GAS HYDRATE OF DEEP WATER REGIONS AND DRILLING HAZARDS

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ABSTRACT
Submarine gas hydrates have been discovered in the course of deep-sea drilling regions. Many of the prospects in the deep water region have a unique combination of challenges. Such as, deep water, high pressure, low temperature, deep reservoirs. These conditions are necessary for hydrate accumulation. Some cases shows that gas hydrates are a significant hazard during drilling operation. It may represent major dangerous problem when associated with another deep water challenges, for example with salt canopies in Gulf of Mexico and mud volcano in south Caspian Sea. Decrease in pressure and/or increase in temperature can disturb stability of gas hydrate so, it can cause the gas hydrate to dissociate and rapidly release large amounts of gas into the well bore. It may occur when hot drilling fluid flow through the drill string. Gas hydrates also have a significant effect on sediment strength; its formation and breakdown may influence the occurrence and location of submarine landslides. These Changes May cause significant weakening of the sediment then it can cause casing failure. These factors also affect the level of water and fluctuating water which can generate tsunamis that expose drilling facilities at high risk. So, identification of gas hydrate challenges before drilling operation in deep water marine sediment is very important. General categories of problems have been identified: 1) uncontrolled gas releases during drilling and blow out and casing collaps. 2) damage to well casing during and after installation of the well and casing failure. 3) Weakening of sediment which causes submarine landslides, well site subsidence and mass transfer. The aim of this article is identification of hazards associated with oil and gas wells drilled through deep water which lead us to drill oil and gas well in deep water region successfully.

Keywords: Gas Hydrate, Deep Water Region, Drilling Challenges and Hazards.

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