ThunderCloud™ Frac Plugs 18 Stages Fully Dissolved at Low Salinity

ThunderCloud™ ELIMINATED TIME AND MONEY CONSUMING MILLING REMOVAL AT LOW SALINITY DH CONDITIONS

JILING, NORTHEAST, CHINA

WELL PROFILE

- Oil well
- MD 12,169 Ft TVD 7,425 Ft
- 3,871 Ft Hor. Interval
- 4-1/2" 13.5-15.1# Csg.
- DHT 194 F
- CL- 3,000mg/l
- 9,863 psi pressure rated

CHALLENGES

- Low Salinity
- Area Record Plugs to be set
- No CT unit available on-site for
- Contingency mill-out

SOLUTIONS

- Pre-job fluids analysis to select correct grade of dissolving materials needed for the application
- Lab Tested

RESULTS

- Packer Set and Ball Seated with no issues
- Pressure held up when fracturing
- Fully reliable dissolution confirmed by wiper trip conducted 20 days later

OVERVIEW

In an effort to eliminate time and money consuming milling removal of composite plugs, CNPC challenged Petrostar for an interventionless plug-and-perf frac completion by setting 18 dissolvable frac plugs, a record number of plugs to be set at low salinity environment in the 3,871 length horizontal interval in Qian block, Northeast China. A pre-job fluid analysis and rate of dissolving test were conducted to select the correct grade of dissolving materials needed for the application.

OPERATIONS

18 ThunderCloud™ frac plugs were set while the 7th plug set was rerun due to wireline tools malfunction. Fracturing went smoothly with max. pressure recorded at 9,863 psi and pressure held up without any issues. Wiper trip conducted 20 days later, no restriction encountered and fine debris returned verifying the reliable fully dissolution of all 18 plugs.









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