



EXPRO

WELL FLOW MANAGEMENT™

/ Expro Excellence TCP

Expro delivers high performing
HPHT TCP services in GOM



Objectives

- Perforation of a challenging, deep, high pressure and high temperature well using TCP guns attached below the permanent completion packer for an operator in the Gulf of Mexico
- Development well: bottomhole hydrostatic pressure was ~12,200 psi; bottomhole temperature was 355°F; completion fluid was 13ppg calcium bromide brine; 5" 18 ppf production liner

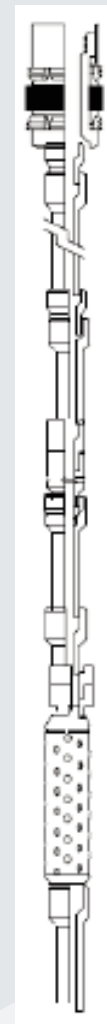
Expro Excellence

- A 3 1/8" 6 SPF 135/45° phased gun system with specialised proprietary HNS reactive liner charges was selected and run below a permanent packer; this incorporated Expro's top-fired dual firing head (TFDFH) with time delay and auto gun release
- With a back-up pressure activated time delay firing head run at the bottom of the guns, this was a truly redundant system with the ability to detonate from top down and bottom up
- The TCP assembly was run along with the production packer as one assembly on e-line; the packer was set and the e-line setting tool retrieved from the well, with the completion tubing string deployed and latched into the production packer thereafter

- With the production tree installed and pressure testing complete, the guns were detonated by pressuring the production string to 4,100 psi to initiate the 10 minute time delayed firing head, and bleeding off tubing pressure to give the desired underbalance of 1,500psi
- The guns detonated successfully and auto released to the sump on the guns firing, allowing future well intervention across the producing zones

Value to client

- Gun performance was optimised for the high temperature explosives required for the downhole conditions
- Rig time was saved using Expro's gun firing system and auto gun release, which eliminated the need for wireline runs
- Well productivity was maximised through the use of proprietary reactive liner shaped charges, where each perforation is subjected to its own cleaning action and connectivity with the reservoir
- The well was flowed and cleaned up at expected rates



Contact

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