

Operator Achieves 100% In-Zone Well Placement in Complex Structural Geology

ENGINEERING DRILLING SOLUTION ENHANCES RESERVOIR UNDERSTANDING TO PLACE WELLBORE ACCURATELY

ANADARKO BASIN, OKLAHOMA

Target zone formation thickness presents several challenges for optimizing well placement. An operator drilling in the Anadarko Basin was confronted with a 73-foot formation thickness and adverse changes of formation dip along the planned well path. The geological structure was expected to consist of a sharp "bowl" with possible faulting and framed by formation dips of 84° downward, then ramping up rapidly to 98° upward. Exiting the target zone into the bounding shale intervals would be costly risking stuck pipe, potential sidetracks, and loss of productive interval.

Through collaboration with the operator, the Halliburton Sperry Drilling team engineered a drilling solution combining with the iCruise[®] intelligent rotary steerable system (RSS), 3D seismic data, ADR[™] azimuthal deepreading resistivity sensor and StrataSteer[®] 3D[™] geosteering service. The operator's geoscientist team provided high-resolution seismic surface data, assisting the team with timely updates of bit position relative to the structural features in the formation. Combining the ADR service with the StrataSteer 3D visualization software helped determine dip trend changes close to the bit. The team monitored drilling performance to optimize the bottomhole assembly, allowing to precisley control steering the iCruise RSS. The collaboration resulted in a successful navigation of the reservoir within complex geology, drilling the section with 100% in target zone, helping the operator maximize maximize asset value.



Analogous to 3D seismic surface.



iCruise® intelligent RSS.



The ADR[™] sensor together with the StrataSteer® 3D[™] service provide a fully compensated, multiple-depth resistivity measurement, petrophysical evaluation and stratigraphic navigation solution in one package.

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