

Talos Energy Determines Cross-Fault Connectivity Using Real-Time Insights from Wireline Formation Testing Platform

Ora intelligent wireline formation testing platform enables real-time reservoir model updates, supports connected reserves, and informs on-the-spot completion decisions

Forty-three percent lighter and 35% shorter than conventional wireline formation testers, the new Ora* intelligent wireline formation testing (WFT) platform enabled successful acquisition and analysis of pure reservoir fluid in real time. Conveyed on wireline in a challenging well with up to 53° deviation, the Ora platform efficiently delivered insights that established reservoir connectivity, and enabled completion of the well without the need for a commingle permit.

Reservoir evaluation challenges

Talos Energy wanted to resolve uncertainty about the connectivity of reserves across the main productive reservoir and adjacent downthrown block. Only low-resolution seismic data was available for the downthrown block.

What Schlumberger recommended

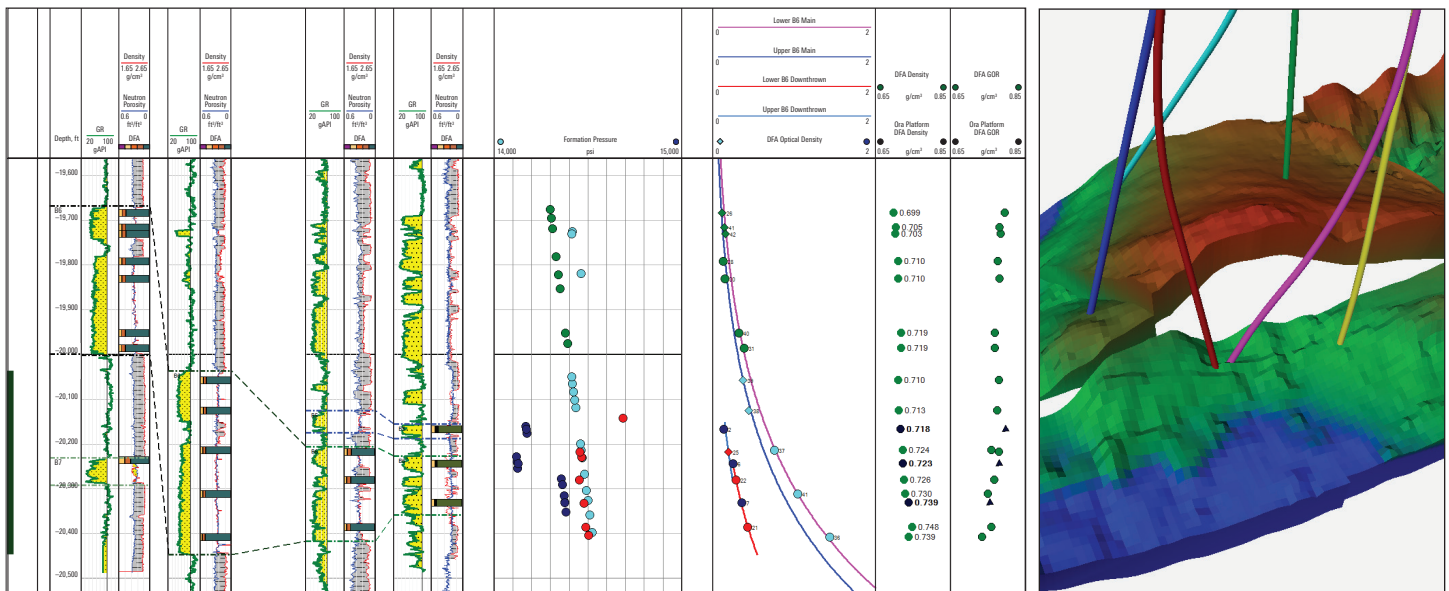
Using the available models, data, and Ora platform’s intelligent planning, Talos and Schlumberger collaboratively designed the optimal hardware configuration and acquisition strategy to efficiently convey the tools into the reservoir, determine the relevant fluid property gradients, and benchmark the results in real time.

The deployment leveraged the automated integrated components of the dual-flowline probe with its large flow area to expedite fluid extraction. Two dedicated flowline pumps finely controlled the drawdown to reduce sanding, while integrated low-contact-area standoffs and rollers mitigated the sticking risk.

What Talos Energy achieved

The Ora platform’s contextual insights dashboard visualized interpreted data to determine from the pressure depletion that the fault was not sealing. The fluid property gradients indicate a common hydrocarbon column between two wells in the downthrown block 800 m apart, for sufficient reserves to warrant developing this block. The real-time insight—that the appraisal well had penetrated a single reservoir, instead of potentially two reservoirs—meant that applying for a commingle permit was avoided and the completion design requirements were simplified.

All stations showed only negligible contamination levels with an average cleanup time of less than 2 hours per station. Subsequent laboratory analysis confirmed <1% contamination in the collected samples.



Whereas the asphaltene gradient could not be determined on the basis of the single data station that was possible with a conventional WFT tool in the discovery well, the Ora platform acquired extensive high-quality data that precisely delineates the shared gradient evident of connectivity. The horizontal bars on the logs display the the downhole fluid analysis (DFA): CO₂ is purple, C₁ is yellow, C₂ is orange, C₃₋₅ is tan, and C₆₊ is green.