

FrontLine™ Motor with HyperPulse™ MWD System Sidetracks J-Type Well, Saves 2 Days of Rig Time

Objectives

- Sidetrack a well at 9,439 ft (2,877 m), above the top of a fish (stuck casing) at 9,613 ft (2,930 m). The poor hole profile previously drilled by another service company caused the casing to stick.
- Drill a vertical section of 6,855 ft (2,089.5 m) with a true vertical depth (TVD) of 9,665 ft (2,946.1 m) to the top of the pay zone at 12,041 ft (3,670 m).
- Drill an 8.5-in. hole section with a horizontal drift of 7,024 ft (2,141 m) and a TVD of 9,885 ft (3,013 m) to a total depth (TD) of 12,319 ft (3,755 m).

Our Approach

- The Weatherford crew began drilling through the top of the cement at 9,108 ft (2,776 m). Upon reaching 9,216 ft (2,809 m), they observed that the cement was soft. They waited for the cement to harden and then resumed drilling from 9,216 to 9,439 ft (2,809 to 2,877 m). Although the cement did not seem hard enough for a successful sidetrack, the client insisted on running a Weatherford directional bottomhole assembly (BHA) to continue the operation.
- Weatherford designed a BHA—comprised of the FrontLine drilling motor and the HyperPulse measurement-while-drilling (MWD) system—to avoid the sticking situations that the client had encountered previously.
- The crew deployed the BHA and drilled the sidetrack window from 9,439 to 9,521 ft (2,877 to 2,902 m) in 18 hr.
- The crew then drilled the sidetrack from 9,521 to 12,320 ft (2,902 to 3,755 m) with a 38° inclination and a 294.5° azimuth. The motor achieved an average rate of penetration (ROP) of 23 ft/hr (7 m/hr), and drilling was completed with zero nonproductive time (NPT).
- Surveys to avoid sticking situations lasted only 45 sec at each designated station.
- The HyperPulse system provided gamma ray and tool face measurements while drilling more than 95% of the section.

Value to Client

- Using the FrontLine drilling motor and the HyperPulse MWD system saved the client more than 2 days of drilling time compared to the time required to drill the mother well to the same depths.
- Drilling with the Weatherford BHA resulted in a clean wellbore profile that enabled the client to lower the 7-in. casing on the first attempt without any problems. In the original well, the client had been unable to lower even the 5.5-in. casing in the 8.5-in. section.



Most drilling applications—including vertical, horizontal, and directional wells—can use the robust and reliable FrontLine drilling motor.

LOCATION

Ankaleshwar, India

WELL TYPE

Onshore, sidetrack, J-profile

FORMATION

Shale, sand, and claystone

CASING SIZE

7 in.

HOLE SIZE AND ANGLE

8.5 in., 38° inclination, 294.5° azimuth

TEMPERATURE

212°F (100°C)

DEPTH

- Sidetrack window: 9,439 to 9,613 ft (2,877 m to 2,930 m)
- Sidetrack: 9,521 ft (2,902 m)
- Top of fish: 9,613 ft (2,930 m)
- Total: 12,320 ft (3,755 m)

PRODUCTS/SERVICES

- FrontLine drilling motor
- HyperPulse MWD system

