

450 RockJet™ HMX Perforating Charges

RESERVOIR PERFORMANCE OPTIMIZED SHAPED CHARGES

OVERVIEW

RockJet™ shaped perforating charges provide the deepest penetration in actual downhole stressed rock and maximize casing hole size to deliver the greatest possible well performance.

Traditional surface tests performed in concrete targets are not a reliable indicator of actual downhole charge performance. Inflow modeling demonstrates that maximizing reservoir contact through deep and clean perforating tunnels extending past the damage zone is critical to maximizing both the productivity and injectivity of natural completion wells.

The 450 RockJet perforating charge was developed using stressed rock cores for optimized performance in real-world downhole conditions, using the exclusive capabilities of the Advanced Perforating Flow Laboratory at the Jet Research Center. This charge was developed for optimized performance in actual downhole well conditions.

450 RockJet charge performance was confirmed using the industry's first fully transparent witnessed test program under API's new test protocol, *RP19B Section 2*.



APPLICATIONS

- » Natural completion or stimulation wells
- » Production and injection
- » Any perforating gun conveyance method

FEATURES

- » Developed to maximize performance in stressed rock targets—NOT concrete
- » Patented charge-securing design to reduce gun debris
- » Compatible with 4 1/2-in. 5-spf, 4 5/8-in. 5-spf, and 7-in. 12-spf gun systems

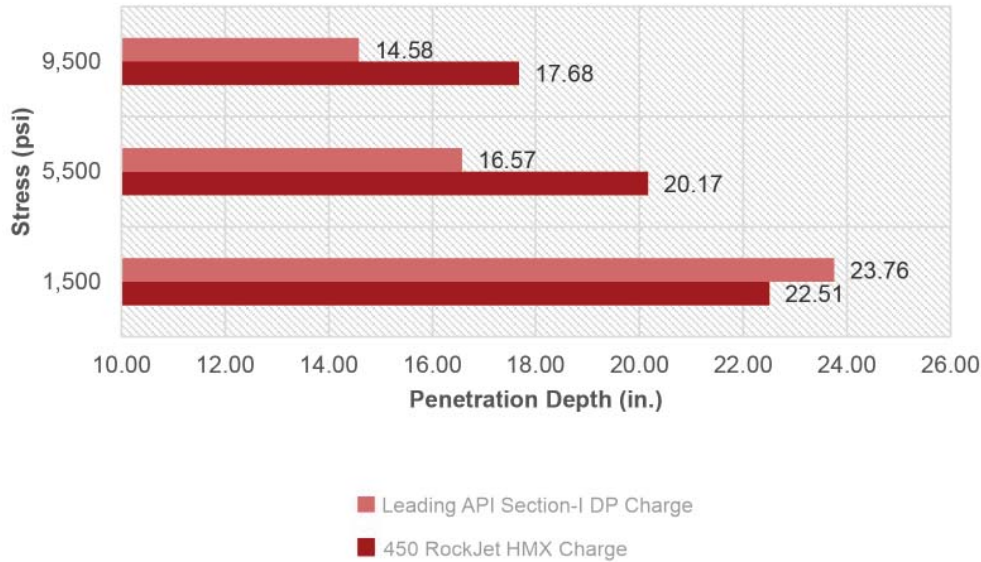
BENEFITS

- » Maximizes reservoir contact through larger hole diameter and deeper formation penetration
- » Significantly increases well productivity and injectivity

450 RockJet™ HMX Perforating Charge Results

Witnessed API Section-2 Testing Results vs. Leading DP Charge (61 in. in API Section-I)

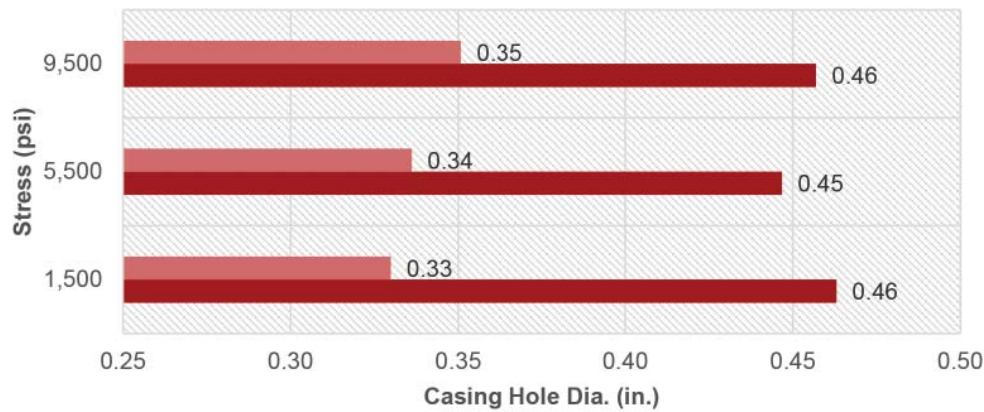
Penetration Performance



22%
Higher penetration into stressed rock

32%
Larger EHD

EHD Performance



83%
More area open to flow (AOF)

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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