Casing Reinforcement Service Case

Challenges

1. The low temperature and complex heat exchange at seabed both affect the compressive strength of cement.
2. The interval between pore pressure and fracture pressure is narrow, which means the formation could be easily fractured.

Cement compressive strength test

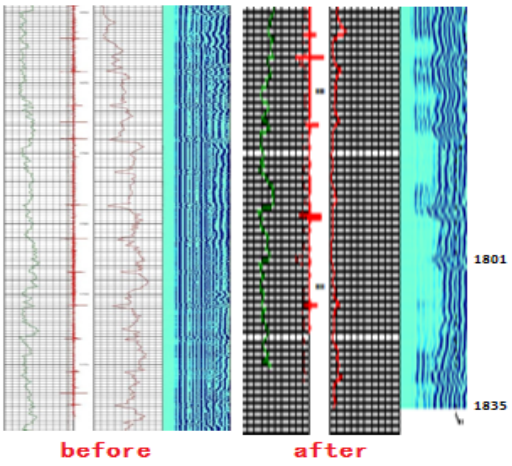
Solution

Develop an early-strengthening cement slurry system and optimize plugging process and technology.

Performance

Obtained two squeezing technology: flat-thrust method and substitution squeeze method. Both methods passed experiment and onsite test after enough simulation.

Well Q6-F has the problems of three points of casing deformation, damage, and severe sand occurrence, severe pay-zone leakage at the interval of 1801 to 1835 meters; after 30 days of overhaul operation, casing deformation had finally been repaired, and the damaged points plugged. The well restored production capacity. The right chart shows logging curves before and after plugging.



Logging curves comparison

Relative Tools

Segment squeezing tool

Repairing tool

Repairing tool

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