

Sequence X

ASTM D8729

Ford Chain Wear Test Surveillance Panel Meeting Minutes

November 20, 2024

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Sequence X Surveillance Panel Meeting Agenda

11/20/24

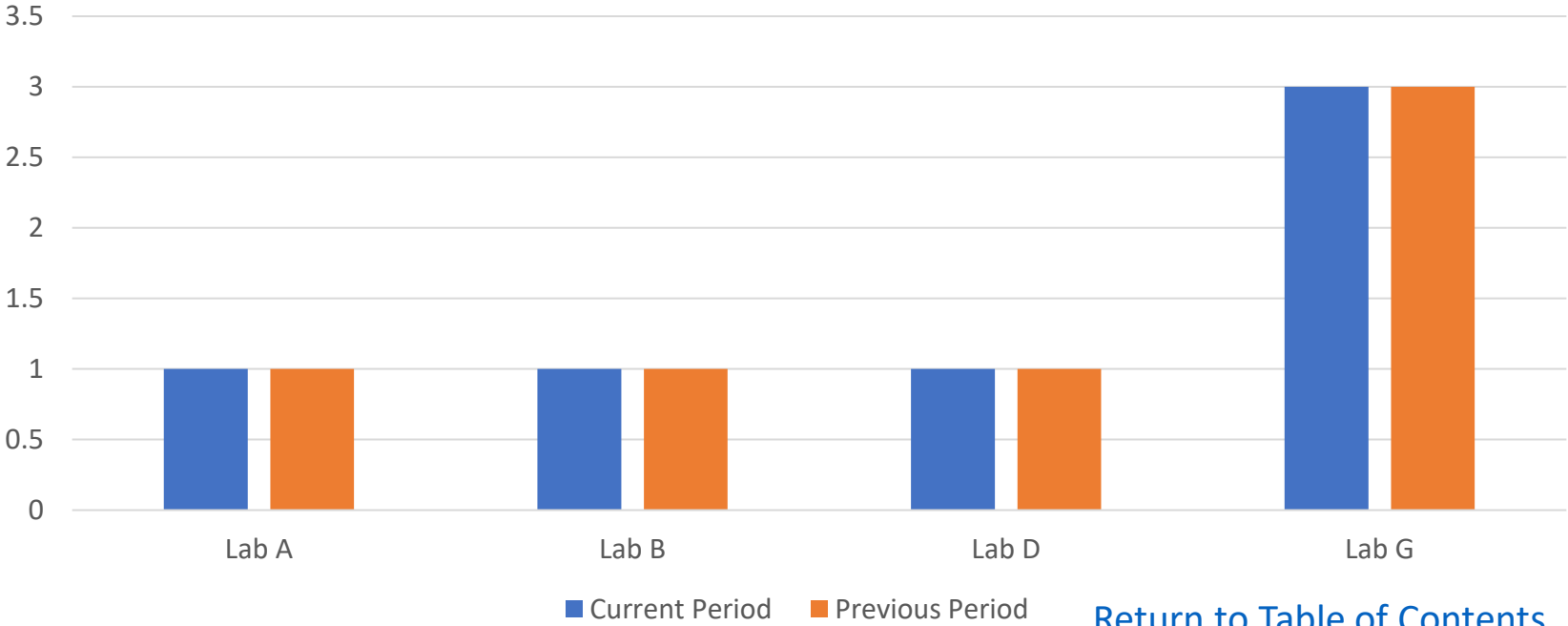
- Roll call
- Action Items
- Fuel Supplier Report
- TMC Report
- OH Report
- Alternative Fuel Matrix
- Report to Sub B in Next Meeting

Sequence X S.P. Report

LTMS Laboratory/Stand Distribution

	Reporting Data	Calibrated as of 9/30/24
Number of Laboratories	4	4
Number of Stands	6	5

