

**Cummins Surveillance Panel Teleconference
March 10, 2020 10:00 – 11:00 EDT**

Attendance:

Sean Moyer - TMC
Jim Matasic - LZ
Christian Porter - Afton
Jose Starling, Bob Warden - SwRI
Andrew Smith, Hung Nguyen - Intertek
Mark Cooper, Marnix Torreman - Chevron Oronite
Dan Lanctot - TEI
Ryan Denton - Cummins
Jim Gutzwiller, Elisa Santos, David Brass - Infineum
Prasad Tumati - Haltermann Solutions
Patrick Holmes –Volvo/Mack
Steve Jetter –Exxon Mobil

Agenda:

1. ISM Reference Test Results Review

Meeting Minutes:

- 1. ISM Reference Test Results Review** – Elias Santos started by sharing a presentation (attached) with an analysis of the data. The results are mixed between crosshead batch and reference oil. The discussion was if a correction factor is needed for crosshead wear and revised targets for the new reference oil. The group agreed that the new crosshead batch seemed to be insensitive to the new reference oil batch and that the correction factor currently in place needs to be revisited. The correction factor for injector adjusting screw should also be analyzed. The group also discussed whether the targets for sludge and filter plugging should be adjusted because the results for those parameters do seem to have shifted with the new reference oil batch. There was discussion about the outlier result on injector adjusting screws. It was determined that that result should probably be excluded from correction factor updates.

Due to the time sensitive nature of getting these updates completed Andrew is going to try to get some help for the data analysis to try to get it completed next week. Andrew will send out a notification for another meeting next week once he determines when the work can be completed.

Meeting adjourned at 11:18 EDT.

ISM Coordinated Reference Tests w/ G crossheads

Initial Data Visualization

Elisa Santos

03/09/2020

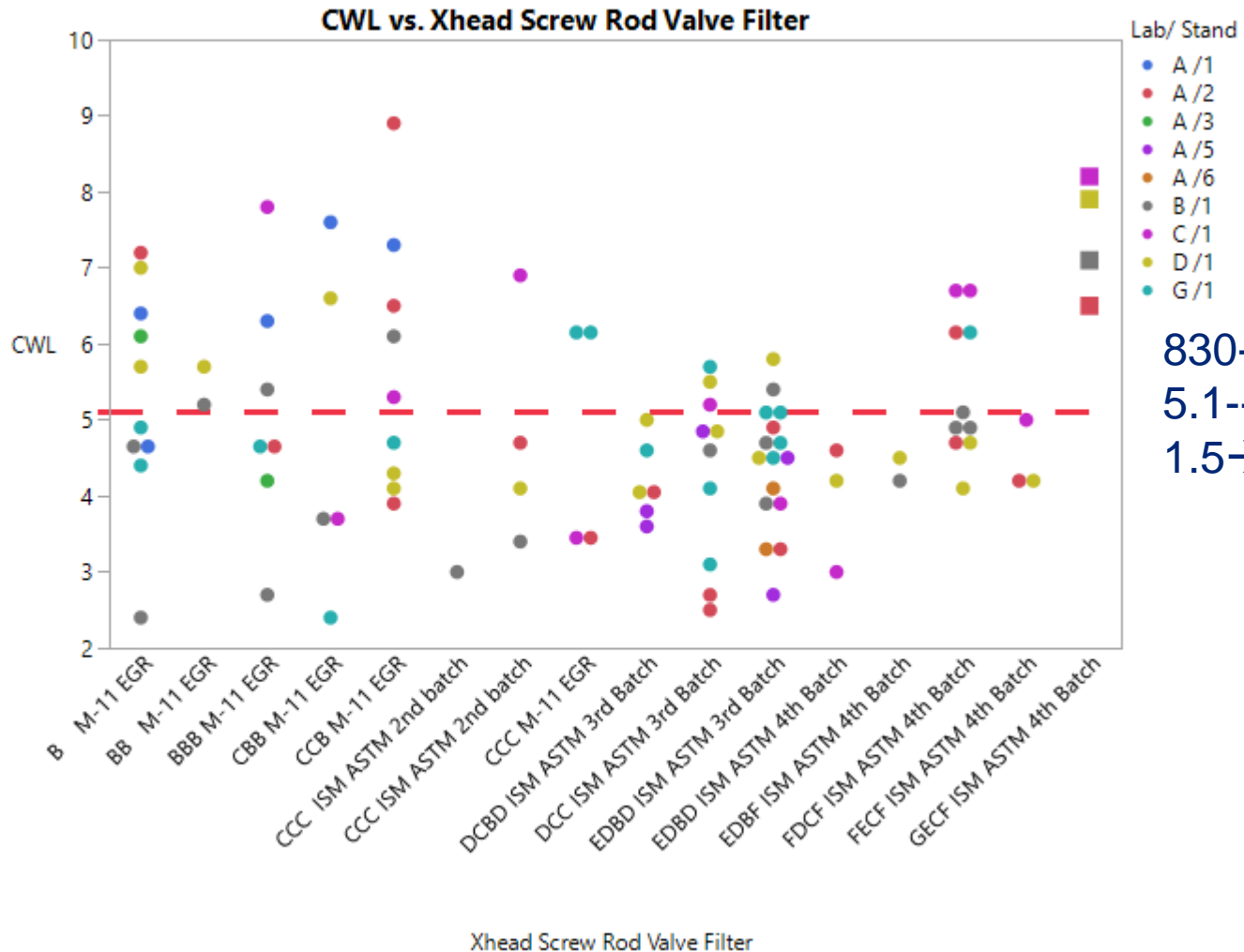
Performance you can rely on.



- Goal:
 1. Share the data with Surveillance Panel
 2. Hear the Surveillance Panel concerns/ questions
 3. Questions for the labs?
 4. Additional statistical analysis needed?

