

Expro Excellence

CO₂ and cost savings delivered through optimized pig velocity control with Expro's Velonix®

Well Flow Management | Pipeline Integrity



Objectives and background

- A long-standing client required support for an integrity In-Line Inspection (ILI) pig run on a 30-inch, 60-mile natural gas pipeline with no existing flow
- The objective was to deploy a smart pig at a controlled velocity while ensuring effective pipeline separation in the event of liquid or solid sweep-through

Expro Excellence

- The client initially requested Expro to provide flare support at a flow rate of 100 MMSCFD to move the smart pig at a velocity of 3 mph under 700 psig in their 30" pipeline, along with separation support
- Expro proposed a more efficient approach by regulating the pipeline pressure down to approximately 475 psig. This allowed the pig to maintain the required velocity while significantly reducing natural gas waste
- Expro introduced a newly developed system, Velonix®, to precisely monitor and computer-control pipeline velocity. This ensured smooth and highly accurate pig movement, greatly reducing the risk of speed excursions and the need to re-run the ILI smart tool

Value to the client

- Approximately \$187,000 USD saved through reduced natural gas waste by regulating pipeline pressure
- 152.16 million lbs of CO₂-e emissions avoided by flaring gas instead of cold venting
- 6.77 million lbs of CO₂ emissions reduced through optimized pressure control
- Estimated \$1.1 million USD in potential savings by avoiding ILI re-runs, thanks to precise velocity control with Velonix®
- Improved visibility of pipeline flow parameters during pigging operations
- Higher resolution ILI data enabled by consistent and stable flow velocity
- Faster, more informed decisions during pig runs through real-time data streaming and Data to Desk integration
- Automated flow control delivers rapid and accurate adjustments, outperforming traditional manual methods

“
I'm very impressed by the overall solution, particularly the speed control system and the live data. It's an excellent solution to pigging low, variable, or no flow pipelines.”

Client

Lower carbon footprint



Cost saving

