Stimulation

Zero-D™ Fracturing Fluid Systems

For Enhanced Environmental Performance, All of Halliburton’s Water-based Fracturing Fluid Systems Now Use Diesel-free Liquid Gel Concentrates

Zero-D™ fluid systems provide an environmentally attractive alternative—both in the formation and on the surface. Plus, this technology advancement is available at little or no additional cost in most markets.

A study sponsored by the Environmental Protection Agency (EPA) concluded that the practice of hydraulic fracturing poses little or no threat to underground sources of drinking water. Nevertheless, Halliburton has taken a proactive approach by removing diesel-based liquid gel concentrates (LGC) from our entire water-based fracturing fluid portfolio. This advancement can help operators move to higher levels of environmental performance.

The new diesel-free LGC formulations have been proved in field trials to provide the same high performance as the previous versions. Halliburton water-based fluid systems are available for virtually any formation where fracturing can help improve production.

SilverStim® and SilverStim® LT Services

The next-generation fluid systems, SilverStim and SilverStim LT fluids provide excellent viscosity and proppant transport with lower polymer loading than ever before possible. Plus, one price covers a stabilized fluid system with integrated clay control and break mechanisms. SilverStim LT fluid covers applications from 80°F to 180°F and SilverStim fluid can be applied from 175°F to 400°F. Improved pricing efficiency allows proposed and actual invoice prices to match, even if on-site design modifications are made. System packaging eliminates the need for individual chemical charges, helping reduce ticket review and validation.

Delta Frac® Service

The classic, reduced-polymer-loading system, Delta Frac service provides viscosity and proppant transport with up to 30% less polymer than conventional systems. With an application range of 80°F to 200°F, the fluid system’s reduced polymer loading helps reduce formation damage and provide superior regained conductivity. The fluid system is compatible with both enzyme and oxidizing breakers.

Whatever the size and requirements, when a water-based fracturing fluid is needed, Halliburton can help enhance environmental performance by providing a fluid based on diesel-free LGC.

Halliburton MicroPolymer® (HMP®) Service

A step-change advancement in fracturing fluid technology, Halliburton MicroPolymer service provides superb fluid efficiency, a clean proppant pack and longer effective fracture length. The fluid system performs up to 260°F. Transient Gel® technology eliminates the need for breakers while rapid response enables real-time rheology control. The fluid components (polymer and additives) are delivered to the wellsite as a premixed concentrate and only fresh water is required to be stored at the wellsite.

Because no breakers are required, the polymer is not damaged. This virtually eliminates polymer residue from the proppant pack and enables the fluid to be recovered and reused under certain conditions.
SeaQuest® Service

SeaQuest service features a seawater-based fluid system for stimulating offshore sandstone reservoirs up to 300°F—both unconsolidated and consolidated. This versatile system is appropriate for both offshore fracturing and FracPac® service in either shelf or deepwater environments. Specifically designed for seawater mixing, the system does not produce damaging precipitates and provides greater flexibility for job design and delivery.

DeepQuest™ Service

DeepQuest service enables effective stimulation of ultra deep reservoirs at 80°F to 325°F. This high density borate crosslinked system provides a typical specific gravity of 1.3 to 1.38 whereas the typical specific gravity for an aqueous fracturing fluid is 1.0 to 1.04. The high density provides extra hydrostatic pressure at the formation to help reduce the pressure requirements on surface equipment. Without this fluid, many ultra deep wells cannot be fractured due to current surface equipment pressure limitations.

Sirocco® Service

Sirocco service extends the proven benefits of low polymer fracturing fluid to higher temperature wells with the added benefit of salt compatibility. The fluid system performs from 275°F to 400°F. Sirocco fluid provides the excellent transport capabilities of conventional CMHPG fluid systems but uses less base polymer, resulting in much higher regained conductivity. Very predictable in viscosity and efficiency, this fluid resists thermal thinning.

Pur-Gel™ III Fluid

Pur-Gel III is a delayed-crosslinked gelled fracturing fluid for use in wells with bottomhole temperatures between 80°F and 275°F. The fluid incorporates a low-residue CMHPG gelling agent. The zirconium crosslinking agent is compatible with CO₂ when used with selected buffering agents. Carbon dioxide may be added to provide compatibility with formation fluids and to help recover fracturing fluids following the treatment.

Thermagel™ Fluid

The Thermagel fluid system was developed to treat wells with bottomhole temperatures greater than 300°F. The delayed crosslinked gel fluid uses a low residue CMHPG gelling agent. A proven performer in the HPHT realm, Thermagel fluid remains a workhorse in the Halliburton fluid suite.

Hybor™ Fluid

Hybor fluid is a delayed borate crosslinked fluid using guar or HPG gelling agent recommended for wells with temperatures ranging from 125°F to 300°F. Crosslinked gel filter cake cleans up with water production.

Water Frac™ Fluid

Halliburton offers a full suite of additives to optimize the results from fracturing treatments using friction-reduced water. The Water Frac system is available in a number of polymer formulations for low-viscosity, low-sand-concentration applications.

For more information about Zero-D fracturing fluids can help make your assets more profitable and help improve your environmental performance, contact your local Halliburton representative or e-mail stimulation@Halliburton.com.