

## INDEPENDENT STUDY

A Coiled Tubing services provider performed an independent test comparing multiple friction reduction tools. The results of the testing were shared with CT Energy.

## RESULTS

The results of the independent testing are summarised in the two following graphs.

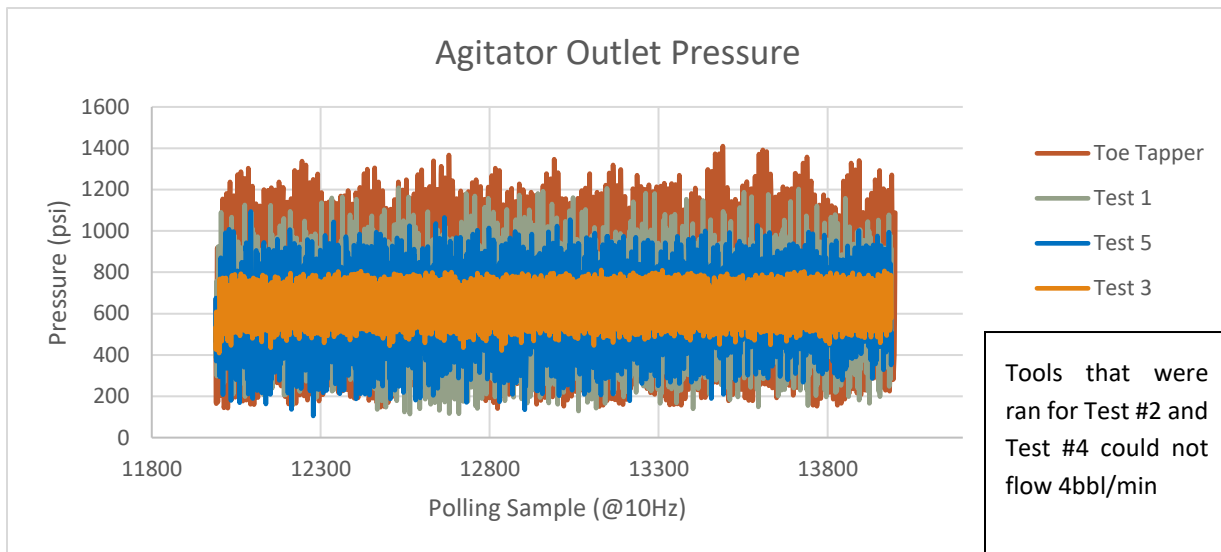


Figure 1 Pressure pulse profiles for tools tested

The pressure profile graph above shows that the Toe Tapper produces the largest pressure pulse of all the tools tested. This directly correlates to the magnitude of the fluid hammer effects that break the majority of the friction on coil tubing work.

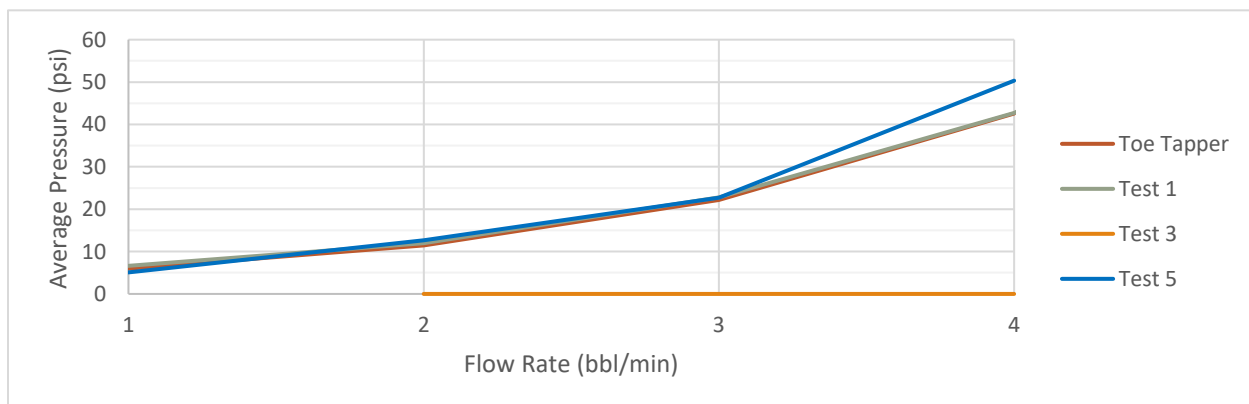


Figure 2 Average Pressure drops across tested tools

The Toe Tapper created the largest pressure pulse without creating any added pressure loss through the tool compared to other tools tested. CT Energy was not given the names of the other tools tested, but the data indicates that the Toe Tapper is the best performing tool.