![Baker Hughes, a GE company logo]

JewelSuite Reservoir Stimulation Application

JewelSuite software delivers subsurface intelligence and insight through a portfolio of applications focused on geological modeling, geomechanics, reservoir simulation and visualization to optimize field development plans and drive greater production. The JewelSuite™ Reservoir Stimulation application enables you to quickly identify the optimum stimulation strategy, and to export results to a reservoir flow simulator.

Faster, trusted results

This dedicated fit-for-purpose application enables you to execute a large number of hydraulic fracture simulations along a well, with the trusted MFrac™ engine built-in. You can interpret stimulation results and visualize multiple wells in the entire subsurface context. To optimize your hydraulic fracturing plans, JewelSuite Reservoir Stimulation enables you to quickly iterate between completion and stimulation designs and predict what works best for your target zone. Quickly set up a run and populate many stages along the lateral using log data, when available, with a patent-pending, data-driven advisor to suggest stage and cluster placement.

Easy data import and 3D visualization

You can quickly and easily import industry standard data including wellbores, well logs, hydraulic fracture designs and micro-seismic data. Wellbores and logs can also be generated with data embedded in MFrac files. Visualization in 3D to places hydraulic stimulation results into your subsurface context, enabling you to perform a spatial analysis of fractures and micro-seismic data, to identify the potential for frac hits and to estimate stimulated volumes. The large view allows maximum workspace to visualize and analyze data. View properties are adjustable and the display properties of the data (colors, line thickness, symbol shape and size, and transparency) are modifiable.
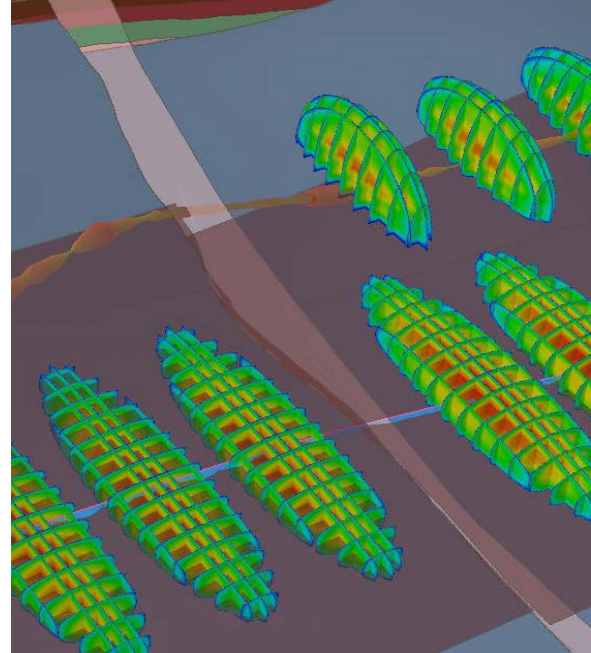
Optimize your hydraulic fracturing designs for wells and well pads in unconventional fields

- Multi-stage capabilities
- Quickly simulate all stages along the lateral
- Consider stress shadowing between stages
- Patent-pending, data-driven stage and cluster placement advisor
- Built-in MFrac engine, utilizing the industry trusted hydraulic fracturing design and evaluation simulator
- Seamless integration with larger upstream workflow

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Optimized stimulation design workflow

The multi-stage modeling workflow leads you from data import of all relevant data, via case management and fracture stage placement to setting up simulations with stimulation designs and treatments populated along a well. All stages along a well can be modeled in one go with our industry-trusted hydraulic fracturing simulator, MFrac™. The effects of stress shadowing for multiple stages are computed for sequential and alternating staging as desired. Informed decisions can be made concerning well spacing, well placement, landing zone, stage spacing, stimulation method, fracturing fluids and proppants, treatment rates and volumes, and hazard avoidance.

Cluster placement advisor

Geometric stage and cluster spacing is often the most practical solution, in particular when you are planning stage and cluster placement in the absence of data. However, when you want to leverage logs to optimize stage and cluster spacing, you can turn to our patent-pending technology with the data-driven placement advisor, which provides the optimal stage and cluster placement strategy with a few clicks within in the stimulation design workflow.

Stress shadowing effects

Fractures placed in close proximity can interfere with each other mechanically and increase required treatment pressures. Predicting and mitigating the effects of these stress shadows, or using them to your advantage, can make a significant difference in the success of your stimulation program.

With JewelSuite Reservoir Stimulation, stress shadowing effects can be taken into account during the simulation of hydraulic fractures. The stress shadowing calculations are based on peer-reviewed, published analytical solutions that have been validated by industry-leading 3D finite-element models. These tools assist you in identifying the optimal distance between fracture stages and, ultimately, in designing the best stimulation design for the entire well or well pad.

Improved efficiency and ease of use

You can accelerate your workflow and reduce errors using several key features included in JewelSuite Reservoir Stimulation. The software has built-in case management and manages different scenarios, wells, logs and designs all within one solution file, so you can focus on optimizing the stimulation plan with consistent data rather than spending time with data import, export and file management.

Flexibility, connectivity, and extensibility

The JewelSuite Reservoir Stimulation application is built on the JewelEarth™ development platform that enables you to easily enhance existing functionality with new plug-ins or modules that contain your own algorithms or methodology; build your own workflows; and connect to proprietary databases or other subsurface applications by using the JewelEarth Software Development Kit (SDK).

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