Compact™ Through-Drillpipe Logging Tools

Save 38 Hours of Rig Time While Logging in Highly Deviated Well

Objectives

- Perform through-drillpipe logging (TDL) to obtain comprehensive formation evaluation data in an openhole well with a 76° inclination. Other wireline companies could not perform logging in these conditions without using tough-logging conditions (TLC) techniques.
- Obtain real-time data along the 12° dogleg where logging-while-drilling (LWD) methods cannot.

Our Approach

- To overcome the high inclination and obtain triple-combo and pressure data, the Weatherford wireline services team recommended using TDL methods to convey Compact TDL tools, which included the Compact gamma ray (MCG), dual-neutron (MDN), photodensity (MPD), array-induction (MAI), and formation pressure tester (MFT) tools.
- On the first run, the team deployed the Compact tools through the drillpipe. The TDL technique enabled the team to obtain real-time triple-combo logging data despite high dogleg severity and borehole washouts.
- When poor hole conditions led to tool sticking, the preinstalled side-entry sub enabled recovery of the tools and eliminated the need to cut the cable or conduct a separate, costly fishing operation.
- On the second run, the team obtained pressure point data.
- The logging team was able to log past all problem zones and record data from total depth to the casing point.

Value to Customer

- The Compact TDL tools enabled the team to acquire high-quality triple-combo and pressure data in two runs.
- The Compact tool suite and TDL methods provided an effective alternative to TLC and LWD techniques. The TDL operation saved the customer 38 hours of rig time valued at US $86,800 compared to using time-consuming TLC techniques. Because the tools quickly acquired high-quality data, drilling activity resumed ahead of schedule.

The Compact formation pressure tester (MFT) provided measurements to identify fluid contacts and determine permeability.

LOCATION
Middle East

WELL TYPE
Onshore, oil producer

DEVIATION
76°

DOG LEG SEVERITY
12°

BIT SIZE
8.5 in. (216 mm)

WELL DEPTH
8,470 ft (2,581 m)

PRODUCTS
- Compact gamma ray (MCG) tool
- Compact dual-neutron (MDN) tool
- Compact photodensity (MPD) tool
- Compact array induction (MAI) tool
- Compact formation pressure tester (MFT)

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