

MRIL[®]-WD[™] Magnetic Resonance Imaging Logging-While-Drilling Sensor

SOURCE-LESS POROSITY DELIVERS ASSESSMENT OF RESERVOIR QUALITY

OVERVIEW

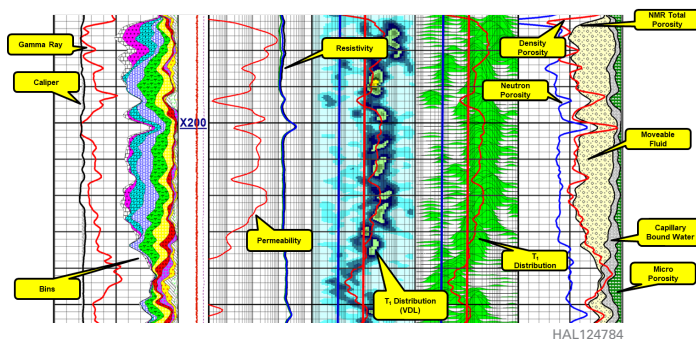
The nuclear magnetic resonance measurements provided by the range of MRIL[®]-WD[™] sensors enable early identification of critical petrophysical parameters to deliver comprehensive formation evaluation by differentiating between moveable and bound fluids.

A real-time assessment of reservoir quality is achieved through a mineralogy-independent measurement of total porosity and the fractionalized porosities of microporosity, total bound fluid volume and moveable fluid volume, along with a continuous permeability estimate.

MOTION-TOLERANT T_1 METHOD HELPS MAXIMIZE ASSET VALUE

The MRIL-WD service from Sperry Drilling overcomes the challenges encountered using T_2 measurements while drilling, which may be detrimentally impacted by lateral tool motion and vibration, by using the patented T_1 while-drilling acquisition method. The T_1 method is insensitive to lateral tool motion and therefore requires no motion corrections, and involves a simplified relaxation process with no diffusion. In addition, T_2 measurements are available with 6 $\frac{3}{4}$ -inch and 8-inch tools in wipe or sliding mode, which, when combined with the while-drilling T_1 measurements, can provide an assessment of fluid type.

When combined with acoustic and resistivity logging-while-drilling (LWD) measurements, the MRIL-WD service provides viable source-less porosity answers, while also providing reservoir quality assessments in thin-bed reservoirs and low-resistivity contrast reservoirs.



MRIL[®]-WD[™] log illustrating assessment of porosity and surface computation of permeability.

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

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FEATURES

- » T_1 acquisition measurement provides a lateral motion-tolerant method, with minimal pre-job planning
- » T_2 acquisition method while wiping or sliding, with fluid typing using dual wait time or dual echo spacing
- » Wide range of tool sizes and stabilizer options enables logging reservoirs in multiple hole sizes

BENEFITS

Drill to Produce

- » Increase the potential success in finding producible oil and gas while avoiding water production through real-time evaluation of the formation properties
- » Highlight reservoir "sweet spots" by identifying geosteering targets to help optimize production when combined with the GeoTap[®] and GeoTap IDS services

Enhance Reservoir Understanding

- » Identify reservoir zones often missed by conventional log data
- » Identify total porosity and moveable fluid, providing real-time assessments of reservoir quality with minimum impact from invasion

Reduce Well Time

- » Provide mineralogy-independent porosity assessments, removing environmental risks often associated with nuclear sources
- » Obtain fundamental petrophysical parameters without the cost, risk, and rig time associated with Wireline services
- » Identify reservoir zones with moveable fluid and permeability to optimize the formation pressure testing and sampling program