Comparing Old Cone and New Cone on PP3

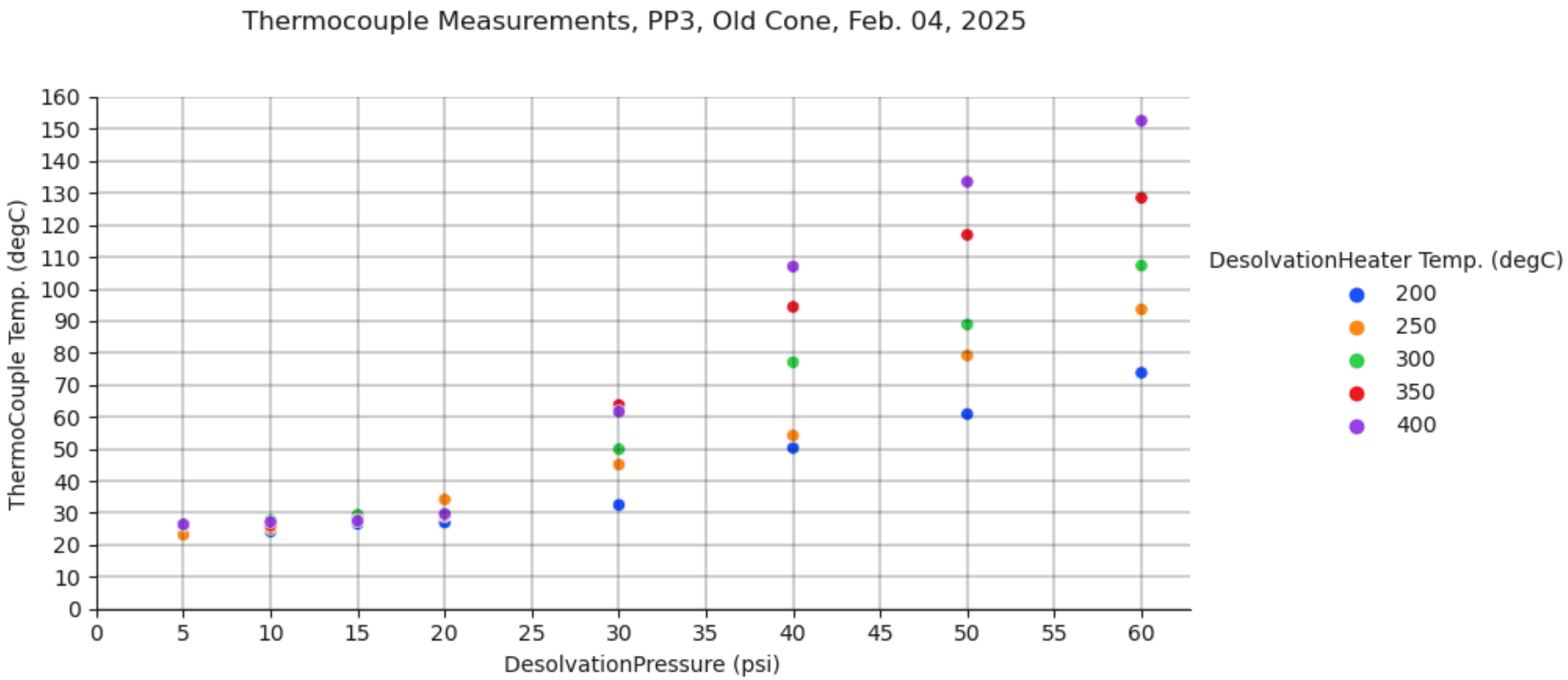
February 10, 2025

Thermocouple Measurements

- All thermocouple measurements were done with the thermocouple tip hovering over orifice nose
- Foreline pressure was given 15-20 minutes to stabilize in between any desolvation pressure change

