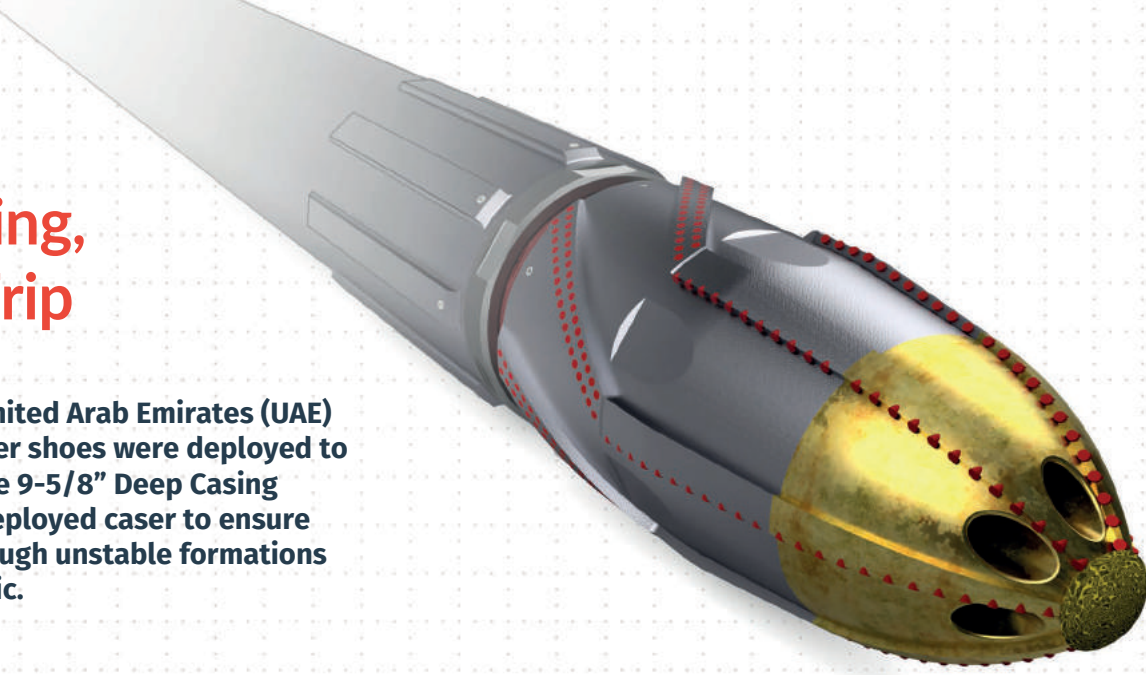


9-5/8" Casing Running, Removal of Wiper Trip

As part of an extended field trial for a United Arab Emirates (UAE) Operator, 9-5/8" turbine powered reamer shoes were deployed to overcome casing running challenges. The 9-5/8" Deep Casing Tool's TurboCaser™ became the third deployed caser to ensure production casing was run to depth through unstable formations that have historically proven problematic.



THE CHALLENGE

The UAE operator required the running of 9-5/8" production casing from surface to target depth, ensuring all oil zones were isolated and the 13-3/8" shoe was covered by cement.

This required the casing to successfully run, traversing several problematic shale sections as well as heterolithic sequences of lithology that can create ledges to hold up casing.

THE SOLUTION

The Deep Casing Tool's 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 runs accurately to critical target depth.

THE RESULT

- ✓ Eliminated wiper trip prior to running 9-5/8" casing in the longest 12-1/4" section of operators jack up operations.
- ✓ More than 200ft cumulative interval across Mishrif and Thamama transition layers were reamed down, after casing failed to progress deeper by only slacking off the casing weight or by washing it down.
- ✓ The cement job operation (with fibers in spacer and slurry) was conducted smoothly, without abnormal displacement pressure at the planned pumping rate.
- ✓ No difficulty to drill the shoe afterwards with 15 minute drill out time with a PDC bit.
- ✓ The initiative saved 7 days of operation, equivalent to \$1 MM cost saving.

“The TurboCaser enabled us to ream the casing string to bottom in this deep and deviated well, without the need to rotate from surface. On similar wells previously we would have had to POOH the casing, make a dedicated wiper trip and then re-run the casing. We're now considering TurboCaser as one of primary mitigation for running the 9-5/8" casing in any upcoming challenging open hole sections.

Drilling Technology Team - The United Arab Emirates (UAE) Operator

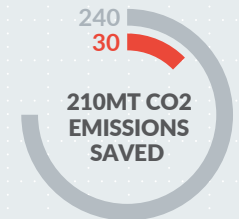


IN NUMBERS

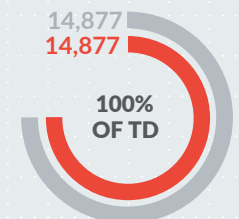
- Conventional Technology
- TurboCaser™



168HRS RIG TIME SAVED
Use of the TurboCaser™ saved seven days of rig time and \$1million USD rig spend.



87% REDUCTION
The TurboCaser™ reduced 210MT of CO2 emissions, aligning with operators 2030 Sustainability Agenda.



TD ACHIEVED
100% of TD was achieved at a depth of 14,877ft. This was reached in one day.