Field Characteristics of shale facies in the Dohol Formation, East Johor, Peninsular Malaysia

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Abstract

Attention is now paid to the Dohol Formation as a result of the black shales it contains. The Dohol Formation is one of the formations in Peninsular Malaysia which contain abundant black shales; however, the rocks of this formation are not fully understood. Moreover, detailed information on the exposed locations of these black shale is very limited. This study was conducted to characterize the black shales and discover new areas where the black shales of the Dohol Formation can be located. Detailed fieldwork was then undertaken to describe the rocks and discover new areas where outcrops are exposed. Three different lithofacies of shales were encountered on the field: the massive black shale facies, light grey shale facies, and the red shale facies with fine sandstone laminae. The black shales were dark grey in colour, laminated and some parts are fissile. The second type of shale, light grey, looks like the dark shales, but it probably contains less organic matter. In certain areas these grey shales are found to have intrusions of quartzite. The third type of shales are the red shales which are sandy, fissile, and highly weathered and it is overlain by sands that are pebbly in nature. The red shales were probably formed from the two other types of shales which has undergone extreme weathering. Six new outcrop locations were discovered, and these outcrops were spread across Jemaluang, Kota Tinggi, and the outskirts of Mersing town in East Johor. It was observed that most of these shales have been covered with vegetation with only a few being exposed by road cuttings

Publication

1. Otchere, D. A., Hodgetts, D., Ganat, T. A. O., Ullah, N., & Rashid, A. (2021, August). Static Reservoir Modeling Comparing Inverse Distance Weighting to Kriging Interpolation Algorithm in Volumetric Estimation. Case Study: Gullfaks Field. In Offshore Technology Conference. OnePetro.



Biography

Alidu Rashid is currently a Petroleum Geoscience PhD student at Universiti Teknologi PETRONAS in Malaysia. He completed both his undergraduate and master's degree in earth science and petroleum geoscience respectively at the University of Ghana. His PhD research is focused on the Hydrocarbon Generation Potential of Black shales in the Dohol formation. His areas of interest include Organic Geochemistry, Source Rock Evaluation, Reservoir Characterization and Machine Learning.

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