Calibrated Stands



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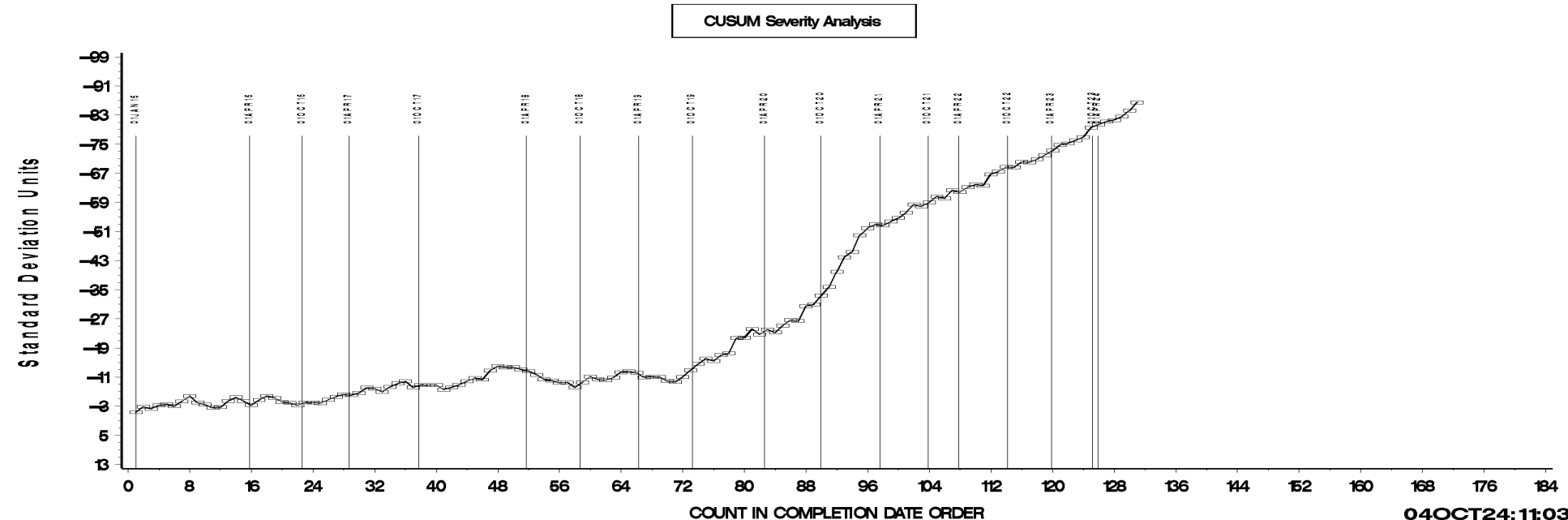
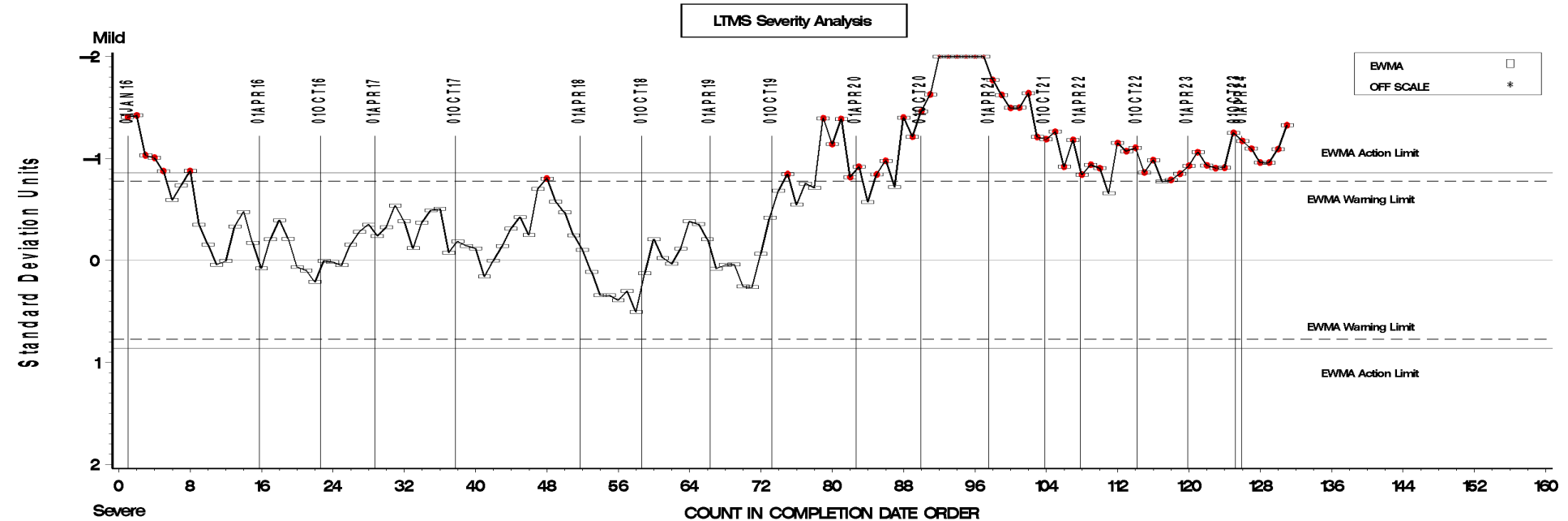
Sequence X Activity

