

Coalbed Methane Exploration in Sumatra, Indonesia

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The coal resources of Indonesia are estimated at about 40 billion tonnes with most coal deposits located in the coalfields of Sumatra and Kalimantan regions. Sumatra contains 54% of total Indonesian measured and inferred coal resources and more than 81% of resources of this island are located in the southern coalfields. Though most of southern Sumatra coals are of low rank ranging from lignite to sub-bituminous, it is believed that they are most prospective for coalbed methane production in Indonesia with an estimated coal seam methane resources of more than 240 tcf. As part of a CBM exploration program in Indonesia Lemigas is conducting a comprehensive study including surface drilling and reservoir characterization of the Southern Sumatra coalfields for future coal seam methane production. Surface drillings to depths of more than 1000 m were undertaken to intercept the main CBM potentially producing coal seams. Core samples were measured for their gas content and composition as well as coal seam reservoir properties including adsorption isotherms, diffusivity, porosity, permeability and coal petrography.

This paper describes some of the findings of this first extensive CBM drilling program in Indonesia. In the light of the results obtained from Sumatra drillings and reservoir measurements previous coal reservoir studies of Sumatra coals over the last 10 years are also reanalyzed and reported.