- The next slides will focus on the Data Visualization by parameter

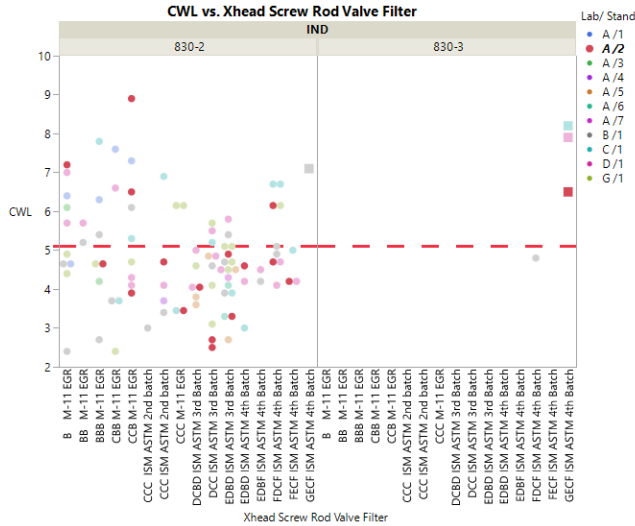
Crosshead Wear at 3.9% soot by different batch parts and Lab/Stand



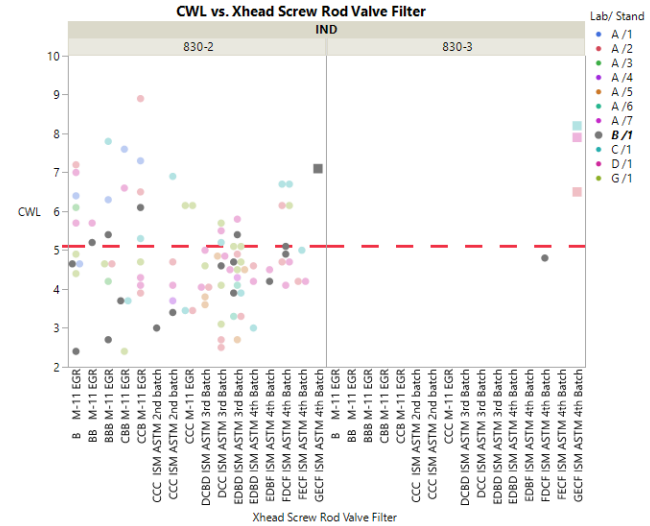
Crosshead Wear at 3.9% soot by different batch parts and Reference Oil - highlighting Lab/Stand



