

MPD Control System Helps Operator To Free Stuck Pipe in Less Than 6 Hours, Save Significant Rig Time, and Complete Five-Well Campaign



With manifolds for advanced flow detection (left) and control (right), the MPD control system helped to mitigate differential sticking and reduce nonproductive time.

Objectives

- Enable managed pressure drilling (MPD) to mitigate hazards in a campaign including five high-pressure, high-temperature (HPHT) wells.
- When drilling the 8 1/2-in. hole section, achieve the primary goals of maintaining constant bottomhole pressure (CBHP), mitigating the hazards of drilling through a narrow margin, and identifying the wellbore breathing experienced on offset wells.

Our Approach

- Weatherford deployed the MPD control system to enable MPD in the challenging offshore sand formation.
- When drilling the fourth well, the drillstring became stuck. Jars in the bottomhole assembly (BHA) did not provide an effective solution to free the string.
- The operator used the MPD system to free the drillstring. The system enabled managing pressures while displacing the well to a lighter drilling fluid. It also enabled reducing the bottomhole pressure in 50-psi (345-kPa) increments from the 1,034-psi (7,129-kPa) overbalanced condition.
- When the MPD control system reached the desired surface backpressure, the drillstring was free and operations resumed.

Value to Customer

- The MPD control system enabled the operator to free the stuck pipe in 5-1/2 hours. By freeing the pipe, the operator avoided various undesirable scenarios, including conventional operations that could have lasted months, risky and time-consuming operations to sever the pipe and retrieve it, and even sidetracking operations after unsuccessful attempts to retrieve the BHA.

LOCATION

North Sea

WELL TYPE

Offshore, oil and gas, deviated, HPHT

RIG TYPE

Jackup

FORMATION AND DEPTH

- Gertrud sands @ 15,955 ft (4,863 m)
- Gert sands @ 20,669 ft (6,300 m)

HOLE SIZE AND ANGLE

8-1/2 in., 54°

PRESSURES

15,000 psi (103.4 MPa)

TEMPERATURES

350°F (177°C)

PRODUCTS/SERVICES

- Managed pressure drilling
- MPD control system
- Model 7875 docking-station rotating control device
- GC-TRACER® surface gas detector

