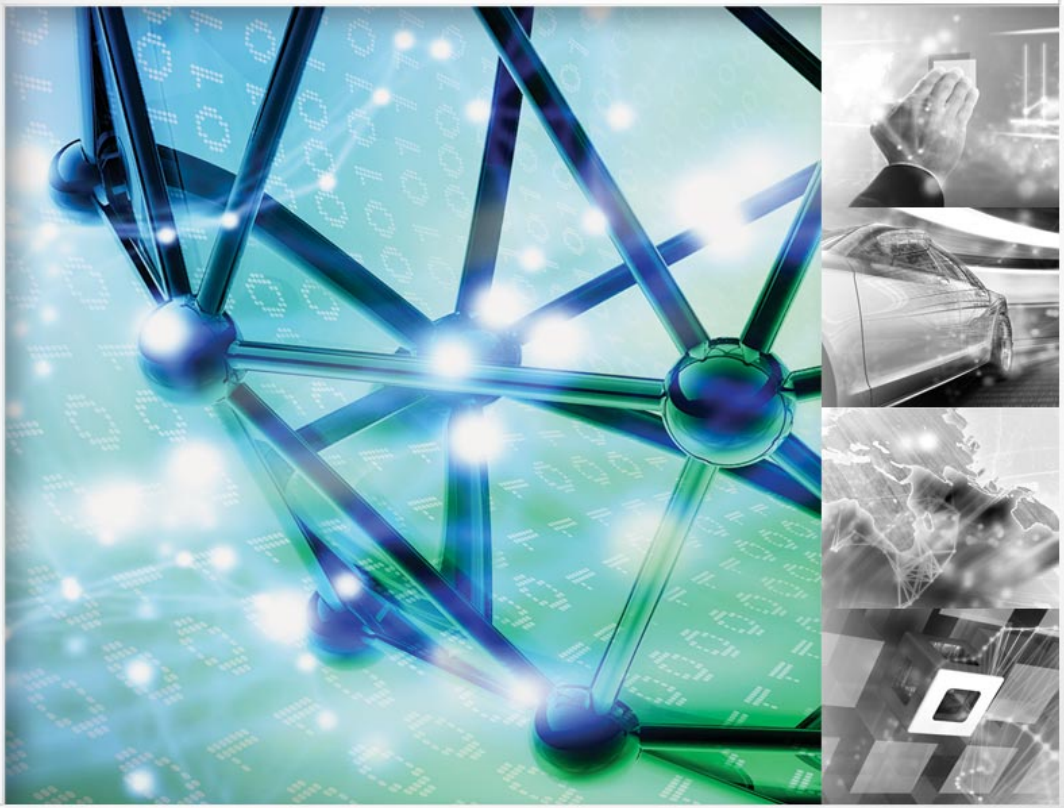

DD13 Scuffing Test
TEI Data Review
Matrix + 3 Post Matrix Tests

Kevin O'Malley
The Lubrizol Corporation
November 2016

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Summary

SUCCESS TOGETHER

Kit measurements from 3 post-matrix tests are compared to the measurements observed in the 12 matrix tests

- The 3 post-matrix kit measurement data files are labeled as 105-0031, 105-0031A and 105-031B

The following differences are observed when the 12 matrix tests are compared to the post matrix tests:

- Liners:
  - 105-0031A and 105-031B are on upper end of Ra, Rk, Rvk, and Vo measurements
- Top Ring:
  - All three post-matrix tests generally have
    - larger ring gaps, face peak height location, and face peak height to 0.2mm diff
    - smaller face width, Ra, Rk, Rpk, Rz, and back of ring width
- 2nd Ring:
  - 3 post-matrix tests tend to have lower ring tension
- Oil Ring:
  - 3 post-matrix tests tend to have lower ring tension and 180° from gap rail height differential
  - 105-0031A and 105-031B ring gaps tend to be higher

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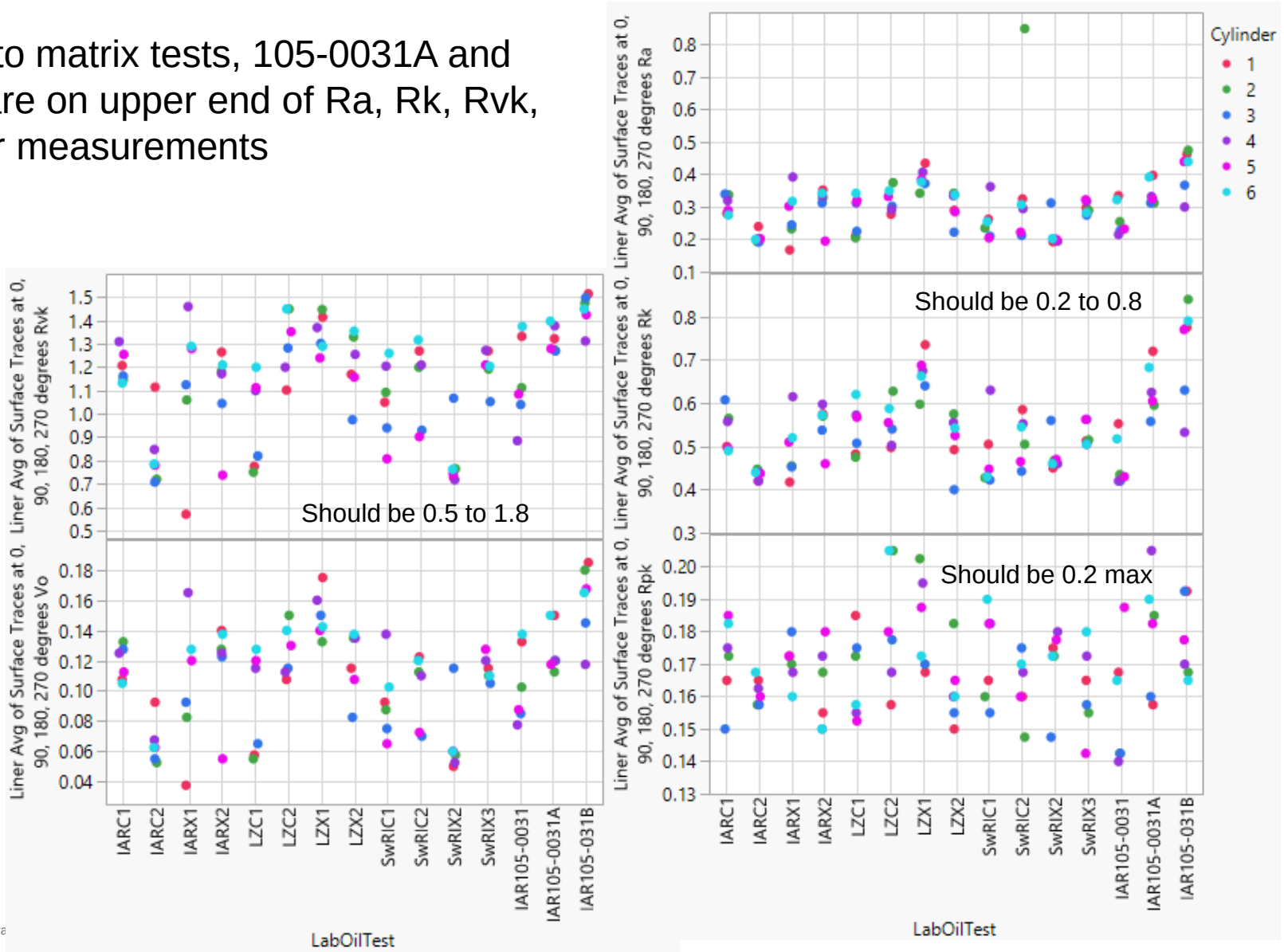
Liner Differences

SUCCESS TOGETHER

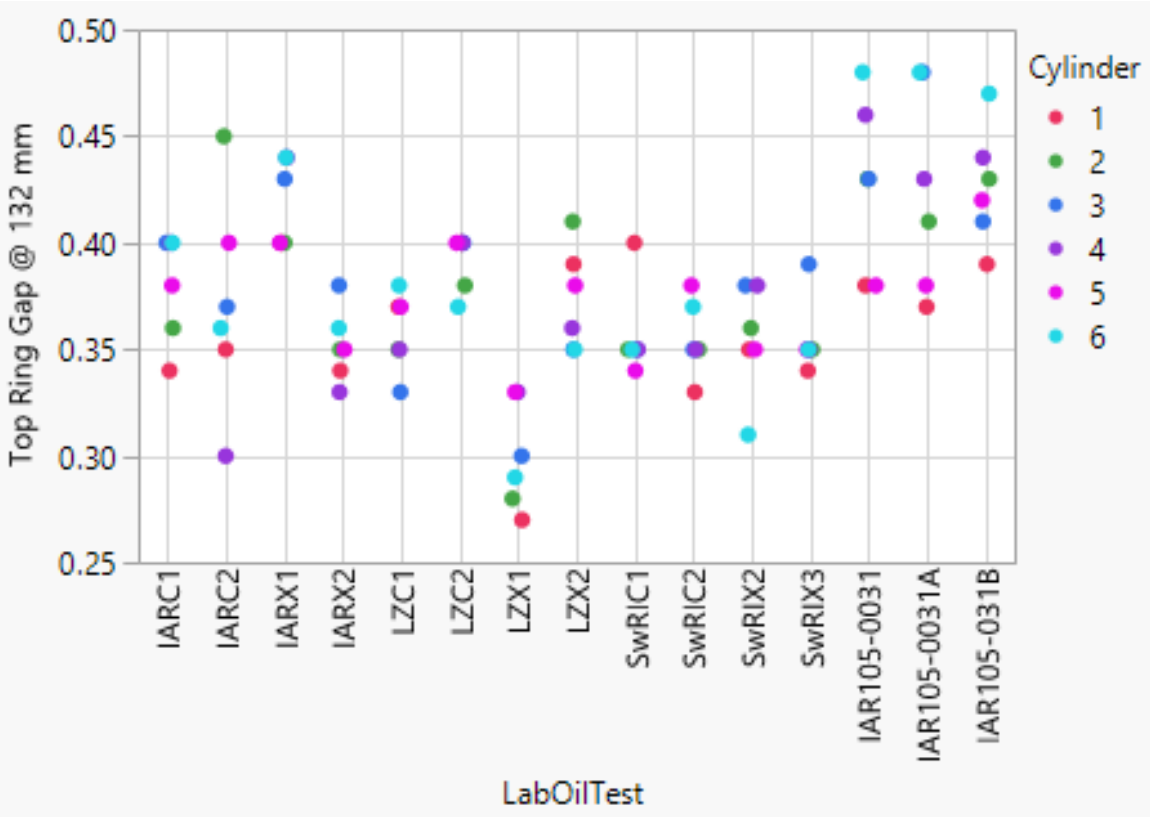
Compared to matrix tests, 105-0031A and 105-031B are on upper end of Ra, Rk, Rvk, and Vo liner measurements



Top Ring Differences
Ring Gap

SUCCESS TOGETHER

105-0031, 105-0031A and 105-031B generally have larger ring gap measurements than observed in the matrix tests



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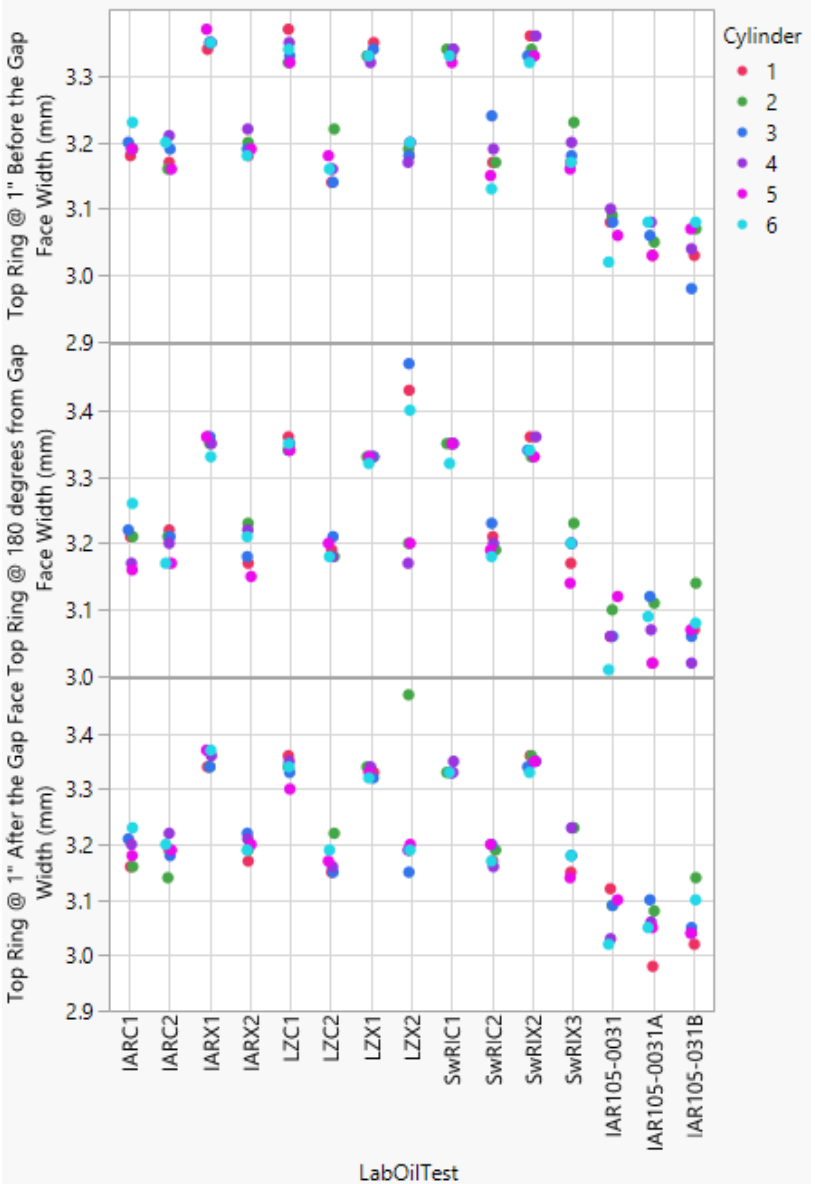
Top Ring Differences
Face Width

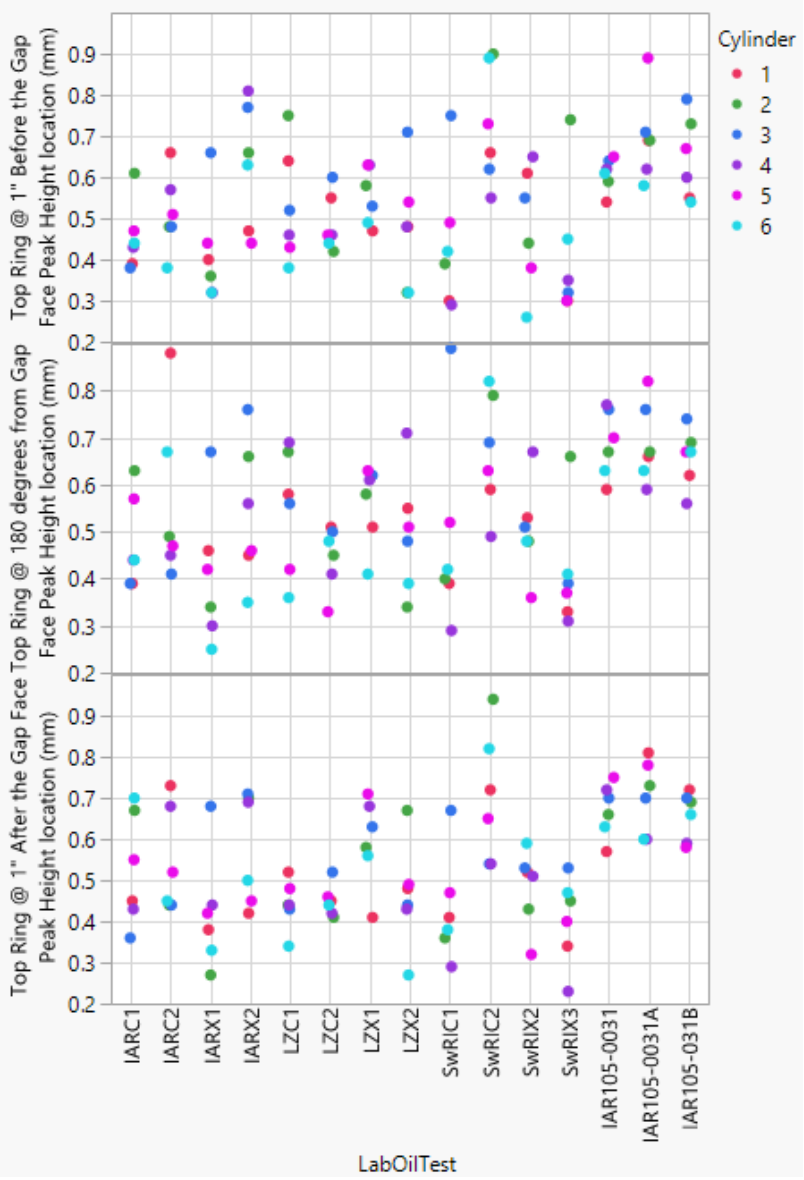
105-0031, 105-0031A and 105-031B have lower face width measurements than observed in the matrix



Top Ring Differences
Face Peak Height Location

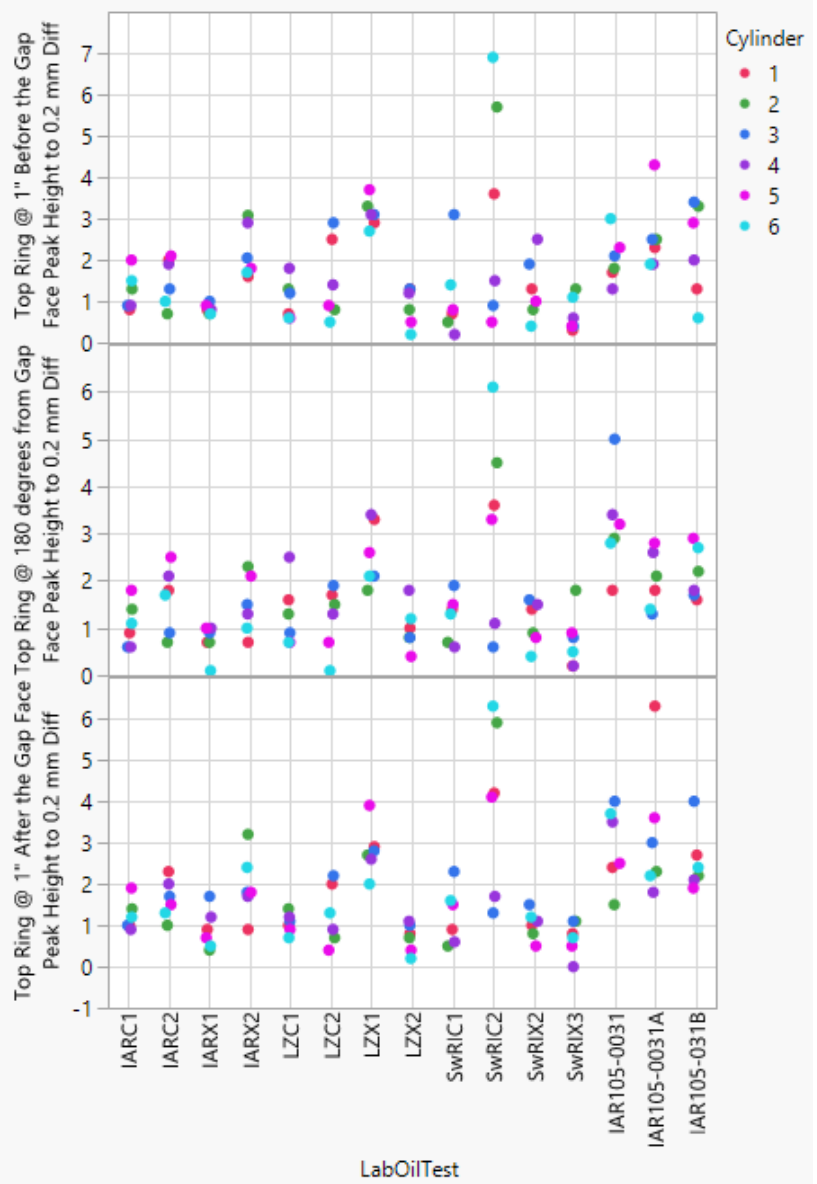
SUCCESS TOGETHER

105-0031, 105-0031A and 105-031B have face peak height location measurements on the upper end of what was observed in the matrix



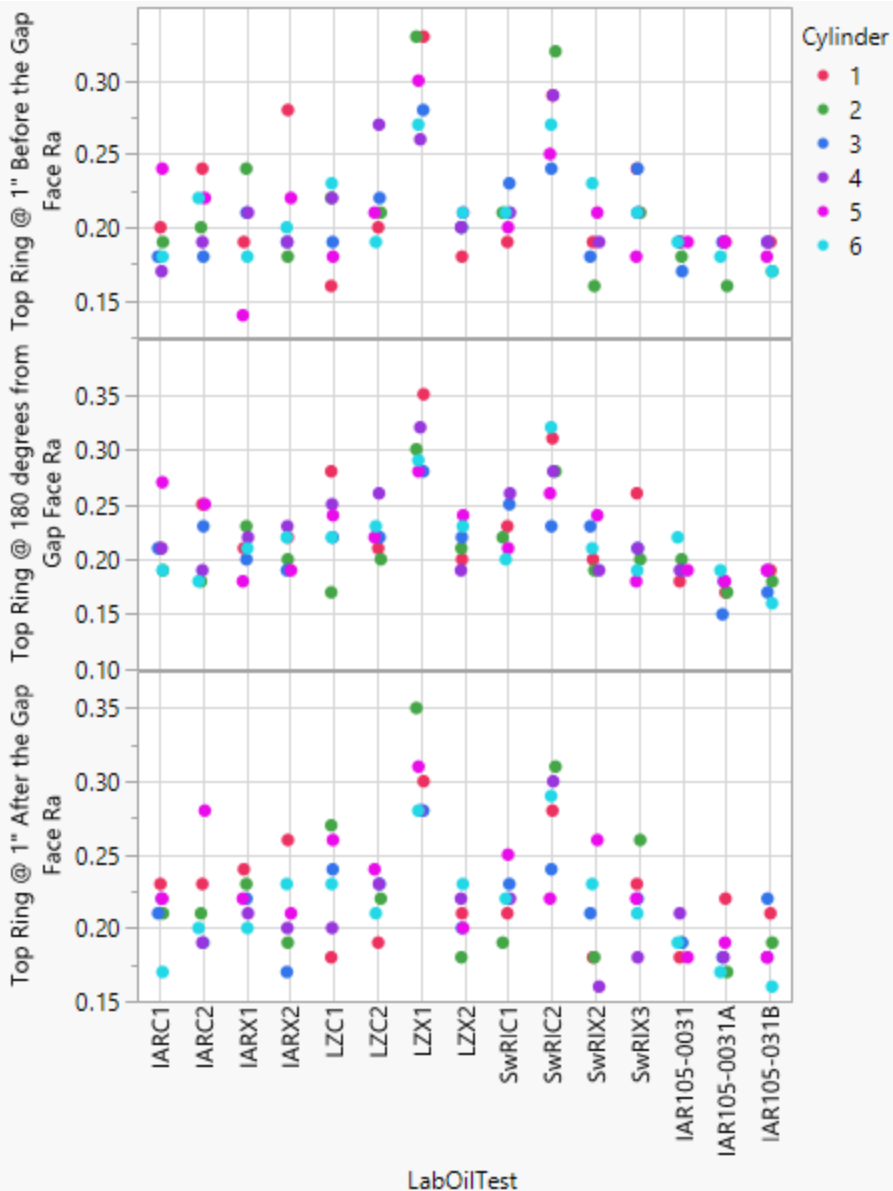
Top Ring Differences
Face Peak Height to 0.2mm Diff

105-0031, 105-0031A and 105-031B face peak height to 0.2 mm diff measurements are on upper end of measurements observed in the matrix



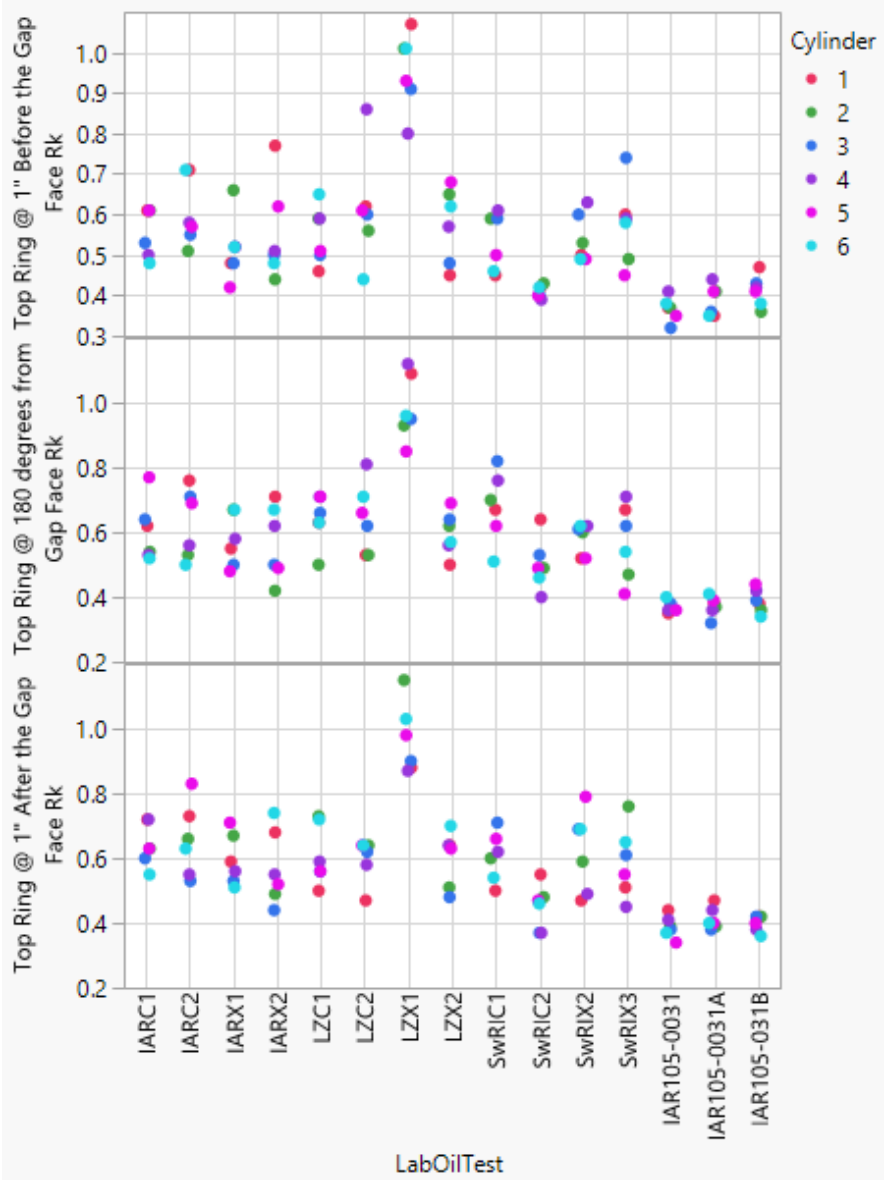
Top Ring Differences Ra

105-0031, 105-0031A and 105-031B Ra measurements tend to be on the lower end of measurements observed in the matrix



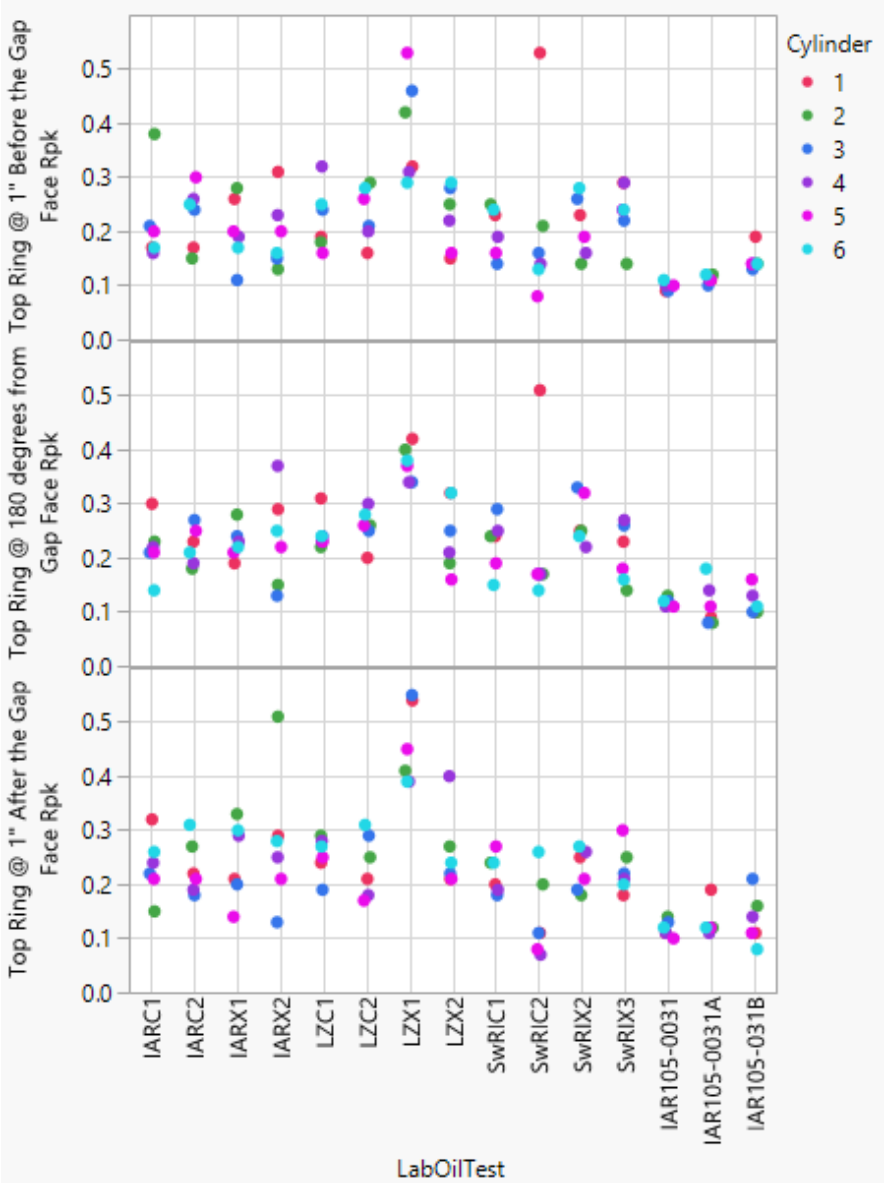
Top Ring Differences Rk

105-0031, 105-0031A and 105-031B Rk measurements are generally lower than those observed in the matrix



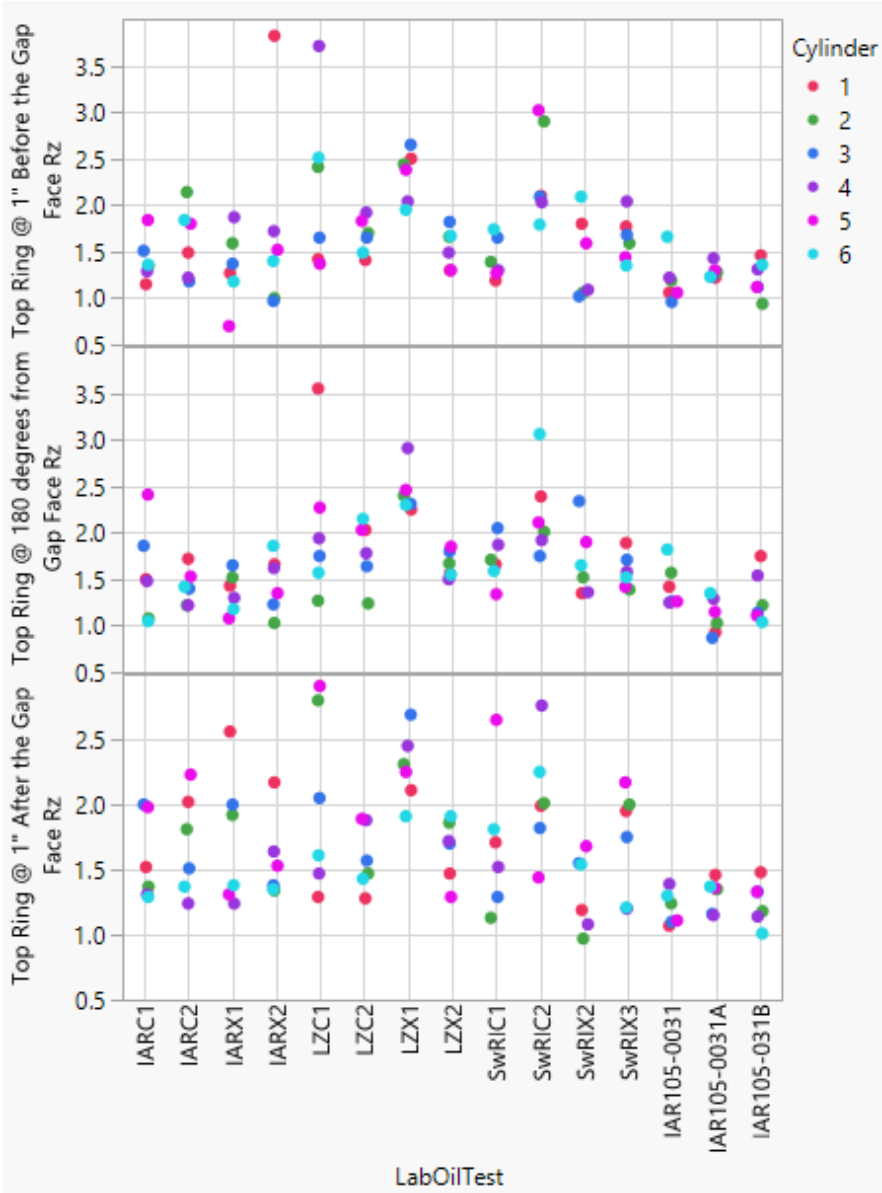
Top Ring Differences Rpk

105-0031, 105-0031A and 105-031B Rpk measurements are generally lower than what was observed in the matrix



Top Ring Differences Rz

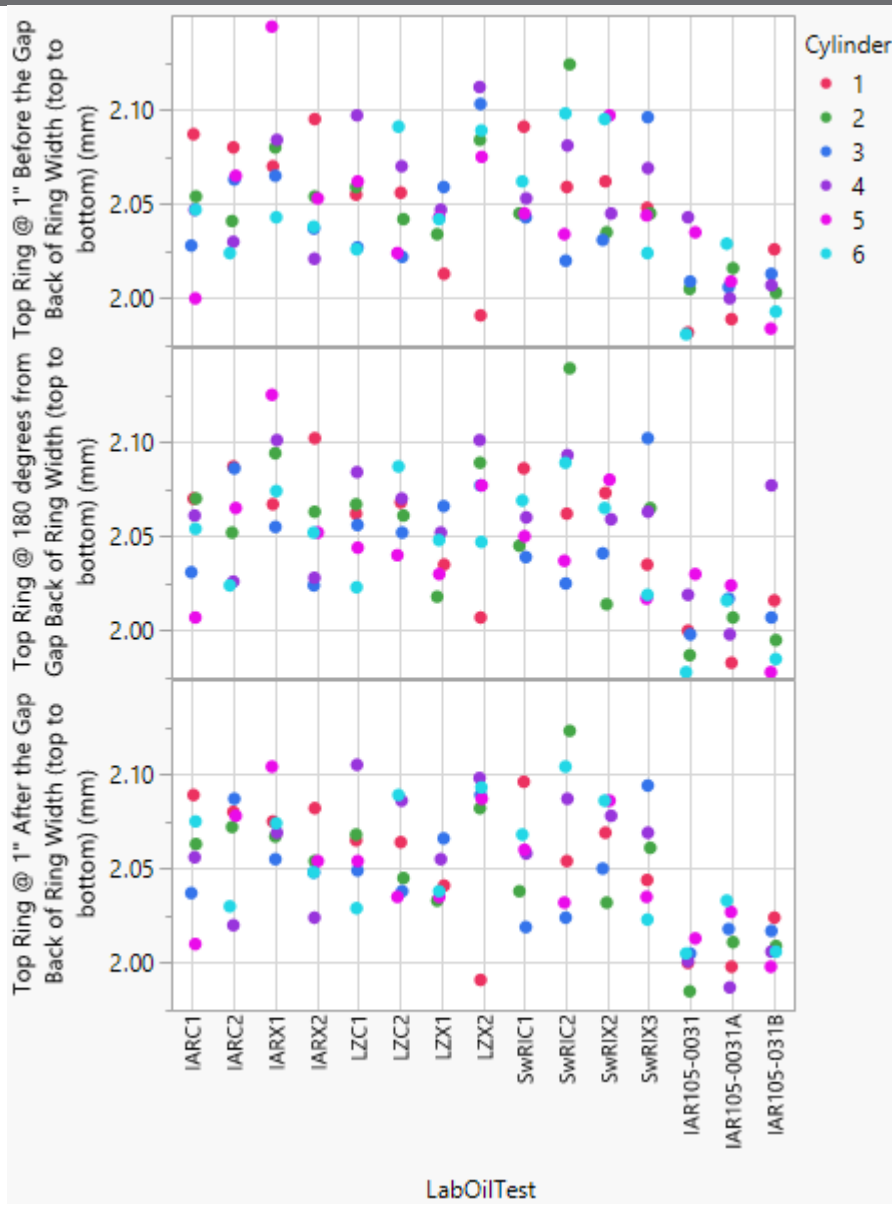
105-0031, 105-0031A and 105-031B Rz 1” after the gap measurements are on the lower end of what was observed in the matrix



Top Ring Differences Back of Ring Width

SUCCESS TOGETHER

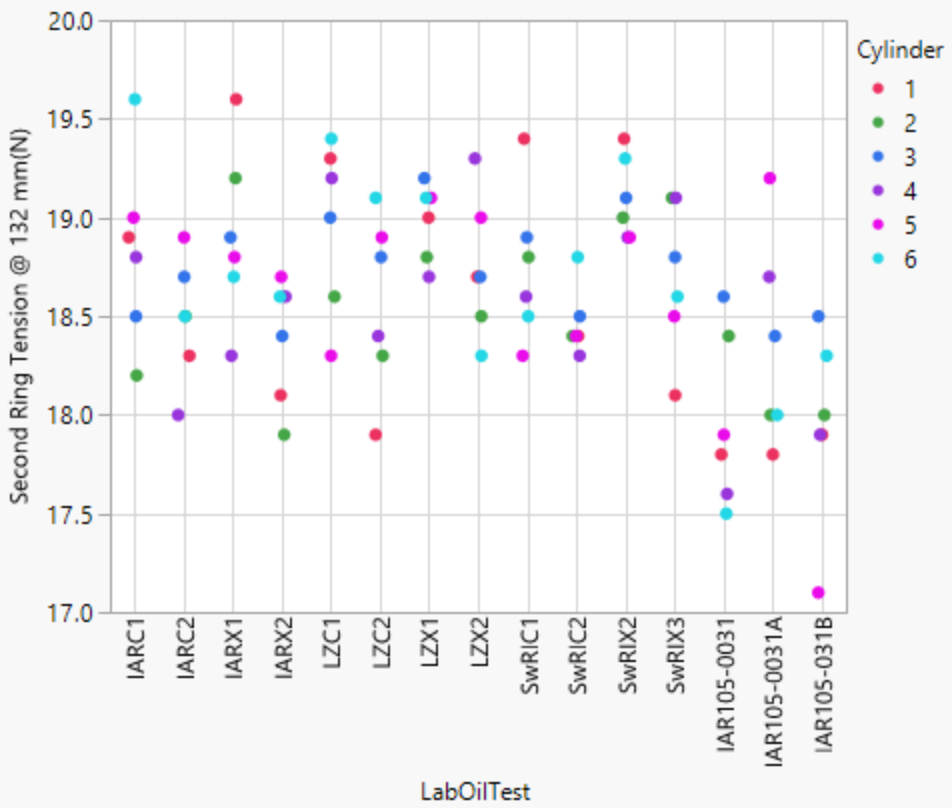
105-0031, 105-0031A and 105-031B generally have lower back of ring width measurements than what was observed in the matrix



Second Ring Differences
Ring Tension @ 132 mm

SUCCESS TOGETHER

105-0031, 105-0031A and 105-031B tend to have lower ring tension measurements than the matrix tests



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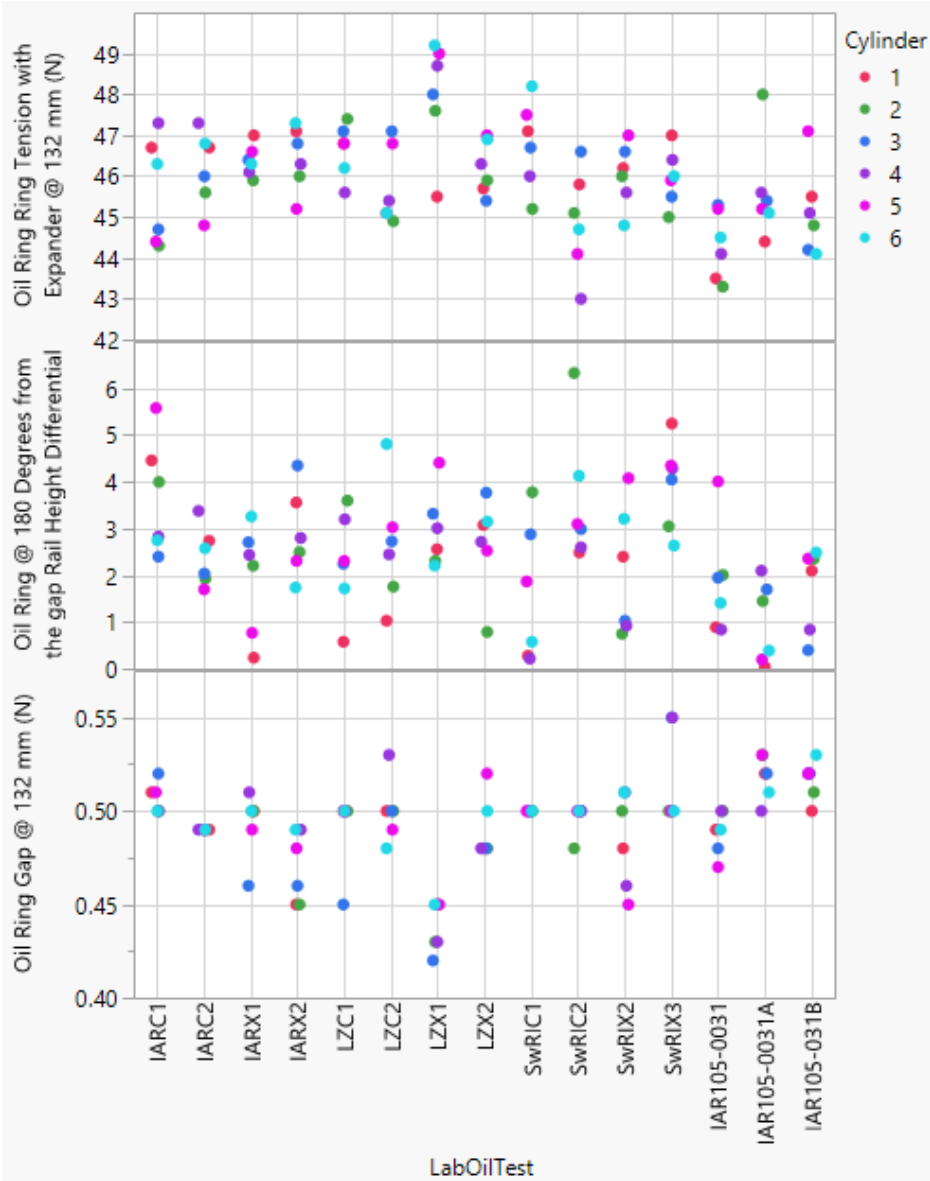
Oil Ring Differences

105-0031, 105-0031A and 105-031B tend to have lower ring tension & 180° from gap rail height differential measurements compared to the matrix tests

105-0031A and 105-031B have ring gap measurements on the upper end of what was observed in matrix tests



