

Application of borehole images in OBM from LWD tools

S. Khan; D. Maggs; R. Dua; C. Maeso

LPS Evening Lecture, The Geological Society

Tuesday, 23rd October

Borehole Image logs provide high-resolution directional data sets, and wealth of information related to sedimentary fabric and textures as well. The data achieved by the images are used for lithofacies characterization, paleo-transport analyses, and structural analyses. To get high resolution images in OBM while logging during drilling has been a challenge- which is possible now by a new tool design. In this case, with dual physics approach (resistivity and ultrasonic imaging sensors)- high resolution LWD images are achieved in OBM environment. This new tool has been deployed in the field and tested in a wide range of drilling and geological environments. The images were acquired from high resistivity carbonates to shales and low resistivity clastics demonstrating the robustness and widespread applicability of new tool. The examples include challenging environment conditions and test the limits of accurate measurements in highly deviated wells. Image examples include features like breakout, drilling induced fractures, thin beds of low resistivity formations, injection sands and slump beds of turbidite etc. The comparison of high resolution LWD images with legacy images show that these images reproduce formation geology and revolutionize the geological interpretation of wells drilled with OBM.