

Case Study

Longest & Fastest 8.5" Impregnated Section in ALGERIA

APPLICATION

Onshore – 8.5" section.
Interbedded Shale, Sandstone and
Quartzite
Positive Displacement Motor (PDM)

TECHNOLOGY

FUSION® 1613
PDM

LOCATION

Algeria
Onshore

CUSTOMER CHALLENGE

The Customer focused on drilling the 8.5" section using one Impregnated drill bit run while achieving the best possible ROP. The TOP 4 achievement wells in the same field using PDC bit design achieving 4.2 ft/h ROP average across the field.

Record run in the area was set @ 5.2 ft/h.

VAREL SOLUTION

VAREL proposed a Diamond Impregnated Drill bit design leveraging the FUSION® bit technology which is developed using latest design, materials, and manufacturing science. The FUSION® product is a highly flexible series that allow materials and designs to be quickly adjusted to the requirements of a specific application in very challenging formations.

Solution: 16-bladed, 13-mm cutting structure with Diamond Impregnated HIP segment and Optimized Hydraulics.

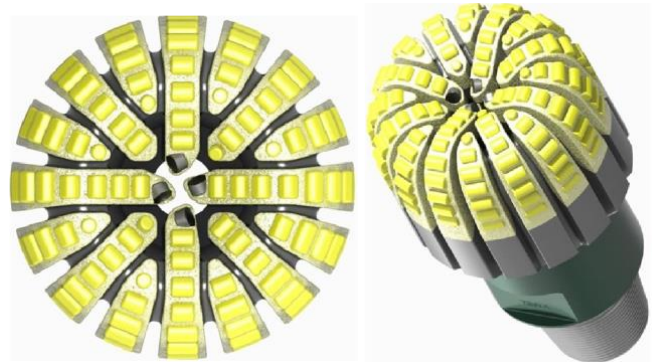
Purpose: Diamond Impregnated HIP Segments undergo a sintering process to achieve reduced porosity and are then placed in the face of the bit in specific patterns to improve bit wear and durability.

CUSTOMER VALUE

New consistent field record achieved for 8.5" section in the field.

- Drilled a total footage of 282ft with **Field Record ROP of 6.7ft/hr.**
- Achieved **59.5%** increase in ROP as compared to TOP 4 Field Average performance.
- Achieved **28.8%** improved in ROP as compared to previous best run in the field.

Matrix Impregnated Design



Performance Comparisons

