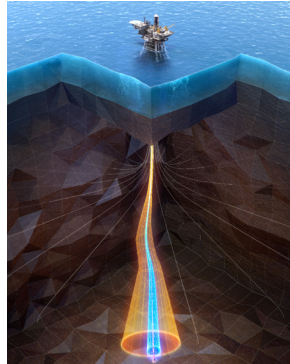


# GyroStar™ Gyro-While-Drilling Service

## FASTER SURVEYS AND PRECISE MEASUREMENTS FOR MORE ACCURATE WELL PLACEMENT

### OVERVIEW

Operators need more speed and precision for accurate well placement while drilling offshore on multi-well platforms. The GyroStar™ gyro-while-drilling service from Halliburton Sperry Drilling incorporates groundbreaking technology that reduces gyro surveying time and the ellipse of uncertainty for increased speed, precision, efficiency, accuracy, and reliability. Whether you are drilling from complex offshore developments or multi-well pads, this improved performance helps operators minimize collision risk, avoid no go zones and improve reservoir optimization. It also enhances the operator's ability to hit target zones. Powered by SPEAR™ solid-state technology, the sensor package is not affected by shock and vibration under normal drilling conditions, or by magnetic interference.



### LESS UNCERTAINTY AND FASTER SURVEYS REDUCE WELL TIME

The industry-leading GyroStar service significantly reduces the ellipse of uncertainty compared to the competition while being two times faster to perform surveys. The tool configuration is significantly shorter than previous systems allowing all BHA sensors closer to the bit. Sensors are closer to the bit, and the tool is significantly smaller than previous systems. The service provides all-attitude, highly accurate, high-performance Coriolis vibratory rate-gyroscopic (CVG) surveys in real time as drilling progresses. This modular tool is combined with a host measurement-while-drilling (MWD) and telemetry system, and provides rate-gyroscopic steering and survey data in vertical to horizontal applications.

The GyroStar service works in conjunction with the Halliburton fleet of magnetic directional probes, simultaneously sending up a magnetic survey and a gyro survey at each pump cycle, as well as gyro tool faces for orientation. When the drilling assembly is away from magnetic interference, the operator can turn off the gyro, allowing drilling to continue with the conventional MWD system. This service eliminates the need for a wireline gyro to orient or steer the drilling assembly, which reduces well time and health, safety, and environmental (HSE) risks. The service enables pre-made BHAs at the base, thus reducing the need for tool handling at the rig site and allows for operations to be monitored remotely for quality assurance.

For more information, contact your local Halliburton representative or visit us on the web at [www.halliburton.com](http://www.halliburton.com)

### FEATURES

- » Fast survey data collection
- » Improved battery life
- » Fully transparent quality control – third-party verification possible
- » Very low power requirements, and longer run durations
- » Highly accurate gyro compassing at all inclinations
- » Resistant to shock and vibration
- » Compatible with electromagnetic, wired pipe, and mud-pulse telemetry systems
- » Capable of high latitude drilling

### BENEFITS

#### Reduces Well Time

- » Eliminates the need to use wireline gyros to steer drilling assemblies
- » Provides full surveys on demand and during connections, with no additional wait time

#### Drills to Produce

- » Ensures precise wellbore guidance for collision avoidance and trajectory placement
- » By eliminating the need for nonmagnetic spacing collars, the gyro sensor can be run closer to the bit in the MWD string
- » Power/communications feedthrough is capable of versatile positioning in the BHA
- » Memory multi-shot capability as the BHA is tripped out of hole
- » No mass unbalance or calibration shift
- » No east/west cautionary zones

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

H013684 10/20 © 2020 Halliburton. All Rights Reserved.