Case Study

VENOM™ Cutter Technology Enables New 8.375" Record in Oman

APPLICATION
Onshore– 8.375”, BHA-PDM with Booster Power
Hard to very hard and abrasive sandstone and shale

TECHNOLOGY
VION™ 616-CF
Venom™ Shaped Cutter
Fang & Cobra Cutters

LOCATION
Oman
Onshore

CUSTOMER CHALLENGE
The Customer focused on drilling the challenging 8.375” section using one PDC bit to achieve the best possible ROP, maximizing efficiency, performance and minimizing the drilling time. The first run of the bit achieved good performance but was POOH due to DTF.

The TOP 15 achievement wells in the same field using PDC bit design achieving 4.0m/h ROP and 504m average across the field.
Record run in the area was set @ 956m.

VAREL SOLUTION
VAREL proposed a specific PDC design leveraging the VION™ bit technology, perfectly designed for drilling applications where drilling through transitions requiring durability and control is essential.

Solution: 6-bladed, 16mm cutting structure with Cobra - Venom™ Shaped Cutter as main primary cuttings structure with Fang-Venom™ Shaped cutters as back up cutters inclusive with impregnated shock studs protection.

Purpose:
FANG cutters – Venom™ shaped cutters to enhance point loading, increased cutting efficiency and ROP performance. Lower energy required for a given output compared to equivalent round cutters.
COBRA cutters - A combination of the Fang shape blended with Artimis ridge. This layout is useful in lateral runs to increase both speed and durability.

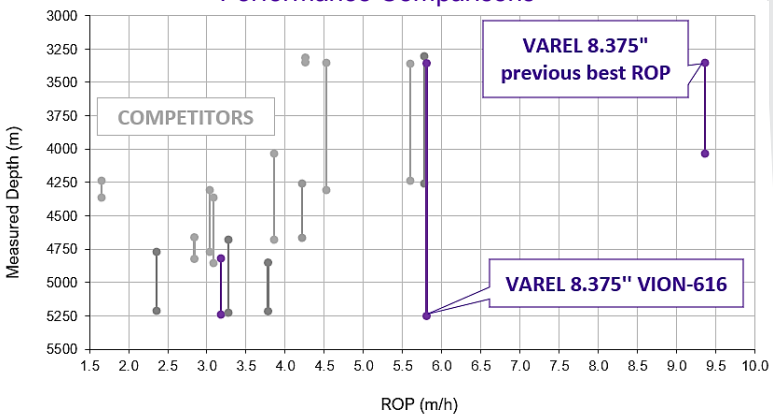
CUSTOMER VALUE
- Bit accomplished new field record of **1893m** interval drilled with ROP of **5.8m/h.**
- Bit achieved **98% better in meterage** as compared to previous best interval drilled.
- Bit achieved outstanding performance and save 11 days versus AFE in the field.

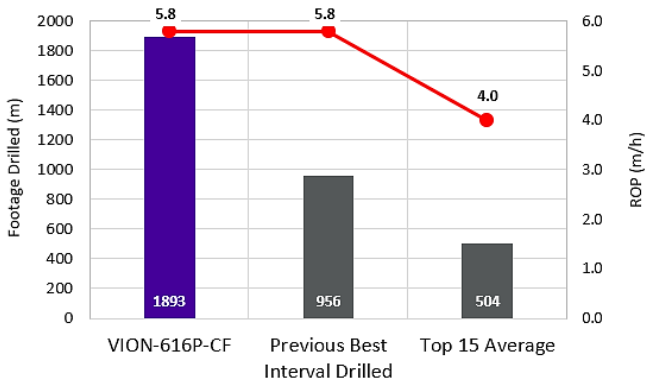
Matrix Body PDC design

Fang - Venom™ Shaped Cutters

Cobra - Venom™ Shaped Cutters

Performance Comparisons





VAREL ENERGY SOLUTIONS