

# Oil Seal Compatibility Test (OSCT) Surveillance Panel Meeting Minutes

May 10, 2023

Don Bell

Participants listed on attachment in Appendix.

An OSCT Surveillance Panel meeting was called to order by D. Bell at 10:45 am on 5/10/2023.

A motion made by E. Sattler and 2<sup>nd</sup> by B. Grinfield was unanimously approved with 12 votes to approve the previous OSCT Surveillance Panel minutes from meeting held 2/8/2023.

The OSCT membership list was reviewed with 13 voting members. A motion made by W. Venhoff and 2<sup>nd</sup> by J. Morris was unanimously approved with 12 votes to substitute N. Ariemma for N. Schaup as a voting member from Lubrizol.

Lab C has 3 baths and Lab G has 1 bath for testing PA, FL and NI with no bath issues.

The inventory of elastomer batches at Test Engineering Institute (TEI) was reviewed as follows:

## Polyacrylate (PA):

- PA368 209 approved slabs
- PA369 TEI ordered in early 2023. TEI will request the seal manufacturer to expedite the delivery to avoid an inventory shortfall.

## Fluoroelastomer (FL):

- FL410 18 approved slabs
- FL414 0 approved slabs
- FL415 41 approved slabs
- FL416 TEI ordered in early 2023, so will also ask manufacturer to expedite delivery.
- FL417 TEI recently ordered

## Nitrile (NI):

- NI353 15 approved slabs
  - Lab C ran 4 times and failed 3 due to PELA high and SAHA low of targets that were not observed when approved
  - Lab C ran additional testing in TMC170 and continue to fail with no root cause

- Lab G do not have the same issued with TMC 170
- The Panel suggested that Lab G send their NI353 slabs to Lab C for more testing in TMC 170 to determine if elastomer slab variation may be the issue
- NI354 260 approved slab. Lab C to run TMC 170 to confirm no issues as is being observed with NI353.
- NI355 TEI did not order yet

BASF and Afton Chemical sponsored testing at Labs C & G on two J2360 quality oils and TMC 155-1 industry reference oil using current D5662 PA, FL and NI. The 1000 hour data received at the February OSCT Panel meeting suggested that there may have been a sign convention error for differences noted primarily with PELA. Both labs rechecked their flat files and confirmed there were no sign errors. TMC replotted the data in the Appendix against current J2360 seal limits and historical 240 hour data for each elastomer. The data showed there were significant differences between labs in regards to hardness and elongation, which could potentially be related to Instron measurement differences or cutting of dumbbells. Both labs will discuss their procedures to try to determine differences that may be the root cause of the measurement differences.

D. Bell will send an email to the OSCT Panel members to determine who would like to join a Task Force to address the D5662 measurement differences between labs and potential changes to the procedure to require 1000 hour reporting of seal data.

A motion made by D. Bell and 2<sup>nd</sup> by J. Morris to adjourn the OSCT Panel Webex at 11:33 am was unanimously approved with 12 votes.

Respectfully submitted,



Donald R. Bell/Chairman

# Appendix



<http://astmtmc.org>

## Surveillance Panel Meetings OSCT Results of 1000 hr Testing

May 10, 2023

Passion for Solutions®

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### Summary:

- Labs were to run 1000 hour versions of the OSCT test taking measurements at 240hrs, 500 hrs, and 1000hrs.
- Tests were run on industry candidate fluids as well as TMC 155-1 reference fluid.
- **Data presented at February panel meetings**
- **Plots updated with J2360 limits added**
- **Both labs confirmed that there were no sign convention errors (PELA mostly a concern) reported in Feb.**

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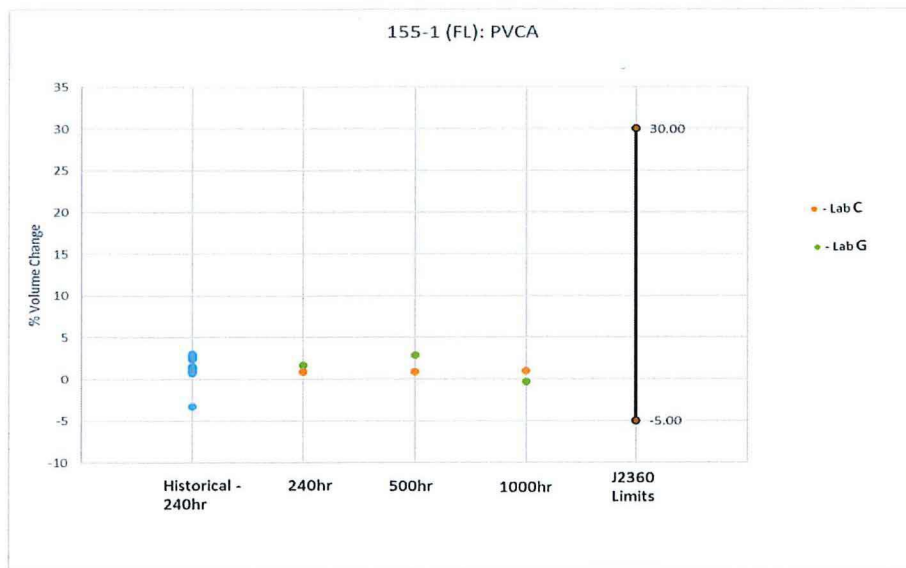
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# 155-1 FL: PVCA



