

# **A FURTHER IMPROVEMENT TO PACKER-STYLE SEPARATOR RESULTING IN SLUG FLOW REMEDIATION IN ROD PUMPED WELLS**

By Russell Messer and Michael Osburn

WellWorx Energy Solutions

Sponsored by Nathan Weaver, Surge Energy

## **ABSTRACT**

Challenges of highly dynamic unconventional wells are that they produce excessive amounts of gas and can have steep decline rates. For the operator, this means maintaining stable production after ESP to rod conversion. However, the biggest obstacle in achieving drawdown is pumping successfully in gas interference scenarios.

As the reservoir pressure draws down below bubble point pressure, increasing volumes of free gas begin to break out of solution. Pump-off controllers erroneously attribute pumped off to gas interference, resulting in unnecessary shutdowns and lost production. Better well optimization is achievable through proper gas separation to maximize production and minimize downtime.

Combining the efficiency of the industry's leading packer-style gas separator, a patented shroud - and the innovative technology of the bypass tubes from the ESP Gas ByPass - the Silver Bullet maximizes gas separation using two pathways for separation to occur.

Using the Silver Bullet increases total production by both ensuring the pump is full and by reducing the amount of time the well spends idle. Additionally, decreasing the number of gas interference events helps reduce failure and increase the life of downhole equipment. Less gas interference in the pump leads to longer run times, more consistent pump fillage and ultimately more revenue.

This presentation details the technology behind the Silver Bullet as well as presents a comparative analysis of different gas interference scenarios. Case study results proving the Silver Bullet's ability to reduce slug flow and stabilize pump fillage and production are shared.