Enhance coring operations while avoiding sidetrack, despite seismic uncertainties
An operator drilling an appraisal well in a new block offshore Western Australia faced several challenges. The field had a complex stratigraphy because it was on an anticline and was composed of siltstones between discontinuous sand bodies.

The operator needed to confirm the presence and thickness of the reservoir in an unexplored part of the field, which was characterized by a lack of markers above the reservoir and several meters of seismic uncertainties. A conventional approach would have required the customer to confirm reservoir thickness by drilling a pilot hole and then performing a sidetrack for coring operations.

Use look-ahead service to map the reservoir ahead of the bit
The IriSphere service uses deep electromagnetic resistivity with a depth of investigation proportional to spacing of multiple receivers on the BHA. It is dependent on the formation resistivity environment to map features ahead of the bit, thus resolving seismic uncertainty while mitigating drilling risks.

This was crucial to help the operator improve coring operations by confirming the thickness and presence of the reservoir section.

Maximized reservoir exposure to improve accuracy in landing the well
A rotary BHA was fitted with proprietary imaging and logging-while-drilling technologies that incorporated the EcoScope* multifunction logging-while-drilling service and the sonicVISION* sonic-while-drilling service as well as the IriSphere service. It revealed the reservoir top at about 19-m [62.33-ft] TVD ahead of the bit, and the 25-m [82.02-ft] reservoir thickness was ascertained at 7-m [23-ft] TVD ahead of the bit. This enabled the operator to avoid drilling a pilot hole and reduced overall drilling risks.
The InSphere service detected the top of the reservoir at 19 m [62.33 ft] ahead of the bit. At 7 m [23 ft] ahead of the bit, the reservoir thickness was verified at 25 m [82 ft] TVD.