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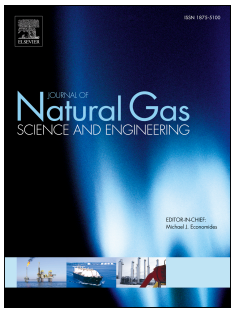

Organic chemicals in coal available to microbes to produce biogenic coalbed methane: A review of current knowledge

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Organic chemicals in coal available to microbes to produce biogenic coalbed methane: A review of current knowledge

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Abstract: Microbial enhancing biogenic CBM (coalbed methane) is a clean and technology to improve CBM production. Knowing of the material bass and its transformation processes has important theoretical and practical significance for understanding the biogenic CBM generation mechanism and increasing the amount of biogenic CBM. This paper reviews, in detail, current information on biogenic CBM generation with an emphasis on the complex organic compounds used by the methanogens. The organic matter in coal consists mainly of aliphatic hydrocarbons, aromatic hydrocarbons and heteroatom compounds. This study summarizes the conversion process of various compounds as determined from previous studies. Though the specific chemical mechanism resulting in conversion to methane is unclear, the types and abundance of dissolved organic matter found in coal seams are important factors affecting the biogenic CBM production. This review can assist in understanding the mechanism of the formation