

# North Sea Operator Efficiently Perforates Total 900-ft Interval in Six Tractor-wired Wireline Runs, UK North Sea

Significant rig time saved using the XR-Perf system with UltraTRAC tractor and WIREd release device to run longer gun strings without defaulting to alternative conveyance

## CHALLENGE

Improve perforation efficiency and mitigate risk in perforating 900 ft of noncontinuous intervals in a complex-geometry well.

## SOLUTION

- Use the XR-Perf\* expanded-range wireline perforating system and powerful UltraTRAC\* all-terrain wireline tractor to deploy extreme-length gun strings.
- Mitigate disconnection risk in case of sticking by incorporating the WIREd\* wireline inline release device.

## RESULTS

Successfully executed the operation in only six tractor-powered perforating gun runs with up to 170 ft of loaded guns.



## Perforating multiple intervals totaling 900 ft in a complex-geometry well

A North Sea operator needed to perforate a cumulative 900 ft offshore along a tortuous well path with an inclined section at 86.5°. Wireline deployment was preferred because the well's configuration would most likely cause coiled tubing to buckle and tubing-conveyed perforating would be a lengthy, more costly operation to accommodate the significant blank intervals required to perforate the separated target intervals. However, running long, heavy gun strings to efficiently perforate multiple intervals in each tractor-wired wireline run posed risks due to low overpull margins if the guns were to become stuck. A conventional setup would not allow disconnection between the tractor and the guns, posing high exposure to a lost-in-hole situation.

## Pushing through conventional perforating constraints

Schlumberger proposed running extreme-length gun strings on the XR-Perf expanded-range wireline perforating system for efficiently perforating multiple intervals. The XR-Perf system would integrate the necessary ultrahigh-strength cables and units for the long, tortuous well path with the UltraTRAC all-terrain tractor, which provides the highest tractor force available in the industry.

To assure release capability for recovering the tractor in the event of a stuck gun, the WIREd inline release device was employed between the tractor and the guns. The WIREd inline release device can be placed virtually anywhere in a string, and multiple WIREd devices can be used in a single string. Release redundancy is provided via surface release capability backed by a battery-powered release option. The lightweight communication telemetry of the surface-controlled release does not interfere with toolstring operations, nor is there any risk that other tools can affect the release circuitry.

The WIREd release device is also extensively shock qualified to readily manage the high shock that would be generated by the extreme-length gun strings.

## Tractor-wiring six highly efficient perforating runs and more than 36,000 ft

The extreme-length gun strings were deployed on the XR-Perf system in only six runs to perforate the required 900 ft. Two Schlumberger records were set for the longest single-run wireline tractor-conveyed perforating operations: 170 ft of 2 $\frac{7}{8}$ -in guns and 150 ft of 3 $\frac{3}{8}$ -in guns. The robust WIREd release device significantly decreased the lost-in-hole risk for the operator throughout the perforating operations.

The total of 11 runs performed for drift runs and other services summed to more than 36,000 ft of tractor-wiring.



WIREd release device.