Test Status	Validity Code	#
Acceptable reference test	AC	6
Acceptable discrimination test	AS	5
Operationally invalid test (Lab judgement)	LC	1
Total Number of Tests		12

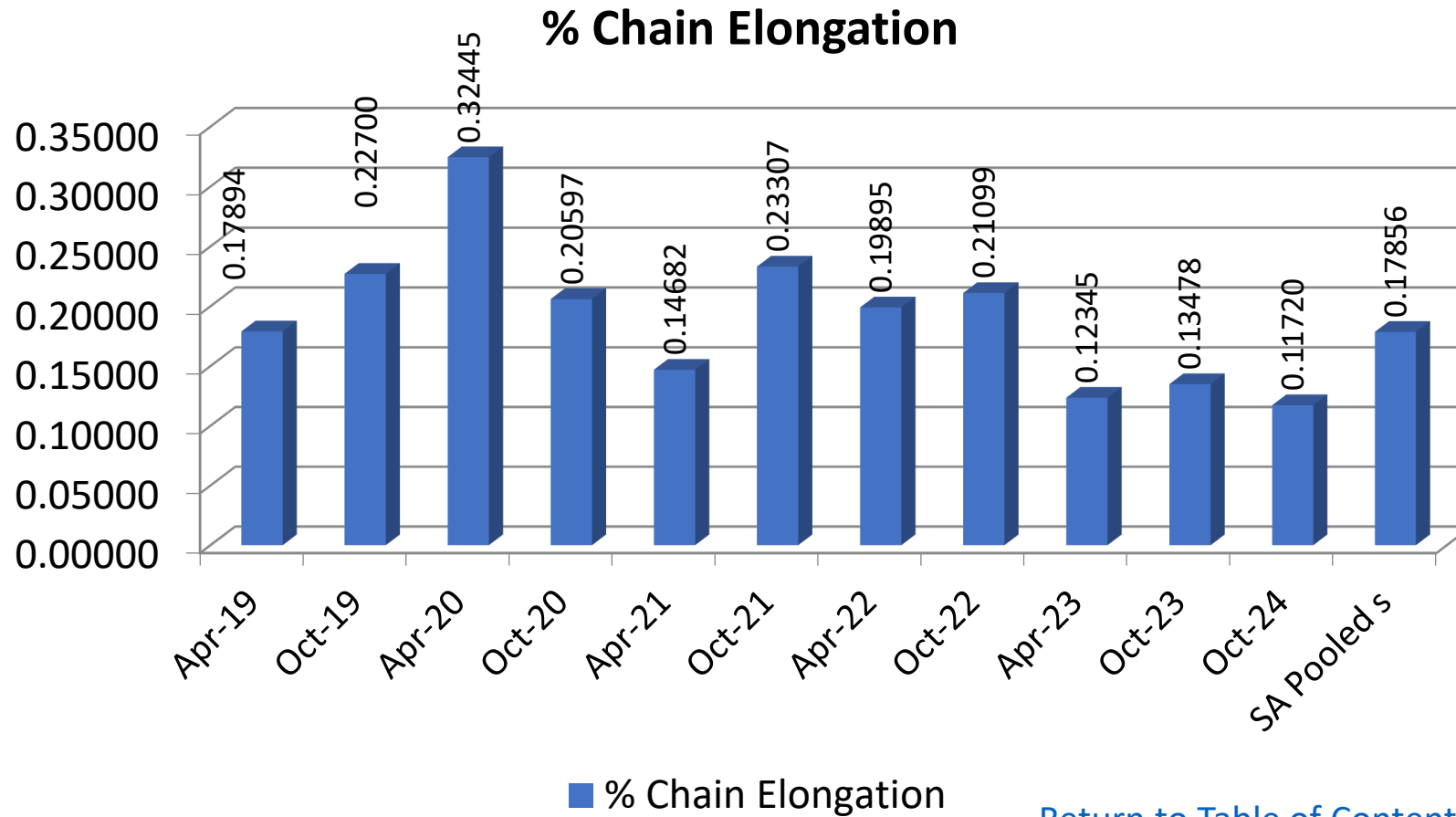
Sequence X Test Severity

- End of test chain wear is in action alarm (mild direction).

