Revolution[®] **RSS, ShockWave**[®] **tool** Drill Section in Single-Bit Run, Put Job 10 Days Ahead of Plan in First Deepwater Offshore Use in Brazil

Objectives

- Overcome multiple target-location changes with viable S-type directional well in the technically challenging pre-salt of the Campos Basin.
- Reduce overall costs in the 17 1/2-in. section by eliminating multiple-bit runs.
- Use a sonic tool to depth-match the formation tops from seismic data.

Results

 Weatherford deployed a directional well plan using the Revolution rotary-steerable system (RSS)

combined with the ShockWave sonic tool to deviate the well by kicking off at 12,575 ft (3,833 m) true vertical depth (TVD) and dropping the well back to vertical by 15,259 ft (4,651 m) TVD.

- Weatherford used a rotary bottomhole assembly (BHA) for the 17 1/2-in. section based on vibration modeling analysis versus actual vibration from offset wells.
- The section was drilled in a single-bit run, with minimal lateral vibration detected by the TVM[™] true vibration monitor, and no logging-while-drilling (LWD) failures occurred as a result.
- The real-time sonic data from the ShockWave tool helped complete the formation evaluation program and validate seismic results.

Value to Client

 Using Weatherford's Revolution and Shockwave tools enabled the operator to drill the section 10 days ahead of schedule by reducing overall runs and improving overall rate of penetration (ROP).



LOCATION

Brazil - Campos Basin

WELL TYPE

S-type and vertical sections, offshore, oil

TOOL SIZES

- 9-1/2 in.
- 8-1/4 in.

HOLE SIZE

- 36 x 26 in.
- 17-1/2 in.
- 12-1/4 in.
- 8-1/2 in.

TOTAL RUNS 9

JOB DURATION 85.6 days

DOGLEG SEVERITY

2.5°/100 ft (30 m)

MAXIMUM INCLINATION 33.71°

PRODUCTS/SERVICES

- Revolution RSS
- ShockWave sonic tool
- MFR[™] multi-frequency resistivity sensor
- TVM tool
- HEL[™] hostile-environmentlogging system
- Directional drilling services
- Visean[™] information service



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