

ACTive OptiFIRE System Perforates Three Intervals, Increases Well Production 18% in Brownfield Well

Innovative underbalanced perforating technology reduces HSE risk, deferred production, and intervention time

CHALLENGE

Perforate two new intervals and reperforate a producing interval in underbalanced conditions without deferring production.

SOLUTION

Use ACTive OptiFIRE* CT real-time selective activation system to perforate the selected zones and confirm downhole detonation instantaneously.

RESULTS

Successfully perforated all three intervals, increasing well production by 18%.



Underbalanced conditions present perforating challenges

After decades of strong production, a brownfield in Latin America began creating economic and operational challenges for Pemex. To address declining flow rates, Pemex planned to perforate two new intervals and reperforate a critical zone. In an effort to prevent deferred production and remove formation damage, Pemex needed to perform the perforating job on a live well during underbalanced conditions.

ACTive OptiFIRE system accurately perforates and measures in one run

Schlumberger deployed the ACTive OptiFIRE system, a first-of-its-kind coiled tubing technology that eliminates the need for a ball drop or pressure-pulse system to activate shaped charges. Using advanced fiber-optic technology, Schlumberger accurately placed the perforating guns into the three selected zones and perforated the well. Casing collar locator (CCL), pressure, temperature, and accelerometer data confirmed downhole detonation in real time.

Live coiled tubing job increases production by 18%

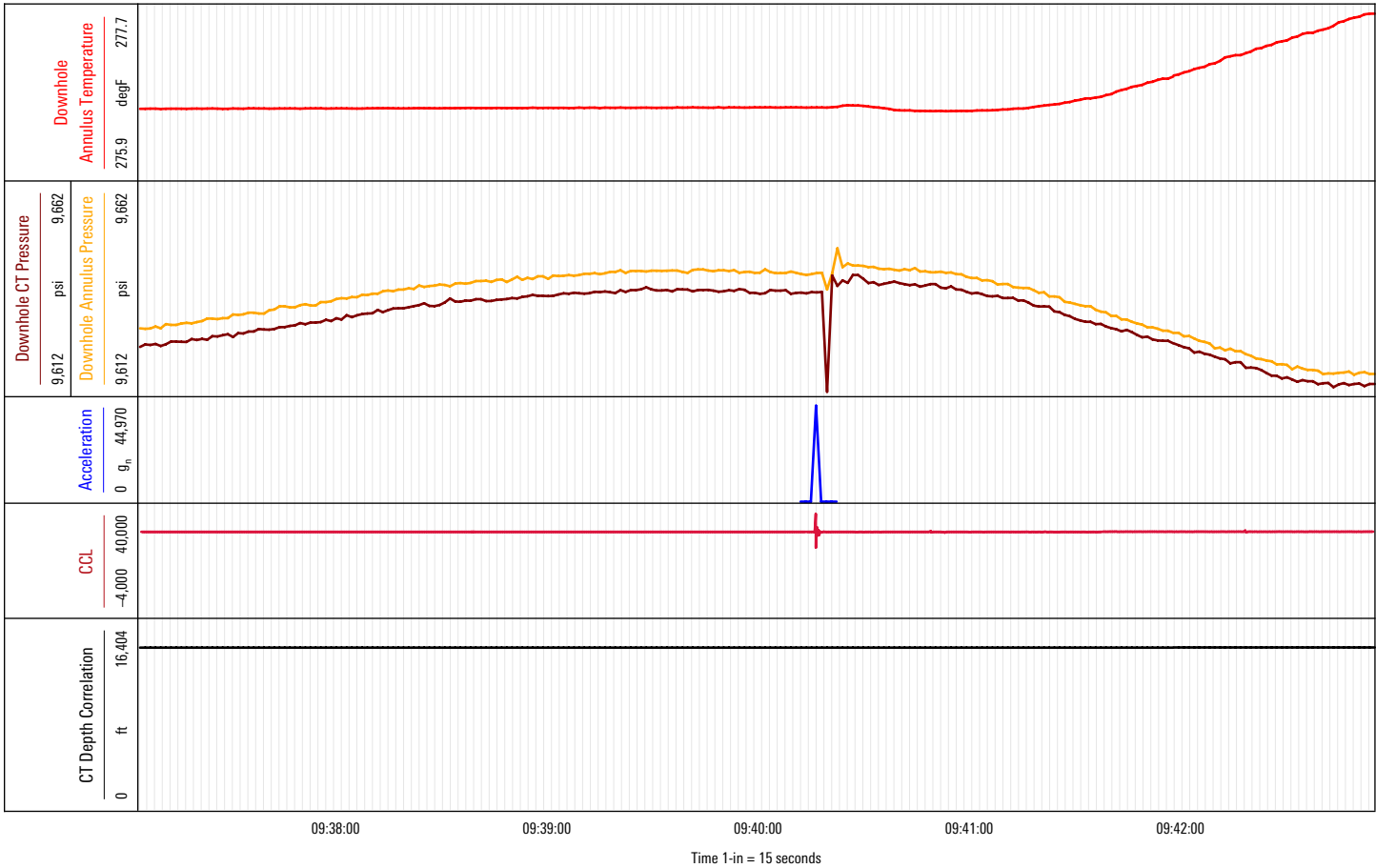
After the intervention, Pemex realized a production increase of 18%, and the ACTive OptiFIRE system reduced perforating gun detonation time by 75%.

The absence of working fluid dramatically reduced HSE risk during the underbalanced perforating intervention, as it eliminated the need to hydrostatically load the well as part of the operation. Because the intervention was performed on a live well, Pemex avoided deferred production and nonproductive time associated with conventional perforating methods.



The ACTive OptiFIRE system was deployed on a live well during underbalanced conditions.

CASE STUDY: ACTive OptiFIRE system increases well production 18% in brownfield well



Real-time confirmation of downhole detonation using the response of (from top to bottom) temperature, pressure, accelerometer, and CCL data.

slb.com/ACTiveOptiFIRE

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