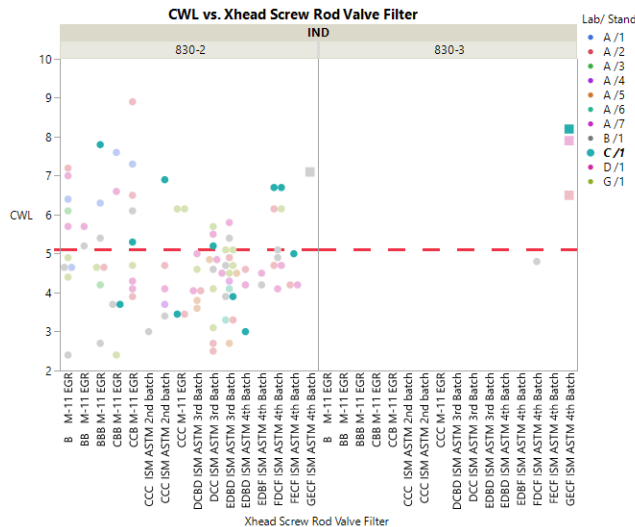
A/2



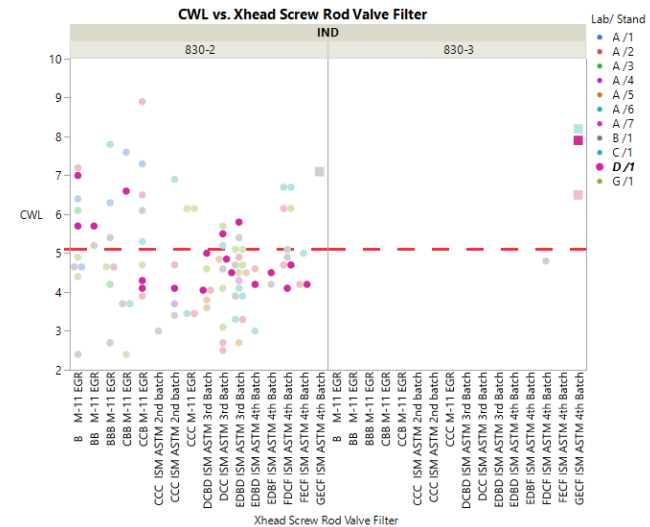
B/1



C/1



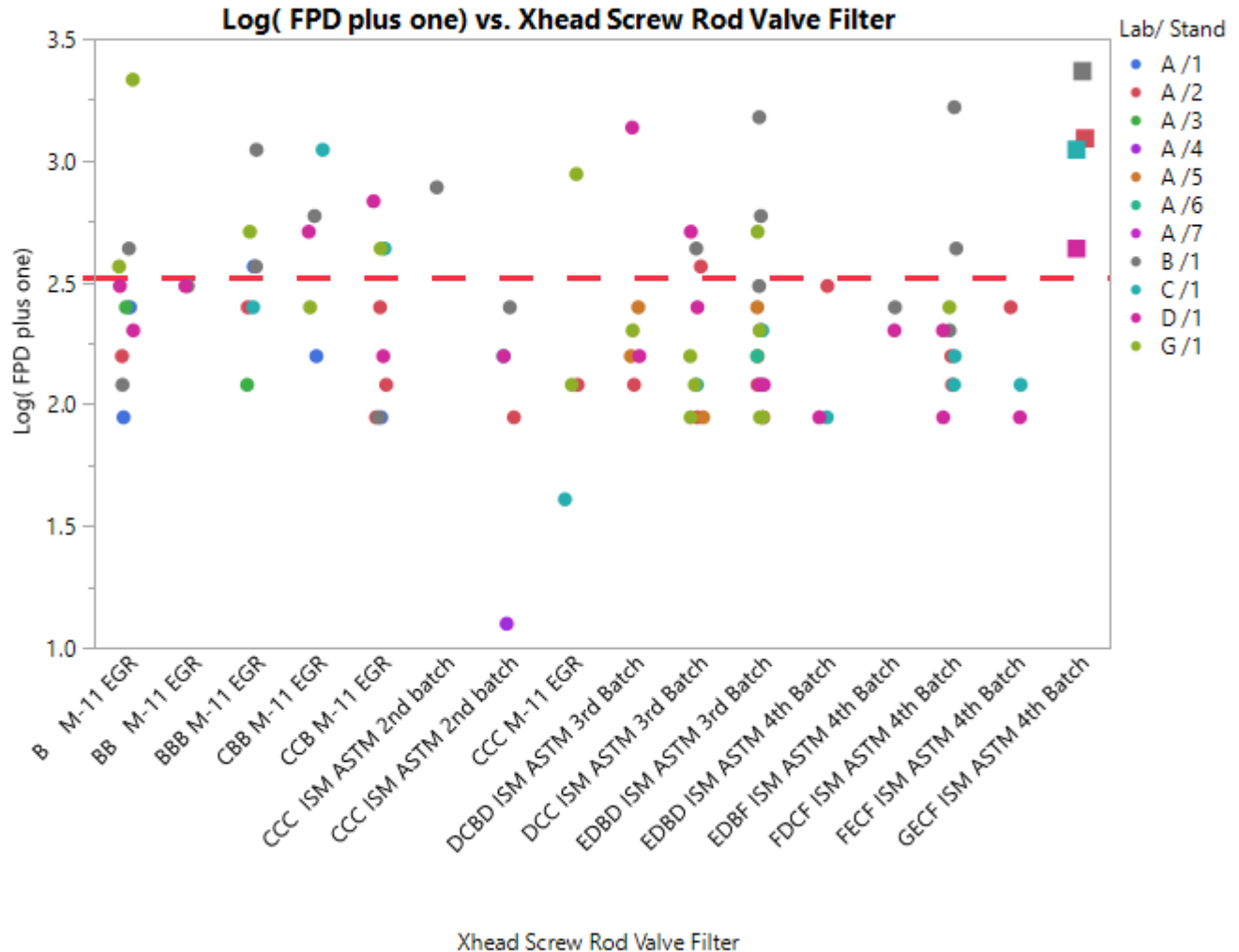
D/1



Transformed FDP by different batch parts and Lab/Stand



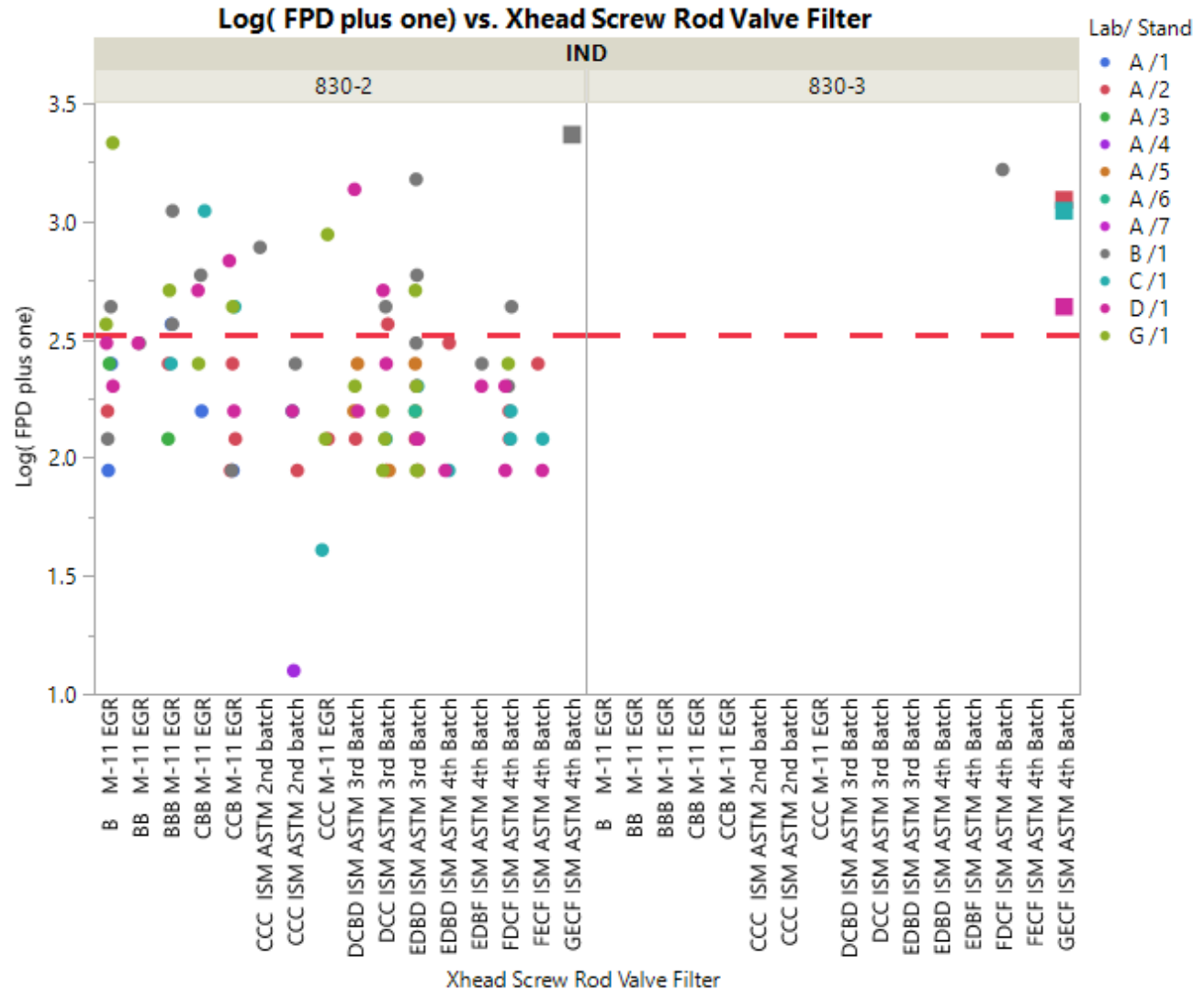
830-2
2.5209-->Target
0.3274 → std



