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A Case Study on an Integrated Analysis of Well Control and Blow out Accident

Authors : Yasir Memon

Abstract : The complexity and challenges in the offshore industry are increasing more than the past. The oil and gas industry is expanding every day by accomplishing these challenges. More challenging wells such as longer and deeper are being drilled in today's environment. Blowout prevention phenomena hold a worthy importance in oil and gas biosphere. In recent, so many past years when the oil and gas industry was growing drilling operation were extremely dangerous. There was none technology to determine the pressure of reservoir and drilling hence was blind operation. A blowout arises when an uncontrolled reservoir pressure enters in wellbore. A potential of blowout in the oil industry is the danger for the both environment and the human life. Environmental damage, state/country regulators, and the capital investment causes in loss. There are many cases of blowout in the oil the gas industry caused damage to both human and the environment. A huge capital investment is being in used to stop happening of blowout through all over the biosphere to bring damage at the lowest level. The objective of this study is to promote safety and good resources to assure safety and environmental integrity in all operations during drilling. This study shows that human errors and management failure is the main cause of blowout therefore proper management with the wise use of precautions, prevention methods or controlling techniques can reduce the probability of blowout to a minimum level. It also discusses basic procedures, concepts and equipment involved in well control methods and various steps using at various conditions. Furthermore, another aim of this study work is to highlight management role in oil gas operations. Moreover, this study analyze the causes of Blowout of Macondo well occurred in the Gulf of Mexico on April 20, 2010, and deliver the recommendations and analysis of various aspect of well control methods and also provides the list of mistakes and compromises that British Petroleum and its partner were making during drilling and well completion methods and also the Macondo well disaster happened due to various safety and development rules violation. This case study concludes that Macondo well blowout disaster could be avoided with proper management of their personnel's and communication between them and by following safety rules/laws it could be brought to minimum environmental damage.

Keywords : energy, environment, oil and gas industry, Macondo well accident
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