

## TRMAXX Safety Valves Protect Reservoir and Environment

Case study: North Sea operator met stringent safety and pollution requirements and increased production in challenging environment

### Challenge

Meet stringent North Sea requirements and operator's subsurface safety system rules for use in new wells.

### Solution

Installed tubing-mounted TRMAXX\* series surface-controlled safety valves to allow fullbore access and maximum flow rates with the security of a field-proven emergency well shut-in system.

### Results

Conformed to all local and corporate requirements and achieved production rates of 10,000 bbl/d per well.

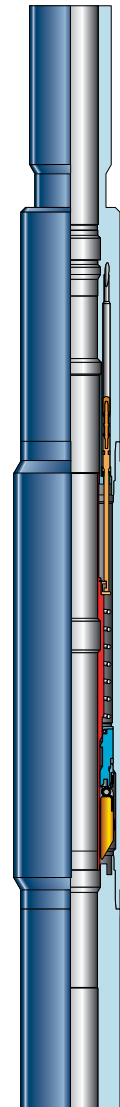
### Goal was to minimize impact and ensure safety

An operator's North Sea field was experiencing declining production rates. A previously completed seismic survey of the field was reprocessed to identify potentially accessible hydrocarbons remaining in the known reservoirs. As a result, the operator updated its plans for future well workovers and new well candidates. Because the operator was keenly attentive to the environmental effects of uncontrolled hydrocarbon flow, especially in its mature North Sea field, well integrity and safety were paramount to the planning process.

### Choice was TRMAXX series safety valves

After a detailed review of the products and technologies available and a rigorous evaluation of the service record of Schlumberger safety valves, the operator selected the Schlumberger TRMAXX series surface-controlled subsurface safety valves for these revenue-critical completions.

The TRMAXX valve series is the latest in a line of general service products designed for reliable and cost-effective service. These compact, modular valves are designed and tested for service in applications such as those of this operator's North Sea field. The TRMAXX series valves are available with working pressure ratings to 68.95 MPa [10,000 psi] and a wide range of materials for specific applications and operating environments.



*The TRMAXX series subsurface safety valve enables fullbore access and maximum flow rates with the security of a proven emergency well shut-in system for safe, long-term operations.*

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## **Successful installations were continued worldwide**

During 2006, more than thirty 4.5-in TRMAXX valves were run in the operator's North Sea field wells, and no installation or operational anomalies were observed. Today these valves remain in place, performing as designed. Since 2006, the operator has drilled 16 new wells in this field, and all were completed using the TRMAXX safety valve systems. The operator continues its use of these valves in North Sea completions at a rate of approximately 25 systems per year and has begun using them in completions throughout the world.

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