Transformed FDP by different batch parts, Lab/Stand and Reference Oil



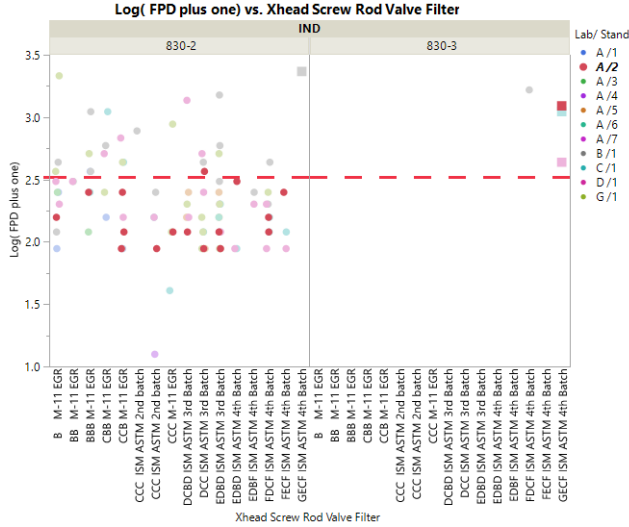
830-2
2.5209-->Target
0.3274 → std



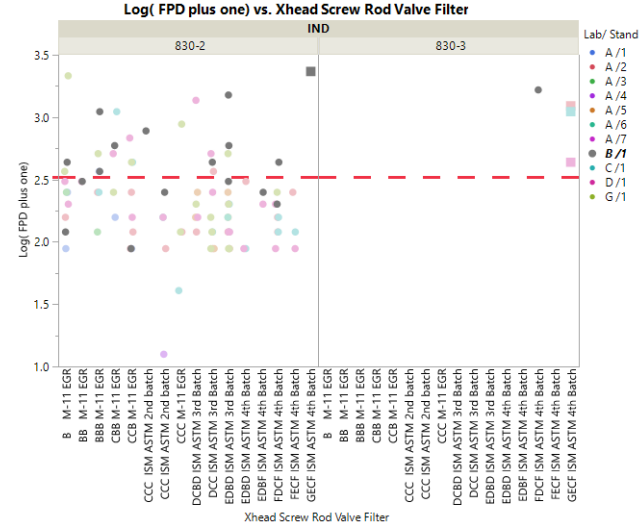
Transformed FDP by different batch parts and Reference Oil - highlighting Lab/Stand



