

Case study: Oman, Middle East

# Talon Strike PDC bit sets field record, improves benchmark ROP by 40%

A Middle East customer wanted better drill bit performance in the 16-in. surface section through interbedded formations. Some offset wells had required two bits to complete the section and some bits had experienced a high amount of damage.

The best performance to date by a competitor's bit achieved 45.5 m/hr (149 ft/hr).

Based on hydraulics and computational fluid dynamics (CFD) calculations, as well as a detailed road map of expected ROP in each formation, Baker Hughes Drill Bit experts recommended a value-engineered bit/cutter solution that delivers consistent performance in less-demanding applications.

The five-blade **Talon™ Strike PDC steel-bodied drill bit** with a 9 5/8-in. motor bottomhole assembly set a new

field record drilling 756 m (2,480 ft) at 56 m/hr (184 ft/hr) in one run and improving benchmark rate of penetration (ROP) by 40%.

The run was 94% faster than the average ROP in the field which was 29 m/hr (95 ft/hr) and 24% faster than the previous field record of 45.5 m/hr.

Exceptional hole cleaning and high ROP results confirmed the choice of bit based on both the hydraulics and the theoretical CFD calculations.

Based on a rig rate of \$24,000 USD/day, this benchmark run reduced HSE risk and saved the customer \$13,000 USD compared to field average performance.

## Challenges

- Drill interbedded section of mainly carbonates in one run
- Increase ROP
- Deliver a faster well

## Results

- Drilled 758 m at 56 m/hr in one run
- Attained 94% faster ROP than field average (29 m/hr)
- Drilled 24% faster than the previous field record



The Talon Strike PDC drill bit's cutting structure is in near-pristine condition after setting field ROP record.