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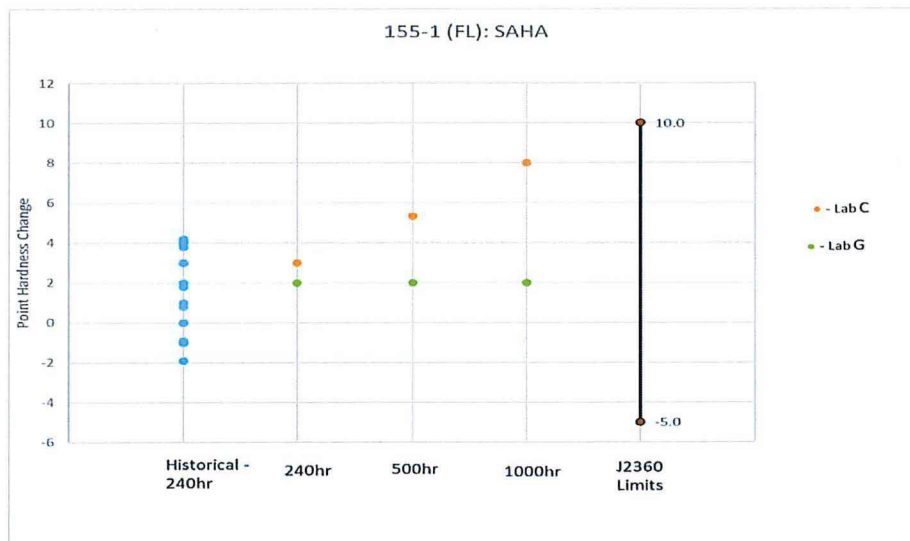
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# 155-1 FL: SAHA



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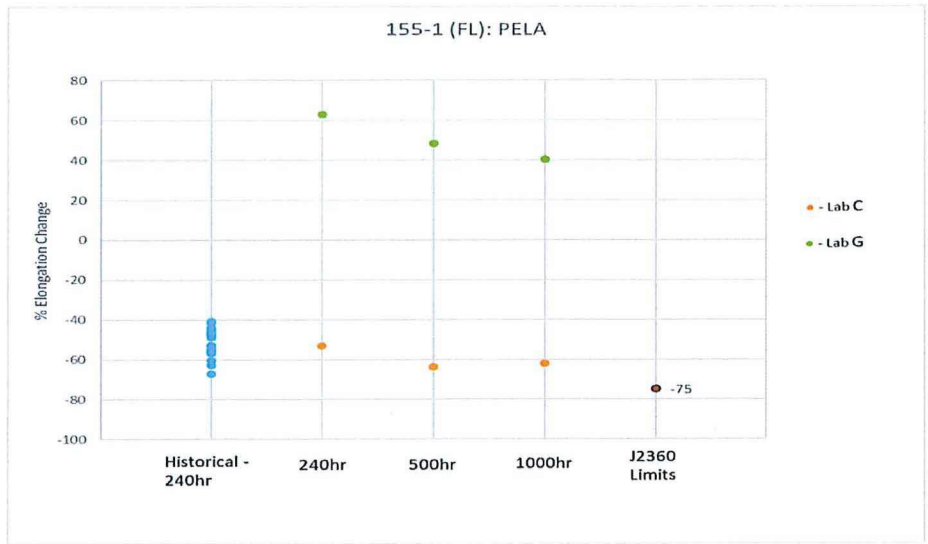
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# 155-1 FL: PELA



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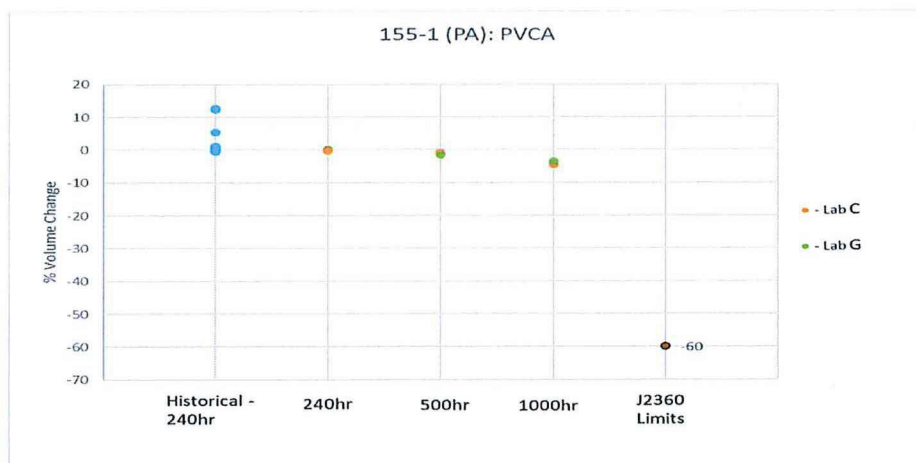