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Appendix
TEI Measurements

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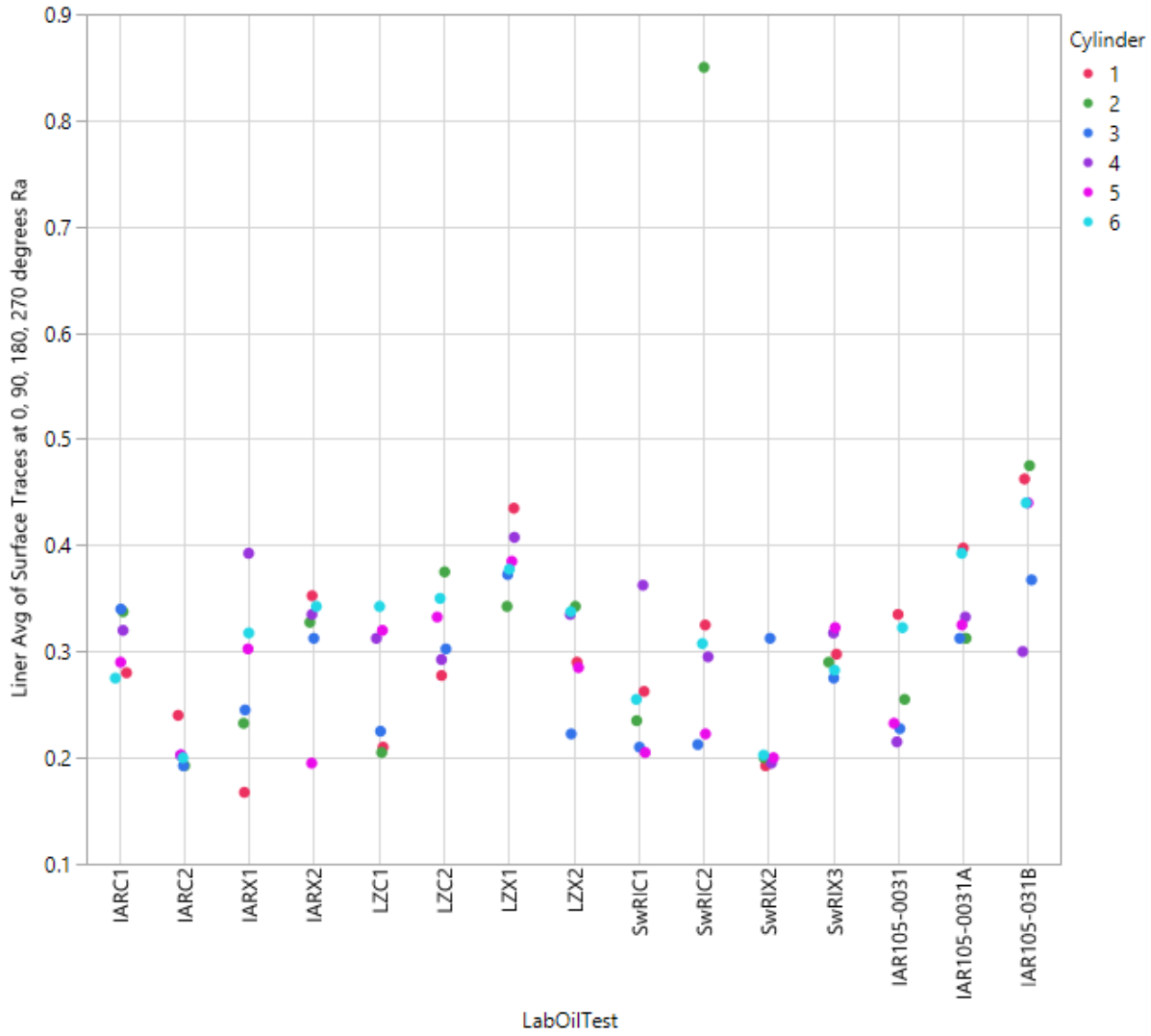
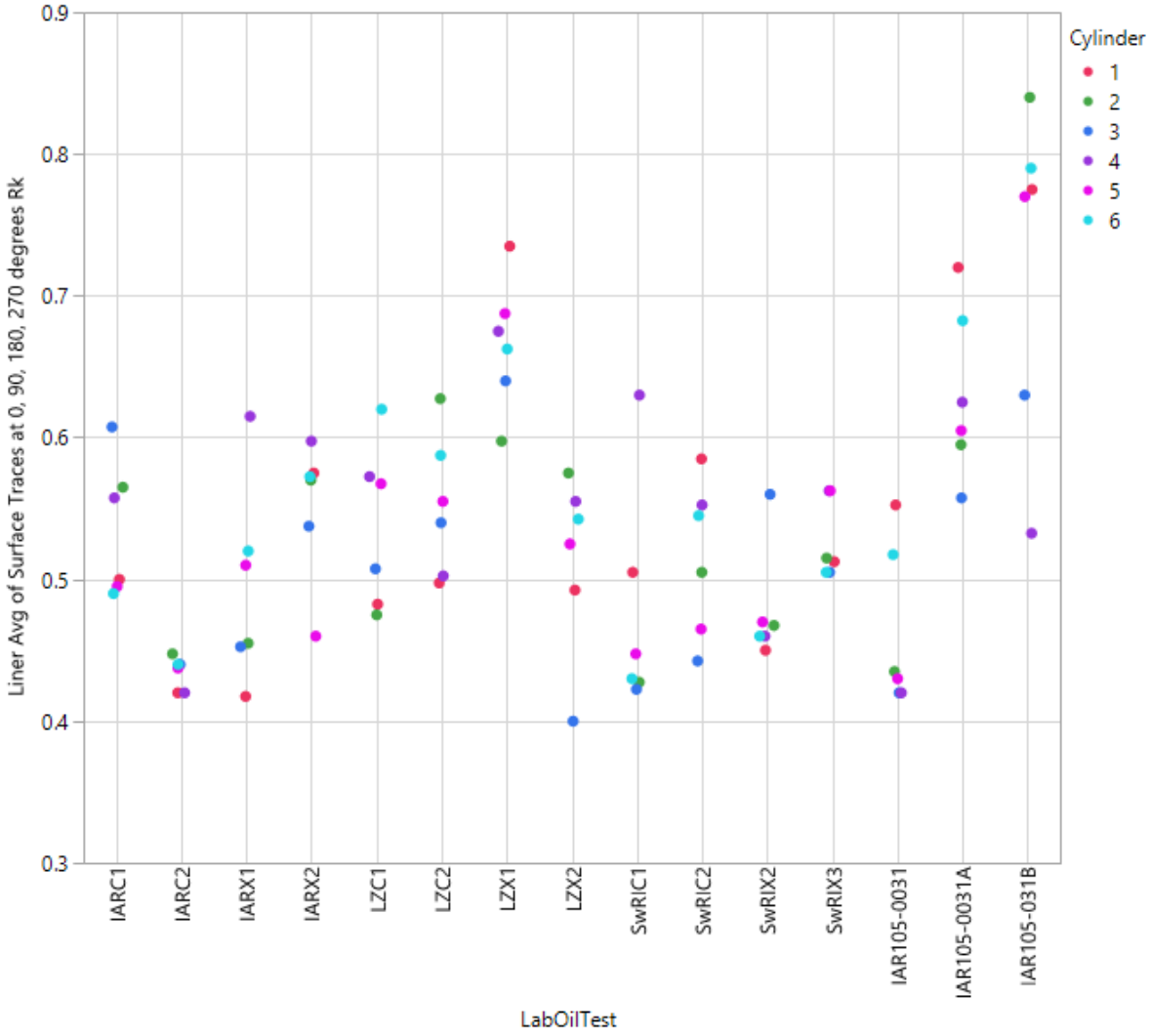
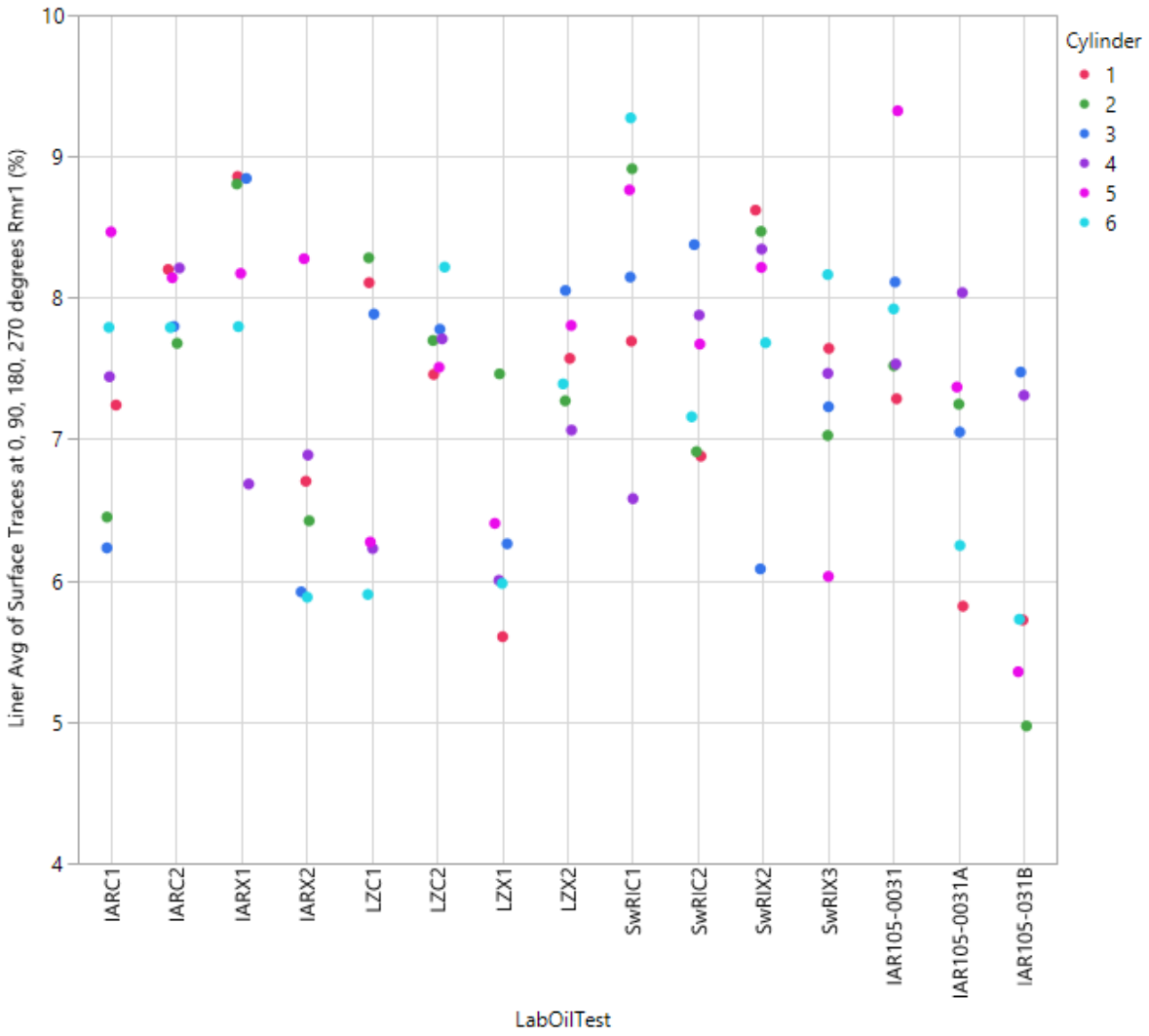
Graph Builder



Graph Builder



Graph Builder



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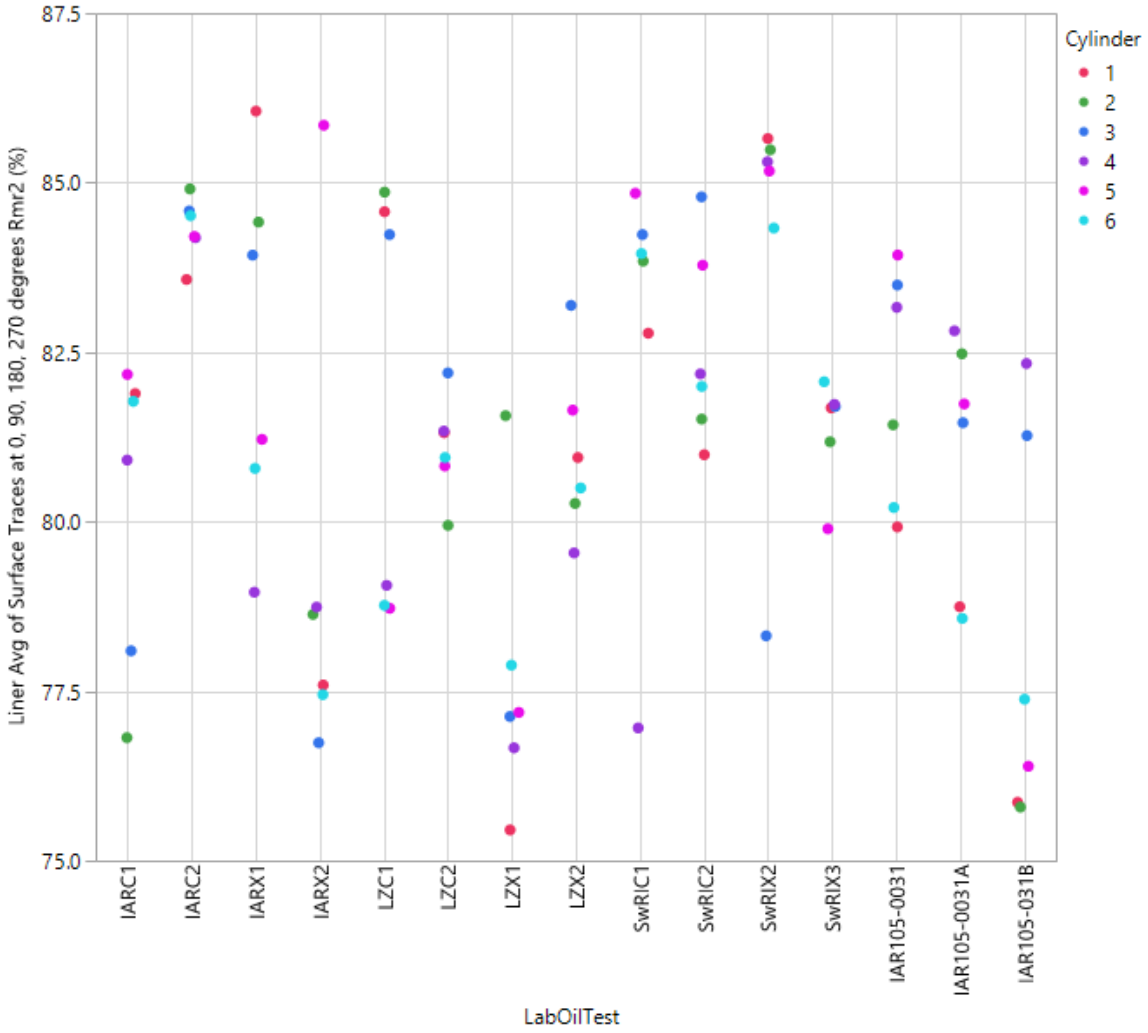
Graph Builder



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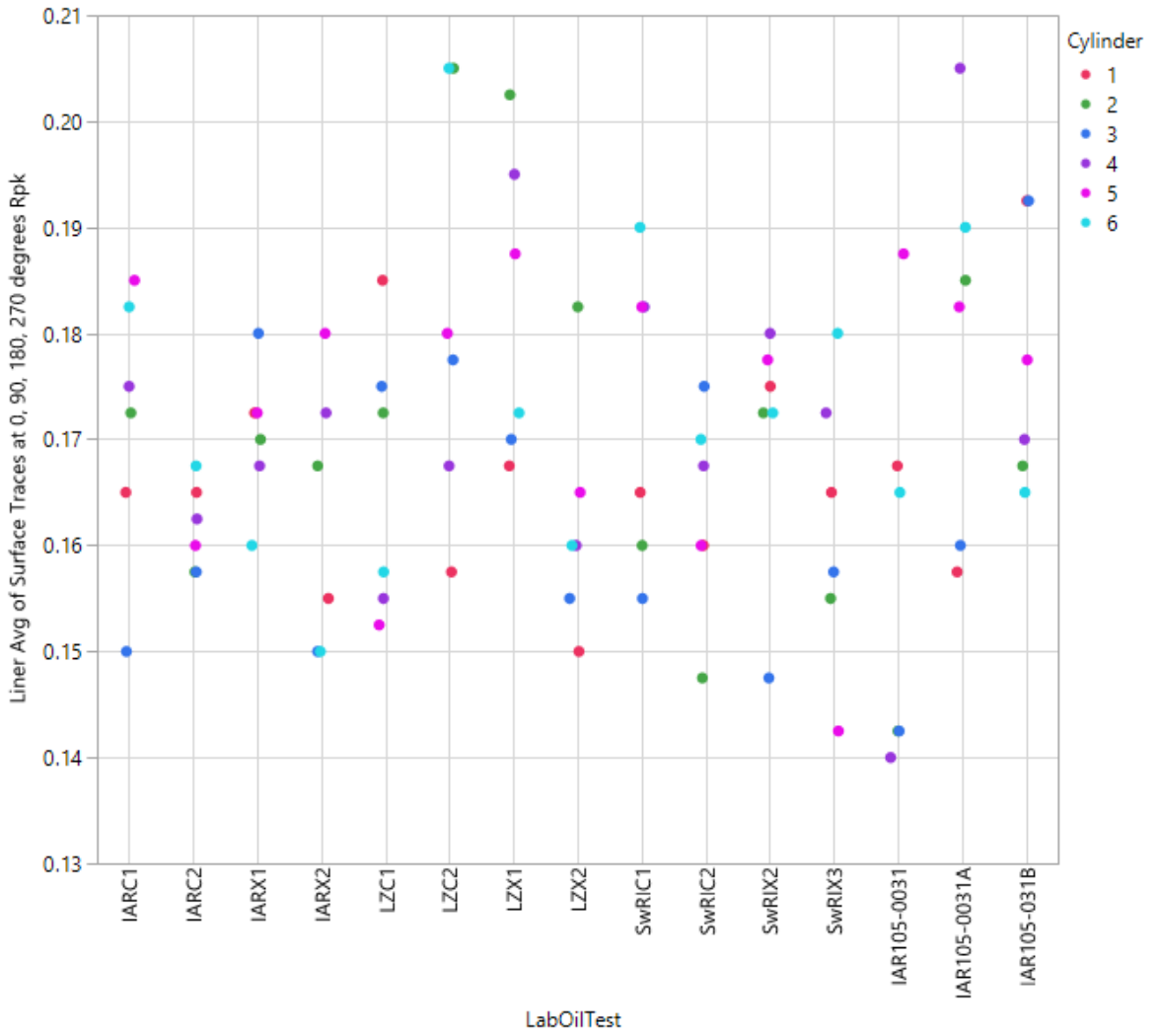
Graph Builder



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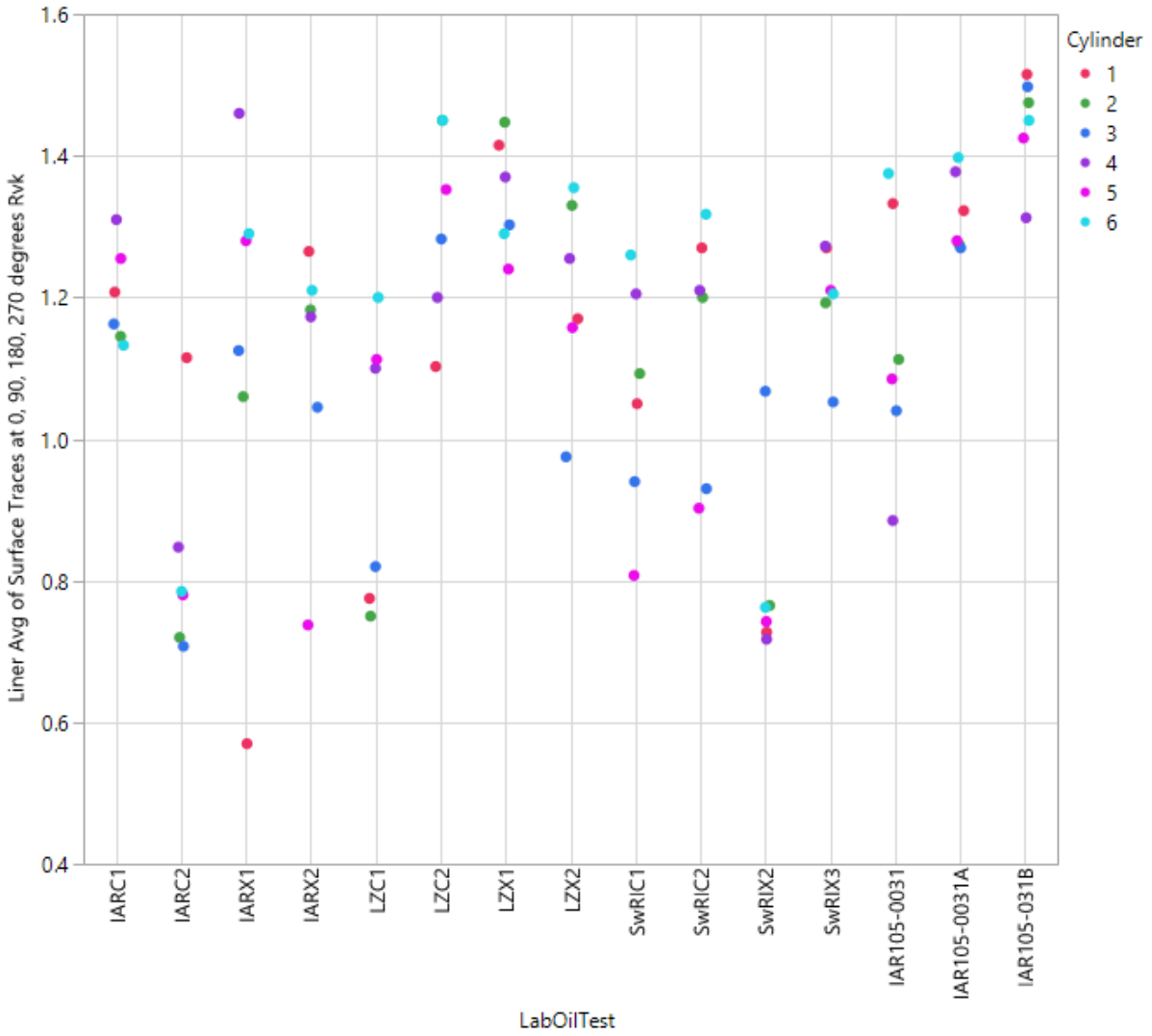
Graph Builder



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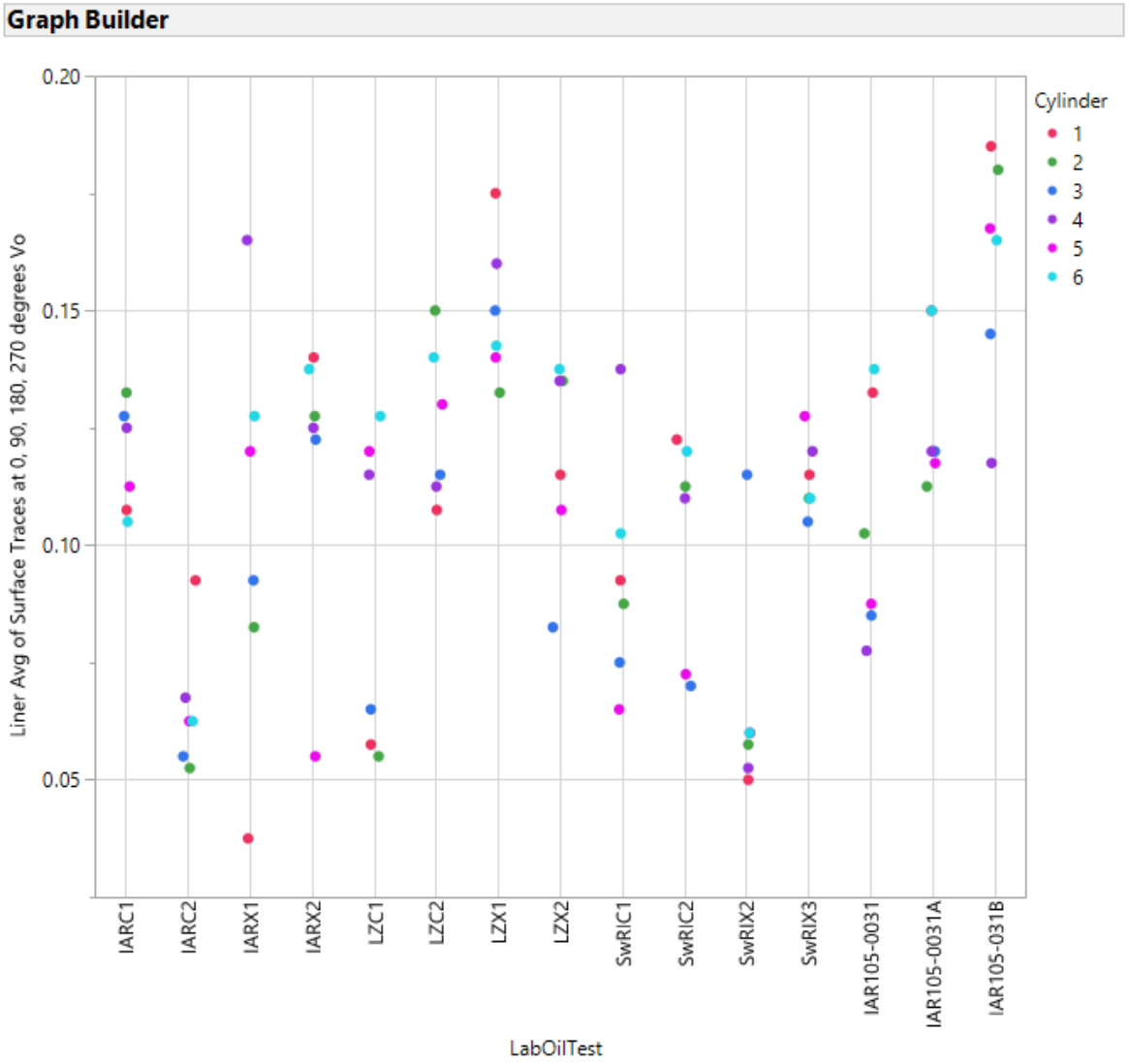

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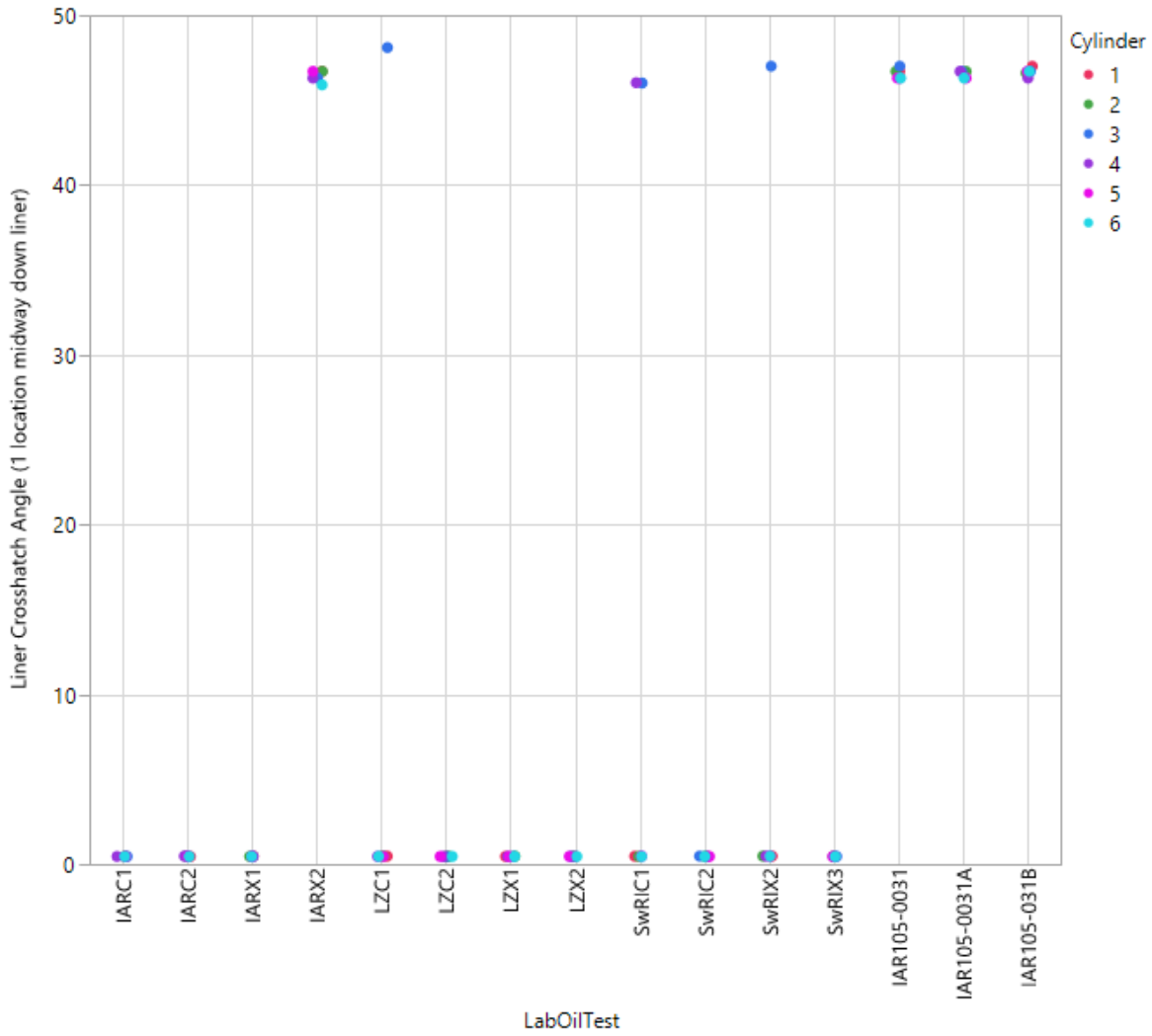

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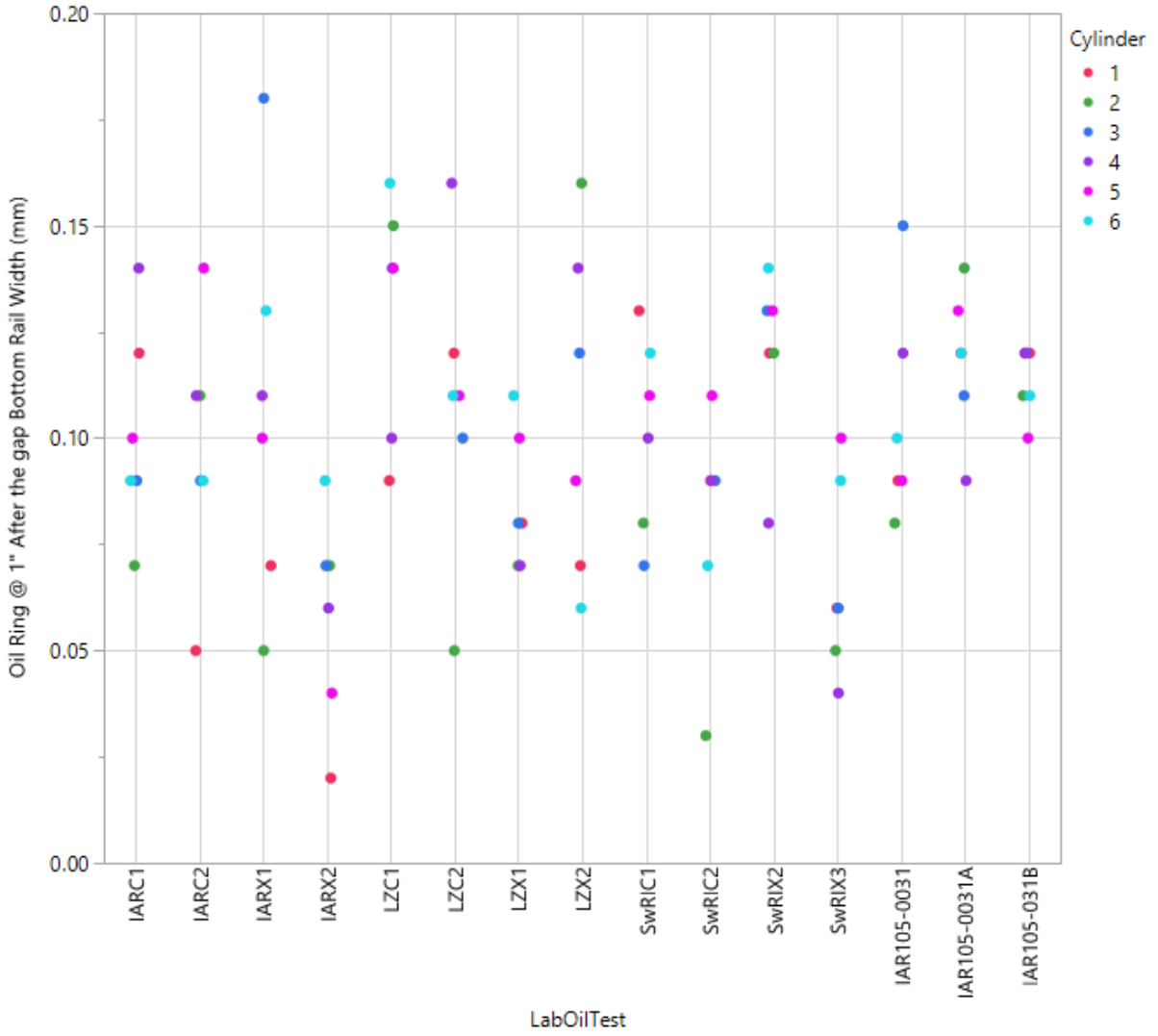

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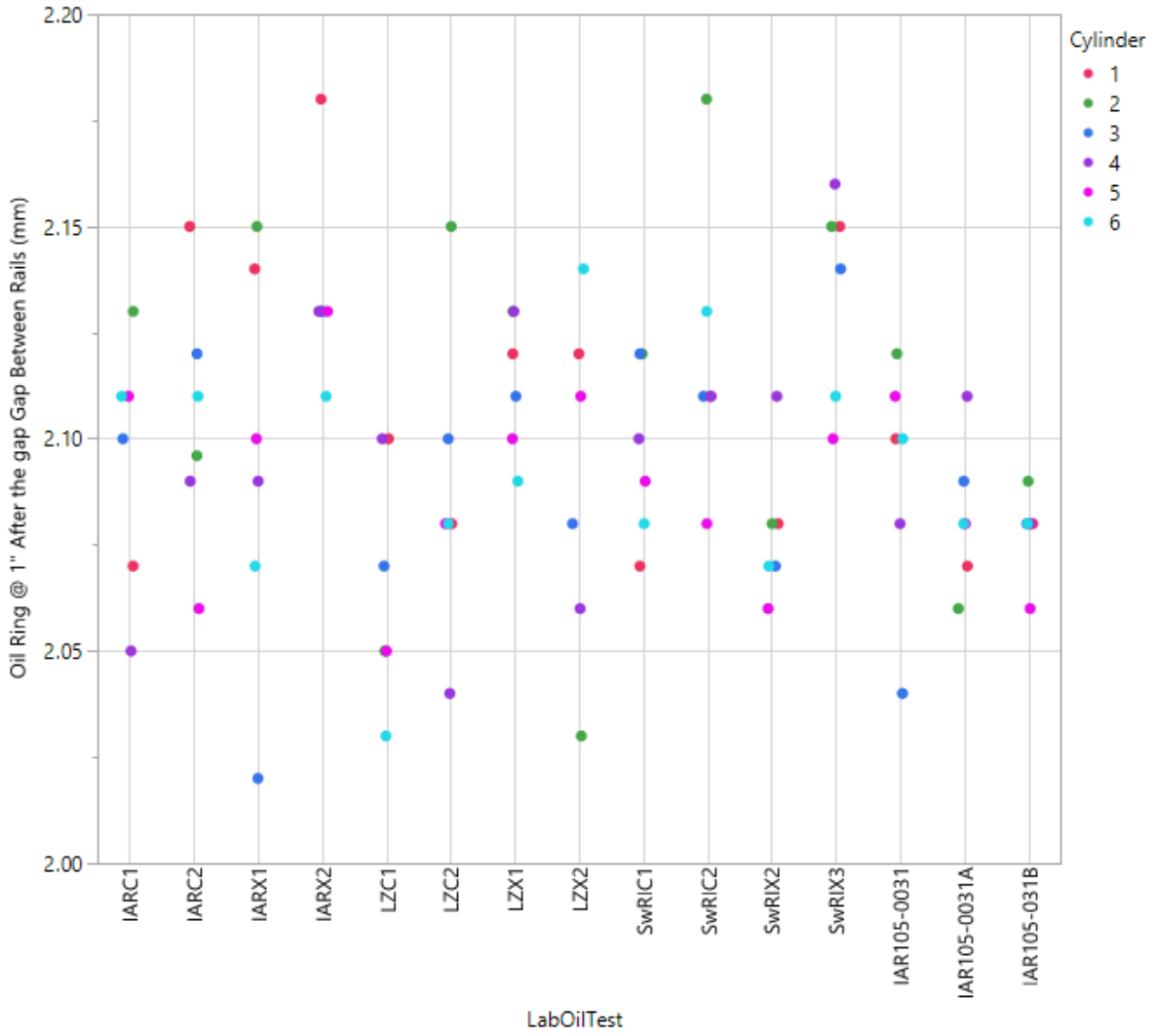

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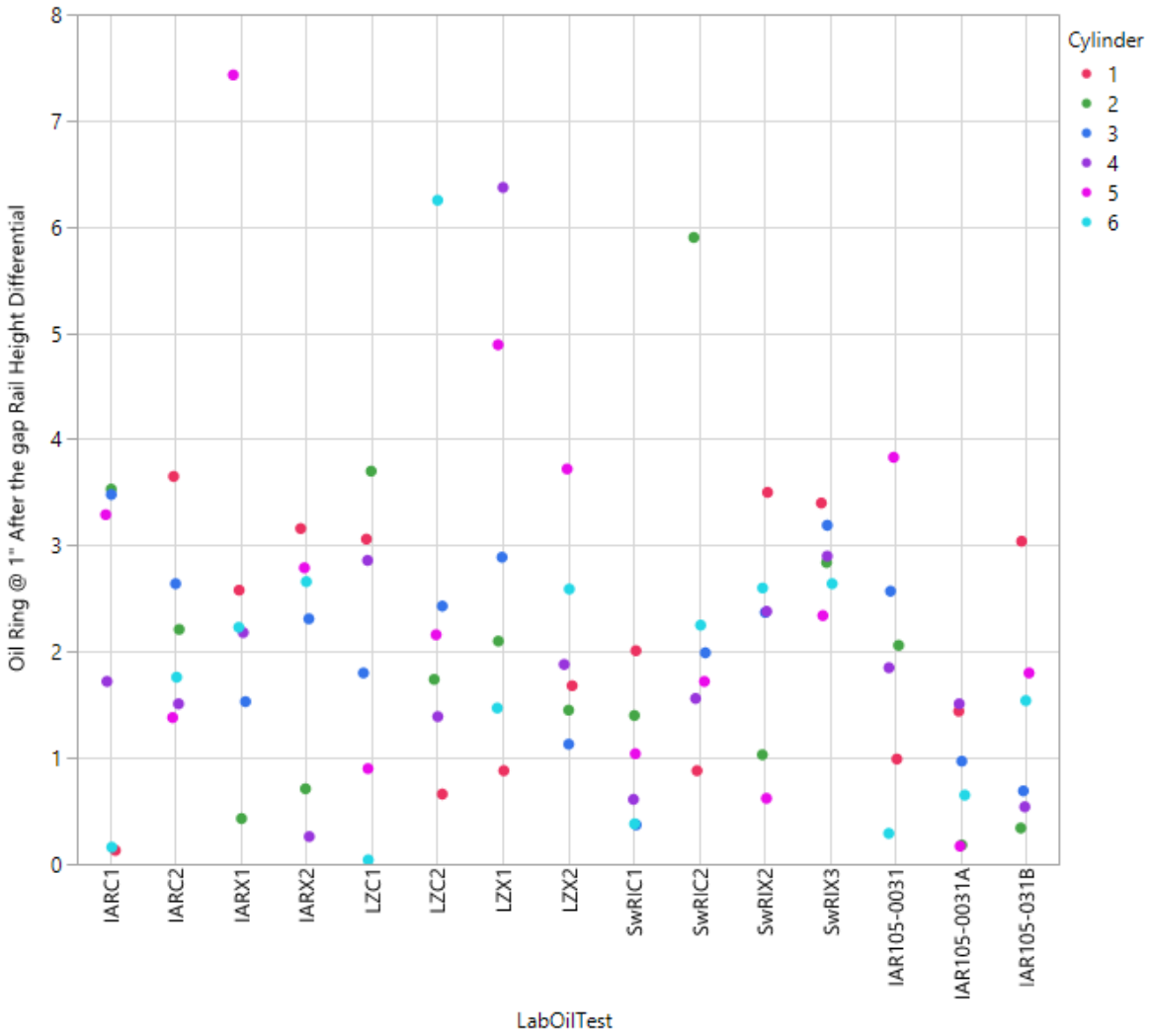

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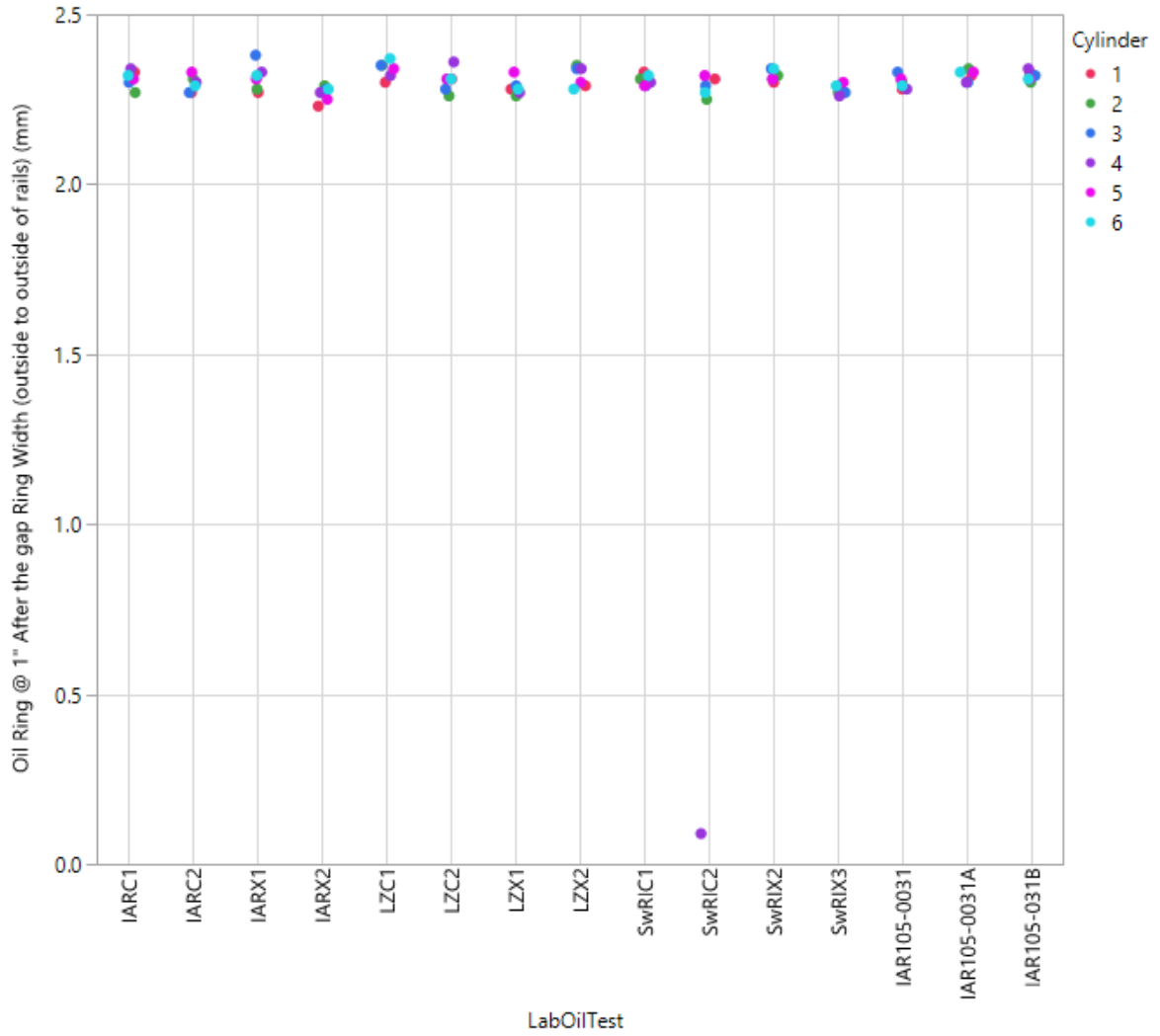

