GeoBalance® Managed Pressure Drilling Service
A comprehensive MPD and drilling optimization solution

Reservoir depletion and narrow pressure margins can create significant challenges to accessing new reserves. Sperry Drilling services addresses these challenges with the GeoBalance® Managed Pressure Drilling (MPD) Service. It is part of Sperry Drilling’s GeoBalance pressure management services along with our GeoBalance Underbalanced Drilling Service. The GeoBalance MPD service consists of the industry’s most comprehensive suite of pressure optimization solutions to enable you to increase drilling efficiency and safety while navigating through complex pressure regimes and unstable formations.

**GeoBalance Service Benefits**
- Improved rate of penetration (ROP) and reduced drilling time
- Improved success with drilling narrow pressure margins
- Reduced wellbore breathing, influxes, and lost circulation
- Access to bypassed reserves in mature fields
- Improved wellbore quality by minimizing borehole collapse
- Reduction in the number of casing strings required to access the target
- Improved reservoir productivity by minimizing mud-skin effect
- Better execution through total system and service integration

**GeoBalance Service Applications**
- Mature wells with significant pressure declines
- Areas with unstable formations and lost circulation zones
- Highly fractured and friable transition zones
- Extremely tight pressure margin environments such as deepwater, extended reach, and high-pressure/high-temperature areas

Different levels of reservoir complexity require different solutions. The GeoBalance service can be tailored to the challenge level of each project.

Four GeoBalance® service levels ensure you get the right MPD solution to deliver enhanced asset value, from RCD 5000™—only to a fully integrated Sigma Service with ADT® Optimization Service specialists, surface injection, and separation.

Four levels of service are available:

- **GeoBalance Self-Managed** service utilizes the compact multi-sealing RCD 5000™ Rotating Control Device alone or in combination with the dual hydraulic adjustable Choke Manifold to direct and control fluid flow and up to 5,000 psi of surface pressure. The Self-Managed service delivers faster drilling in areas that do not require precise bottom hole pressure control.

- **GeoBalance Automated** service provides safe, remote software-controlled choke operation using the Sentry™ surface monitoring system and an automated choke. Bottomhole pressure (BHP) anomalies due to surge, swab and equivalent circulating density (ECD) can cause the BHP to fluctuate, resulting in serious risk. The GeoBalance Automated service is appropriate for areas where bottomhole pressure must be controlled within a few psi of pore pressure.
• **GeoBalance Optimized** service adds the comprehensive capabilities and expertise of Sperry ADT® (Applied Drilling Technology) Optimization Services. Experienced ADT Service specialists, in turn, use powerful computer simulators to model, measure, and optimize the entire MPD process. GeoBalance Optimized service can deliver full pore pressure/fracture gradient and wellbore integrity modeling and monitoring, as well as forward-modeling of hydraulics, and drillstring design to minimize vibration so as to protect fragile formations.

• **GeoBalance Sigma** service incorporates surface separation and injection equipment to allow drilling in extremely low pressure zones.

Combining the GeoBalance MPD service with extensive LWD sensor offerings from Sperry Drilling services, including the GeoTap® formation pressure tester, can provide total control of any MPD application.

**Power of Information**

A GeoBalance MPD service operation can produce a very large volume of data from a multitude of inputs. The Sperry InSite® system provides the platform for integration of a constant stream of while-drilling data from both surface and downhole sensors and drilling systems. Parameters are measured, recorded, and displayed at critical wellsite locations, and all data can be transmitted to a Real Time Operations Center (RTOC) so the entire drilling team can collaborate on crucial decisions along the way. The RTOC makes it possible to monitor operations on several MPD (and non-MPD) projects simultaneously. And this information is available to the asset team anywhere in the world via the InSite Anywhere® service.

This strategic integration of expertise, technology, and processes results in a fully engineered well construction solution that speeds quality decision making and response time, all resulting in improved asset value.

For more information, contact your local Halliburton representative.