

VENOM™ Shape Cutters – Case Study:



Fastest & Longest 8 3/8” Section – UTMN Field with Varel TTR Bit V616PG1RCFI.

APPLICATION

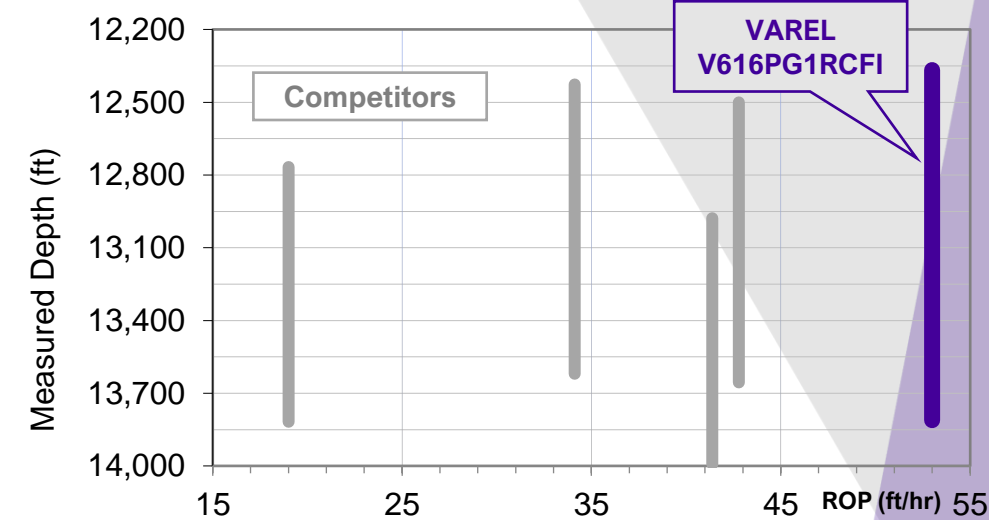
Onshore Gas – 8 3/8”
Rotary BHA Section
From Khuff to Khuff-D.

TECHNOLOGY

VION 616
Venom™ Shape Cutter
16 mm Cobra & Fang Impact
Resistance

LOCATION

UTMN Field
Well UTMN-3176
March 2023



CUSTOMER CHALLENGE:

Aramco Operation focused on drilling the 8 3/8” section from Khuff to Casing point in Khuff-D Anhydrite Formation, using one PDC bit in Rotary Application to achieve the best possible ROP optimizing performance across the section with acceptable dull condition at TD. The offset wells using PDC bits achieved 34.3 ft/h ROP average.

Record run in the area was set @ 52.99 ft/h shoe to shoe in a single run.

VAREL SOLUTION

Matrix Body, **6 Blades**, with improved cleaning efficiency and cuttings evacuation through **CFD Optimization**, 16mm **Cobra™** and **Fang™** Cutters from **VENOM™** Family, optimized cutters/formation interaction with **3D and 4D cutters**, generating Faster ROP, Tungsten Carbide Shock Studs to increase bit stability maintaining smoothing cutting action with optimal torque response and improving the impact resistance through these formations.

CUSTOMER VALUE

New ROP, Footage and CPF record achieved across the offset wells with optimal performance responses and minimum dull condition.

- ✓ **52.99 ft/hr.** – Fastest ROP in the entire Field. **ACHIEVED!!**
- ✓ **1,444 ft** – Longer Footage in the Area. **ACHIEVED!!**
- ✓ **81.24 U\$/ft** – Longer Footage in the Area. **ACHIEVED!!**
- ✓ **54.5% Higher ROP** compared to TOP 4 performance. **ACHIEVED!!**
- ✓ **30.8% Longest Footage** compared to TOP 4 performance. **ACHIEVED!!**
- ✓ **40.7% Lowest CPF** compared to TOP 4 performance. **ACHIEVED!!**

3D & 4D Shape Cutters Geometry Combination