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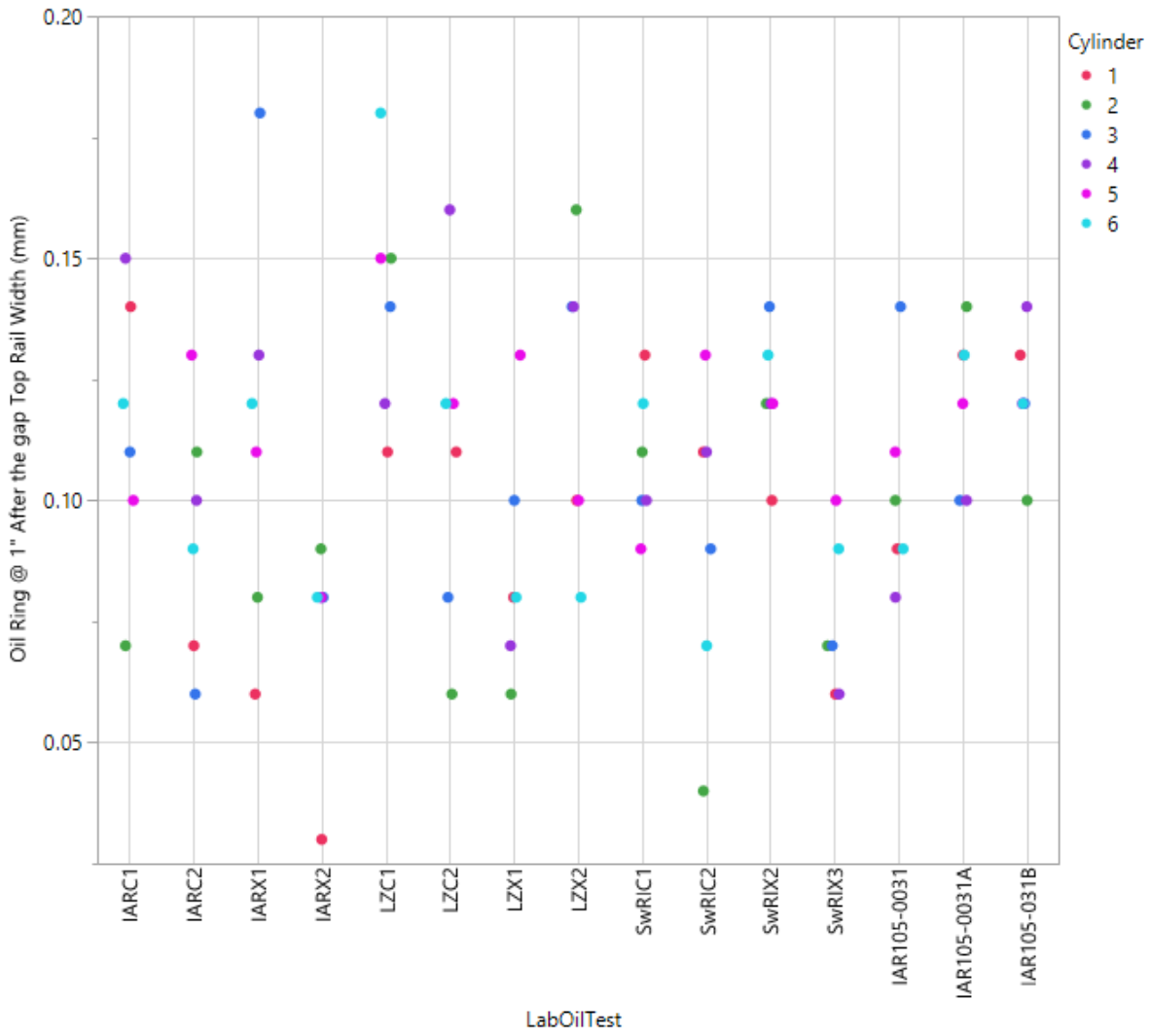

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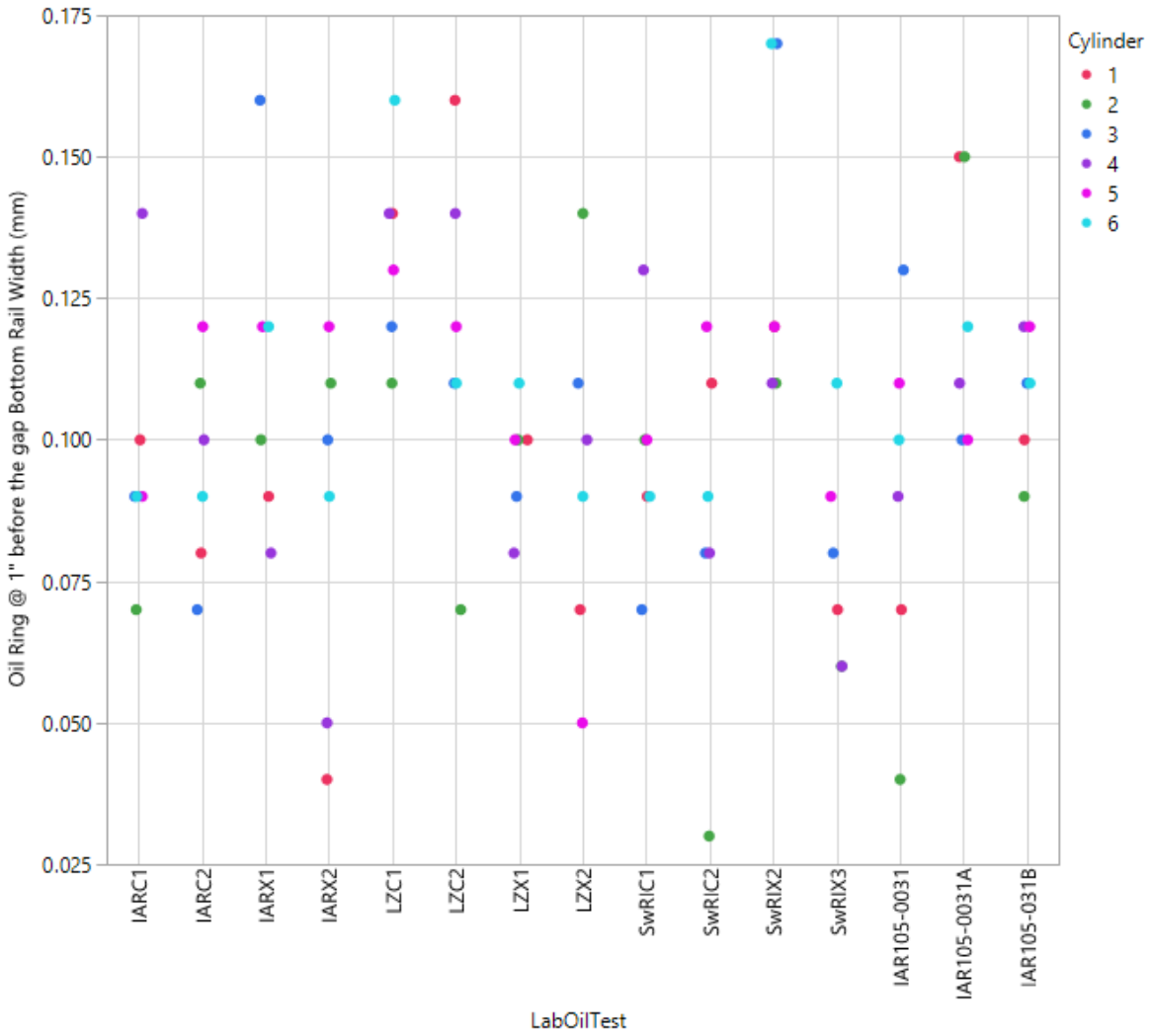

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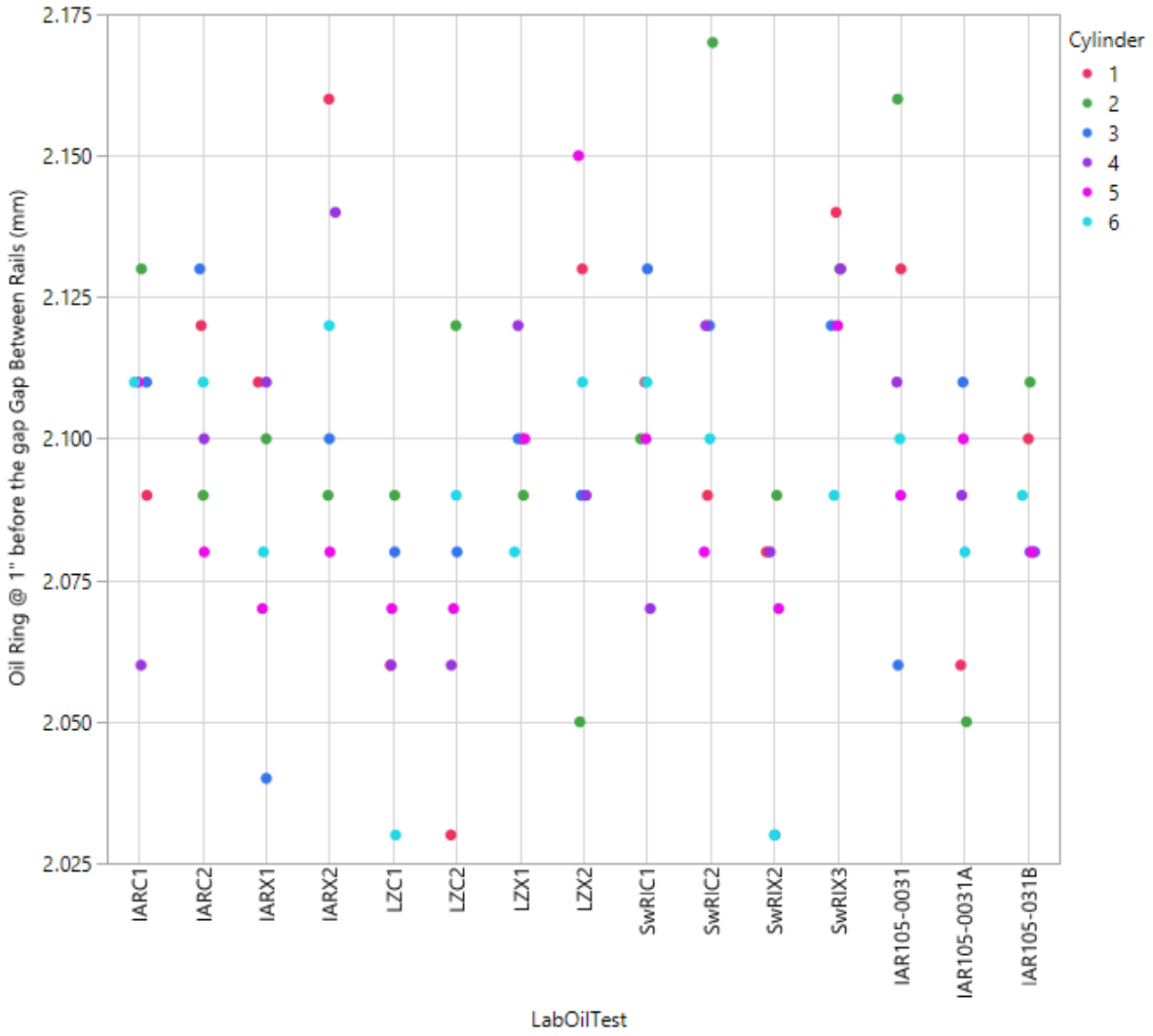

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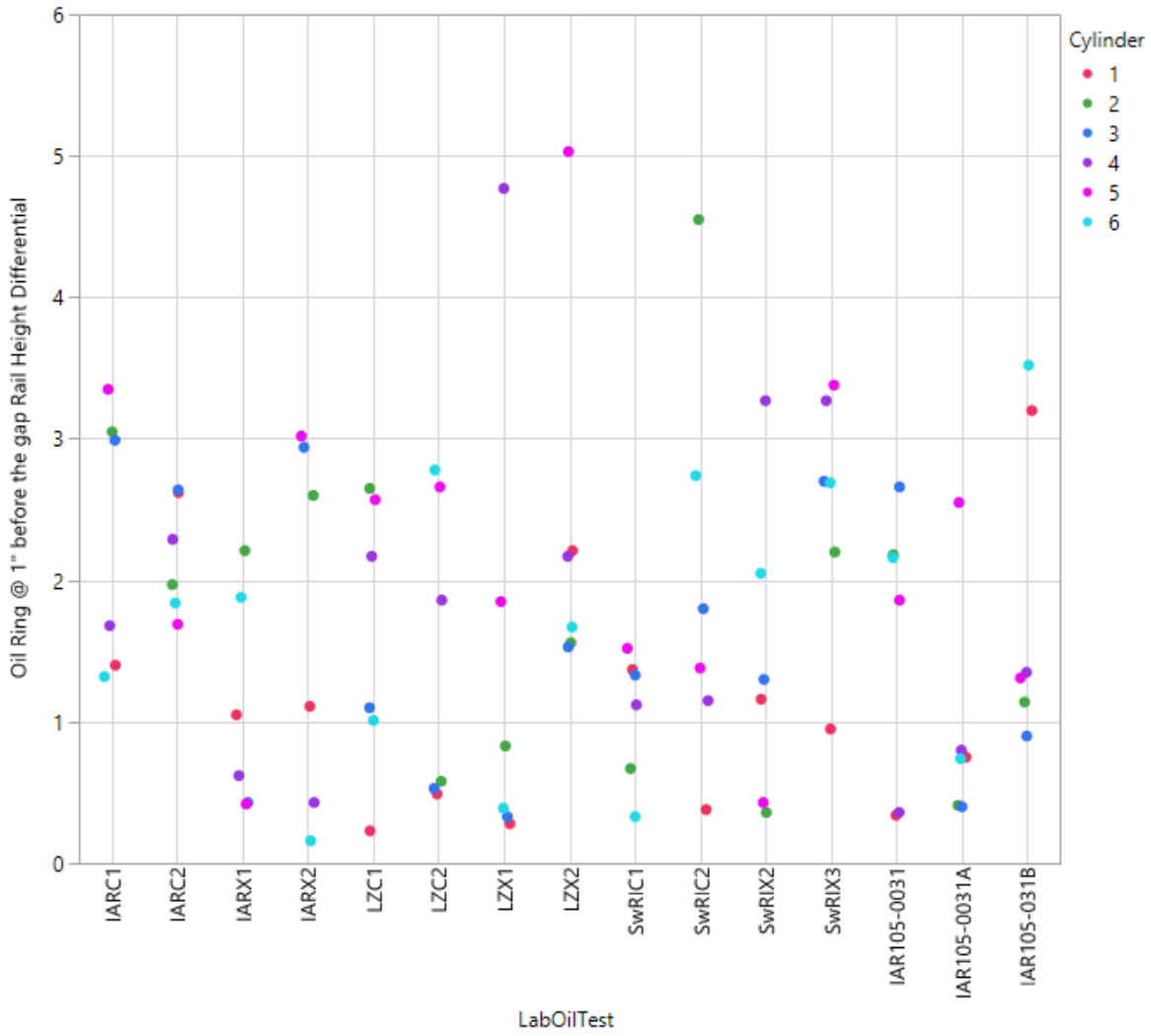

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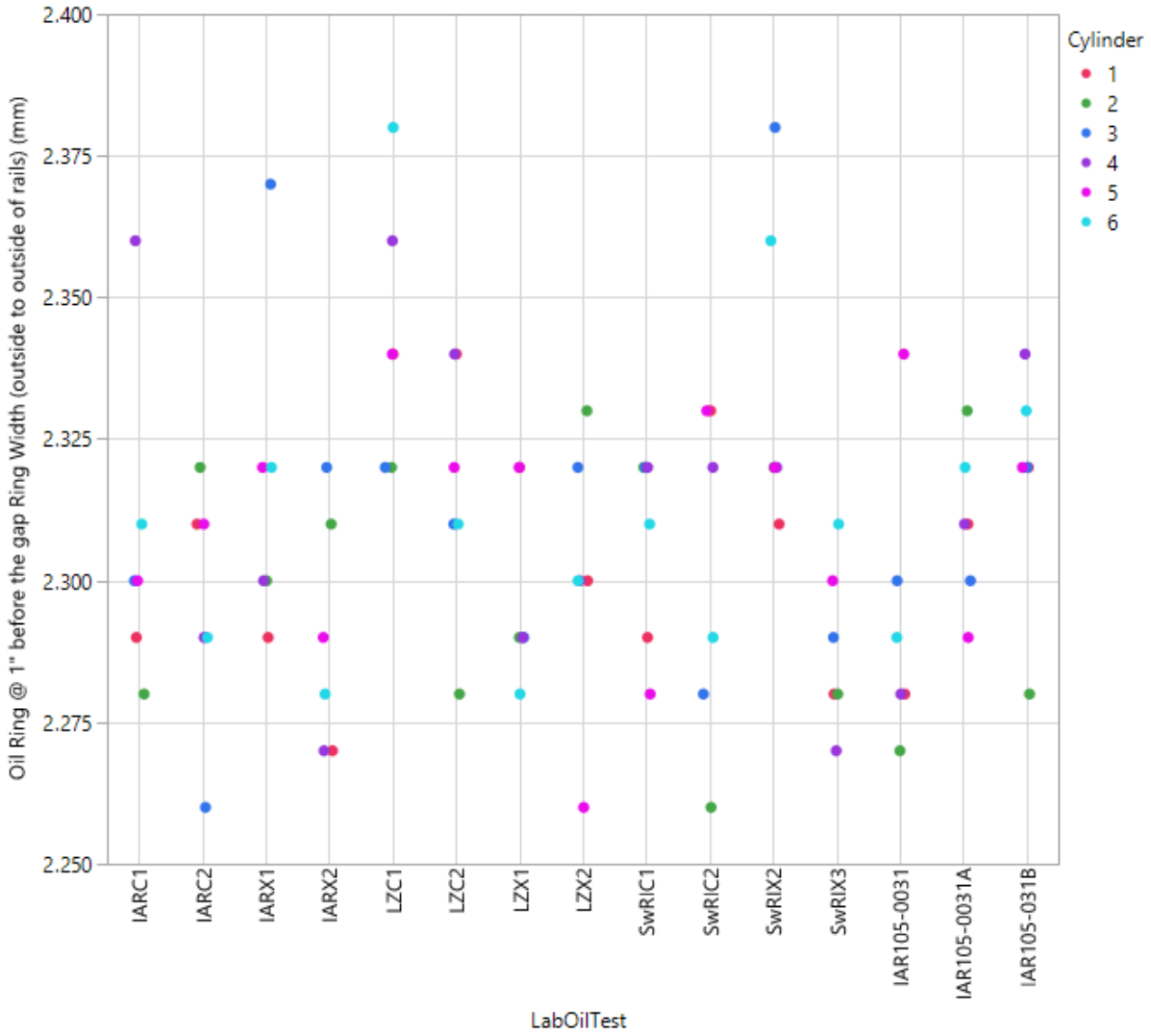

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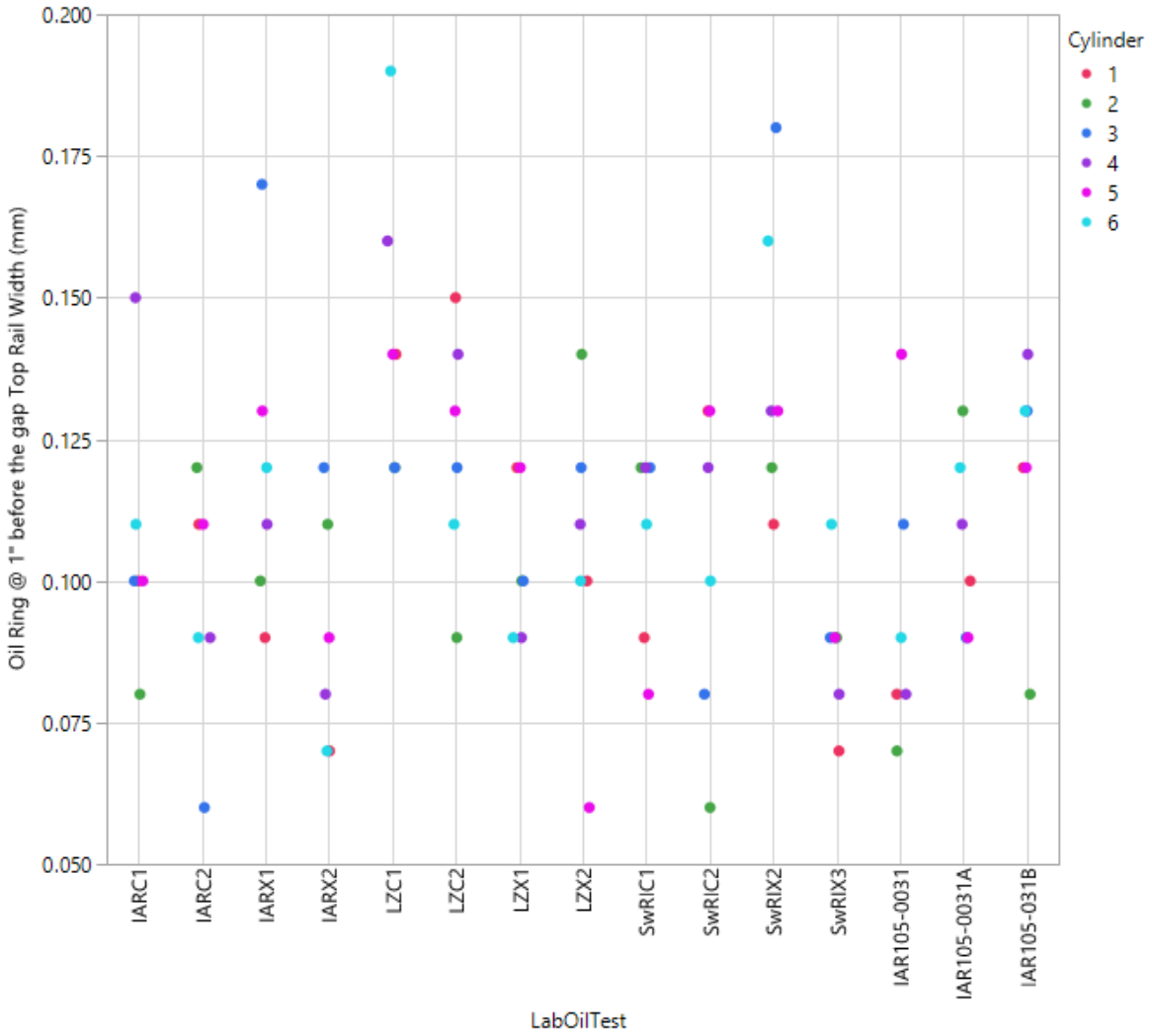

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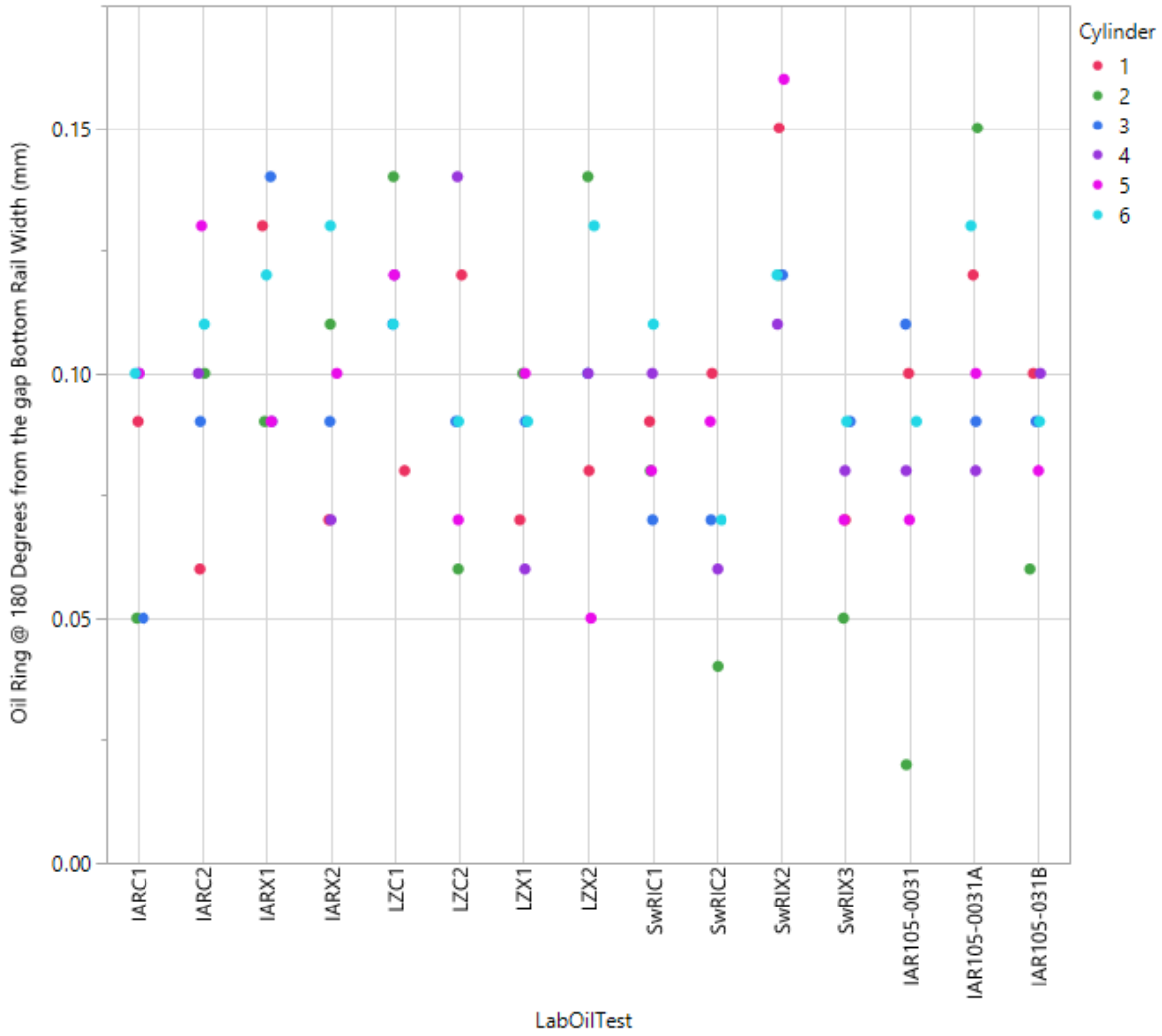

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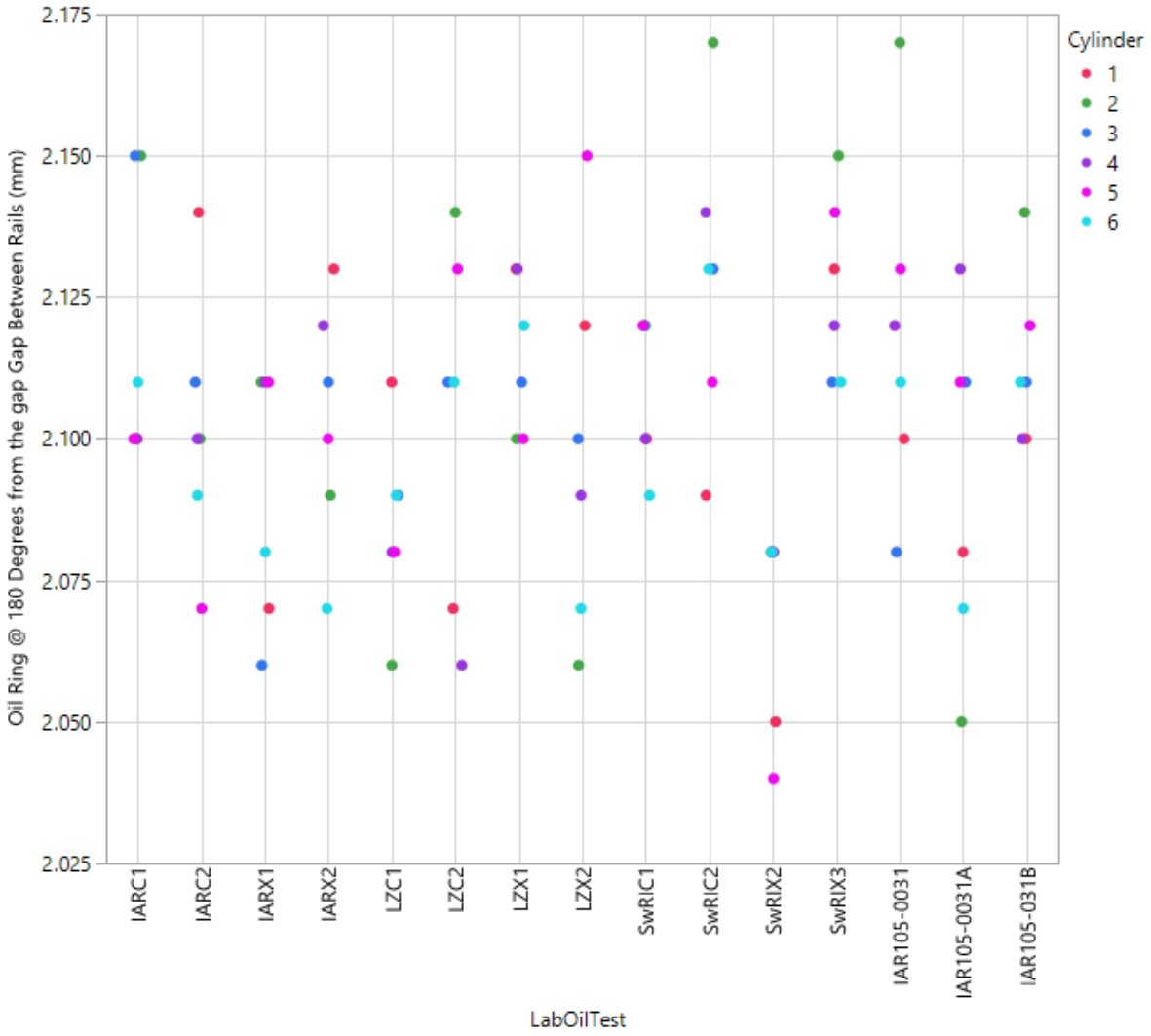

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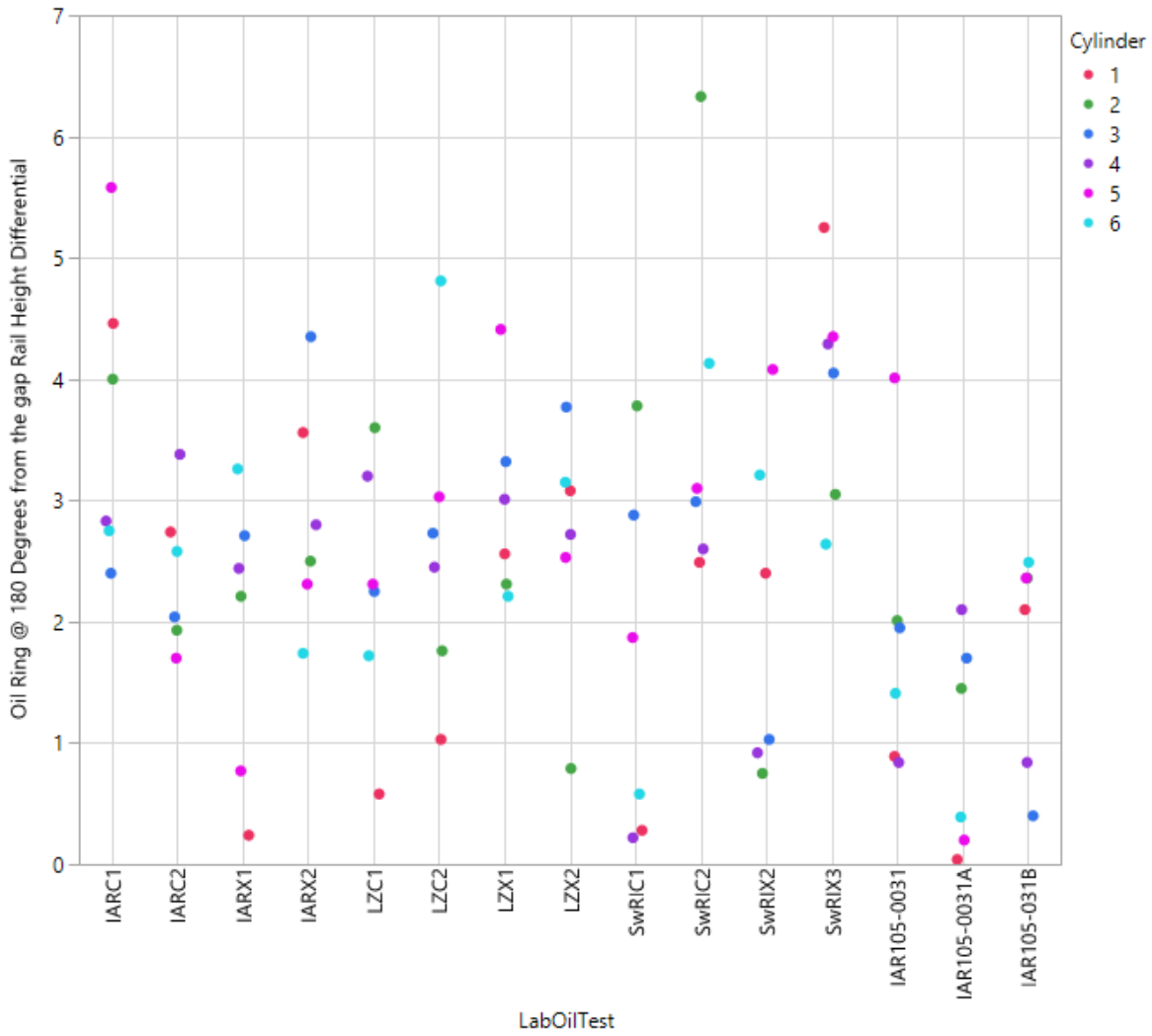

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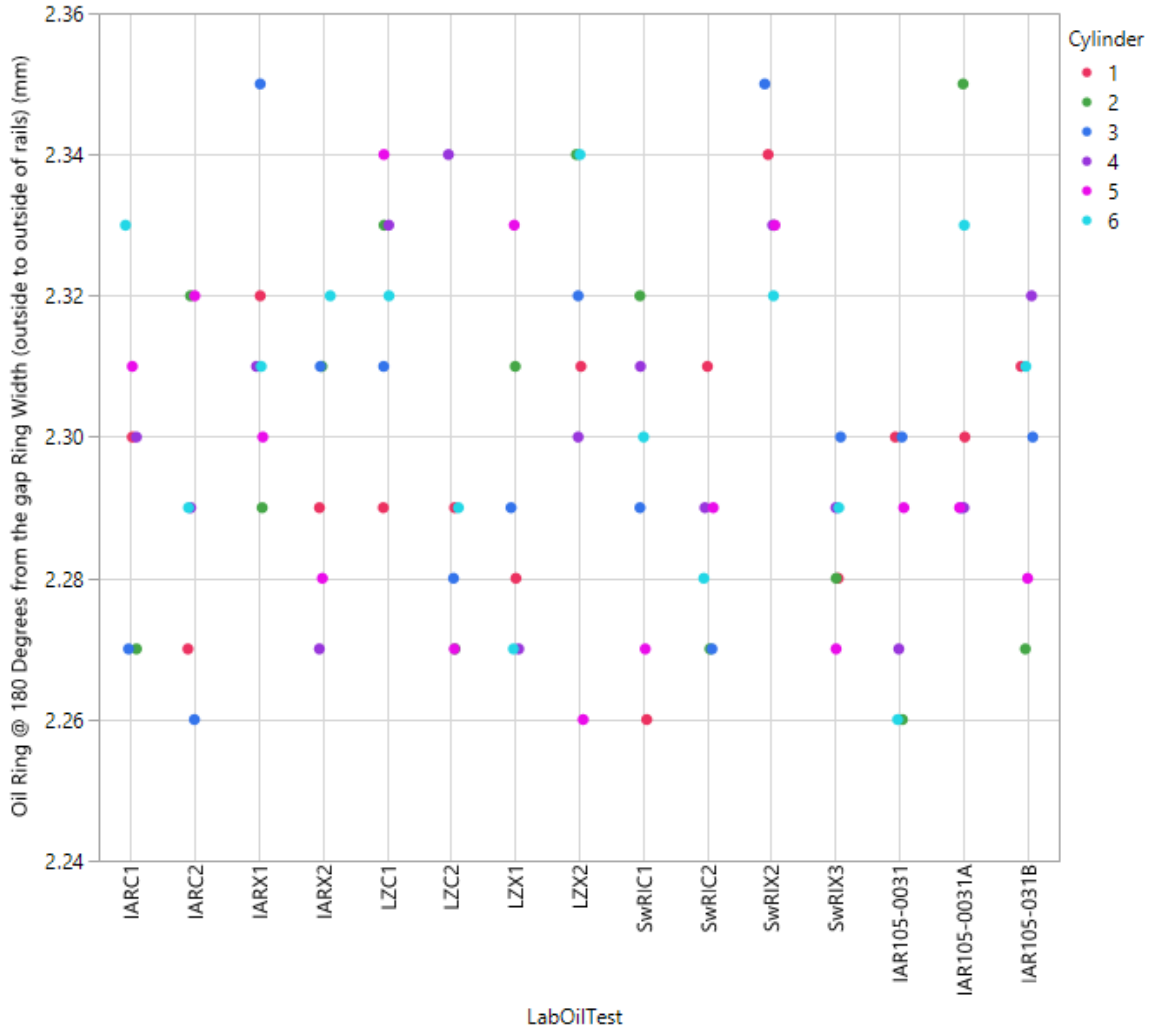

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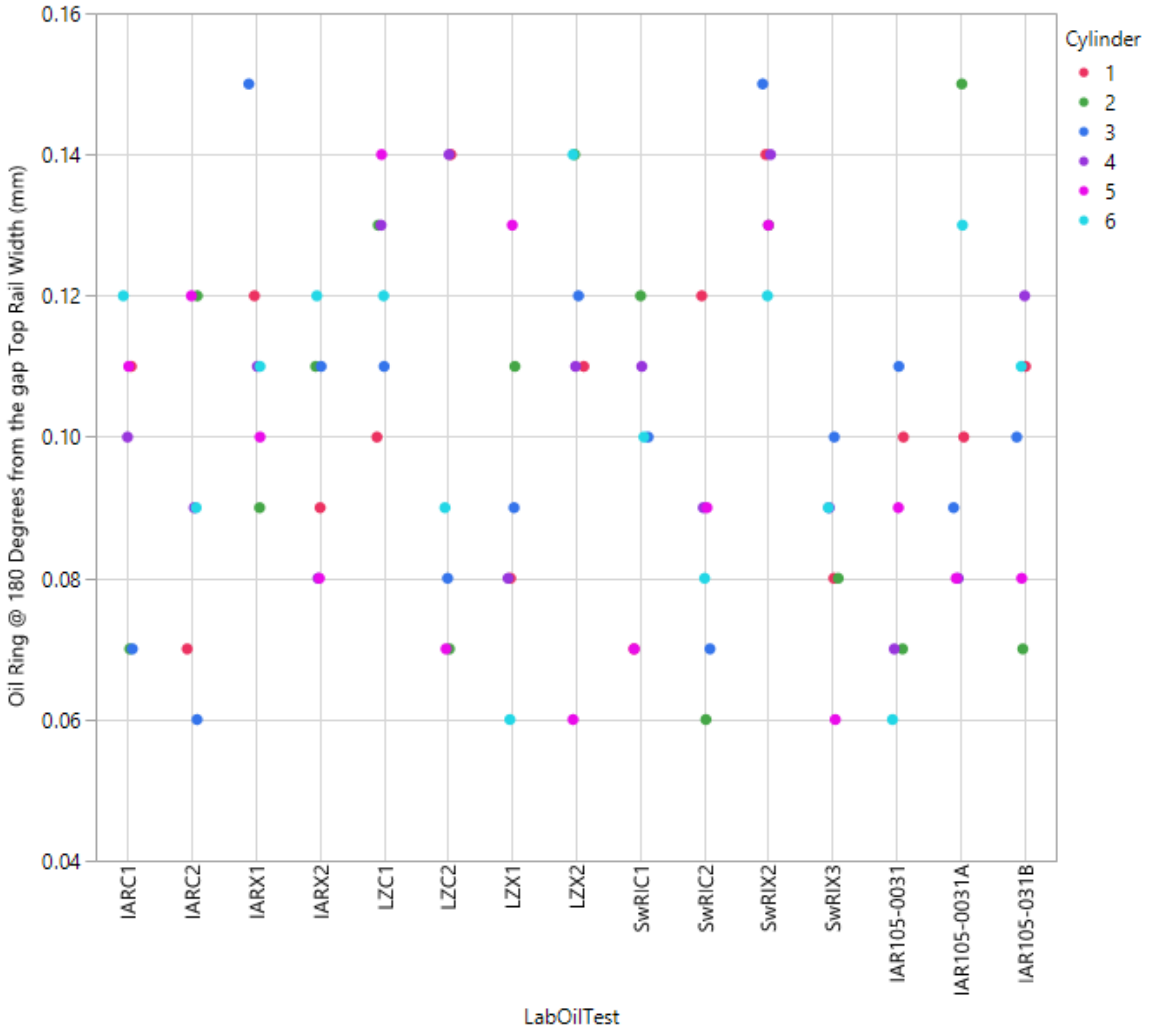

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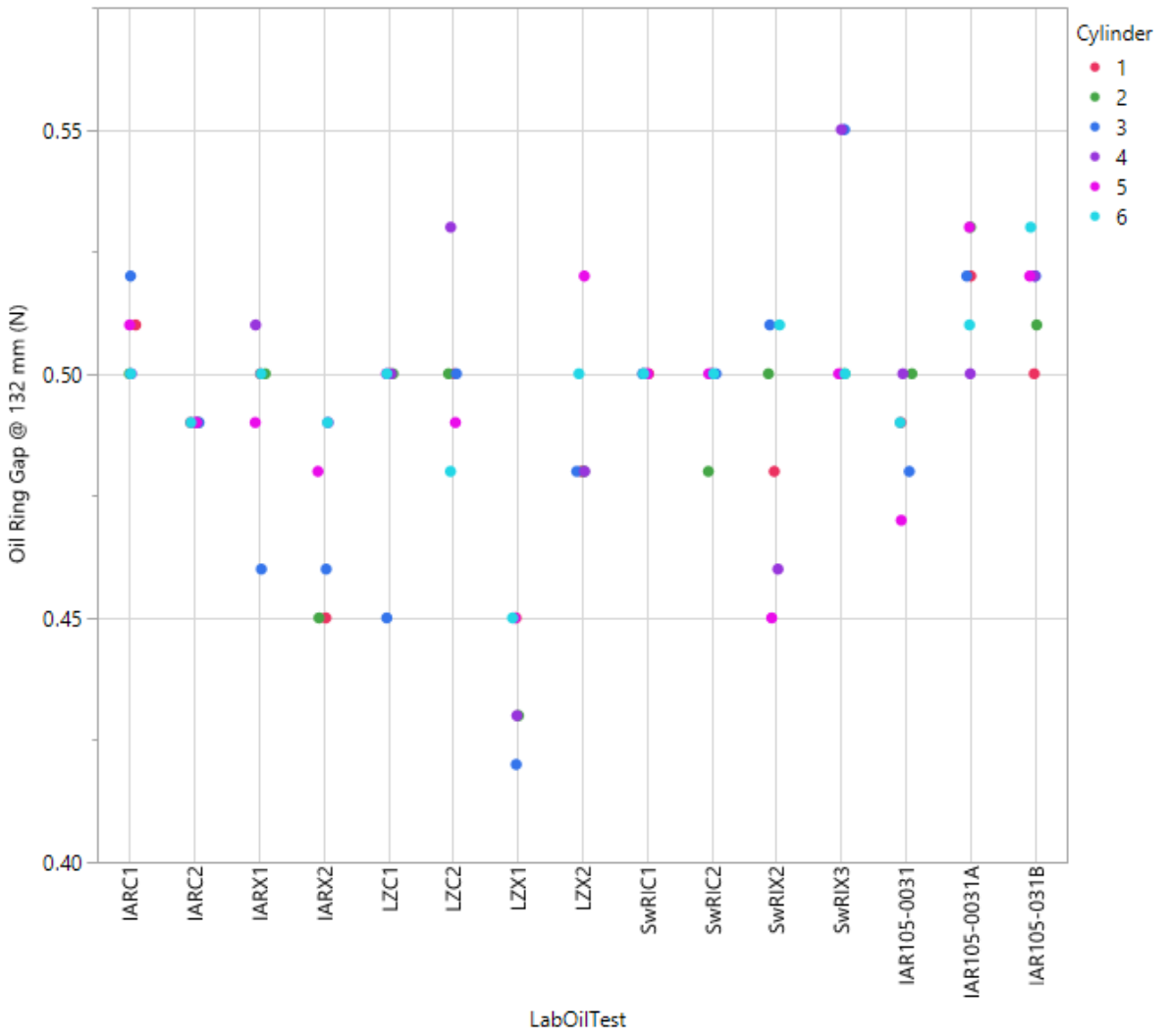

