

MAGNETIC RANGING SOLUTIONS | ACCESS-INDEPENDENT RANGING

RangeStar™ Parallel Well Alignment Service

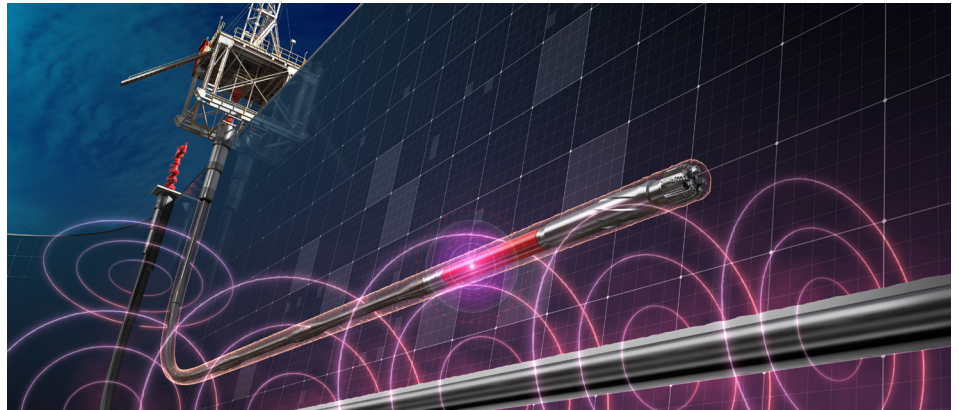
Accurate well placement in SAGD applications without downhole intervention

BENEFITS

- Reduce logistical challenges by eliminating the need for downhole access to wellbores
 - » Remove need to run guide strings for conveyance
 - » Reduce wireline costs by removing the need to convey a magnetic source downhole
 - » Eliminate equipment and personnel from surface operations to reduce HSE risks and surface infrastructure costs
- Maximize reservoir recovery through accurate well placement

FEATURES

- Connection to the target wellhead via the surface instead of downhole (limited access)
- No wireline conveyance (removes tractor or e-coil)
- Parallel ranging with real-time survey accuracy qualifiers
- Readings integrated into the drilling bottomhole assembly (BHA)



Drilling BHA with RangeStar™ Parallel Well Alignment Service sensors can determine a distance and a direction to the target wellbore.

Overview

Operators producing heavy crude oil and bitumen require in-situ thermal recovery techniques, such as steam-assisted gravity drainage (SAGD), to recover hydrocarbons. The RangeStar™ Parallel Well Alignment Service from Halliburton is designed for SAGD applications where parallel stacked horizontal wells need to be drilled into the reservoir just a few meters apart with high accuracy. The service uses surface excitation to determine a ranging distance and direction relative to the drilling wellbore.

Overcomes drilling challenges

The RangeStar Parallel Well Alignment Service helps operators overcome challenges, including high infrastructure and operational costs, large pad design, wide slot spacing, uncertain well placement, conveyance challenges, and removal of wireline conveyed tools with temperature limitations.

Surface access simplifies ranging

The RangeStar Parallel Well Alignment Service, an industry first, connects to the target wellbore via the wellhead. Surface access enables operators to eliminate the need for wireline ranging conveyance. Streamlining the ranging process helps reduce rig time, operation costs, and health, safety, and environmental (HSE) risks.

Optimize pad layout

The RangeStar™ Parallel Well Alignment Service reduces the surface footprint at the well site by eliminating the need for wireline conveyance. This change also eliminates the spacing required for equipment access, helping to reduce health, safety, and environmental (HSE) risks. Operators can install more wells on a pad by optimizing the layout, maximizing asset value through increased production and lower costs per barrel of oil equivalent (BOE) in SAGD field development.

Technical specifications

SAMPLE	6.75-INCH	8.00-INCH
Collar length	6 ft (1.83 m)	6.14 ft (1.87 m)
Connection	4-1/2 in. box	6-5/8 in. REG API
Max operating temperature	176°F (80°C)	
Max pressure	20,000 psi (137 MPa)	
Make-up torque	30,000-33,000 ft-lbs (13 345-14 679 daNm)	53,000-58,000 ft-lbs (23 576-25 800 daNm)
Max weight on bit (WOB)	45,000 lbf (20 017 daN)	60,000 lbf (26 689 daN)
Max RPM	180	180
Max dogleg severity (sliding)	21°/100 ft	14°/100 ft
Max dogleg severity (rotating)	10°/100 ft	8°/100 ft
Max vibration/shock	20 g	20 g
Max Mass flow rate	10,000 lbm/min	20,000 lbm/min
Max collar outside diameter (OD)	7.19 in. (2.8 cm)	9.625 in. (3.79 cm)
Tool inside diameter (ID), minimum bore	1.92 in. (49 mm)	2.375 in. (60 mm)
Distance accuracy	5%	5%
Direction accuracy	3°	3°

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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