

Vaca Muerta, Neuquen,
Argentina

Illusion[®] frac plug helps operator save USD 200,000

All 15 plugs dissolved, which eliminated need for CT millout

CHALLENGE

Eliminate cost, time, and risk associated with composite plug mill out

SOLUTION

Deploy Illusion[®] frac plugs for high-performance zonal isolation during stimulation with traditional plug-and-perf techniques

RESULT

Successful well bore flowback and production initiation without issue, which eliminated the need for wellbore cleanout intervention

- Zero issues during pump-down installation and fracturing operations
- Two to three days of intervention saved

Overview

An operator in the Vaca Muerta formation in the Neuquen Basin searched for a solution to reduce or eliminate risks and costs associated with post-fracture millout operations. The wellbore consisted of 5 1/2-in. mono-bore casing and 10,800 ft (3 292 m) of total vertical depth with a 5,000-ft (1 524 m) horizontal section.

Halliburton recommended the dissolvable Illusion[®] frac plugs for the plug-and-perforate operation, not only to effectively isolate during the fracture but also to remove the need for coiled tubing (CT) intervention afterward. Upon successful completion of the 15 stages, which required no special wireline installation equipment or pump-down procedures, the plugs dissolved and the need for intervention was eliminated. The well was flowed back and placed onto production without a CT millout, which exceeded operator expectations.

Challenge

In an ongoing effort to reduce risks and costs incurred during completion of a well using the plug-and-perforate method, the operator primarily sought ways to remove the need for to mill out composite plugs. As an added challenge, the operator's objective was to maintain the same parameters during the pump down and setting operations of the plug, without having to modify the values used with traditional composite frac plugs.

Solution

Halliburton highlighted the benefits that Illusion frac plugs offer compared to the traditional composite frac plugs provided by another service company.

Illusion frac plugs are dissolvable and help eliminate the need for intervention before a well is placed onto production. In addition, this high-performance frac plug provides zonal isolation for pump-down applications during wellbore stimulation and combines the industry-leading Halliburton frac plug designs with the most advanced dissolvable metal and rubber materials.



Illusion[®] frac plug

CASE STUDY

It is run-in-hole just as a composite frac plug would be to make installation quick and easy. No special tools need to be deployed in the casing string to set the frac plugs, which maintains the flexibility provided by the plug-and-perforation technique.

As with previous wells, a conventional electric setting tool was used to set the Illusion® frac plugs. The large-bore ID allows operators to produce through the plug while it remains in the wellbore and begins the dissolution process immediately after fracturing.

Result

The Illusion dissolvable frac plugs were pumped down and set without issue during the fracturing operations. Run-in-hole speeds exceeded 400 ft (122 m) per minute through the horizontal—a conservative but typical, application of Illusion plug efficiency and reliability.

All 15 plugs held up to fracture treatment pressures, even after hours of down time and wellbore fluid exposure.

The operator successfully flowed back the wellbore and began production without issue, which helped eliminate the need for a wellbore cleanout intervention. This saved an estimated USD 200,000 in costs typically associated with a CT millout operation.

Because Halliburton Illusion frac plugs helped eliminate the need for intervention, the application was a success for the operator.



USD

200 thousand
saved by the
operator



No

coiled tubing
required



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