Casing Protection and Heat Checking Prevention due to Non-Rotating Protectors

Casing Protection / Heat Checking

On a previous well, an operator had a failed 16" casing pressure test, due to excessive wear and probable heat checking. WWT's Non-Rotating Protectors (NRPs) were deployed for the next similar well as a solution to prevent further incidences by protecting the casing on multiple hole sections.

Location: Gulf of Mexico
Well Type: Deepwater
Objective: Reduce Casing Wear and Heat Checking
Solution: WWT SS-658 NRPs
Results: Mitigated Casing Wear Shown in Log Results

NRP Performance

WWT Non-Rotating Protectors (NRPs) were installed in the vertical section of the well. A total of 140 SS-658 NRPs were installed at a frequency of one per joint to provide complete tool joint stand-off between the casing and drill pipe. Image 1 represents tool joint contact being eliminated once NRPs were installed.

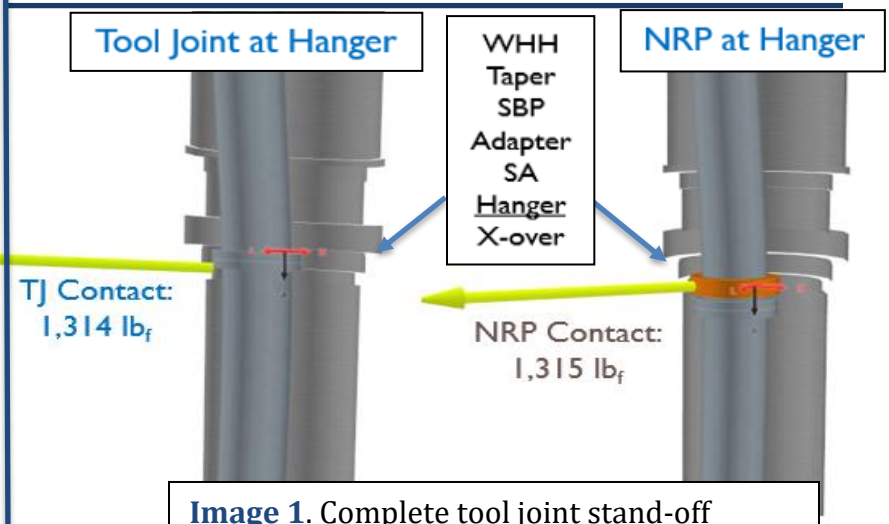

Image 1. Complete tool joint stand-off achieved while drilling with NRPs installed.

Image 2 represents cumulative wear to the casing, after two hole sections were ran without NRPs (left) vs the final two sections ran with NRPs (right). Wear factors were back-modeled based on caliper log from the previous well to accurately assess subsequent wells. Actual wear closely aligned with the predictions. Minimal increased wear to the 16'' casing was measured after running NRPs for two hole sections. 2.7M drill pipe rotations were recorded for March and April combined. Wear was primarily due to running wireline, tripping, and a reduced NRP coverage to simplify pipe management. After the initial success, the operator used WWT NRPs for their remaining drilling campaign.

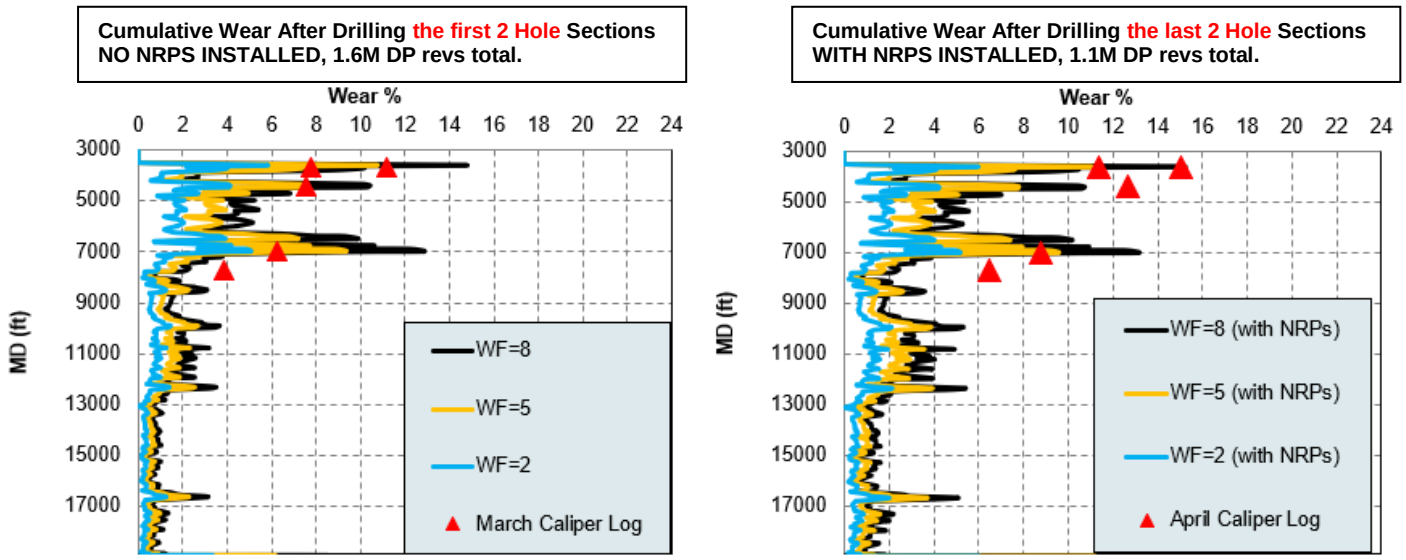

Image 2. Cumulative wear to the casing without NRPs vs with NRPs