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Oil-Base Mud Formation Imager Tool: Applications in the Gulf of Mexico

With the advent of oil-base and synthetic muds, drilling risks are substantially reduced and efficiency dramatically increased. However, the benefits of microresistivity borehole imagers are lost. The rapid expansion of deep-water activity in unexplored areas has made it even more critical to develop a microresistivity imaging tool that operates in these muds to provide key information to geologists for successful exploration. This poster session will demonstrate the results of an innovative microresistivity imager tool that operates in nonconductive drill-in fluids. Based on a new technology, the tool operates in all typical oil-base mud (OBM) types, from diesel to synthetic. The device provides images for formation resistivities ranging from under 0.5 to over 10,000 ohm-m. In addition, the resulting calibrated high-resolution resistivity R_{xo} represents a first in the OBM environment. Examples will include low-resistivity environments in deep water stressing thin bed applications and comparison to core data. Images will demonstrate numerous structural and stratigraphic applications, showing features never detected in OBM in the Gulf of Mexico. The variety of facies and features determined from the images obtained emphasize the usefulness of this new instrument for successful geological interpretation, decision making and risk management in wellbores drilled with the OBMI* Oil-Base MicroImager tool.