

<b>Lithology</b>	Hard limestone, 20,000–30,000 psi
<b>Borehole</b>	8½ in to 10¼ in
<b>ROP</b>	60 ft/h

### Background

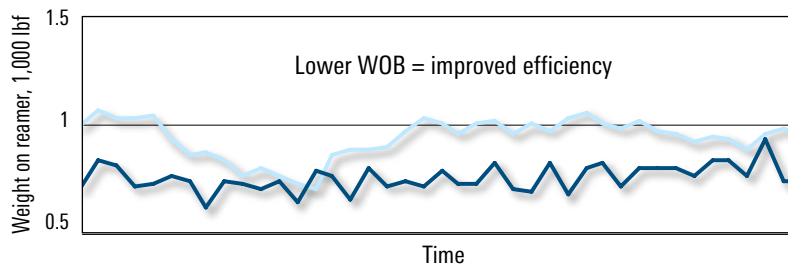
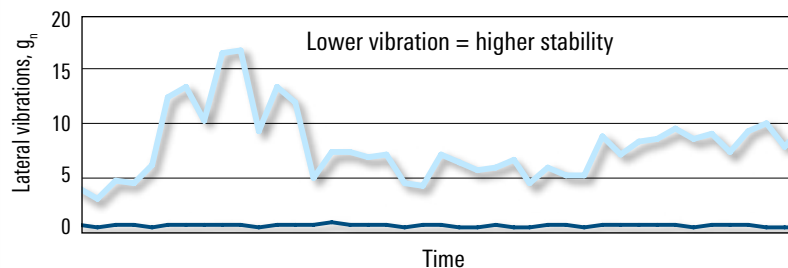
The Gould Research Center in Cambridge designed a full-scale test to compare underreaming operations of two Rhino systems. In this test, one would be equipped with conventional cutter blocks and the other one fitted with StingBlock cutter blocks. The test assessed performance while enlarging an 8½-in pilot hole to 10¼ in.

### Technology

- StingBlock\* advanced stabilization conical element cutter block
- Stinger\* conical diamond element
- Rhino\* integrated borehole enlargement system

## StingBlock Cutter Blocks Significantly Reduce Lateral Vibration with Less Weight on Reamer

Staged-gauge pad design and Stinger elements combine to enhance the efficiency of the Rhino system in hard and high-impact formations



— StingBlock    — Conventional cutter block

*Results of the full-scale lab test simulated underreaming operations in a hard limestone formation. The parameters were controlled with an ROP of 60 ft/h and 160 rpm. The measured results showed that the StingBlock cutter block reduced lateral vibration levels by 94% while requiring 24% less weight on the reamer, indicating overall improved drilling efficiency.*