

RapidStage[®] system with AccessFrac[®] service shines in the Bakken

WILLISTON BASIN, NORTH DAKOTA, US

CHALLENGE

- » Increase mechanical compartmentalization
- » Minimize completion time
- » Access more productive reserves

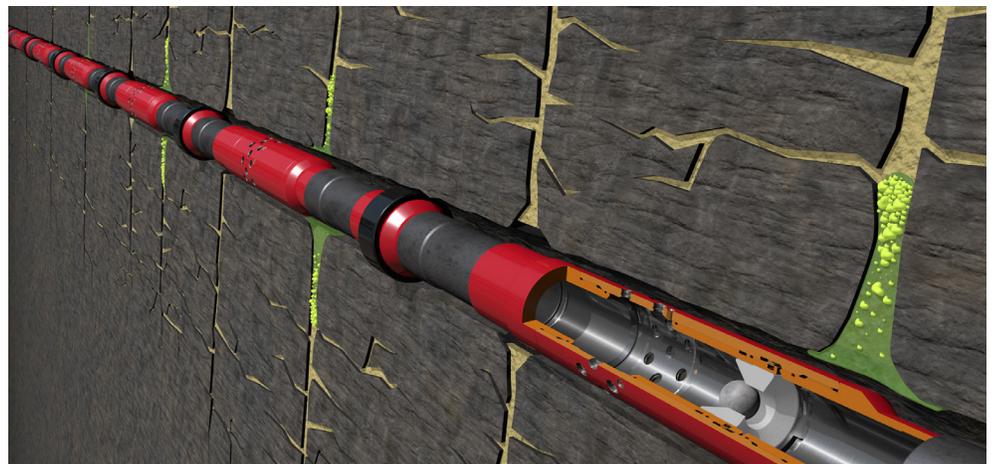
SOLUTION

Successful combination of systems enables up to 55 individual ball-drop stages

- » RapidStage[®] system with RapidBall[™] DM dissolving balls
- » Swellpacker[®] systems for openhole isolation
- » AccessFrac[®] service multi-cycle designs to ultra-compartmentalize the lateral

RESULT

- » Production brought online an average of three days faster
- » Number of effective fractures doubled without adding additional completion equipment or intervention procedures
- » Enhanced stimulation process improved overall fracture quality and enabled maximum value



Openhole completion with the RapidStage[®] system using Swellpacker[®] isolation system. Two discrete fracture treatments in a stage can be achieved by introducing AccessFrac[®] multi-cycle stimulation service designs – yielding 30% or more production improvements among all case studies.

OVERVIEW

Operators drilling and completing horizontal wells in the Bakken and Three Forks formations are at the forefront of innovative unconventional completion technology.

While multistage hydraulic fracturing helps to unlock the oil trapped inside the shale formations, conventional applications have not always resulted in optimal recovery. Ineffective stimulation is too often the root-cause of poor well productivity and economics.

Often cemented plug-and-perforate completions leave non-productive portions of the lateral due to poor cluster stimulation efficiency. Sliding sleeve systems enable single-entry stimulation to help overcome this, while offering improved stimulation time efficiency. Halliburton's advancements in its RapidSuite[™] sleeve technology, in combination with its AccessFrac[®] service, helps overcome the historical limitations of stage capabilities, and an additional sleeve is no longer required for each additional stage.

CHALLENGE

Operators in the Bakken and Three Forks formations seek to increase compartmentalization in their wellbores by adding more isolated fracturing stages. The goal – access more productive reserves thereby improving well economics with the goal of lowering cost per BOE. At the same time, these operators strive to minimize completion time in order to bring wells on production sooner.

SOLUTION

To exceed the demands of the longer and more compartmentalized laterals, the Halliburton RapidStage® system delivers up to 55 individual ball-drop stages for efficient openhole completions. Swellpacker® systems provide openhole isolation, while RapidBall™ DM dissolving ball technology helps eliminate the need for post-stimulation intervention to ensure well production.

To further enhance these completions without additional mechanical complexity, Halliburton recommended AccessFrac service multi-cycle stimulation designs. Using biodegradable fracturing diverter isolation, AccessFrac service enables ultra-compartmentalization of the wellbore by adding an additional pump/proppant cycle at each stage. Typical fracture treatments employ a single injection cycle per zone. With AccessFrac stimulation service and RapidStage sleeves, a 50-stage job can result in up to 100 discrete fracture treatments. No other technology integration can deliver the same level of efficiency and lower the cost per BOE.

RESULT

Dozens of applications using AccessFrac service have been successfully performed throughout the Rockies. In the Williston Basin, over 20 jobs performed with RapidStage sleeves and AccessFrac stimulation services in the past six months have resulted in a minimum of 30% sustained production improvement.

RapidStage sleeves are delivering the ultimate completion efficiency with 98% consistent ball landing performance. The number of effective fractures is doubled without additional completion equipment or intervention procedures. The integration of AccessFrac service multi-cycle stimulation designs add reserves by tapping previously unstimulated sections of the wellbore. These treatments increase flowing conductive fracture lengths and achieve greater connection with the reservoir's porosity system.

50
STAGES CAN RESULT
IN UP TO **100**
DISCRETE FRACTURE
TREATMENTS

www.halliburton.com

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

H011802 7/16 © 2016 Halliburton. All Rights Reserved.