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# 155-1 PA: PVCA



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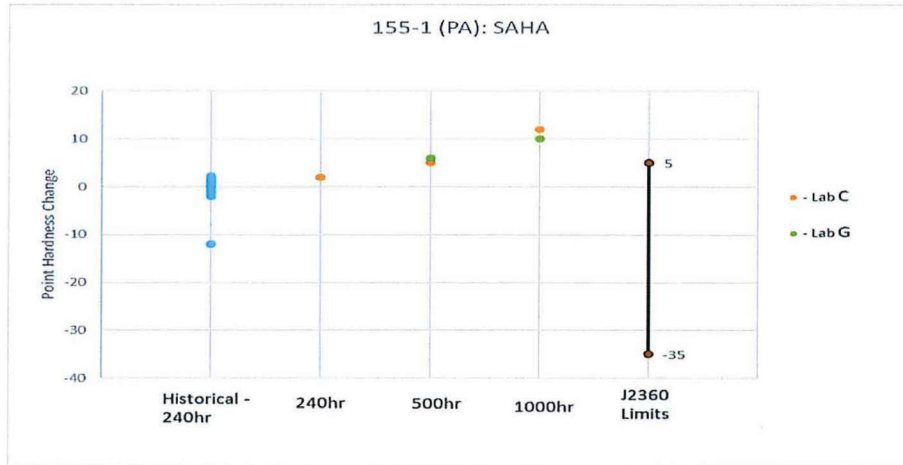


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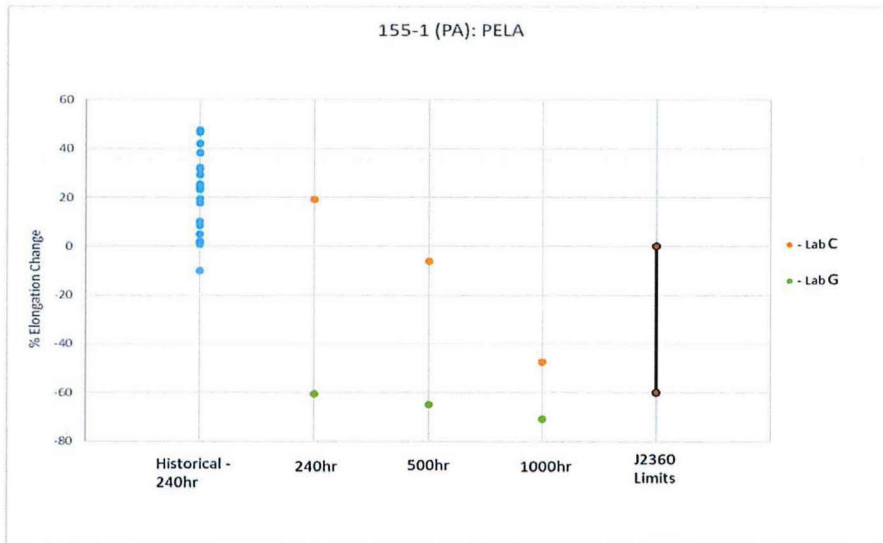
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# 155-1 PA: PELA



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## Summary:

- Tests were run on two industry J2360 approved fluids referred to as:
  - AGF-000116-B-01
  - Eaton 75W-90

