

The Geologic Condition for Shale Gas Accumulation and Exploration Target of Shale Gas Reservoir in Upper Yangtze Area

Zhou Wen, ZhouQiu Mei, XieRun Cheng, ChenWen Ling, DenHu Cheng, and Zhang YinDe

Chengdu University of Technology, China

Abstract

In upper Yangtze area, the marine facies of lower Paleozoic Erathom developed multiple mud stone (mud shale stone) source rock, especially the mud (shale) stone of lower Cambrian Qiongzhusi group, Niutitang group and lower Silurian Longmaxi group developed best and are rich in organic material and widespread. The mud (shale) reservoir is one kind of source rock reservoir. It's forming condition is controlled by (1) the abundance and distribution of organic matter (2) the thickness distribution of source rock (3) evolution degree (4) temperature (5) pressure (6) physical condition of mud (shale) itself and etc. The two strata have produced the gas in industrialization. In the Majiang area in Guizhou province, we found that the cave was filled with asphalt in the stratum of Silurian. Though the geochemical analysis, the favorable exploration blocks of lower Cambrian Qiongzhusi group / Niutitang group mud (shale) gas reservoir are located in southern Sichuan, western Hubei and northern Guizhou. The favorable exploration blocks of lower Silurian Longmaxi mud (shale) gas reservoir located in southern Sichuan–northern Yunnan, eastern Sichuan, western Hubei and northern Sichuan. These blocks have large effective thickness, high abundance of organic matter and high degree of evolution, so they are favorable exploration blocks.