Sequence X

ASTM D8729

Ford Chain Wear Test
Surveillance Panel Meeting Minutes

June 20, 2023

Prepared By: Alfonso Lopez, S.P. Chairman

Sequence X Surveillance Panel Meeting Agenda 06/20/23

- Roll call
- Action Items
- Report to Sub B in Denver (June 27th)
- Next Meeting

Motion/ Action List

- Approval of the meeting minutes from 05/02/23
  - Motion – Michael Deegan
  - Second – Richard Grundza
  - Passed unanimous

- Action List
  - Update Fig A.9.10 , add spec to hose from PCV.
  - Poll labs on BB stack configuration – what are they using.
  - Clarify wording for timing of ramp and window for taking blowby.
    - All Complete – Information Letter 23-2

  - Schedule a build workshop.
    - Complete – August 15th at Lubrizol

Sequence X

ASTM D8729

Ford Chain Wear Test
Presentation to Subcommittee D02.B

June 2023

Prepared By: Alfonso Lopez, S.P. Chairman

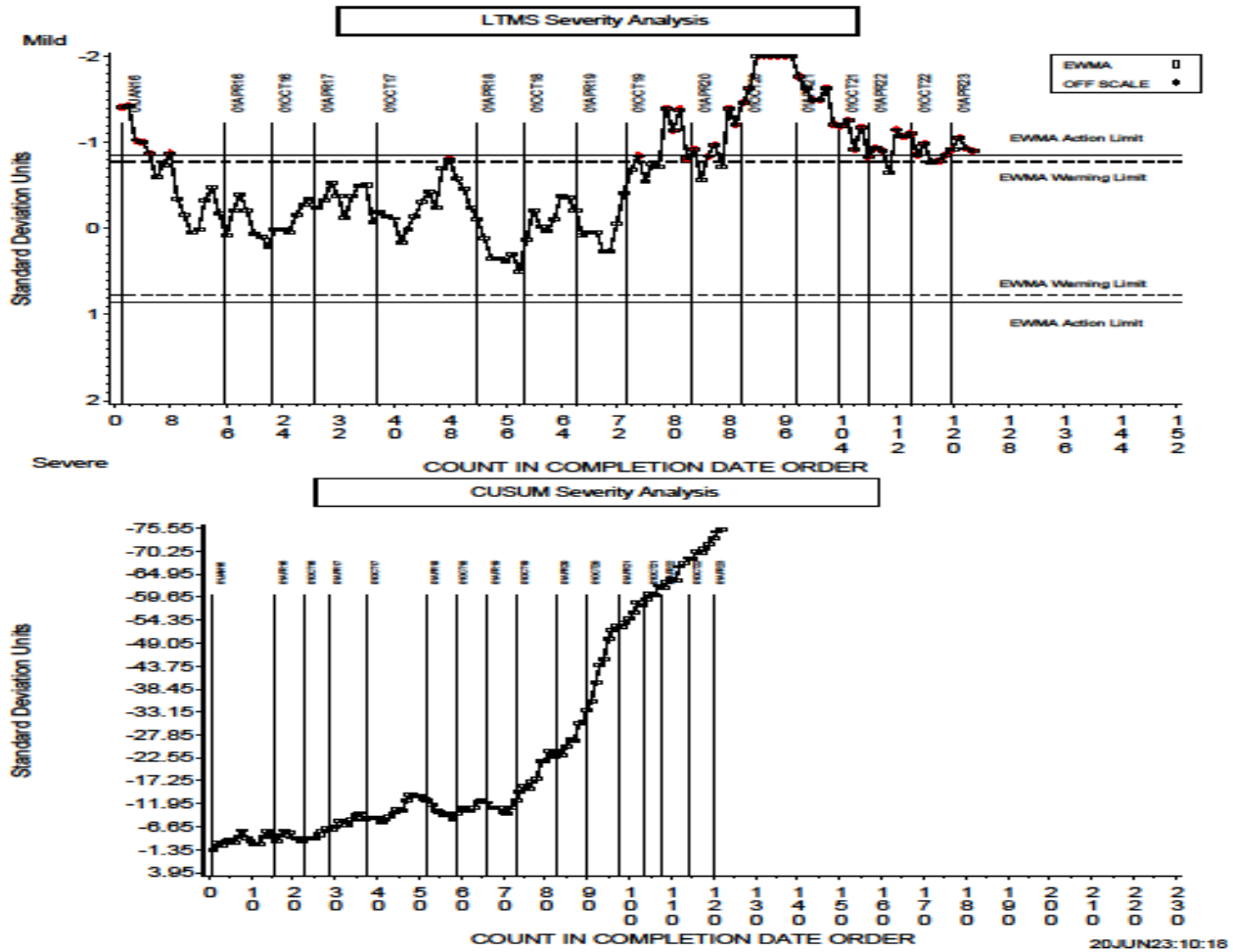
Sequence X SP Report

Test Status

- Information Letter 23-1 (New stand calibration criteria effective February 28, 2023)
  - Run oil 270 within Ei bands
  - Run oil 271 as a discrimination oil - prove discrimination per 23-1 statistical limits
  - Reference periods extended to 365 days (15 tests)
- 3 labs, 4 tests stands are calibrated per new criteria

LTMSLAB	LTMSAPP	VAL	LTMSDATE	Oil	CHST	CHSTyi
A	1	AC	20230505	270	0.1076	-0.4149
A	1	AS	20230519	271	0.0292	-5.2672
D	1	AC	20230429	270	0.0876	-1.5944
D	1	AS	20230517	271	0.0332	-4.5352
G	3B	AC	20230421	270	0.0932	-1.239
G	3B	AS	20230507	271	0.0366	-3.9792
G	5	AC	20230605	270	0.1006	-0.8008
G	5	AS	20230618	271	0.0339	-4.4162

