

Superior wellhead compressor operation due to innovative re-engineered package design



With the reliable Ariel® compressor frame at its heart, every other component of the old school gas compressor package has been redesigned for compressing rich gas at the wellhead. There never has been a compressor package built like this, nor has one performed as well.

Inspired in the Eagle Ford in 2015 after a troublesome winter of rich gas related downtime, the operator accepted Encline's proposal to create an engineered design that addressed all the factors responsible for this downtime. The resulting design nicknamed the EAGLE was placed on wells that were too crooked to rod pump, replacing pumping units at the wellhead. Further, no tanks of any kind were required at the wellsite, with the pumpjacks electric power feed being repurposed to operate the 75 HP compressor.

These EAGLE's have been in operation for 6+ years with all original components still in place (including compressor valves per the operator), with no downtime other than grid power loss, external ESD's, and one VFD failure. Since they auto-restart unattended, runtime has exceeded 99%, partially accounting for these wells outperforming the offset rod pumped wells. Injection of warm 155°F gas was found to prevent paraffin formation which enhanced plunger operation. The operator now pairs one compressor with two plunger lifted wells.

SCADA

Encline provides far more useful diagnostic information that traditional controllers

Two valuable KPI's diagnose compressor valve problems:
1 - Actual less Theoretical Discharge Temp
2 – Eagle Ratio: Comparison of Actual Compression ratio to Ariel Performance run

Scrubbers feature electric level switches with actuated ball valves, preventing stuck open dumping. Dump events are counted, and no supply gas used

For more info, please visit us on the Web at: www.enclinelift.com

Exacting Outlet Temp Control

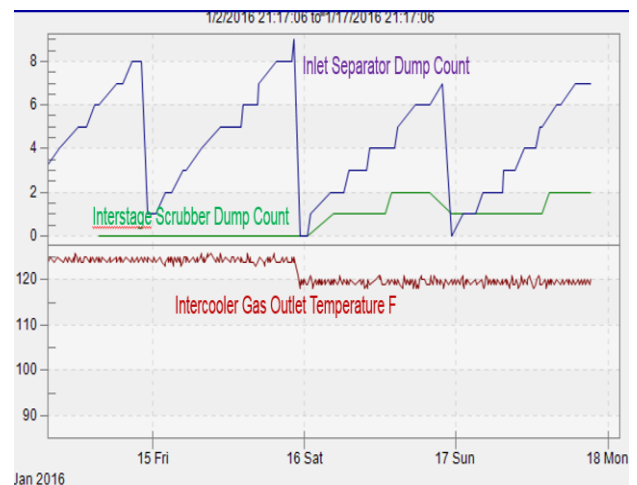
SPE 181773 showed how maintaining interstage cooler outlet temp at 125°F prevented hydrocarbon condensation, thereby eliminating scrubber dumps, methanol injection into dump lines, instrument gas use, and volatile liquid entry to stock tanks. When setpoint was dropped to 120°F, scrubber dumps resumed.

Smartphone Control

- Gone is the expensive Murphy control system, with your Smartphone being the HMI for compressor control
- View all compressor data quickly
- Edit outlet temperature setpoints and compressor speed / volume setpoints
- Compressor status / shutdowns displayed but reported to Scada with other operating data and Encline KPI's

Other standard features

- Integral blowcases force scrubber and lube oil liquids into well flowline... No Tanks!
- Compressor output calculated realtime based on suction pressure and RPM.
- Scada compares calculated output to actual
- Compressor speed can be set to hold either a fixed output rate or a fixed RPM



The EAGLE is made for RICH gas :

“Hydrocarbon Rich” gas does not heat up like lean gas well gas
This allows more compression ratios per stage

A third compression stage and its equipment is not needed

The EAGLE is a therefore a two stage compressor with:

- 1/3 fewer scrubbers, coolers, compressor cylinders
- Smaller skid, less piping, less to maintain
- LOWER COST