Case Study

Unlocking Greater Production, Efficiency & Cost Savings in the Permian

September 19, 2025

This case study evaluates the performance of the SSi 400LS-125HP-336 Long Stroke Pumping Unit in a Permian Basin well, comparing it to conventional beam pumps (C912 and C1280).

The well was previously equipped with an Electric Submersible Pump (ESP) and was converted to an SSi Artificial Lift long-stroke pumping unit.

Well Summary Comparison

Well Name:	Permian Basin Well		
Pump Depth (ft):	**6010 feet**		
Pumping Unit	**SSi 400LS-125HP-336**	**C912-365-192**	**C1280-365-240**
Bore Size (in)	2.25	1.75*	2.00
Stroke Length (in)	336	166	180
Surface Max Load (lbs)	35322	25265	33562
Max Load (% of Rating)	88.31%	69.22%	91.95%
Surface Min Load (lbs)	6520	4119	5467
Average Pumping Speed (SPM)	4.3	7.5	7.5
No of daily cycles	6192	10800	10800
No of Months to rod failure	107.7	61.7	61.7
In-balance Max Torque (m in-lbs)	N/A	916.0	1281.0
In-balance Gearbox load	N/A	100%	100%
Production rate (BPD)	642	315	453
Electricity Consumption (KW*H/day)	834.6	730.8	1050.96
Electrical Cost per Month	$2,503.80	$2,192.40	$3,152.88

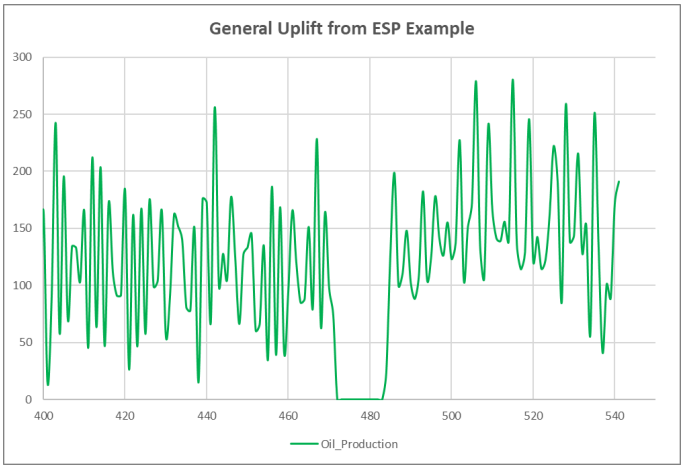
*** Note the C912 could not use the 2.00 Inch Pump as the gear box would be severely overloaded.**

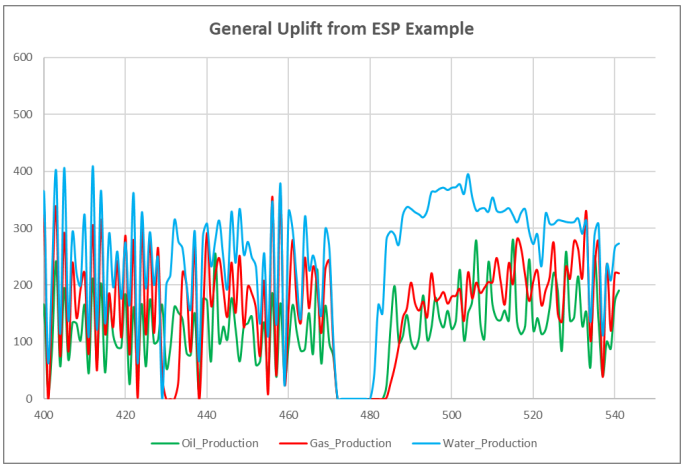
Key Findings

1. Superior Production Output

- **SSi Unit:** 642 BPD
- **C912:** 315 BPD
- **C1280:** 453 BPD
- **Annual Production Increase:** Up to **84%** over C912 and **28%** over C1280
- Longer stroke length (336 in) enables smoother pump fillage and higher efficiency.

2. Sample Production Graphs – Pre and Post Conversion





3. Lower Electrical Cost per Barrel

- **SSi Artificial Lift:** $0.13/Bbl
- **Beam Pumps:** $0.23/Bbl
- Significant savings driven by reduced energy consumption and fewer mechanical cycles.

4. Reduced Installation & Maintenance Costs

- SSi unit installs in **~4 hours** with minimal assembly *vs*. **8–12 hours** for beam pumps.
- Independent stroke control allows for flexible operation and reduced wear.
- Non-fixed stroke length enables in-well pump clearing without costly workovers.

5. Extended Equipment Life

- Rod failure occurs after **107.7 months** with SSi *vs*. **61.7 months** for beam pumps.
- Fewer daily cycles (6192 vs. 10800) reduce mechanical stress and prolong component life.

6. Energy Efficiency

- Independent strokes and nitrogen counterweight reduce motor runtime
- Smoother power draw profile
- **20–25% lower monthly electricity costs**

Pumping Unit	**SSi 400LS-125HP-336**	**C912-365-192**	**C1280-365-240**
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Electrical Cost per Month	$2,503.80	$2,192.40*	$3,152.88
Cost per BBL	$0.13	$0.23	$0.23

Summary

The SSi Long Stroke Unit offers a compelling alternative to conventional beam pumps by:

- **Significantly improving production**
- **Reducing operational and maintenance costs**
- **Improving energy efficiency**
- **Extending equipment life**

Operators seeking to maximize ROI and minimize downtime will find SSi units to be a transformative solution for artificial lift in a variety of challenging environments.

For questions, please contact:

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