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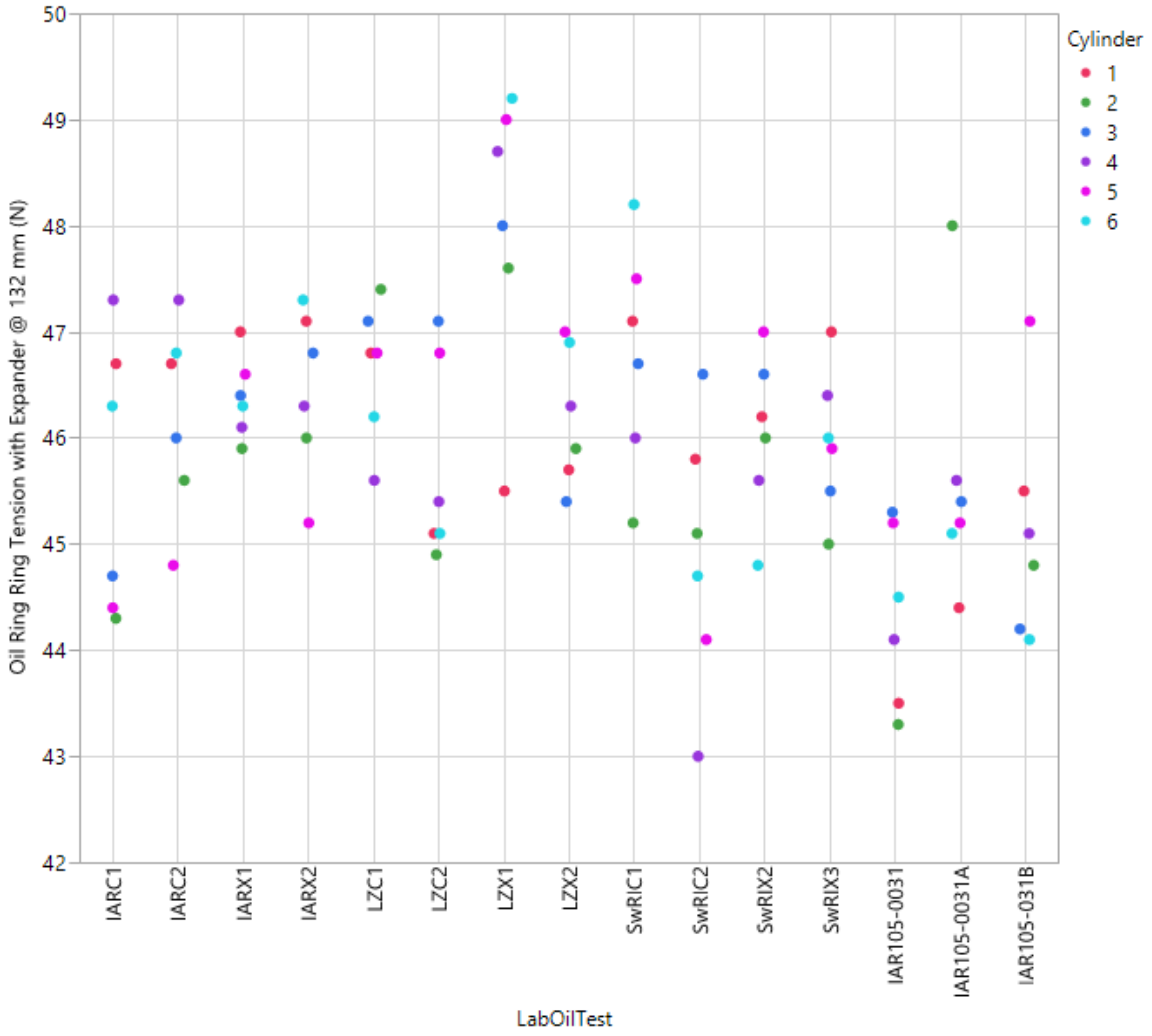

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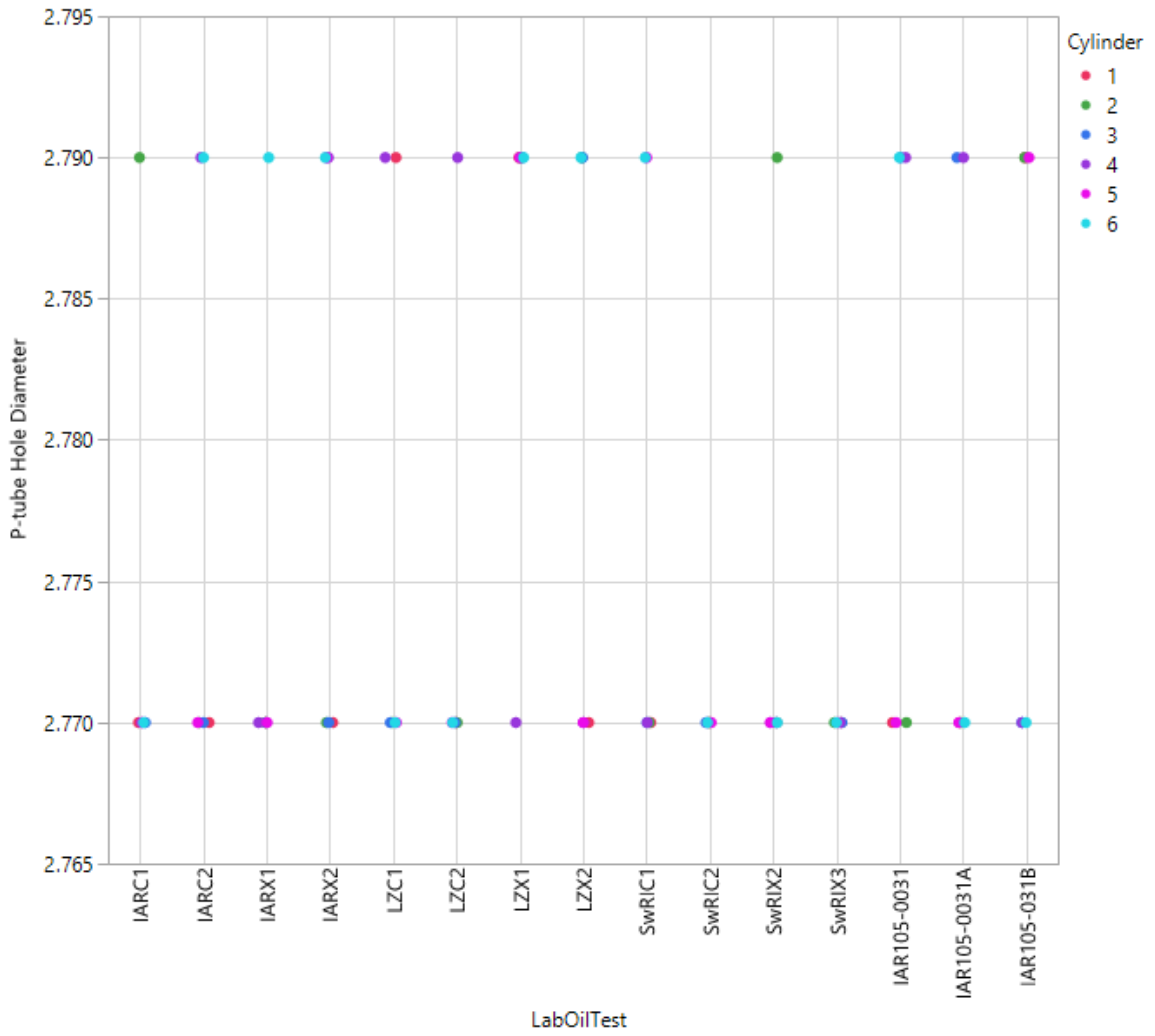

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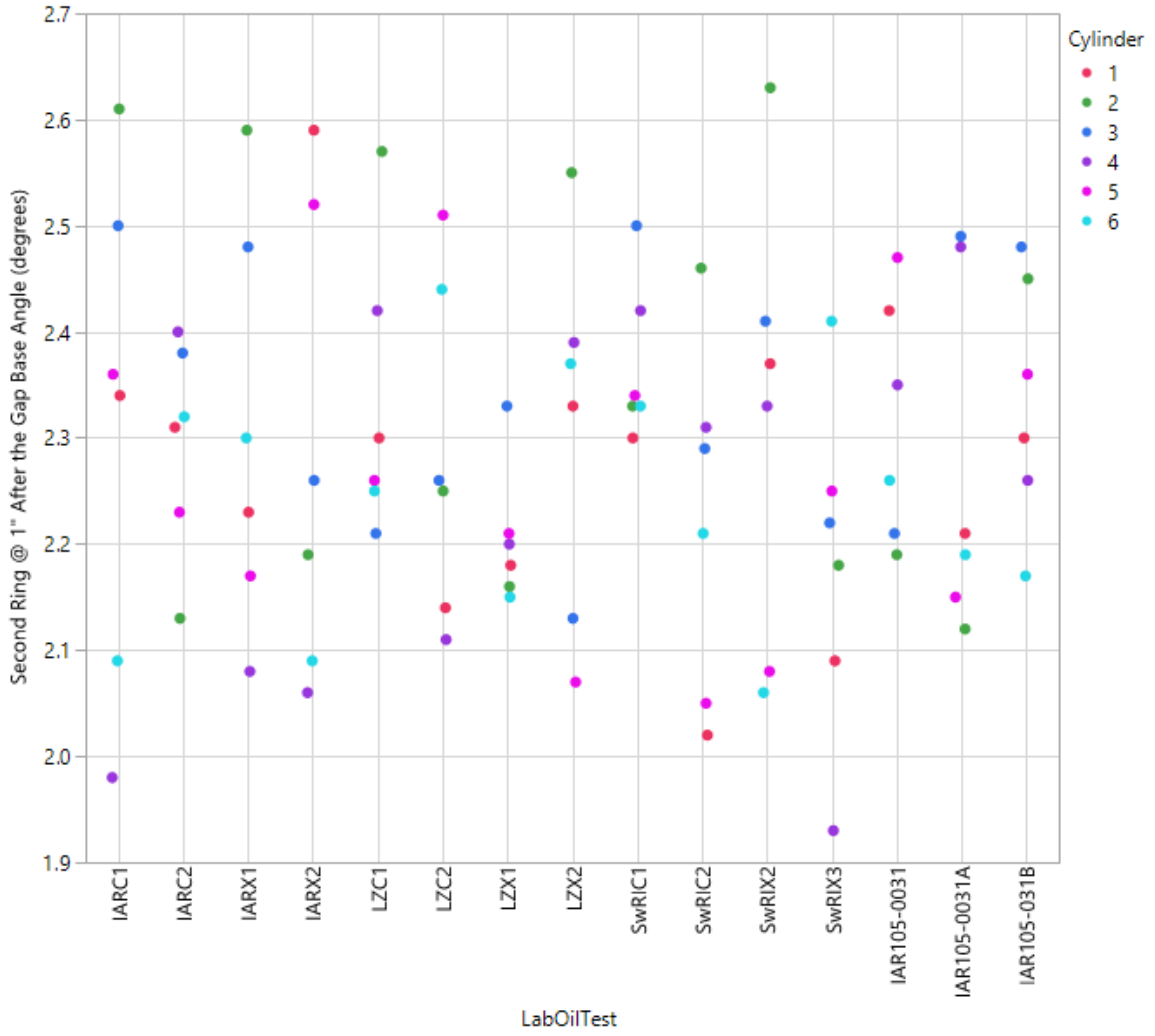

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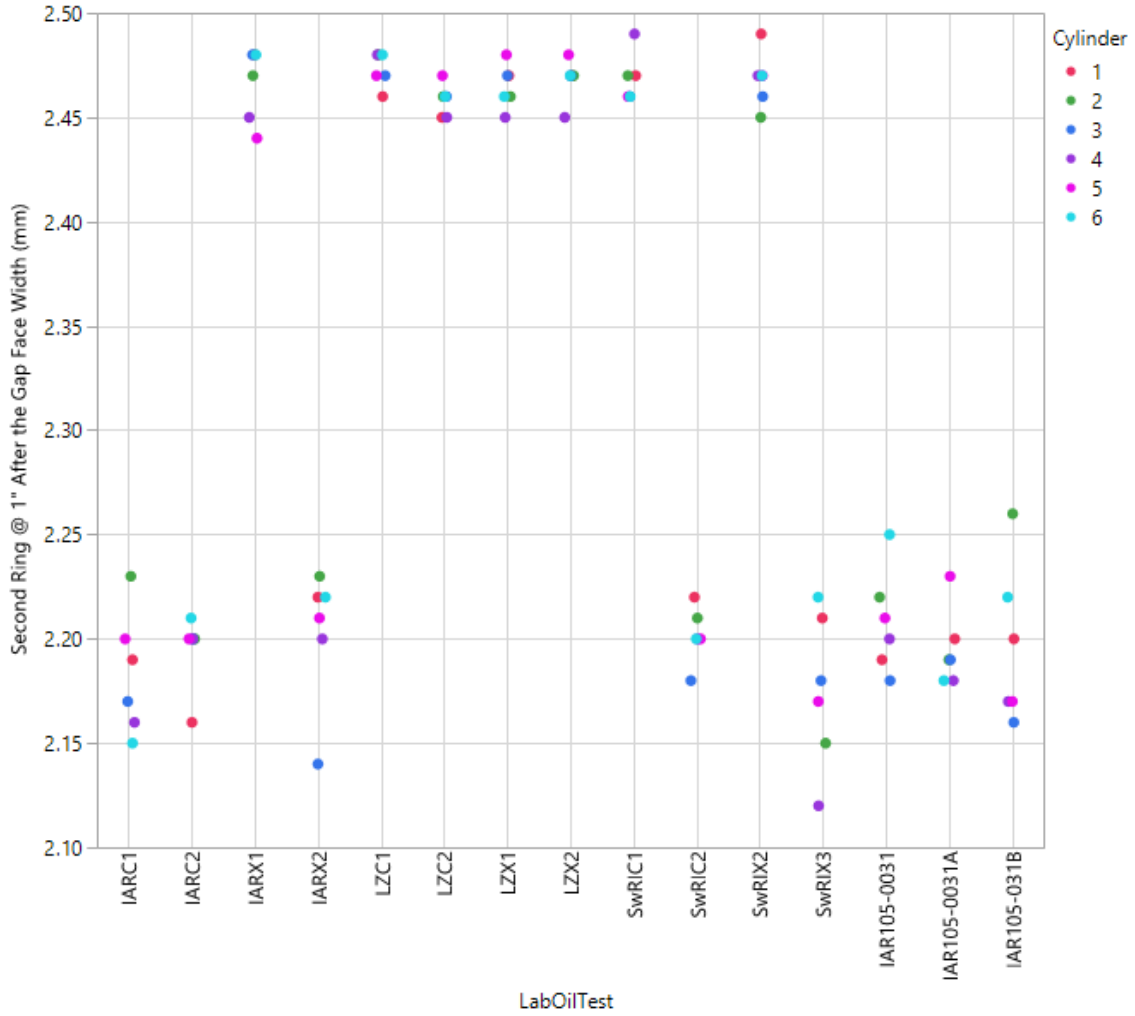

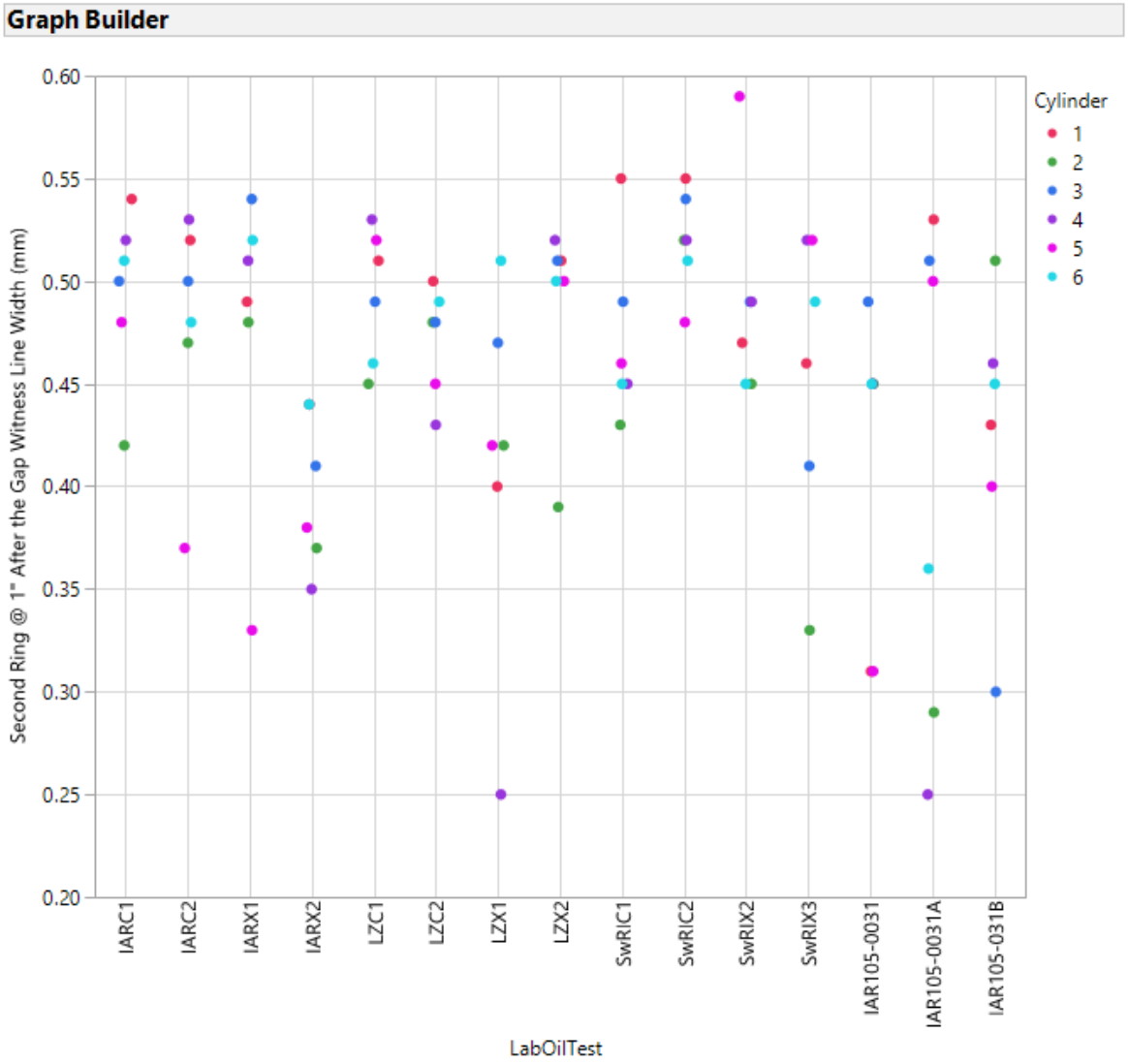

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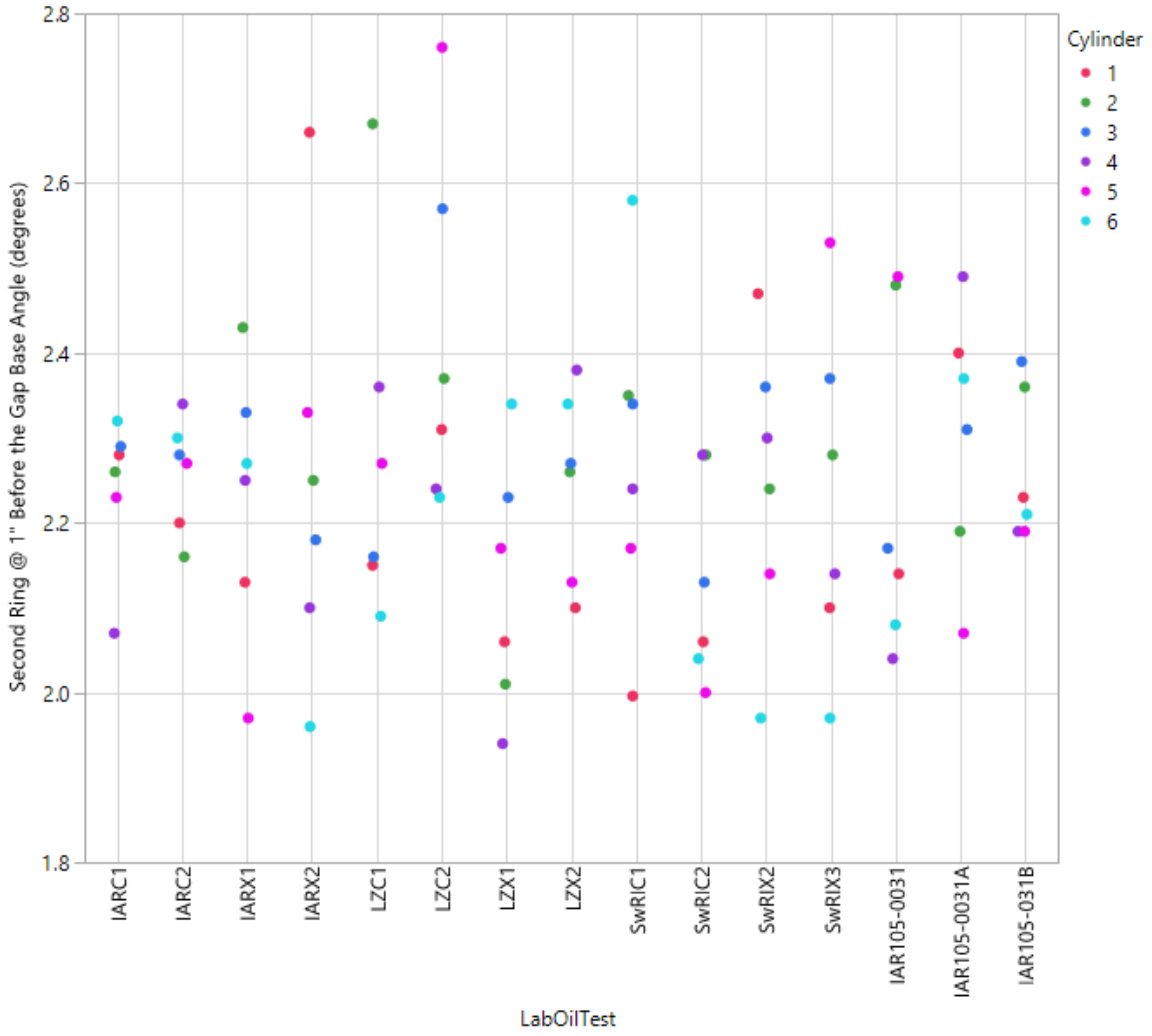

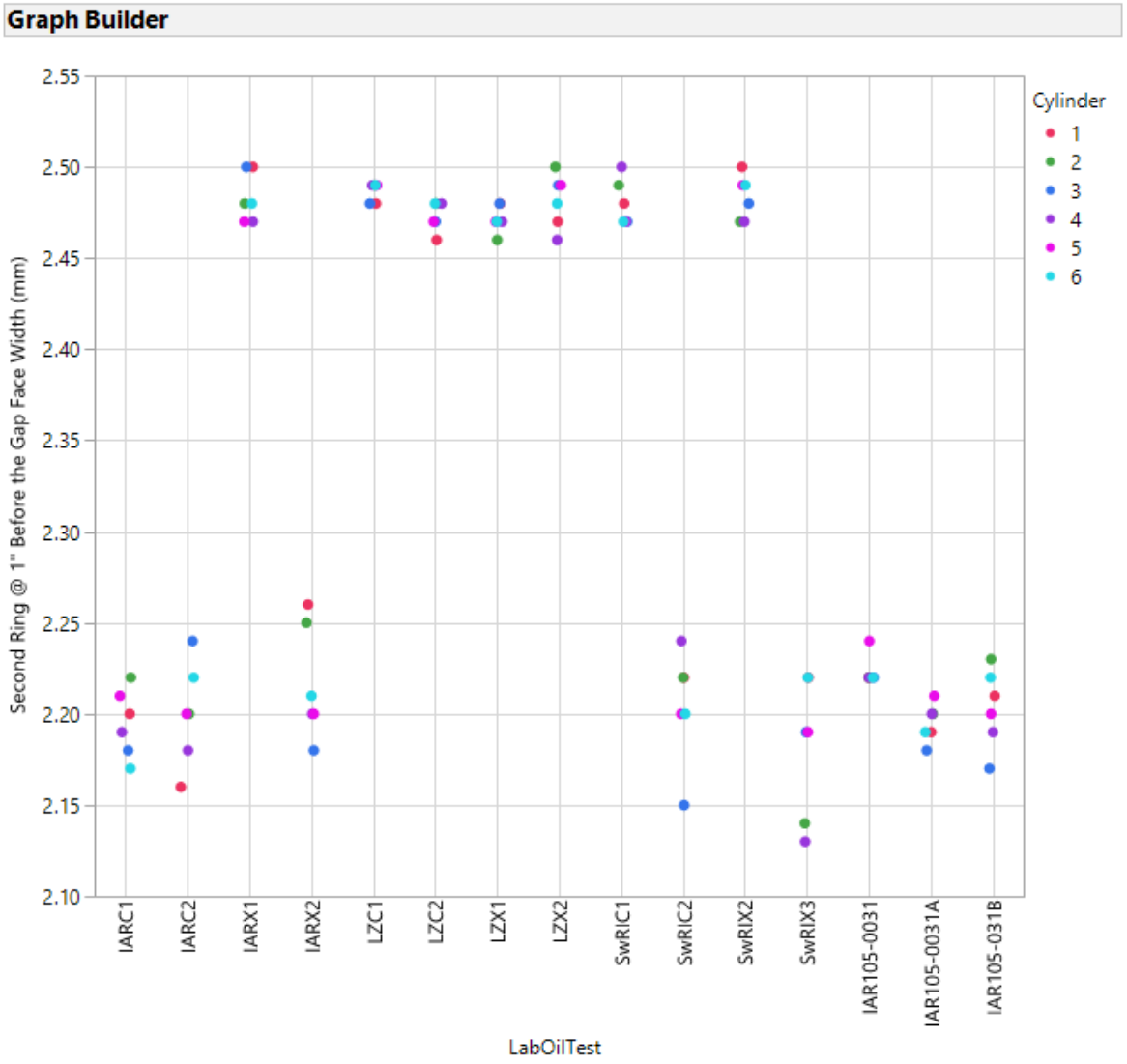

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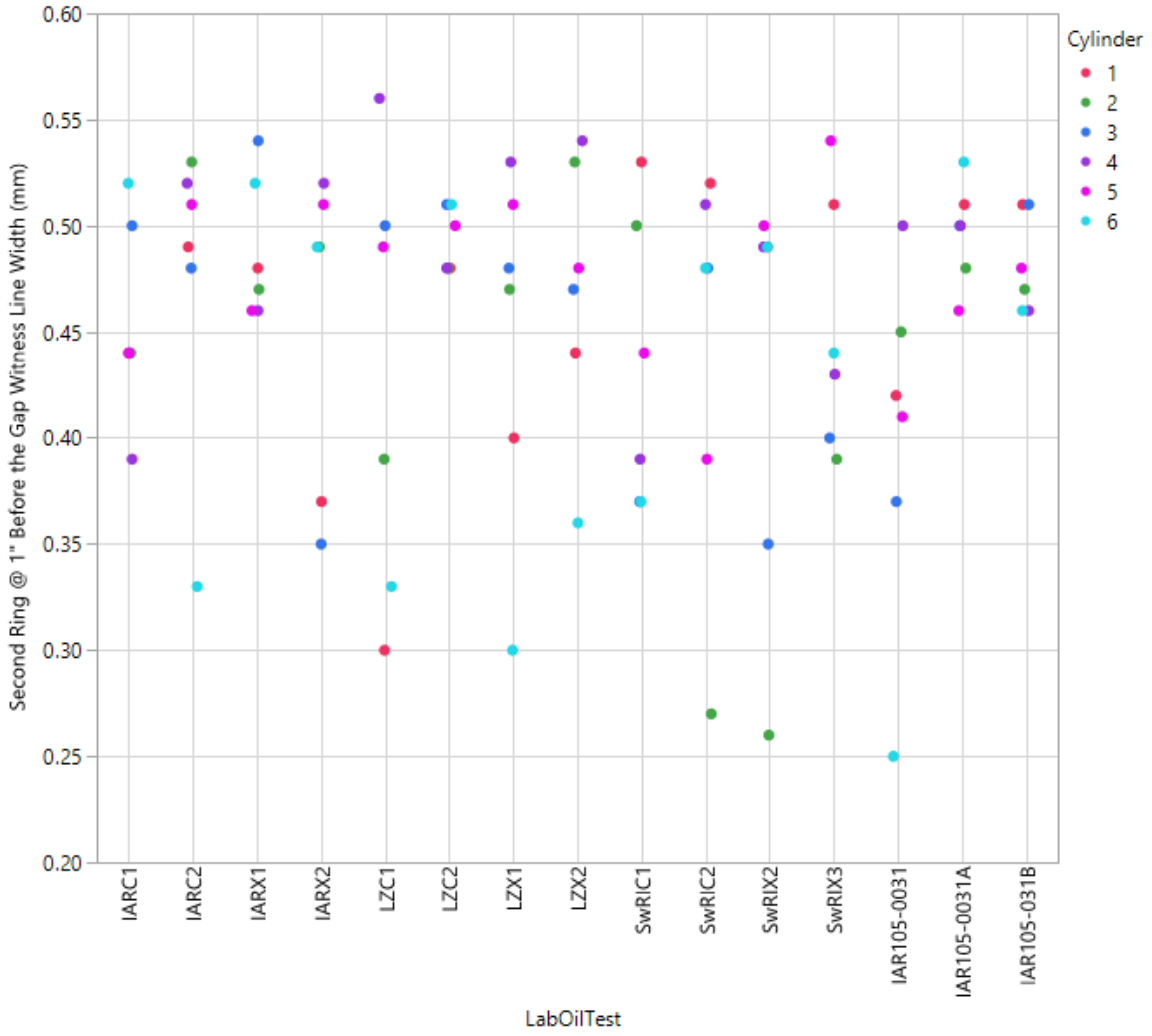

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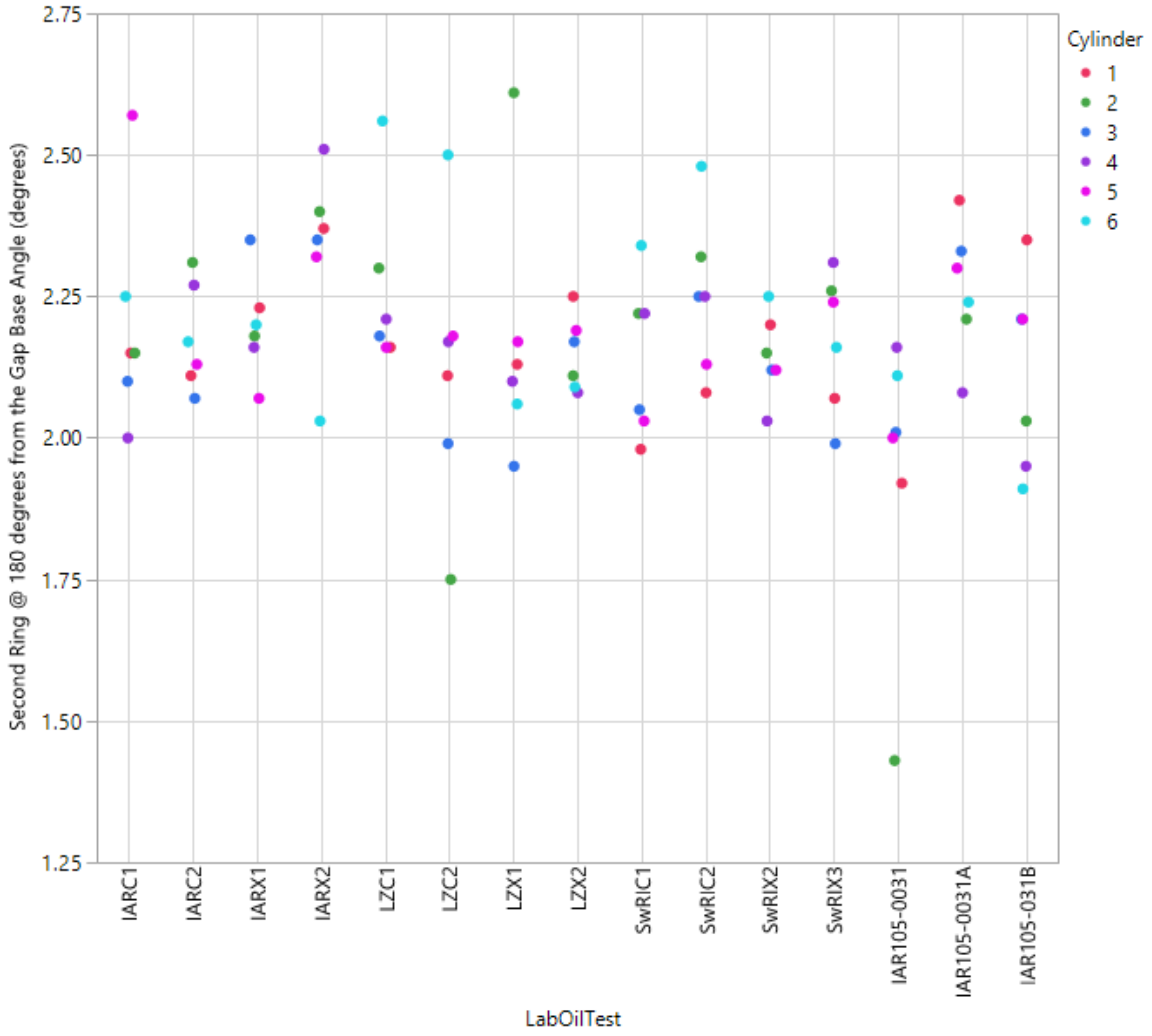

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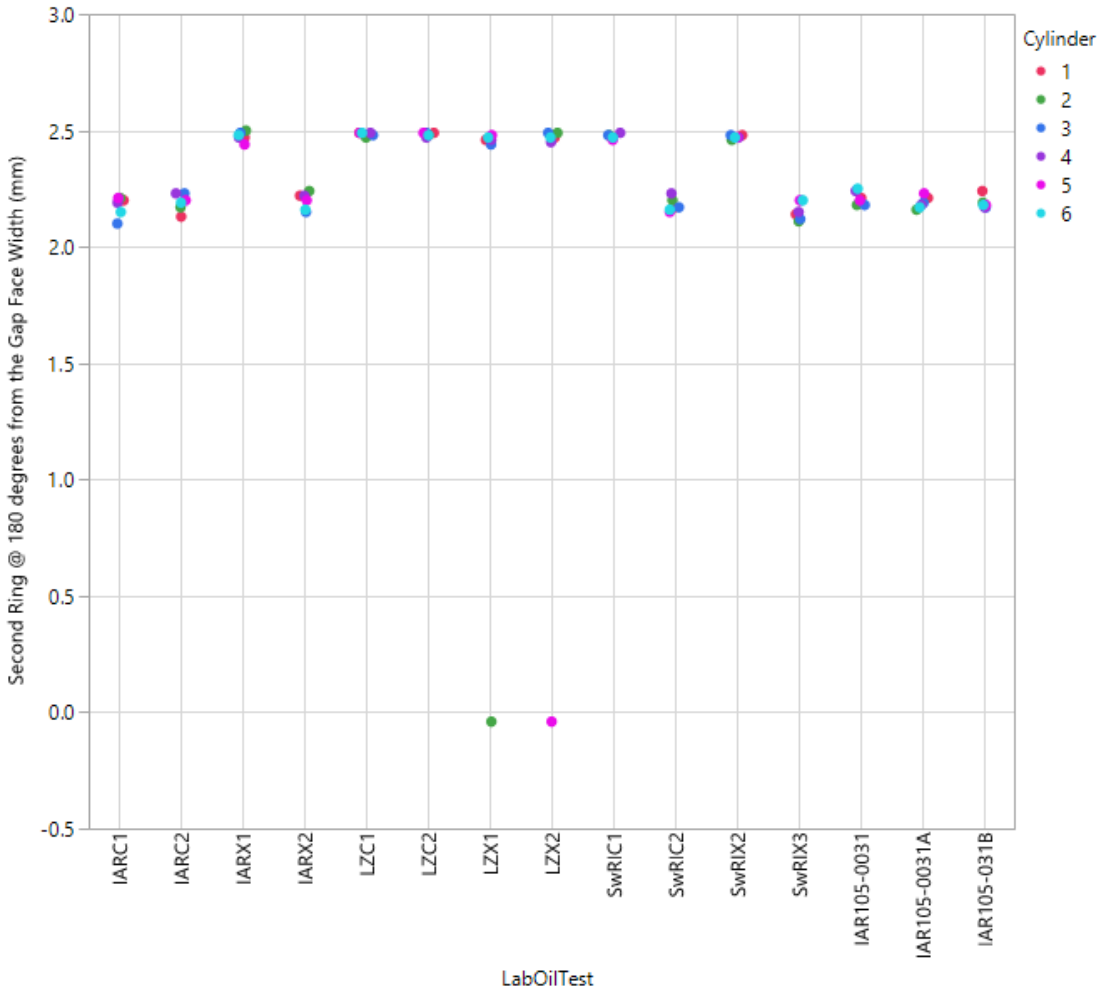

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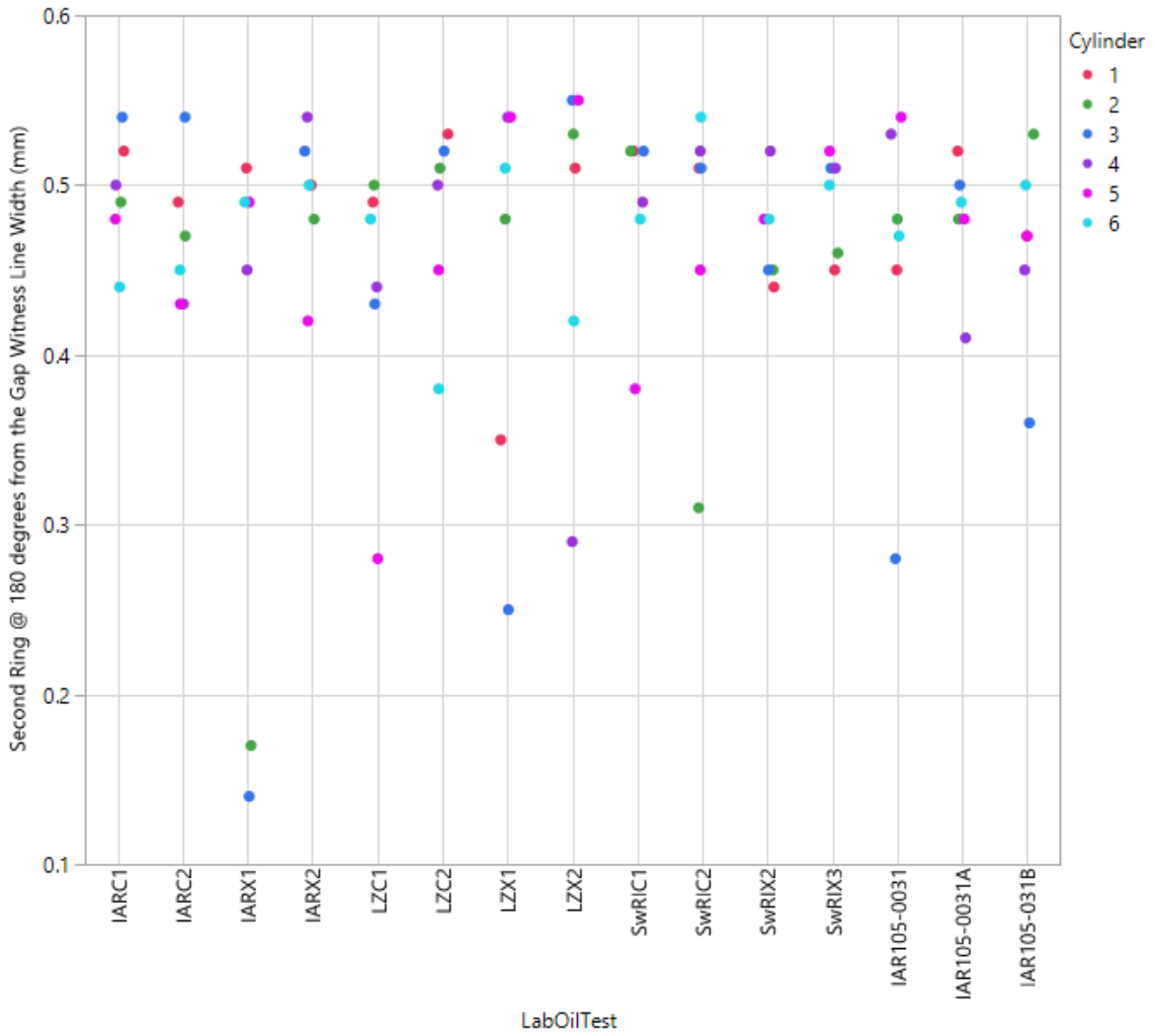

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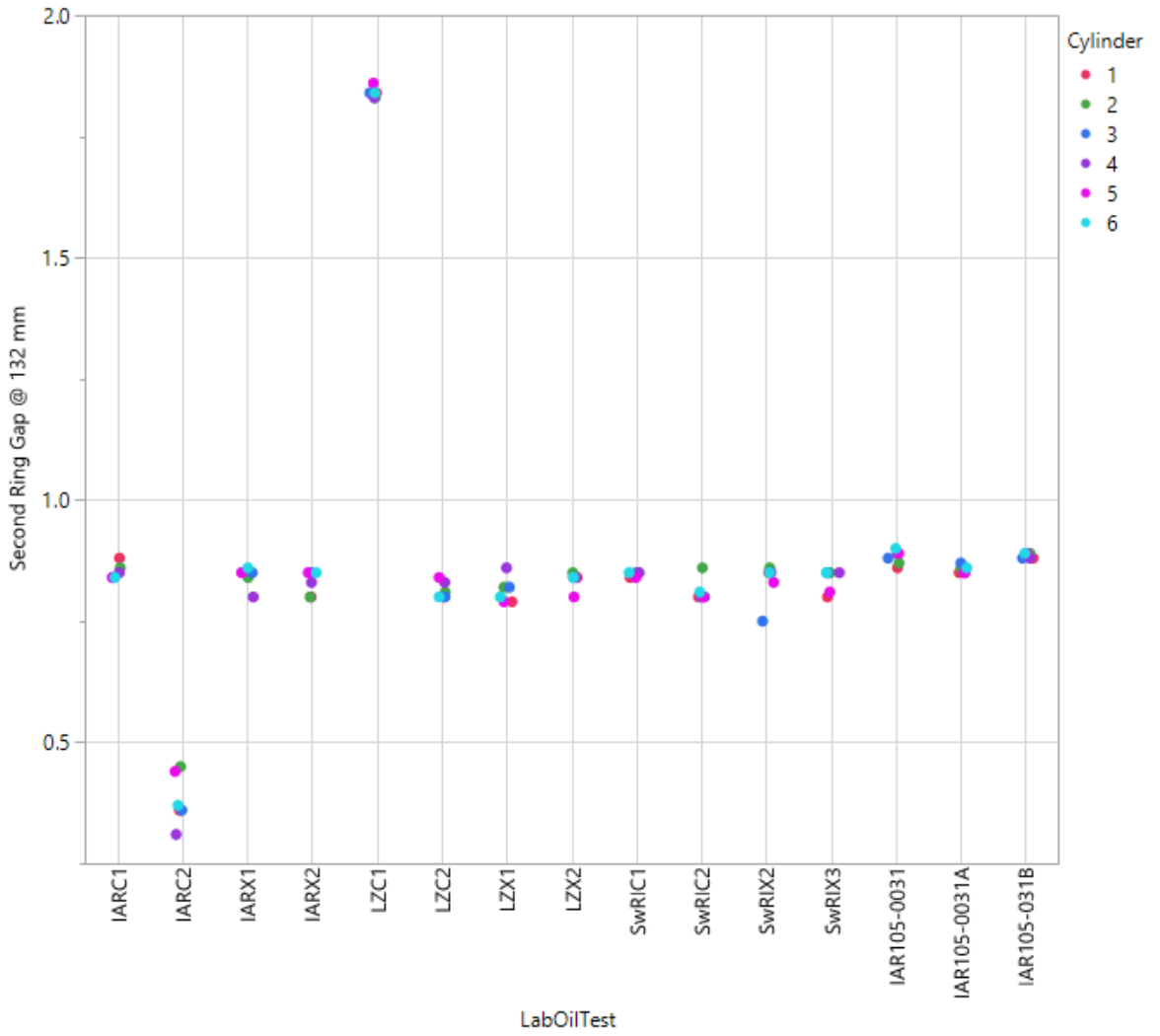

