

# **GEOLOGICAL CONTROLS OF COAL-RESERVIOR PETROGRAPHY AND PHYSICS TO COALBED METHANE OCCURRENCE IN CHINA AND THEIR MECHANISMS**

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Based upon the data from major coal mining and exploring districts in China, the correlation of coal petrological and physical factors such as coal rank, lithotype and maceral to the coal methane content, absorption and permeability was summarized, and their controlled-gas mechanisms was discussed. It has been found that the enveloping line of the average methane content to coal rank develop in the coalification stages, that the remarkable developments of the maximum average methane content coincide greatly with coalification jumps, that the areas with higher average methane content occur in a approximately equal latitudinal gap, and that there is a critical vitrinite content in the correlation of coal Langmuir's volume to vitrinite content in coal reservoirs. It was suggested that the development of coal physical and chemical structure is the reason why the coalbed methane occurrence is controlled in various coalification stages, and the concept on the coalbed methane controlled by coal sedimentation would be practically valuable in some degree for predicting the heterogeneity of coal reservoir permeability.