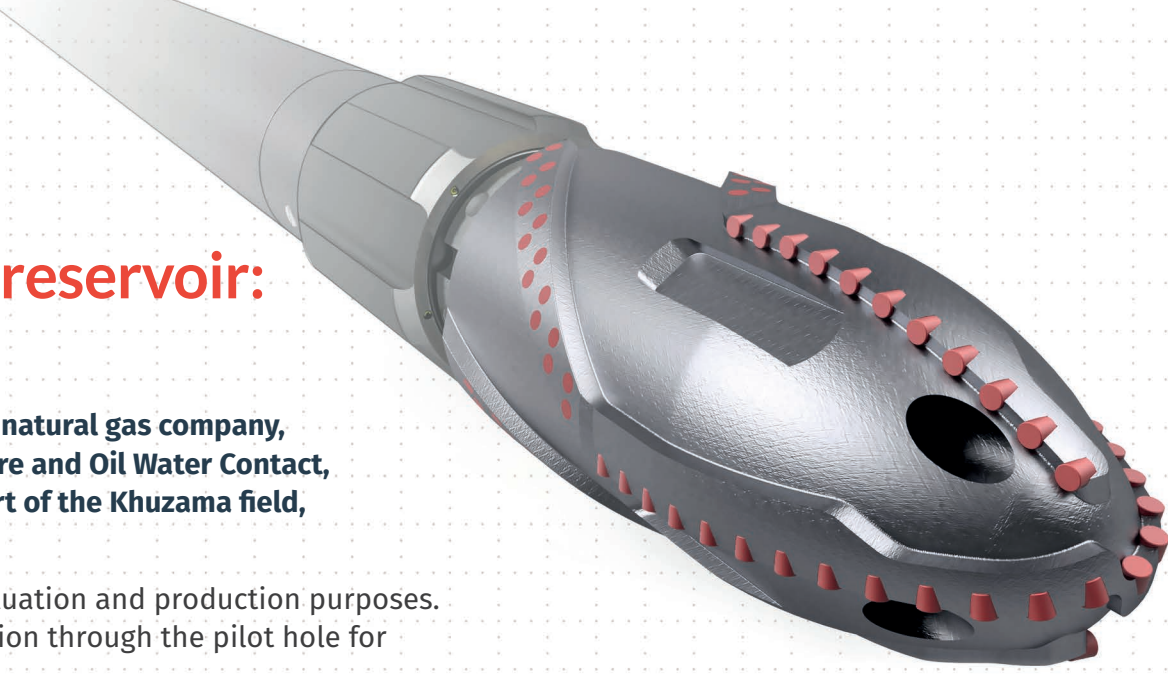


Saudi Aramco Unza reservoir: Second Lateral

Saudi Aramco, a national petroleum and natural gas company, planned to confirm the reservoir structure and Oil Water Contact, using a well located in the northwest part of the Khuzama field, near Riyadh.

The KHZM-3 is a dual lateral well for evaluation and production purposes. Saudi Aramco intended to run a completion through the pilot hole for this well.



THE CHALLENGE

To run the completion in the second lateral of the well, in the shortest time and at minimum cost.

The open window was approximately half way along the total drilled depth of 12,902 ft MD. After reaching Target Depth, tight spots were encountered, meaning consideration had to be given about how best to proceed.

Saudi Aramco had concerns about running the completion, due to the high cost and previous issues encountered in the first lateral.

They wanted to reduce hole conditioning trips and also spend less time reaming.

THE SOLUTION

Due to the proven success of the TurboRunner™ in the first lateral, Saudi Aramco decided to use it again.

The TurboRunner™ performed successfully in the first lateral and was the best opportunity for a quick and cost-effective result in the second lateral.

Successful reaming would prevent any need for hole conditioning. After reaming 688 ft, it was possible to run the lower completion to Target Depth.

THE RESULT

The TurboRunner™ allowed the completion to reach Target Depth, achieving time and cost savings.

Only one reaming trip by the TurboRunner™ was required for Target Depth to be successfully achieved.

Compared to the first lateral, the TurboRunner™ saved time because fewer reaming runs were required.

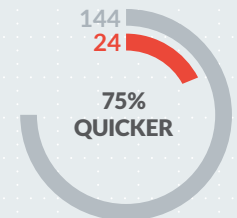
The tool also saved money, because hole conditioning trips were unnecessary.

IN NUMBERS

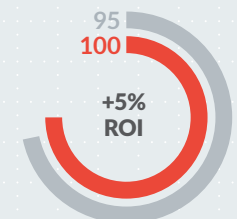
- Conventional Technology
- TurboRunner™



75% TIME SAVED
Achieved TD first time, removing the need for any further hole cleaning and wiper trips with conventional technology.



96 HOURS SAVED
on additional runs to achieve TD. Avoided extra costs in case of stuck completion leading to side-tracking, fishing or re-drilling.



ADDITIONAL PRODUCTION
Saved \$75,000 on additional ig, reaming and wiper trip costs. Ensured ROI by delivering the required final 633ft to TD the well.

