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Considerations from Various Angles on Accelerating Growth of CBM Industry in China

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Abstract: The development and utilization of CBM in China is now in a special and important stage in the history. In view of the current status and the outstanding problems in the trade, the paper stresses the need to formulate new policies on mining rights, to insist on integration of gas extraction with coal mining, to address properly the issue of crossing and overlapping of mining rights between gas extraction and coal
mining. It emphasizes the need to deepen system reform on international cooperation
and accelerate international cooperation. More efforts should be made to find
technical solutions for difficult CBM problems and to improve policy, law and
regulation system. All the efforts should be made to accelerate the growth of CBM
industry to achieve win-win in aspects of work safety, environmental protection and
economic benefits.

**Keywords:** CBM; development and utilization; management of mining right; research
on policy

**Study on the Development Program of CBM/CMM Industry in
Shanxi Qinshui Basin**

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**Abstract:** According to the characteristics of the coalbed gas reservoir and the resource
endowment in Qinshui basin, this paper analyzes the advantages of CBM/CMM industrialized
development in this area, and the emphasis, directions and suggestions for its CBM/CMM
industrialized development are also presented pertinently.

**Keywords:** Qinshui basin; CBM/CMM industry; advantage; strategy; emphasis

**Application Research on the Integrated Development Model of Coal
Mining and Gas extraction in Jincheng Anthracite Mining Group**

Zhang Junwei
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**Abstract:** This paper introduces the types of CBM/CMM development models and their
applicability. The integrated development model of coal mining and gas extraction is then
described and studies. Taking Jincheng Anthracite Mining Group as an example, the paper also
discusses the application of the integrated development model in details, and suggestions for close
combination between coal exploration and gas development in the future are provided.

**Keywords:** CBM/CMM development; integrated coal mining; gas extraction; gas control

**Preliminary Evaluation on the Contribution of CMM to Greenhouse
Gas Emissions in China**

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**Abstract:** China has abundant coal resource as well as CBM/CMM resource, which establishes a
profound foundation for economic development. However, it also causes a large quantity of
greenhouse gas (GHG) emissions. Based on the recent year’s coal production and consumption in
China, this paper analyzes the quantity of its CMM emission. Combined with the total amount of GHG emission in China, it also evaluates the contributions of CMM to GHG emission and its social cost.

**Keywords:** CMM; GHG; contribution

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**CBM Storage-transport Mechanisms and the Deduction of Water Production Function in Gas Wells**

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**Abstract:** Although coal is dual porosity structure with natural fracture and micropore, it doesn’t present the flow characteristics of dual porosity media because of the small pore diameter that is correspond with the adsorbed molecule, the fracture is the main pathway. This passage elaborates the characteristic of fracture and micropore structure and the storage and transport mechanisms; it introduces the two-phase flow characteristics that includes coal-bed methane and water only and the principle of CO₂ replaces coal-bed methane(CH₄). In the conditions of balanced offtake of CO₂, we get the water production decline equation using the material balance method and the equation is hyperbolic curve type. These theories and methods can give a guide of the coal-bed methane development and evaluation.

**Keywords:** Coal-bed Methane  Storage Mechanisms  Transport Mechanisms  Water Production Decline Rule

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**Study on the Effects and Application Methods of Seismic Technique in CBM Exploration and Exploitation**

Chang Suoliang¹ ²  Liu Damen¹  Wnag Mingsou¹ ³  

**Abstract:** whereas the particularity of China’s CBM geological setting, the article points out that seismic techniques are needed in CBM exploration and exploitation, and it also requires the technique to be better improved. Based on the discussion of CBM seismic technique application, the concept of exploration seismic and exploitation seismic was given. In connection with examples, the article also indicates the seismic exploration philosophy and technical measures in the different stages, which has certain guiding significance for China CBM seismic technique application.

**Keywords:** CBM; exploration and exploitation; seismic technique; exploration philosophy

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**Research on Seal Control the Confining Layer on Coalbed Methane Content**

Li Jinhai  Su Xianbo  Song Jinxing  Xu Yonghong
Abstract: The petro-fabric characteristic of rock layers above or beneath coal seam within a certain section is one of the factors, which influence coalbed methane enrichment. This paper introduces the concept of confining layer and describes the importance of lithology and thickness of the confining layer. The paper uses sealing coefficient for quantitative evaluation of the confining layer. Taking Fanzhuang and Puchi coalbed methane development districts in the outh of Qinshui basin as examples, the confining layer of No. 3 coal seam was quantitatively evaluated and the relationship between the confining layer and the coalbed methane content was established. The research showed that coalbed methane content was positively correlated with sealing coefficient. In the developed representation of sealing coefficient, this relation indicated that in high sealing coefficient zone, the coalbed methane content was high, and in the low sealing coefficient zone, the coalbed methane content was low. The sealing coefficient provides a small and medium scale, or a quantitative approach for studying the influence of the upper and lower strata of coal seam on coalbed methane enrichment.

Key words: Roof and floor of coal seam; confining layer; sealing coefficient; quantitative evaluation; coalbed methane content

Relationship between the borehole Diameter and the Total Amount of Gas Production of Vertical Wells

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Abstract: Measures to increase the gas production should be implemented in CBM vertical wells in order to gain the productive gas we need. There are mainly two measures, cavitation in CBM well bottom and fracture. What we urgently need to know is the measure of a cave in diameter that can be effective to the CBM production. The paper, setting the parameters except the borehole diameter as known quantities, and the borehole diameter as an independent variable, work out the value of the dependent variable, the CBM production. It also finds out a function expression of the CBM production and the borehole diameter.

Keywords: CBM; borehole diameter; CBM production; function expression

Study on the Facture Technology in Shallow CBM Wells with Low Temperature in Lin 9X Well

Cai Bo
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Abstract: Lin19X well is preliminary prospected oil well in the east flank of Ji41 fault anticline in Inner Mongolia Xilingoule Ji’ergalangu depression. Because of CBM enrichment, this well is completed as CBM well. Since the knowledge on coal reservoirs is limited, Langfang Branch of Research Institute of Petroleum Exploration and Development, CNPC, gained the basic data about
the main reservoir after a series of lab experiment, and comprehensive analysis and evaluation were also done. The branch then developed pilot experiment on CBM. After geological analysis, and fracture and extraction, this paper makes conclusion on this area.

**Keywords:** Lin19X well; CBM well; fracture; extraction

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**Analysis on Common Faults and Eliminations for J420GSA Gas Generators**

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**Abstract:** As the rapid development of gas utilization industry, technology for gas generation has been gradually mature, especially those foreign generators. They are not only of high efficiency, but have high stability during operation. However, there are still problem existing in the working period. This paper, taking two JS420GSA gas generation as an example, briefly analyzes three faults of the generation during their operation in Huainan coal mine, and the means of resolving them are also presented.

**Keywords:** Gas power generation; fault analysis; misfire

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**Analysis of succeeding in Gas Electricity – making in Huainan mining area**

Qi Fangping  
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**Abstract:** The possibility of successful application of Gas Electricity - making in Huainan mining area is analysed in terms of gas source, generator set, security and benefit in this paper. It briefly introduced the Gas Electricity–making station of NFJ in Huainan, and pointed out that the future and prospect of Gas Electricity –making in Huainan mining area is quite bright through taking points as facets.

**Key words:** Huainan coal mining area; gas power station; gas power generation