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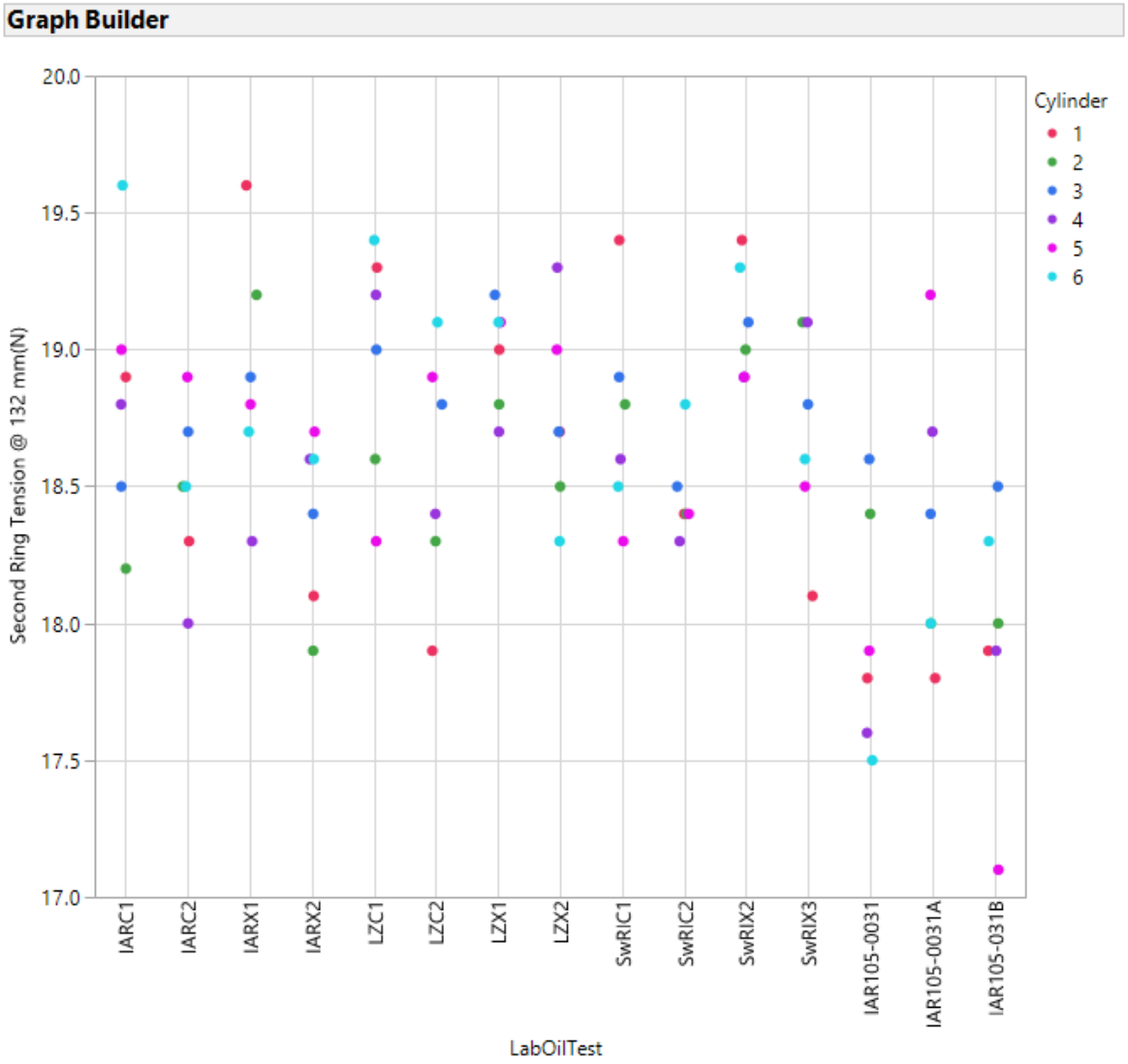

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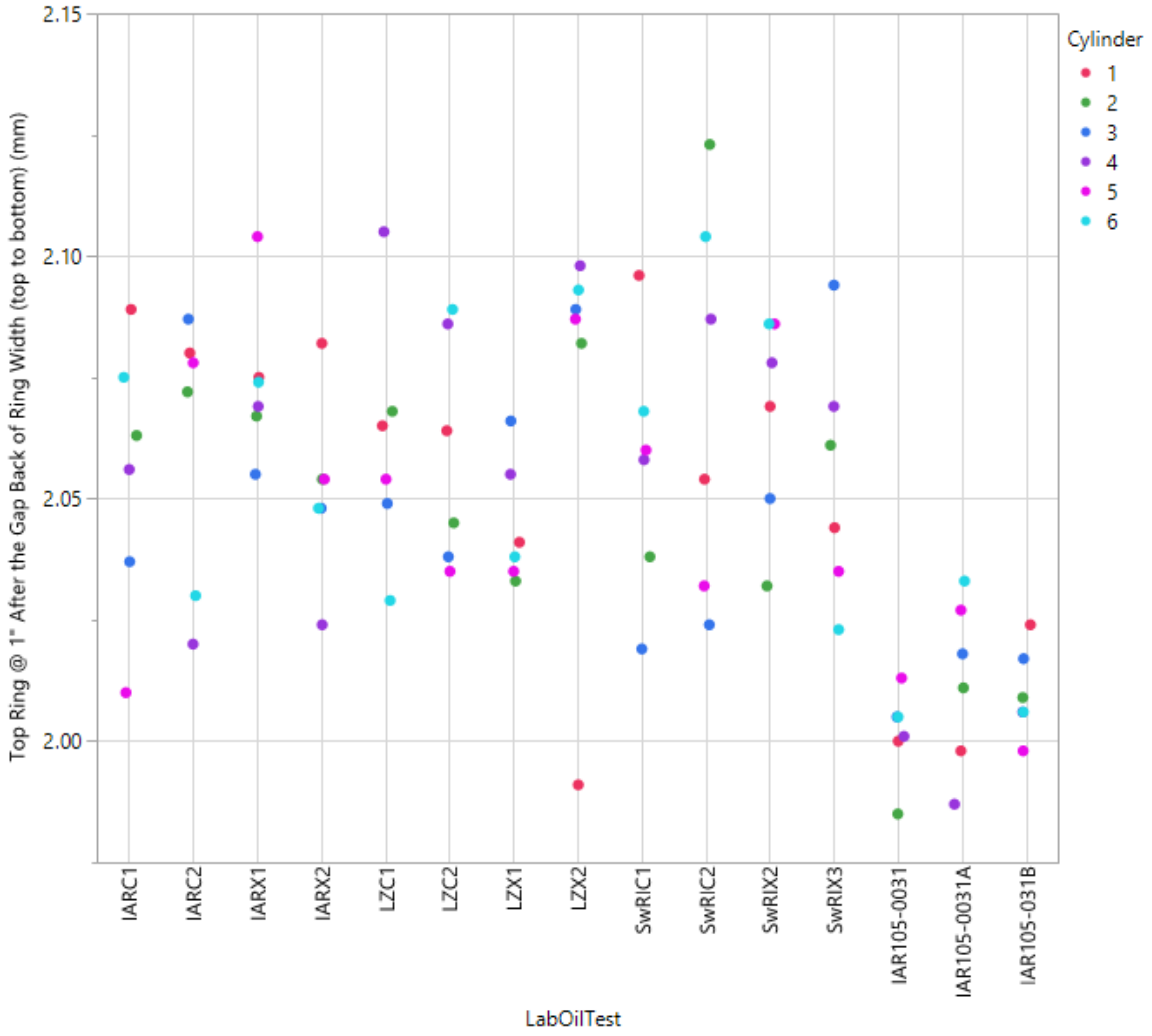
Graph Builder



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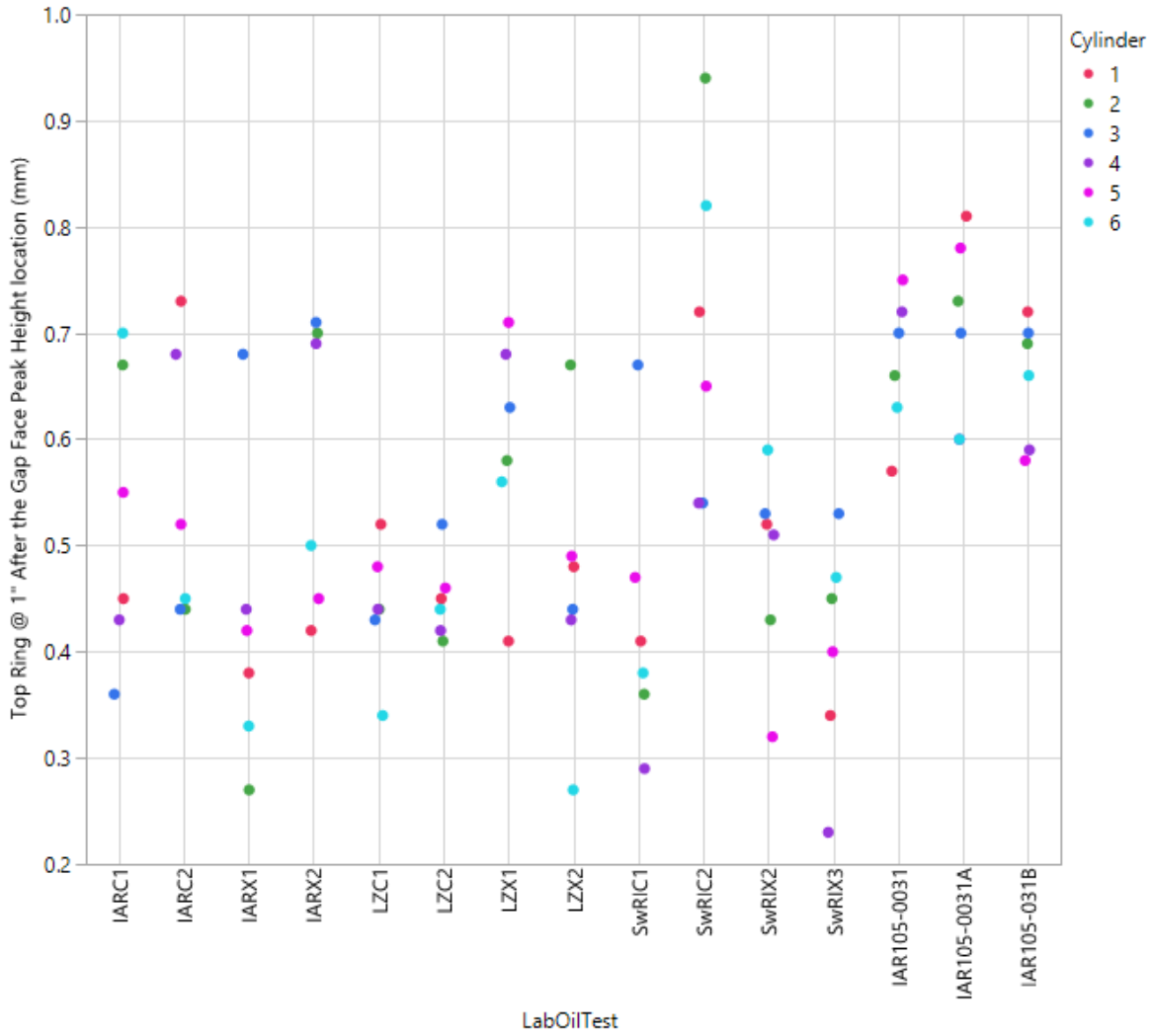

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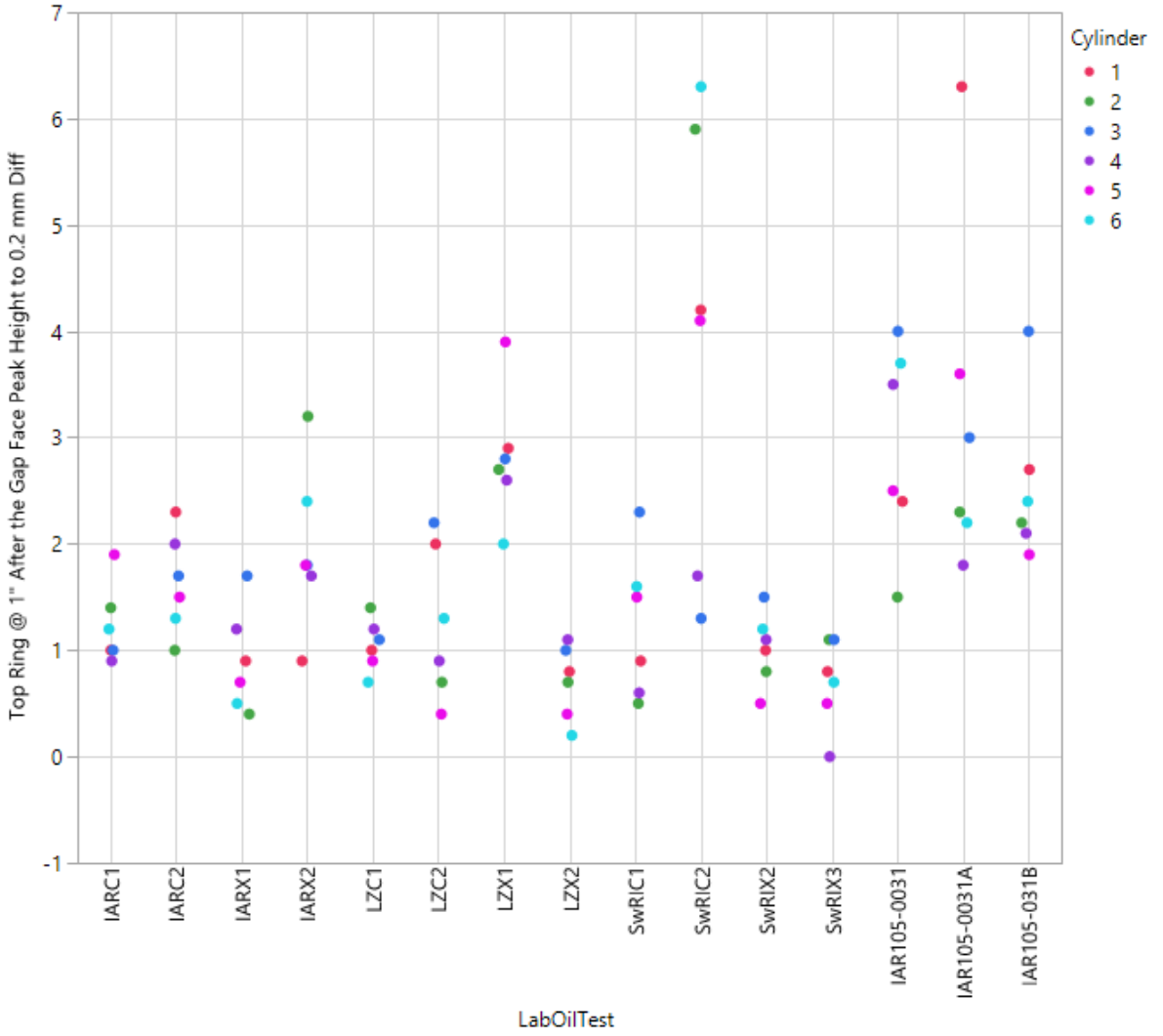
Graph Builder



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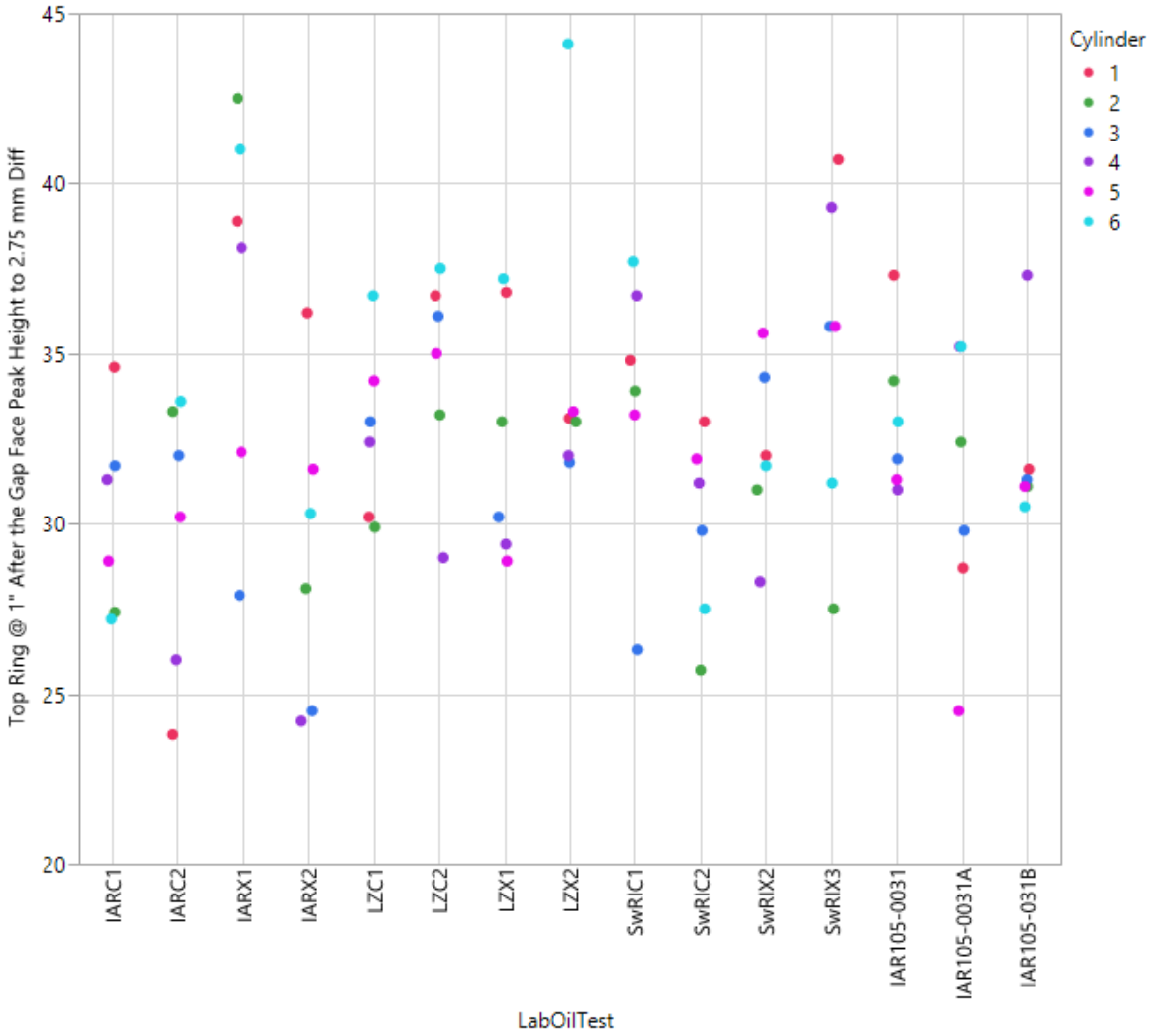

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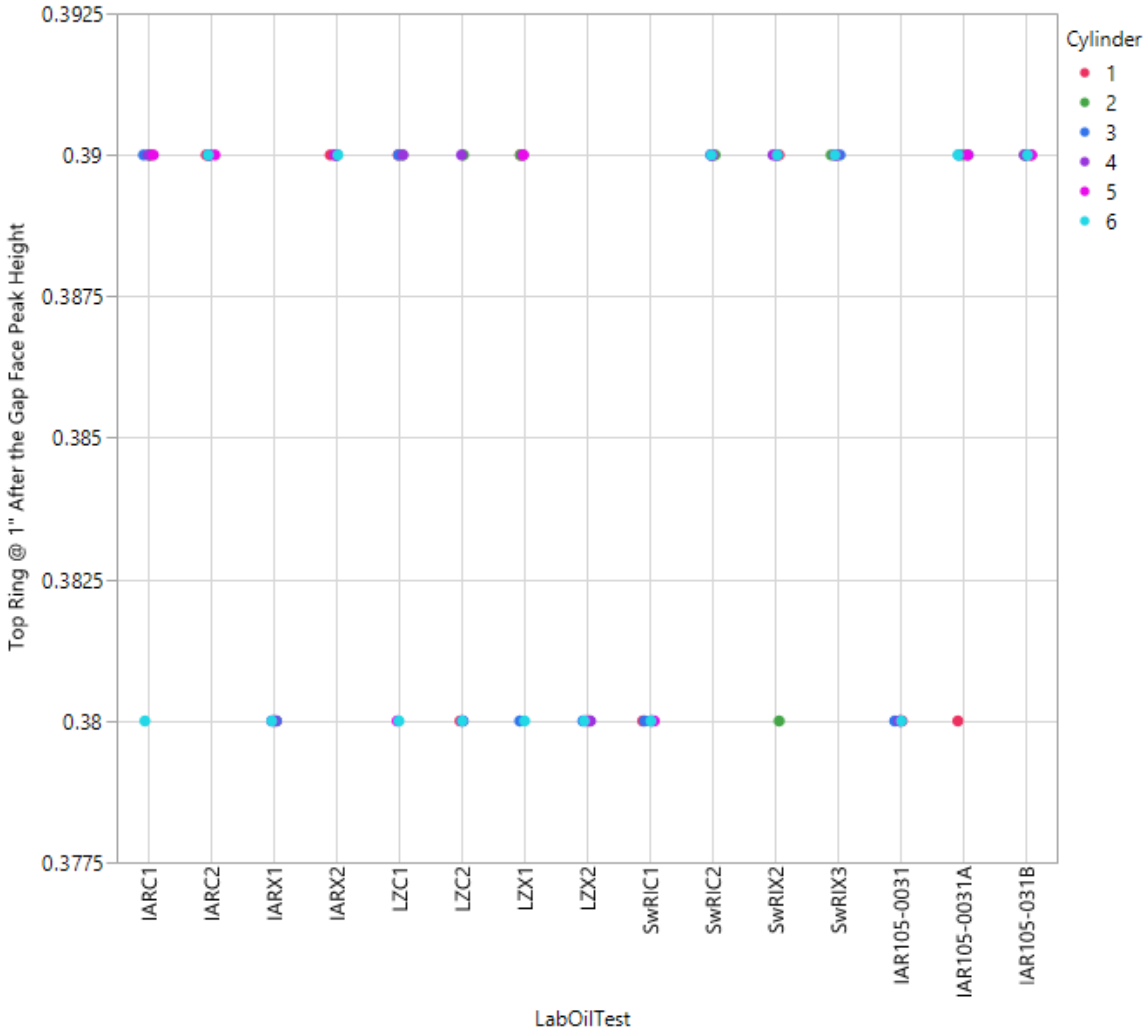
Graph Builder



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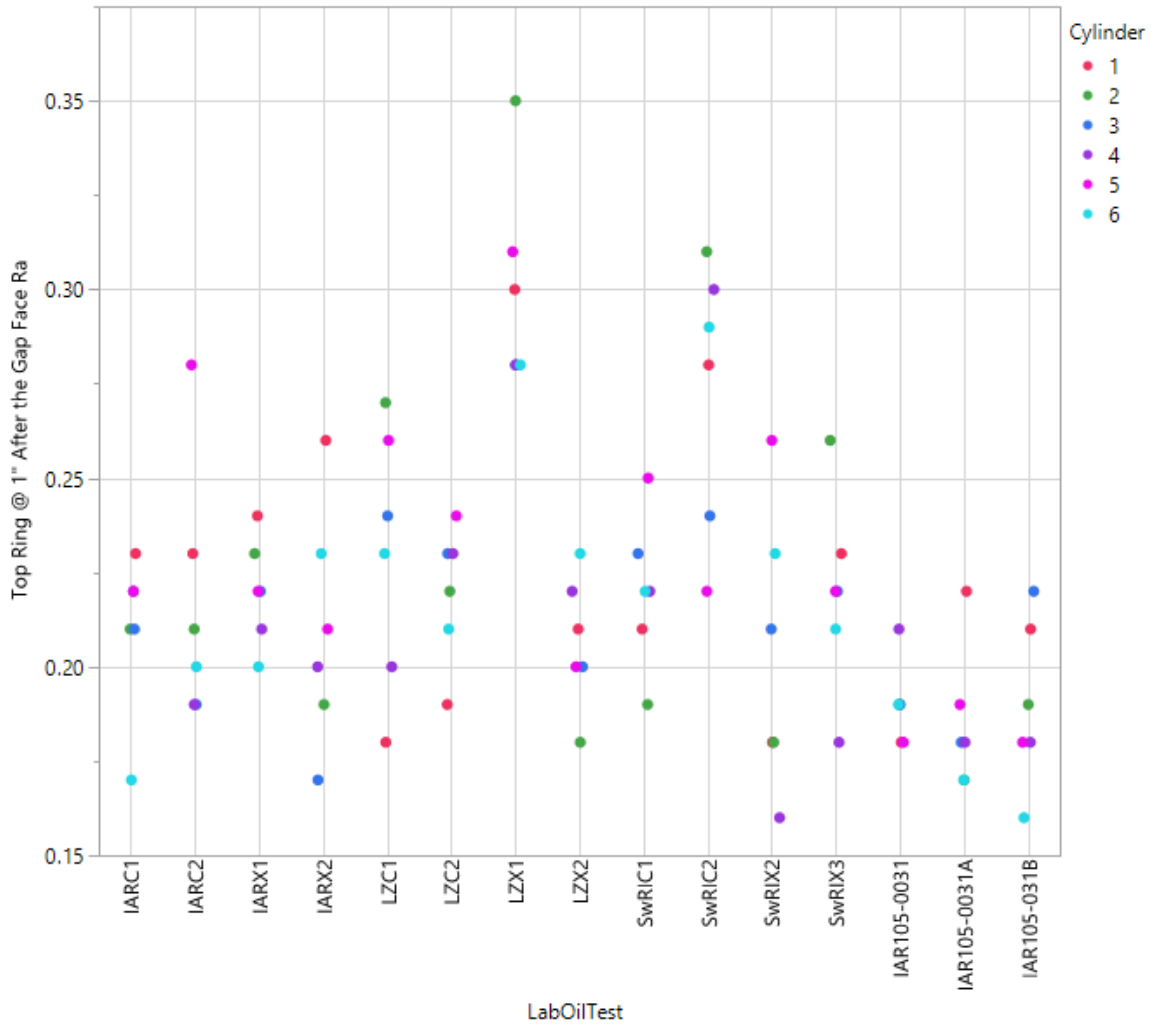

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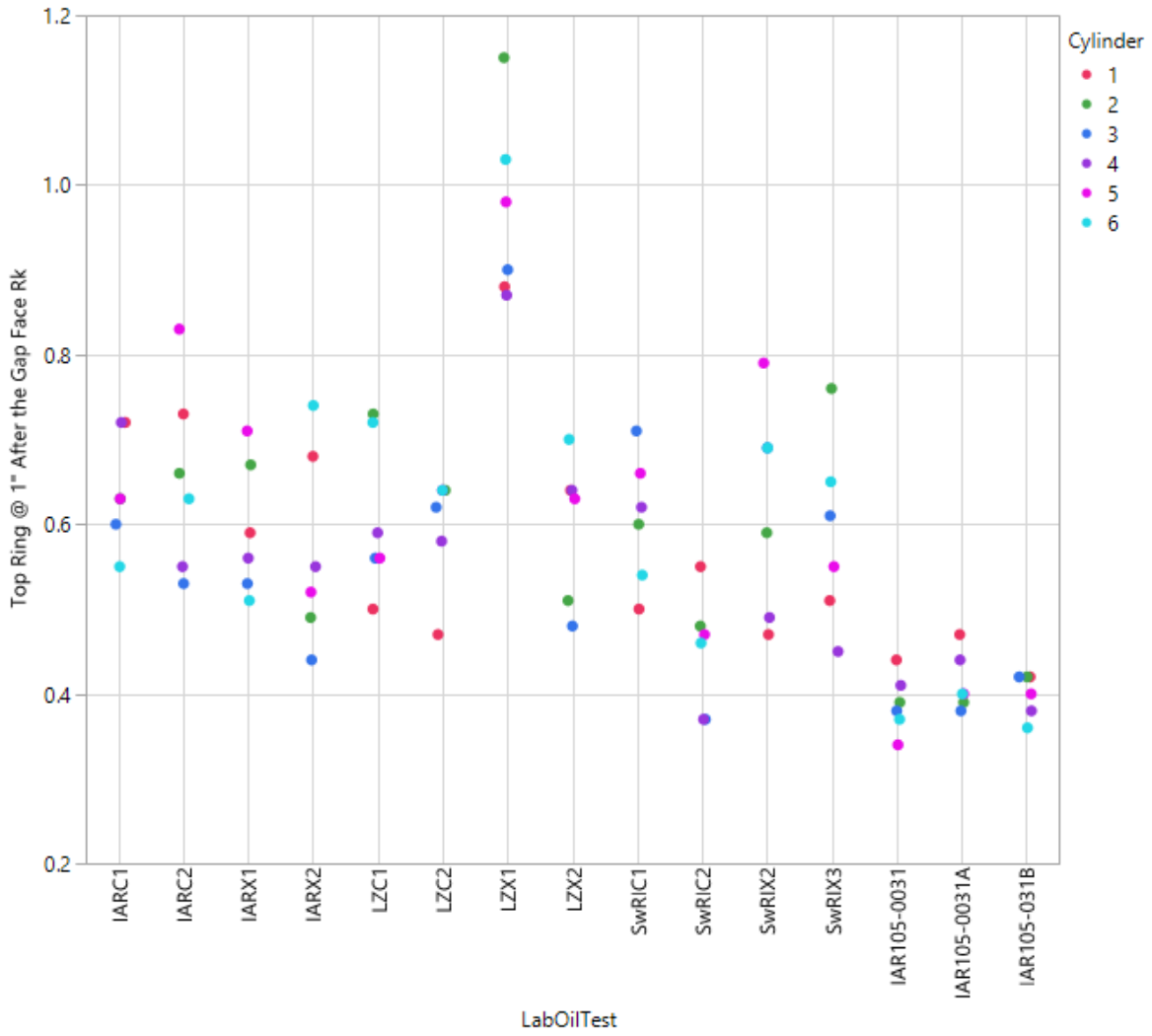

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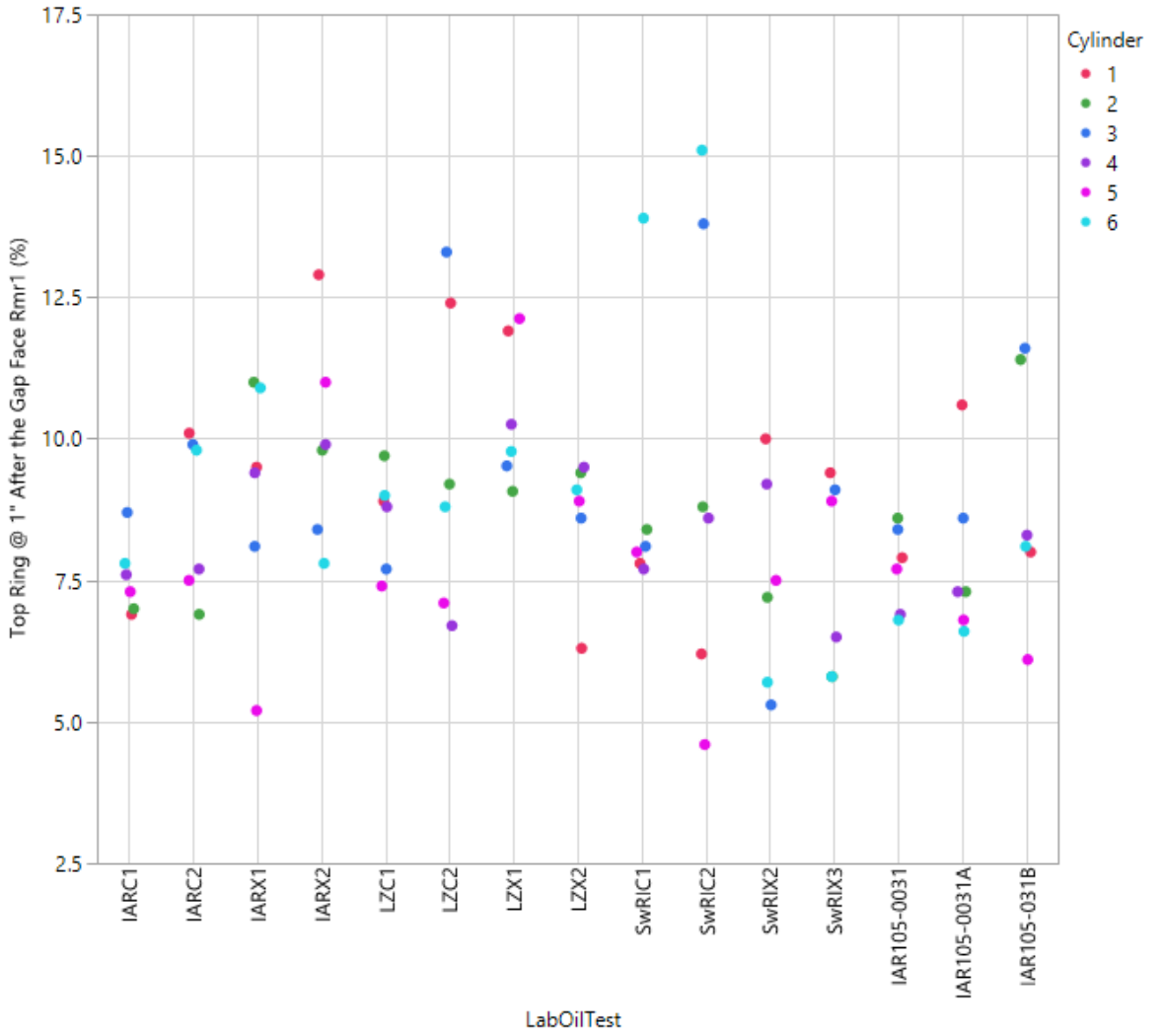

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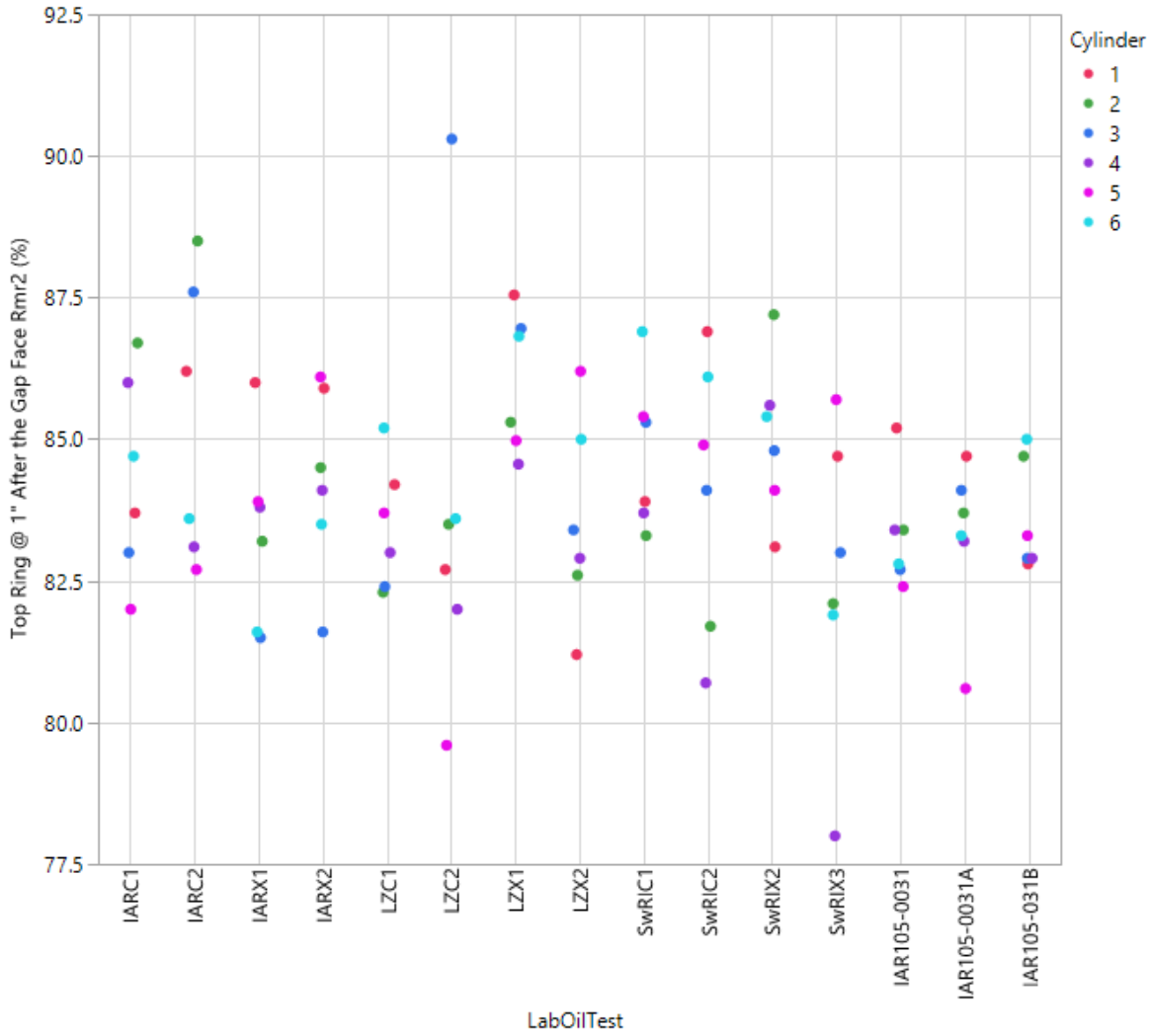

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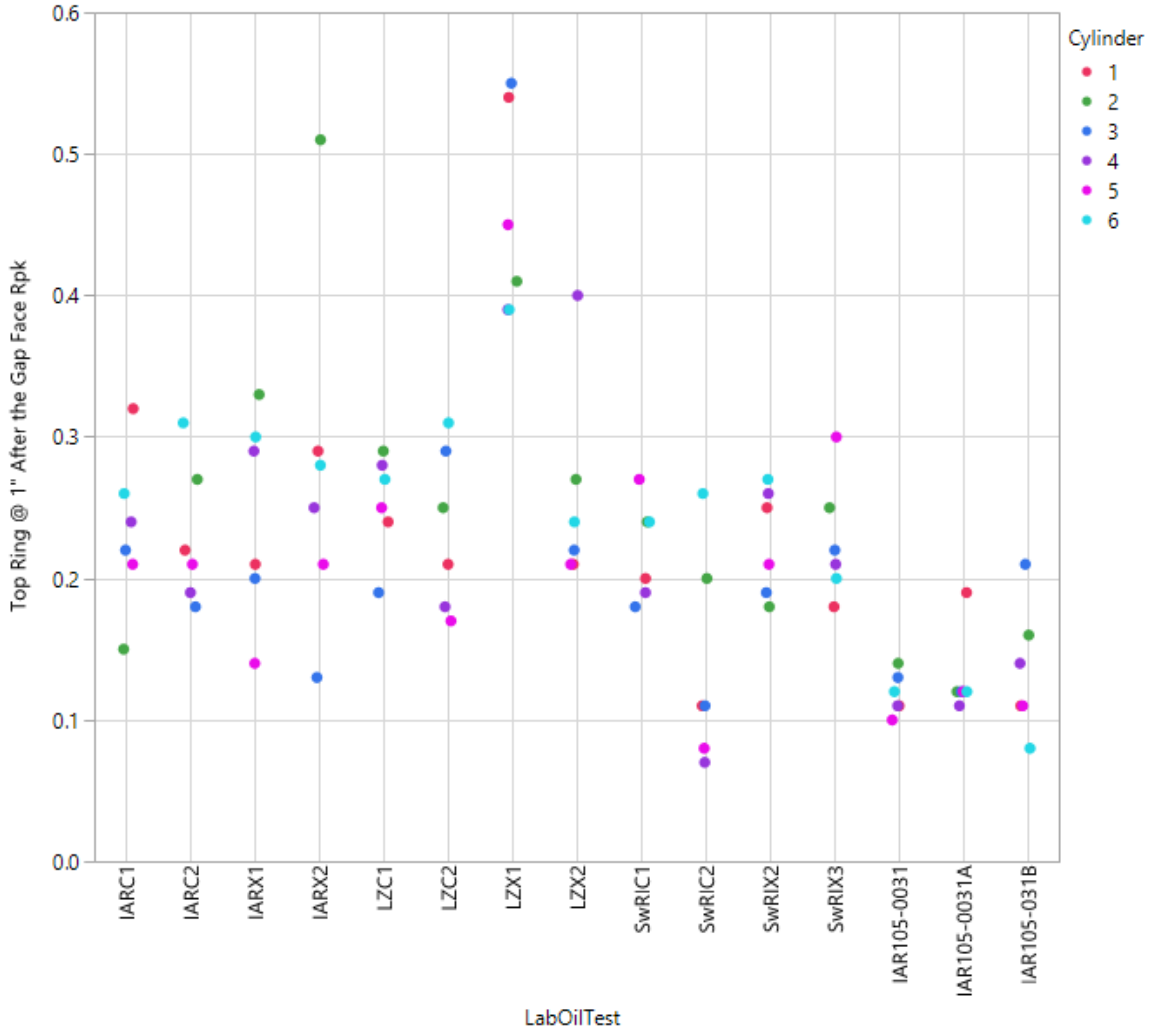

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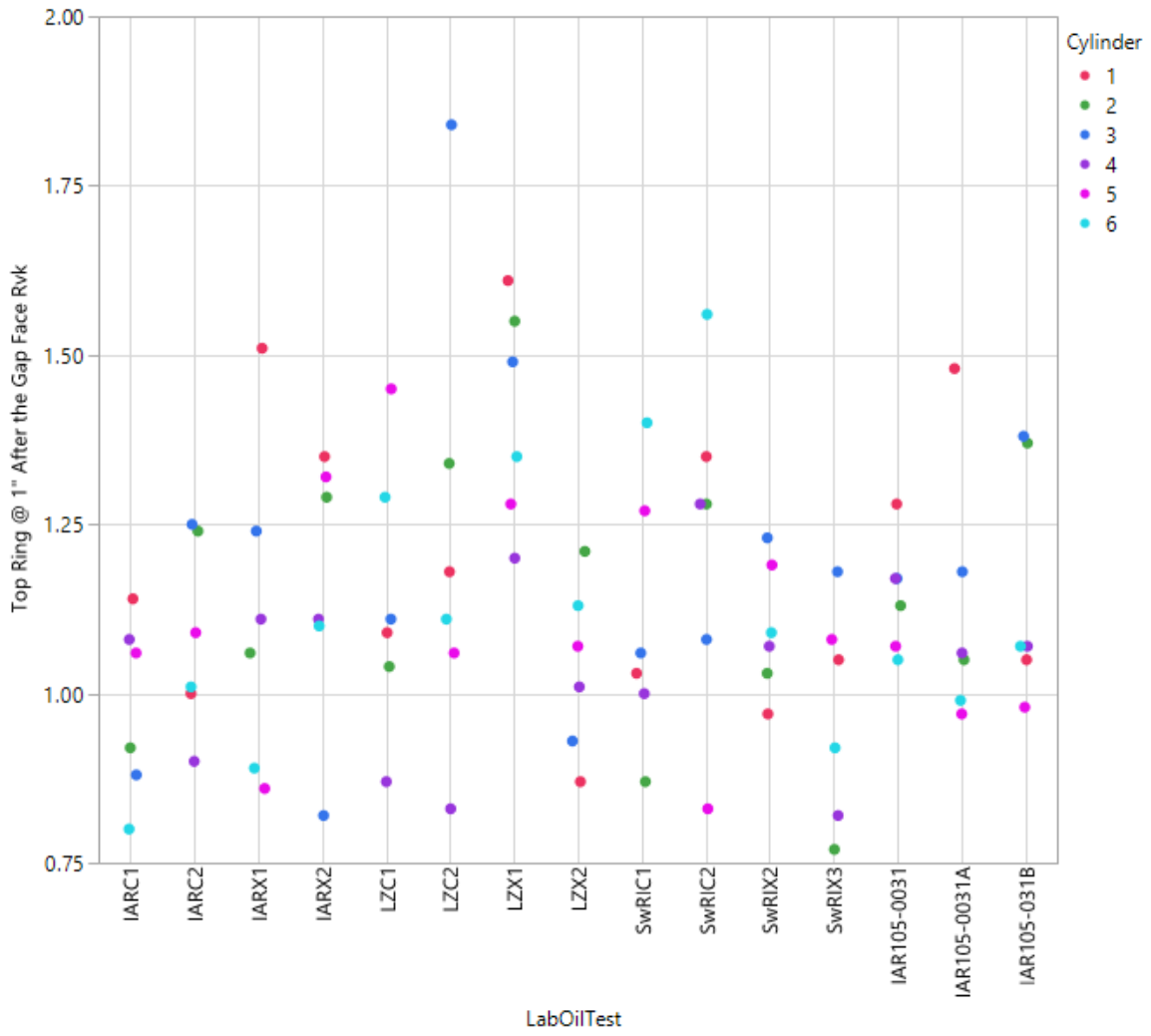

