



Weatherford®

REAL RESULTS

Renaissance® WDCL System Restores Gas Production to 3,000 m³/hr in Sour-Gas Well, Avoids Costly Workovers

Objectives

- Restore gas production—without the need for major workovers—in a well that could not be produced because a tubing-retrievable subsurface safety valve (TRSSSV) was plugged and no longer functional.
- Overcome the challenges associated with installing subsurface equipment in a sour-gas environment, including sulfide stress cracking.

Results

- Weatherford recommended using the Renaissance WDCL (Weatherford damaged control line) system to install the replacement valve. The system included a wireline-retrievable safety valve, control-line stinger, and control-line hanger. The team deployed the equipment without a rig using a slickline and mini-coil unit. They used the Weatherford REN-GATE™ wellhead-penetration conversion kit to retrofit the well without removing the wellhead.
- A wellhead configuration would have made installation impossible and would have required a standard workover. Instead Weatherford coordinated a creative engineering solution with the operator and three other project participants: modifying the control-line hanger and the lower seat of the lower master valve to incorporate a smaller-sized NoGo outer diameter (the largest OD section of the control-line hanger) and seals. Weatherford then led the installation.
- The team selected corrosion-resistant materials (Incoloy 925) to withstand the high levels of hydrogen sulfide (H₂S) and carbon dioxide (CO₂) in the well. These materials met NACE MR0175 and ISO 15156 requirements. This operation was the first installation of the Renaissance WDCL system in a sour-gas environment.

Value to Client

- By using the Renaissance WDCL system to install a replacement safety valve, the operator restored gas production to 3,000 m³/hr.
- The operator saved significant costs by avoiding major workovers.



The Weatherford Renaissance WDCL system efficiently replaced a damaged TRSSSV in a sour-gas well. Using equipment that can withstand corrosive downhole conditions, this operation helped the client avoid the expense of major workovers while restoring production to optimal levels.

Location

Lower Saxony, Germany

Well Type

Onshore, gas

Depth

~13,000 ft (~4,000 m)

Flowing Wellhead Pressure

1,450 psi (100 bar)

H₂S Content

12%

CO₂ Content

7.5%

Products/Services

- Renaissance WDCL system:
 - 2.813-in. wireline-retrievable safety valve
 - 1/4-in. control-line stinger
 - 4-in. control-line hanger
 - REN-GATE wellhead-penetration conversion kit

Weatherford
Stefan Kürzel
Operations Manager
stefan.kuerzel@eu.weatherford.com

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