

MILLITE lightweight frac plugs enabled quicker, more efficient plug debris removal

A customer performing plug-and-perf completions in the Eagle Ford Shale was looking for a plug option that would improve operational efficiency through faster milling and easier plug debris removal.

They chose to run the new **MILLITE™ lightweight frac plug** from Baker Hughes, a GE company (BHGE). The MILLITE plug is built completely out of a robust, engineered alloy material that is 70% lighter than conventional composite plugs. It also generates fewer, smaller cuttings with less total volume of debris per plug. And, unlike traditional composite plugs, the MILLITE plug's design uses proven friction slips—versus heavy cast iron slips or ceramic buttons—to keep it firmly in the casing. This makes the plug wear- and preset-resistant, virtually eliminating risks during run-in.

The customer's well had a measured depth of 6,900 ft (2,103 m) and a lateral section measuring 10,782 ft (3,286 m). The completion plan called for a total of 35 MILLITE plugs. The plugs were set and clear pressure signatures were observed as balls were landed on the plugs at 20 bbl/min, confirming the plugs remained anchored in place during treatment diversion.

After fracturing operations were complete, a milling bottomhole assembly was deployed and all of the plugs were milled with zero motor stalls or short trips, reducing intervention

time and eliminating coiled tubing (CT) cycling costs. A BHGE **Vanguard™ plug bit** was used to drill the plugs and demonstrated excellent milling performance.

The MILLITE lightweight frac plugs milled out with significantly smaller cuttings, leaving very minimal debris in the well for cleanout. The small amount of debris that was left was easily circulated out of the well without the aid of chemicals, and the Vanguard bit showed minimal wear.

The customer was pleased that they were able to mill this well with significantly smaller cuttings, making circulation and cleanup much quicker and more economical.



Because the MILLITE lightweight frac plug is built completely out of a special lightweight alloy that is 70% lighter than conventional plug material, it produced smaller cuttings that were much easier to circulate, leaving less debris in the well.

Challenges

Customer wanted an economical plug option that offered easy, complete debris removal for a clear wellbore

Results

- Improved debris removal
- Experienced zero motor stalls
- Required zero short trips
- Minimized intervention time
- Enabled fast frac ball pump-down operations (landed balls at 20 bbl/min)

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