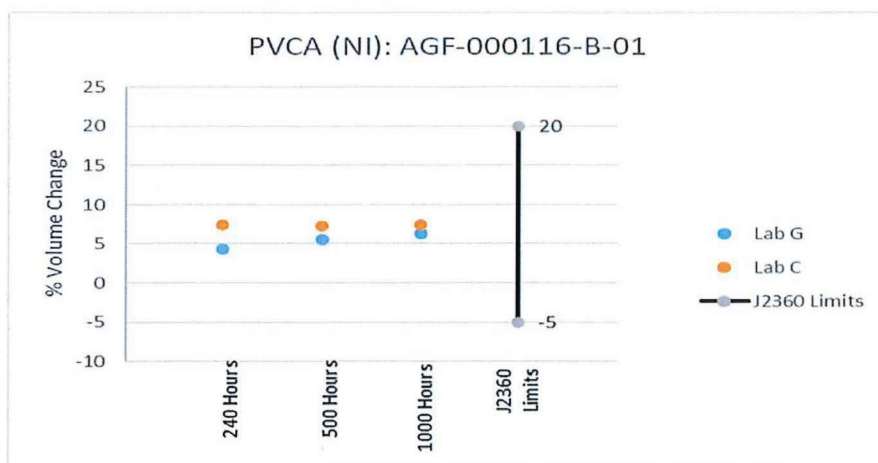


## AGF-00016-B-01 Results





# AGF NI: PVCA



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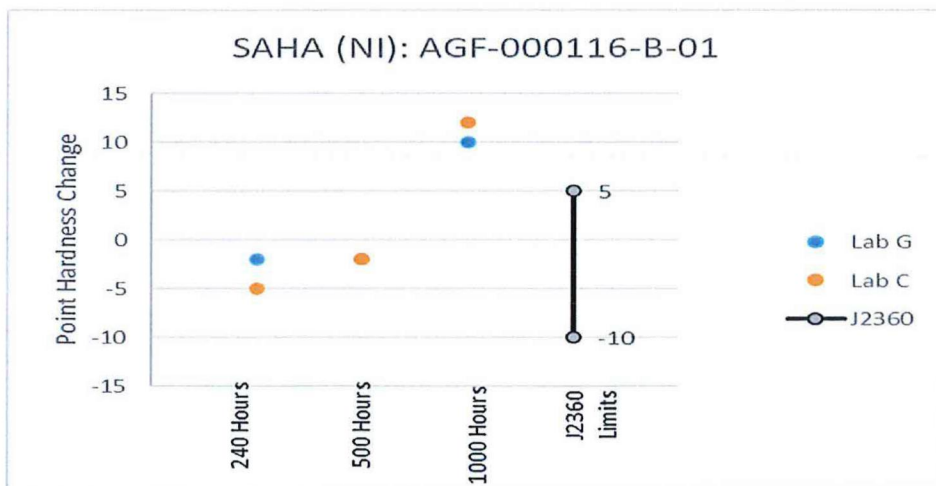


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# AGF NI: SAHA



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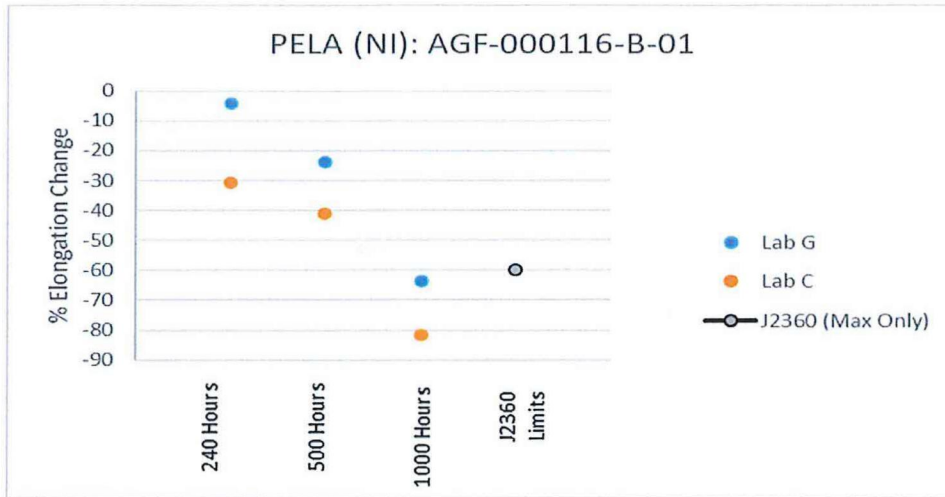


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# AGF NI: PELA



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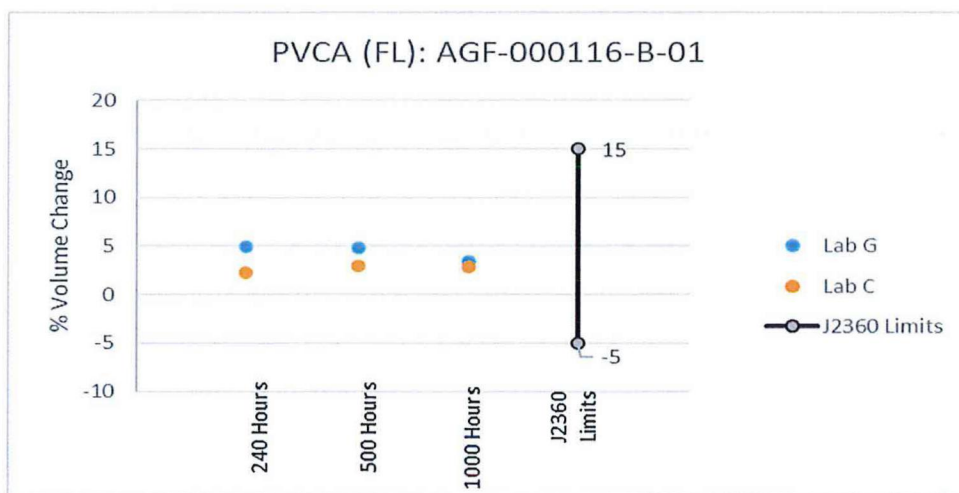


