

RipTide® Drilling Reamer Enlarges Wellbore by 25% To Facilitate Completing a Previously Abandoned Well



Deployed from a drillship, the RipTide drilling reamer mitigated caving problems while drilling.

LOCATION
Angola

WELL TYPE
Offshore

FORMATION
Sand

HOLE SIZE AND ANGLE
6 × 7-1/2 in., 75°

TEMPERATURE
194°F (90°C)

DEPTH
12,251 to 13,032 ft (3,734 to 3,972 m)

PRODUCTS/SERVICES
RipTide drilling reamer

Objectives

- Create a completion-ready wellbore for a premium gravel-pack system in an offshore well that was previously plugged and abandoned because of hole problems, including caving.
- Enlarge the borehole from 6 to 7-1/2 in. while maintaining an adequate rate of penetration (ROP), minimizing vibration, and sustaining flow rates for hole cleaning.

Our Approach

- A Weatherford borehole enlargement team conducted a thorough pre-job analysis and recommended using the RipTide drilling reamer. The team then performed a hydraulics analysis to optimize hole cleaning in a well with an equivalent circulating density of 10.0 lb/gal (1.2 kg/m³). They also performed a torque and drag analysis to reduce bottomhole-assembly vibration.
- The Weatherford team deployed the RipTide drilling reamer to enlarge the open hole from a depth of 12,251 to 13,032 ft (3,734 to 3,972 m).
- The onsite team provided 24-hour drilling operation support, including on-the-fly hydraulic calculations; RipTide activation; drilling monitoring and analysis; and close collaboration with the rig personnel, directional drillers, and customer representatives.
- The team maintained an average ROP of 39 ft/hr (12 m/hr), sustained a daily average flow rate of 282 gal/min (1,067 L/min), and enlarged 781 ft (238 m) of the wellbore by 1-1/2 in. in 29 hours without caving or lost-time events.

Value to Customer

- The RipTide drilling reamer enlarged the open hole from 6 to 7-1/2 in. to deliver a high-quality wellbore for the smooth installation of a lower completion that included a premium gravel-pack system.

