PDPT10-46

Shale Gas Reserve Potential in the Sedimentary Basins of Malaysia and South East Asia Region

G.M. HAMADA, E. PADMANABHAN, A. EL-SAKKA & A.M. SALIM

Faculty of Geosciences and Petroleum Engineering, University Teknologi PETRONAS, Malaysia

Shale gas, which is mostly methane, can be found in any sedimentary basins. The depositional setting directly controls key factors in shale gas, such as organic geochemistry, organic richness, and rock composition. Shale gas reservoir type is a source rock that has retained gas production potential. Produced gas comes from adsorbed gas in the organic matter and free gas trapped in the pores of the organic matter and in the organic portions of the matrix.

The main objective of this study is to discuss the potential of shale gas reserves in Malaysia and South East Asia sedimentary basins. Shale can actually be a game changer in South East Asia and mainly for Malaysia, China, India, Pakistan, Indonesia and Thailand. Malaysia, located within Southeast Asia, has two distinct parts. The western half contains the Peninsular Malaysia, and the eastern half includes the states of Sarawak and Sabah. This area has been identified as a potential area for unconventional gas resources in Malaysia. China has seven major onshore shale basins contain shale gas. India, various estimates put Indian reserves of shale oil and gas at large numbers. Major regions of availability are Gujarat, Rajasthan, central India, KG Basin and offshore areas in Bay of Bengal. Pakistan shale gas's assessment is restricted to the central and southern Indus basins, together called the Lower Indus. Indonesia has a number of onshore sedimentary basins which may have shale gas/oil potential. Thailand's greatest potential appears to be shale gas deposits contained in Permian and Triassic shale source rocks in the Khorat. In summary, it can be stated that the potential for shale gas as a source of energy in Southeast Asia appears to be good. However, more work needs to be carried out to ascertain the exact capacity of shale gas in each mentioned countries.

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 43, No. 3, July-September 2017