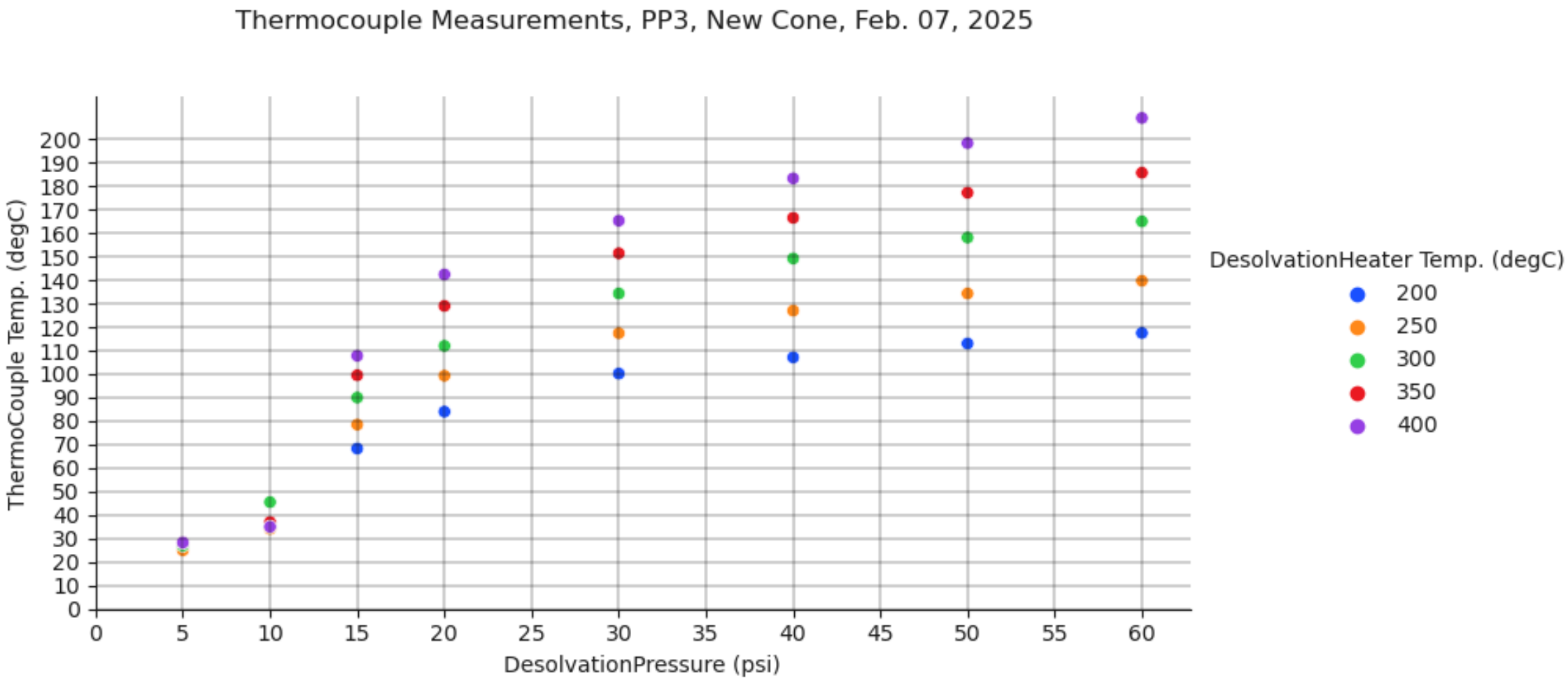
Thermocouple Temp. vs. Des. Pressure

Old Cone



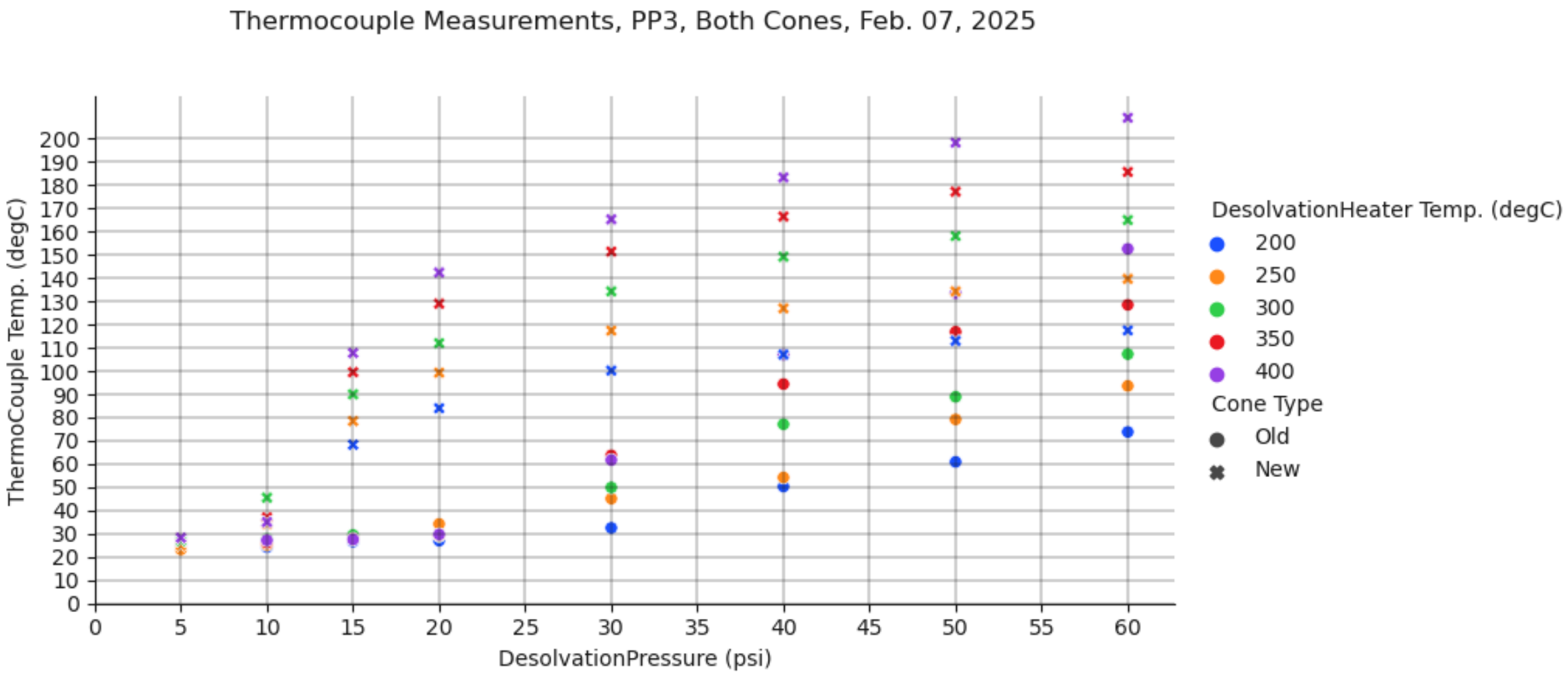
Thermocouple Temp. vs. Des. Pressure

New Cone



Thermocouple Temp. vs. Des. Pressure

