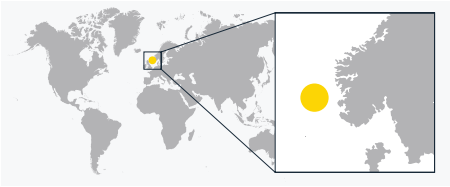
VAULT™ Dual Plug System Saves North Sea Customer a Total of 9 Hours' Rig Time with 2 Successful Runs



Region: North Sea
Customer: Major operator
Well type: Production
Rig type: Semi-submersible (floater)
Reference: 106013, 105999

Case benefits
- Saves 4.5 hours of rig time for each job, totalling to 9 hours for 2 jobs.
- Saves operational costs
- Safer and more efficient operations

Key capabilities
- ISO 14310 V0 rated gas tight seal
- Dual plug system
- No set weight needed below
- High differential pressure elements
- Combined run (pulling MUT prior to set deep plug)
- Reduced red zone activity
- High tripping speed
- High heave limitation

Typical Applications
- Plug and Abandonment (P&A)
- Barrier

Challenge
The recompletion of some wells on the Norwegian continental shelf required these wells to be temporarily abandoned prior to running an X-mas tree and upper completion.

The customer needed 2 V0 certified barrier plugs to be installed in 2 separate jobs.

The conventional method is to run in and install a deep plug, pull out of hole (POOH) with the running tool, then run in hole (RIH), and install a shallow plug prior to POOH with the running tool .

In addition, the wearbushing needed to be pulled in a separate run for both jobs. Archer was challenged to come up with a solution to reduce the time spent on these operations.

Solution
Archer's **VAULT™ dual plug system** made it possible to set two barrier plugs in just one run. A standard **TIMELOCK®** was used for the deep barrier, while the VAULT™ plug was utilized for the shallow barrier. Both plugs is ran in hole as one assembly.

From an operational perspective, after setting the lower plug, the drillpipe was picked up to setting depth for the shallow plug, which was activated set as per procedure. A multi-utility tool (MUT) was incorporated in the running string to also pull the wearbushing in the same run.

All together, the number of runs were reduced from 3 runs to just 1 run. With this solution, it was possible to retrieve both plugs in one run when the X-mas tree and BOP were installed.

Result
The operation was performed in just over 9 hours, for both jobs. This included pre-job meetings, tripping, setting and pressure testing of both plugs and handling of equipment at the surface.

For each job, the average tripping speed when RIH to set deep plug was 996 meters (3268 feet) per hour. The average tripping speed when pulling out to set the shallow plug was 1007 meters (3304 feet) per hour. The average rig heave during the operation was 3.8 meters (12.5 feet).

For each of the two jobs, the estimated time and cost savings were:

Time savings for installing two plugs in one run:	1,5 hours of rig time.
Time savings for pulling wear bushing:	1,5 hours of rig time.
Time savings for pulling both plugs in one run:	1,5 hours of rig time.

Estimated total time savings for both jobs = 9 hours.

Archer is a global oil services company with a heritage that stretches back over 40 years. With a strong focus on safety and delivering the highest quality products and services, Archer operates in 40 locations over 19 countries providing drilling services, well integrity & intervention, plug & abandonment and decommissioning to its upstream oil and gas clients. **We are Archer.**

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