FET | Multilift Solutions™

Case Study

Achieving 6X Rod-Pump Runtime Improvement & Restoring Production in a Sand-Producing Vertical Well

Pump Saver

EXECUTIVE SUMMARY

A mature vertical oil well began experiencing **severe sand production** after a 2020 re-frac, resulting in repeated rod-pump failures, costly interventions, and declining production.

In January 2024, the operator installed a **Pump Saver** with a sand-chamber tail joint to capture solids before they reached the pump.

Region: Central Alberta, Canada
Application: Produced-sand management & pump protection
Lift Method: Rod Pump
Customer: Confidential Canadian Operator

KEY RESULTS

- **~2 years of uninterrupted runtime** after Pump Saver installation.
- **Oil production stabilized above 10 BOPD**, peaking near 30 BOPD.
- **Major reduction** in pump failures and intervention frequency.
- **Improved operational efficiency** in a high-sand environment.

> **Pump Saver delivered long-term pump protection, restored production, and reduced workovers—improving well economics immediately.**

Background

The well, drilled in 1987, performed reliably until a 2020 re-frac triggered heavy solids production. Persistent sand inflow overwhelmed the pump intake and accelerated mechanical failures.

Challenges After the Re-Frac

- Abrasive solids repeatedly damaged the rod pump
- Runtime became highly inconsistent
- Increasing downtime due to flushes and cleanouts
- Production declined to ~3.6 BOPD oil and 86% water cut by October 2023
- The well was eventually shut in pending a solution

Well Snapshot

Well Location	Central Alberta (Confidential)
Well Type	Vertical
Producing Formation	Belly River Sandstone
Casing	5.5 in., 20.8 kg/m
Key Issue	Post re-frac onset of severe solids
Lift System	Rod pump with chronic sand interference

Pump Saver Installation

To control solids, the operator deployed a **Pump Saver** with an **~28 m sand-chamber tail joint**.

- **Date Installed:** ~January 20, 2024
- **Purpose:**
  - Separate and capture produced sand
  - Minimize abrasive wear
  - Reduce intake plugging
  - Extend pump runtime and reduce interventions

> **Pump Saver introduces a buffer zone where solids can settle—shielding the pump from damaging sand loads.**

Performance Outcomes

Production Response

Pre-Install (Oct 2023)	~3.6 BOPD	Well later shut in
Post-Install	Sustained **> 10 BOPD**	Stable operation
Peak (Feb-Apr 2024)	**~30 BOPD**	Strong recovery

Runtime Reliability

- **~2 years of continuous operation** with no sand-related pump failures
- Significant reduction in downtime and workovers

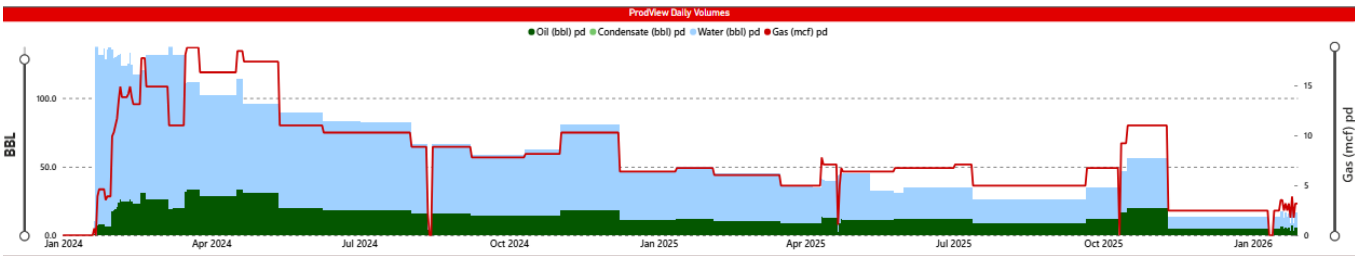

Figure 1. *Oil, water, and gas production trend post-Pump Saver installation in early 2024 shows stable, consistent operation.*

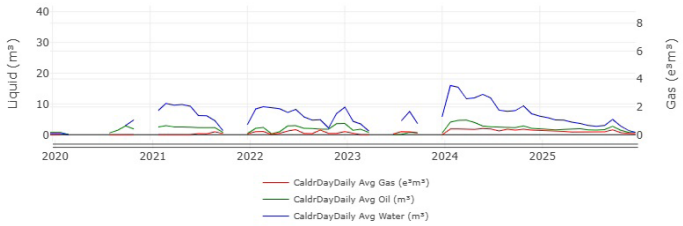

Figure 2. *Daily average oil rate and downtime timeline (Feb 2020-Dec 2025) showing reduced downtime gaps post-Jan 2024 installation.*

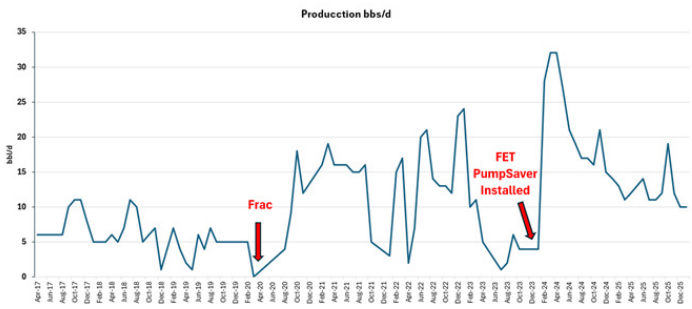

Figure 3. *Daily average oil rate (bbl/d); Frac date and Pump Saver installation date.*

Why Pump Saver Worked

The tool mitigates the well's primary failure mode—solids entry into the pump—by **separating the solids from the produced liquid and capturing these solids in the settling chamber**, which reduces:

- Abrasive wear
- Intake plugging
- Stuck pump valves
- Torque anomalies

Operators should monitor these indicators to determine when the sand chamber may require cleaning:

- Reduced fluid levels or intake restriction signatures
- Unexplained rate decline
- Differential pressure increases
- Pump fillage changes

Conclusion

Pump Saver transformed a declining, sand-prone well into a stable, low-maintenance producer, delivering:

- **Recovered production** from 3.6 BOPD to sustained double-digit rates
- **Extended runtime** and fewer failures
- **Lower OPEX** through reduced interventions
- **Longer equipment life**

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