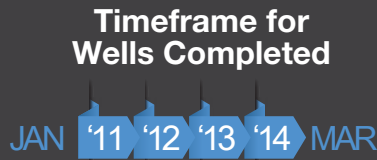
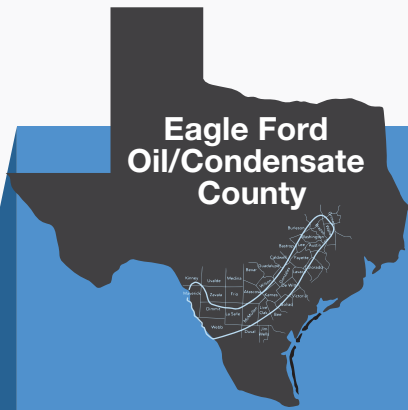
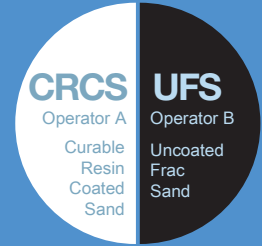


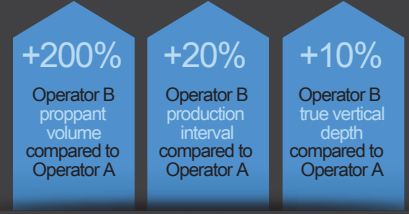
EAGLE FORD CASE HISTORY



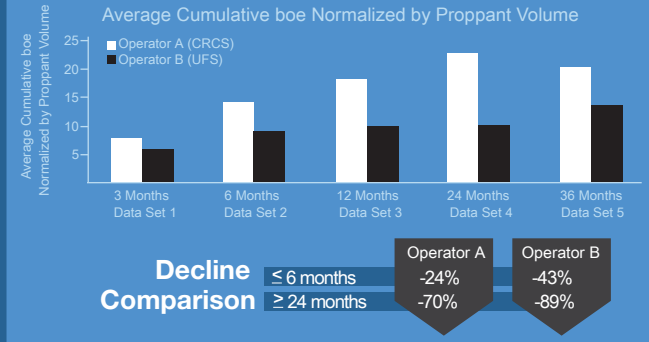
Proppant Type



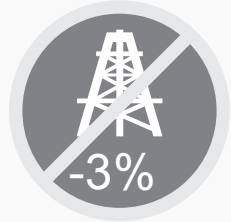
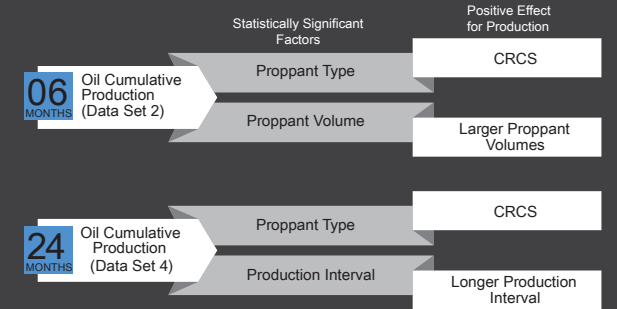
Completion Data Comparison



Cumulative Production Normalized by Proppant Volume



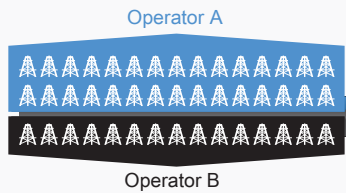
Statistically Significant Completion Factors



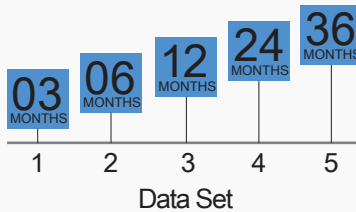
Wells removed due to less than three months production.

Only change made to data set.

Over 340 Wells

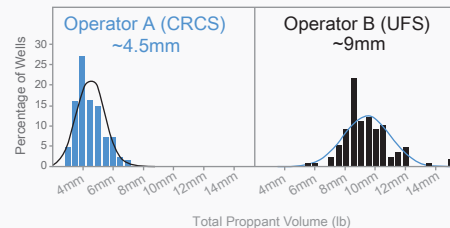


Well Categorization for Comparison



Proppant Volume Comparison

Histogram of Average Proppant Volume per Well (Wells Completed 2011-2014)



Further Support



Fines

UFS generates 16x more fines than CRCS in wet, hot crush test. Fines significantly decrease effective conductivity, evident in long-term production results (SPE 135502).



Proppant Flowback

Can occur with UFS leading to frac width reduction, wellbore deposition, as well as pump and surface equipment damage.

Recommendations to the Operator



Double the CRCS proppant volume of Operator A to maximize short-term and maintain long-term production.



ROI of additional proppant is two months based on a 20% production increase.



Additional 16 wells per year drilled to maintain Operator A production rate if design switch to Operator B.

