

# Case Study

## Fastest & Longest 16" Vertical Section in NORTH KUWAIT

### APPLICATION

Onshore – 16" Vertical Section.  
Interbedded, Limestone, Dolomite,  
Shale and Anhydrite Formations  
Positive Displacement Motor (PDM)

### TECHNOLOGY

VION™ 616  
HYDRA™  
Schlumberger PDM

### LOCATION

North Kuwait  
Onshore

### CUSTOMER CHALLENGE

The Customer focused on drilling the 16" vertical section using one PDC bit pairing the bit with PDM with aim to achieve the best possible ROP and lowest cost per foot. The TOP 3 achievement wells in the same field using PDC bit design achieving 15.1 ft/h ROP average across the field.

Record run in the area was set @ 16.0 ft/h.

### VAREL SOLUTION

VAREL proposed a specific PDC design leveraging the VION™ bit technology, perfectly designed Drill Bit series that has been developed specifically for drilling applications where drilling through transitions requiring durability and control is essential.

**Solution:** 6-bladed, 16-mm cutting structure with PowerCutter™ and HYDRA™ configuration.

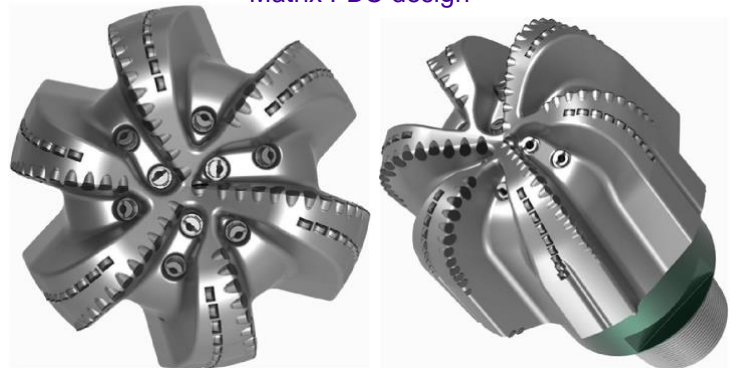
**Purpose:** High density PowerCutter™ arrangements provide extra exposure and cutter density in critical areas of the bit thus enhancing bit life without sacrificing ROP. HYDRA webbed blades lay out allow for optimum cleaning and cutting removals to enhance ROP potential

### CUSTOMER VALUE

New longest footage field record achieved and with lowest cost per foot for 16" section in the field.

- Drilled a total footage of 2380ft with [Field Record ROP of 20.2ft/hr.](#)
- Achieved **33.8%** increase in ROP as compared to TOP 3 Field Average performance.
- Achieved **26.3%** improved in ROP as compared to previous best run in the field.

Matrix PDC design



Performance Comparisons

