## Quasar Trio<sup>®</sup> M/LWD Triple-Combo Service

# ENHANCED RESERVOIR UNDERSTANDING IN EXTREME-TEMPERATURE ENVIRONMENTS

#### **OVERVIEW**

The Quasar Trio<sup>®</sup> measurement-while-drilling/logging-while-drilling (M/LWD) triple-combo service is designed for extreme high-temperature [200°C (392°F)] and high-pressure [172MPa (25,000 psi)] environments. Its comprehensive suite of petrophysical measurements and real-time formation evaluation data helps operators enhance reservoir understanding, evaluate previously inaccessible reserves, and reduce well time and costs. When the Quasar Trio service is combined with the Quasar Pulse<sup>™</sup> service, which provides real-time telemetry, operators gain greater reservoir insight; enhanced well control; and reduced operational and health, safety, and environmental (HSE) risks, especially when drilling in harsh environments.

## AWARD-WINNING, INDUSTRY-LEADING SERVICE EXTENDS THE LIMITS

The Quasar Trio system surpasses the capabilities of conventional LWD systems, giving operators access to drill in the harshest environments while maximizing asset value.

### **Drill to Produce**

» Place wells accurately in 200°C/392°F environments by acquiring real-time M/LWD measurements to make geosteering decisions – operators no longer have to drill "blind."

## **Enhance Reservoir Understanding**

» Gather critical real-time formation evaluation data to analyze the reservoir and make necessary financial decisions early in the well construction process.

#### **Reduce Well Time**

- » Avoid post-drilling formation evaluation runs, saving rig time and associated costs.
- » Reduce extra circulation time and eliminate the use of mud chillers to cool the tool, saving rig time and costs.

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

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hotter in 200°C/392°F reservoirs.

The system's high-grade, rugged sensors are designed to withstand downhole vibration and are rigorously tested to ensure operational reliability under the harshest drilling conditions.

**Resistivity sensor.** Deep-reading resistivity measurements provide an estimate of the true resistivity of the formation, and additional measurements at multiple depths of investigation give an indication of the invasion profile.

**Density sensor.** High-quality formation density measurements are critical for accurate petrophysical analysis. The measurements are acquired azimuthally around the borehole, providing image data for formation dip measurements and geological structure interpretation.

**Porosity sensor.** Accurate neutron porosity measurements are complementary to the density measurements, helping to identify and distinguish various reservoir fluids, especially gas. The neutron porosity measurements are made by redundant banks of helium-3 neutron detectors at two spacings, with the latest electronics and processors for added reliability and superior measurement quality.