

# DynaFrac<sup>™</sup> HT Fluids

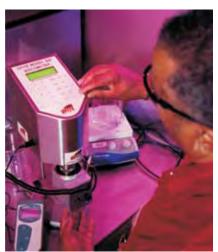
Putting viscosity in a new light.



# Weatherford's DynaFrac<sup>™</sup> HT Fluids: Right on Viscosity



Consistent viscosity at every temperature level.



Ongoing research and development.

Clients know that hydraulic fracturing fluids are all about viscosity. Weatherford challenges convention by using a superior fluid system—and a new way of thinking.

### An Original Perspective

Weatherford's *DvnaFrac* HT fluids deliver exactly the viscosity needed with lower gel loading. For example, a 30-pound *DynaFrac* system can typically achieve the viscosity of conventional 40-pound systems. This new approach saves the operator 25 percent in gel costs by shedding those 10 pounds.

Now that's putting viscosity in a new light.

### **Controlled Crosslinking**

DynaFrac HT is a versatile borate crosslinked frac fluid that uses a refined, low-residue, high-yield natural guar polymer and a borate crosslinker. Crosslinked time is fully controlled to minimize pumping friction pressure and job cost. DynaFrac HT provides extended crosslink times at elevated temperatures (70° to 325°F+, or 21° to 163°C+) and elevated gel loadings. It can be used with fresh water, KCI or light brines. Continuous-mix operations are preferred for DynaFrac HT.

### **DynaFrac** Advantages

- Up to 20 percent more viscosity than conventional guar-borate systems
- Lower polymer loading as a result of higher crosslinked viscosity yields
- Minimized formation damage with lower polymer loadings
- Greater conductivity for higher production rates
- Enhanced crosslink stability for optimal frac geometry and more efficient proppant transport
- Complete suite of breaker packages for optimal cleanup

### **Optimal Viscosity with Lower Gel Loading**

Pound for pound, dollar for dollar, DynaFrac™ fluids can outperform competitive fluids. These breakthrough fluids are made possible through specialized gel manufacturing methods and chemical combinations that include unique combinations of crosslinker and breaker technologies.

#### **Rheology of Competitive** Frac Fluids at 250°F (121°C) in 2% KCI

800 700 600 Viscosity at 100/s (cP) 500 400 300 200

# Rheology of *DynaFrac* HT 40 in 2% KCI

1,200 Fluid Temperature 160°F (70°C) Viscosity at 100/s (cP) 1,000 200°F (93°C) 800 250°F (121°C) 600 Time at Temperature (min)

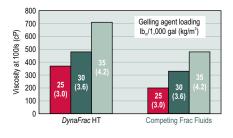
# **Rheology of Competitive**

Competitive Frac Fluids

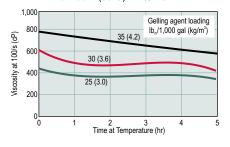
100

DynaFrac HT 40

Frac Fluids at 200°F (93°C) in 2% KCI



# Rheology of *DynaFrac* HT at 200°F (93°C) in 2% KCI





Extensive lab and field testing for all Weatherford chemical systems.



Competence, control and consistency on every job.

# DynaFrac™ HT Fluid

### FracSure<sup>™</sup> Service from Weatherford

Weatherford's *FracSure* service is built on the solid foundation of our proven excellence in drilling, intervention, completion and artificial lift. This multidiscipline experience enhances reservoir understanding and recovery.

*DynaFrac* fluids spearhead a broad line of fluids and additives that facilitate reservoir-specific solutions. From skilled chemists and engineers to experienced service technicians, Weatherford provides consistent, on-time fracturing performance every time, on every job.

For more information about Weatherford's fracturing services, contact us at **fracturing@weatherford.com**. For regional contact information, visit **weatherford.com/frac**, and select "Regional Contacts" under "Contact Us."