Both Cones

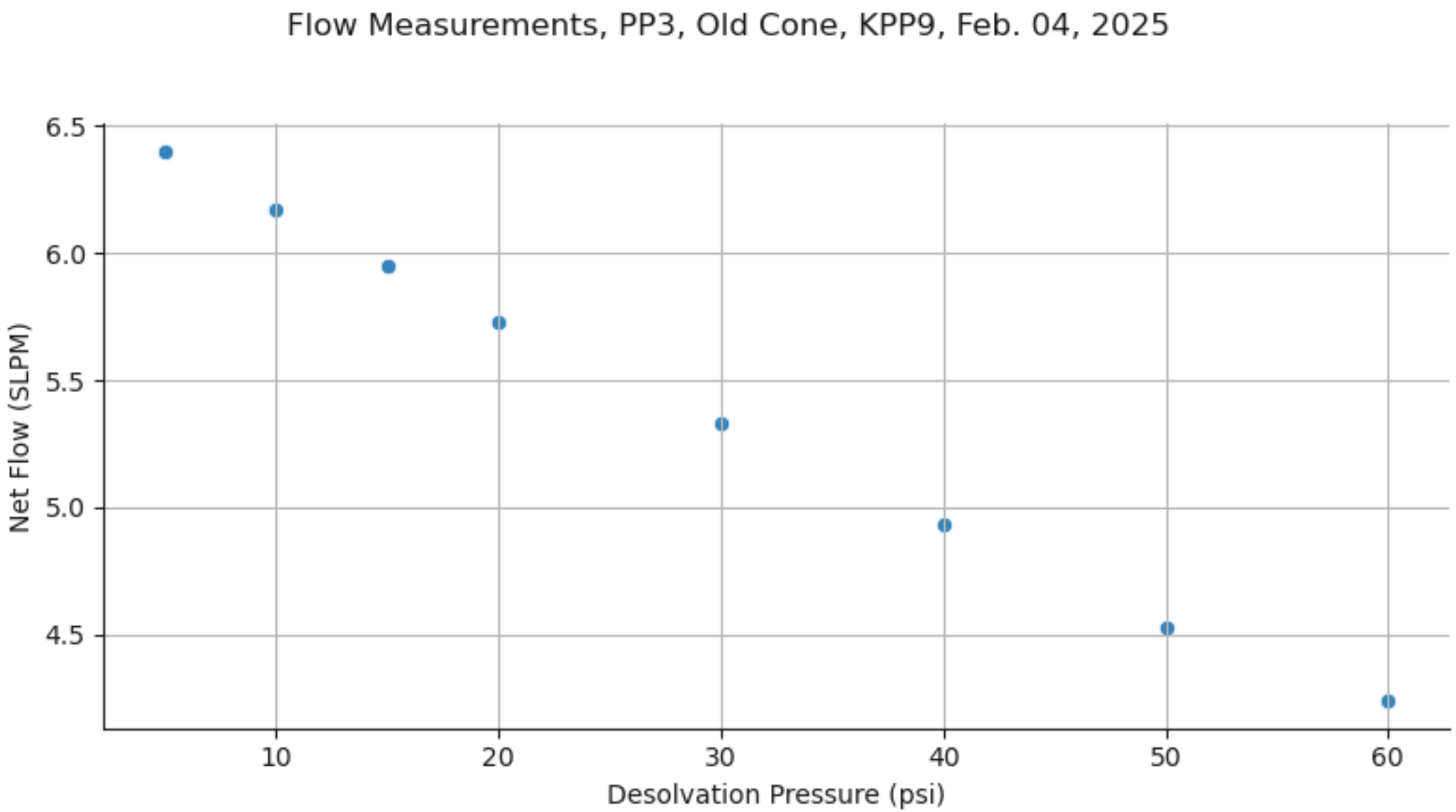


Flow Measurements

- Foreline Stabilized at 50c
- Used KPP9
- Exhaust ON
- Ceramic Tube touching cone surface
- Positive flow in direction of exhaust flow

