

RIDGEBACK®



**HARD ROCK
DRILLING
SOLUTIONS
AT YOUR
FINGERTIPS**



VAREL
MINING AND INDUSTRIAL

Ridgeback® Roller Cone Bits

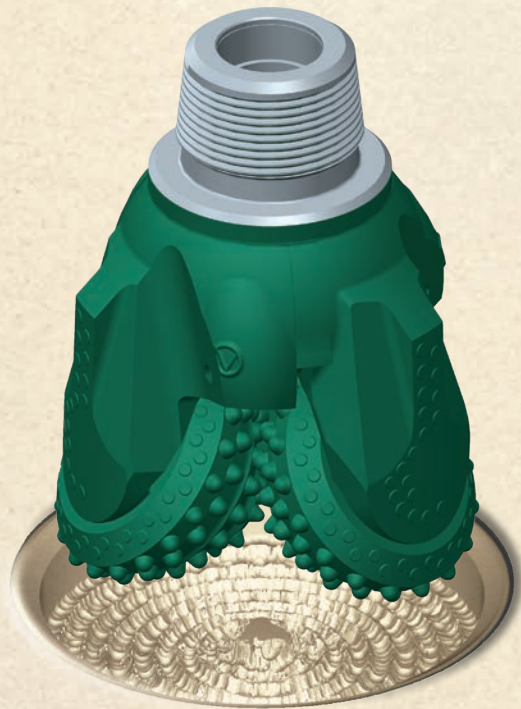
Varel's Ridgeback blasthole bits are capable of drilling your hardest formations and providing the highest penetration rates and longest life available. Decades of engineering and design expertise in conjunction with in-field services, allow us to provide you with cost effective drilling solutions for any application.

Drilling Hard Rock Has Never Been Easier:

- Varel's proprietary high pull-down bearing package delivers long, reliable performance under high pull-down leading to increased ROP and longer bit life.
- Enhanced cutting structure designs provide the highest penetration rates and the longest life available.
- Exacting process control and materials selection provide extended bearing and cutting structure life.
- Varel's patented HET™ (High Energy Tumbling) process gives the inserts a unique surface toughness that extends bit life and improves rate of penetration.
- Maximum gauge protection combines tungsten carbide inserts (TCI) with welded hardmetal for superior wear resistance and optimum gauge life.

Revolutionary Mining Software Advancement

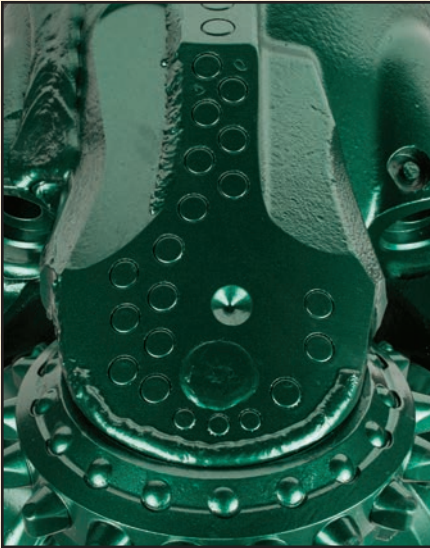
- Advanced Modeling Package (AMP) is a stand alone virtual drilling simulator for roller cone bit designs utilizing formation information. This aids the engineer with bit design analysis and includes such factors as drill operating parameters, bit geometry, and mine lithology. By using this proprietary software, Varel engineers are able to predict the effects of design modifications and limit the risks associated with new product development.



AMP Hole Bottom Simulation

Hard Formation Features

Providing the most efficient and durable drill bits is what Varel does best! Standard feature designs make the Ridgeback ideal for hard formations.



Varel's Patented Ridgeback Shirrtail pattern allows drilled cuttings to be removed from the hole more effectively than with standard bits. This improves penetration rates and reduces regrinding, preventing wear to the cutters and shirrtails. The result is a faster drilling bit with longer life, which dramatically lowers total drilling costs.



Vented Cones are featured on all 9" and above Ridgeback and D-Force drill bits. This Varel exclusive feature has been proven to improve bearing airflow allowing cooler operation and extending life in high altitude applications and in areas of excessive groundwater.



High Pull-Down bits require a careful balance between bearing and cutting structure. Through use of AMP and other analysis tools, Varel engineers are able to maximize ROP while balancing bearing capacity and cutting structure durability. These engineered products provide faster ROPs and longer bit life in your drilling applications.



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