

FUNDAMENTAL CHARACTERISTICS OF COALBED METHANE RESOURCES IN CHINA

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Coal Resources and Their CBM-bearing Characteristics of China: The coal resources in China within less than 2000 meters of burial depth sum up to 5.57 trillion tons in which the resources with more than 4 m³ of coalbed methane (CBM) content is approximately 1.13 trillion tons, accounting for about 20% of total coal resources. In the coal resources with more than 4 m³ of CBM content, the seams are about 9.74 m³/t in mean CBM content, about 91% in mean CBM concentration and only 45% or so in mean CBM saturation. Coalbed Methane Resources of China: The total CBM resources with more than 4 m³ of CBM content throughout the China are 14.34 trillion m³, in which the resources with 4~8 m³ of CBM content account for 13.2% of the total and the resources with more than 8 m³ of CBM content account for 86.8%. Based upon the geological setting and CBM geological conditions, five CBM provinces have been distinguished in China. The CBM resources in China occur mostly in the North China and subsequently in the South China. The CBM resources in the former account for 66.7% of the total and that in the latter for 28.8%. Characteristics of Coalbed Methane Reservoirs in China . As concerns the coalbed methane reservoirs in China, the Langmuir volume ranges from 8.40 to 30.02 cm³/g, and the Langmuir pressure from 1.49 to 37.03MPa; the CBM desorption ratio varies from 22% to 65%, and the CBM absorption time from several hours to 5 days; the critical absorption pressure ranges mostly from 0.5 to 1.7 MPa, up to 5.98~6.51MPa. According to the CBM well-testing data in the recent years, the permeability of the coal reservoirs in China varies from 0.0002 to 16.17 md, averaging to 1.27 md; the gradient of the coal reservoir pressure is 2.24~17.28kPa/m.