AquaLinear service is based on a viscosified fluid system used for gelling a wide range of water based brines, completion and treating fluids. The service enables a substantial amount of design flexibility for a number of applications including the following:

- Varying degrees of sand support for gravel packing.
- Fluid loss control.
- Friction pressure reduction.
- Other applications benefiting from a shear thinning, low damage fluid system.

AquaLinear fluid properties allow simple mixing procedure and rapid viscosity development in water based fluids including the following:

- Fresh water.
- Organic and hydrochloric acid mixtures.
- Potassium chloride brines.
- Sodium chloride brines.
- Calcium chloride brines.
- Calcium bromide brines.
- Zinc bromide brines.

**Novel Rheological Properties**

AquaLinear fluid’s rheological properties differ from those of hydroxyethyl-cellulose or similar linear gels. It is based on a biopolymer gelling agent. Brines gelled with this agent are shear thinning and are uniquely efficient in static sand suspension.

Because of AquaLinear fluid’s very high viscosity under low shear conditions, this service can be designed so the gelled fluid suspends sand similar to that of a crosslinked gel. In addition, the high viscosities under low shear attained with these polymer loadings can be used to control fluid losses during workover and completion operations with reduced damage to the formation.

At lesser polymer levels, AquaLinear fluid can produce a “slick brine” consistency giving reduced pumping friction pressures.

**AquaLinear Service Can Help Save Rig Time**

The base polymer can be rapidly dispersed in water without going through a complex mixing protocol or an extended, time-consuming hydration period. Its ease of mixing and rapid hydration apply to most of the brines used in completion operations.

**Fluid Loss Control**

The gravel-pack gels attained with this polymer have another important characteristic: All gels, regardless of the level of polymer selected, possess outstanding fluid-loss properties. In many instances, this feature helps provide better sand packing by allowing tighter grain-to-grain contact than with gels that rely more heavily on higher polymer loading for sand support.
Applications
The capabilities of AquaLinear service mean total sand transport, excellent fluid leak-off for gravel packing and high viscosity at low shear for fluid loss control can be achieved in the same fluid by using appropriate polymer loadings and fluid volumes. Field applications for AquaLinear service include the following:

• Gravel pack carrier fluid for Ex-tension Pac™ service.
• Gravel pack carrier fluid for Halliburton's Concentric Annular Packing System (CAPS™ service).
• Viscosifying agent for completion fluid or brines for fluid loss control.
• Sand washing and coiled tubing clean out operations.
• Viscosifying agent for acid or brine for treatment fluid diversion.
• Drill-in fluids rheology control.

For more information about how AquaLinear™ service can help make your operations more efficient, contact your local Halliburton representative or email sandcontrol@Halliburton.com.

Returned Permeability
The polymer used in AquaLinear fluid is specially treated during its manufacturing process to enable it to yield consistently high returned permeability from treated cores.