

RapidStart® Initiator CT Sleeves Achieve 100 Percent Success Rate, Saving USD 100,000 Per Well

PERMIAN OPERATOR COMPLETES A FULL CASING PRESSURE TEST PRIOR TO THE FRAC JOB AND WITHOUT INTERVENTION

PERMIAN BASIN, WEST TEXAS

CHALLENGES

- » Achieve full casing pressure tests of up to 30 minutes prior to frac jobs, and establish flow paths without interventions
- » Decrease time and risk involved with standard toe sleeves
- » Provide a large flow area at toe once sleeve opens

SOLUTION

RapidStart® Initiator CT frac sleeves, which have internal metering systems that allow for full casing tests prior to sleeve openings

RESULTS

- » Operator ran dual RapidStart Initiator CT sleeves in almost 100 consecutive wells, achieving a 100 percent success rate
- » Achieved casing pressure tests of up to 30 minutes
- » Removed necessity for additional equipment that was previously needed for well interventions
- » Removed additional equipment previously needed for well interventions
- » Increased efficiency and reduced risk, saving USD 100,000 per well

OVERVIEW

A Permian Basin operator drilling and completing horizontal wells was looking for a more efficient way to achieve a full casing pressure test and to open a flow path at the toe prior to the frac job.

Halliburton recommended RapidStart® Initiator CT (Casing Test) toe sleeves because of their internal metering systems that allow an operator to perform a full casing test prior to opening.

As a result, the Permian operator ran dual RapidStart Initiator CT sleeves in almost 100 consecutive wells, achieving a 100 percent success rate and a full casing pressure test of up to 80 percent of the casing's rated burst value. By using this Halliburton solution, the operator reduced risk and saved USD 100,000 per well.



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CHALLENGES

In the Permian Basin of West Texas, an operator was drilling and completing several wells in the area. They were cementing long-string production casing in some wells, and pressure testing the casing and tripping in the hole with coiled tubing and tubing-conveyed perforating (TCP) guns in others.

The operator had been using standard toe sleeves that were set up to open below the desired casing pressure test value. To achieve the full casing test, the operator was running additional accessories above the standard toe sleeve and pumping balls or bridge plugs down to the toe. Once the standard toe sleeve would open, the operator would try one of two options in order to achieve a full casing test prior to the frac job.

Option 1: The operator tried running a landing baffle above the standard toe sleeve. A couple of days prior to the frac job, they would drop and pump a dissolvable ball to the landing baffle, and pressure up to achieve the casing test. After the test, they would wait for the ball to go away in order to regain the flow path.

Option 2: The operator tried pumping wireline-set bridge plugs above the toe sleeve and then pressuring up to get the casing pressure test. However, it was noted that a lot of the sleeves were malfunctioning or plugging during the initial injection, possibly due to the small flow area through the ports.

What the operator needed was a more efficient way to achieve a full casing test of up to 30 minutes prior to the frac job and to establish a flow path from the casing inside diameter (ID) to the formation without intervention.

SOLUTION

Halliburton recommended RapidStart Initiator CT toe sleeves because of their internal metering systems that allow for a full casing test prior to the sleeve opening. These sleeves have a large flow area through the ports, equivalent to the casing ID flow area, and are combined with high-wiping efficiency cement wiper plugs specifically designed and tested to work with the RapidStart Initiator CT sleeves.

RESULTS

The Permian Basin operator ran dual RapidStart Initiator CT sleeves in almost 100 consecutive wells, achieving a 100 percent success rate and a full casing pressure test of up to 80 percent of the casing's rated burst value. The operator was also able to hold the casing test pressure for up to 30 minutes before opening a flow path at the toe. The large flow area through the ports of the RapidStart Initiator CT sleeve allowed the operator to open a flow path at the toe for the first stimulation point.

By using RapidStart Initiator CT sleeves, the operator was able to remove the time, risk, and additional steps associated with running TCP on coiled tubing and running standard frac sleeves that require intervention. This Halliburton solution helped the operator simplify the operation, increase efficiency, and reduce risk – ultimately saving USD 100,000 per well.



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