

# Halliburton Perforating Tool Kit (HPTK)

## CHARACTERIZING THE EFFECTS OF PERFORATING CHARGES UNDER IN-SITU CONDITIONS

### OVERVIEW

The industry has embraced perforating charge modeling technology. It is best understood as an engineered job design tool—one that integrates the use of perforating charges to see how a charge would perform in downhole conditions. This method of predicting the results of perforation was based on the leading calculation/technology of the time. With the development of the Halliburton Tool Perforating Kit (HPTK) model, this is no longer the only method.

By utilizing more than 500 flow lab tests, actual dynamic pressure response, overburden stress, varieties of rock matrixes, and multiple perforating environments, the HPTK model provides advanced perforation performance correlations that will be utilized in post-job perforating efficacy analysis and prejob design to enhance future exploitation of your assets.

The HPTK was born from knowledge gained from the Halliburton state-of-the-art Advanced Perforating Flow Lab at the Halliburton Jet Research Center. Our continued studies of in-situ perforating of rock mechanics and flow regimes in hundreds of unique perforation conditions, including high pressure, high temperature, different rock matrixes, and perforation environments, the information is used and incorporated in the calculation within the HPTK algorithms. The HPTK has the enhanced ability to derive in-situ effective perforation tunnel performance, thus improving the predictability of the productivity or injectivity of a well perforated with a Halliburton perforation solution.

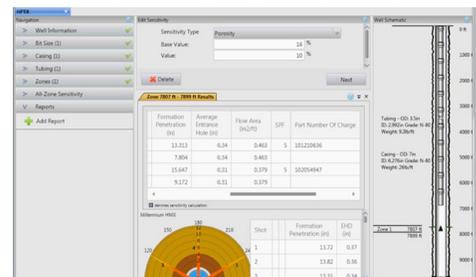
### BENEFITS OF HALLIBURTON PERFORATING TOOL KIT

- » Halliburton Perforating Tool Kit is a perforation design program based on proprietary models
- » Developed with extensive API Section IV/API Section II Perforation Flow Laboratory Studies
- » 3D Finite Element Analysis modeling and empirical data from field

The HPTK software converts API 19b Section I test data to reservoir conditions to predict the actual total target penetration and casing entrance hole size. The charge performance is dependent on gun/charge type, well parameters, formation compressive strength, and effective stress.

- » Provides the ability to predict charge performance during a perforating service
- » Evaluate optimum perforating environments, sensitivity analysis of formation characteristics, and the in-situ response of the reservoir
- » Unmatched charge performance predictions help to understand reservoir response
- » Sound perforating efficacy analysis enhances future exploitation of your assets

For more information, contact your local Halliburton representative or visit us on the web at [www.halliburton.com](http://www.halliburton.com)



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