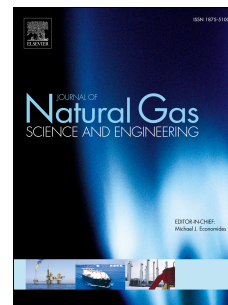


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Organic chemicals in coal available to microbes to produce biogenic coalbed methane: A review of current knowledge

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

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

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