DATA SHEET

HALLIBURTON

WIRELINE AND PERFORATING SERVICES

X-tended Range Micro Imager (XRMI™) tool

For superior borehole images even in highly resistive formations

BENEFITS

Halliburton's XRMI tool can:

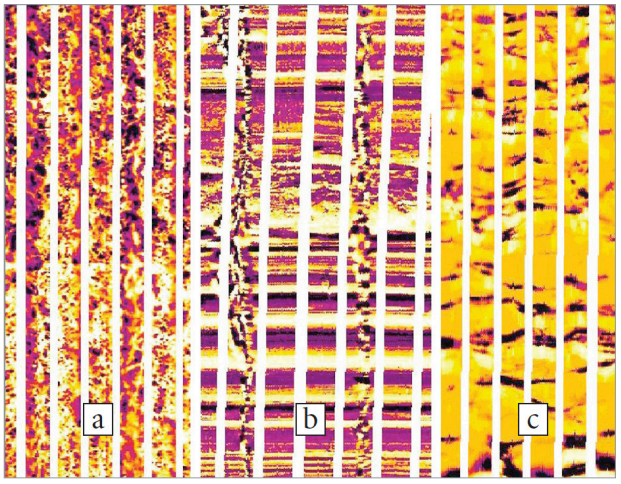
- Optimize offset well placement by evaluating structural and stratigraphic features and bedding orientation
- Improve net-to-gross estimations in laminated shaly sands and carbonates by delineating thin beds and laminations
- Rationalize the well stimulation and formation testing decisions by characterizing the secondary porosity (e.g., fractures and vugs) in reservoirs
- Optimize the drilling efficiency by evaluating and orienting borehole breakout
- Optimize the completion tactics and reservoir management by providing characterization of rock texture and electrofacies

The X-tended Range Micro Imager (XRMI™) tool, a wireline borehole imaging tool, is designed to obtain quality images even in envirionments with a high formation resistivity to mud resistivity (Rt:Rm) ratio. The expanded operating range of the XRMI tool over conventional electrical imaging services is achieved through its state-of-the-art 32-bit digital signal acquisition architecture combined with a large increase in available power for the excitation current (EMEX).

As a result, the signal-to-noise ratio of the raw measurements is improved by a factor of up to five, and the dynamic range is expanded by a factor of up to three. The resulting images offer superior fidelity, even in highly resistive formations (Rt > 2,000 ohm-m) or relatively salty borehole fluids (Rm < 0.1 ohm-m).

Tool design and superior image quality

Besides the new electronics, the mandrel architecture derived from Halliburton's highly successful EMI™ imaging tool greatly helps the XRMI tool generate superior-quality borehole images. Pads mounted on six independently articulated arms help maintain pad contact in rugose, washed-out, elliptical, or highly deviated boreholes. Further, a high sampling rate (120 samples per foot) and borehole coverage help obtain high-resolution pictures of the borehole walls.

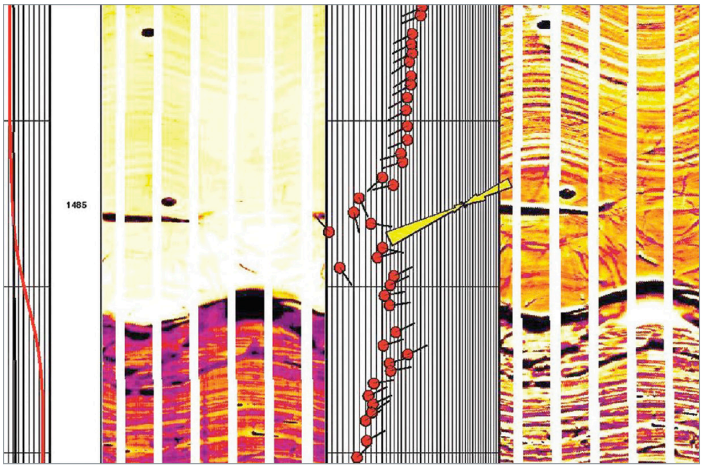


High-resolution XRMI™ tool images showing the micro-textural geological details in the fabric of a limestone section in a test well from the Permian Basin in west Texas: (a) vugular open porosity; (b) open natural fractures, and (c) stylolites. The Rt:Rm ratio exceeds 100,000 in this borehole.

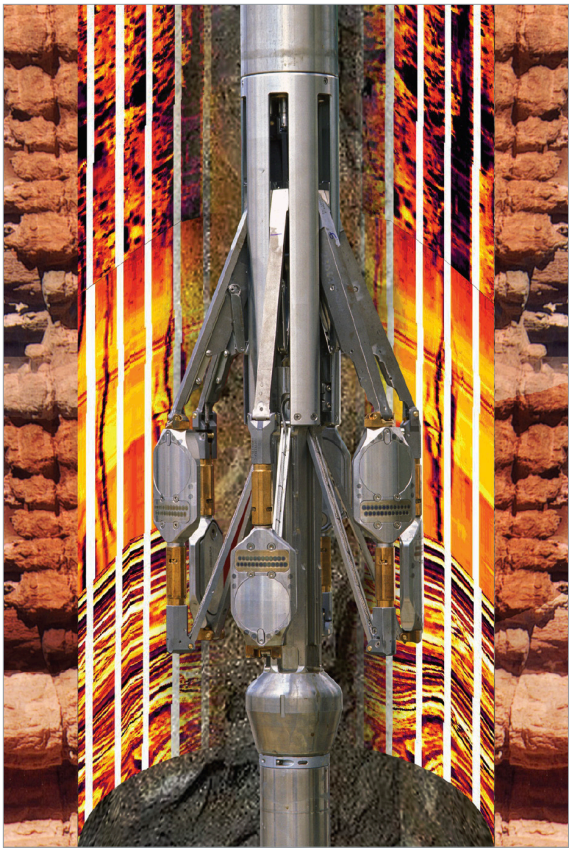
Reduction in the E and P risks

The XRMI tool reduces E and P risk by helping:

- Take the guess-work out of identifying the subsurface sedimentary sequence
- Describe the reservoir facies just like "cores," the ground truth
- Show bedding dips that help rationalize the choice for the next drilling location
- Choose the sidewall core zones, formation testing zones, and perforation intervals accurately by integrating images with other open-hole logs
- Compute accurate, high-resolution net-to-gross



An XRMI formation evaluation answer product. The first image track shows the static-equalized image, and the second image track exhibits the texture-enhanced high-resolution image. The central dip-track shows the results of an automated dip-picking application. The sharp change in the dip azimuths from west to east is due to “slump faulting.” The base of the channel sand is also a scoured surface.



XRMI™ TOOL DIMENSIONS AND RATINGS	
Maximum Temp	350°F (177°C)
Maximum OD	5 in. (12.7 cm)
Length	24.18 ft (7.37 m)
Weight	496 lb (225 kg)
Maximum Press	20,000 psi (137 MPa)
Minimum Hole Size	6 in. (15.24 cm)
Maximum Hole Size	21 in. (53.34 cm)
Borehole Coverage	57⅜ in. 8.5 in hole

BOREHOLE CONDITIONS				
Borehole Fluids	Salt ■	Fresh ■	Oil □	Air □
Tool Positioning	Centralized ■		Eccentralized □	

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