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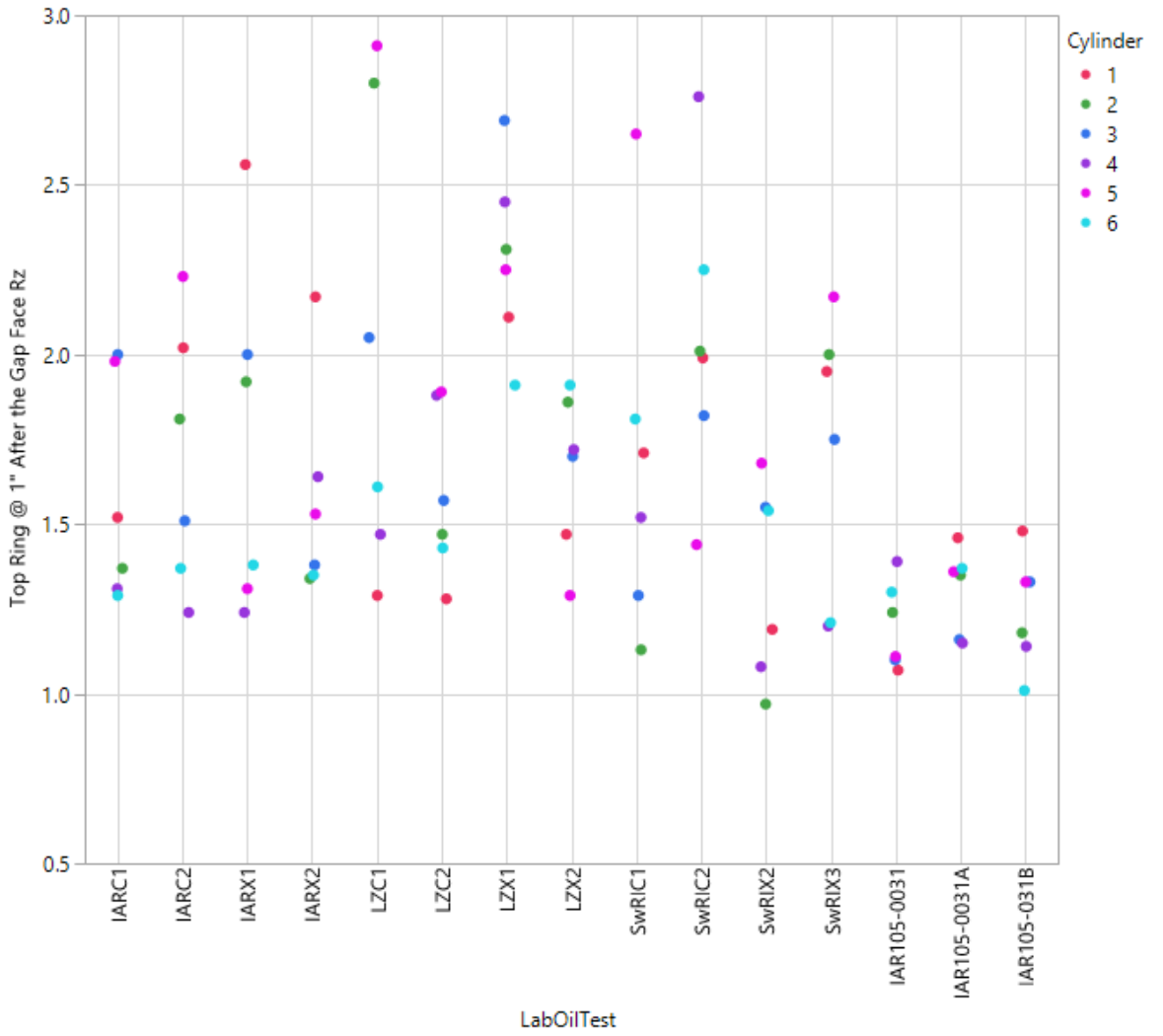

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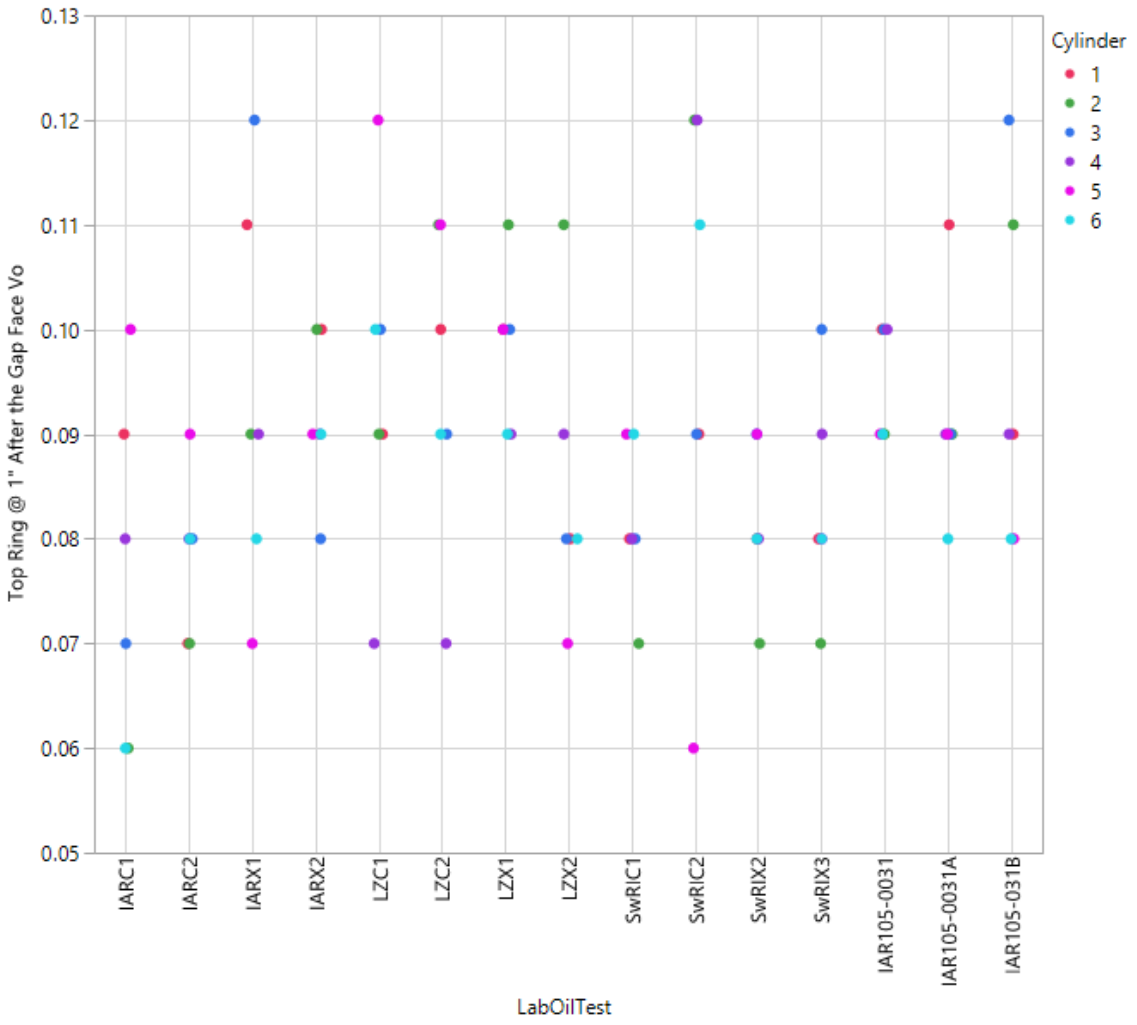

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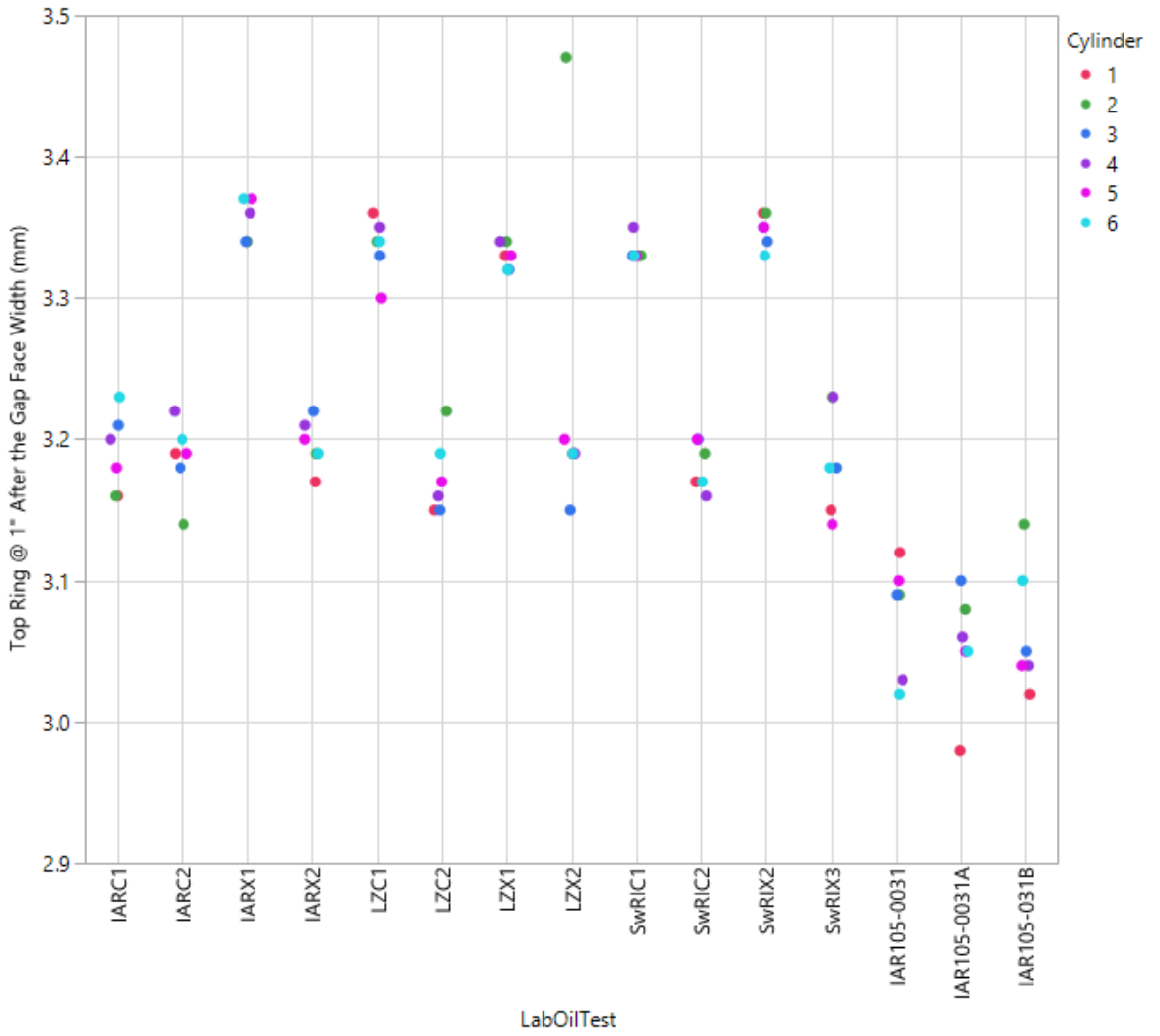

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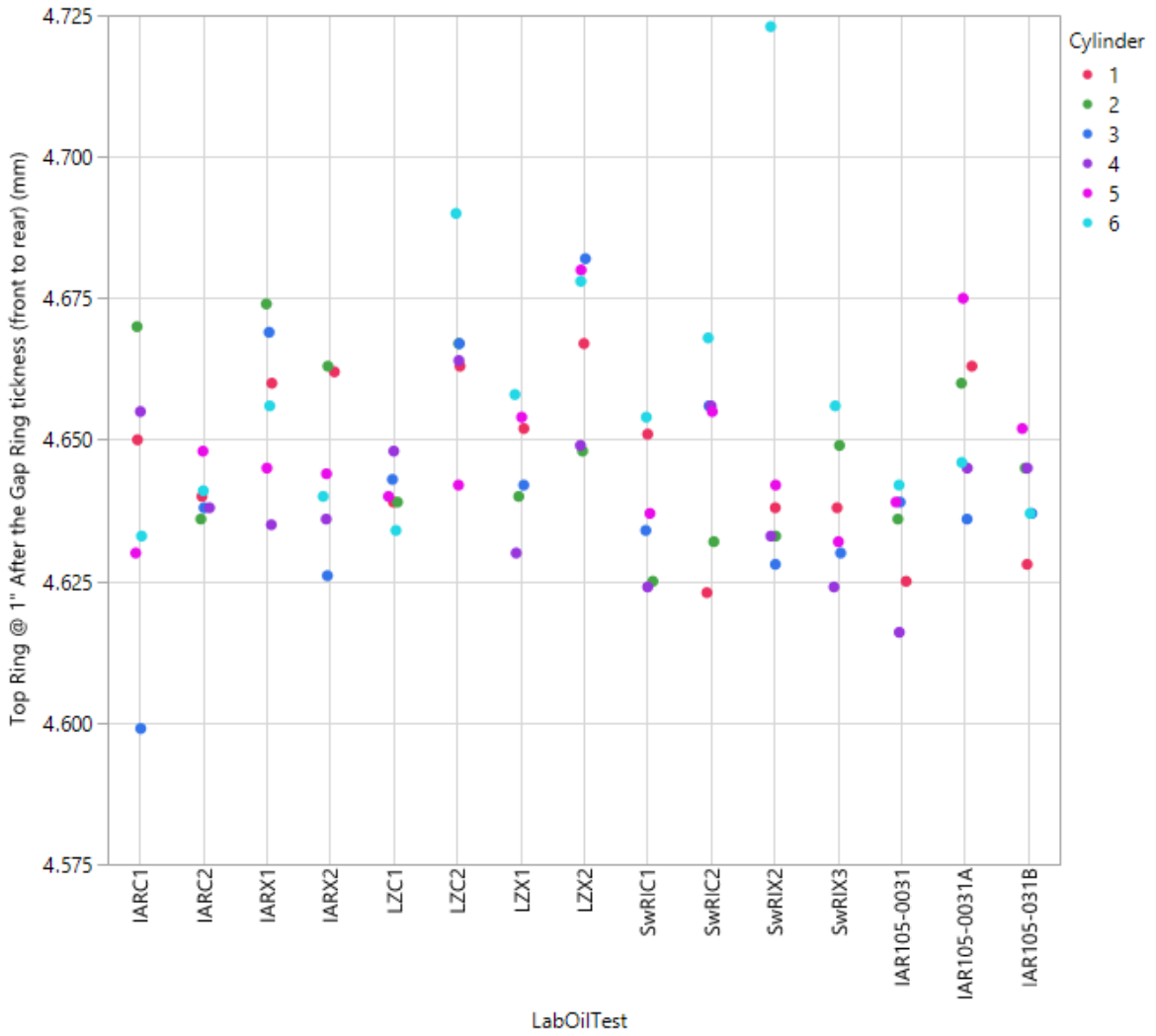

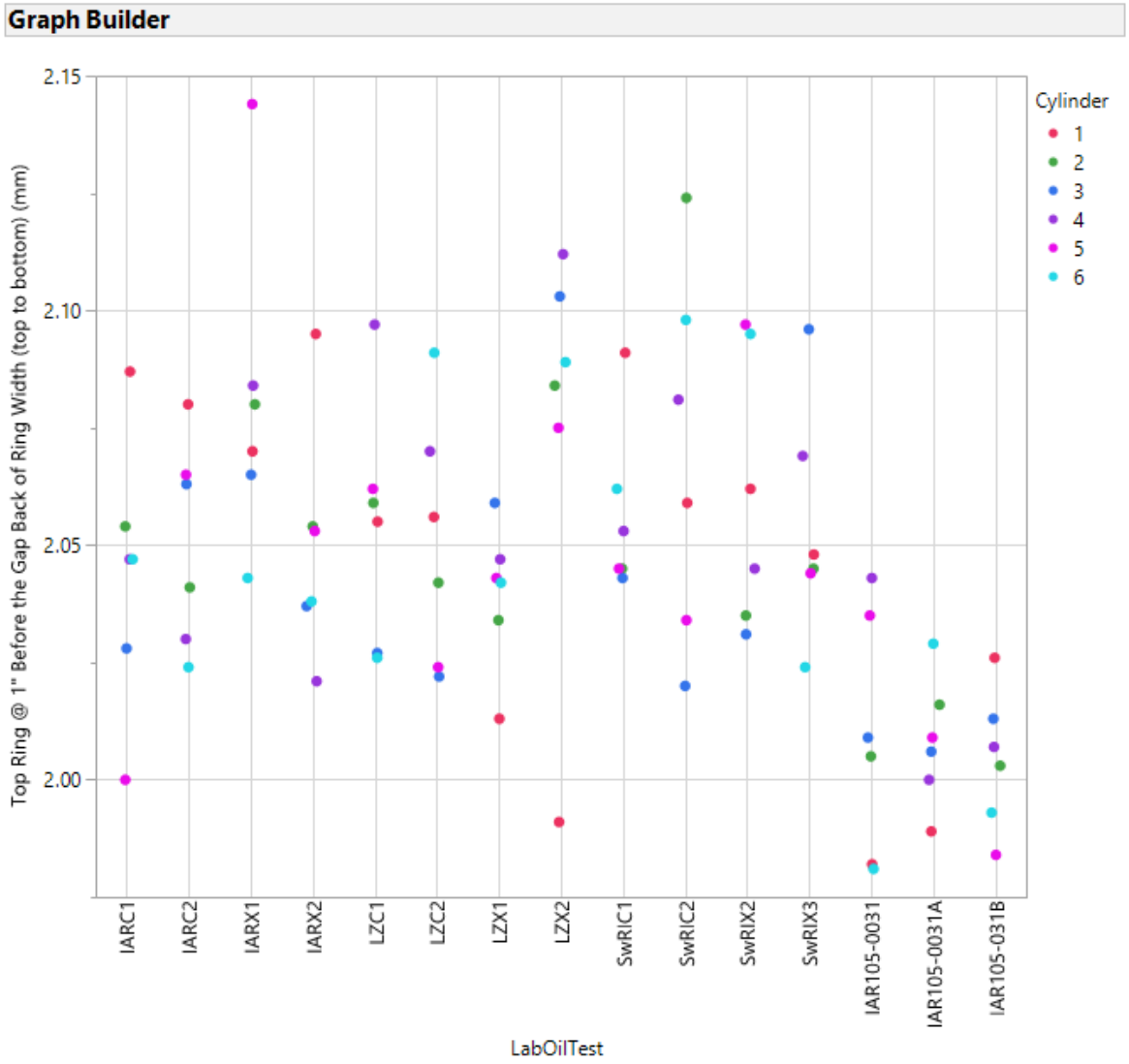

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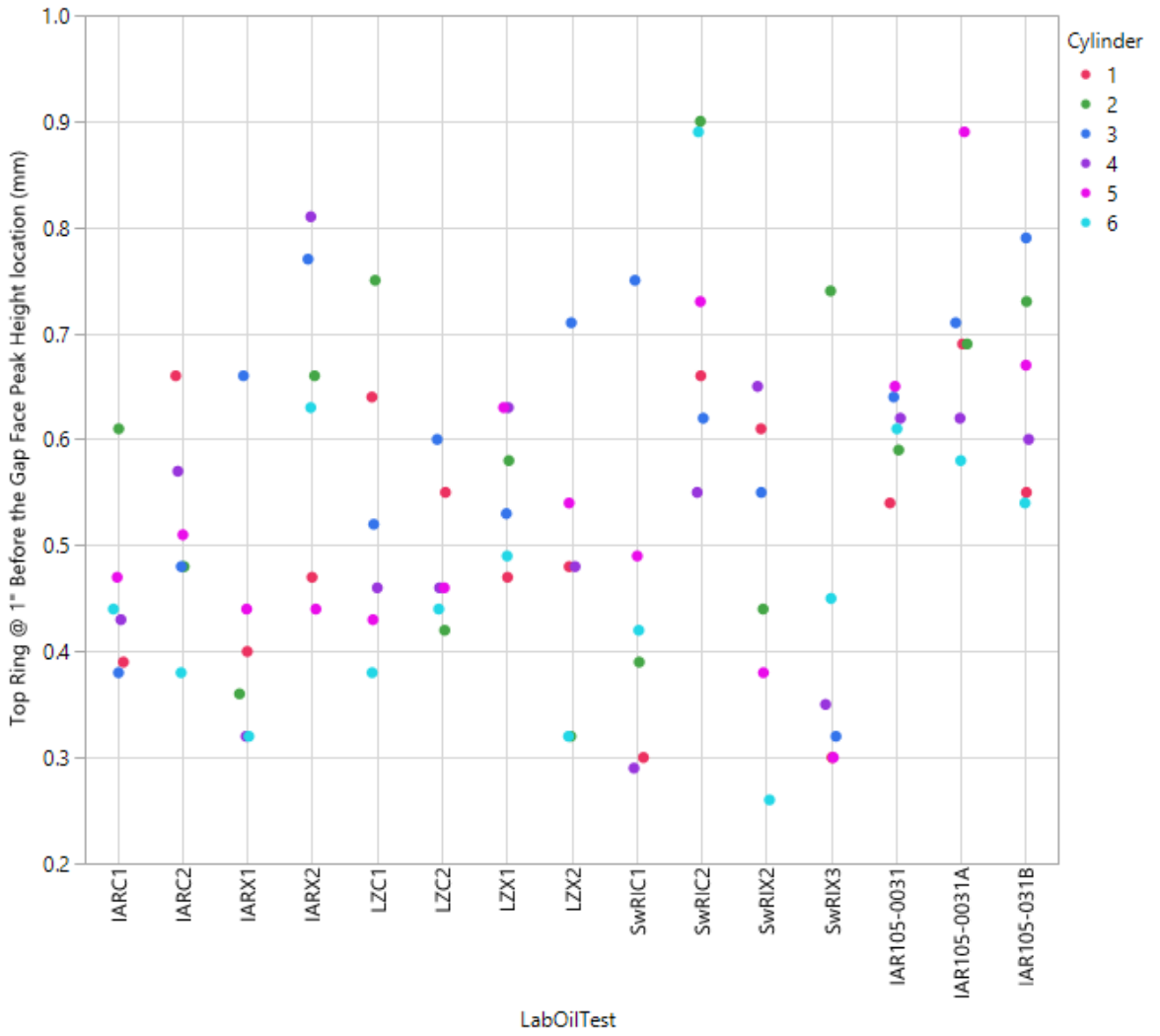

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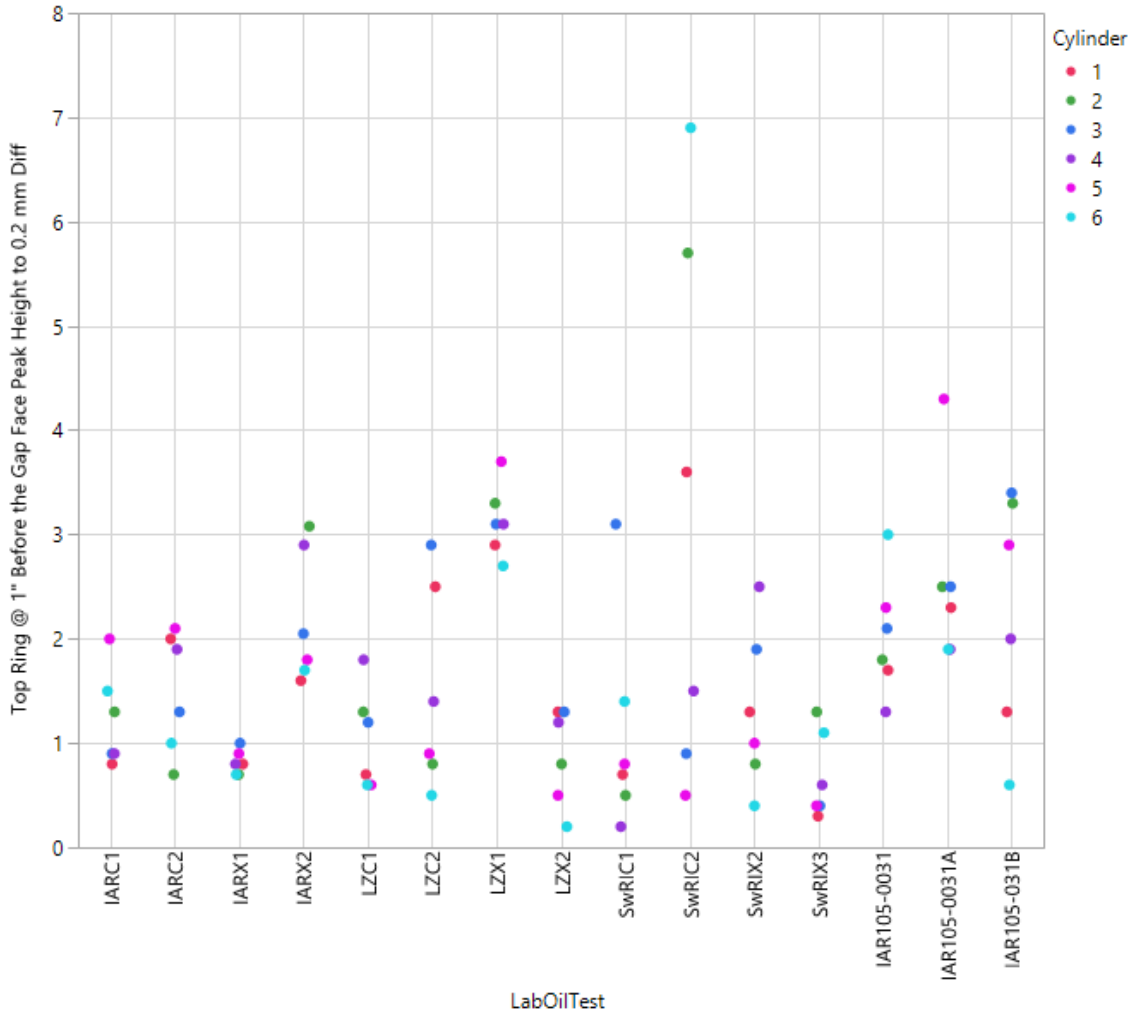

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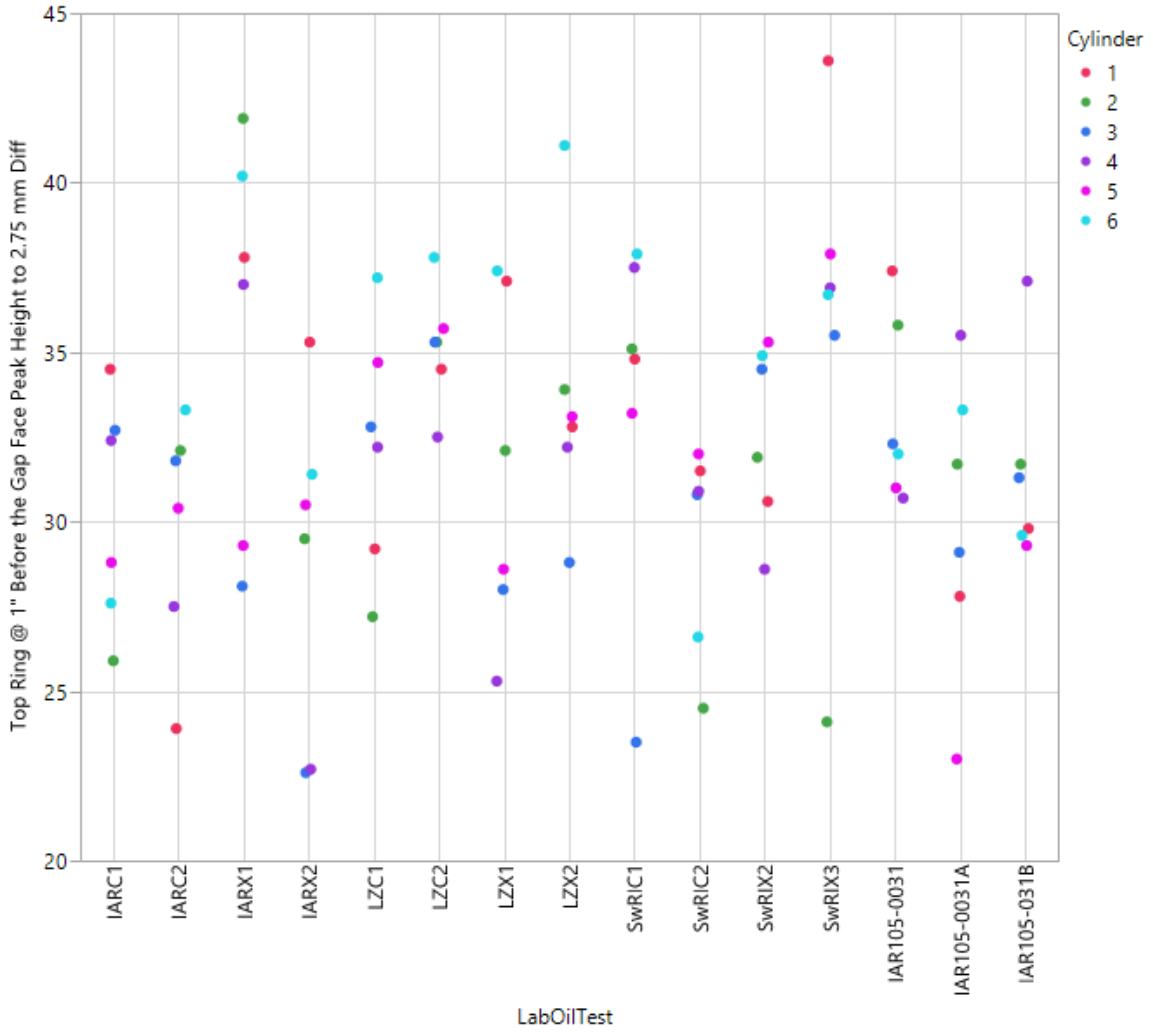

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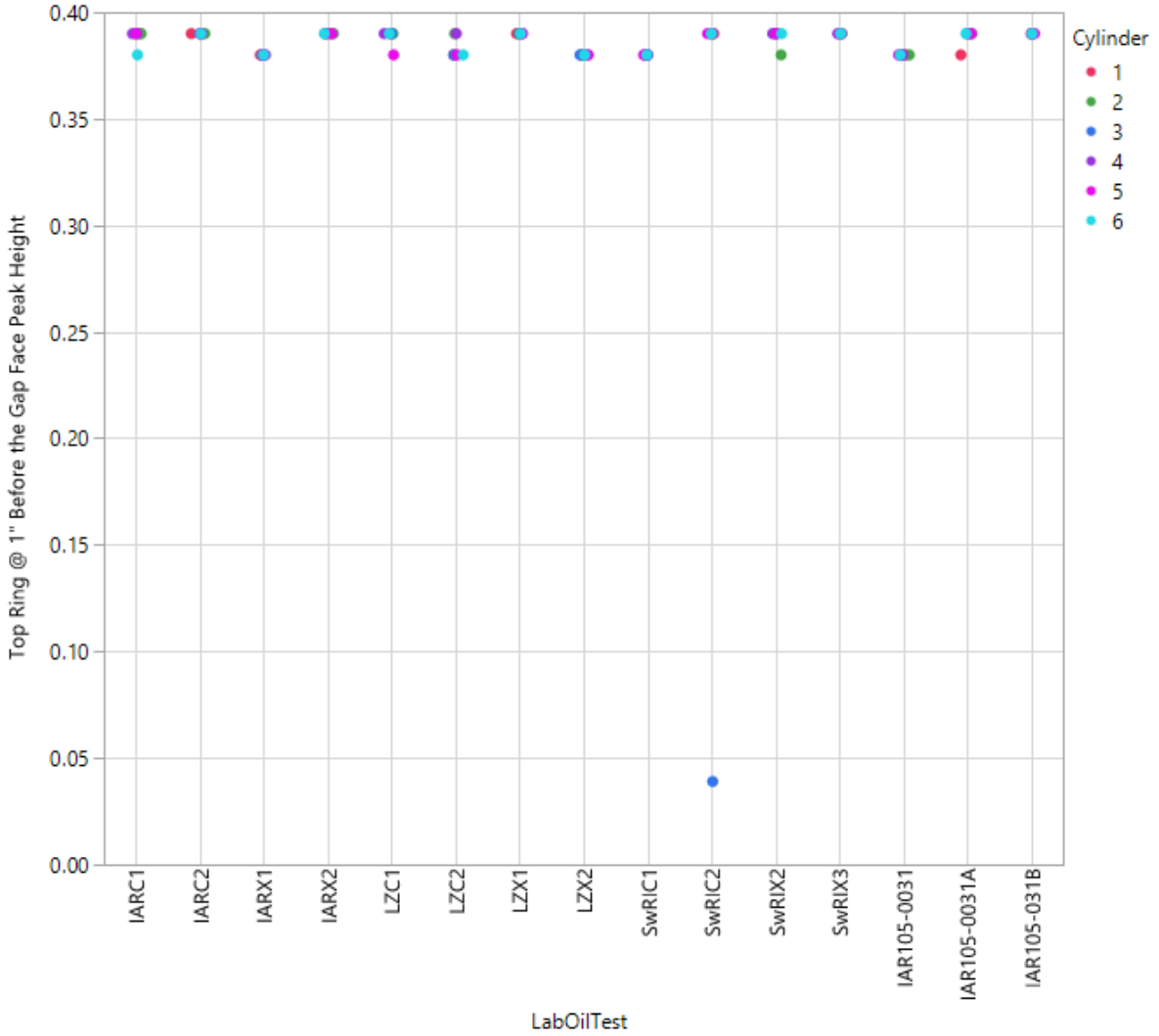

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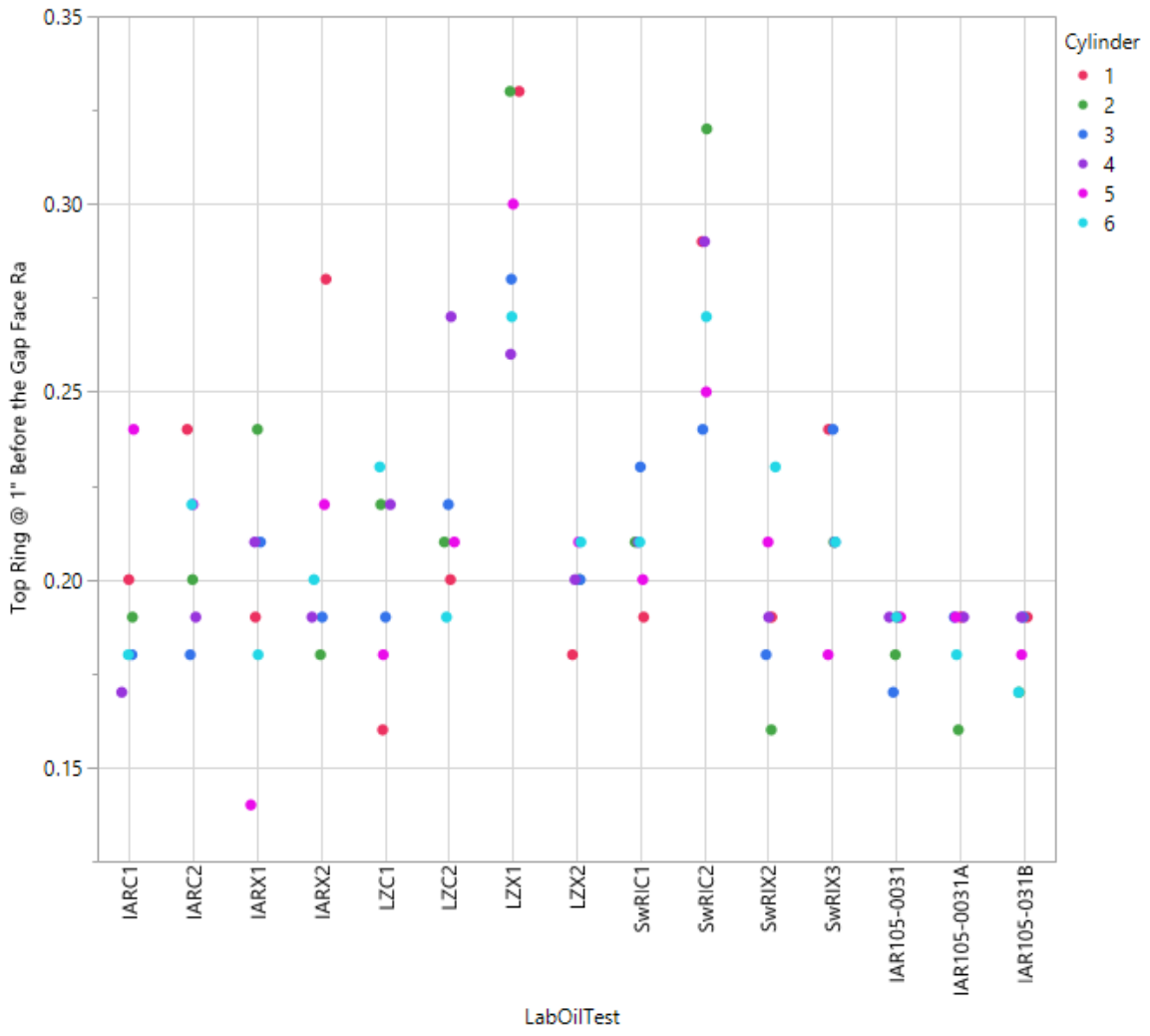

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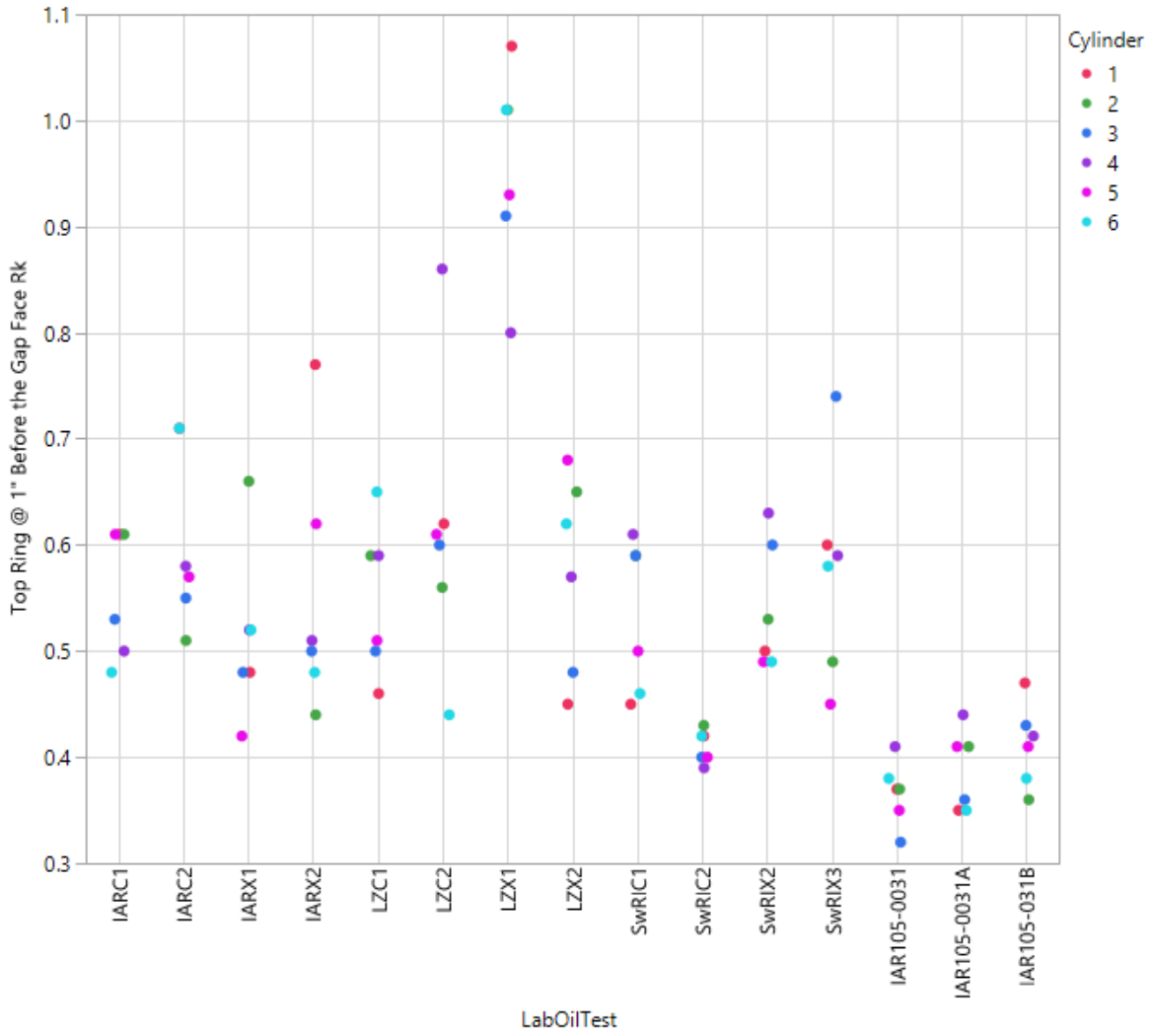

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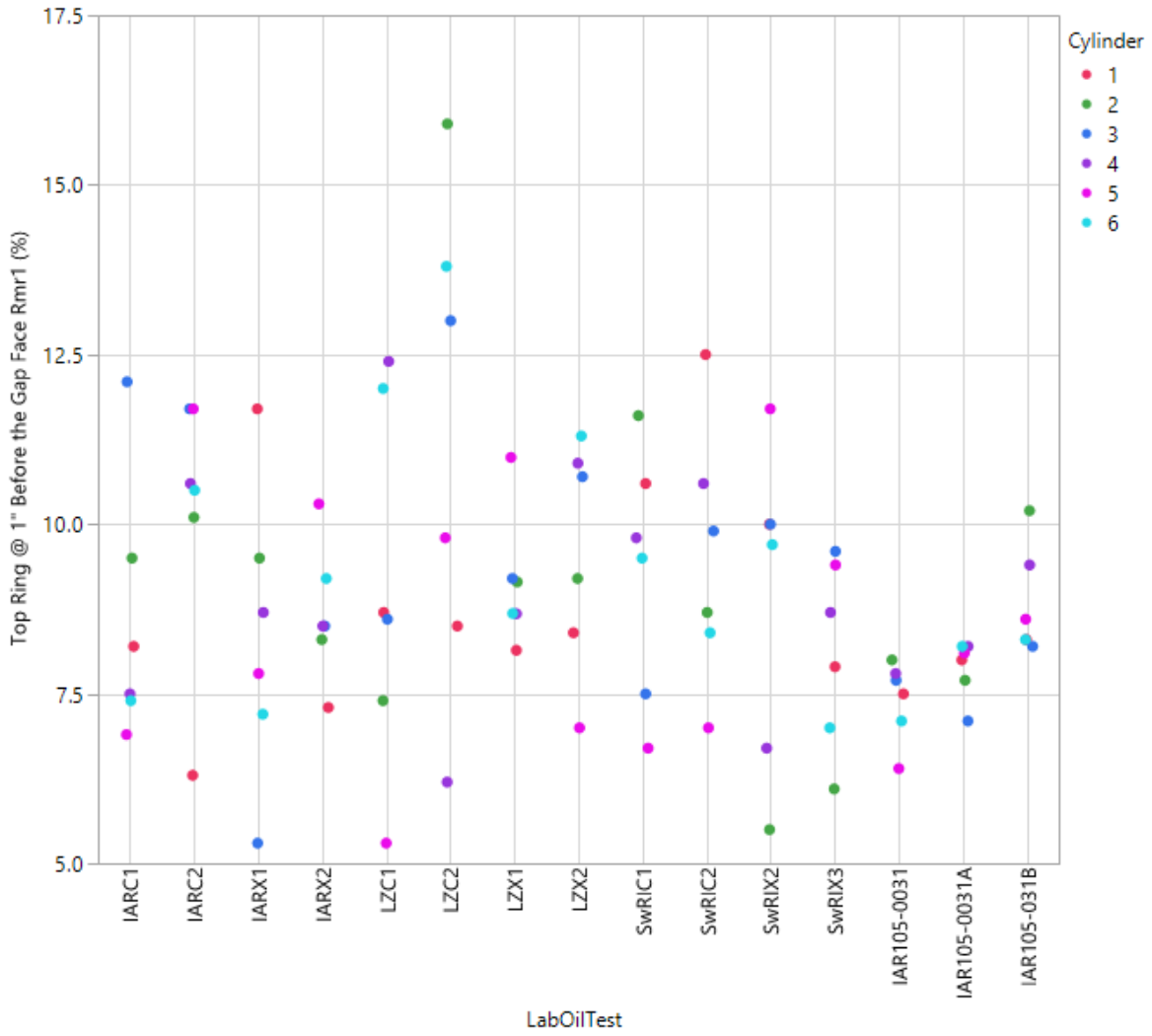

