

Restimulating Horizontal Oil Wells – Success and Failure

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Abstract

More than 200 refrac jobs have been attempted in horizontal oil wells including the Eagle Ford, Woodford, Bakken, Niobrara, Wolfcamp, Spraberry and other resource plays. Although many operators remain relatively silent regarding the size of their restimulation programs, encouraging results have inspired many companies to experiment with restimulation despite the current low oil price environment.

This presentation will include updated production results from an earlier review of 100 Bakken refracs (previously published as SPE 136757). There are specific categories of refrac candidates that can be restimulated with an 80-90% success rate. Particularly good candidates in the Bakken include wells that used low strength proppant (sand or resin-coated sand), and wells that were stimulated with a low number of stages.

This presentation will also show a number of previously unpublished refrac examples in other fields including the Eagle Ford.

One common problem the author observes in his consulting and training is that groups “lock in” on a refrac design before they actually identify the problem they are trying to solve. If the initial fracs collapsed because they used an inferior strength proppant, they require a different refrac solution than if the fractures have scaled up, or if the prop-pant has embedded into a relatively soft formation. Many groups mistakenly hone in on maximizing diversion or trying to blindly pump at higher rates without actually contemplating the best way to diagnose and address the actual problem. Yes, we can design “brute force” refracs that simultaneously solve a number of problems. They are often economic. But unless we significantly change our approach, the evidence suggests even those refracs will be of temporary durability. There are a number of fields in which the same perms have been restimulated more than 5 times, and the author is aware of wells with up to 8 economic refracs performed. Clearly we haven’t optimized our jobs!