



Hydrate-Related Drilling Hazards and Their Remedies

Milad Poorfaraj Ghajari

Sahand University of Technology

**Milad_poorfaraj@yahoo.com*

Alireza Sabkdost

Sahand University of Technology

Alirezasabkdost@gmail.com

Hesam Taghipoor soghondikolaee

Sahand University of Technology

Hesam.taghipur1367@gmail.com

Abstract

Considerable fuel resource for the future, Transportation ease of gas hydrate (as natural gas phase state), likely role in global climate change and potential drilling hazards are the main reasons for researcher's attraction to gas hydrate issues. The gas hydrates have been recognized as significant potential resources for the 21st century fuel. However, from the drilling perspective, the gas hydrates seem as dangerous drilling hazards. Because of the importance of drilling operation as the first attempt to access energy sources, it is necessary to pay more attention to these hazards. The main objective of this article is to present a comprehensive review about the drilling problems related to hydrate formation in drilling operations and remedies of problems for understanding the problem in petroleum industry. Some of the notable problems, explained in this article, include wellbore stability, plugging chokes, kill lines, BOP, gas cut mud and sea floor stability. Different methods for the gas hydrate suppression during drilling operations and removing blockage practices are perused in this article.

Keywords: Gas Hydrate, Drilling Hazards, Well Problems, Remedies

Research Highlights

This articles is an up to date literature review about hydrate-related drilling hazards.

Useful solutions for drilling hazards remedies were presented.

This study is operational for Iranian gas hydrate bearing field.