

very stable rheological properties and low ECD. Moreover, the filtrate volume of FR-OBM is only 3.4–5.6 mL under high-temperature (150 °C) and high-pressure (3.5 MPa), an evidence to its excellent filtration performance. Besides, the recovery rates of drill cuttings in the FR-OBM are as high as 91.2–97.8%, indicating that the proposed drilling fluid can effectively inhibit shale hydration and dispersion. In addition, the FR-OBM is proved to have good contamination resistance to NaCl, CaCl₂ and drill cuttings. Suffice it to say that this paper provides a solution to rheology-related problems in deepwater drilling.

ACKNOWLEDGMENTS

This work was supported by the National Basic Research Program of China (2015CB251205), the Project Funded by China Postdoctoral Science Foundation (2015M580618; 2016T90658), and the Postdoctoral Innovative Project Foundation of Shandong Province (No. 201602027).

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