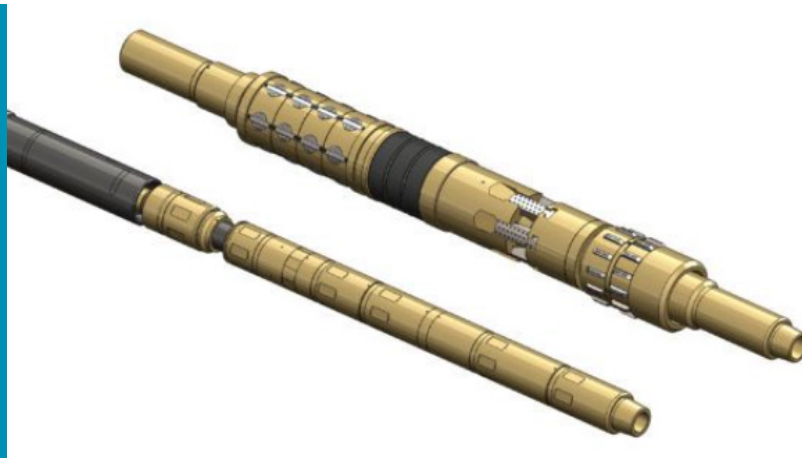
Expro Excellence

BRUTE® Storm Systems provide dual-barrier well isolation for a high-profile deepwater well

Well Construction | Downhole Service Tools



Objectives and background

- To isolate the casing and BOP to repair a leak, our customer required quick installation of two mechanical barriers: one set deeper in the well near the exposed zone (open hole section) and one set near the mud-line and BOPs. These requirements were based on both the operator's standard operating procedure (SOP) and the regulatory agency's barrier compliance, as the liner was not yet installed or cemented in place within the 13 5/8" casing section

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- Our multi-service operator (MSO) and applications engineering team performed multiple pre-job planning exercises, surge and swab analysis due to tight mud weight margins and weak formations, slip-load calculations to ensure casing could sustain the required pressure and tensile, and complete running procedures per application
- Meeting the requirements to install two mechanical barriers without needing to trip the full BHAs out of the wellbore, the technically advanced BRUTE® 2 Storm Valve requires only a single overshot to run and retrieve in a single operation, where most other storm systems require multiple overshot assemblies
- With the two 13 5/8" BRUTE® High Pressure/ High Tensile Storm Systems consisting of the million-pound BRUTE® Packer, BRUTE® 2 Storm Valve, and BRUTE® Bumper Sub on location, operations were ready to commence quickly. The first BRUTE® Storm System was run and set at ~12,800ft, while supporting 6 5/8" tailpipe below the packer. A positive pressure test was completed up to 1,000 psi. With the storm valve disconnected, a negative test up to 2,250 psi was completed and a short trip was performed to install the second Storm System
- While supporting the landing string and overshot for the first BRUTE® Storm System, the second Storm System was successfully installed, providing substantial time savings and preventing the need for tripping additional BHA in/out of the wellbore. Once installed, the second Storm System was successfully tested to 4,300 psi
- With both 13 5/8" BRUTE® Storm Systems installed, displacing operations commenced through the BRUTE® 2 Storm Valve overshot assembly at over 22 barrels per min (BPM). The unique sealing mechanism within the overshot assembly could readily accommodate the high circulating rates, whereas similar products on the market use only O-rings that can be removed or become damaged, requiring the BHA to be fully removed from the wellbore and increasing rig time and exposure
- After multiple weeks of rig repair and with maintenance operations completed, the BRUTE® Storm Systems were ready to be retrieved from the wellbore to resume drilling operations. The second installed Storm System overshot was run in the well and reattached to the BRUTE® 2 Storm Valve assembly. The ball valve was opened to check and monitor any pressure trapped below the assembly. Overpull was then achieved to unset the BRUTE® Packer assembly and short-tripped to remove from the wellbore
- With the second BRUTE® Storm System removed, the remaining BHA including the first installed overshot assembly was then run to the first Storm System. Once reattached, the ball valve was opened to check and monitor any pressure trapped below the assembly. Overpull was then achieved to unset the BRUTE® Packer assembly and the assembly was removed from the wellbore

Value to the client

- Our BRUTE® Storm Systems were selected to install the required barriers utilizing our MSO who was already onsite performing cementing operations. This eliminated the need for additional personnel or logistics, decreasing our customer's spread costs and personnel-on-board
- With the successful performance of the BRUTE® barrier systems and our personnel, we were able to exceed the customer's requirements and expectations, demonstrating our understanding and ability to meet the challenges of the most complex well operations

Cost saving

Contact

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