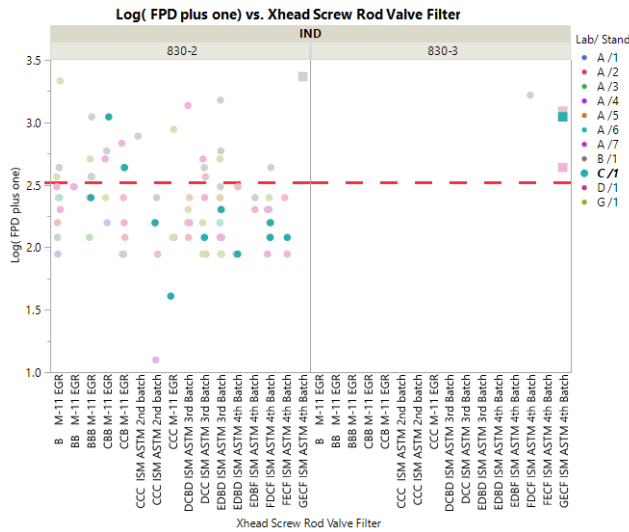
A/2



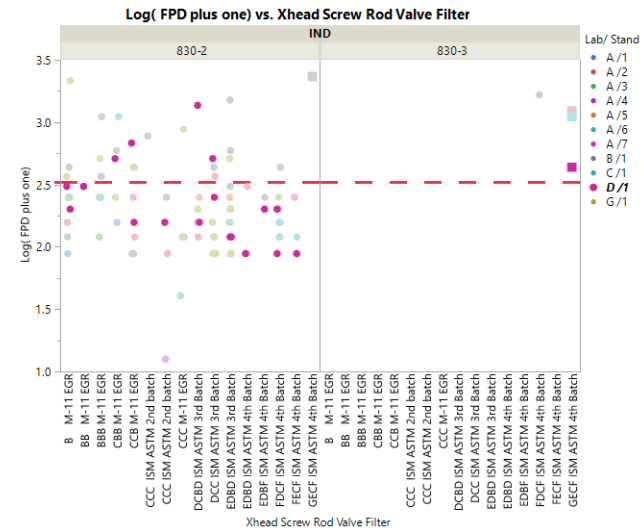
B/1



C/1



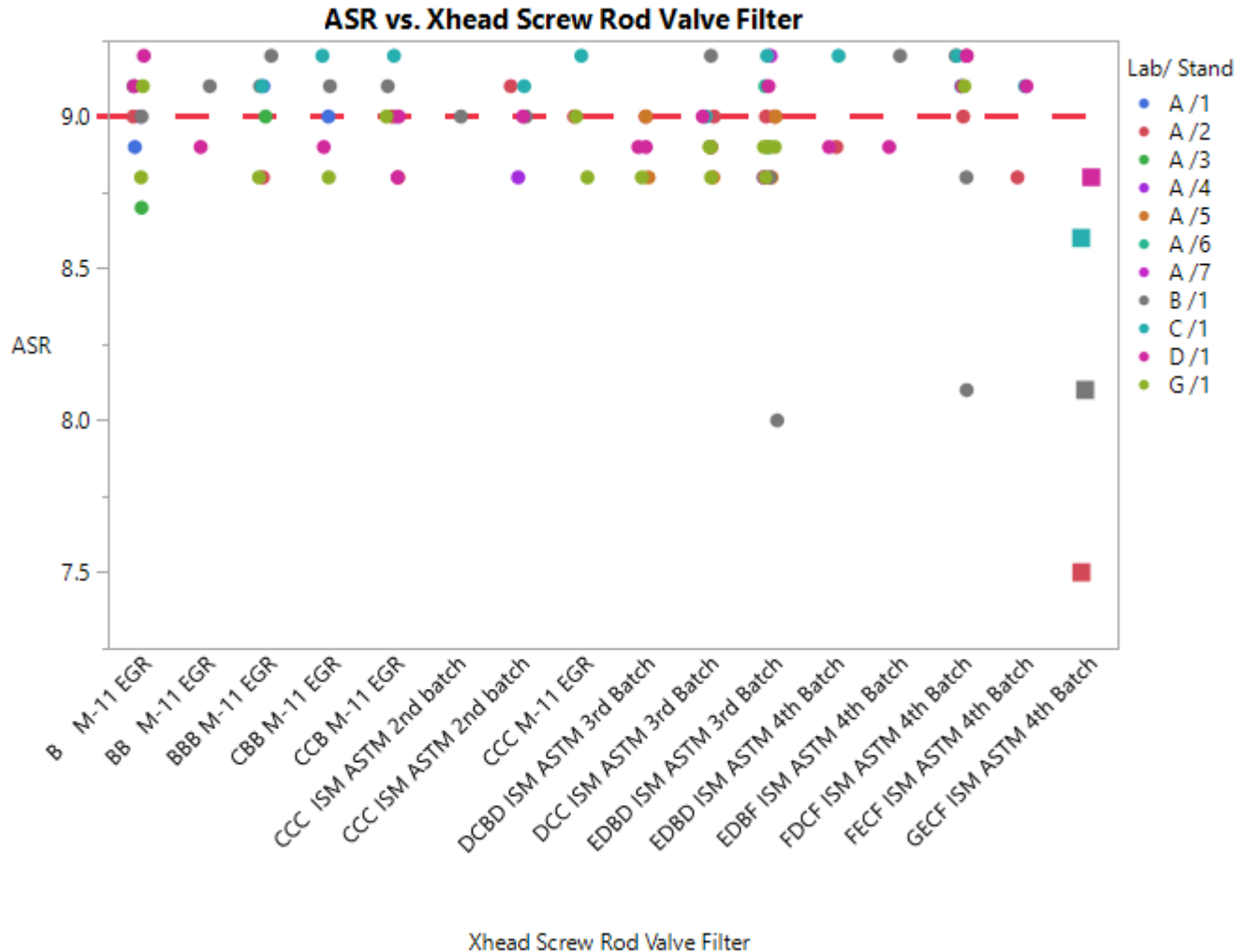
D/1



Average Sludge Rating by different batch parts and Lab/Stand



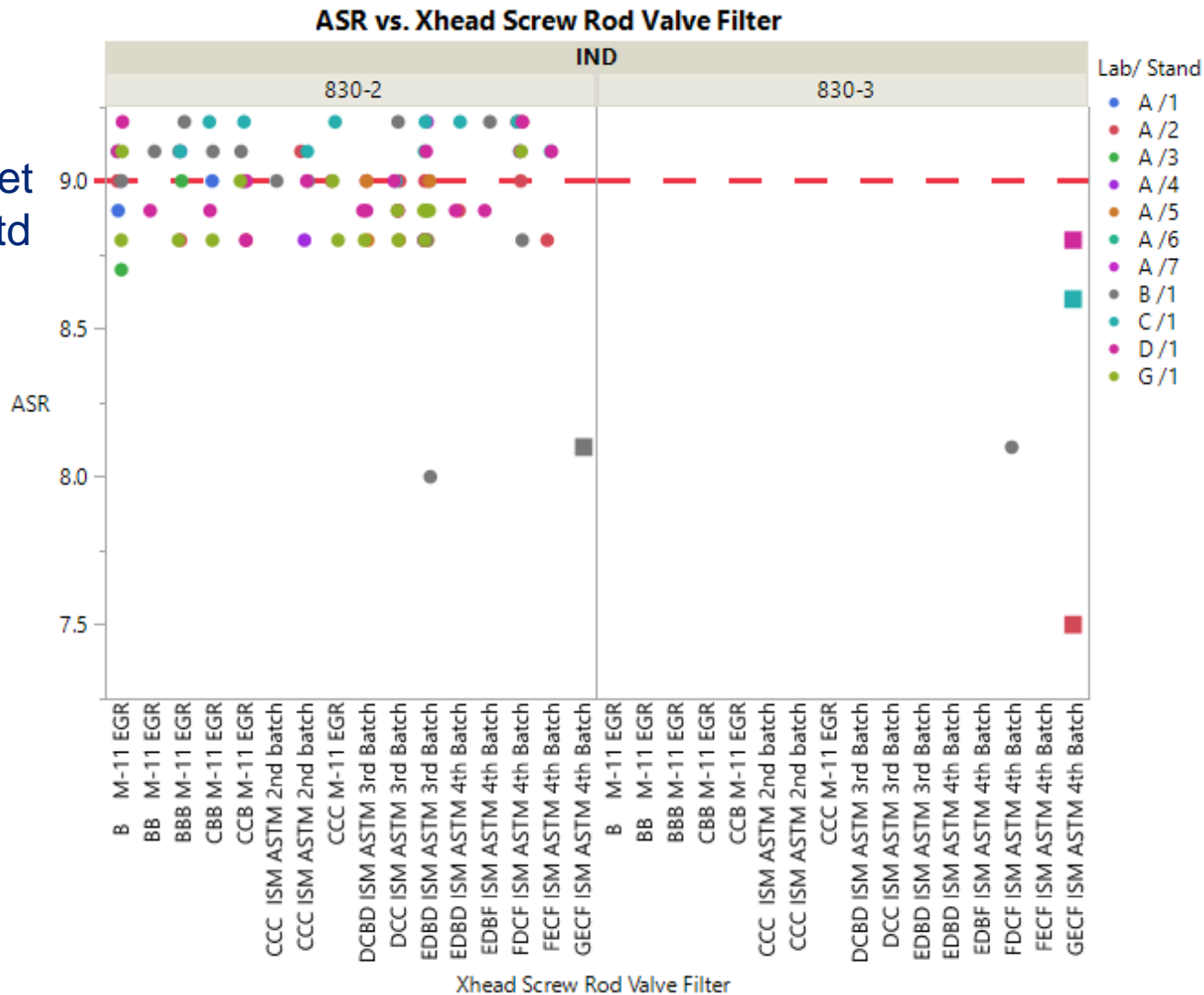
830-2
9 --> Target
0.15 → std



