

[本期目录](#) | [下期目录](#) | [过刊浏览](#) | [高级检索](#)  
[页](#) [[关闭](#)]

[[打印本](#)]

[钻井工程](#)

削减PDC钻头泥包提高机械钻速的技术途径

韩敦, 彭芳芳, 徐同台, 潘小镛

北京石大胡杨石油科技发展有限公司

摘要:

采用PDC钻头与水基钻井液配合方式钻进泥页岩地层时, 如何防止钻头泥包成为提高钻速的一大技术难点。为此, 首先介绍了国外水基钻井液和水基钻井液添加ROP增速剂的钻头提速室内模拟实验取得的成果; 然后用典型实例分别评述了PDC钻头优化(结构、氮化处理)以及在泥岩段地层中应用水基钻井液添加ROP增速剂的提速效果。考虑到钻井液的费用和环保问题, 认为加入ROP增速剂的水基钻井液配合抛光PDC钻头将是软泥岩地层提速的有效技术途径, 其应用一定会有更广阔的前景。

关键词: [泥页岩](#) [水基钻井液](#) [PDC钻头](#) [钻头泥包](#) [增速剂](#) [钻速评价方法](#)

Technical methods for mitigating PDC bit bailing and improving the rate of penetration (ROP)

Han Xiao, Peng Fangfang, Xu Tongtai, Pan Xiaoyong

Beijing Shida Huyang Petroleum Science & Technology Development Co., Ltd., Beijing 102200, China

Abstract:

The prevention of bit bailing has become a bottlenecking problem in the improvement of rate of penetration (ROP) when a PDC bit is used for drilling in shale formation together with water based drilling fluids. This paper first introduced foreign water based drilling fluids and the achievements in indoor simulating experiments on the ROP enhancement by adding accelerating agents into the water based drilling fluid. Then some typical case histories were used to make comments on the PDC bit optimization (structure and nitrogen treatment) and the acceleration effect of drilling in shale formations by use of the water based drilling fluid with ROP accelerating agents added. Moreover, concerning the drilling fluid cost and environmental protection, it is regarded as an effective technical method to improve the ROP when drilling in soft mudstone formations using the polished PDC bit along with the water based drilling fluid with ROP accelerating agents added.

Keywords:

收稿日期 修回日期 网络版发布日期

DOI: 10.3787/j.issn.1000-0976.2012.08.019

基金项目:

通讯作者:

作者简介:

作者Email:

参考文献:

本刊中的类似文章

1. 孙海芳, 韩烈祥. 新工艺新技术在X超深井钻完井中的应用[J]. 天然气工业, 2009, 29(10): 48-50

扩展功能

本文信息

[Supporting info](#)

[PDF 639KB\)](#)

[CEB \(140 KB\)](#)

[\[HTML全文\]](#)

[参考文献\[PDF\]](#)

[参考文献](#)

服务与反馈

[把本文推荐给朋友](#)

[加入我的书架](#)

[加入引用管理器](#)

[引用本文](#)

[Email Alert](#)

[文章反馈](#)

[浏览反馈信息](#)

本文关键词相关文章

[泥页岩](#)

[水基钻井液](#)

[PDC钻头](#)

[钻头泥包](#)

[增速剂](#)

[钻速评价方法](#)

本文作者相关文章

PubMed

2. 晏凌,胡卫东,陈怀高,刘德平,陈云坤.LG地区X井快速钻井配套工艺技术[J]. 天然气工业, 2009,29(10): 57-58
3. 陈在君,刘顶运,韦孝忠,陈炼军,王万庆.长庆气田水平井PDC钻头防泥包技术[J]. 天然气工业, 2009,29(11): 62-63
4. 李玉喜, 聂海宽, 龙鹏宇.我国富含有机质泥页岩发育特点与页岩气战略选区[J]. 天然气工业, 2009,29(12): 115-118
5. 张洁, 郭钢.杂多糖钻井液抗温抑制性能评价[J]. 天然气工业, 2010,30(1): 80-82