# MSCluster
## Well Fracturing Model

## Overview

Hydraulic fracturing is a very common technique in wells for shale gas, tight gas, tight oil, coal seam gas, and hard rock wells. There has been an increasing trend towards multiple hydraulic fracturing as production declines. This well stimulation is usually conducted once in the life of a well and greatly enhances well productivity.

To aid in the design of an optimum pumping schedule for multistage well fracturing, Pegasus Vertex, Inc. has developed MSCluster. This well fracturing job simulator models the effects of various parameters in a fracturing job during its design stage. It calculates the pressure inside the pipe and calculates the volume split sideways during the multistage fracturing process.

The well fracturing simulator can be used to optimize pump rates for maximum mud displacement efficiency by designing the highest allowable pump rates with exceeding formation pressures. MSCluster can also evaluate job results by comparing the pre-job simulation to on-site recorded job data, allowing for the optimization of future designs or pinpointing the probable cause of a "problem" job.

# MSCluster—Well Fracturing Model
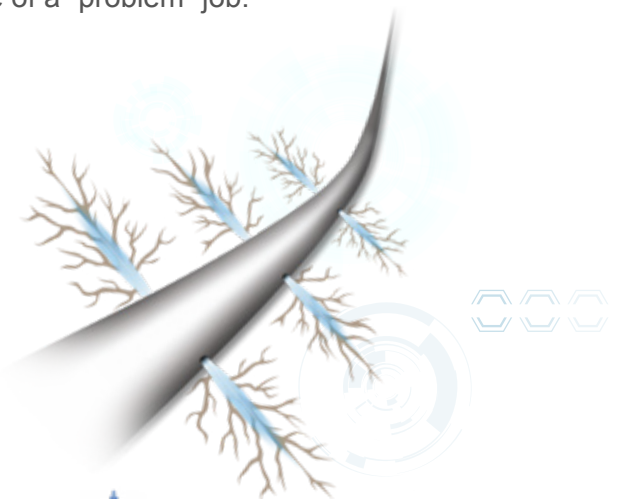
## Features

- Land and offshore wells
- Directional survey with 3D well path visualization
- 3 Options to input pore/frac data: EMW, gradient or pressure
- Pumping schedule
- Up to 40 formation layers with different temperature gradients
- Up to 10 cased holes, 50 fractured holes and 10 pipe sizes
- Bingham Plastic, Power Law and Herschel Buckley rheology models
- Rheological parameters from Fann viscometer readings
- Handling of up to 80 zones
- Up to 10 opening sleeves for each zone
- Microsoft Word® report
- US oil, metric or customized unit systems

## System Requirements

- Microsoft Windows® 10 or above
- Microsoft Office® 2016 or above
- Dual-core processor, 1.4 GHz or higher (Not compatible with ARM processor)
- 4 GB RAM
- 200 MB of free disk space for installation
- 1,280 x 768 display resolution
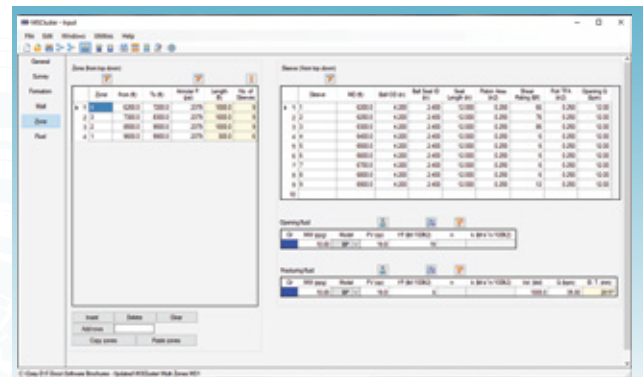


Zone
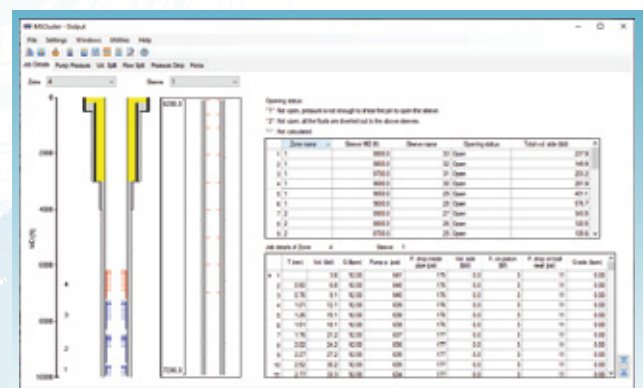


Job Detail



Pumping Schedule



Volume Split