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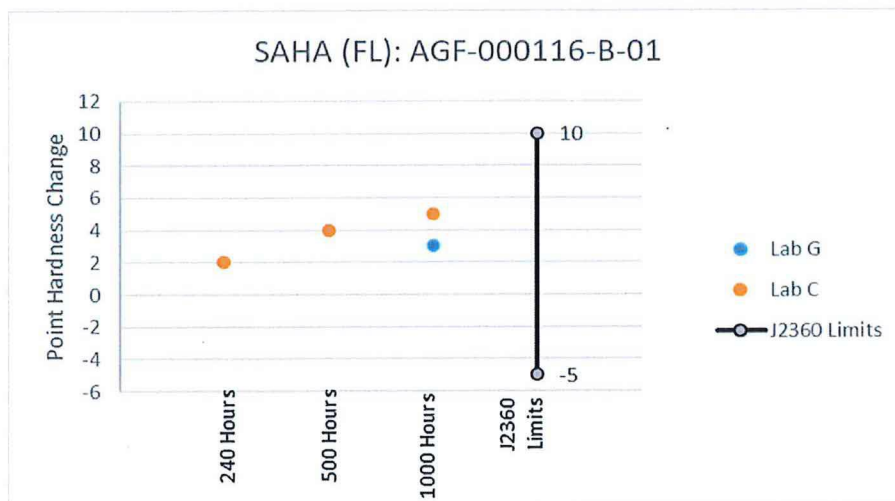


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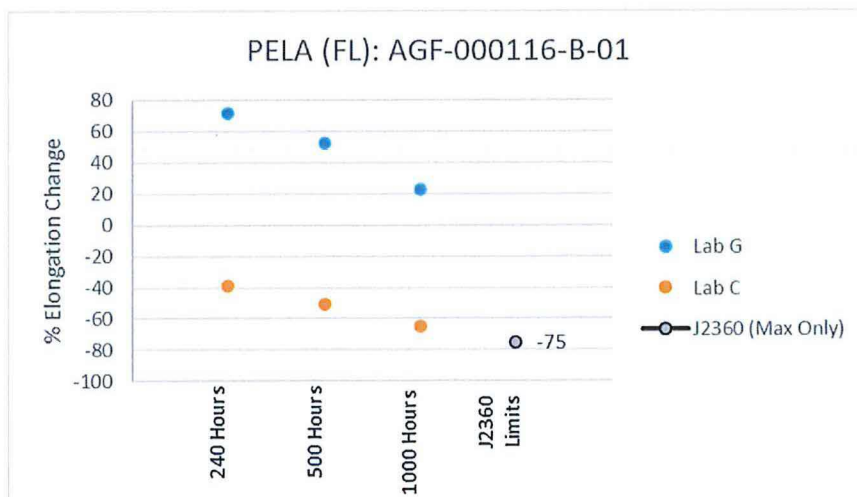


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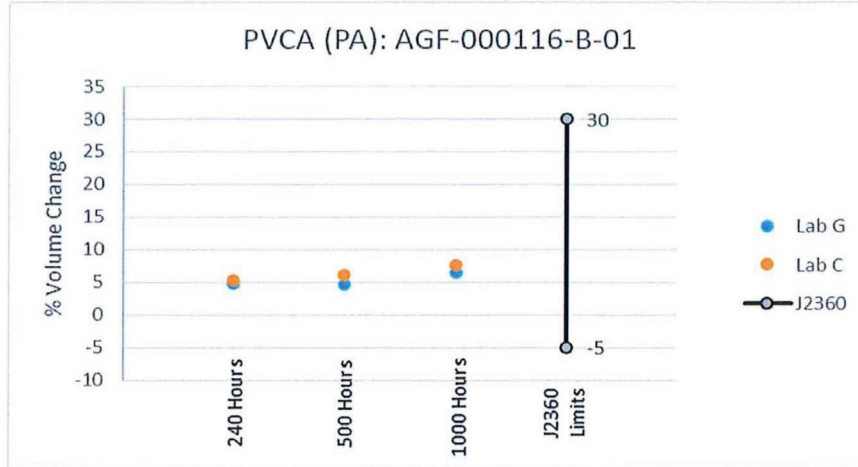


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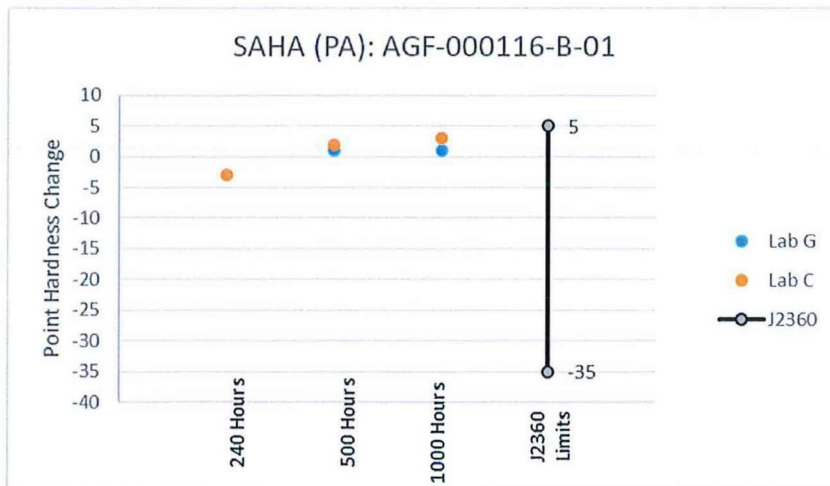


