World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:9, No:02, 2015

A Case Study on Management of Coal Seam Gas by-Product Water

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Abstract : The rate of natural gas dissociation from the Coal Matrix depends on depressurization of reservoir through removing of the cleat water from the coal seam. These waters are similar to brine and aged of long years. For improving the connectivity through fracking /fracturing, high pressure liquids are pumped off inside the coal body. A significant quantity of accumulated water, a combined mixture of cleat water and fracking fluids (back flow water) is pumped out through gas well. In Queensland Coal Seam Gas industry is in booming state and estimated of 30,000 wells would be active for CSG production forecasting life span of 30 years. Integrated water management along with water softening programs is practiced for subsequent treatment and later on discharge to nearby surface water catchment. Water treatment is an important part of the CSG industry. A case study on a CSG site and review on the test results are discussed for assessing the Standards & Practices for management of CSG by-product water and their subsequent disposal activities. This study was directed toward (i) water management and softening process in Spring Gully Mine field, (ii) Comparative analysis on experimental study and standards and (iii) Disposal of the treated water. This study also aimed for alternative usages and their impact on vegetation, living species as well as long term effects.

Keywords : coal seam gas (CSG), cleat water, hydro-fracking, product water
Conference Title : ICCCGW 2015 : International Conference on Climate Change and Global Warming
Conference Location : London, United Kingdom
Conference Dates : February 16-17, 2015