END OF TEST CHAIN WEAR FINAL RESULT



Sequence X Precision Estimates



Information Letters*

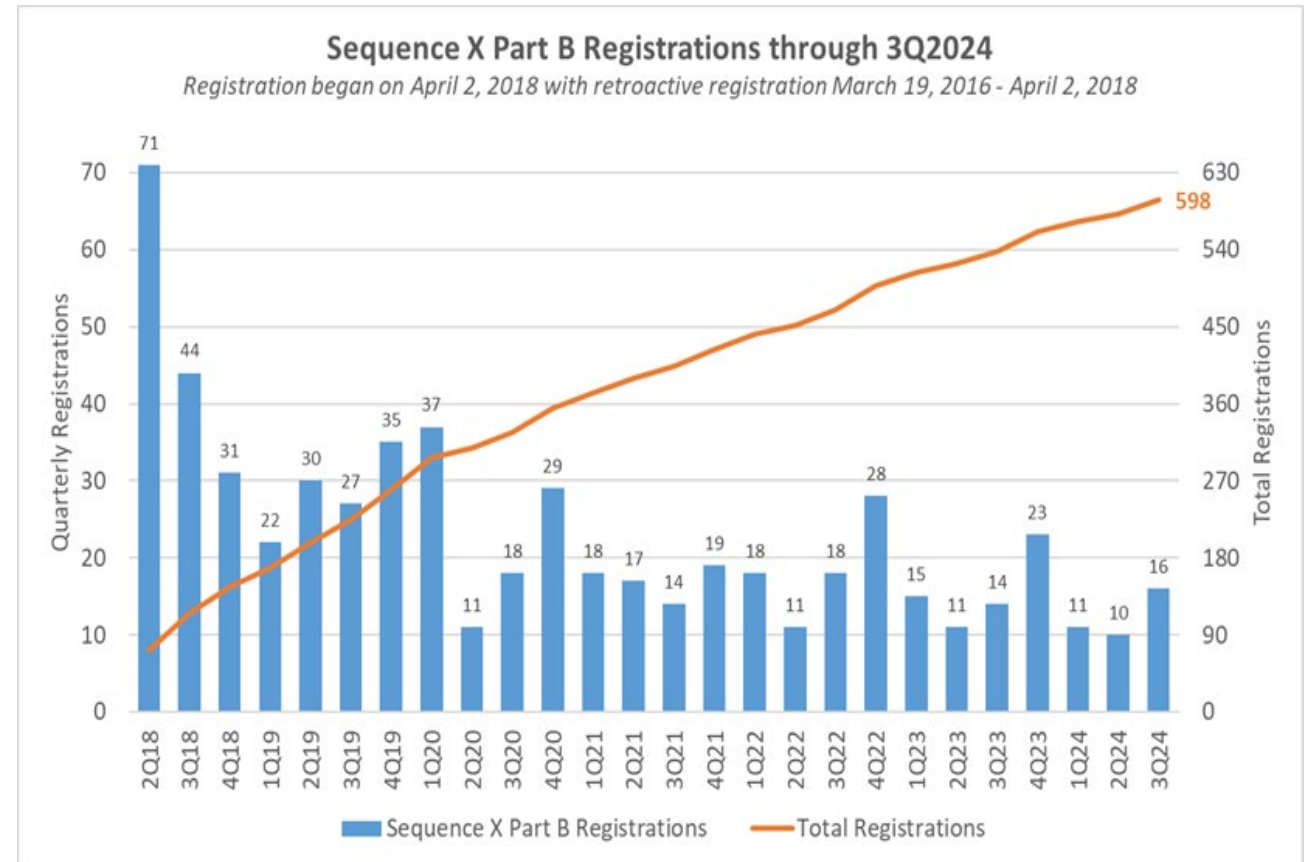
Test	Date	IL	Topic
X	20240727	24-2	Added requirements for approving an alternate fuel supplier to test method