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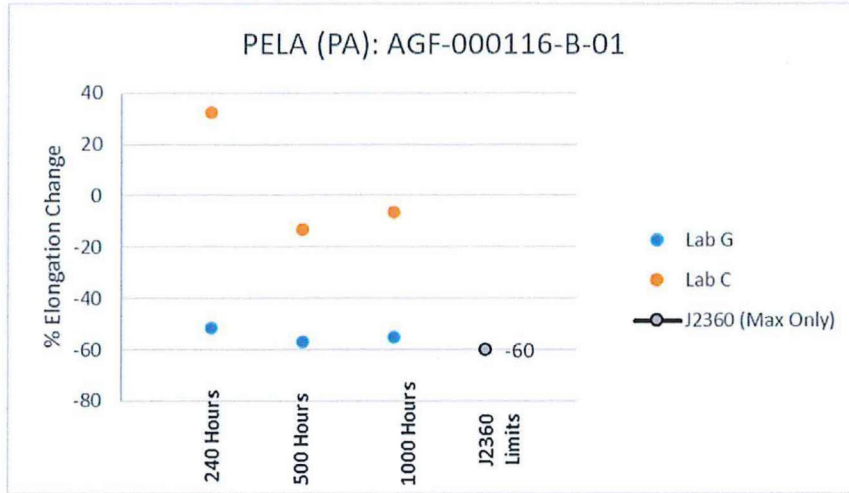


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# Eaton 75W-90 Results

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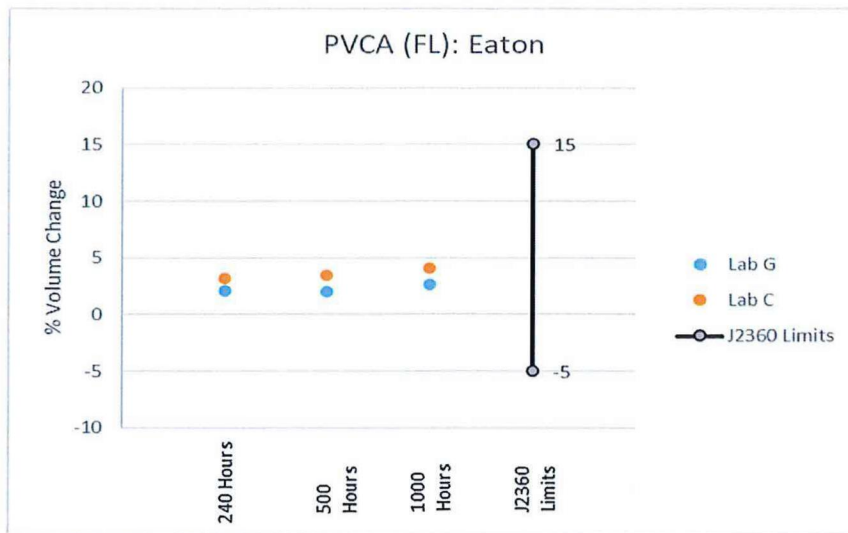
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# Eaton FL : PVCA



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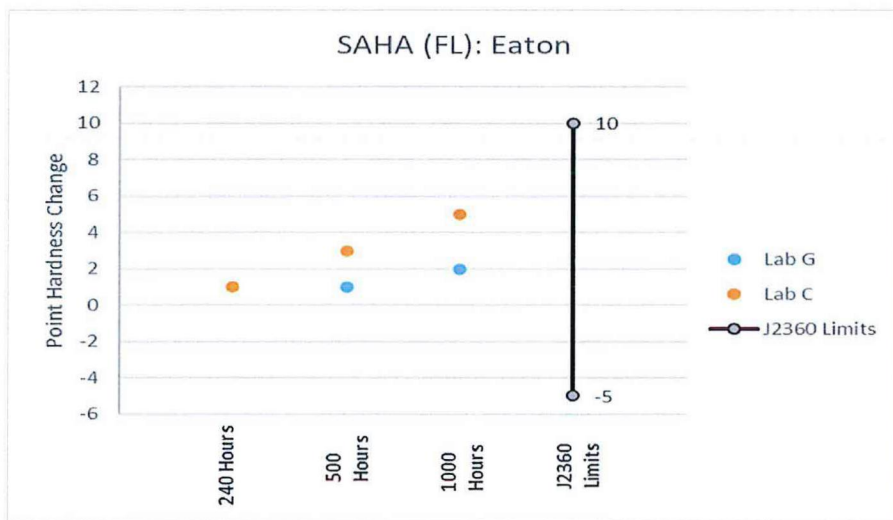


