

## Petroleum generation in the West Aceh Basin, Sumatra

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Although various attempts have been made to evaluate the West Aceh Basin for petroleum, exploration has proven unsuccessful for assessing liquid hydrocarbon. However, studies of the organic petrology and geochemistry which might establish the origin, distribution and character of hydrocarbon source rock as well as thermal history within this basin has not been conducted.

The West Aceh Basin is a typical Indonesia Tertiary tectonically active forearc basin containing thick sedimentary rocks in which Oligocene to Pliocene coal bearing sequences

were deposited.

This study seeks to integrate and evaluate organic petrology and geochemistry data which might improve the petroleum success ratio. Therefore, a suite of coals of different rank were examined in order to evaluate the evidence of liquid hydrocarbons produced from these coals and petroleum generation within this basin. Coal petrography methods used include vitrinite reflectance, fluorescence intensity studies and maceral analysis where as geochemistry techniques used involve Rock-eval, Gas-Chromatography and Pyrolysis-GC.