

Quasar Pulse® M/LWD Service

FORMATION EVALUATION MEASUREMENTS IN EXTREME-TEMPERATURE ENVIRONMENTS

OVERVIEW

The Quasar Pulse® measurement/logging-while-drilling (M/LWD) service from Halliburton Sperry Drilling provides directional, gamma ray, and pressure-while-drilling (PWD) measurements and telemetry to help place the wellbore accurately and reduce well time. Especially suited for extreme-temperature environments, the Quasar Pulse service provides reliable directional data and steering capabilities, with the option of wireline-quality formation-evaluation measurements.

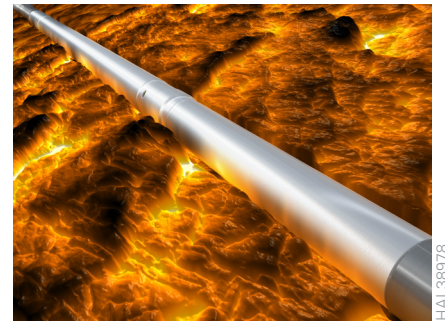
MAXIMIZE PERFORMANCE IN INACCESSIBLE AND HIGH-TEMPERATURE RESERVOIRS

The Quasar Pulse service operates in temperatures as high as 392°F / 200°C, and pressures up to 25,000 psi / 172 MPa. It helps enable access to reservoirs, which, up until now, were either inaccessible or had to be drilled “blind.”

Real-time, drilling-optimization sensors enable precise and cost-effective drilling, thus maximizing asset value in high-temperature and high-pressure applications. The system’s rugged sensors are designed to withstand downhole vibrations, and are rigorously tested to ensure operational reliability under the harshest drilling conditions. All measurements are available in real time and also in memory for post-run retrieval.

FEATURES

- » Directional surveys, with the same accuracy as standard-temperature systems
- » Gamma ray service, including multiple redundant detectors
- » Annular and bore pressure while drilling
- » Real-time vibration measurements



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BENEFITS

Drill to Produce

- » Geosteer in high-temperature reservoirs, where wells previously had to be drilled “blind”
- » Access reserves that are inaccessible, using conventional LWD tools

Reduce Well Time

- » Monitor downhole conditions in real-time, which helps to enable safe operation in wells where accurate knowledge of down-hole pressure and temperature is critical
- » Save rig time and costs by avoiding the need for “staging” into the hole to keep tools cool; tools can be run straight to bottom

Quasar Pulse® M/LWD Service Technical Specifications

	4¾ in.	6¾ in.
Nominal Tool Outside Diameter (OD)	4¾ in. / 121 mm	6¾ in. / 171 mm
Maximum Body OD	5.24 in. / 133 mm	6¾ in. / 171 mm
Hole Size Range	5⅞ to 8¾ in. 149 to 222 mm	7⅞ to 9⅞ in. 200 to 251 mm
Collar Inside Diameter (ID)	3.15 in. / 80.0 mm	4.00 in. / 102 mm
Length	20.0 ft / 6.10 m	20.0 ft / 6.10 m
Weight	1,343 lbm / 610 kg	2,600 lbm / 1180 kg
Connections	NC 38 (3½-in. IF) box up x pin down	NC 50 (4½-in. IF) box up x pin down
Makeup Torque	9,940 to 10,900 ft.lbf 1350 to 1480 daN-m	31,500 to 34,700 ft.lbf 4280 to 4700 daN-m
Maximum Dogleg Severity	- Sliding - Rotating 30° per 100 ft (30 m) 14° per 100 ft (30 m)	21° per 100 ft (30 m) 10° per 100 ft (30 m)
Maximum Temperature	392°F / 200°C	
Maximum Pressure	25,000 psi / 172 MPa	
Maximum Mass Flow Rate	- gpm x ppg - l/min x sg 5,000 lbm/min 2270 kg/min	10,000 lbm/min 4540 kg/min
Maximum Sand Content	2%	
Maximum Lost Circulation Material (LCM)	40 lbm/bbl / 114 kg/m ³ medium nut plug	
Maximum RPM	180	
Maximum Weight on Bit	25,000 lbf / 11 000 daN	45,000 lbf / 20,000 daN
Vibration	Refer to Sperry Downhole Tools Technical Specifications (Available on Request)	
Gamma Ray Sensor Specifications		
Detector Type	Geiger-Müller Detector Banks	
Measurement Precision*	±5 API at 100 API	
PWD Sensor Specifications		
Detector Type	Quartz	
Measurements	Annular/Internal Pressure	
Accuracy	±12 psi / 83 kPa	
Repeatability	±4 psi / 28 kPa	
Transducer Calibrated Range	0 to 25,000 psi / 0 to 172 MPa	
Directional Sensor Specifications		
Tooface Accuracy	±2.8°	
Azimuthal Accuracy	±1.5°	
Inclinometer Accuracy	±0.2°	
Vibration Sensor Specifications		
Peak Measurement Range	+/- 100 g in X and Y-axis +/- 50 g in the Z-axis	

*Assumes a 30-second sample period

For more information, contact us at sperry@halliburton.com
or visit us on the web at www.halliburton.com

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