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Comparison between Kick Occurrences in the Gulf of Mexico and Offshore Norway

ABSTRACT

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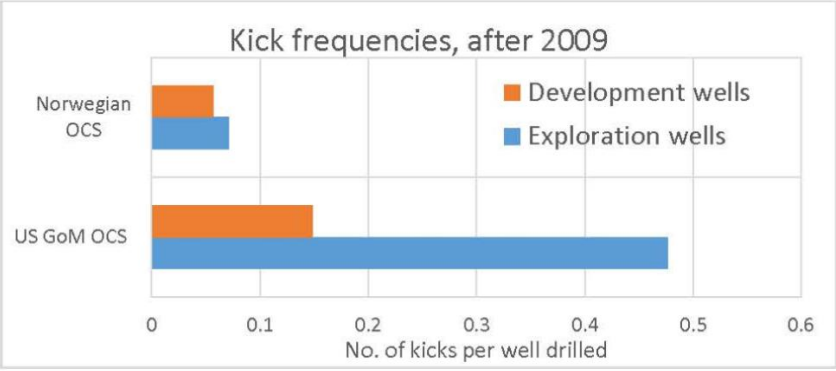
In this article, we discuss kick occurrences during offshore operations in the Gulf of Mexico (GOM) and in the Norwegian sector of North Sea. The comparison between these two geographic areas is feasible because of similarities in the regulatory regimes and reporting requirements. Various factors, both natural and man-made, have been evaluated in attempt to explain the elevated occurrences of kicks in GOM. The information for this article is part of a recently completed BSEE- sponsored research project on kicks and loss of well control (LOWC) worldwide.

We present a multi-faceted comparative summary of kicks occurring during drilling, completion, or workover, conducted in both geographic areas- the US GOM and offshore Norway. We review what causes kicks to escalate to LOWC, and compare statistics on LOWC in the US GOM and Norway's OCS.

The histogram below shows that there is a significant difference in kick frequencies during drilling in the Norwegian sector of North Sea and in the US GOM. Only kicks occurring after installing the BOP on the wellhead have been taken into account.



Offshore well kick frequencies, US GOM OCS and Norway OCS (data collected after 2009)

As the above chart shows, the frequency of kicks per well drilled in the US GOM for the period 2009 – 2015 is significantly higher than the kick frequency in the Norwegian sector of North Sea. In the interpretation of the empirical statistics, we assume that small statistical error is present in the data from both countries, with the Norwegian kick frequencies being slightly under-reported, whereas the kicks in the GOM may be slightly over-reported due to duplicate kick descriptions.