SEQUENCE X INDUSTRY OPERATIONALLY VALID DATA
END OF TEST CHAIN WEAR FINAL RESULT



Task Force Action

- Lab visits in San Antonio
  - Test stand inspections
  - Information Letter 23-2
    - Standardize stand Blowby Stack configuration
    - Clarify wording on engine ramps and taking Blowby window
- Planned build workshop
  - August 15th
  - Lubrizol to host
- Operations and Hardware Chair Appointed (Jason Soto)

Reference Oil Update

- Oil 271
  - Oil to be used as a discrimination oil only per Info. Letter 23-1
  - No inventory problems
- Oil 1011 Depleted
  - 1011-1 Assignment on hold
- Oil 270 – Primary reference oil
  - No inventory problems

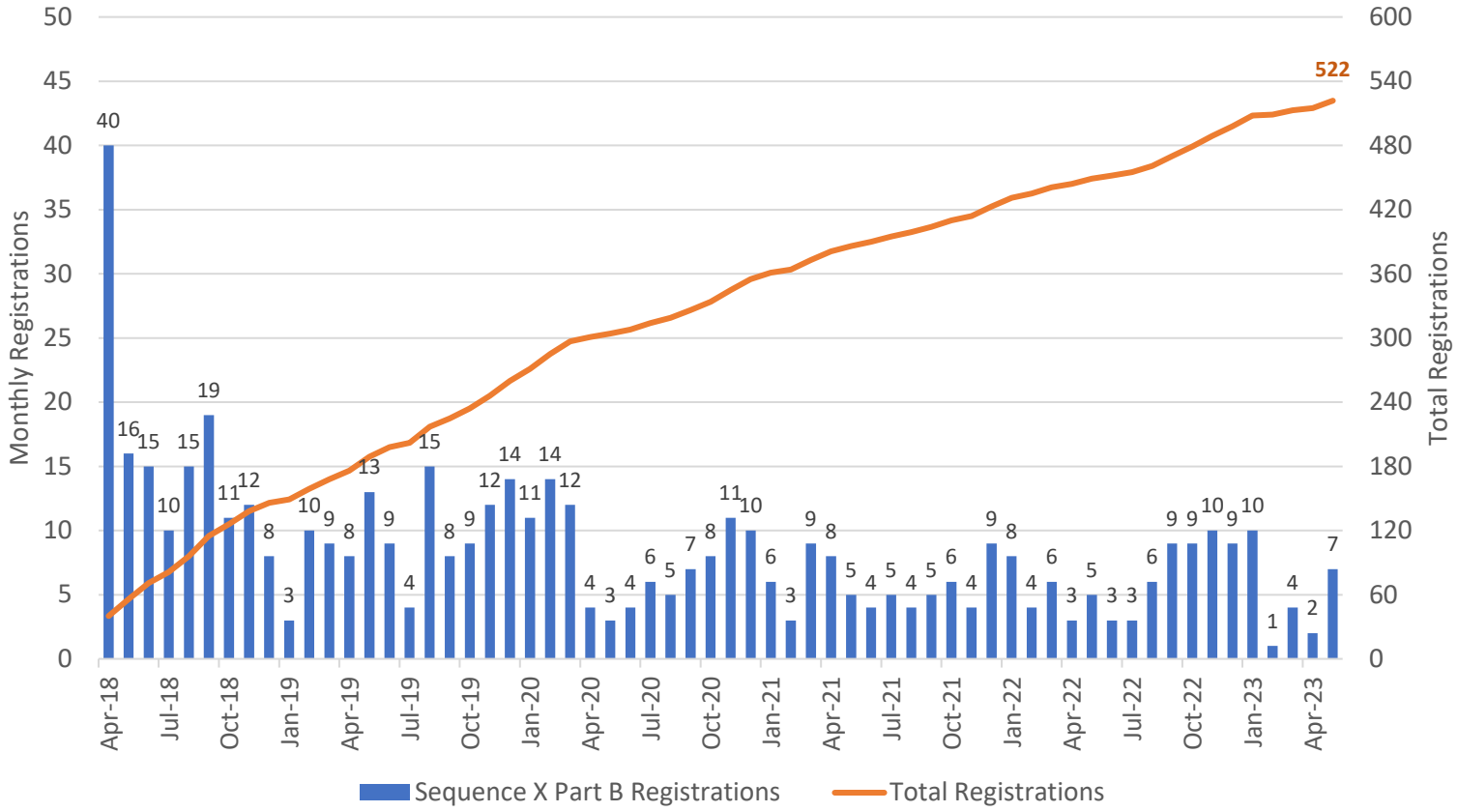
Fuel / Hardware Update

- Fuel
  - No fuel supply issue
  - Alternative fuel supplier testing matrix design presented to panel
    - Alternative Fuel
    - Oil 270 and 271
    - 2-3 Labs
    - Fuel task force led by Jason Soto to meet in July – matrix review

- Hardware
  - Critical component purchase complete
    - Only the independent labs purchased hardware
  - Hardware inventory forecast good for 5 years plus
    - Lab Survey performed (Independent Labs responded)
  - GF7 and GF8 - AOAP timelines are being established
  - Seq X needs to be available through 2027 minimum (GF7)
  - New engine platform for GF8

Sequence X Part B Registrations through 20230531

Registration began on April 2, 2018 with retroactive registration March 19, 2016 - April 2, 2018



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