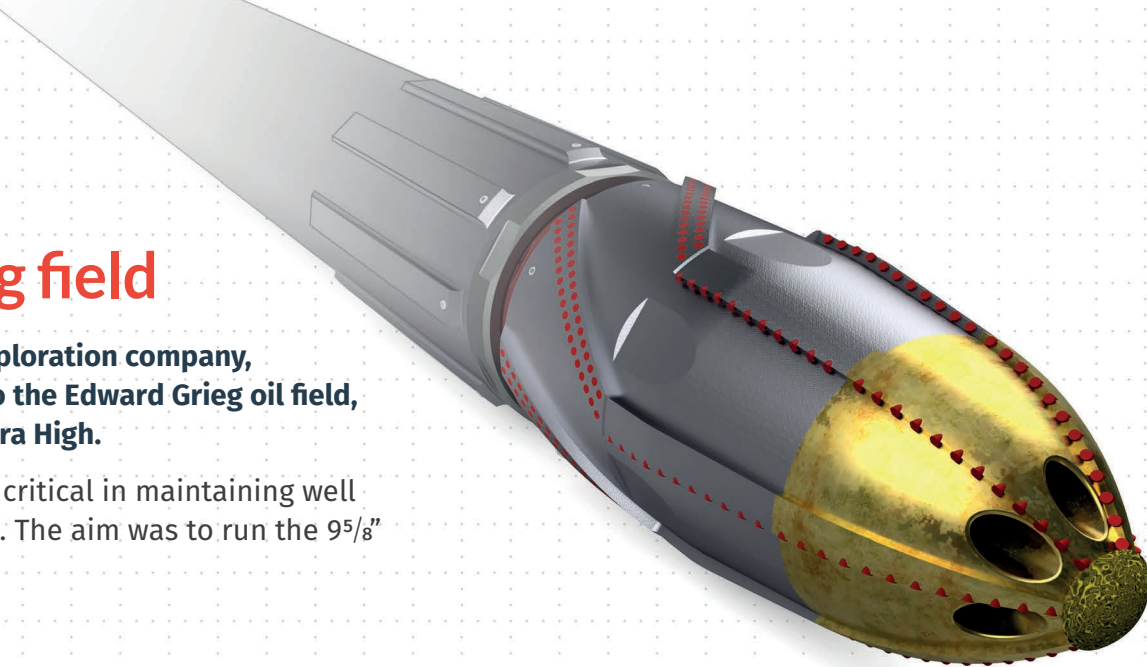


# Lundin Edvard Grieg field

Lundin, a Norwegian production and exploration company, planned to drill water/gas injectors into the Edvard Grieg oil field, located on the western flank of the Utsira High.

Lundin intended to drill injection wells, critical in maintaining well pressure for the field in the longer term. The aim was to run the 9<sup>5</sup>/<sub>8</sub>" liner to Target Depth first time.



## THE CHALLENGE

To perform efficiently, injector wells need to be at the right depth – if not, they can fail to provide the right permeability measurements, forcing a decision to side-track and add significant cost to the operator.

Achieving the correct Target Depth, with as few attempts as possible however, will maximise return on investment. Previously, the well Target Depth could not be achieved, or took multiple attempts.

In particular, Lundin were concerned about high-variability of this field and would need a reamer capable of performing in unstable zones.

Lundin also required a reamer that would negate any liner rotation from the surface and be able to quickly drill ahead for minimum delay on subsequent sections of the completion.

## THE SOLUTION

After thorough analysis of available solutions, Lundin concluded our TurboCaser™ was the best tool for this drilling project.

The potential efficiencies that could be achieved with the TurboCaser™ were clear.

With its unique design, combining turbine powered reaming with low circulating pressures, the TurboCaser™ allowed the 9-5/8" liner to land at Target Depth on its first attempt.

Utilising this tool provided two further advantages for Lundin. Firstly, there was no need for surface liner rotation, negating potential damage to the liner. Secondly, the TurboCaser™ allowed timely drilling ahead, preventing any delays when moving on to the next section of the completion.

## THE RESULT

The TurboCaser™ allowed the 9-5/8" liner to land at Target Depth on the first attempt.

Not only was the completion a success, it was achieved in difficult conditions, where the liner had to pass through unstable claystone and limestone stringer zones.

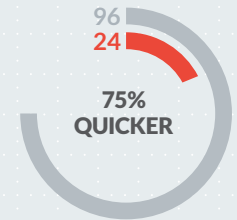
Without the TurboCaser™, the liner would not have been set at the correct depth.

Ultimately, the injection wells were drilled out in one run, without the additional costs of multiple attempts or side-tracking, reducing potential cost to the operator.



## IN NUMBERS

Conventional Technology  
TurboCaser™



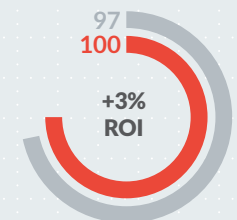
### 72 HOURS SAVED

Quarter of the time required to prepare the hole compared to conventional technology.



### 75% TIME SAVED

The TurboCaser™ reamed through the final 98ft to reach section TD, negating the need to POOH and side track as per previous well.



### ADDITIONAL PRODUCTION

An additional 3% ROI was achieved as the TurboCaser™ enabled liner to reach section TD.