Plug Locator System
Saves $2.5 Million in Potential Remedial Cementing Work

Objectives

- Cement 14-in. intermediate casing in a 16 1/2-in. hole to a 19,632-ft (5,984-m) depth in an exploratory well.
- Pump and displace the cement slurry into the annulus and shoe track space and reduce the amount of cement left inside the casing.

Our Approach

- Because the client had been uncertain about volumes of cement to displace in similar wells, Weatherford recommended a plug locator system for accurate displacement of cement in the long string.
- Weatherford installed a plug locator system in the casing string 10 joints, or approximately 404 ft (123 m), above the float collar.
- A pressure indication of 200 psi (1.4 MPa) at the surface enabled the client to calculate the exact volume of cement to displace.
- The top plug bumped the float collar, which provided immediate verification that cement was placed in the annulus and shoe track instead of inside the casing.
- The locator collar and plugs were drilled out quickly without any issues.

Value to Client

- The plug locator system enabled the client to identify the status of cement displacement throughout the operation, place cement in the proper annular areas for isolation, and avoid excessive drillout times caused by improper cement placement.
- The system saved the client approximately US $2.5 million in costs for remediating a poor-quality cement job with a wet shoe track.

Run for the first time in Angola, the Weatherford plug locator system eliminated errors in cement displacement.

LOCATION
Angola

WELL TYPE
Offshore, deepwater

WELL DEPTH AND ANGLE
19,652-ft (5,990-m) MD, 24°

WATER DEPTH
6,447 ft (1,965 m)

HOLE SIZE
16-1/2 in.

CASING SIZE AND TYPE
14-in., 116-lb/ft T95 TSH 523

CASING LENGTH
13,182 ft (4,018 m)

CASING PRESSURE TEST AGAINST PLUG
3,700 psi (25 MPa)

PRODUCTS/SERVICES
- Autofill float equipment
- Subsurface-release plug with locator ring
- Locator collar

Weatherford®