Average Sludge Rating by different batch parts, Lab/Stand and Reference Oil



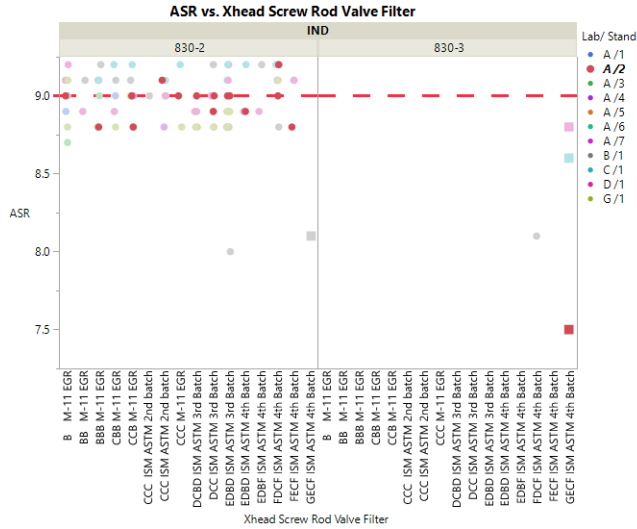
830-2
9 --> Target
0.15 → std



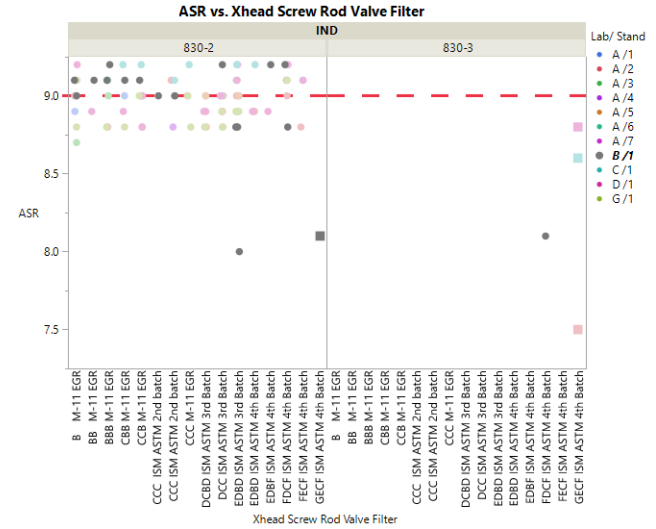
Average Sludge Rating by different batch parts and Reference Oil - highlighting Lab/Stand



