

S4 NRP Provides Casing Protection in High-Temperature Well

Casing Wear Concern

Due to the combination of hard formation, high RPM, and high side forces, the operator wore a hole in their casing causing a blow-out while drilling. WWT's Non-Rotating Protectors (NRPs) were deployed for the subsequent similar wells as a solution to prevent further incidences by protecting the casing throughout the bit run on multiple hole sections.

Well Analysis and NRP Proposal

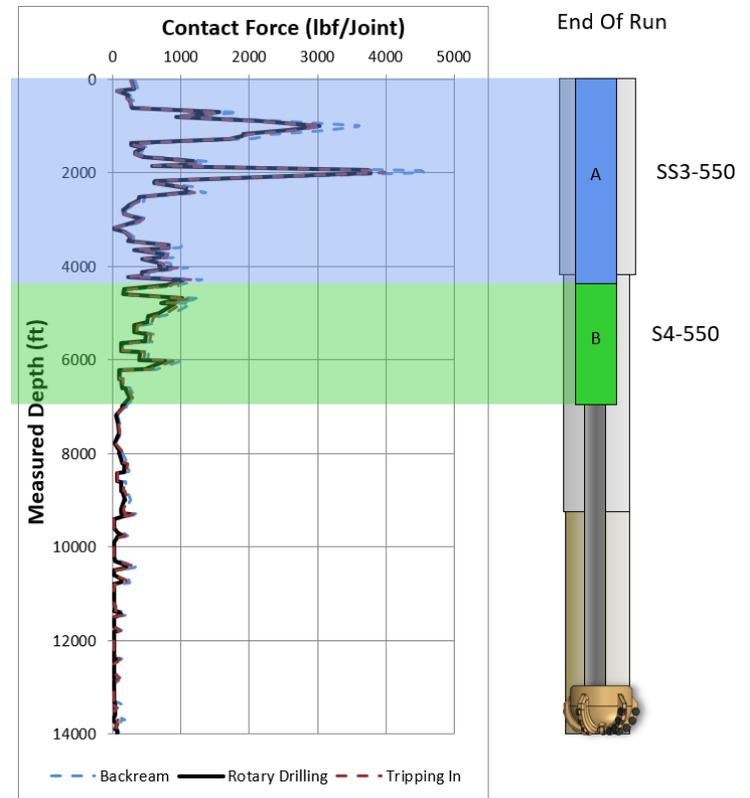
WWT analyzed the well and presented a technical recommendation of 1 NRP on every-other joint to protect the 13-3/8" surface casing throughout the entire bit run for both the 12-1/4" x 13-1/2" and 10-5/8" hole sections. The well had a bottom hole temperature of 352°F with no mud coolers. As a result, WWT recommended its newly-developed S4 model NRPs in areas where the temperature would have exceeded the temperature rating of the SS3 NRPs. The S4 is temperature rated to 275°F. The S4 NRP reached a maximum temperature estimated to be 248°F in this well. A total of 42 S4 NRPs were installed on the string.

S4 NRP Performance

Metal recovered from the ditch magnets were extremely low. NRPs were installed on the first pad well for 24 days; during this period, the average metal returns were 0.8lbs per day. The S4s had a total of 305 rotating hours while installed. The same NRPs were then used on the second well for 29 days and had a total of 302 rotating hours. The average metal returns were 1.5lbs per day. The S4 NRPs protected the casing of the wells with elevated temperatures and had a total of 607 rotating hours; attesting the durability and effectiveness of the S4 NRPs. The operator has decided WWT NRPs are standard practice for future comparable wells in the area.



Location: East Texas
Well Type: Vertical
Objective: Casing Protection
Solution: S4 NRPs
Benefit Seen: Reduced metal returns



WWT Non-Rotating Protectors
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