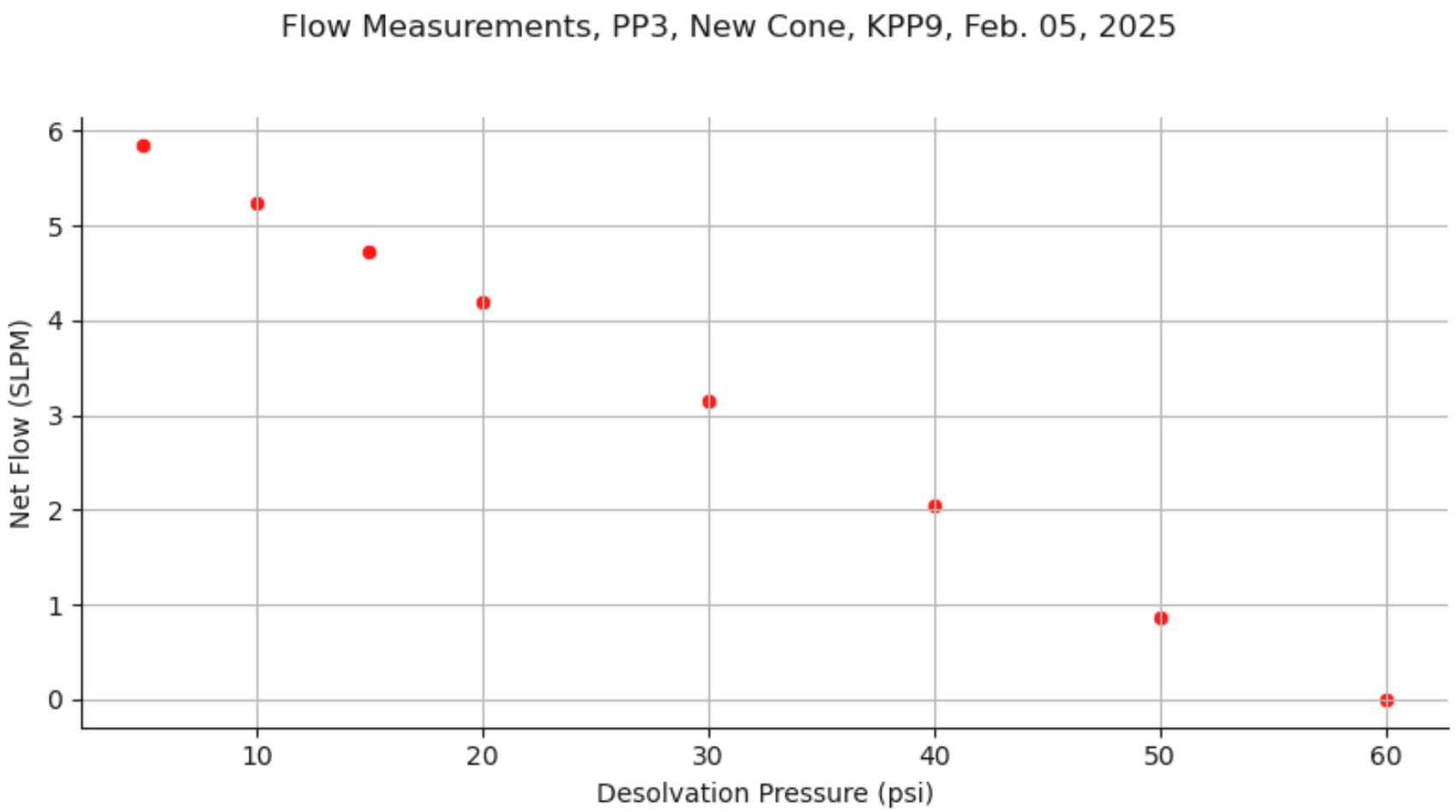
Net Flow vs. Des. Pressure

Old Cone



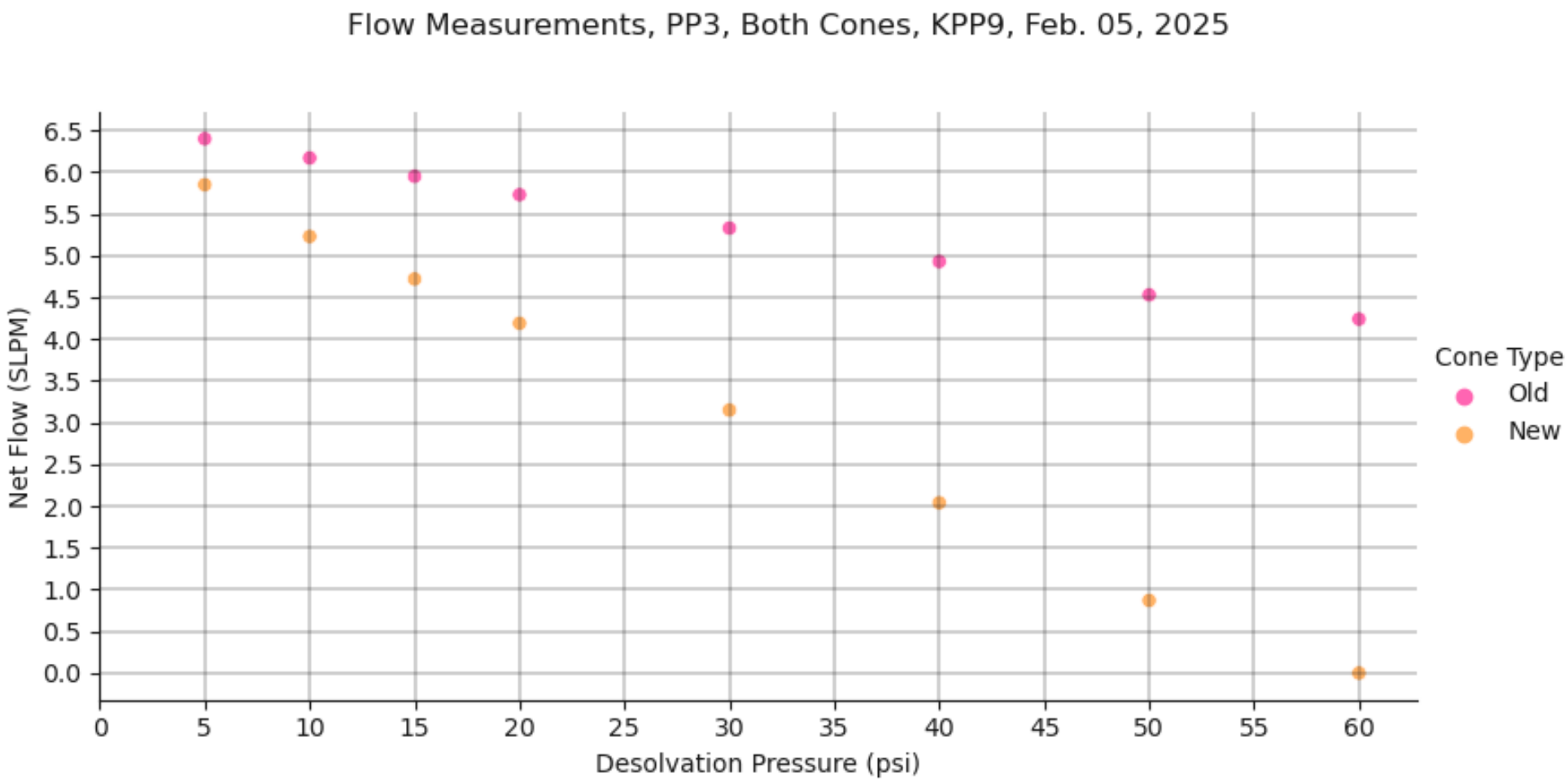
Net Flow vs. Des. Pressure

