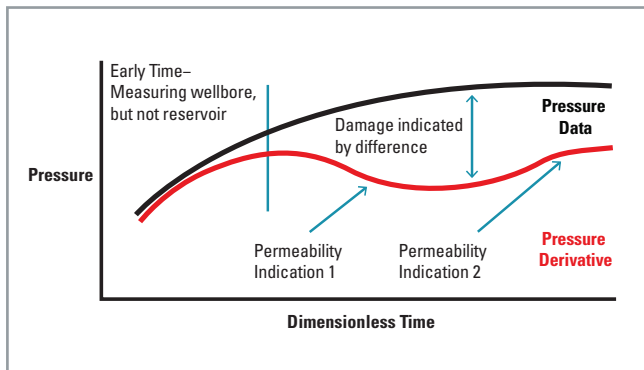


STIM Fracture Efficiency Analysis with Shock Sensing Sub Tool

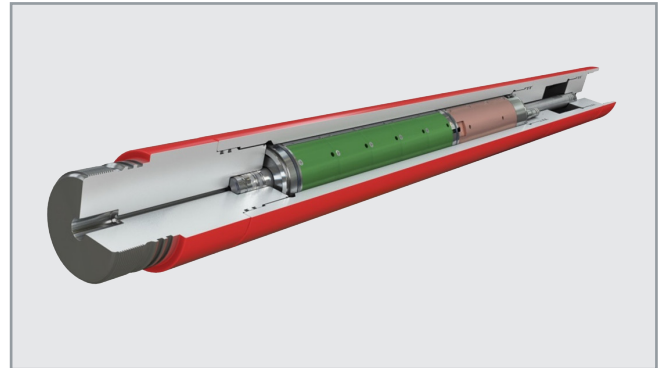
Characterizing the effects of a STIM treatment

The industry has embraced StimGun™ technology and is best understood as an engineered job design process that integrates the use of products with PulsFrac™ computer modeling and data acquisition. This method of validating the results of the STIM treatment was based on the leading technology of the time. With the development of the Shock Sensing Sub tool, this is no longer the only method.

In the right application and with the right tool, propellants work. However, all propellant-based products are not the same. The StimGun family of propellant-based products offers the industry the first fully integrated, technology-based, and thoroughly tested tools designed to dynamically clean up and stimulate the near-wellbore area. These stimulations are not only cost effective, but in many instances, may be the only available solution for elimination of certain near-wellbore problems. This technology is used both as a primary stimulation and in combination with other stimulation technologies such as hydraulic fracturing. Now with the ability to provide STIM Fracture Efficiency analysis, this offering is complete.



Example of STIM fracture efficiency



Shock Sensing Sub

Shock Sensing Sub Benefits

- The Shock Sensing Sub tool can be placed anywhere in the perforating assembly.
- More data available for job verification, post-job analysis, and model validation
 - 12 active channels for high-speed recording
 - Each channel provides 100,000 data samples:
 - Tool string acceleration
 - Mechanical strain/stress in the tool string
 - Dynamic wellbore pressure
 - Static pressure/temperature
- Provides high-resolution characterization across non-homogeneous intervals with varying reservoir and wellbore parameters
- Captures stress and strain, which yields a more accurate characterization of downhole events
- Enables life-of-well, time-lapsed reservoir monitoring capabilities for proactive asset management
- Operates in deviated or horizontal wells for dynamic string shock loading response

STIM Fracture Efficiency Analysis Benefits

- Provide the ability to evaluate fractures created during a STIM treatment
- No more model interpretation as the evaluation is done with imperial data collected at the sand face throughout the zone of interests
- Evaluate optimum flow rates, stabilized formation pressures, and the in-situ characteristics of the reservoir
- Wellbore drawdown at specific location within the perforated intervals



**For case studies or additional information, please contact
your local Halliburton Business Development Representative.**

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