

Towards the Most Efficient and Feasible Gas Hydrate Production: Air-induced Natural Gas Recovery

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The direct recovery rate and the recovery mechanism of methane from massive gas hydrates by an air injection method are investigated in this study. Natural gas hydrate (NGH) can be dissociated by an attack of injected air, producing methane gas. In the Ulleung Basin in the East Sea, a tremendous amount of NGH is stored beneath the seafloor. By simply shifting the corresponding phase equilibrium condition, the air injection method can decompose the methane hydrates and eventually recover the methane gas. The simplicity of this method demonstrates the many advantages of the air injection method, such as a fast dissociation rate, a wide range of injection conditions, environmental soundness and cost effectiveness.