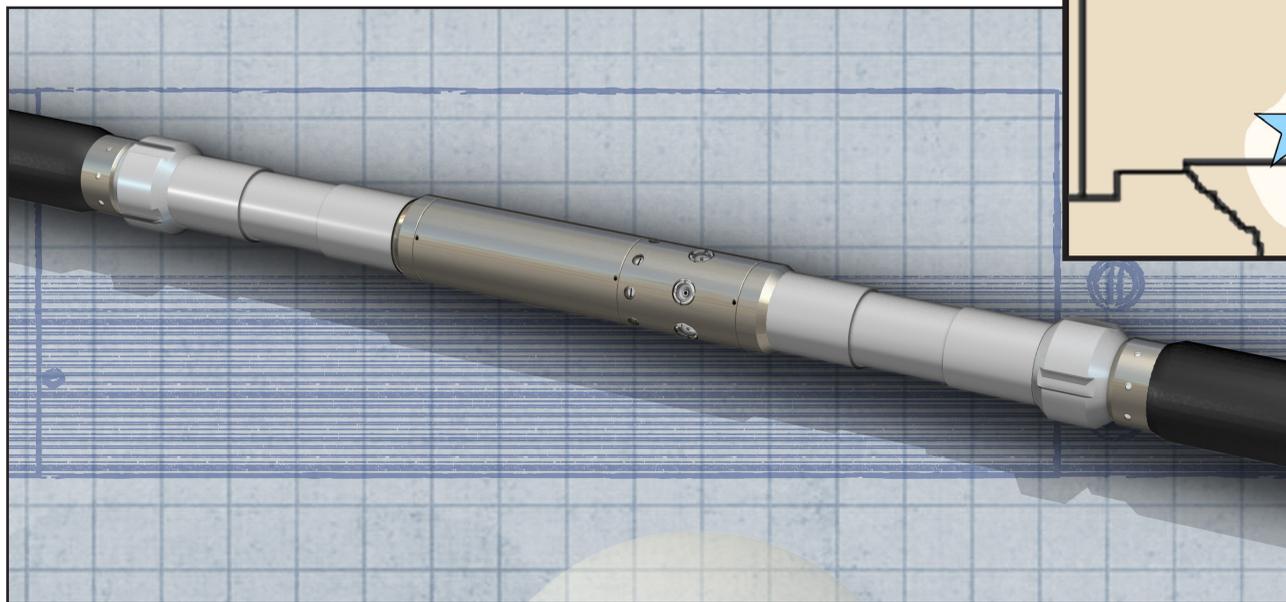


CASE STUDY

SUPERPORT™ FRAC SLEEVE



SUPERPORT™ PRECISION FRAC SLEEVE IMPROVES STAGE CAPABILITES IN OPENHOLE AND CEMENTED WELLS



WELL 1

Challenge

Fracture stimulate 5,100 ft of horizontal lateral with 28 stages

Solution

28 stage SuperPort™ frac sleeves with 1/16th inch ball seat increments and SwellShark™ water swell packers

Result

Successful hydraulic fracturing treatment and zonal isolation

WELL 2

Challenge

Stimulate 3,700 ft of horizontal cemented longstring

Solution

25 stage SuperPort™ cemented frac sleeves with 1/16th inch ball seat increments and Trigger Toe Sub™

Result

Successful toe initiation and hydraulic fracturing treatment

CASE STUDY

SUPERPORT™ FRAC SLEEVE

TECHNOLOGY OVERVIEW

As multistage sliding sleeve systems have become a common completion method, the focus has moved to increasing the efficiencies and performance of these technologies. Operators are more than ever in need of methods that will allow them to maximize stimulated reservoir volume through increased stage counts and pump rates while minimizing the cost and time required. Currently, a major limitation experienced during the stimulation phase of completions is the restricted pump rate for toe stages, which is caused by the small inside diameter of sliding sleeve ball seats. To overcome this challenge, the new SuperPort™ focuses on advanced seat design technology, allowing for

more economical ball materials to be used. This advancement allows for a reduction in ball seat increments, allowing operators to run the same number of stages at a larger ball seat inside diameter without the compromise of reducing pressure differential capability.

The SuperPort™ comes with a standard 10,000 psi differential rating, while the HPHT version is capable of withstanding differential pressures of 15,000 psi. In openhole applications, operators have numerous choices for zonal isolation, including the hydraulically set Predator™ packer and the SwellShark™ swellable packer. When run in a cemented application,

the first stage is initiated with precision burst disk technology, resulting in a completely rigless solution. The system allows for a continuous pumping operation for the stimulation treatment, eliminating down time between stages. In addition, the system provides a significant reduction in water requirements, equipment on location, and operational risks.

Peak Completions designed the SuperPort™ as a flexible solution to several operator needs. The system is applicable to unconventional plays such as the Bakken, Bonesprings, Cline, Woodbine, Avalon, Wolfberry, Eagle Ford, and Utica.

WELL 1

Operator's Challenge

Fracture stimulate 5,100 ft of horizontal lateral with 28 stages in SE New Mexico

Well Information

TD 14,446 ft TVD 8,850 ft KOP 8,254 ft
7 inch Intermediate Casing set at 9,204 ft
Liner 4.5 inch 11.6#, P-110 set at 8,654 ft

Solution

Isolation with SwellShark™ water swell packers
28 Stage SuperPort™ openhole frac sleeves

Result

All openhole completions equipment was installed in the well at the desired depth. The completion string was pressure tested successfully. Completion fluid was circulated to swell the SwellShark™ packers and Peak's swell packer prediction program was run to determine the swell time required before fracture treatment. The well was stimulated by hydraulic fracture treatment and all stages were successfully pumped as designed. All sleeves were successfully drilled out; this along with the advancement of the additional stages provided increased well performance.

The operator is continuing their drilling program and using the Peak Completions SuperPort™ openhole completion system to complete each well.

WELL 2

Operator's Challenge

Stimulate 3,700 ft of horizontal cemented longstring in SE New Mexico

Well Information

TD 15,157 ft TVD 11,074 ft KOP 10,593 ft
9.625 inch Intermediate Casing set at 5,050 ft
Longstring 4.5 inch 17#, P-110 HC, cemented

Solution

Toe Initiation with Trigger Toe Sub™
25 stage SuperPort™ cemented frac sleeves

Result

The completions tool string was run in the well and cemented on depth. The longstring was cemented in place and the wiper ball did not bump. The operator began to pump on the well and landed the ball, continued to pressure up and opened the Trigger Toe Sub™ at the designed pressure. The well was stimulated by hydraulic fracture treatment and all stages were successfully pumped as designed. All sleeves were drilled out and the system was able to increase the overall efficiency of the well completion.

The operator is continuing their drilling program and using the Peak Completions SuperPort™ cemented longstring completion system to complete each well.