In the North Sea, we partnered with a customer to provide a coiled tubing solution to deploy, activate and retrieve perforating guns after firing them downhole. This unique job required high wellhead pressures, in some cases over 30,000 psi, along with high bottomhole-pressure combinations.

Previously, an additional 1,500 feet of wellbore was drilled in preparation for the perforating sequence. Guns were lowered via tubing and fired. Previous grades of tubing were not strong enough to pull the guns out so they were released.

With QT-1300, the additional axial load capacity allowed the customer to retrieve these guns after firing. The customer used a 1 ¾” OD, 24,000 foot long string while working with 9,500 psi operating pressure.

This solution eliminated the need for additional wellbore, saving the customer time and approximately $1 million per well.

Read more in the following SPE papers:
• SPE 153945 “Full-Scale Fatigue Testing with 130K Yield Tubing”
• SPE 143152 “New Higher-Strength Coiled Tubing Developed to Extend Coiled Tubing Operating Envelopes”
• SPE 143079 “Use of High Strength Coiled Tubing in High Pressure/High Temperature Perforating Operations”
• SPE 170805 “Successful Campaign Using Coiled Tubing to Perforate Five HPHT Wells in the UK Central North Sea”

QT-1300 has been successfully utilized offshore, in the Gulf of Mexico and North Sea, and onshore, in the Bakken, Marcellus and US shales.
**Product Details**

### Available Sizes

- **1.750, 2.000**, OD (in)
- **0.156, 0.203**, Wall Thickness (in)

### Available Strings

- **0.188 - 0.250 (3.4 mm - 6.4 mm)**
- **1.750 - 2.875 (44.5 mm - 88.9 mm)**

### Maximum Hardness

- **39 HRC**

### Minimum Tensile Strength, psi (MPa)

- **35, 40, 45, 50, 55, 60, 65**

### Minimum Yield Strength, psi (MPa)

- **20, 25, 30, 35, 40, 45, 50**

### Details of equipment compatibility testing can be found in SPE 143152.

### Equipment Compatibility

- QT-1300 has been tested with existing coiled tubing control equipment. Shear testing has been completed to 0.203” wall thickness and 2.000” outer diameter. A shear cycled QT-1300 BOP supplier has also successfully performed shear testing on QT-1300 using the 4.06 ES Combiss and QualiBOP without the tubing slipping.

- QT-1300 has successfully been run through opposing injectors and into steel well with results comparable to that of running lower strength grades.

### Equipment Compatibility Details

- Performance Model: QT-1300 has a higher resistance to OD growth due to its higher yield strength. As a result, strings can now be designed with thinner wall thicknesses and lower string weights to overcome weight restrictions while maintaining string performance.

### Model Your Job With More Confidence

- **Improved Fatigue**
  - Improved pressure capacity
  - Improved fatigue life over QT-1000 and QT-1100
  - Increased yield strength allows you to increase axial load capabilities

- **Extended Reach**
  - Improved resistance to collapse
  - Extended reach in horizontal well applications

- **Improved Pressure Capacity**
  - QT-1300 has a higher yield strength, allowing you to increase pump rates and pressures and still experience less trips to nitromelt, improving your return on the string.

### Model Your Job With More Confidence

- **Improved Fatigue**
  - Improved pressure capacity
  - Improved fatigue life over QT-1000 and QT-1100
  - Increased yield strength allows you to increase axial load capabilities

- **Extended Reach**
  - Improved resistance to collapse
  - Extended reach in horizontal well applications

- **Improved Pressure Capacity**
  - QT-1300 has a higher yield strength, allowing you to increase pump rates and pressures and still experience less trips to nitromelt, improving your return on the string.

### Extensive fatigue testing has been completed and incorporated into commercially available and proprietary fatigue modeling programs.