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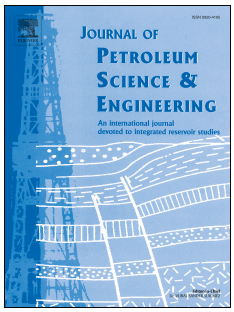

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ACCEPTED MANUSCRIPT

A Novel Field Applicable Mud Formula with Enhanced Fluid Loss Properties in High Pressure-High Temperature Well Condition Containing Pistachio Shell Powder

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Abstract

Sustainable technologies are the main concerns of the 21st century modified oilfield industries. The insufficiency of conventional drilling fluid formulations with a combination of hardly degradable hazardous chemicals as additives raise the demands of field-applicable innovative and environmentally friendly methods. Pistachio Shell discards as degradable wastes, which can intellectually apply in drilling fluid formulation. The experimental oilfield investigations of utilizing pistachio shell powder prove the significant enhancement of rheological properties, reduction of fluid loss and mud cake thickness in both API (Low Pressure —Low Temperature) and High Pressure—High Temperature (HPHT) conditions. The main point of concern is

PSP: Pistachio Sell Powder
PAC-LV: Low Viscosity Polyanionic Cellulose
HP-HT: High pressure High temperature
LP-LT: Low Pressure Low Temperature
CMC: Carboxymethyl cellulose
HEC: Hydroxyethyl Cellulose
FLA: Fluid loss additive
API: American Petroleum Institute
YP: Yield Point
PV: Plastic Viscosity

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