

RipTide® Rathole Killer® Drilling Reamer Eliminates Cleanout Trip To Save 2 Days of Rig Time



As part of a dual-reamer bottomhole assembly, the RipTide Rathole Killer drilling reamer helped to simultaneously drill and enlarge a 3,641-ft (1,110-m) section, eliminate a rathole, and clean the wellbore—all in a single trip—at the wellsite shown above.

Objectives

- Drill an 8 1/2-in., 3,641-ft (1,110-m) section to total depth (TD) while underreaming the hole to 9-1/2 in.
- Drill directionally and reduce the hole angle from 61.5 to 56.75° to reach the target zone.
- Eliminate the rathole on the same trip by using the same bottomhole assembly (BHA).

Our Approach

- After thoroughly analyzing the BHA, Weatherford determined that the RipTide drilling reamers could be integrated into the proposed BHA design without compromising measurement- and logging-while-drilling (MWD/LWD) capabilities and surface communication.
- Weatherford ran the dual-reamer BHA downhole with the RipTide drilling reamer (the primary reamer) placed 242 ft (73.7 m) above the bit and a RipTide Rathole Killer drilling reamer (the secondary reamer) placed 27 ft (8.27 m) above the bit.
- A radio-frequency-identification (RFID) tag was dropped downhole to enable immediate activation of the primary drilling reamer after drilling out the 9 5/8-in. casing shoe. The bit drilled an 8 1/2-in. hole while the primary drilling reamer enlarged the hole to 9-1/2 in., beginning at a depth of 10,988 ft (3,349 m) and ending at 14,393 ft (4,387 m). Then an RFID tag was used to deactivate the primary drilling reamer and lock the cutters in a closed position.

CLIENT

Major international oil company (IOC)

LOCATION

Sakhalin Island, Russia

WELL TYPE

Offshore, development

FORMATION

Sand, shale

HOLE SIZE AND ANGLE

8-1/2 to 9-1/2 in., 56.75 to 61.5°

TEMPERATURE

~150°F (~65°C)

DEPTH IN

10,988 ft (3,349 m)

DEPTH OUT (TOTAL WELL DEPTH)

14,629 ft (4,459 m)

PRODUCTS/SERVICES

- RipTide drilling reamer
- RipTide Rathole Killer drilling reamer



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Our Approach

- The client picked up to reposition the secondary reamer above the 242-ft (73.7-m) rathole. An RFID tag was used to activate the secondary reamer, which enlarged the existing pilot hole to 9-1/2 in. from 14,393 ft (4,387 m) to the TD of 14,629 ft (4,459 m). Once the secondary reamer eliminated the rathole, an RFID tag was used to deactivate the secondary reamer. Using a conventional BHA would have left behind the rathole and required a second trip to eliminate it.
- Because both RipTide reamers closed at the planned depths, the client was able to clean the wellbore efficiently while backreaming out of the hole, without creating additional cuttings or inducing additional vibrations.
- Using RFID technology enabled the dual-reamer BHA to drill and ream the hole section to TD, to eliminate the rathole, and to clean the wellbore in a single trip—with no dedicated cleanout trip—which saved significant rig time and costs.
- The dual-reamer BHA met all directional drilling objectives and landed in the target zone.

Value to Client

- On-demand activation of the RipTide RFID drilling reamers enabled the client to save 2 days of rig time by eliminating the need to pull out of the hole and make a dedicated cleanout trip.
- Avoiding an extra trip in and out of the hole also enhanced safety and reduced risks to personnel and the environment.
- The RFID-activated RipTide drilling reamer was integrated into the directional drilling assembly without compromising directional drilling and logging performance.



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