Objectives

- A major international operator in the Gulf of Mexico with perforating needs had a minimum inflow area requirement of up to 10 in² per foot, however standard gun systems only enabled 39 gram 15 shots per foot creating an inflow area up to a maximum of 8 in² per foot

Expro Excellence

- Responding to the ITT, Expro modelled the customer’s requirements and provided a technical proposal to meet the required inflow area to achieve expected production rates
- Expro were awarded the contract and delivered a new charge and gun system: a prototype of this new system was tested in accordance with API RP 19B with a concrete test piece to simulate the reservoir and a section of 10 1/8” 79ppf SM-125 casing; a second test was also performed on 9 5/8” 47ppf L-80 casing for comparison

Value to client

- The test in the 10 1/8” casing yielded an inflow area of approx. 14.7 in² per foot
- The gun system deployment was successful – the customer was able to draw the well down and achieve expected production rates
- Upon firing, the slight overbalance left in the drill string dropped and the well went static – after monitoring for one hour the well began taking fluid at approx. 10 bbl/hr – confirming the perforations were active

Deepwater wellbore conditions (water, depth, total drilled depths, bottomhole pressures and temperatures) and performance requirements of downhole equipment (pressure ratings) are dynamic and constantly present new challenges. Wells previously completed with 9 5/8” casing now require heavier wall 10 1/8” in order to maintain well integrity.

Contact
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