OVERVIEW

Conventional wells traditionally have vertical and deviated profiles, but more recently, horizontal wells are becoming the norm. A large number of conventional horizontal boreholes are drilled as infill development wells, often in older fields that have experienced reservoir depletion and are therefore more prone to mud losses. This type of operation requires an understanding of present-day pore pressure, fracture gradient, and wellbore stability mechanisms - as well as the resulting safe-drilling margin.

CHALLENGES

MITIGATE

LOST CIRCULATION AND KICKS

Managing the relationship between hydraulics and borehole geology

AVOID

STUCK PIPE

Reducing risk of stuck pipe and lost downhole tools

MAINTAIN

DRILLSTRING INTEGRITY

Monitoring vibration, torque, and drag values to ensure they stay within safe operational limits

DRILL WITHIN

TIGHT MARGINS

Determining and navigating the safe operating window

MAXIMIZE

RATE OF PENETRATION

Achieving maximum ROP without compromising wellbore integrity

DRILLING INTEGRATED APPROACH

After recognizing the challenges and risks of conventional drilling, the critical task is how to avoid, manage, and/or mitigate them. The Drilling Advisor solution - which combines drilling optimization, wellbore stability, and drilling hazard management - offers a proven methodology that is effective in all types of fields.
The Drilling Advisor solution is a collaborative effort with our clients that results in an in-depth knowledge of the drilling risks and solutions associated with a given well or field.

**PRE-DRILL PLAN**
Due to the typically close placement of infill wells, directional and anti-collision analyses as well as effective well mapping are critical. Historical well-data analysis is equally important to identify drilling hazards and to build geomechanics and drilling-optimization models. These analyses enable us to create an enhanced drilling plan. Drilling within the appropriate margins is critical to avoid kicks, losses, and hole problems when drilling infill wells.

**DRILLING OPERATIONS**
Effective execution of the drilling program requires good drilling practices combined with industry-leading technologies - from imaging services to directional-drilling equipment to managed pressure drilling systems - to provide valuable downhole feedback and deliver a cost effective well. Situational awareness through real-time monitoring and evaluation enables our team to identify deviations between models and actual drilling data. This comparison provides early warnings of possible drilling hazards before they happen, and enables us to make appropriate adjustments as necessary to minimize non-productive time.

**POST-DRILL KNOWLEDGE MANAGEMENT**
Knowledge management is critical in all well types. This process captures the lessons learned in an end-of-well report that outlines key performance indicators (KPI), details opportunities for improvement, and makes recommendations for future projects.

**TECHNOLOGIES**
Technology is at the heart of our approach to meeting clients' needs.
We constantly update and refine our technologies to solve new challenges encountered in the field.

**REVOLUTION® ROTARY-STEERABLE SYSTEM (RSS)**
The Revolution RSS suite includes directional-drilling tools with industry-leading dogleg and high-pressure, high-temperature capabilities. With the ability to execute deep kickoffs and high-angle builds, the Revolution RSS delivers maximum reservoir exposure in less time.

**DIRECTIONAL-DRILLING MOTORS**
Our mud motors incorporate WorkWise® power sections, which are rated for high pressures and temperatures. With a proprietary elastomer and a track record of more than 1 million operating hours, these motors help our clients reliably maximize ROP in challenging wells.
JAMPRO™ NET TORQUE-TURN MONITORING SYSTEM

The JAMPro Net system enables remote, real-time monitoring of torque, turns, and speed data during tubular makeup. When combined with TorkPro 3™ software, the same data can be recorded, analyzed, and evaluated from anywhere.


REVEAL 360™ IMAGE-PROCESSING TECHNOLOGY

Our patented processing technique reconstructs gaps in wireline logging images, replacing missing data with values consistent with the structural and textural information in the measured parts of the image. Even in varied and complex geologies, the technology provides a complete picture of the wellbore.


MEASUREMENT-WHILE-DRILLING (MWD) SYSTEMS

As deviated and horizontal drilling has become the norm, so has the industry’s need for cost-effective, reliable MWD systems that can deliver accurate directional azimuth, inclination, and toolface data in all types of drilling environments.


CASE STUDIES

The combination of our industry-leading technologies and our disciplined approach has produced measurable value for our clients.

REVOLUTION® CORE RSS CUTS DRILLING TIME BY 4 DAYS

http://www.weatherford.com/doc/wft301113

JAMPRO™ NET AND TORKPRO 3™ EVALUATE CONNECTION INTEGRITY

http://www.weatherford.com/doc/wft285883

MPD SAVES CLIENT $1.4 MILLION

http://www.weatherford.com/doc/wft303059