New Cone



Net Flow vs. Des. Pressure

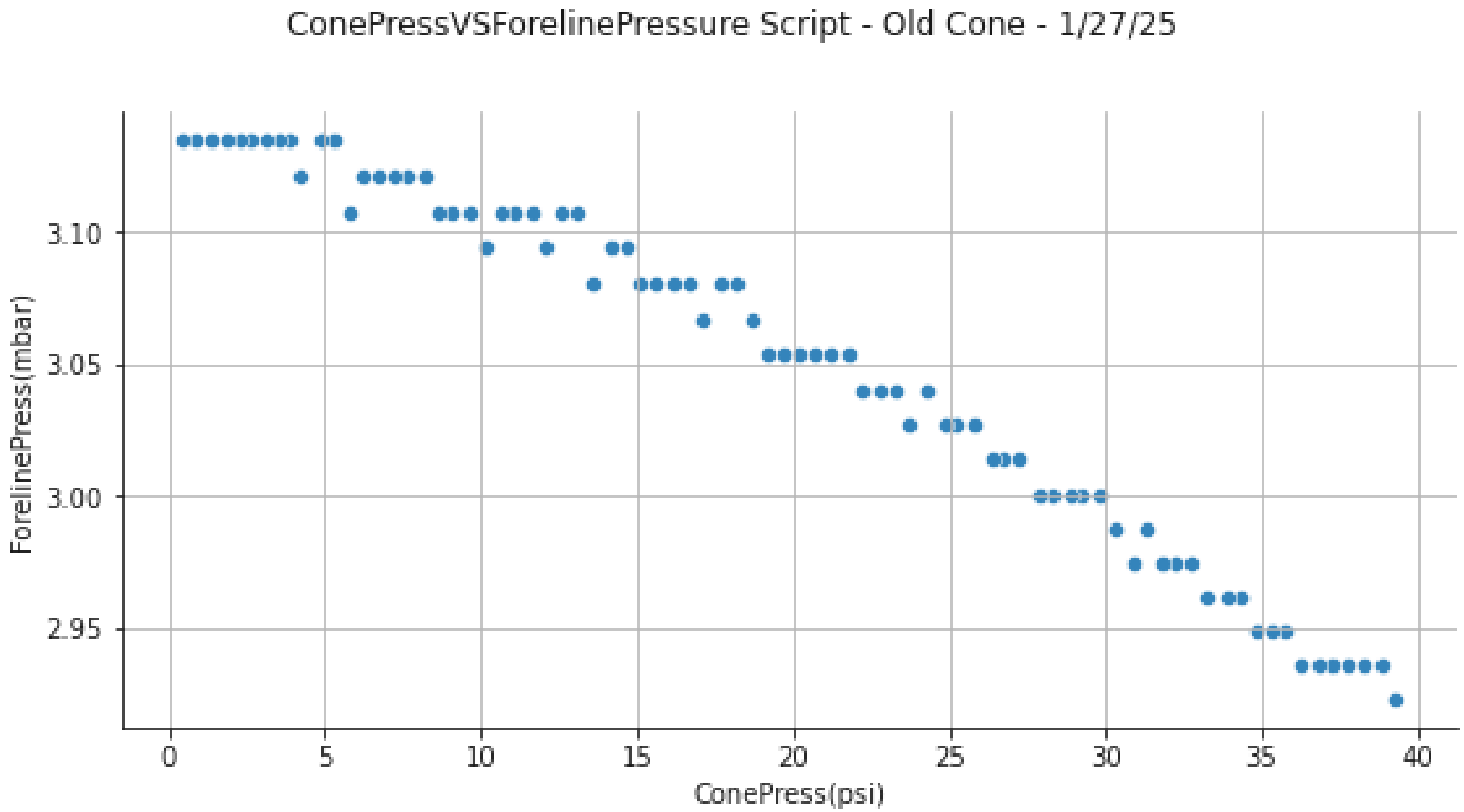
Both Cones



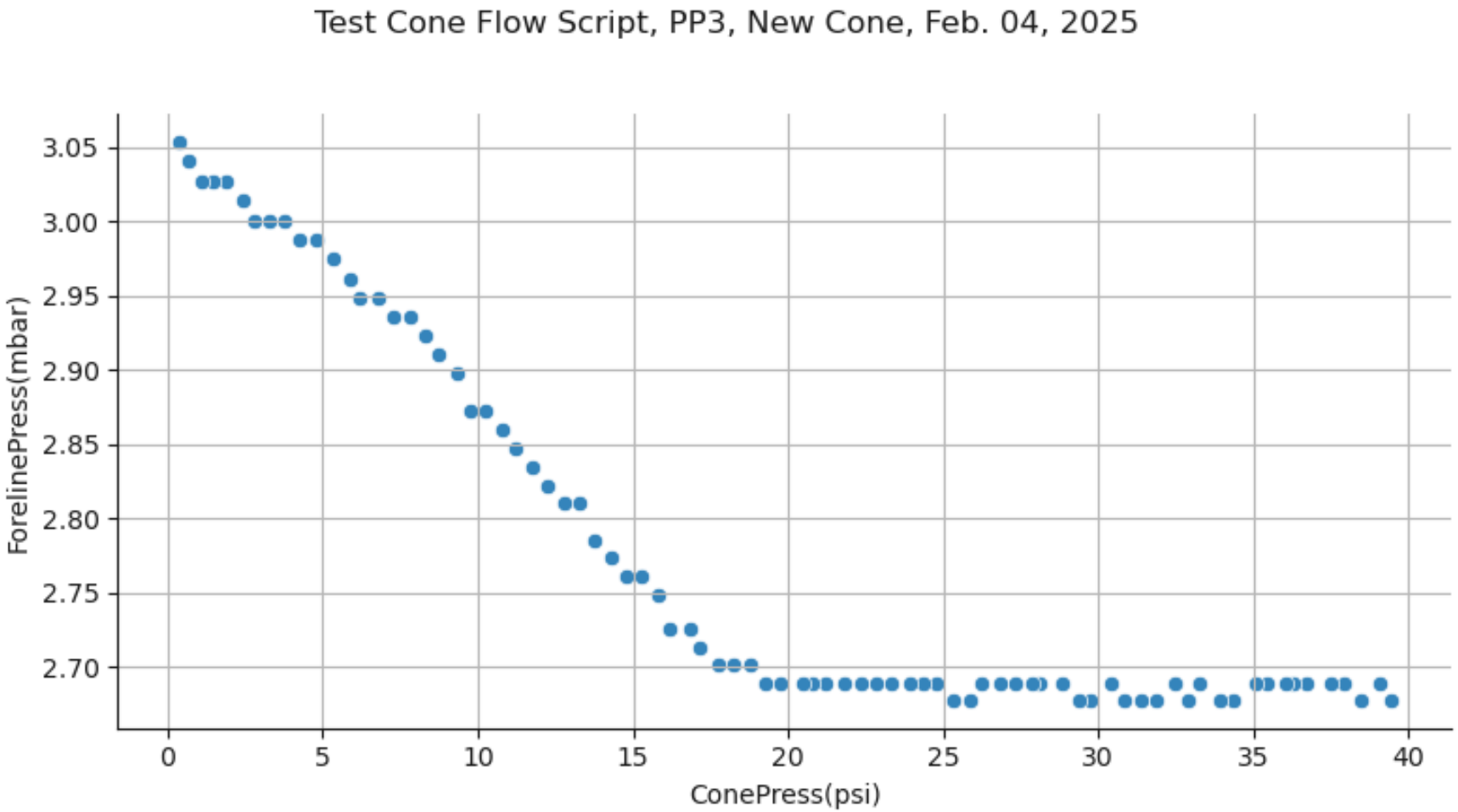
Script Run