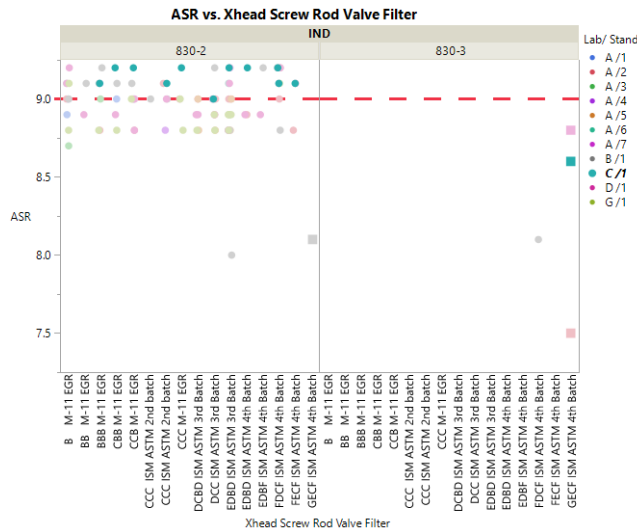
A/2



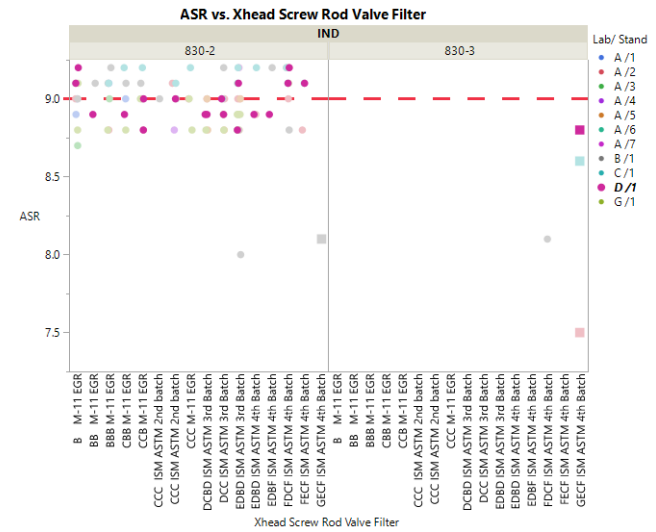
B/1



C/1



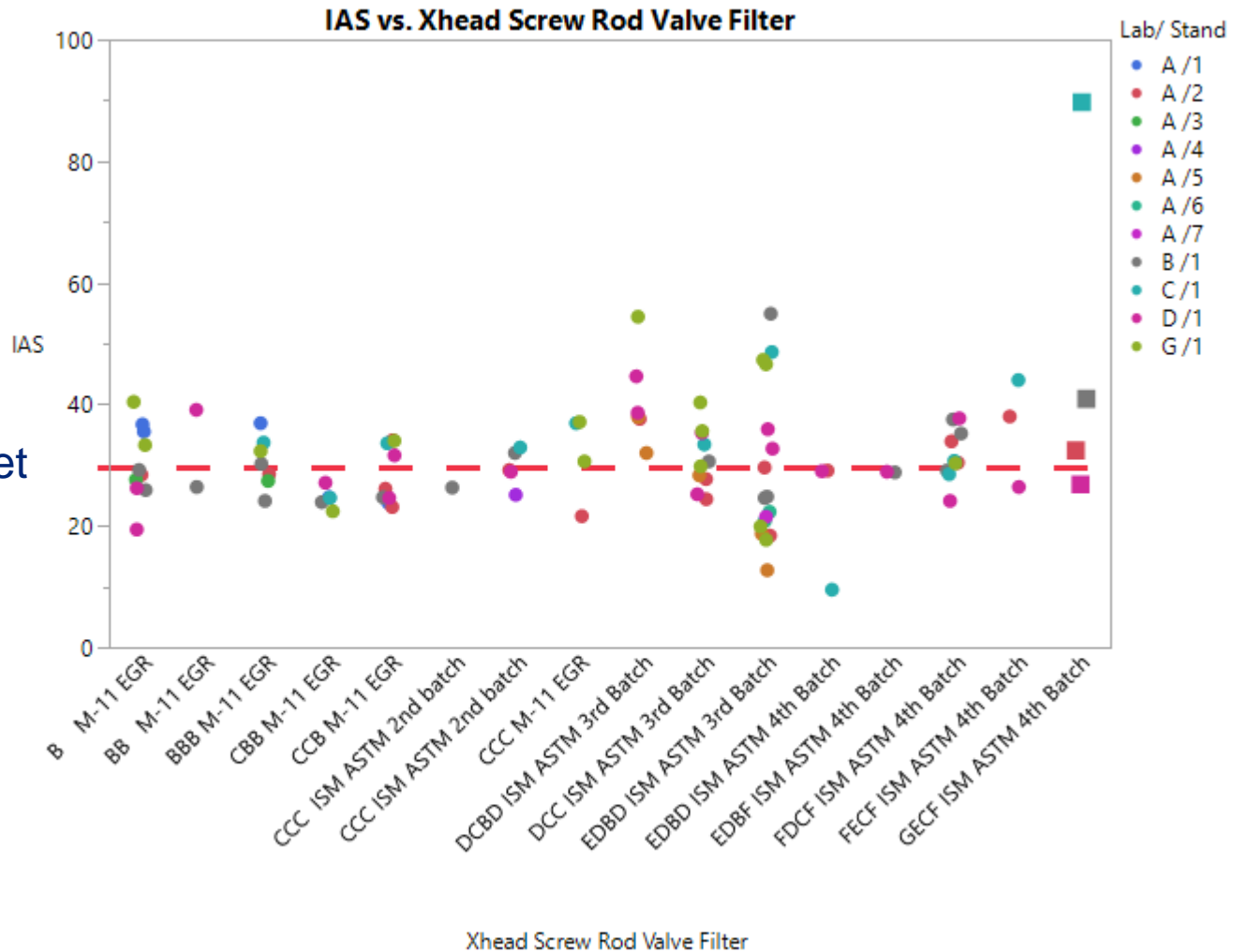
D/1



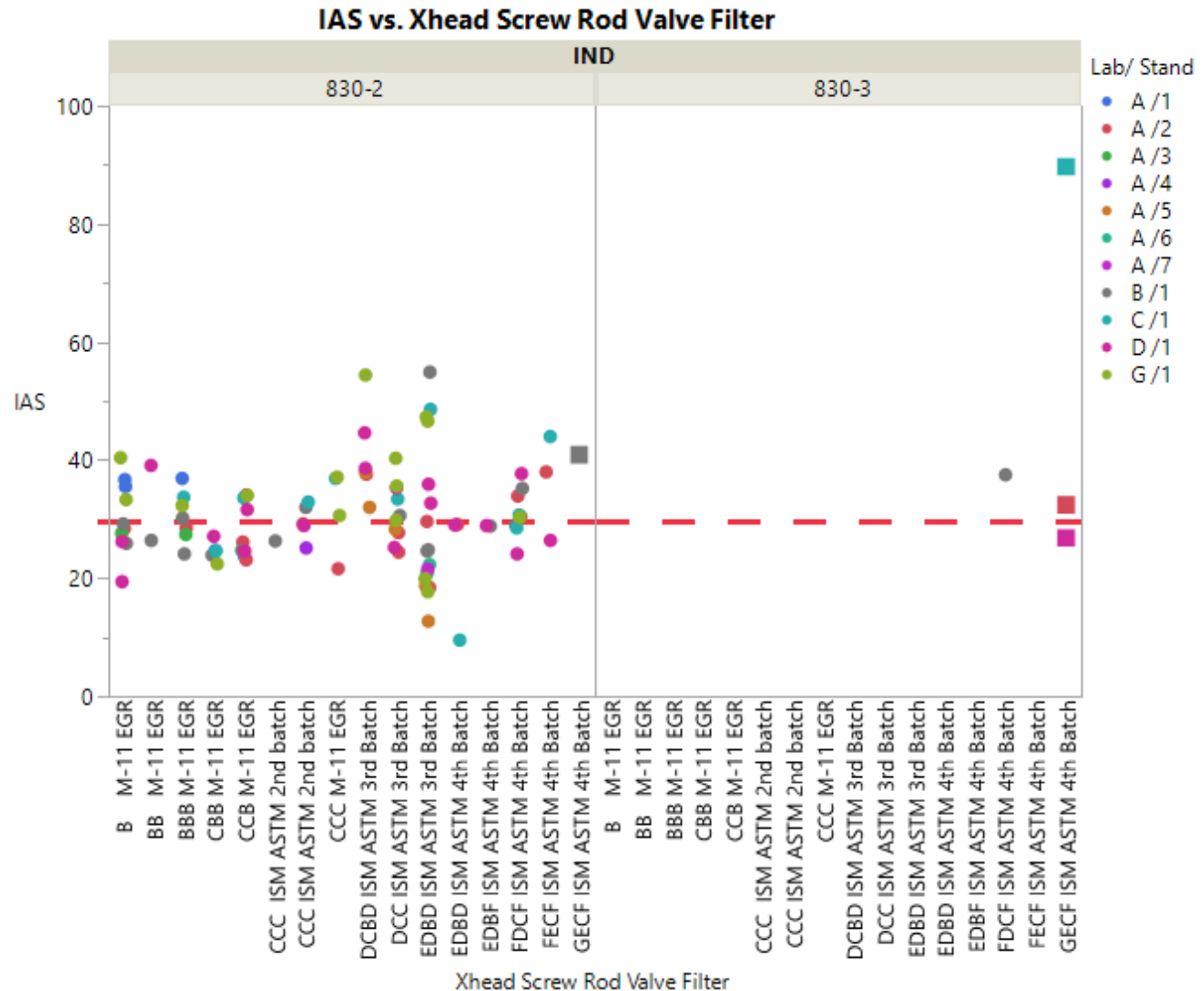
Injector Adjusting Screw Wear at 3.9% Soot by different batch parts and Lab/Stand



830-2
29.5 --> Target
5.7 → std