*Available from TMC Website

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Sequence X Candidate Activity

- 45 Registered tests have been conducted in 2024 to date.



Sequence X Alternate Fuel Supplier Update

- Alternate Fuel Approval Requirements were finalized and posted.
- Two stands, 3 tests per stand with TMC 270, and a discrimination run with TMC 271 per stand for a total of 8 tests.
- This concludes the Sequence X Alternate Fuel Supplier Task Force.

Testing Matrix

Stand #1	Stand #2
270	270
270	270
270	270

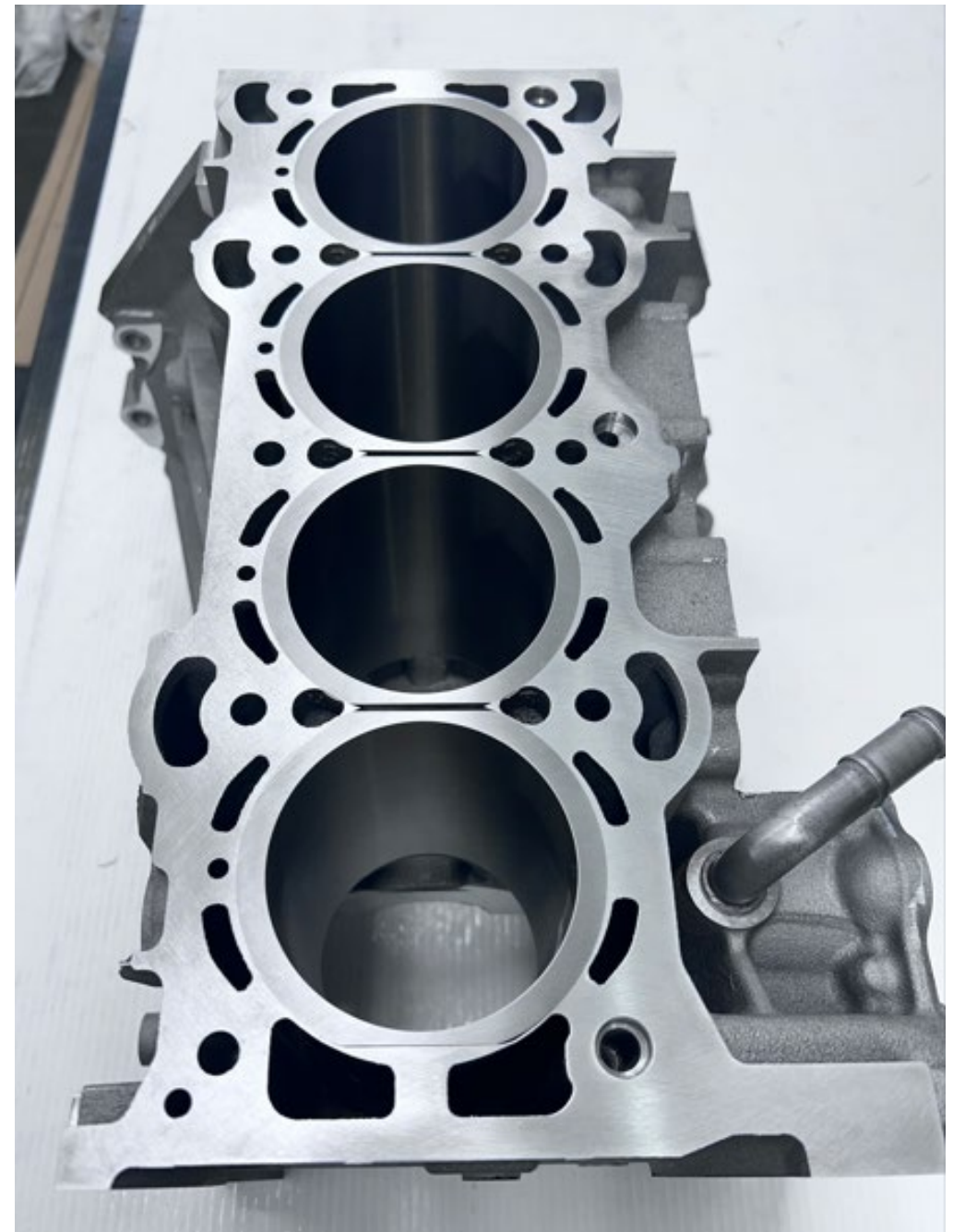
Sequence X O&H Update

- The last meeting took place at the end of January 2024. A rolling document has been created to address hardware changes. The document keeps track of part numbers and lists which critical and non-critical components are approved for testing.
- Efforts to rebuild the Ford 2.0L Ecoboost engine are in place to extend the life of the test.
- Next meeting TBD.



Sequence X O&H Update

- IMTS has successfully installed cylinder sleeves. This is not the final product. Improvements are still to come.
- IMTS is also working on rebuilding the cylinder head. The material for the exhaust valve seats is currently being investigated.



Sequence X O&H Update

- New Items for discussion
 - Introduction of engines purchased in 2018.
 - Engine wiring harness shortage.
- Reference Oils
 - TMC 271- discrimination oil, no inventory problems.
