TO MAXIMIZE PRODUCTION

Deep-reading and directional measurements give early warning of approaching bed boundaries before the target zone is exited, allowing the well to be placed in the most productive part of the reservoir. Deep penetration into the surrounding rock gives early warning of changing lithology and geologic structure. As bed dip changes occur along the course of a long horizontal section, the well trajectory can be proactively corrected to run parallel with bed boundaries at a fixed distance. When crossing faults that are too small to be detected by seismic surveys, measurements from multiple depths of investigation can be used to delineate the different strata. This correlation can be continued across the fault. The ability to detect contrasting formations in resistivity measurements provides the confidence necessary to drill faster without the risk of exiting the pay zone.

The ADR service provides the most benefits when run in combination with the StrataSteer® geosteering software, which allows Halliburton geosteering specialists to use their knowledge of sensor physics, geology, and directional drilling to place wells accurately and help operators maximize asset value.



The ADR™ sensor is directionally sensitive so complex geology and approaching beds can be accurately mapped.

BENEFITS

Drill to Produce

- » Maintain desired distances from bed boundaries
- » Navigate reservoirs with dip angle and lateral thickness variations
- » Detect water zones and avoid contact

Enhance Reservoir Understanding

- » Obtain accurate formation resistivity for improved reservoir characterization

Reduce Well Time

- » Obtain deeper readings to improve reaction time, allowing for increased drilling speed with less risk of drillout

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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