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# Eaton FL : SAHA



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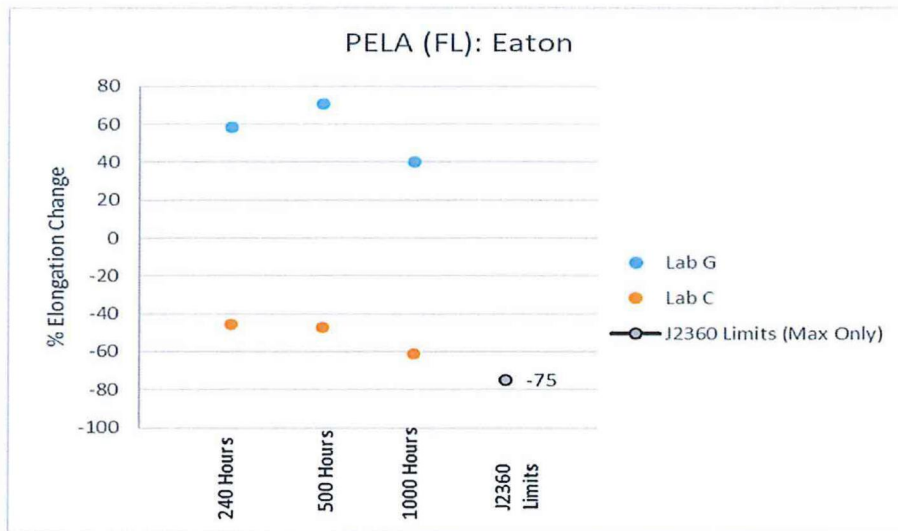


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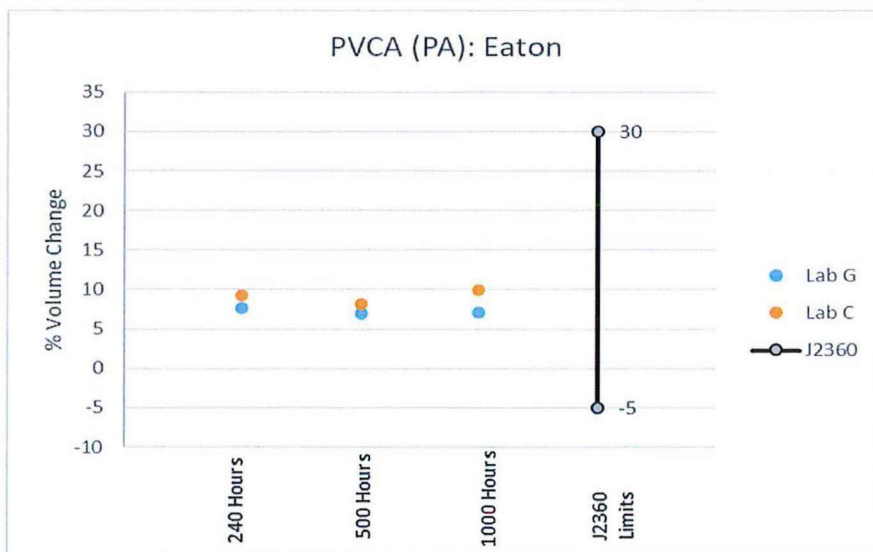


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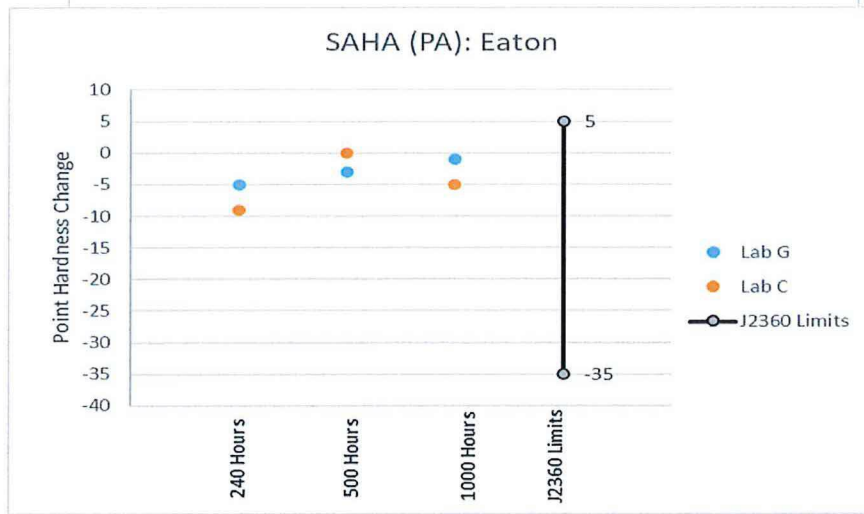


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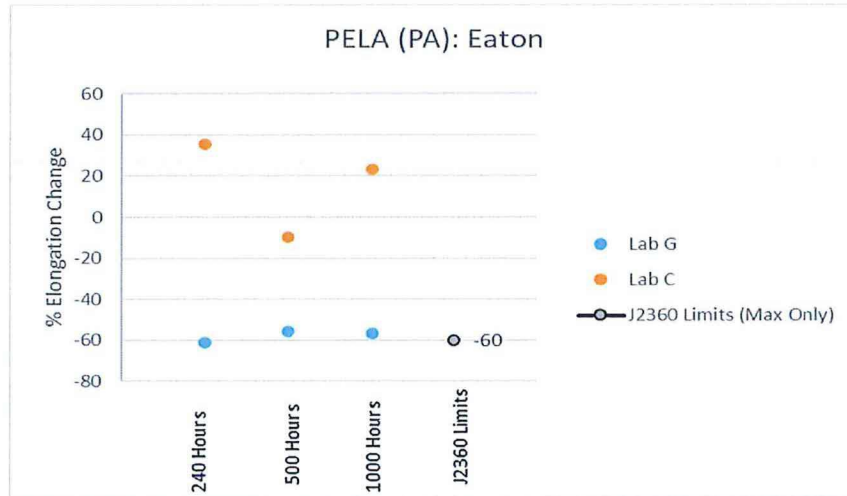


