Schlumberger

LIVE Digital Slickline Services Enable Gauge Pulling in Highly Deviated Well

Real-time surface readout avoids an additional run when pulling memory gauges

CHALLENGE

Determine if memory gauges are latched and successfully pull them from a depth of 2,617 m, where the wellbore deviation was 60°.

SOLUTION

Run LIVE* digital slickline services to convey the pulling tool, enabling surface readout of downhole data and providing additional valuable input to the operation compared with surface tension alone.

RESULTS

Determined that latching was successful though an increase in downhole head tension before pulling out of hole (POOH) and performing a gradient survey, which confirmed successful latching and pulling of the memory gauges after rigging down.

Confirm latching before pulling memory gauges

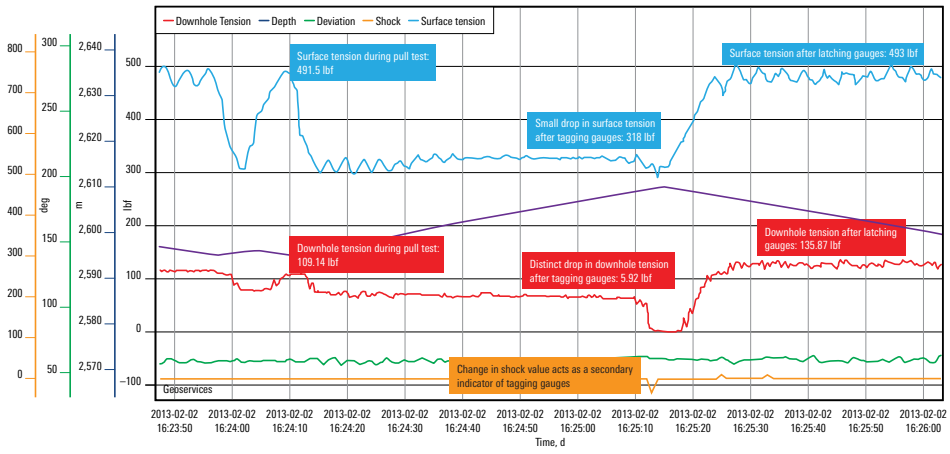
A slickline crew needed to pull memory gauges from a depth of 2,617 m, where the wellbore deviation was 60°. Using surface tension alone, it was not possible to determine if the gauges had been latched. Multiple attempts were made to determine if there was tension increase indicative of a latch. During repeated attempts to jar down and latch, the pulling tool pin was sheared, and the string had to POOH to be redressed and run again.

Run lightweight digital slickline cable

The crew chose to use Schlumberger LIVE digital slickline services. Compared with a standard slickline cable system, LIVE digital slickline services have an integral coating that allows two-way telemetry between a surface acquisition system and slickline-conveyed downhole devices. Cable tension, shock, well deviation, and tool movement are all measured by a downhole basic measurement cartridge and monitored in real time at surface. Accurate and precise depth correlation is available through gamma ray and casing collar locator measurements.

Save runs and prevent potential damage

After several attempts to latch the memory gauges, no weight gain was observed at surface. The operator did not want to POOH with the reverse gradient because of doubt that the gauges had been successfully latched. Data from the downhole tension sensor, however, indicated a 25-lbf gain; therefore, a reverse gradient was performed and, as the downhole tension sensor had indicated, the gauges had been successfully latched, allowing for recovery. This operation saved at least one run and prevented potential damage to the gauges from repeated jarring down in attempts to latch.



Data from LIVE services enabled a successful latch-and-pull operation.

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