- Foreline stabilized at 350c and 40psi before script was run

Script Run
Old Cone



Script Run
New Cone

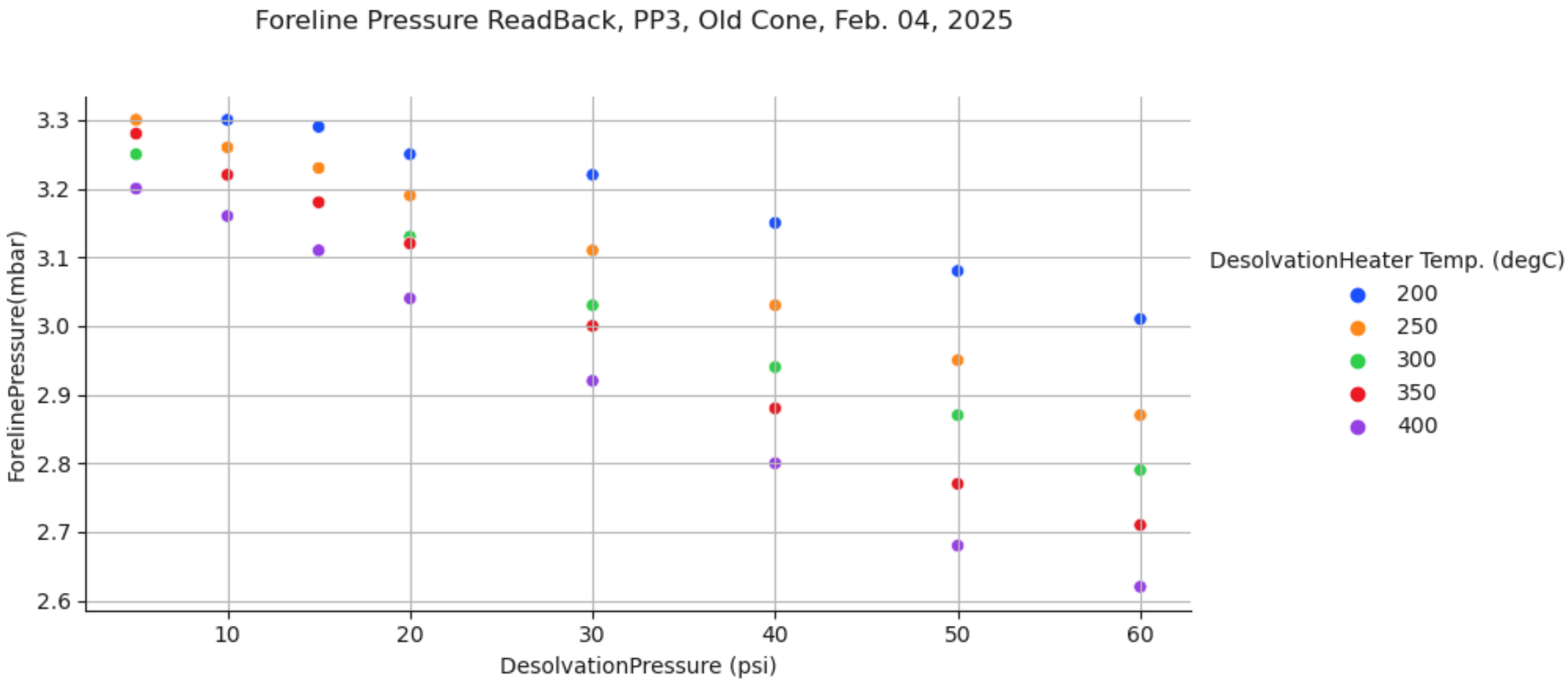


