AccessFrac<sup>SM</sup> Stimulation Service
Enhanced Proppant Distribution Provides Improved Access to the Reservoir

AccessFrac<sup>SM</sup> suite of services helps achieve improved longterm production and extend the economic life of virtually any hydrocarbon-producing asset in which fracturing treatments are performed. The service typically incorporates one or more of the following components:
- A unique new chemical diverter system.
- Proppant coating technology.
- Polymer alloy proppant.
- Special fluid and treatment design, and pumping schedule.

The AccessFrac services are particularly appropriate for low permeability formations, especially shale (Figure 1). AccessFrac service can result in increased stimulated reservoir volume (SRV—Figure 2) and greatly improved reservoir contact through two processes:
1. Increasing propped fracture volume in complex fracture networks by placing more proppant inside the intersecting created and natural fractures.
2. Placing the designed amount of proppant in each perforation cluster in multi-zone treatments.

**Treatments Tailored to Well Requirements**

AccessFrac service is available in different configurations that can be customized to help achieve improved long-term production.

**Figure 1**—Proppant distribution typically achieved in shale fracturing (left) provides little connectivity to the reservoir. AccessFrac CF service (right) results in propping much more of the fracture network to help provide improved long-term production.

**AccessFrac PD** service is designed to improve proppant distribution in multi-zone completions, helping make sure all perforation clusters are treated. The service can help make perf and plug and sliding sleeve-based treatments more efficient. (Figure 3)

**AccessFrac RF** service is designed for refracturing treatments. The service enables sealing off existing perforations in order to stimulate bypassed and new intervals.

**AccessFrac CF** service is used to enhance the development of complex fracture networks often created in shale formations. The additional fracture network complexity will help improve the ultimate hydrocarbon recovery and daily production rates.

**Figure 2**—The portion of the microseismic cloud within the outlined area indicates results normally achieved using conventional fracturing methods in the Barnett Shale. The additional microseismic signals outside the outlined area are the result of using AccessFrac CF service to create greater complexity and SRV. Increased SRV usually correlates to improved long-term production.
Helps Solve Costly Problems

AccessFrac service addresses two challenges operators often face in producing hydrocarbon from ultra tight formations like shale:

- Rapid production decline following fracture treatments.
- Uneven proppant distribution in plug-and-perf operations due to most of the proppant going into the fractures nearest the downhole plug. In addition to reduced production, this can lead to using excess proppant and fluid to try to compensate for the uneven proppant placement.

Unique Technologies Enable AccessFrac Service

In addition to the critical treatment design, pumping schedule and specialized fluid design, AccessFrac service includes a diverter and may include other technologies.

Degradable Diverter System

AccessFrac service can include a proprietary degradable diverting material in the near wellbore region and, when appropriate, within the formation. The material is the first degradable chemical diverter that can withstand the rigors of fracturing. The diverter can be used to create a temporary blockage that will degrade entirely with time requiring no special solvents or additional surface operations. The new BioVert® diverting material, often used in conjunction with AccessFrac service, is sourced from the food industry meaning it adds another layer of environmental protection to personnel and wellsite operations.

SandWedge® ABC Conductivity Enhancer

The AccessFrac process can include SandWedge® ABC enhancer to help achieve and sustain a more conductive proppant pack. In addition, coating the proppant with SandWedge ABC enhancer is instrumental in placing proppant pillars to achieve infinite conductivity in certain formations. Also, the enhancer protects against plugging due to intrusion of formation material.

MonoProp® Low Density Proppant

This new polymer alloy proppant provides a method to achieve a partial monolayer of proppant inside the fracture. Placing a partial monolayer of proppant results in very high fracture conductivity, which can lead to improved production. The low density of the proppant makes it easy to place with low viscosity fluids while providing uniform distribution. MonoProp proppant deforms and maintains a conductive path while conventional proppants tend to crush and produce fines when exposed to closure stress.

Figure 3 — AccessFrac PD service used in conjunction with a plug and perf procedure enables setting fewer plugs and treating more perforation clusters per stage while achieving enhanced proppant distribution. The number of trips and drill-out time can be reduced resulting in improved completion efficiency.

For more information about how the AccessFrac℠ suite of services can help improve long-term production from tight formations and improve completion efficiency, contact your local Halliburton representative or email stimulation@Halliburton.com.