

# Vanguard Utica air performance tricone drill bit

Drill faster and farther  
with advanced air  
drilling performance

Air drilling in the Utica basin presents several challenges that affect drilling performance. Today's Utica wells include extended intervals through hard carbonate and sandstone formations with complex directional profiles requiring high tangent angles. These challenges cause inefficiencies and elevated drilling costs in the form of early bit damage, additional drilling hours, extra bit trips, and overall slower drilling speeds.

The Vanguard™ Utica air performance tricone drill bit incorporates new innovations that improve air drilling performance. With a unique design specific to Utica air drilling applications, it delivers consistent section performance, improves drilling efficiency with a higher rate of penetration (ROP), and reduces cost-per-foot.

## Advanced carbide inserts

- Proprietary carbide grade improves TCI fracture toughness compared to standard grades
- Resists damage and breakage better than standard grades, delivers higher ROP and more consistent performance

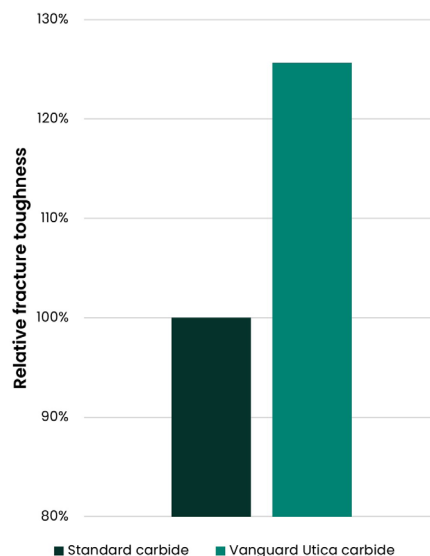
## Optimized cutting structure

- Unique cutting structure addresses rigors of Utica air drilling applications
- Optimized insert layout enhances durability without compromising ROP

## Vanguard Air bearing and seal package

- Proven bearing and seal designed specifically for air drilling applications
- Provides extended reliability in the air drilling environment

Contact Baker Hughes to learn how Vanguard Utica tricone bits can enhance your air drilling efficiency and reliability in the Utica basin.



The Vanguard Utica's advanced carbide inserts demonstrate superior fracture toughness for longer run life compared to standard carbide grades.

## Applications

- Utica basin air drilling
- Directional and tangent well profiles
- Extended sections in hard rock formations with interbedded carbonate and sandstone lithologies
- Upper shale formations requiring speed
- High-vibration drilling environments
- Intervals requiring high drilling parameters

## Benefits

- Improved drilling efficiency and higher ROP
- Better dull conditions
- More consistent drilling performance
- Lower cost per foot due to fewer drilling hours and bit trips