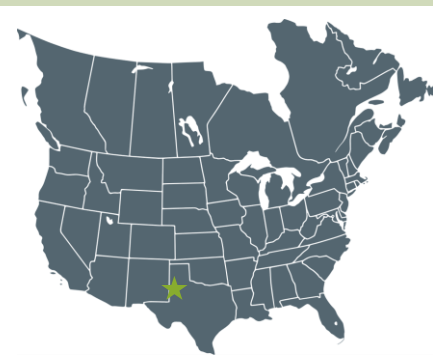


# MAXIMIZE DRAWDOWN MINIMIZE COSTS

## Optimize the San Andres

A total system approach yields greatly enhanced sucker rod pumping performance



Yoakum County, Texas, USA

### Depth

1620 – 1630 mTVD

5310 – 5350 ftTVD

### Oil Rate

9.5 – 17.5 m<sup>3</sup>/d oil

60 – 110 bbl/d oil

### Watercut 55 – 75%

### Gas Oil Rate (GOR)

65 – 330 m<sup>3</sup>/m<sup>3</sup>

350 – 1850 scf/bbl

### The Challenge

- The San Andres formation in the Central Basin Platform is a major producing formation of the Permian Basin.
- Production is characterized by high watercuts and moderate to high GORs.
- Sucker rod pumping usually shows degraded performance due to gas interference.
- Two horizontal wells drilled 0.5 miles / 0.8 km apart directly compared the performance of the HEAL System to packer-style gas separator to reduce gas interference.

## The HEAL System™

### The foundation for efficient artificial lift in horizontal wells

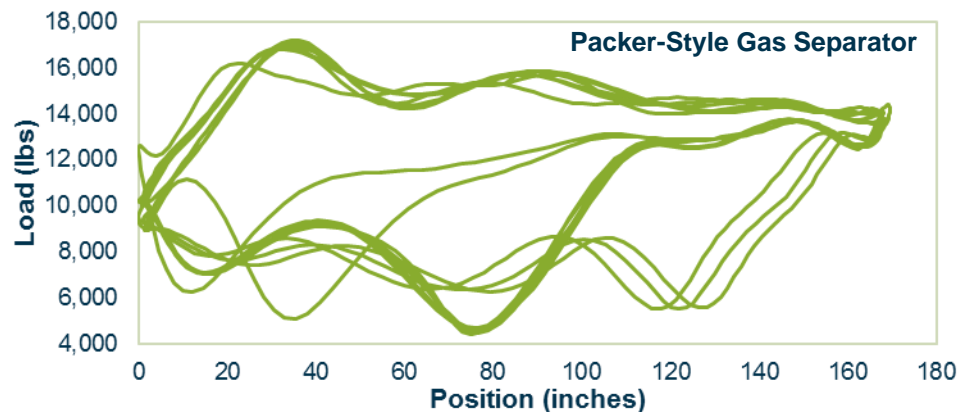
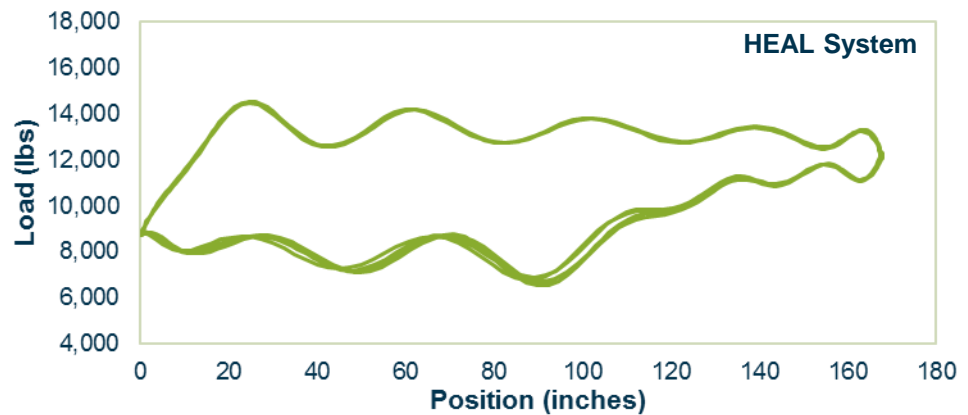
The typical solution for poor pump efficiency due to gas interference from horizontal wells leads to the installation of more downhole tools: engineered gas separators, packer-style gas separators, or extra gas handling options on the pump.

Production Plus discovered the root cause of gas interference was not poor equipment performance, but sluggish, intermittent production from the horizontal. The large variation in gas and oil rates and the periods of straight gas production from the horizontal overwhelm even the best engineered piece of equipment.

The HEAL System, as a foundational approach, addresses the root cause of gas interference. It smooths slug flow from the horizontal and provides consistent gas and liquid rates to the HEAL Vortex Separator, allowing it to very efficiently deliver degassed and solids-free liquid to the pump. As a result smaller pumping equipment can efficiently achieve higher production rates while simultaneously maximizing drawdown and reducing unit lifting costs over the life of the well.

The charts below depict two neighboring wells in the San Andres formation. The well with the HEAL System had extremely consistent, near complete pump fillage. On the packer-style well, the sluggish flow from the horizontal negated the separation ability of the packer-style gas separator, leading to inconsistent pump fillage and gas locking events.

### 20 Card Surface Pump Card Overlay



**PRODUCTION PLUS**  
ENERGY SERVICES INC.

Learn more about the HEAL System™  
[www.pdnplus.com](http://www.pdnplus.com) or email [healsystem@pdnplus.com](mailto:healsystem@pdnplus.com)