 - TMC 270- primary reference oils, no inventory problems.
 - TMC 1011- original batch has been depleted. New batch 1011-1 on hold.

Sequence X History

- Sequence X Milestones
- 1/1/2012 Start of Chain Wear Test Development
- 12/7/2017 AOAP Approval for GF6
- 4/2/2018 Live Registration (03/19/16 Retro - Registration)
- 2/20/2019 Surveillance Panel Procedure Acceptance Vote
- 4/4/2019 Subcommittee B Ballot
- 6/16/2019 Main Committee D02 Ballot - ASTM Procedure D8279
- 11/7/2019 Memorandum 19-043 Use of Calibrated Sequence X Stands to Generate Used Oil Samples for Seq IX (LSPI)
- 11/20/2020 Information Letter 20-1 Procedure Edits / Drive Shaft Spec
- 1/27/2020 Information Letter 20-2 Criteria for Multiple Test Type Calibration
- 6/1/2020 Mild Severity Shift Task Force Formed
- 9/11/2020 Information Letter 20-3 Correction to Table 12
- 10/14/2020 Information Letter 20-4 (1) Correcting PCV Flow Meters (2) Correction to Section 12.1.1
- 4/8/2021 Oil 271 Suspended from use due to mild results
- 9/17/2021 Information Letter 22-1 Engine run limits, honing procedure, connecting rod orientation, blowby gas thermocouple orientation
- 5/3/2023 Information letter 23-1. Use oil 271 as a discrimination oil
- 6/9/2023 Information letter 23-2. Procedure revision Fig 2
- 1/23/2024 Information Letter 24-1 Updated spark plug numbers
- 7/27/2024 Information Letter 24-2 Requirements for alternative fuel supplier