Injector Adjusting Screw Wear at 3.9% Soot by different batch parts, Lab/Stand and Reference Oil



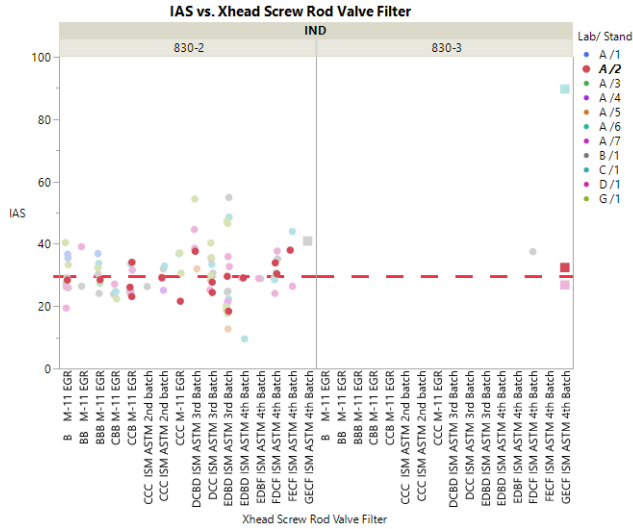
830-2
29.5 --> Target
5.7 → std

Injector Adjusting Screw Wear at 3.9% Soot by different batch parts and Reference Oil - highlighting

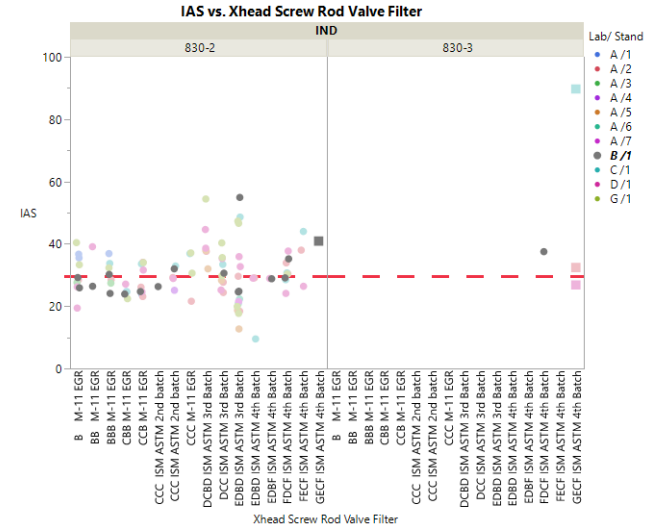


Lab/Stand

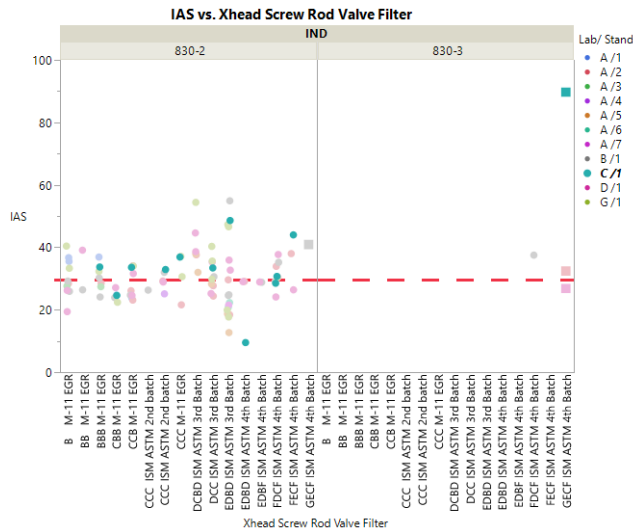
A/2



B/1



C/1



D/1