Foreline Pressure (extra plot)

- Plotted foreline pressure vs. desolvation pressure runs consistent with what we saw on the script

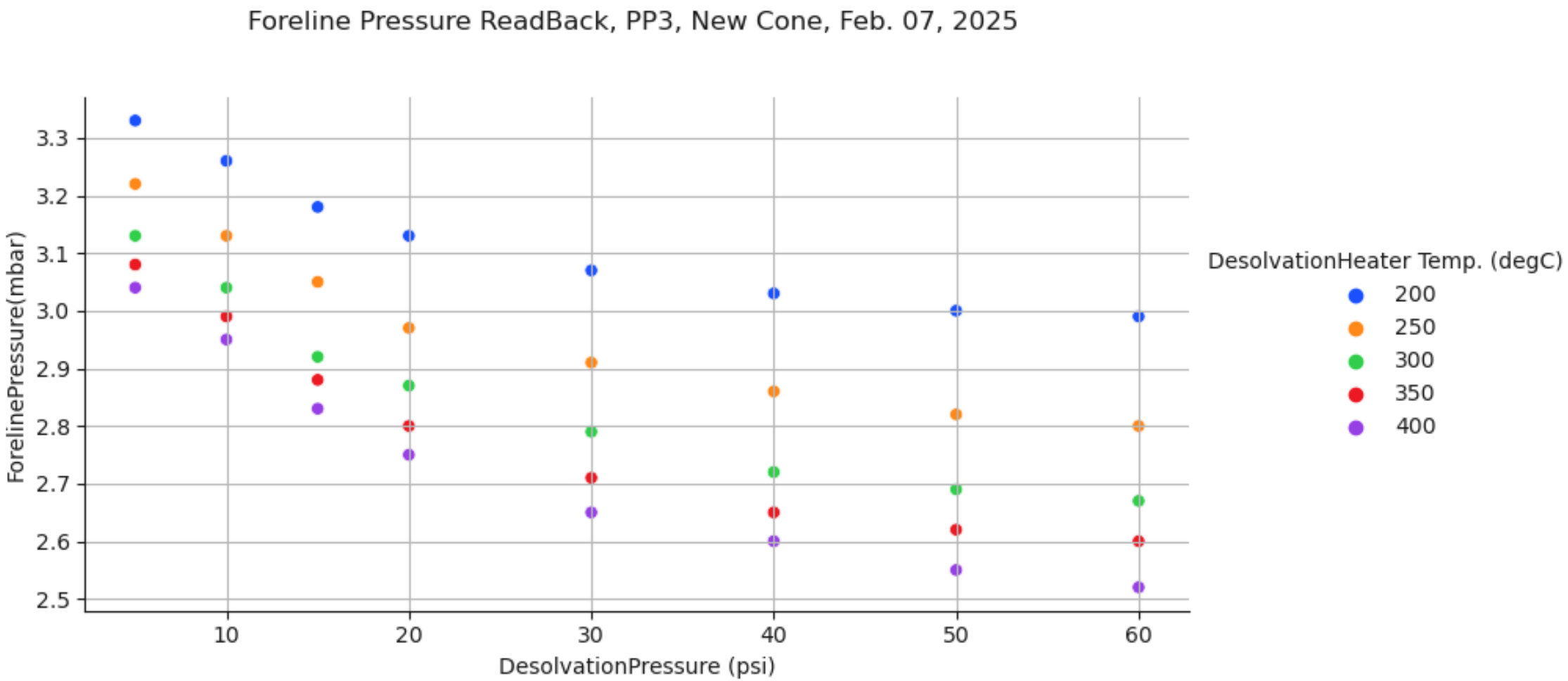
Foreline Pressure vs. Des. Pressure

Old Cone



Foreline Pressure vs. Des. Pressure

New Cone



Foreline Pressure vs. Des. Pressure

Both Cones