DETECHTION
technologies

USING ENALYSIS TO IDENTIFY INEFFICIENCIES AND INCREASE FLOW

BACKGROUND:

This case study is for a Gas Transmission Company in Colorado. The compressor is a 2-Stage Reciprocating Compressor - Ariel JGU/6 with fixed volume pockets and automatic unloaders.

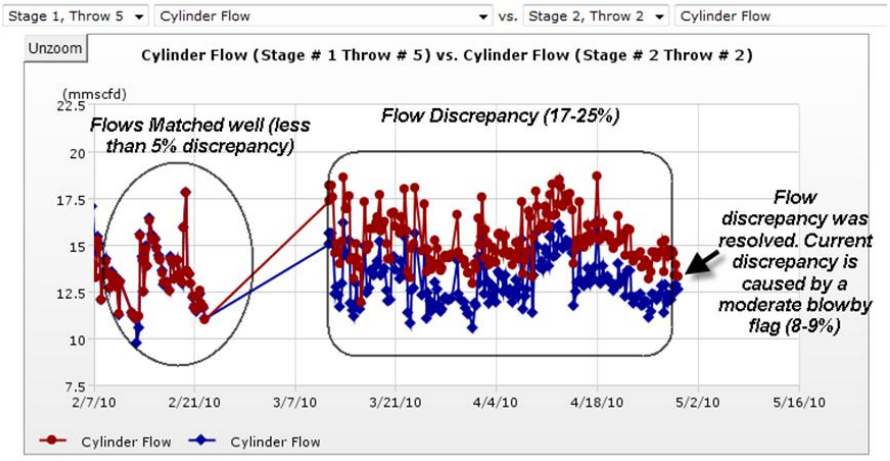
- A few months after the client starting monitoring this unit on Enalysis, with field data being provided every 6 hours through SCADA, our Analysis Reports started highlighting a 17% - 25% flow discrepancy between stage 1 and 2.
- Enalysis Reports showed that the 1st stage was moving more gas than the 2nd stage was moving by about 17% to 25% which was no possible on this machine unless there was a leakage of some type.
- We were flagging 7-8% blowby which is just considered "Moderate". This ruled out the likelihood of damaged valves. Valve repairs that were performed did not show any effect on fixing this flow discrepancy.

ACTIONS TAKEN:

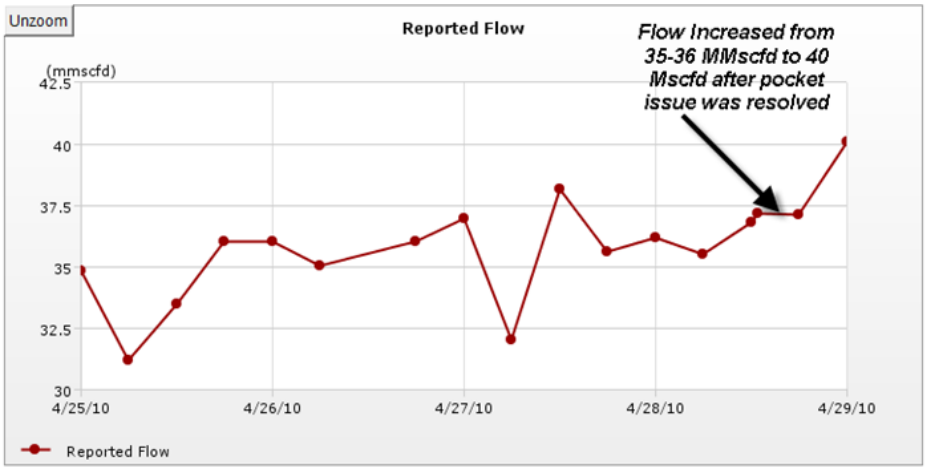
- Detechtion recommended checking all automatic unloaders since this was a volumetric issue highlighted by Enalysis. All unloaders were re-built and gaskets replaced.
- It was also found that the Solenoid that actuated the FVP in throw #3 was not working, keeping the pocket in the "open/unloaded" position. This solenoid was replaced.

RESULTS:

- As can be seen in the graph below, both 1st and 2nd stage flows started matching much better after these hardware repairs:



- Compressor flow increased by 4.56 MMscfd after the pocket repairs. The fixed volume pockets were actually able to close all the way without any leakage.



Date	Average 1st Stage Blowby (%)	Average 1st Stage Flow - after blowby deduction (Mmscfd)	Average 2nd Stage Flow - after blowby deduction (MMscfd)	Metered Flow (MMscfd)	Suction Pressure (psig)
28-Apr	8.66%	39.54	36.21	35.50	138
29-Apr	7.87%	38.47	38.70	40.06	138
			Difference	4.56	0.0

Virtually no flow discrepancy

This flow increase represents approx $547,200 per month at $4/Mscf gas.