

Case Study

8.375" New Fastest Field Record with Only 2 VION Bit Runs, Onshore Oman

APPLICATION

8.375" Vertical Section, Motor BHA (1.15° bend)
Clastics Rock Formation - Hard to Very Hard & Abrasive
Sandstone interbedded with Clay and Carbonate stringer.

TECHNOLOGY

Venom™ Cutters Technology
Cobra & Fang Shape Cutters
VION™ 616 and VION™ 716

LOCATION

Oman
Onshore

CUSTOMER CHALLENGE

The formation of 8.375" sections are characterized with high rock strength values. Customer aims to drill through the challenging formation to achieve the best possible ROP while maximizing durability and performance while maintaining the inclination to hold and keep the well vertical.

VAREL SOLUTION

VAREL proposed a specific PDC design leveraging the VION™ bit technology, designed for drilling applications where durability and control is essential. The proposed solution capitalizes on unique VAREL Venom™ shaped cutters technology, the COBRA & FANG cutters for this application.

Solution: 6-bladed, 16mm cutting structure and 7-bladed, 16mm cutting structure with COBRA and FANG-Venom™ Shaped cutters. **COBRA** and **FANG cutters** are used to enhance point loading, increased cutting efficiency and ROP performance. Lower energy is required for a given output compared to equivalent round cutters.



CUSTOMER VALUE

- 2 bits of VION-616 & VION-716 managed to drill to TD with **average ROP of 5.5m/h** which is **77% better than average offsets and 30% better than previous fastest ROP in the field.**
- Bit achieved **best section delivery in 22 days with 15 days saving as compared to AFE and 35 days saving compared to 57 days required for offsets.**
- **Achieved minimum number of trips with only 2 x VION bits run as compared to 4-11 bit runs in offsets.**

