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.

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)

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