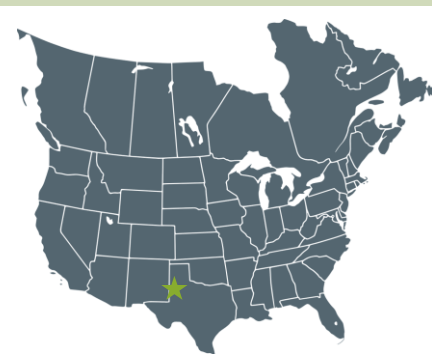


MAXIMIZE DRAWDOWN MINIMIZE COSTS

Downhole Separator Comparison

Implement one solution for efficient pump fillage



Irion County, Texas, USA

Depth

1860 – 2040 mTVD

6100 – 6700 ftTVD

Oil Rate

3-16 m³/d oil

20-100 bbl/d oil

Watercut 20 – 70%

Gas Oil Rate (GOR)

18 – 2800 m³/m³

100 – 15,000 scf/bbl

The Challenge

- The Wolfcamp Formation in the Midland Basin is a major producing formation of the Permian Basin.
- Production is characterized by a variety watercuts and moderate to high GORs.
- Sucker rod pumping usually shows degraded performance due to gas interference.
- 23 wells directly compared the performance of the HEAL System to a variety of gas separators to reduce gas interference.

The HEAL System™

The foundation for efficient artificial lift in horizontal wells

Horizontal wells are challenged by poor pump efficiency from gas interference that frequently leads to the installation of more downhole tools: engineered gas separators, packer-style gas separators, or extra gas handling options on the pump. Rapidly fluctuating gas and liquid rates can overwhelm even the best engineered piece of equipment.

Production Plus discovered the root cause of gas interference was not poor equipment performance, but inconsistent slug flow from the horizontal. The HEAL System is a downhole artificial lift technology that mitigates slug flow so the pump gets a consistent production rate. The HEAL System provides extremely efficient downhole separation, minimizes gas interference, controls solids and lifts fluids into the vertical where pumping equipment is most reliable.

The chart below depicts 23 neighbouring Wolfcamp Formation wells producing with the same Operator under the same optimization strategy. Over a period of seven months, 140 readings were taken to evaluate the performance of seven different styles of downhole separators. The wells with HEAL System installations had extremely consistent, near complete pump fillage.

Data from competitor separators show that slug flow from the horizontal negated the separation ability of the separator, leading to inconsistent, lower pump fillage and gas locking events.