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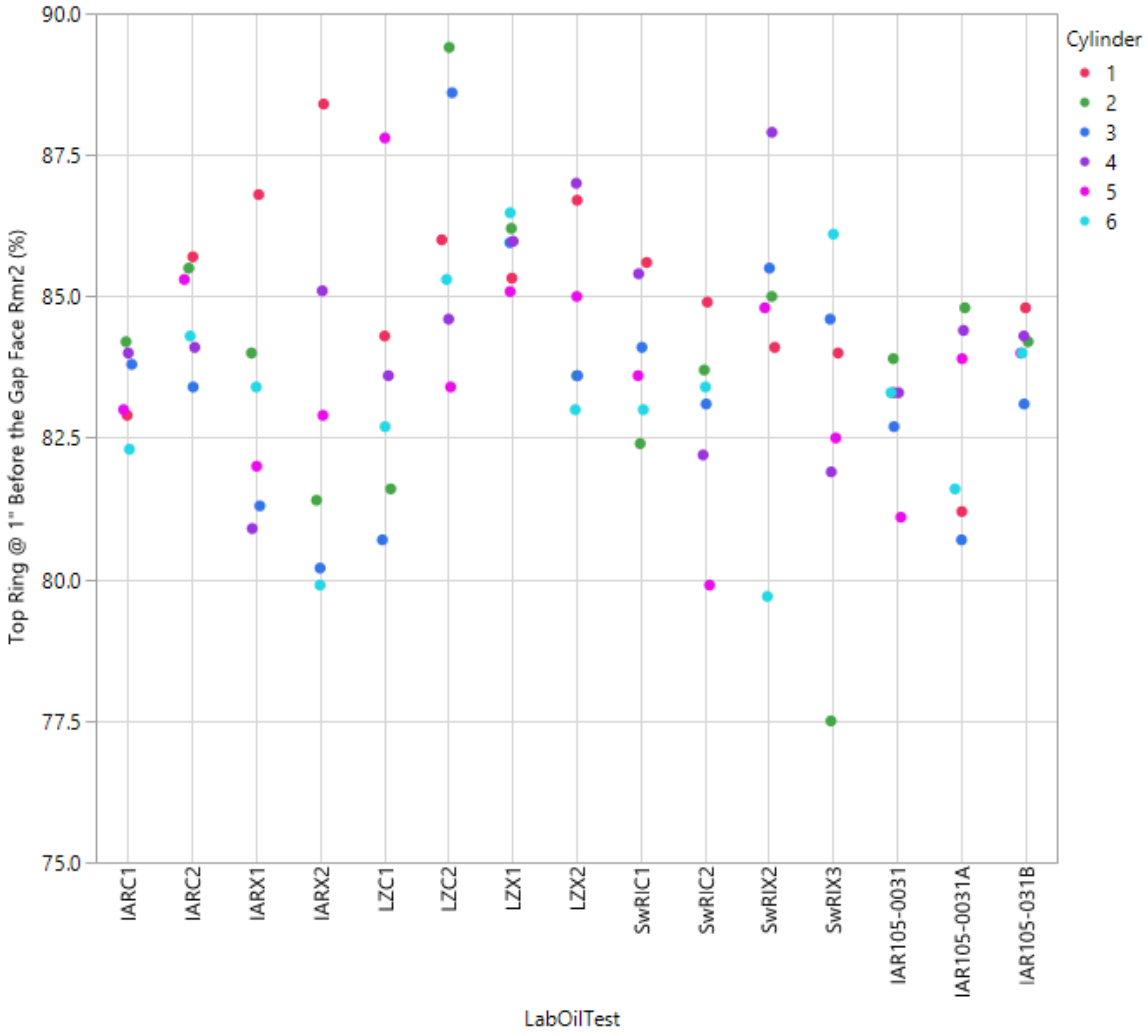

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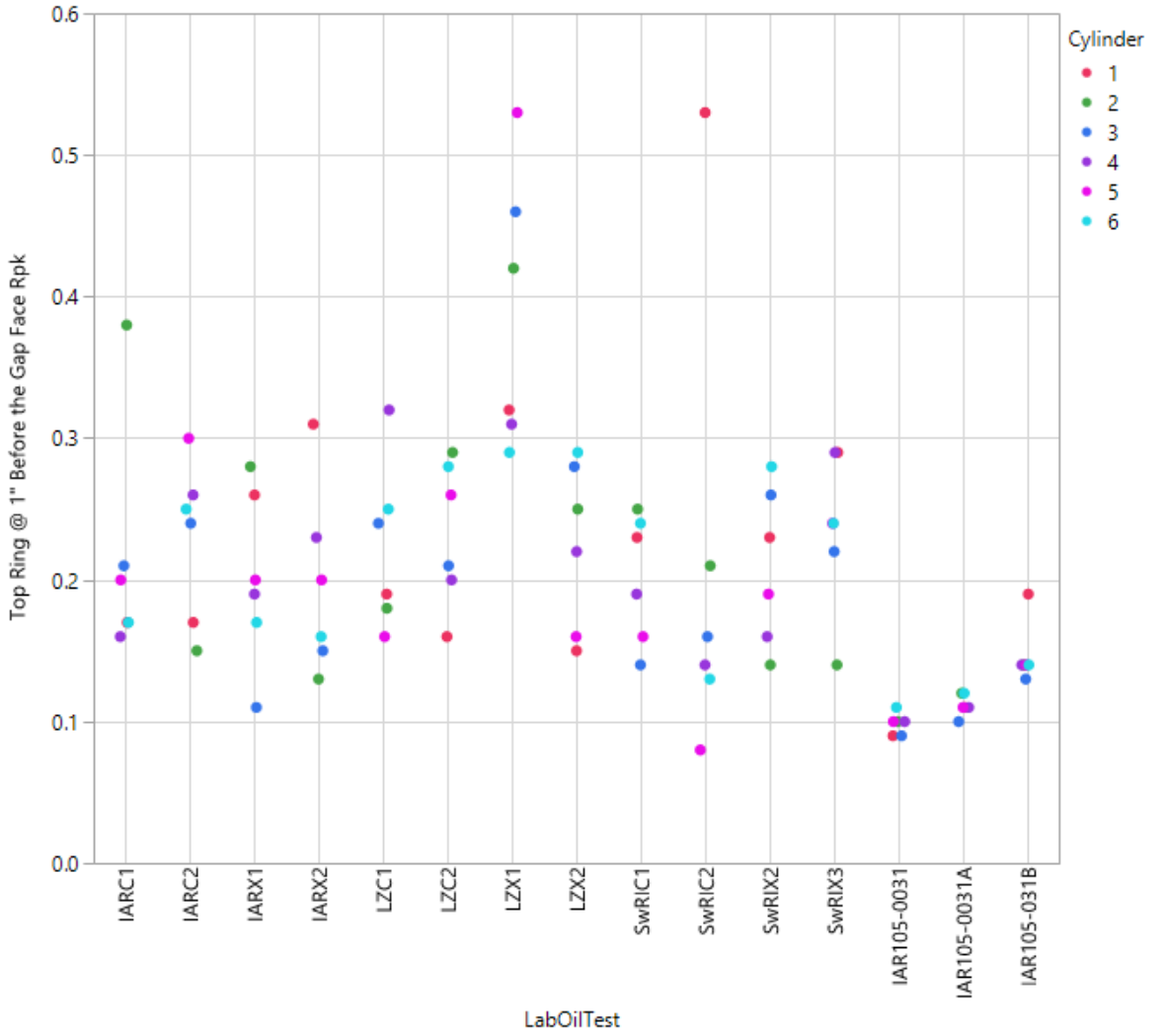

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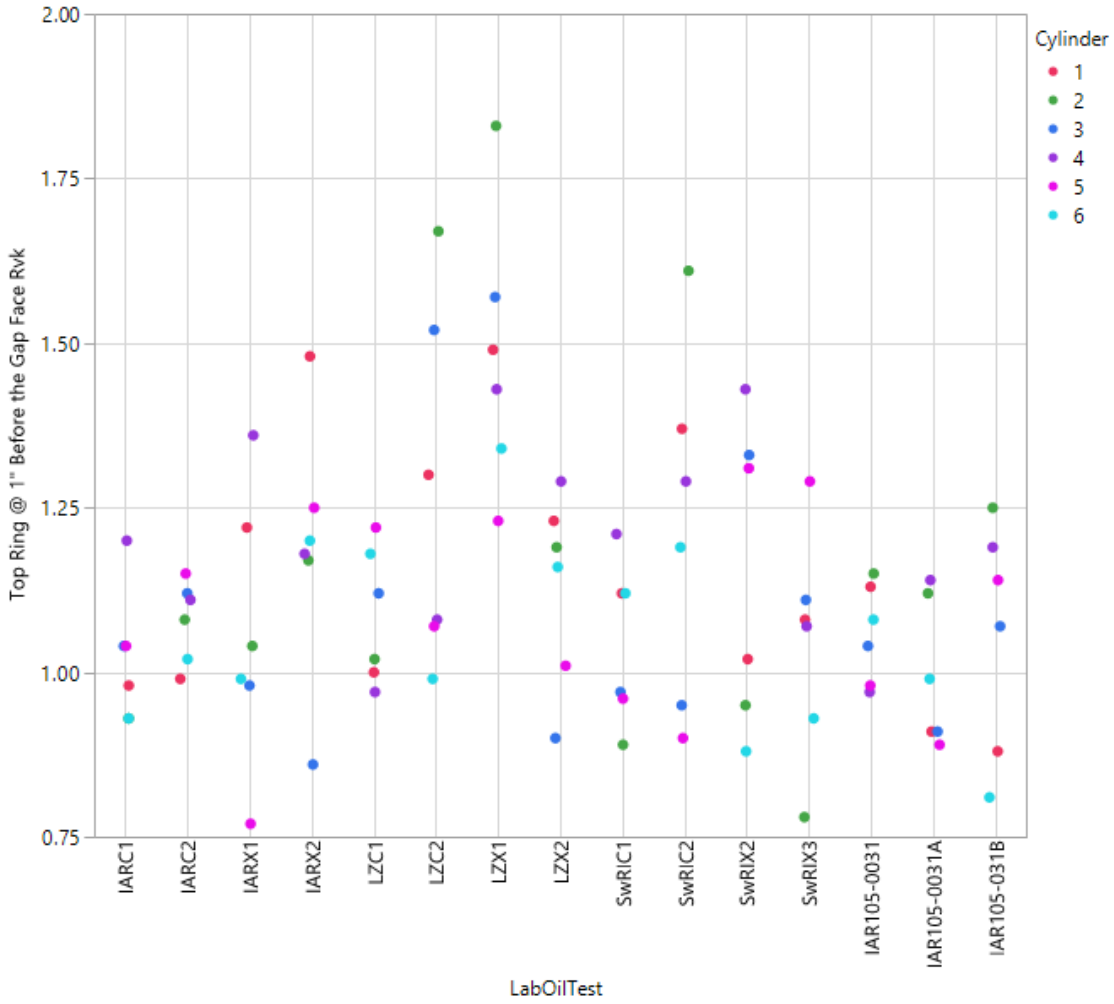

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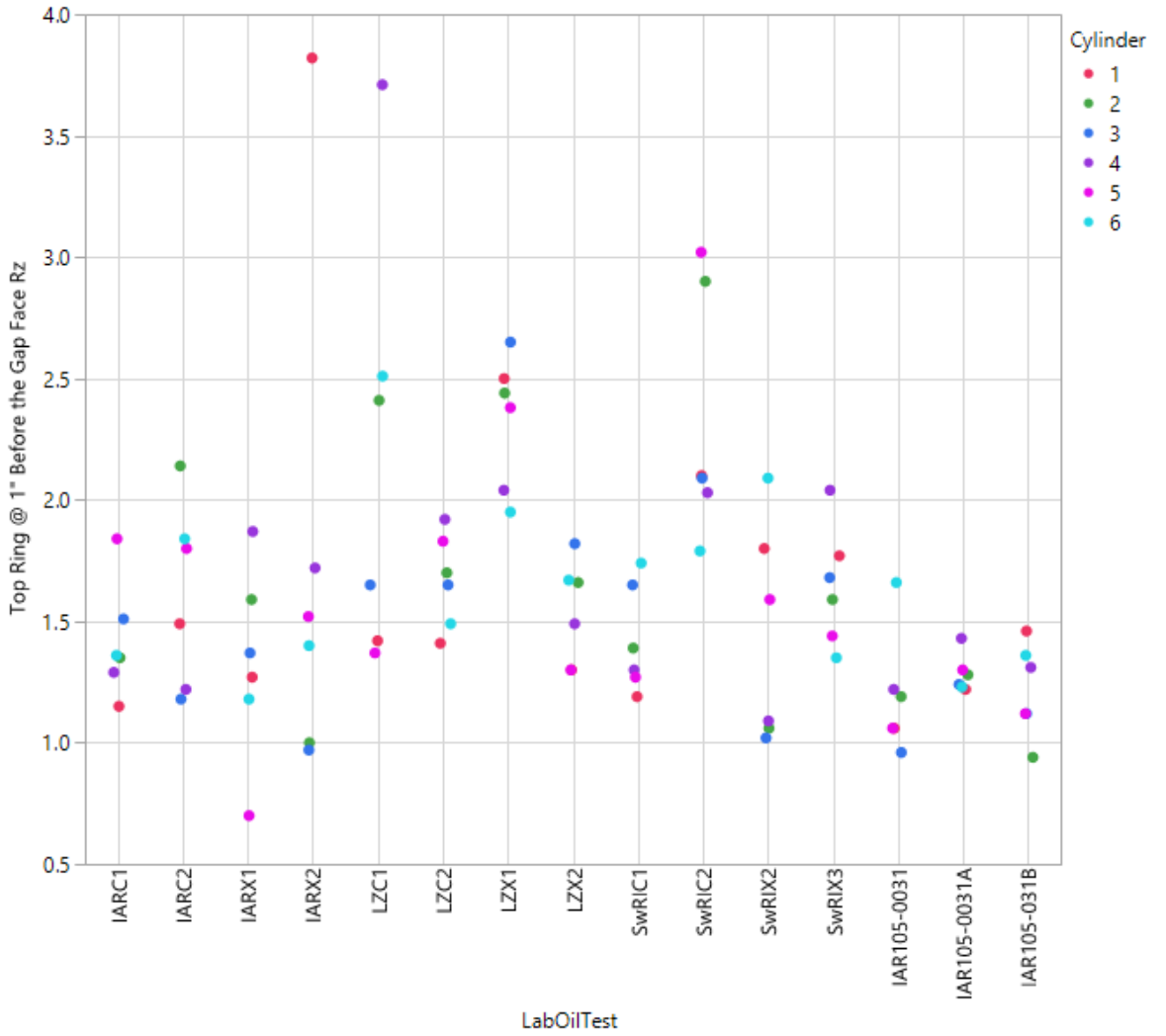

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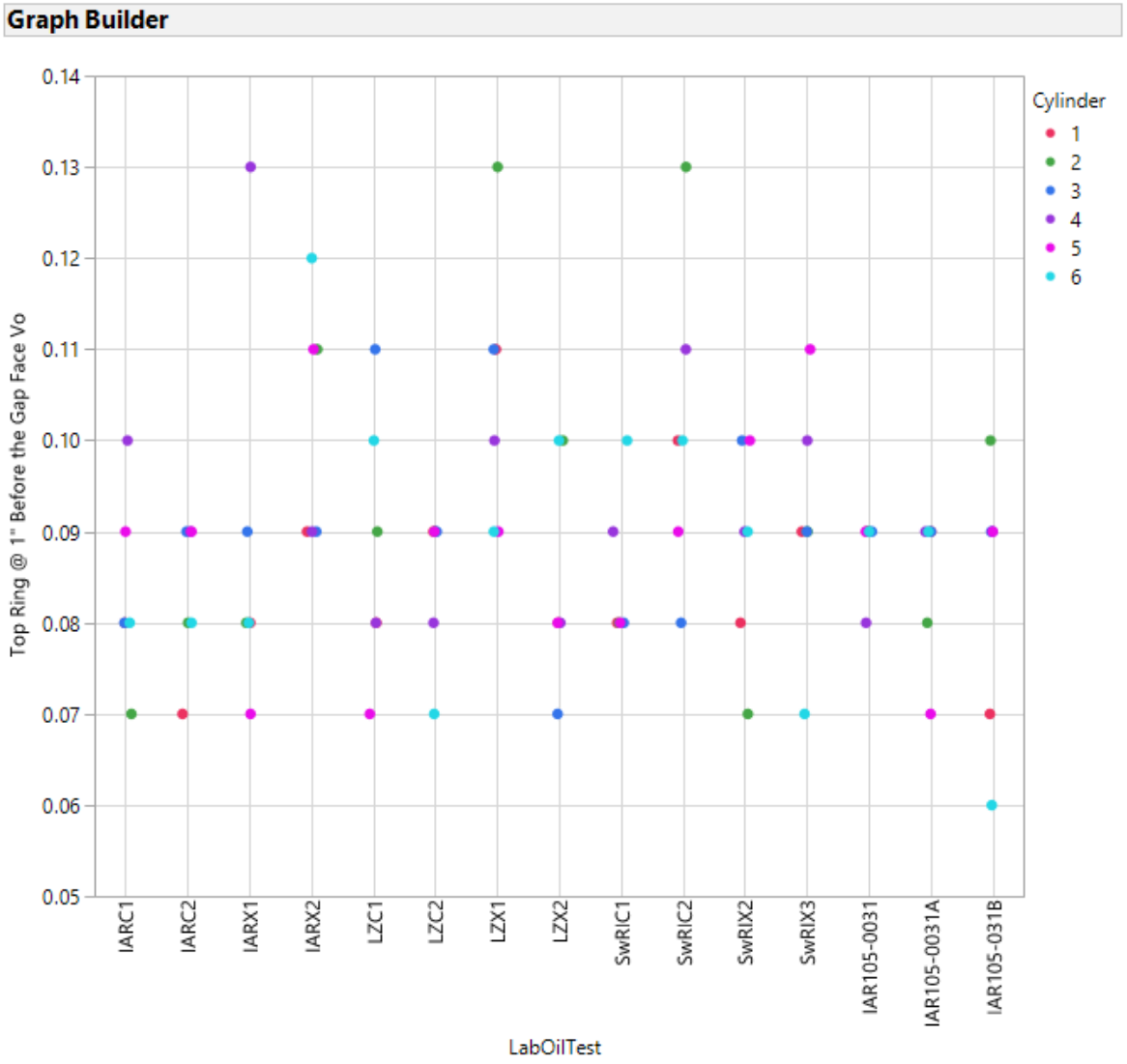

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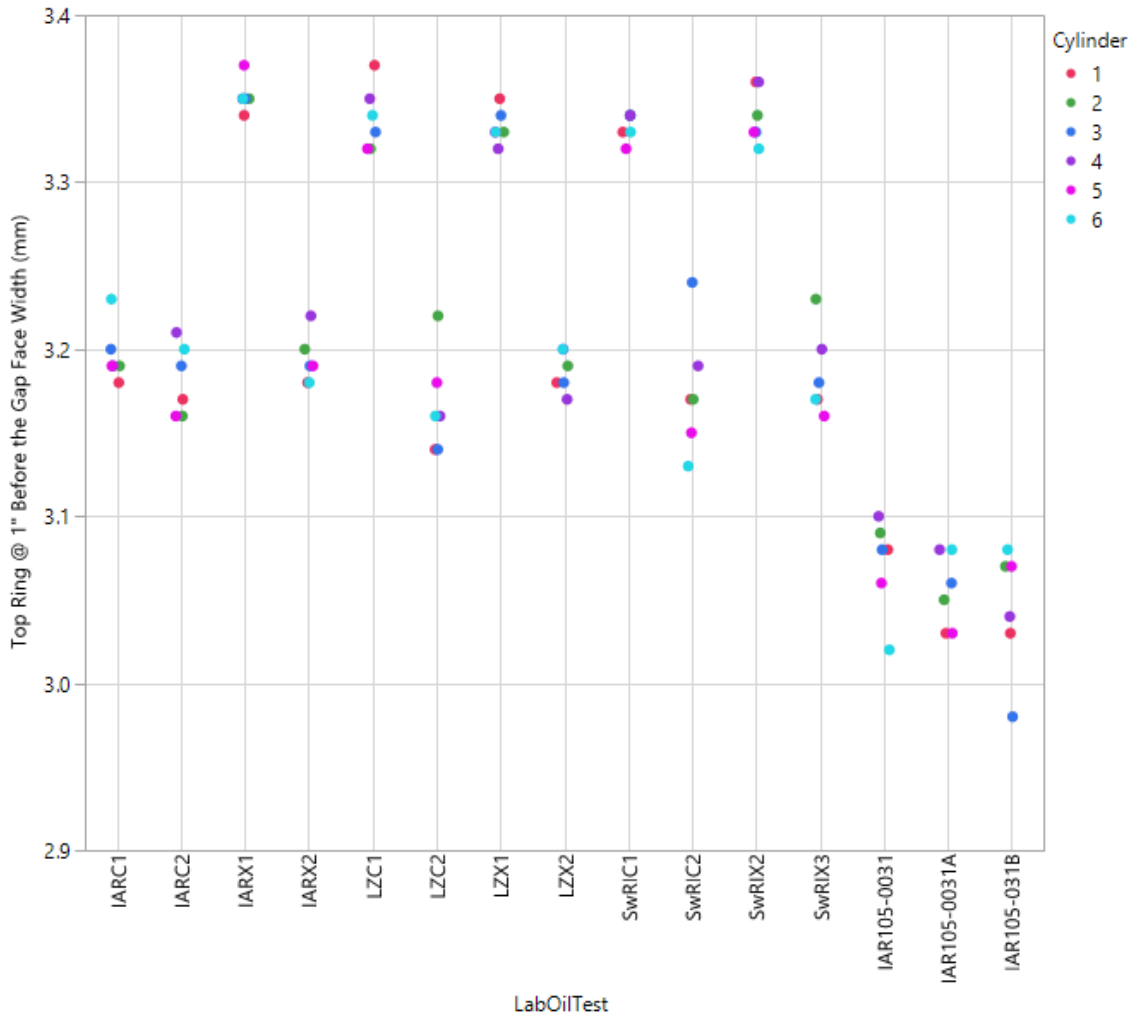

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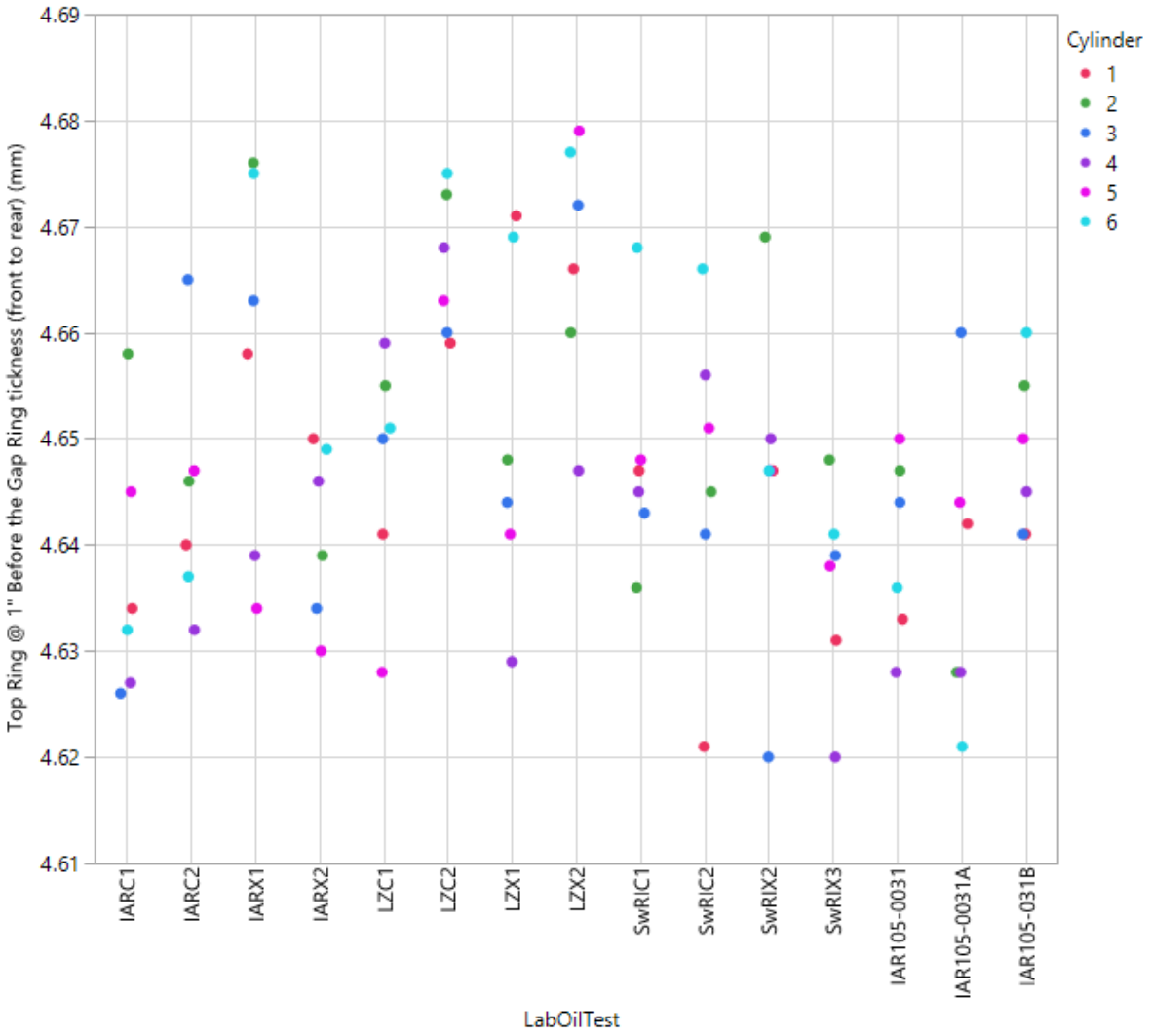

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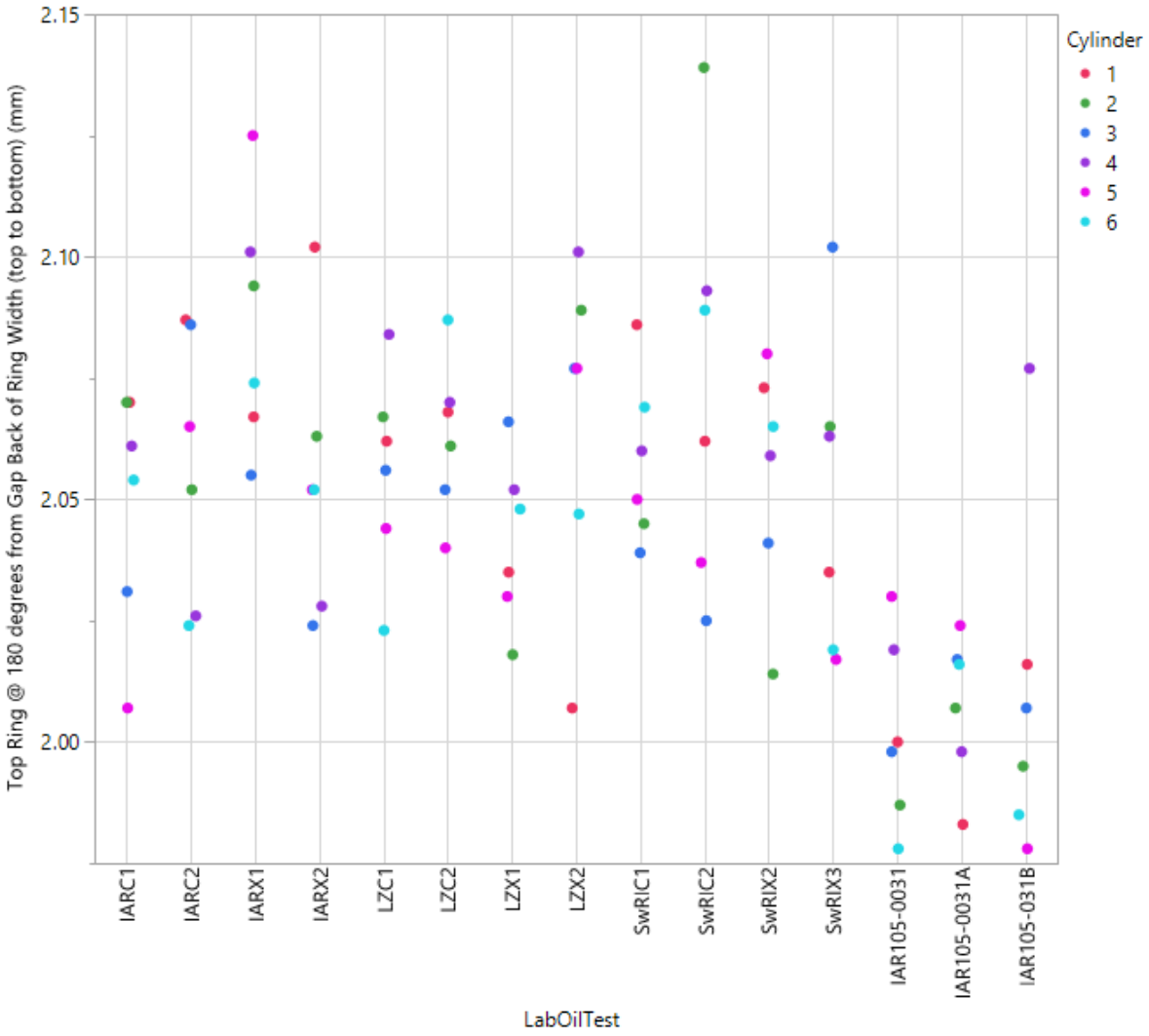

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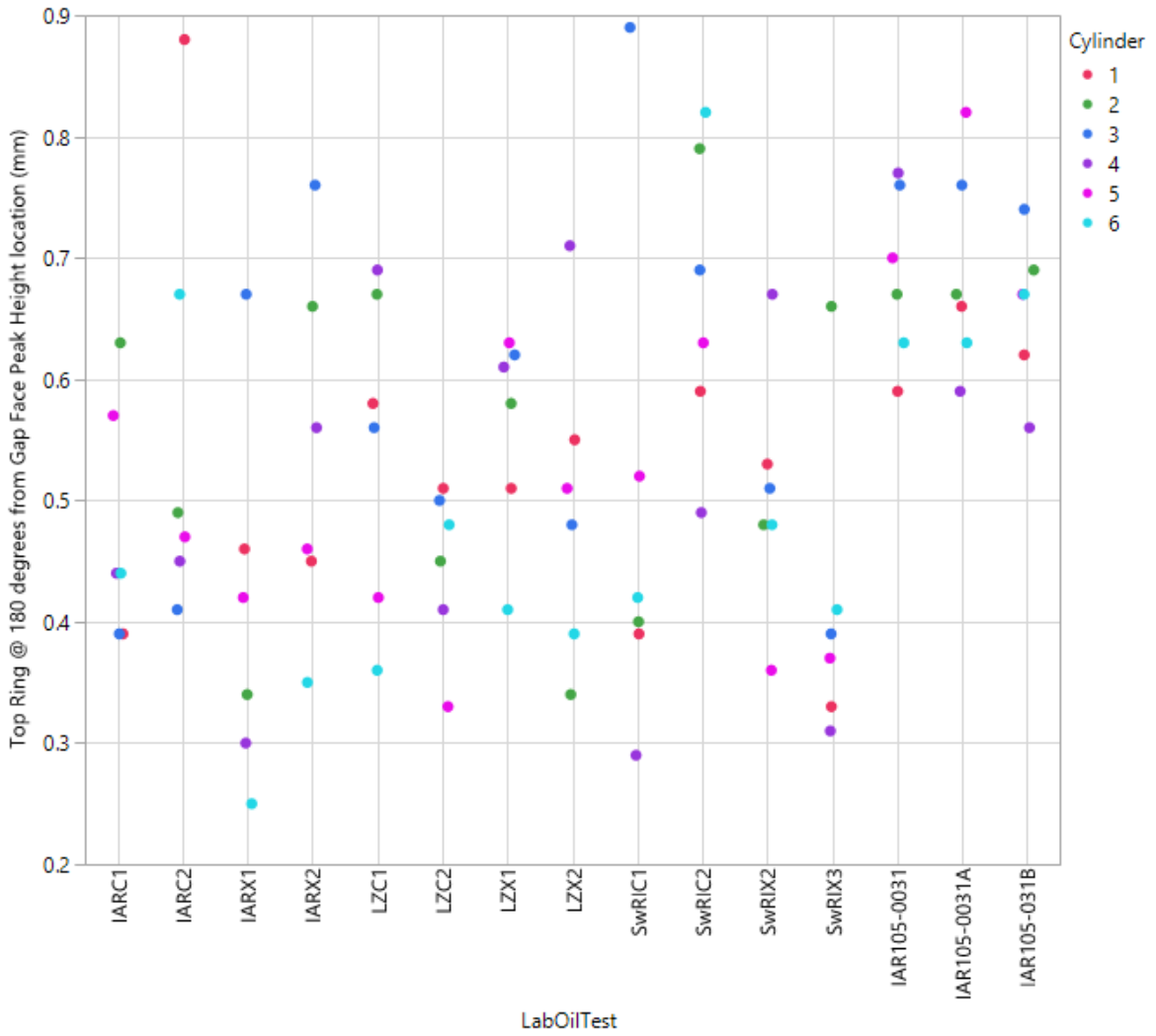

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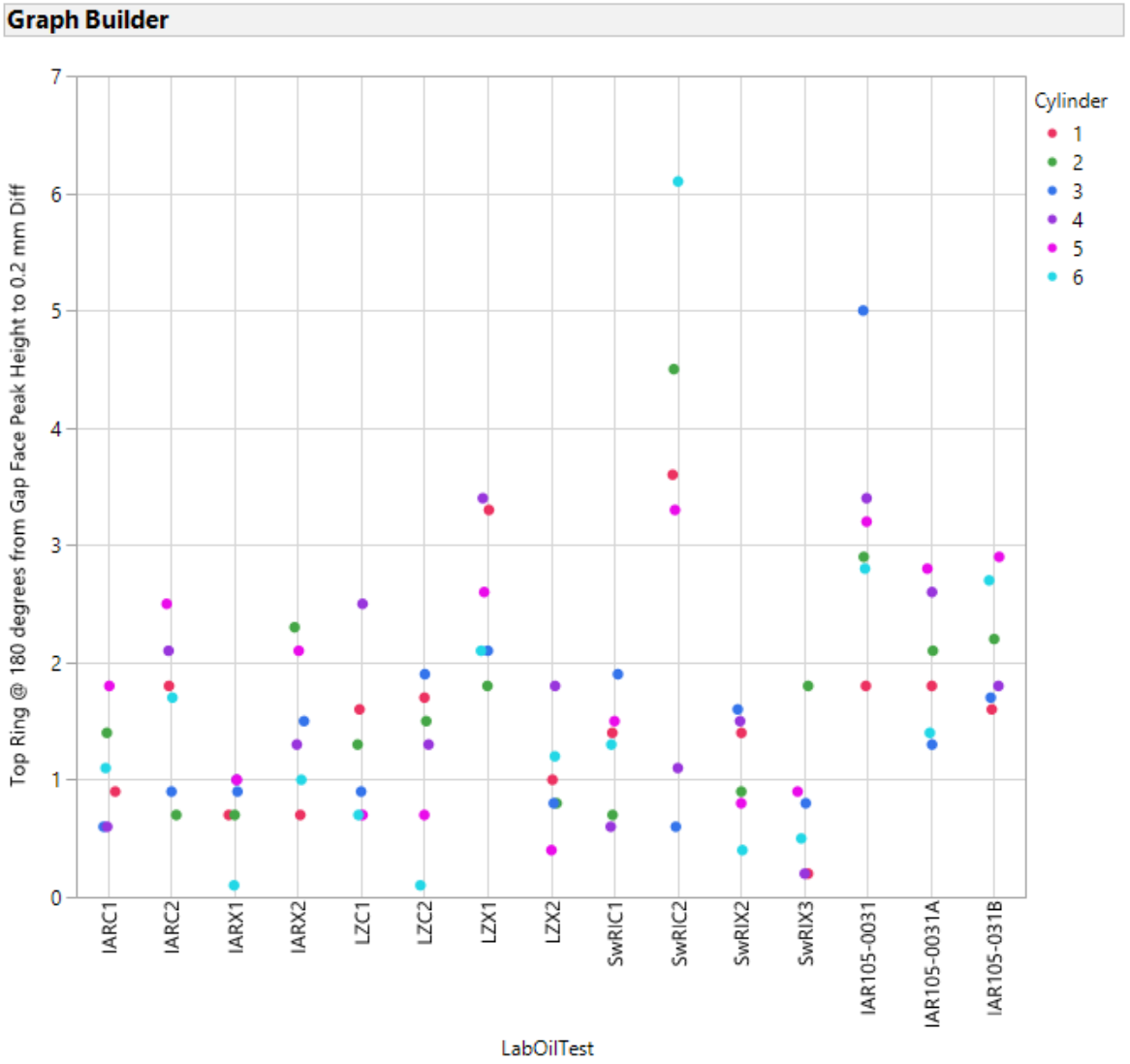

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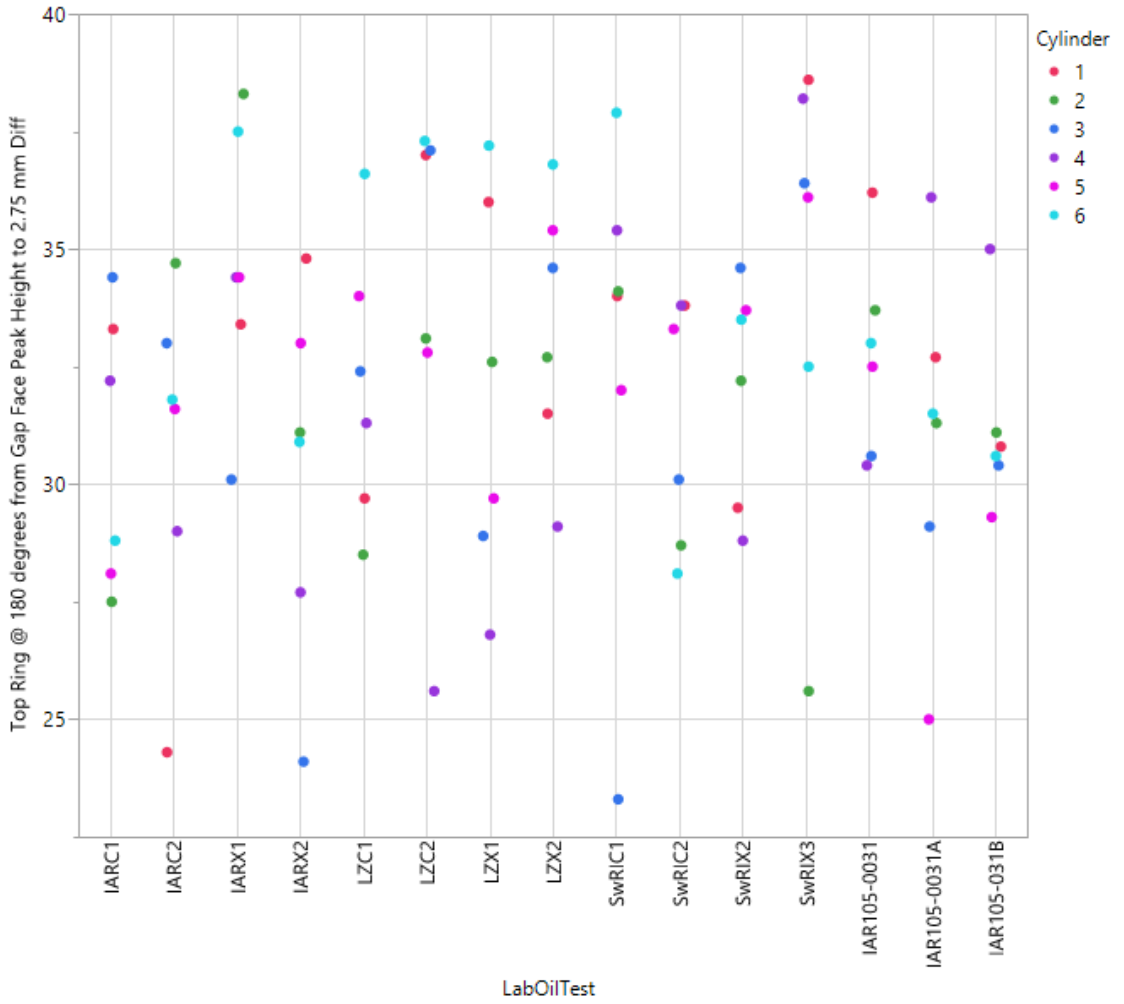

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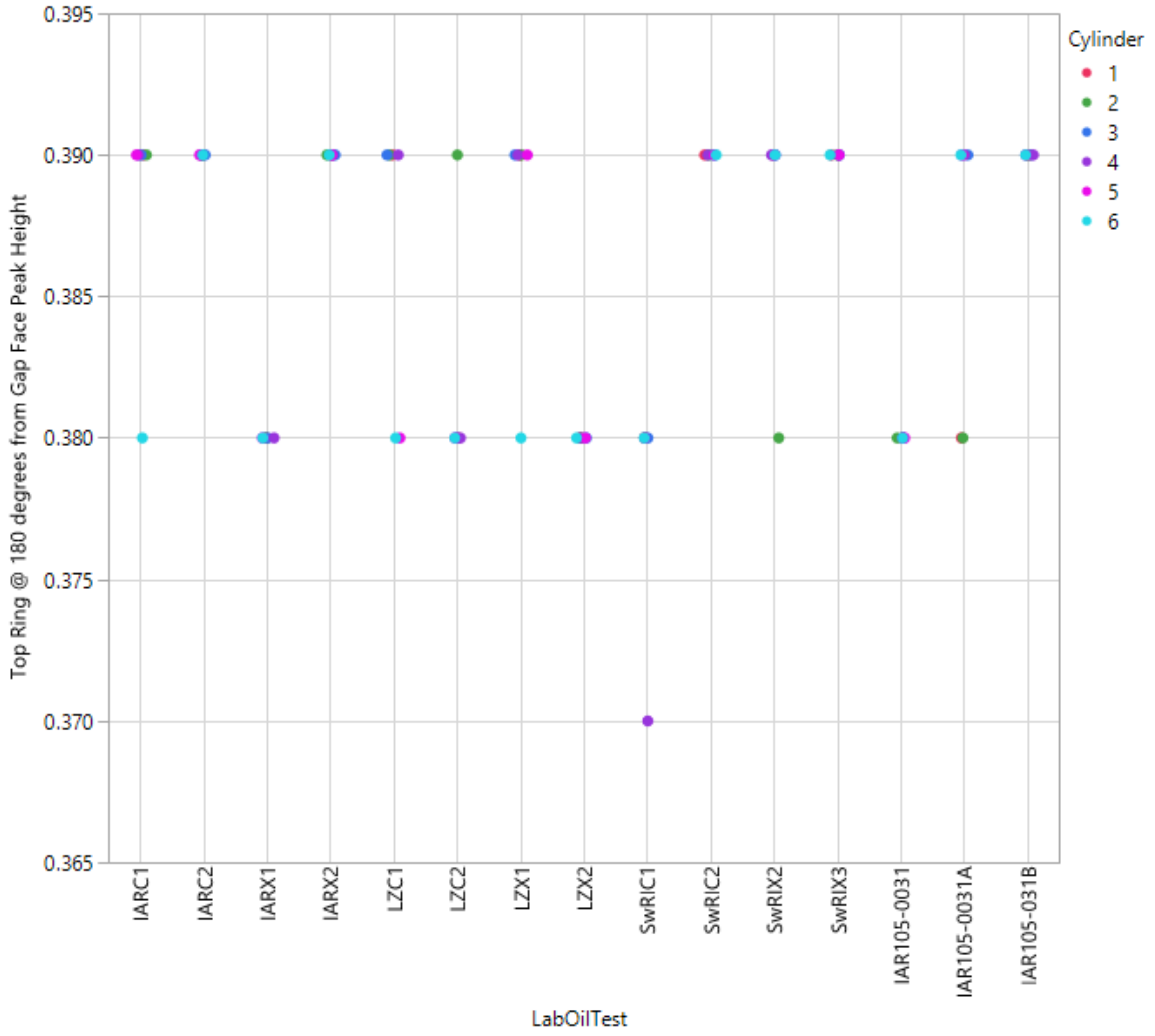

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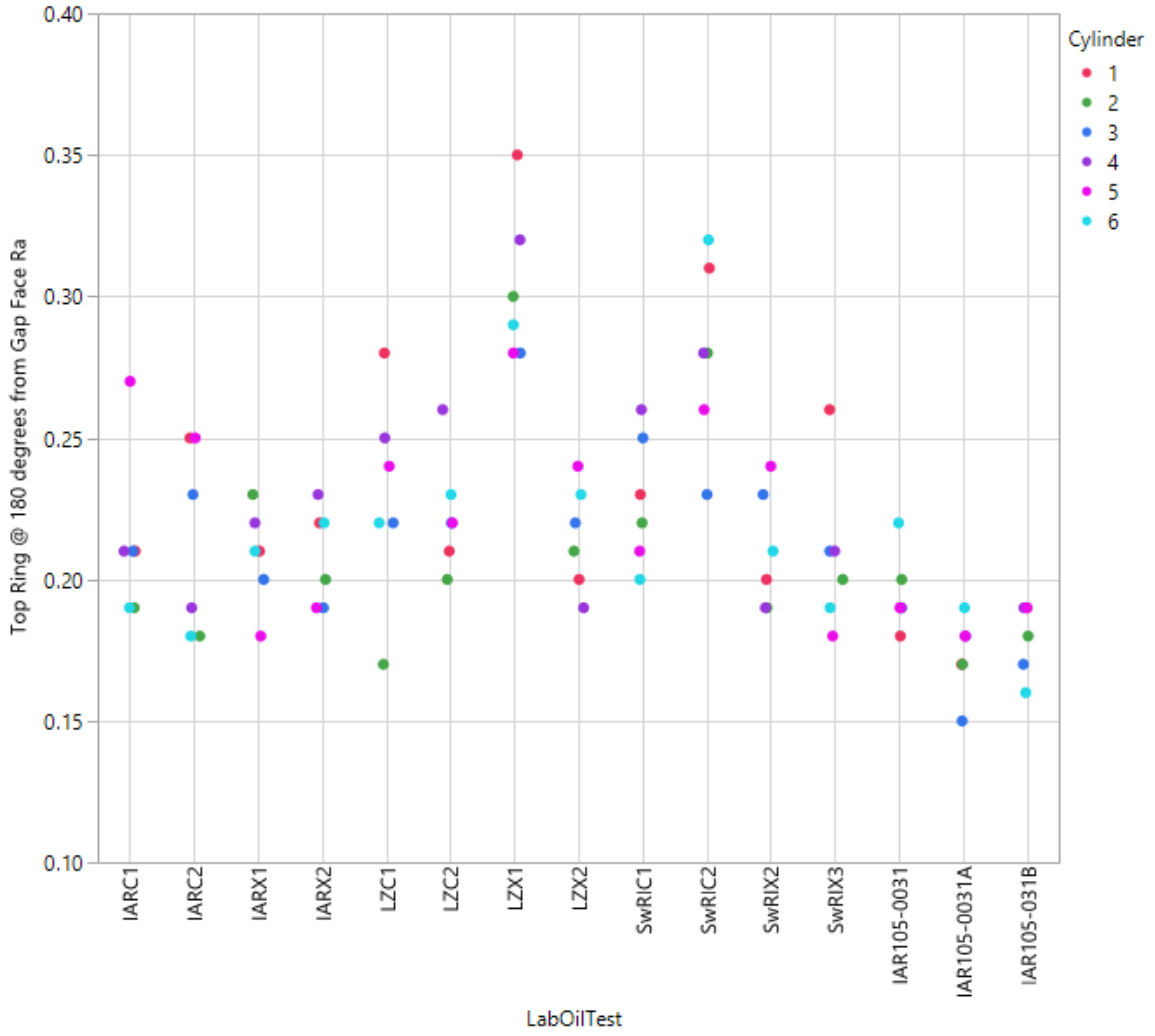

