

# Case Study

## 3 Impressive Runs for 8.375" Fusion+™ bits in the Deep Well Section, Oman

### APPLICATION

Onshore– 8.375" Vertical Section, BHA - PDM  
Highly Abrasive Sandstone with % Chert & Pyrite,  
interbedded hard Carbonate and Shale formation.

### TECHNOLOGY

Fusion+™ 813  
Venom™ Cutters Technology

### 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, maximizing durability and performance. 8.375" Fusion+™ bits are used to drill this section resulting with impressive runs as compared with the offsets.

### VAREL SOLUTION

VAREL proposes 8.375" Fusion+™ bits with 8 bladed and 13mm Venom™ Premium Cutters, with 4 blades to center design which helps to give more diamond coverage in the cone area for better protection. 3 of the same bits are run in the same field within 2 different wells and outperformed all the competitors' bits.

### CUSTOMER VALUE

- 1<sup>st</sup> Bit Run, the bit achieved the **longest interval of 228m with fastest ROP of 1.13m/h** drilling into Formation A & Top of Formation B.
- 2<sup>nd</sup> Bit Run – achieved the **longest meterage of 129m** drilling into Formation A as compared to other offset runs in the field.
- 3<sup>rd</sup> Bit Run – achieved the **longest interval drilled of 344m with fastest ROP in the field of 3.2m/hr** drilling into bottom section of Formation B straight into Formation C till TD.

Matrix Body PDC design



1<sup>st</sup> Run  
Dull: 7-6-CR-A-X-1-CT-BHA  
Drilled: 228m  
ROP: 1.9m/h  
Drilled into of 10% Chert & Pyrite



2<sup>nd</sup> Run  
Dull: 4-6-BT-A-X-1-CT-RIG  
Drilled: 129m  
ROP: 1.13m/h  
Drilled into 10% Chert & Pyrite



3<sup>rd</sup> Run  
Dull: 4-6-BT-A-X-1-BT-TD  
Drilled: 344m  
ROP: 3.2m/h  
Drilled into hard carbonate

