

Case Study

New Cutter Technology Delivers Record Performance

Operator Record – Fastest 2-mile First Bench Three Forks Lateral

APPLICATION

1st Bench Three Forks Lateral
Shale/Limestone/Dolomite
Moderate UCS/Abrasion/Thermal
Moderate/Low Impact

TECHNOLOGY

Force
COBRA Cutter Technology

LOCATION

Dunn County, North Dakota

CUSTOMER CHALLENGE

Complete entire 2-mile lateral interval in one bit run but with enhanced cutting efficiency with added durability to improve Rate of Penetration and reduce the overall time in the hole.

VAREL SOLUTION

VES Applications Engineering strategically placed Cobra cutters into the previously successful baseline F613P2-F bit design. The baseline bit utilized planar cutters in the primary row and was run with success within proximity to this location.

Utilizing in house proprietary software and analyzing previous dull conditions Varel determined the optimal locations to place the cutters for enhanced cutting efficiency.

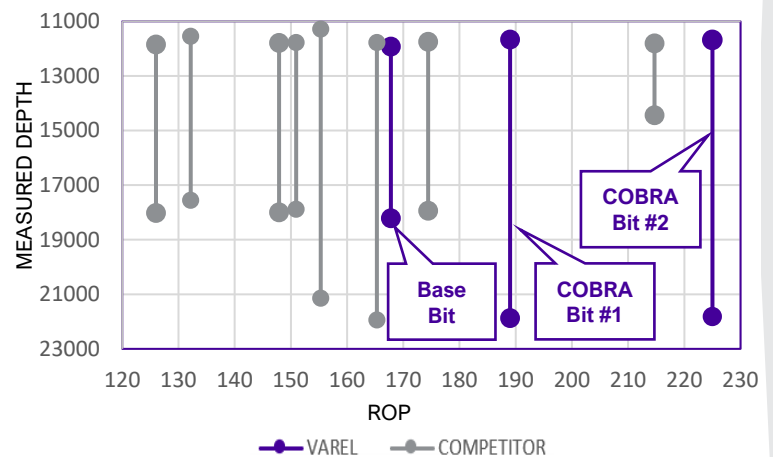
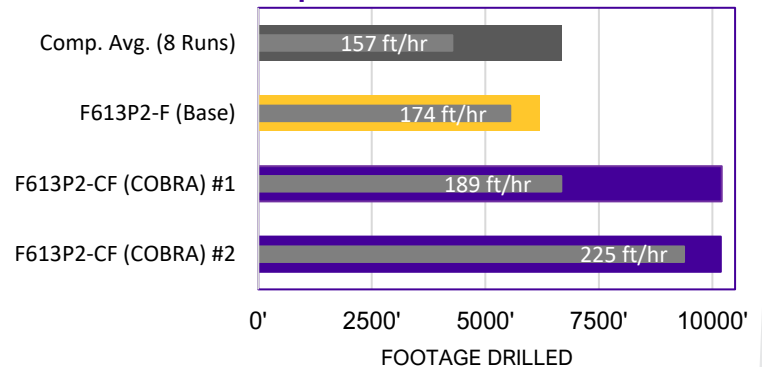
COBRA PERFORMANCE

- The baseline bit with planar cutters (tripped for DTF) was outperformed by the COBRA cutter version by ~4,000' and 50 ft/hr.
- Both of the VES F613P2-CF COBRA bit runs surpassed the competition. The average of the two COBRA bit runs outperformed the competitor offset run average by 53% for Footage Drilled and 32% for Rate of Penetration.

CUSTOMER VALUE

The 2nd of the two COBRA bits completed the 2-mile lateral interval in an **Operator Record** for this formation of **45 total hours and 225 ft/hr.** This operator has drilled over 900 wells targeting this formation in this basin.

Comparative Performance



COBRA Shaped Cutter Technology

