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**Main Genetic Types of Gas, characteristic of Its Accumulation and Distribution and**  
**Exploration in North Marginal Basins, South China Sea**

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Different types gas had definite regularity basis on the complex geologic setting and earth dynamics. Based on the previous research and exploration, the discovered gas could be divided into three types, biogenic and sub-biogenic gas, normal mature oil & gas, highly and over-mature oil & gas. And there were also three types of non-hydrocarbon gas. Gas hydrates had thermocatalytic pyrolitic gas, biogenic and sub-biogenic gas and the main type was the sub-biogenic. biogenic and sub-biogenic located on the bottom and lower district, gas source is from marine sediments stratum of Pliocene and Quaternary . The normal mature continental paraffin oil & gas were mainly distributed in the Beibuwan Basin and the Pearl River Mouth Basin, gas source is from the deep lake side sapropel mixed source rocks of Eocene.

The highly and over-mature coal-related condensate oil & gas were mainly found in the Qiongdongnan Basin and some shelf area of the Pearl River Mouth Basin, gas source mainly is from coal stratum in Oligocene and marine humic side of the supply source rocks in Miocene. Coal-related gas and non-hydrocarbon gas were mainly formed in mud diapiric zones of the Yinggehai Basin, the Eastern Qiongdongnan Basin and some areas of the Pearl River Mouth Basin, gas source is from marine shale rich in calcium influenced by thermal fluid activity diapir in Miocene and mantle-derived volcanic activities in deep crust. Deep water oil & gas and gas hydrates located in southern of Qiongdongnan Basin and some deep areas of the Pearl River Mouth Basin gas source of deep water oil & gas mainly is from the deep lake source rocks of Eocene, while the gas source of gas hydrate is mainly from deep mature source rocks and biochemical role of deep sea sediment . So it enhances the exploration success rate by selecting the gas district base on the different types regularity and Characteristics of gas source.