

Operator Obtains Reliable Reservoir Measurements and Reduces Well Time, Saving USD 1 Million

GEOTAP® SENSOR 10K PSI DRAWDOWN CAPABILITY ACQUIRES ACCURATE AND PRECISE FORMATION PRESSURE DATA IN REAL TIME

AZERBAIJAN REPUBLIC

CHALLENGE

- » Acquire formation pressure measurements while drilling in depleted reservoir with high overbalance, and a differential pressure environment > 6,000 psi.
- » Prevent differential sticking of drillstring, hydro fractures, wellbore instability and other risks

SOLUTION

Engineered drilling solution to meet regional requirements:

- » GeoTap® formation pressure tester, with 10K PSI drawdown capability

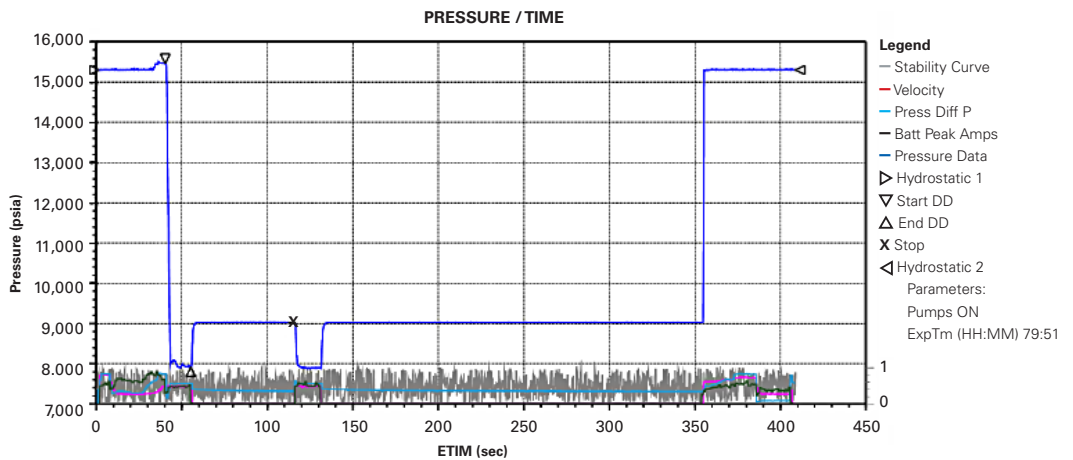
RESULT

- » Met operator expectations, delivering the requested pressure measurements, drawdowns, buildups and mobility calculations for the drilled wells
- » Reduce well time by eliminating the need for wireline operations, saving one-two days of rig time, worth approximately USD 1 million

OVERVIEW

A major operator was drilling in the challenging area of Baku, Azerbaijan, located on the Caspian Sea. To ensure well stability and control other risks, formation pressure measurements needed to be acquired from a reservoir characterized by low permeability and low mobility sand layers, with a total depth of 6-7km. Since the differential pressure/overbalance was very high (approximately 6,200-7,500 psi), the standard rated formation pressure testing systems (with maximum 6,000 psi drawdown) were not equipped to show enough drawdown, buildup and stabilization.

The Sperry Drilling team provided the GeoTap® formation pressure tester service 10K psi drawdown capability tool to meet demands of this specific job and the region in general. The improved GeoTap sensor technology made it possible to obtain real-time, direct pore pressure measurements with accuracy and precision comparable to that of wireline formation testers the GeoTap 10K PSI sensor technology, but with less risk and lower cost.



The 10K PSI drawdown capability GeoTap® sensor retrieved high-quality formation pressure samples with around 7,400-psi drawdown. The graph illustrates an equation of hydrostatic 15,298 psia – Pedd 7,919 psia = 7,379 psia.

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