Compact™ Logging Tools Acquire Data in 3.83-in. Well With Unique Logging-While-Coring Approach

Objectives

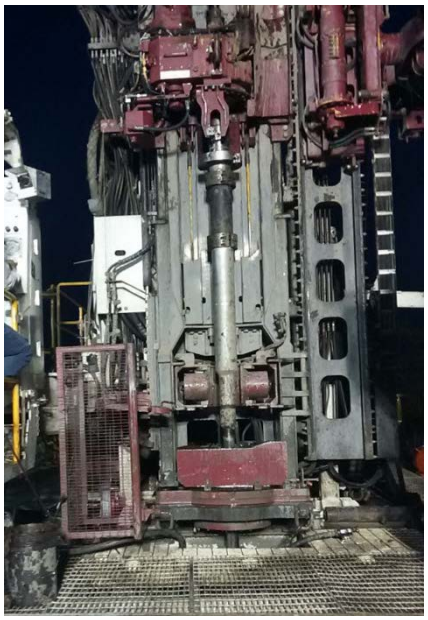
- Provide comprehensive lithological and stratigraphic information in the small-diameter hole.
- Minimize rig time by using the same bottomhole assembly (BHA) for logging-tool conveyance and core retrieval.

Our Approach

- Reaching total depth with wireline would have required extra wiper trips or different toolstring configurations because of the complex lithology in the field. Therefore, Weatherford and the client discussed alternative options to minimize rig time when performing logging operations in the slim hole, which had been drilled by a service rig using a coring drillstring. They decided to use Weatherford Compact memory logging (CML) tools conveyed by the Compact drop-off (CDO) system.
- Weatherford adapted the drop-off downhole landing assembly to fit within the client's coring BHA. This custom BHA enabled the client to combine the on-pipe logging run with the core retrieval run.
- Then Weatherford paired the custom BHA with the Compact drop-off impulse tool. This equipment enabled mud-pressure activated communication from the surface with the logging string, and it allowed for greater control over the logging string and within the BHA.
- In addition to modifying the downhole assembly, Weatherford engineered an adaptor to overcome constraints imposed by the coring rig and to acquire depth measurements. The adaptor fit the depth encoder to the top drive and recorded the essential depth data for later use with the recorded memory time log.
- The well was logged in two 700-ft (213-m) runs in only 25 hours without tripping out the coring string.

Value to Client

- Compact services and technologies enabled the operator to log and core one of the smallest holes in the region and to obtain 100% of the lithological and stratigraphic information needed.
- Combining the logging BHA with the core retrieval BHA saved the client an entire trip in and out of the well, which would have required more than half a day of rig time valued at tens of thousands of dollars.
- By adapting proven oilfield services and formation evaluation expertise, Weatherford provided critical, previously unavailable information to the client.



Weatherford helped an operator to acquire critical data using Compact technologies for slim boreholes on a service rig.

LOCATION
Bosconia, Colombia

WELL TYPE
Stratigraphic

FORMATION
Consolidated and nonconsolidated (mixed)

HOLE SIZE AND ANGLE
3.83 in., 10°

CASING SIZE AND TYPE
4.5-in. temporary coring rod

TEMPERATURE
130°F (54°C)

DEPTH
- Total: 4,380 ft (1,335 m)
- Casing: 3,680 ft (1,122 m) with 700 ft (213 m) of open hole

PRODUCTS/SERVICES
- Compact drop-off system (CDO)
- Compact memory logging (CML)
- Compact spectral gamma ray (CSG) tool
- Compact dual neutron (MDN) tool
- Compact photoelectric density (MPD) tool
- Compact microresistivity tool
- Compact dual laterolog (MDL) tool
- Compact microimager (CMI)
- Compact cross-dipole sonic (CXD) tool

Weatherford®

