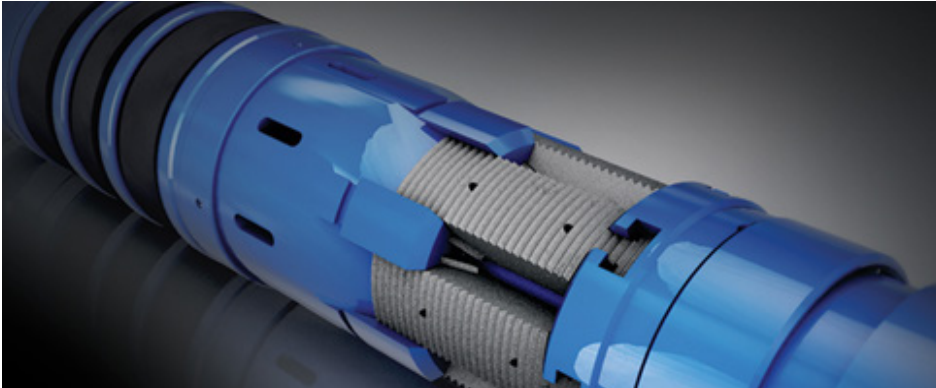


Case study: North Sea

XP anchoring test packer/ WBCU system save 49.25 hours, \$500,000 USD



An operator in the North Sea needed to perform a liner top inflow test at 16,433 ft (5008.8 m) to 9,365 psi (645.85 bar) at a temperature of 350°F (176.7°C). Inflow testing typically requires one run for wellbore cleanup (WBCU) tools and another for the test packer.

To save time and money, the operator chose to use the Baker Hughes XP anchoring test packer (XP ATP) with WBCU tools. Combining these technologies enables operators to perform the liner top integrity test and WBCU in a single run. The XP ATP fitted with casing-friendly slips is rated to 11,000 psi (758.6 bar) and 400°F (204.4°C). It remains locked while running in hole without presetting due to a safety mechanism. Once in position, a ball is dropped to disengage the safety feature. Slacking off weight closes the bypass and expands the elements and slips. After the test has been conducted, the tool is unset and a second ball can be dropped to relock the tool in the unset position.

The **X-Treme Clean™ one-trip liner inflow test/WBCU bottomhole assembly (BHA)** included a bit, an EP casing scraper, a polished bore

receptacle (PBR) mill, an EP casing scraper with top dress mill, the XP ATP, a ball catcher sub, the **J-Type™ circulation swivel, Grabitz™ magnets**, and a multitask wellbore filter.

The BHA was run in hole and the WBCU operation began with the scraping of the gun hanger setting area. The liner top was dressed and the J-Type circulation swivel was opened to circulate out the cuttings. The first activation ball was dropped and the XP ATP was set with 55,000 lb (24,950 kg) of slack-off weight. An initial 1000 psi (69 bar) test was performed.

The packer was unset and lightweight 6.7 ppg oil-based mud (OBM) was pumped in the string in preparation for the inflow test. The packer was set once again and the test was successfully conducted to 9,365 psi. The wellbore was then displaced to 14 ppg OBM, and then to 8.51 ppg completion fluid.

Combining the XP ATP and WBCU tools saved 49.25 hours of rig time. This is a clear example of how Baker Hughes continues to use innovative technology to save operators time.

Challenges

- Test liner top set at 16,433 ft to 9,365 psi at 350°F
- Combine liner top integrity test and wellbore cleanout in a single run to save time
- Displace 17 ppg wellbore fluid and and inflow test the well for circulation to 8.51 ppg completion fluid

Results

- Combined liner top integrity test and wellbore cleanup in a single run
- Saved operator 49.25 hours and \$500,000 USD