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EC Prime enhanced conductivity fracturing service

Accelerate and improve hydrocarbon flow through your fracture network

The EC Prime[™] enhanced conductivity fracturing service creates larger, more conductive flowpaths to maximize hydrocarbon recovery from hydraulically stimulated wells. Through a unique combination of fluid dynamics modeling, ultra-lightweight proppant technology, and innovative pumping techniques, each EC Prime service is customized based on your formation's unique requirements. And, in most instances, enhanced conductivity can be achieved with reduced water and proppant requirements.

The benefits: improved short and long-term production and enhanced fracturing efficiency.

Optimizing the "pillar fracturing" approach

Historically, pillar fracturing techniques use proppant pulsing and hindered settling to create proppant "pillars" capable of holding a fracture open and large flowpaths to permit maximum hydrocarbon flow. However, these conventional pillar fracturing applications often yield inconsistent results.

That's because current industry pillar fracturing solutions aren't matched to formation properties. Optimizing pillar

spacing through design and having a mechanism to hold open pillars under closure stress can be a challenge.

In contrast to traditional pillar fracturing services, the EC Prime service leverages advanced fluid dynamic modeling to match the frac design to the formation's specific rock properties. As part of each service, experts from Baker Hughes determine the optimal treatment parameters (injection rate and pulse time) for a well's individual fracture geometry (height and width) to create the desired pathways and ensure the necessary proppant support.

Proprietary techniques and proppants

Once an optimal fracture design is completed, the desired distribution of proppant is created by pulsing fluid systems with varying viscosities. The proppant mixture within the fracturing fluid incorporates an engineered distribution of strong, ultra-lightweight proppant. This unique proppant technology possesses a specific gravity close to that of water-allowing it to remain suspended in solution to provide ongoing proppant support even in formations with extended closure times.

Applications

- Wells up to 275° F (135°C)
- Wells with maximum closure stress of 8,000 psi (55 MPa)

Benefits

- Improved conductivity
- Eliminates closure risks between pillars
- Minimizes risk of trapped hydrocarbons and/or flow "choke points" within the fracture network
- Enhanced reliable flow channels
- Customized design based on formation properties
- Optimized pillar spacing for maximum flow potential
- Reduced screenout potential
- Permits lower water and proppant concentrations compared to conventional slickwater treatments

This unique blend of technologies ensures that some small, supportive elements remain in place between the proppant "pillars" to eliminate the risk of choke points or closed flowpaths that would trap potential production.

Efficiently improve your recovery

The EC Prime service helps you improve both initial production and ultimate recovery by:

- Eliminating closure risks between pillars
- Minimizing the risk of trapped hydrocarbons and/or flow "choke points" within the fracture network
- Maximizing flow due to optimized pillar-spacing-based, customized formation design

And, because the service delivers proppant reliably throughout the created fracture, and provides additional support in the flow channels between the pillars, this enhanced recovery is typically possible while using less water and proppant than conventional fracturing services.

Maximize your stimulation ROI

Maximize recovery from your unconventional well effectively and efficiently with an EC Prime service.

Contact your Baker Hughes representative today to find out more about how this service can help you maximize returns on your next well.



In a conventional pillar fracturing application (left), if the proppant clusters that hold the fracture open are spaced too far apart, the formation may close up–trapping potential hydrocarbon flow. With an EC Prime service (right), ultra-lightweight proppant remains in place to provide additional support without restricting flow in the large channels engineered to deliver maximum hydrocarbon flow.



Fluid dynamic modeling of an EC Prime pillar frac treatment demonstrates increased proppant coverage throughout the fracture.