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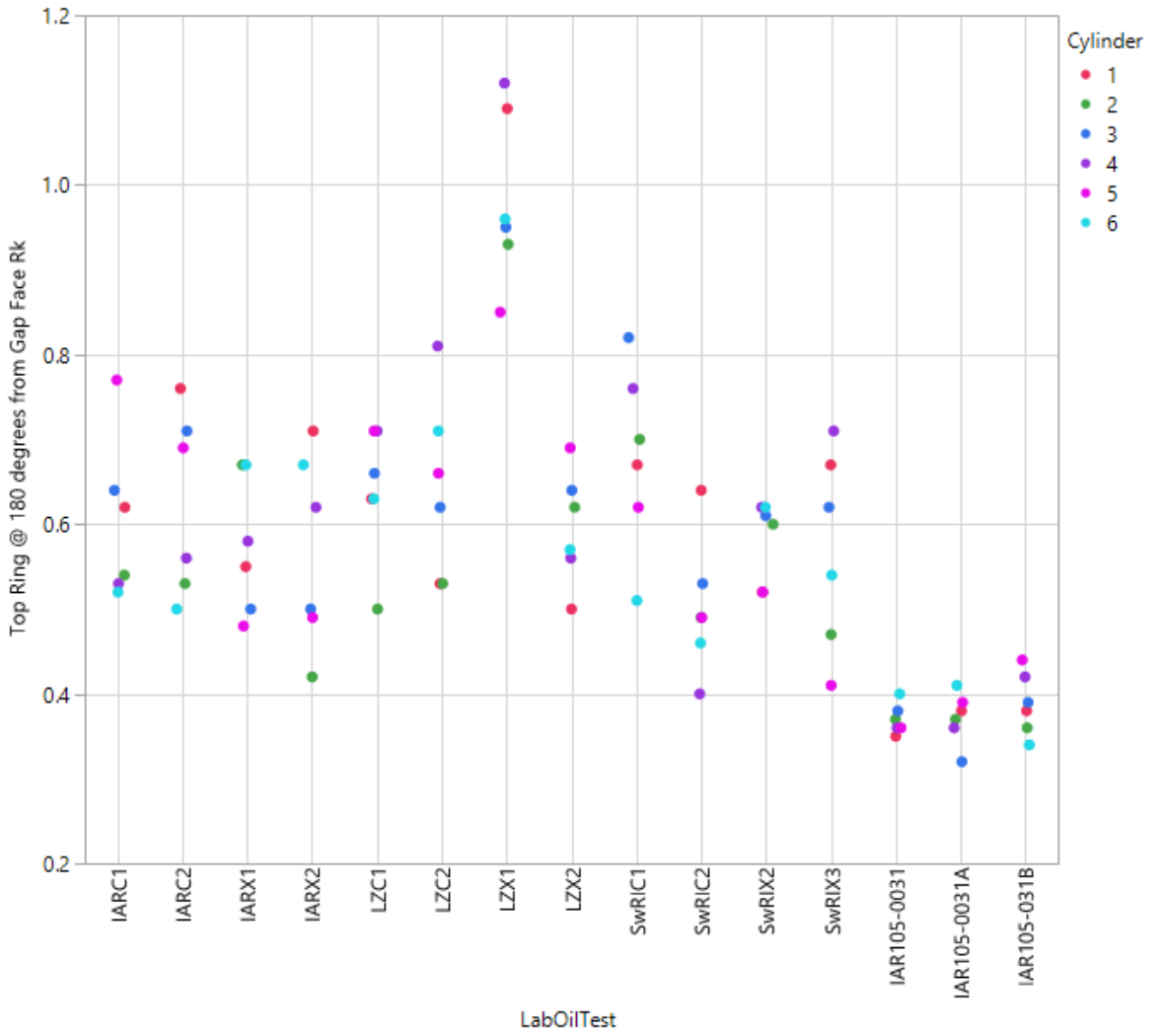

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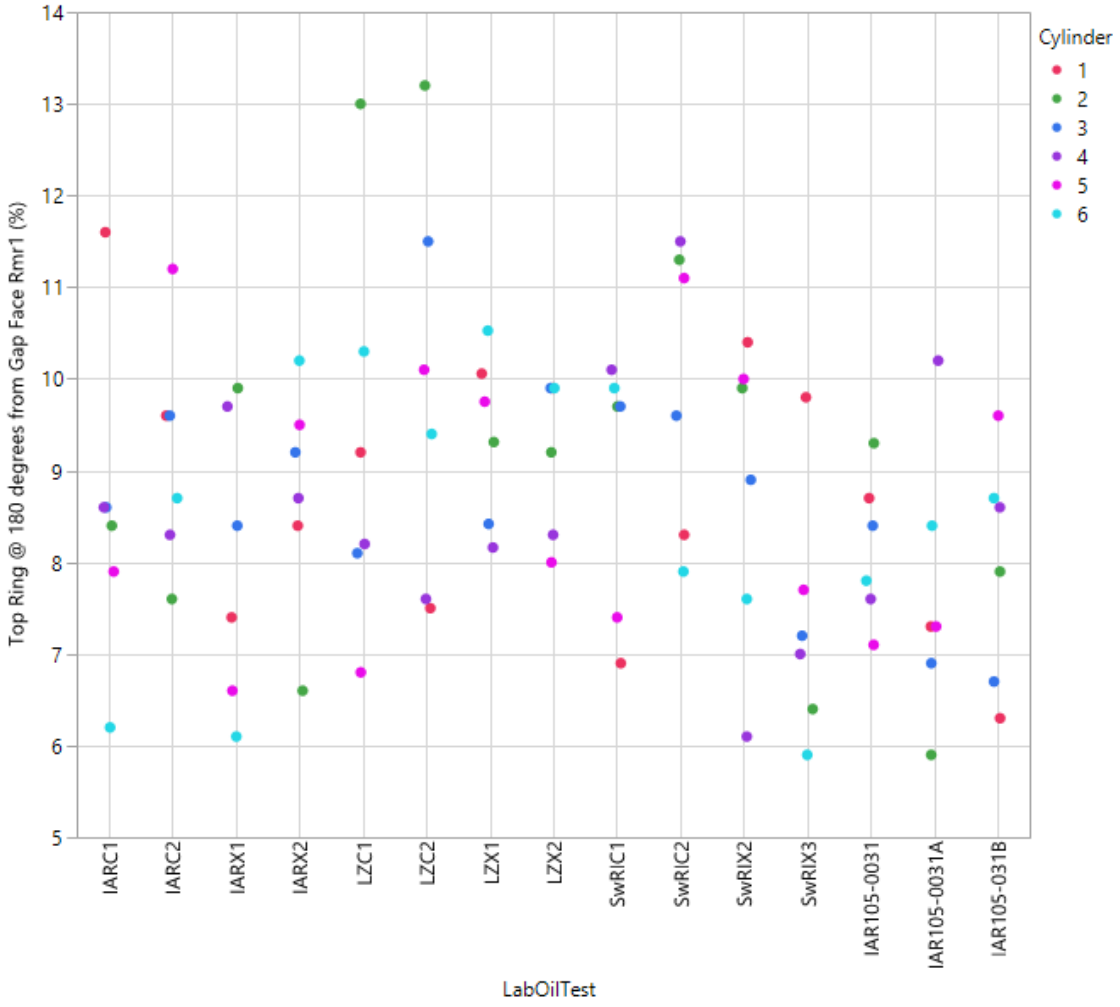

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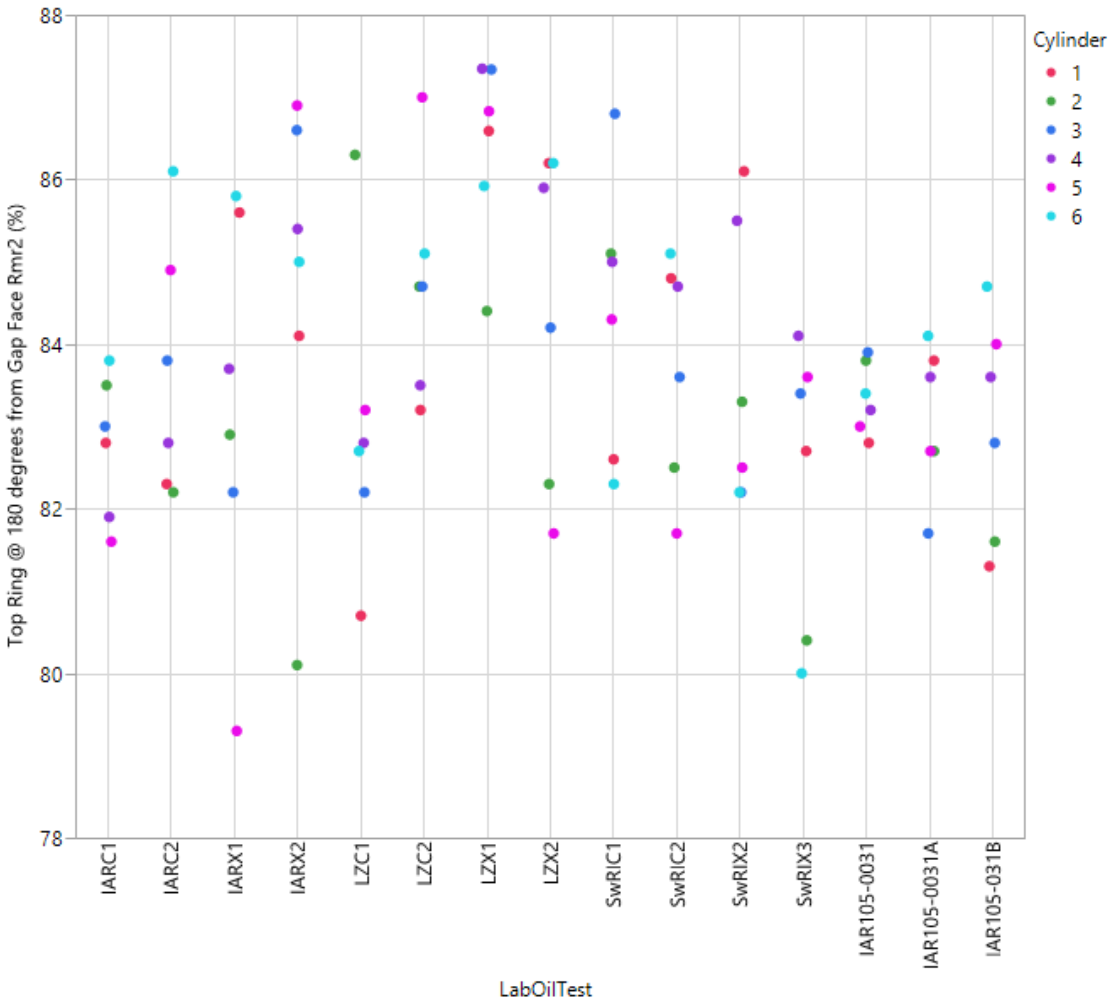

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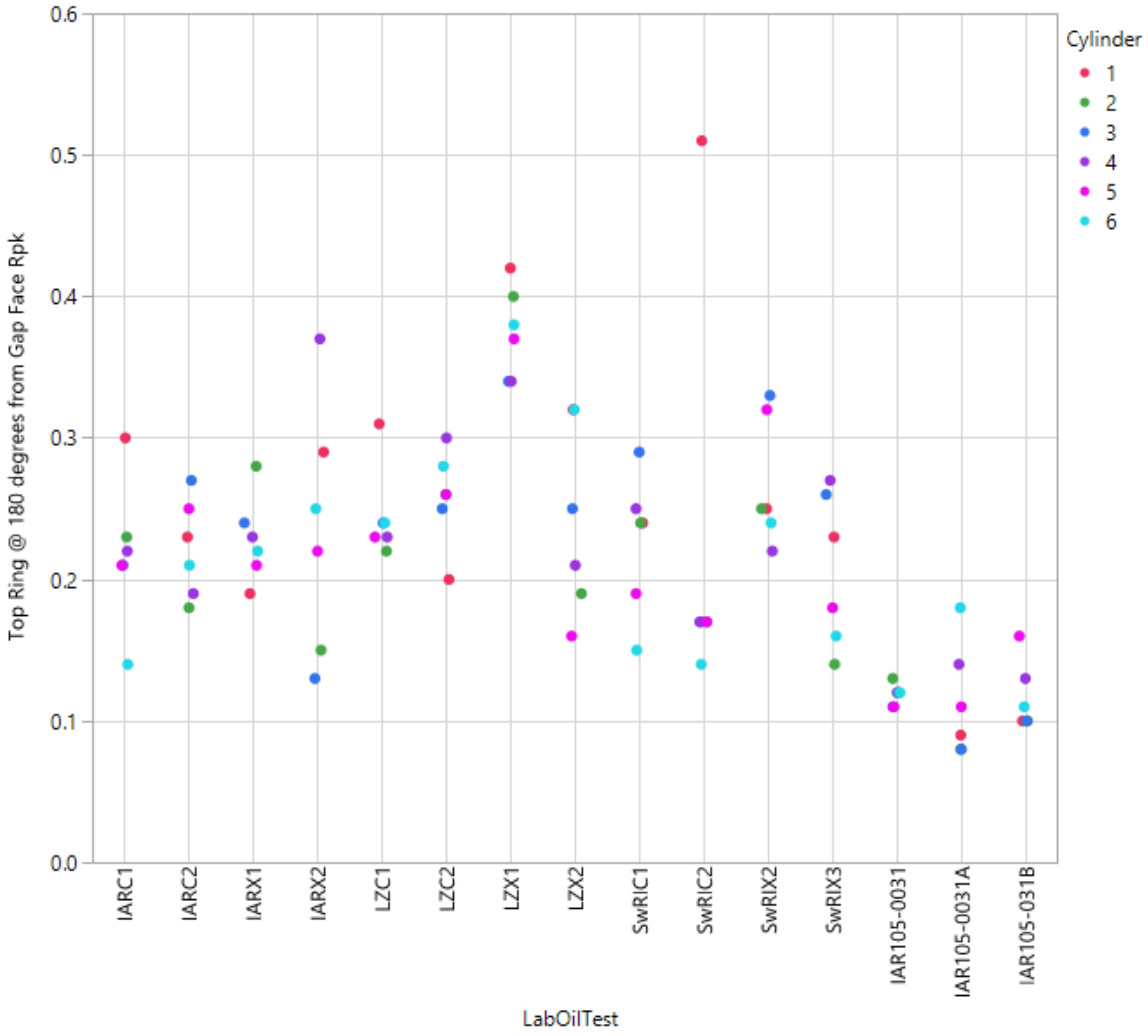

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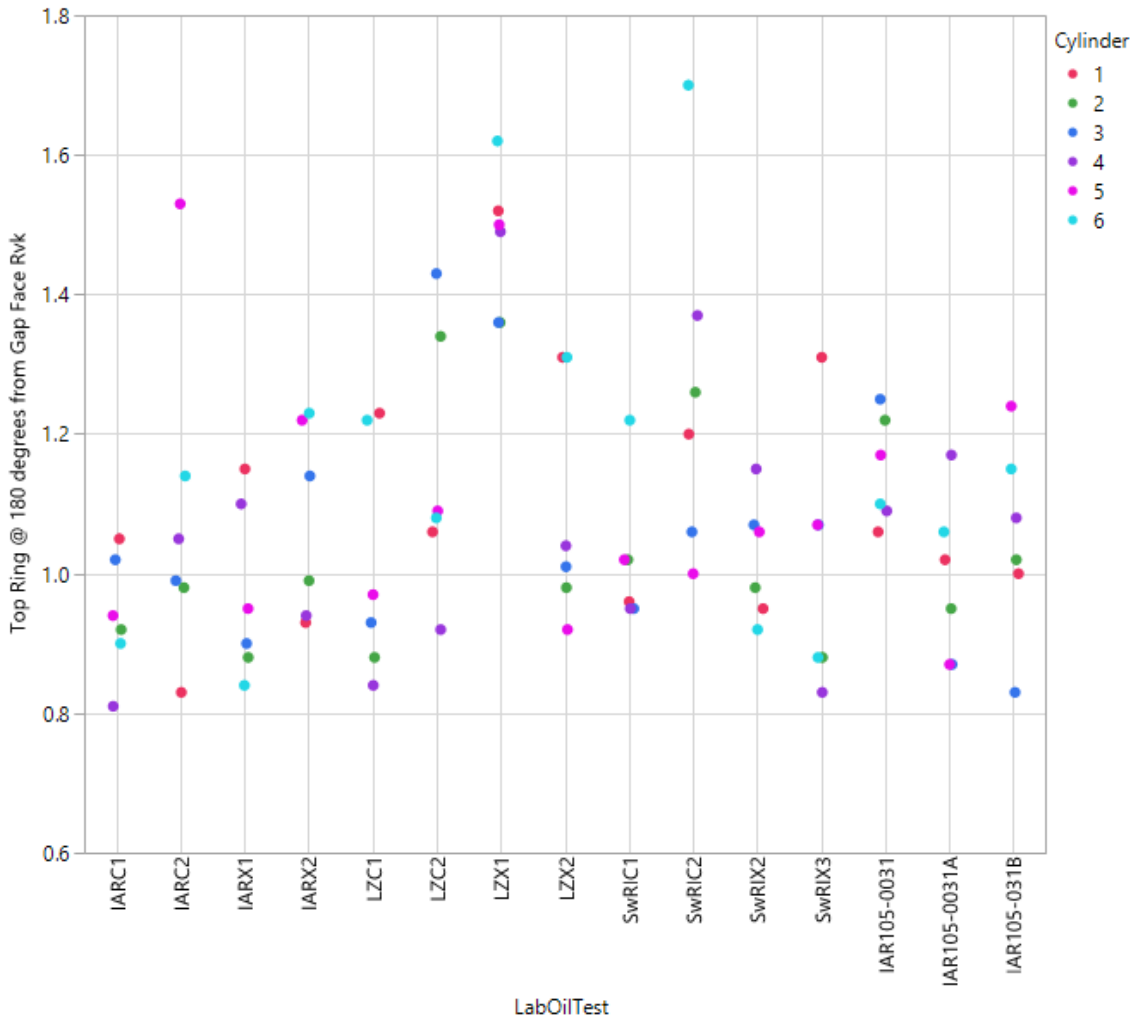

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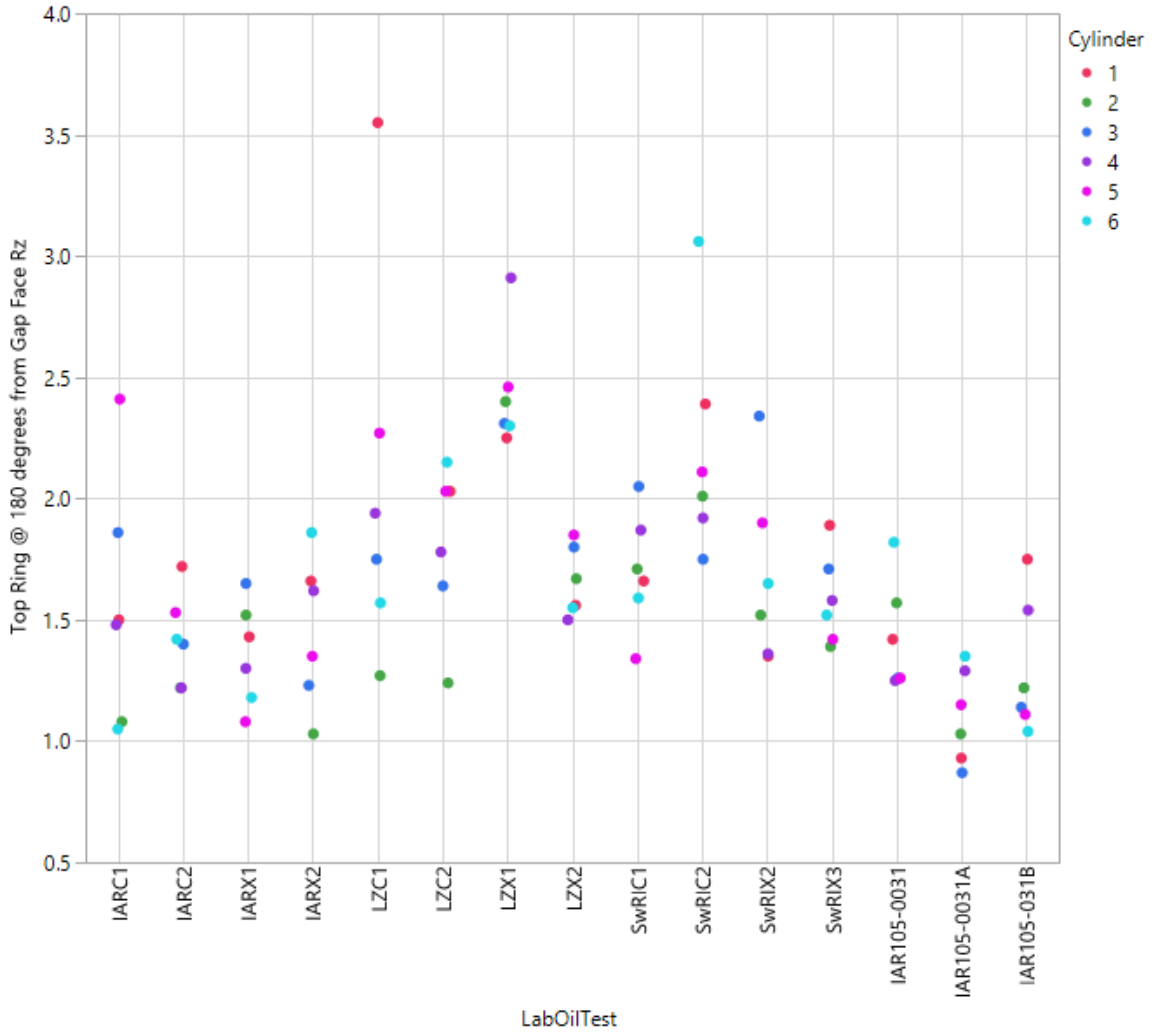

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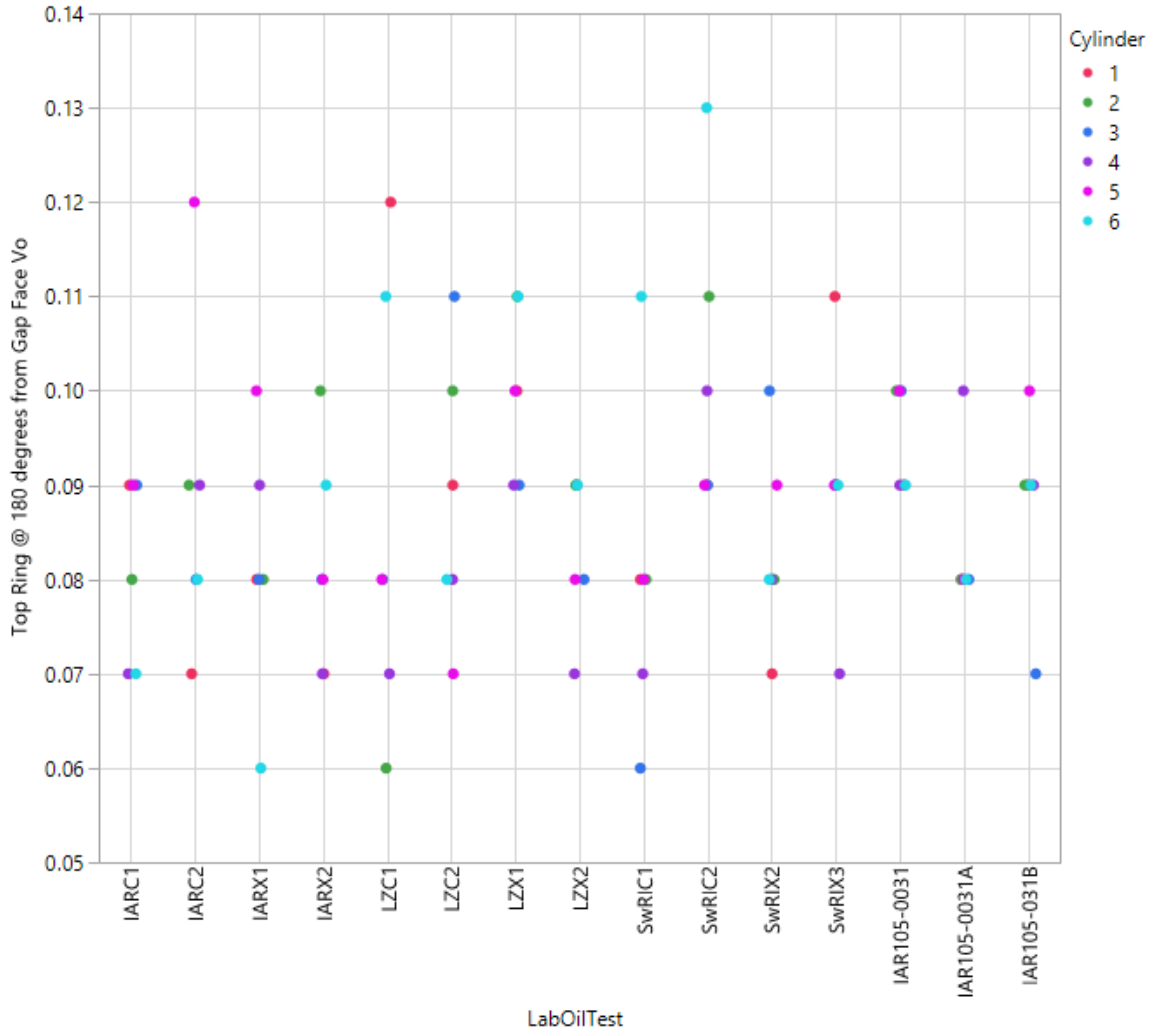

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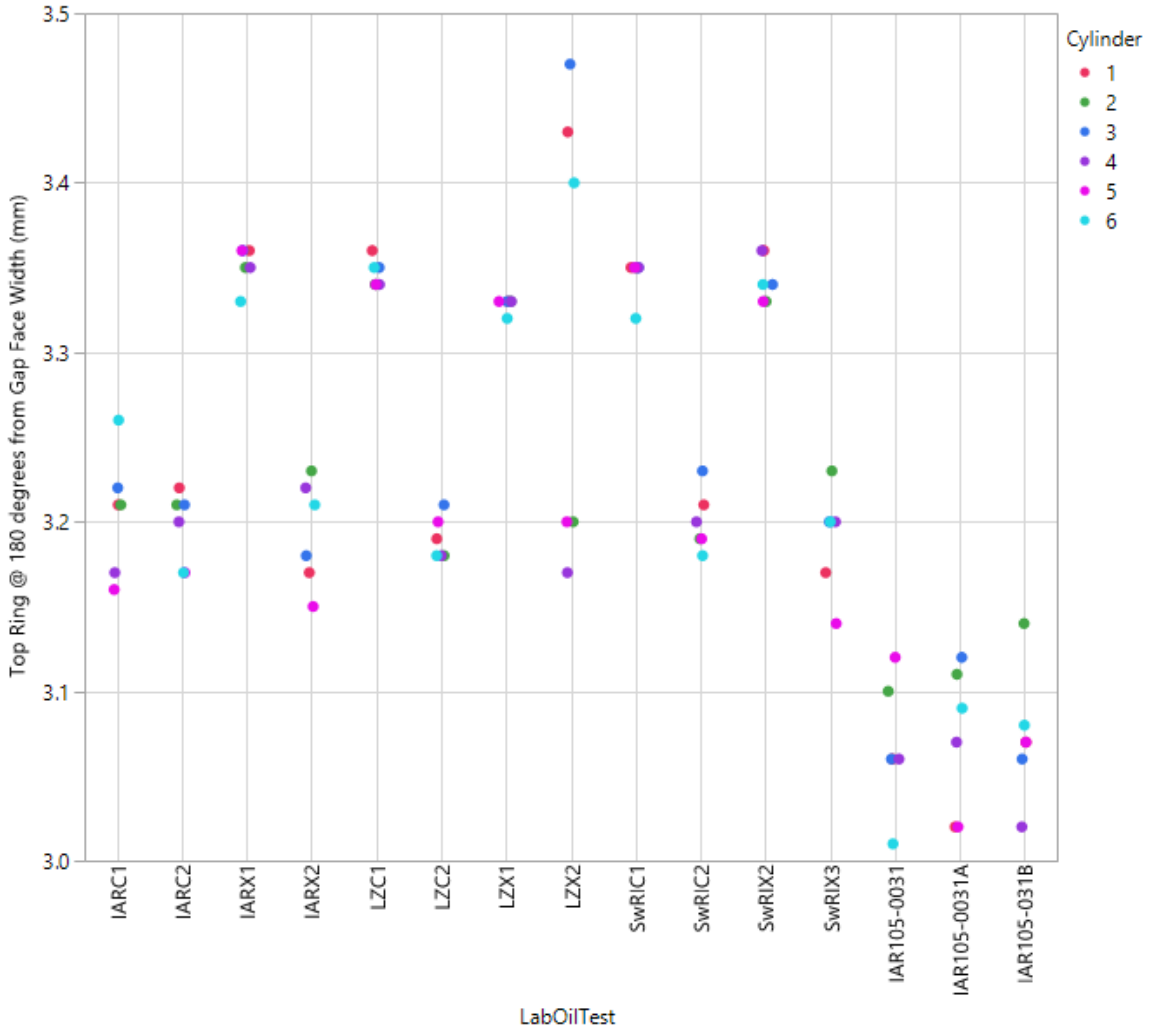

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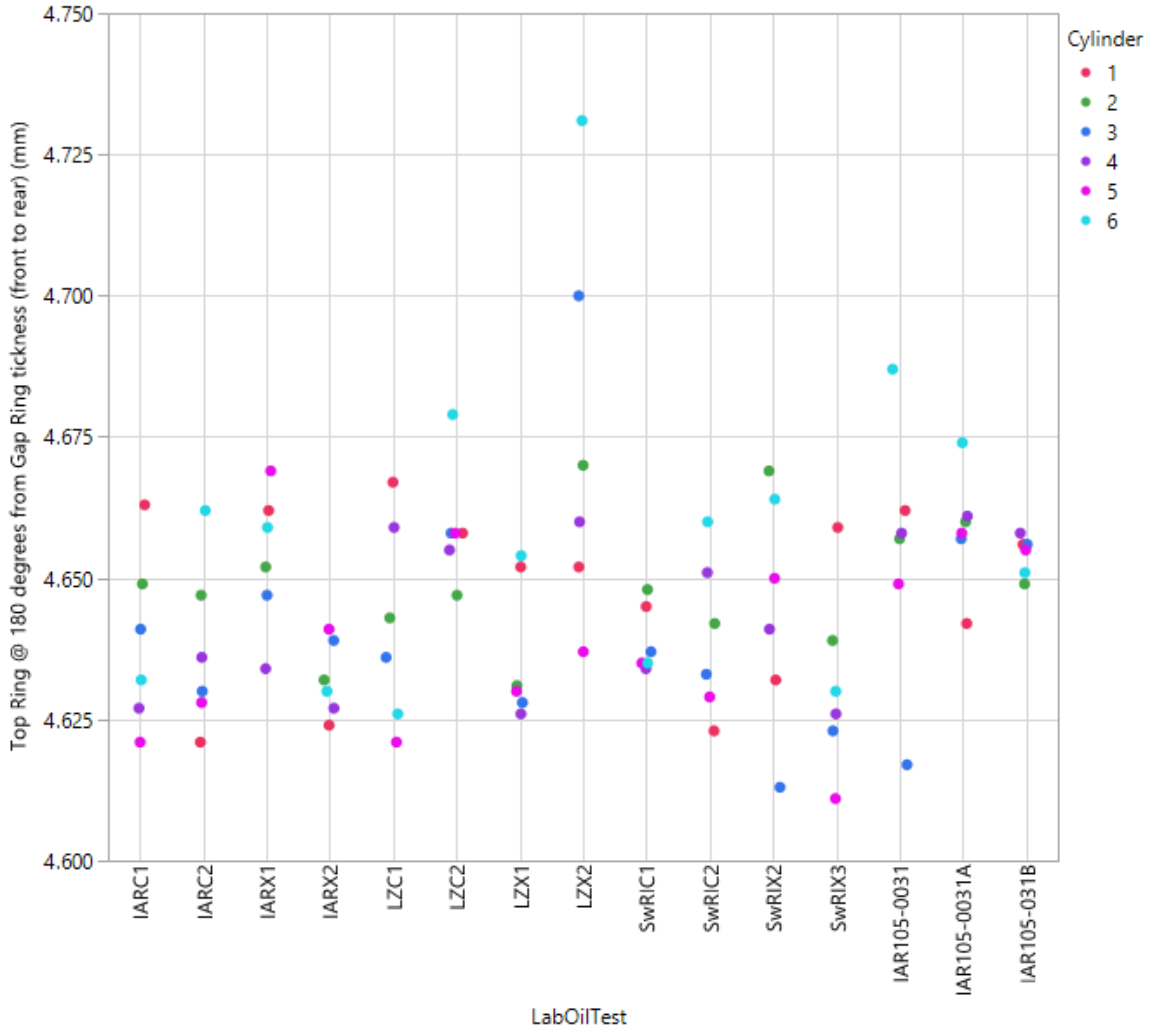

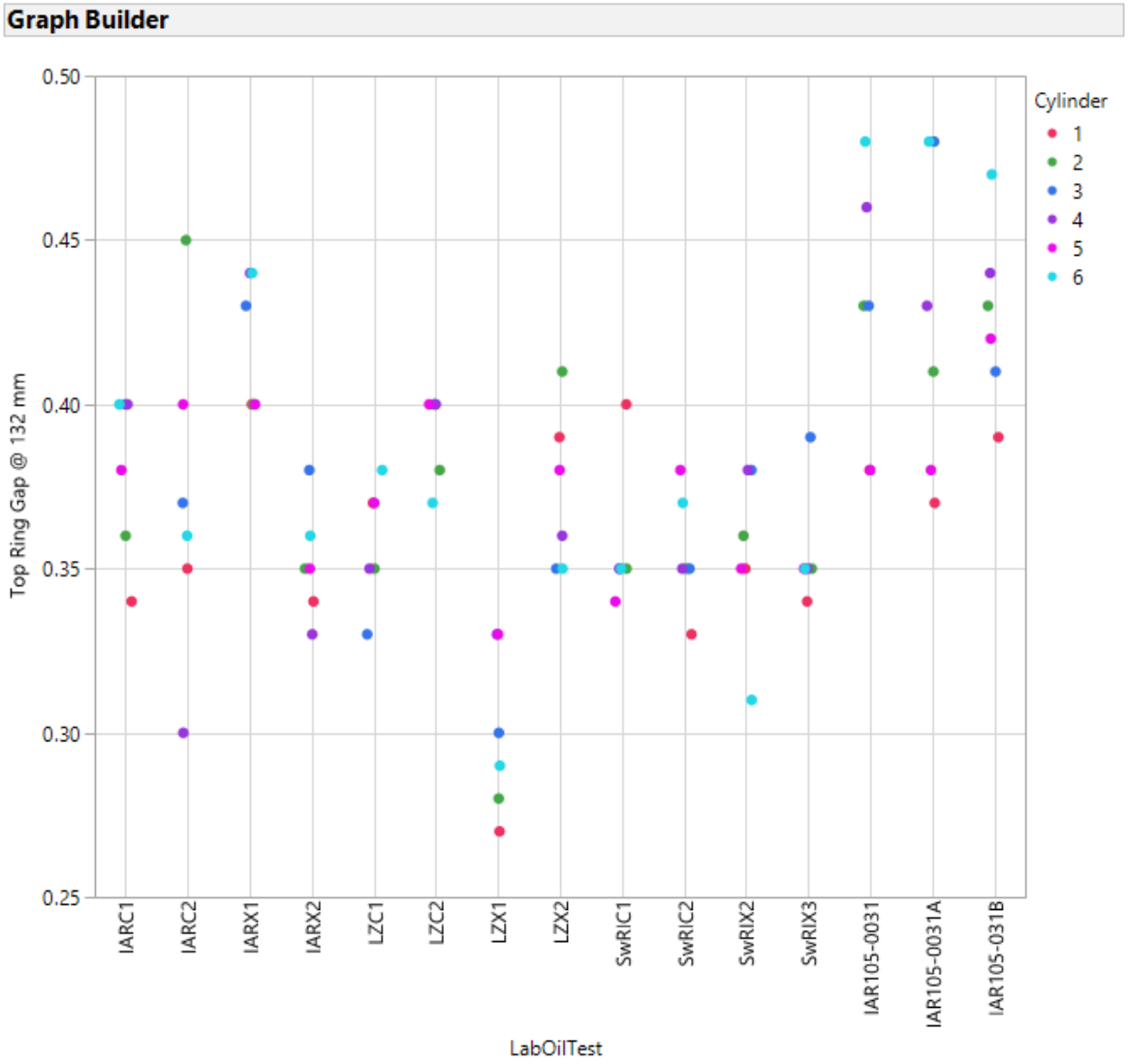

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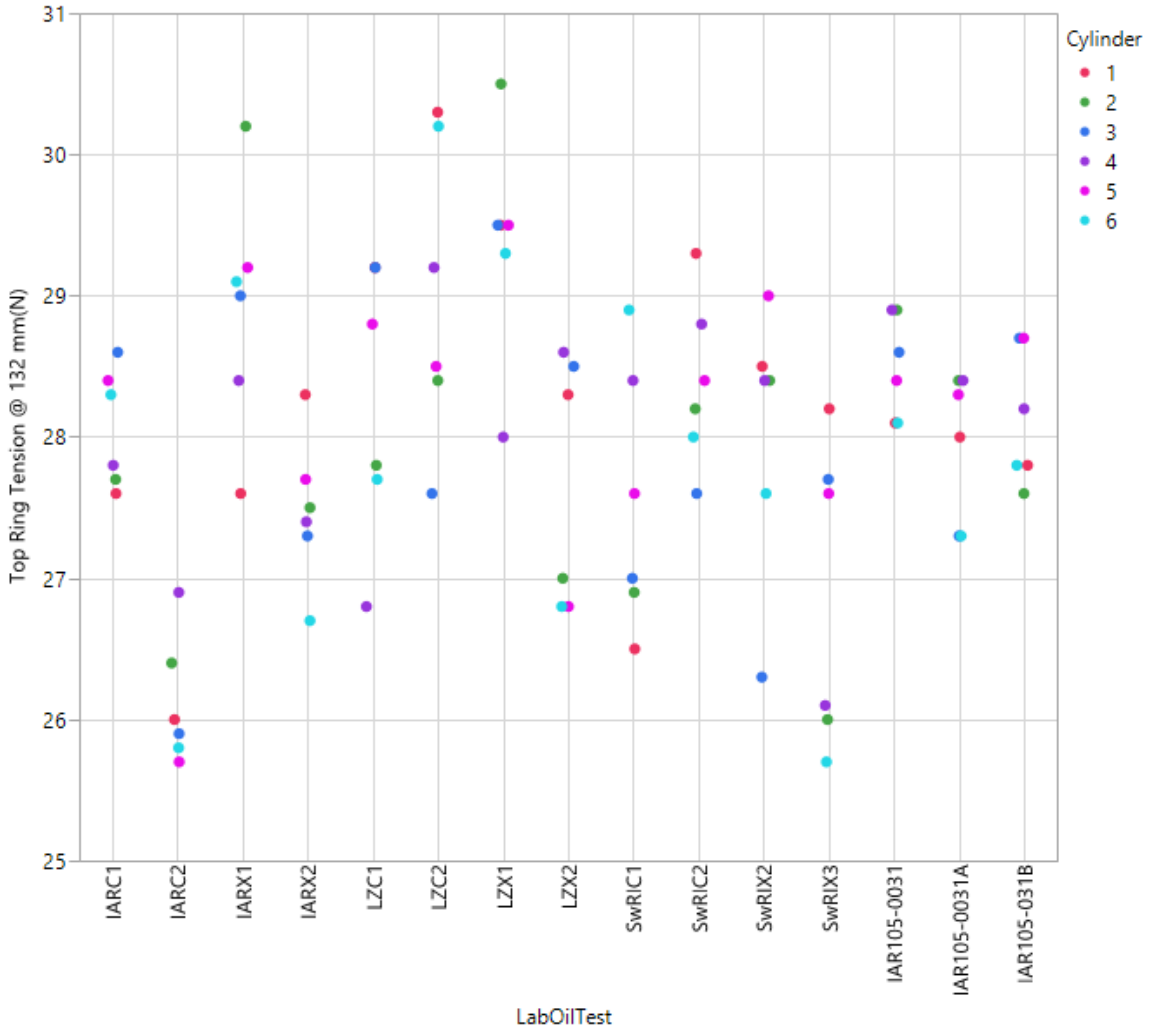

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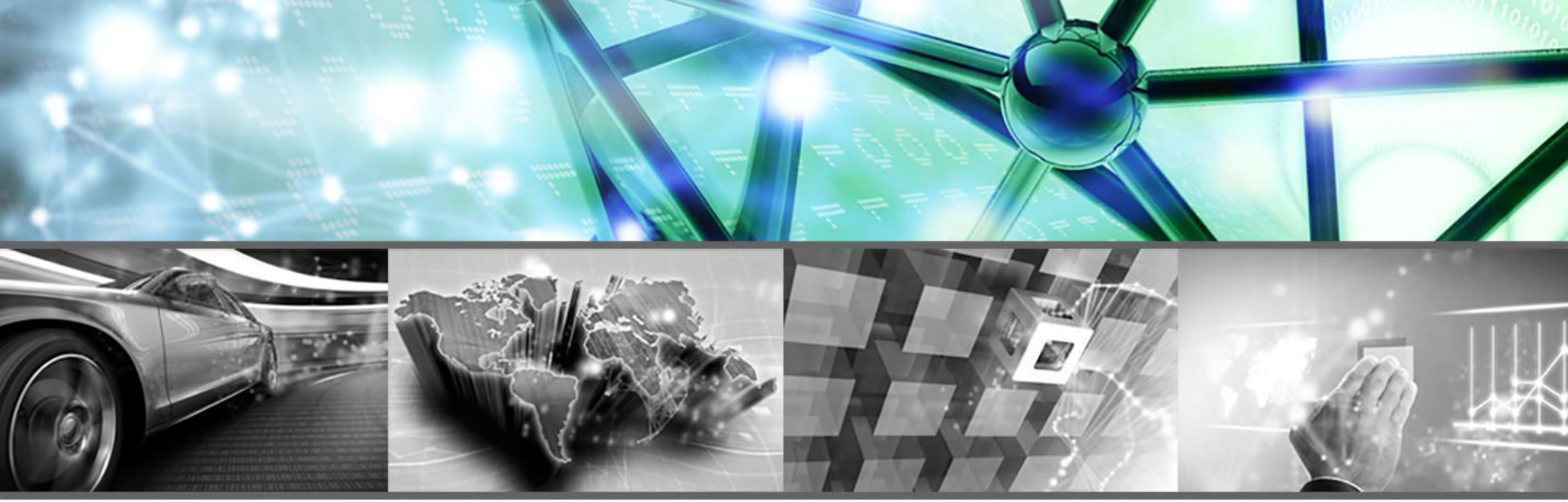

SUCCESS TOGETHER

Working together, achieving great things

When your company and ours combine energies, great things can happen. You bring ideas, challenges and opportunities. We'll bring powerful additive and market expertise, unmatched testing capabilities, integrated global supply and an independent approach to help you differentiate and succeed.

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