

Victus™ Managed Pressure Drilling, Revolution® Rotary Steerable System, and Vero® Automated Connection Integrity Save \$1.5 Million in Rig Time

Objectives

- Safely drill the production interval, then run and cement casing to the planned depth in four high-pressure, high-temperature (HPHT) wells within the timeframe allotted by the authorization for expenditure (AFE).
- Select and apply appropriate technologies to overcome geomechanical instability challenges while drilling the Quintuco formation and prevent vertical stress problems while drilling the horizontal section through the Vaca Muerta formation.
- Reduce mud density while maintaining well control through unstable intervals.

Our Approach

- To meet the operator's timeframe for drilling and running casing in each well, Weatherford drilling experts conducted a thorough pre-job analysis. The team proposed a combined approach using the Victus intelligent managed pressure drilling (MPD) system, Revolution rotary steerable system (RSS), and Vero automated connection integrity solution.
- At the wellsite, the team rigged up and began drilling. The Victus intelligent MPD system provided precise annular pressure profile control along with early detection and control of fluid influxes or losses.
- The Revolution RSS helped mitigate drilling vibration challenges common to the Quintuco formation. In addition, it enabled the operator to drill the curve at 6.5°/100 ft (30 m) as planned for the Vaca Muerta formation.
- Using the latest Vero automated connection integrity technology, the experienced Weatherford field crew reduced rig-up and rig-down times and ran 5 1/2-in. casing in a rapid, safe manner.
- Together, these solutions safely and quickly mitigated influxes and losses, and they improved the rate of penetration (ROP) through the horizontal section of each HPHT well. This enabled the operator to drill and case each well without incident.

Value to Customer

- The Weatherford team helped the operator to safely drill through challenging intervals in record time without NPT caused by formation instability, influxes, or mud losses. This saved the operator more than 6 days of drilling time, which translated into a savings of nearly \$1.5 million.
- The combination of Weatherford MPD and RSS solutions enabled the operator to avoid formation instability challenges when drilling four wells. While running casing, the Vero automated connection integrity helped to achieve an average reduction of 17% in operational time, 29% in rig-up time, 25% in rig-down time, and 50% in personnel compared to conventional casing-running jobs.
- The Victus MPD system enabled the operator to lower mud costs by reducing mud density while maintaining well control through challenging intervals.



Weatherford Victus Intelligent MPD (above), Vero automated connection integrity, and Revolution RSS provided safe and reliable drilling of four HPHT wells through challenging formations.

LOCATION

Neuquén Basin, Argentina

WELL TYPE

HPHT unconventional oil producer

NUMBER OF WELLS

4

FORMATIONS

Vaca Muerta and Quintuco

HOLE SIZE AND ANGLE

8-1/2 in., 93°

CASING SIZE

5-1/2 in.

TEMPERATURE

309°F (154°C)

ESTIMATED PORE PRESSURE

14.5 lb/gal

PRODUCTS/SERVICES

- Victus Intelligent MPD
- Vero automated connection integrity
- Revolution rotary steerable system

