

Paper 21

Borehole image, CMR* and core calibration for cataloging facies and depositional features: an example from NW-Sabah Basin

DEBNATH BASU¹, AZLI ABU BAKAR², MICHEL CLAVERIE¹, ISHAM FARIZ B. ISHAK², TANWI BASU¹
AND AZLINA HABIBULLAH¹

¹Schlumberger Data & Consulting Services
50450 Kuala Lumpur, Malaysia

²PETRONAS Carigali Sdn. Bhd.
Tower 2, Petronas Twin Towers
50088 Kuala Lumpur, Malaysia

Well Sumandak Tepi-1, from NW-Sabah Basin has core, borehole image, and CMR* data available in addition to standard open-hole logs. An exercise was undertaken to integrate and calibrate core observations with the FMI* image and CMR analysis to gain insights into the depositional characteristics of the reservoir section. In this study, images and logs with the highest vertical resolution, i.e. FMI and CMR data, were used for calibration with the core in preference to standard open-hole logs. The objective was to document and catalogue the various depositional facies characterized by features, events and trends seen on the FMI image and T2 distribution/ bin-porosity from the CMR analysis. The cores represent various depositional styles — tidal channels, tidal-flats, interdistributary bay-fills and deltaic depositional elements.

Core coverage is usually very limited and efforts like the current should be employed to calibrate and catalogue all available depositional facies to their image and log responses, as represented in a field. This catalogue can then be used as a knowledge database to facilitate analysis of newly acquired data when cores are not available.