

BroadBand Shield

Fracture-geometry control service

APPLICATIONS

- Hydraulic fracturing treatments in tightly spaced fields
- Hydraulic fracturing treatments in reservoirs that are predisposed to unrestricted fracture growth
- Initial completions or refracturing operations

BENEFITS

- Reduces risk of undesirable direct communication with nearby wells
- Optimizes reservoir drainage for pad drilling
- Limits fractures to designed reservoir area
- Enhances reservoir contact within the designed reservoir area
- Increases production and recovery by optimizing fracture geometry

FEATURES

- Engineered far-field diversion pills designed to suit well requirements
- Improved environmental profile with new formulation for diversion pill
- Preslurried and dry particles to optimize blending and minimize HSE risks
- Compatibility with slickwater, viscoelastic surfactant (VES), linear gel, and crosslinked gel polymer systems
- Applicability at bottomhole temperatures from 40 to 450 degF [4 to 232 degC]



Conventional fracturing service.

BroadBand Shield service.

BroadBand Shield* fracture-geometry control service minimizes the risk of communicating with neighboring wells or fracturing into undesirable zones. It delivers engineered fracture stimulation treatments, constraining fracture growth with far-field diversion. The service uses a composite fluid system with a proprietary engineered far-field diversion pill that bridges at the fracture tip to prevent excessive growth of fracture length and height.

Prevent frac hits and communication between wells

Schlumberger engineers are able to model the fracture geometry using Kinetix Shale* reservoir-centric stimulation-to-production software and optimize the pumping schedule to prevent frac hits, increase fracture complexity by opening secondary and tertiary fractures, and optimize recovery without the detrimental effects of well-to-well communication. BroadBand Shield service is an environmentally friendly and easily deployed solution that provides maximum control of fracture geometry. Well-to-well communication can be monitored with WellWatcher Stim* stimulation monitoring service, which uses high-frequency pressure data to analyze the risk of frac hits in real time, enabling operators to change the treatment design in the field and optimize hydrocarbon recovery.

Improve fracture complexity

With a properly engineered fracture design that limits fracture growth, BroadBand Shield service optimizes fracture geometry and increases fracture complexity in unconventional reservoirs. This helps improve reservoir drainage by maximizing reservoir contact within discrete areas and limiting pressure drops at the edge of (or outside) the desired drainage area.

Whereas conventional near-wellbore diversion relies on relatively large particles to bridge perforations and smaller particles to plug the spaces between the large particles, the BroadBand Shield service uses much smaller diversion particles. The engineered particle sizes and pumping schedules ensure that the particles can pass easily through perforations and created fractures to plug only the fracture tip.

Retain fracture conductivity

The smaller particles are more easily transported, even in relatively low-viscosity fluids, and they can be transported into smaller fractures compared with conventional proppants. The engineered pumping schedules include the diversion material only before conventional proppant stages, which means that it has no impact on conductivity in the propped fracture.

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