MPD Technology Drilled 2 Million Feet Safely

in HPHT Haynesville Unconventional Shale Play, Reached All Planned Targets in Long-Reach Wells

Objectives

- Drill longer sections through the high-pressure/high-temperature (HPHT) unconventional Haynesville/Bossier shale
- Avoid using heavy muds to compensate for pressure uncertainties
- Provide a practical, low maintenance, tailored, and cost-effective managed pressure drilling (MPD) system for this gas production field

Our Approach

- To reduce pressure uncertainties, operators in the region often resorted to using high mud weights while suffering the detrimental effects of high-density fluids on the rates of penetration and masking possible downhole kicks.
- Weatherford MPD experts carried out initial engineering evaluations of the operators' well data and determined the projects were feasible using MPD techniques, specifically the PressurePro® set-point choke.
- The PressurePro choke manages pressures within the circulating fluids system to enhance drilling safety, reduce risk of reservoir damage, and eliminate discharge to the environment.
- The Weatherford MPD team adapted the electric set point MPD chokes to minimize deployment costs while delivering a high level of reliability and low maintenance.

Value to Customer

- The MPD choke manipulation easily compensated the effect of high temperature on the drilling fluid density, avoiding influxes during dynamic and static conditions.
- The operators were able to trip faster in and out of the hole while holding constant high pressure in the wellbores, as well as fast and effectively placing and displacing balance pills with the drillstring or casing.
- The cost-effective MPD technology improved safety and drilling efficiency, operated directly by the rig crews.
- During the last 4 years, operators were able to drill 2 million feet (609,600 m) in this strategic field without any incidents, providing 100% reliability by reaching all planned targets.

With the PressurePro system, the choke operator inputs the set point, and the choke automatically adjusts its position based on pressure or pump rate variations. Compared to manual or hydraulic systems that reactively apply surface backpressure, the choke provides more accurate and precise pressure control–within ±5 psi (±0.03 MPa) of the pressure point set, and at a ±0.1% fail-safe rate.

LOCATION
Haynesville (East Texas/West Louisiana)

WELL TYPE
HPHT long-reach

FORMATION
Haynesville/Bossier Shale

PRESSURE
9,000+ psi (62.0 MPa)

TEMPERATURE
375°F (190 °C)

HOLE SIZE
6 to 6-3/4 in.

PRODUCTS/SERVICES
- Managed pressure drilling services
- Flow drilling services
- PressurePro set-point choke
- 24/7 remote engineering support

Weatherford®