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Patent Search

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Abstract:

The present invention describes an electrode-based green coal bed gasifier system. In the present invention, a novel approach of green technology has been developed and designed, to gasify coal in the coal bed using green-powered electrodes and extract the gas, avoiding mining and transport of solid coal. By controlled power supply, the system would be developed in such a way that an optimum amount of coal gas will be released, which will be further transported to the storage tank after filtration and compression.

Complete Specification

DESC:FIELD OF INVENTION:

This invention generally relates to the field of the gasification process, systems and techniques and more particularly relates to an electrode-based green coal bed gasifier system.

BACKGROUND OF THE INVENTION

India has the fifth-largest coal reserves in the world, but the quality of coal is poor. It contains approx. 35% of ash. Transporting solid coal and generating electricity creates an additional environmental and economic burden. To address this problem a novel approach of green technology has been suggested, to gasify coal in the coal bed using green-powered electrodes and extract the gas, avoiding mining and transport of solid coal. By controlled power supply, the system would be developed in such a way that an optimum amount of coal gas will be released, which will be further transported to the storage tank after filtration and compression.

There are few references made to the present invention as given below:

US4199327A discloses a coarse, graded coal is fed to a pressurized relatively fixed bed, non-slugging gasifier from which crude gas is recovered. Fine coal is slurried in an aqueous mixture comprising the discharge from the relatively fixed bed gasifier, which discharge is composed of hydrocarbons, phenolic water and other liquids as major components and additional makeup water, if required, and the slurry is fed to a slugging, pressurized entrained flow gasifier from which additional crude gas is recovered. The two streams of gas are cleaned and then used to meet a variety of demands, including, but not limited to, gas turbine generation of electric power, manufacture of synthetic natural gas and manufacture of methanol.

US4197911A describes in-situ coal gasification to form a methane rich gas is carried out by injecting a lower aliphatic alcohol such as methanol into a coal seam raising the

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