

## **Advanced DX-R Installation Instructions**

*What is the key to optimizing the Vortex DX-R install?*

Answer: The Vortex tool will lift fluids up to a certain height, often above critical. However, key to the optimization of the tool is to take care of the hydrostatic head generated by the fluid. Once the accumulated fluids are removed, if the well is not near wellbore accumulation, you can expect your gas rates to increase (sometimes substantially).

Part of the Vortex solution is to prepare the well through lifting the hydrostatic fluids. You need to conduct a hydrostatic swabbing test and keep removing the fluids by swabbing until the well is stable. Only then should the Vortex DX-R tool be run in.

Dependent on how loaded the well is, you may also want to consider developing a build-up logic through intermitting.

Example: We had a well that was a pump-jack candidate, producing 700 barrels of fluid/day. After analyzing the well logging cycles, we put the well (with DX-R) on a 10 minutes on/15 minutes off cycle and the well produced for several months with the DX-R, deferring the \$100k investment.

The Vortex tool alleviates hydrostatic head. If this is holding back production, gas rates will increase (sometimes substantially). If necessary, the near wellbore fluids have to be cleaned up to help production. If fluids are not properly cleaned out and the Vortex tool cannot lift the fluids above critical, the install will fail.

**The key is to clean the well fluids out and stabilize production before running in the Vortex tool.**

The real key to success is the same as any artificial lift technique – start clean.

In some cases, gas is the driver to the well, but in other cases, the well is water-driven. In a water-driven well, the Vortex will organize the flow, and as a consequence, we will get more fluids.

Example: We had a well producing 35 mcf/day and 60 barrels of fluid (constant flow). This well was not gas-driven, but water-driven. With the addition of the DX-R, production increased to 350 mcf/d and 360 barrels/day.