

# Victus™ Intelligent MPD Solution Delivers Advanced Pressure Management to Reach Deep Targets Not Accessible By Conventional Drilling

## Objectives

- Maintain sufficient pressures below the fracture gradient to enable drilling to total depth (TD).
- Detect and control fluid influxes and losses while coring through the target interval.
- Reduce non-productive time (NPT) associated with circulating kicks and adjusting mud weights.

## Our Approach

- Weatherford drilling experts met with the customer to review plans for drilling and coring within a narrow pressure window. Fluid losses had prevented the operator from reaching deep targets at TD in offset wells. The Weatherford team worked closely with the operator to assess drilling hazards that were common to this field. To mitigate potential problems, the team recommended managed pressure drilling (MPD).
- The Weatherford MPD team developed customized procedures in response to anticipated drilling problems—such as mud loss, stuck pipe, and wellbore stability issues—and applied this training to the rig crew. At the rig, an MPD crew installed a Victus intelligent MPD solution, including a rotating control device, choke and flow-detection manifolds.
- While drilling, the Victus MPD solution provided fast, precise pressure control in response to changing downhole pressures, and automatically determined the required amount of backpressure to maintain constant bottomhole pressure (CBHP).
- Following each dynamic formation integrity test (DFIT) and dynamic pore pressure test (DPPT), the MPD crew updated parameters to determine optimal mud weight and minimize the risk of lost circulation.
- The MPD choke delivered sufficient surface backpressure (SBP) to prevent formation influx during coring operations, when low pump rates were required to avoid core damage and washouts.
- Using MPD techniques to prevent losses, the crew safely drilled and cored to TD, reaching deep targets not previously attained by conventional methods.

## Value to Customer

- MPD procedures helped the operator to safely drill to TD and reach deeper, unexplored formations with potential to expand productive horizons within the field.
- The operator was able to recover 90% of the core, obtaining reservoir samples to guide future exploration and production strategies in the field.
- By maintaining CBHP and managing fluid influxes and losses, the operator was able to drill the interval using a single mud weight, which helped to reduce drilling fluid expense and save rig time by avoiding displacements to accommodate changing downhole pressure regimes.
- Rig crew familiarity with MPD procedures and responses was enhanced by thorough training conducted before commencing MPD operations.



Managed pressure drilling equipment occupied only a small footprint on the platform.

### LOCATION

Offshore Azerbaijan, Caspian Sea

### WELL TYPE

Exploration

### HOLE SIZE

- 8-1/2 in. hole to 20,801 ft (6,340 m)
- 6 in. hole to 21,991 ft (6,703 m)

### DEVIATION

0°

### TEMPERATURE

239°F (115°C)

### MAXIMUM PRESSURE

15,000 psi (103.4 MPa)

### TOTAL DEPTH

21,991 ft (6,703 m)

### PRODUCTS/SERVICES

- Victus intelligent MPD solution
- Rotating control device
- Engineering support

