TITLE
Internship: Analysis of vibration mitigation tools, their performance and their field of applications.

Location
Celle, Germany

Description
Drilling dynamics mitigation has always been a very important field of research for the oil field service industry. Since the early days of drilling, it has been recognized that important energy is wasted in drilling dysfunctions and that controlling these dysfunctions will ultimately lead to a better performance. Some of these dysfunctions can be extremely harmful and could leads in extreme cases to premature downhole tool failures resulting in non-productive time and additional maintenance costs. The recent market environment (e.g. oil price volatility) has made it more imperative than ever to come up with new solutions that enable performance improvement and mitigate drilling dynamics. The industry has put extensive efforts to build new solutions and one general trend observed globally is the increasing use of vibration mitigation technologies.
The objective of this thesis is to provide a general market overview of vibration mitigation tools and services and to analyze in detail some of the available technologies and assess their field performance based on field data. The thesis should also demonstrate the limitations of these tools and should show the range of applications where the deployment of these tools would be beneficial. The focus of this thesis is the performance analysis of vibration mitigation technologies.

Work Scope and Deliverables

- Literature search on vibration mitigation and vibration dampening tools and review of the available vibration services in the oil field service industry.
- Statistical analysis of vibration mitigation tools based on field data and field performance.
- Analysis of different Bottom Hole Assembly (BHA) designs and assessment of BHA performance as well as the impact of some drilling dynamics dysfunctions on critical BHA components. The analysis will be based on field and maintenance data.
- In depth study of two cases with different vibration mitigation tools.
- Gute Englischkenntnisse aufgrund des internationalen Arbeitsumfeldes sowie Interesse an der Zusammenarbeit mit anderen Kulturen.

Please submit your application to:
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