

Middle East

High-resolution images in oil-based mud help solve complex challenge in the Middle East

High-resolution images obtained in resistive environment

CHALLENGE

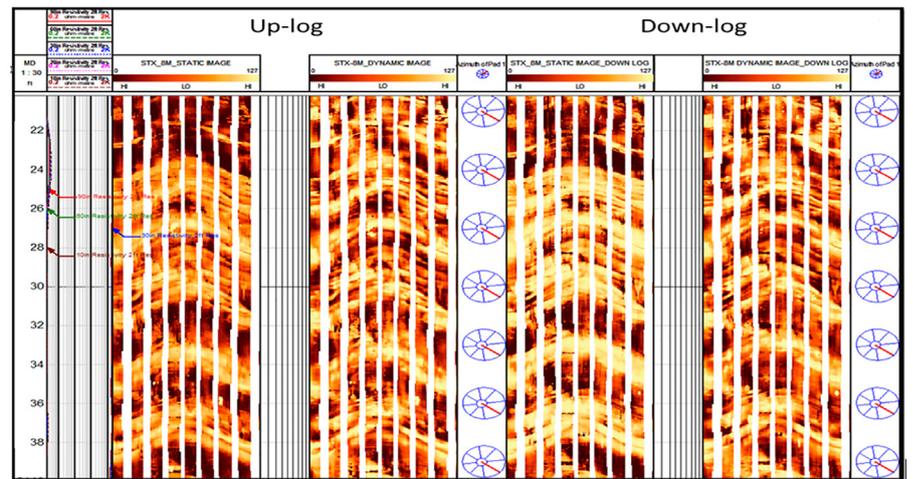
- Obtain electrical images in a resistive environment
- Low-resistivity, low-contrast environment characterization
- Wide resistivity range image

SOLUTION

- Deploy StrataXaminer® high-resolution images in OBM with simultaneous customized log frequencies (3+) using six or eight pads

RESULT

- Obtained high-resolution images
- Single pass, despite significant resistivity changes
- Improved formation knowledge



StrataXaminer® high-resolution images in OBM provided formation data at frequency of less than 0.2 ohmm.

Overview

High-resolution imaging has been used for some time in water-based mud (WBM), where the conductive mud environment benefits the use of resistivity imaging. In oil-based mud (OBM), however, the resistive mud properties make it difficult to gain high-resolution resistivity images. This is further complicated by the relationship between the frequency of the electrical signal and the varying response to different resistivities.

Halliburton designed the StrataXaminer® high-resolution images in OBM tools to work at high frequencies to allow a signal to pass from small transmitting electrodes to a receiving electrode in resistive environments. With 24 transmitting electrodes on a pad, using six or eight pads, high-borehole coverage up to 100% in an 8-in. borehole can be achieved.

To overcome the issue of different frequency responses to various resistivities, Halliburton designed the tool to work at three frequencies simultaneously to allow a range of less than 0.2 to more than 2,000 ohmm in a single pass—an industry first.

This new tool allowed a major Middle East operator to image formations with outstanding clarity in a wide range of resistivities and maintain the benefits of OBM. StrataXaminer high-resolution images in OBM provided an invaluable contribution to address challenges with reservoir properties and depositional environments.

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

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