

## عنوان مقاله:

QUANTIFYING THE HAZARDS OF OIL-BASED DRILLING FLUIDS TO THE ENVIRONMENT AND INVESTIGATING THE GREEN FIELDS DRILLING MUDS

## محل انتشار:

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## خلاصه مقاله:

Since Their introduction in the1030's, oil-based muds (OBMs) have played a major role in drilling troublesomeshales. Their development was a milestone in drilling fluid technology as they help to maintain a smooth trouble-free drilling operation through shales. Practically, it is impossible for any water-based mud (WBM) to match the performance of OBMs. Oil-base drilling fluids have been the choice for drilling reactive formations (shale layers), hot holes, high-angle wells, and more recently, the extended-reach target zones. Excellent shale inhibition, wellbore stability, lubricity, antiaccretion properties, contamination resistance and possibility of reuse are the main advantages of OBMs over WBMs. Despite the above-mentioned benefits, their toxicity to the environment has limited their application in favor of environmentally acceptable inhibitive WBMs. Both OBMs and cuttings contaminated with them are toxic discharge to the environment. Regulations restrict the way cuttings contaminated with OBMs can be discharged which may render their use uneconomic Today, oil based mud systems have largely been replaced by synthetic based muds (SBMs) which contain a synthetic base fluid (usually based on paraffin, olefins or esters - EBMs), together with a number of other components, both organic and inorganic. Water based mud systems are still widely in use, but include more additives containing hydrocarbons / organic components (e.g. glycol) than they did in the past. This article is focused on investigation of the harmful effects of oil-based muds and introduction of new OBMs or WBMs and their advantages. As a case study RIG68 FATH-WELL 452-AHWAZ is selected as a case without any treatments on the cuttings before disposal and RIG86 FATH-WELL 453 and RIG59 FATH-WELL 49-ABTEYMOUR as cases equipped with zero discharge solid control equipment

> **کلمات کلیدی:** OBM, WBM, GREEN MUD, RIG POLLUTION

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