BG Norway achieves test objectives in a highly deviated well offshore southern Norway while saving over USD 300,000.

**Challenge**
Test the horizontal section of a highly deviated subsea well in the North Sea.

**Solution**
Use the CERTIS high-integrity reservoir test isolation system and the IRDV intelligent remote dual valve for reservoir testing operations.

**Results**
Met all test objectives using two leading-edge downhole testing technologies and saved the client over USD 300,000.

“The CERTIS operation was a great success with no issues at all. I’d like to continue using it in the future.”

Duncan Bertram
Well Test Engineer
BG Norway

Highly deviated well made for challenging perforation operations
BG Norway needed to perform a reservoir testing operation on a Bream oilfield appraisal well offshore southern Norway. The highly deviated well had an extensive horizontal section requiring a packer to be set at a 70°–75° deviation. In addition, a long string of tubing-conveyed perforating (TCP) guns (up to 600 m) had to be run with the downhole test tools.

A conventional retrievable packer was deemed unsuitable because its required pipe rotation was incompatible with the deviated well and the subsea test tree umbilical needed for the floating rig. Also, the compression-set packers would require weight from large amounts of heavy pipe to compensate for the deviation.

Technology combination used for single-trip efficiency
BG Norway chose the Schlumberger CERTIS high-integrity reservoir test system combined with the IRDV intelligent remote dual valve. The CERTIS system integrates many features of a conventional retrievable packer with those of a hydraulic-set permanent packer, including a built-in floating seal assembly that eliminates the need for drill collars and slip joints. When combined with the IRDV intelligent remote dual valve, the CERTIS system can significantly reduce the number of tools in the downhole test string.
CASE STUDY: Efficient, cost-effective testing in a highly deviated well, offshore southern Norway

The IRDV unique downhole valve design combines two fullbore multicycle valves—a tester valve (ball valve) and a circulating valve (sleeve type)—both capable of cycling independently or in sequence by using separate command pulses that optimize well operation. This configuration replaces three conventional DST tools and needs no nitrogen precharge, which increases efficiency and improves safety.

The combination allows maximum gun perforation performance, with gun size limited only by casing ID. In addition, the simplified system can retrieve the TCP guns, packer, and downhole test tools in a single trip.

Measurably better results delivered by innovative technologies
The flexible CERTIS system provided an optimal solution with no incidents, met test objectives, achieved client expectations, saved rig time, and eliminated the need to purchase a permanent packer—saving the client over USD 300,000. Based on the successful testing operation, several other companies with North Sea operations have chosen to use the CERTIS system for their upcoming reservoir tests, in addition to BG Norway, which plans to continue using the system.

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