

Case study: Qatar

Hydraulic casing backoff tool performed successful repair, brought well back on track for completion

An important customer in Qatar experienced a unique casing repair problem in an offshore well that was near completion. The premium 9%-in. casing hanger could not be landed in the profile after the cementing operations and there was no good way to land the hanger. The conventional solution involved cutting the casing at a specific location, potentially losing centralizers in the well, and not being able to have full casing integrity. This solution was one the customer rejected and turned to Baker Hughes because of its portfolio of casing repair tools to devise a solution around the impasse.

Baker Hughes recommend the **hydraulic casing backoff tool**, a hydraulically operated downhole breakout tool that eliminates blind backoff of casing and allows an operator to back off casing at a known depth and location without cutting. Capable of a high-torque breakout capacity, the tool leaves a threaded connection for re-engaging with a new casing string, maintaining full casing integrity when casing is screwed back together properly.

Marshalling its resources, Baker Hughes sourced the tools and moved them to Qatar in a matter of weeks, all during the Covid-19 pandemic which severely limited movement of field personnel and equipment. Through the assistance of remote engineering support, the tool was serviced and run successfully in the well.

The hydraulic casing backoff tool allowed the customer to break the premium casing connection exactly where the customer wanted to backoff the casing. After cycling the tool three times, the connection was loose enough to be completely backed off with the **Type B™ casing spear**. The Type B casing spear allowed the customer to finish backing off the casing and retrieve it to the surface.

The customer allowed five days for the planned procedure, but the flawless operation was completed on the first attempt and in 3.5 days. The repair was successful with no other steps added to the program. The well was brought back to the completion phase.

Challenges

- Overcome unique well intervention conditions
- Avoid damage to casing integrity

Results

- Backed off premium connection and retrieved casing in first attempt
- Performed the operation in 3.5 days, 30% faster than planned
- Saved the well production
- Experienced no health, safety and environmental (HSE) issues or nonproductive time (NPT)