

Minima™ Composite Frac Plugs Create 25% Less Well Debris, Reduce Drill-Out Times By 30%



The Minima composite frac plug is shorter than conventional frac plugs, and its light-weight cuttings lift easily to surface, enabling operators to quickly circulate out a clean wellbore.

Objectives

- Isolate discrete intervals within the target formation and conduct a 30-stage frac job in two unconventional wells.
- Following the stimulation treatment, rapidly drill out all frac plugs to bring the well onto production as quickly as possible.

Our Approach

- After drilling two horizontal wells in the unconventional Meramec and Osage play, the operator called for a 30 stage plug-and-perf completion in each well. Upon reviewing the operator's completion plans, Weatherford well completions experts recommended the Minima composite frac plug.
- The short length of the Minima plug leaves operators with less plug to drill through, and its composite material creates lightweight cuttings that lift easily to circulate out to surface during drillout. These factors would aid in quickly opening the well to production.
- Wireline was used to run each plug to depth with its frac ball in place. Once the plugs were set, the perforating guns were moved uphole to the designated perforation depth. After seating the ball, the plugs were pressure tested to 4,000 psi, then the pressure was decreased to 500 psi to begin perforating operations. After completing the 30-stage plug-and-perf procedure, the wireline crew pulled the perforating guns to surface.
- Following the plug-and-perf operations, all 60 plugs were drilled out with a tricone bit, which averaged just 5 minutes per plug.

Value to Customer

- At only 14-1/2 in. in length, the Minima composite frac plug is more than 5 in. shorter than comparable competitor plugs. For a 30-plug job, this reduces the amount of plug material that the operator will need to drill out by more than 12 ft (3.7 m).
- The lightweight cuttings facilitated a quick and efficient cleanout, enabling the operator to rapidly open the well to production.

LOCATION

Oklahoma, USA

FORMATIONS

Meramec and Osage

WELL TYPE

Unconventional, oil, development

TOTAL DEPTH

~8,000 ft

TEMPERATURE

160°F (71°C)

WELLBORE DEVIATION

90°

CASING SIZE AND TYPE

4-1/2 in., 13.5 lb/ft

PRODUCTS/SERVICES

Minima composite frac plugs