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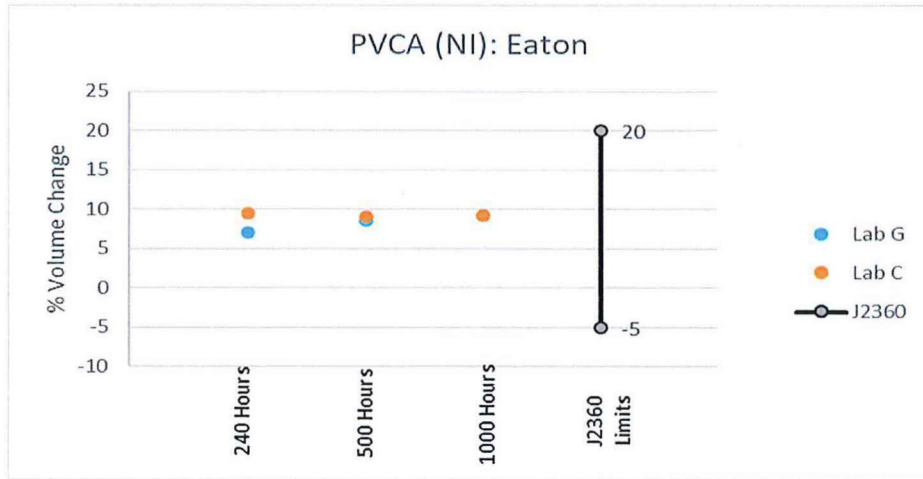
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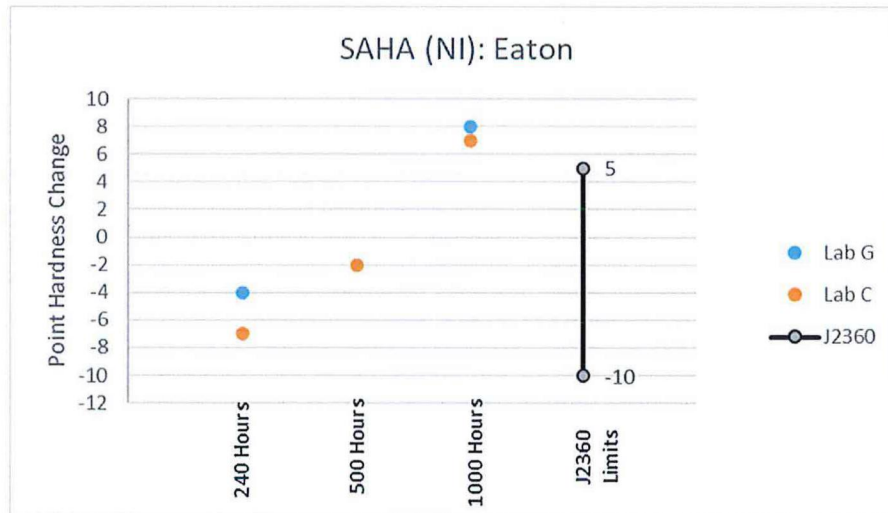
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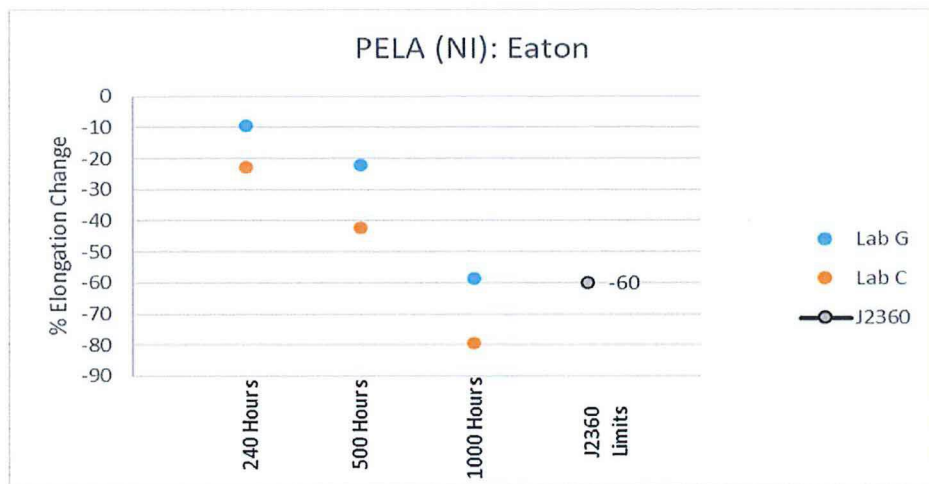
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