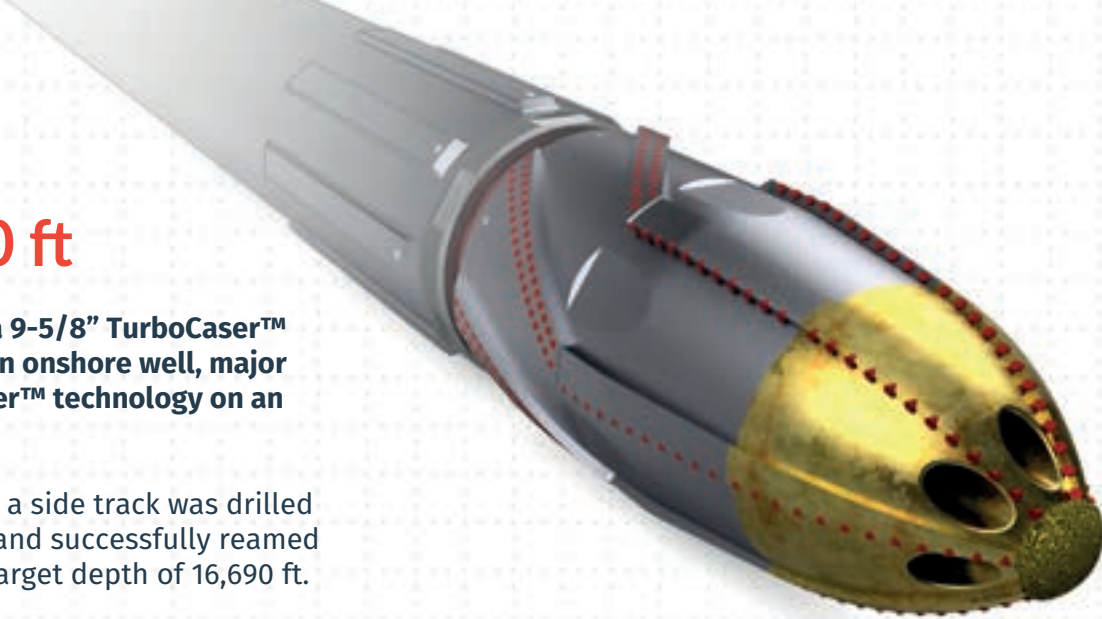


9-5/8" TurboCaser™ Reaches TD of 16,690 ft

As a follow up to the successful running of a 9-5/8" TurboCaser™ turbine powered drillable reamer shoe on an onshore well, major Middle East Operator utilised the TurboCaser™ technology on an ERD well.

Due to formation issues in the original hole, a side track was drilled and the 9-5/8" TurboCaser™ was deployed and successfully reamed 260 ft in 11 hours, reaching a final planned target depth of 16,690 ft.



THE CHALLENGE

The national oil company required the field operators to run 9-5/8" production casing from surface to 16,690 ft within an onshore 12-1/4" hole section. Getting the 9-5/8" casing to planned target depth was critical in supporting the well objective of achieving a final well target depth of 23,160 ft. This required the casing to be successfully run from the 13-3/8" shoe to target formation for setting the 9-5/8" casing. Case running challenges such as reaming through unstable shales and past ledges were to be expected.

This challenge was compounded, DCT service personnel could not be provided to assist the operation at rig site. Assistance could be provided remotely.

THE SOLUTION

Hydraulic modelling provided by Deep Casing Tools verified that effective flow rates could be pumped through a 9-5/8" TurboCaser™ and remain within the specified ECD limits of the open formations and expected surface pressures.

The Deep Casing Tools 9-5/8" TurboCaser™ turbine powered reamer shoe was selected to ream through cutting beds, ledges, or any tight sections of hole to ensure the 9-5/8" casing was run to critical target depth for this ERD well.

THE RESULT

The Turbocaser™ was tested successfully on surface and at the 13-3/8" casing shoe with the SPP matching the hydraulic simulations. It reamed through 6 tight zones.

Below is the summary of the reaming required to land the casing at planned depth:

- At 16,430 ft, hard reaming required adjusting parameters with up to 90 klbs at times with up to 11 bpm, 1600 psi SPP.
- Reached TD of 16,690 ft.

Total depth reamed by the TurboCaser™ was 260 ft, achieved in 11 hours. Following the landing of casing at target depth it was cemented as per the program, the plug bumped, and the casing successfully tested.

After making up the next section 8.5" drilling BHA and RIH to drill out the Shoe Track, green cement was observed.

The DCT TurboCaser™ has a unique patented locking system to enable the client to lock out the Reamer to prevent the drill-out BHA for ever spinning on the reamer.

This procedure was discussed and at 5 ft above the TurboCaser™ operators discovered hard cement and locking the mechanism was not required.

The 9-5/8" Turbocaser™ was drilled out in +/-90 minutes using a 8-1/2" PDC bit. Use of the tool prevented the need for pulling casing and performing a clean out trip saving the operator 7 days rig time.

IN NUMBERS

- Conventional Technology
- TurboCaser™



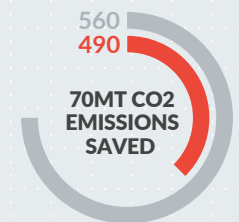
168HRS RIG TIME SAVED

Use of the TurboCaser™ saved a minimum of 7 days rig time and \$500K USD rig spend.



\$500K SAVED

The TurboCaser™ reamed through cutting beds, ledges and any tight sections of hole to ensure casing was run to critical target depth.



12% REDUCTION

The TurboCaser™ reduced 70MT of CO2 emissions, helping operator towards reaching net zero targets.