

Case Study

110% ROP enhancement in Keshen well, Tarim field – Onshore China

APPLICATION

Deep Vertical Well - 6000m to 7000 TVD
Tarim Field

TECHNOLOGY

6-5/8" VION™ 613
VENOM™ Cutter Technology

LOCATION

China
Onshore

CUSTOMER CHALLENGE

The Customer focuses on completing the complex vertical interval comprised of extremely hard and dense formation (Sandstone & Gypsum) in Keshen well, Tarim field. The Customer objective is to achieve the best possible ROP and lowest cost per meter.

VAREL SOLUTION

Utilizing Application Engineering and VAREL's proprietary design software, the VION™ PDC technology was chosen, a solution perfectly designed for "vertical" applications. The VION 613 design is a trouble-free solution delivering smooth torque, advanced directional control, excellent wellbore quality and dynamic stability.

Solution: 6-bladed, 13-mm cutting structure with partial double row & single row. Specific cutting structure and gage configuration to provide better torque management and greater stability especially in drilling vertical section.

Purpose: Superior drilling efficiency with improved ROP and durability.

CUSTOMER VALUE

- **Fastest 6.625" drill bit as compared to competitive offsets** in the same field. **110% ROP improvement** over the field average, **33% ROP improvement** over the fastest offset bit and **15% improvement of cost saving per meter drilled** over field average.
- **15% of cost saving translates to 153 \$/m** as compared to field average cost per meter.

6.625 VION 613 Design



Performance Comparisons

