

ASTM Engine Oil Gelation Test (EOGT) WK86363 Update

EOFT and EOWTT Surveillance Panel Meeting
February 18, 2025

Yong-Li McFarland, Chair



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EOFT and EOWTT Surveillance Panel Membership

21 members

Beth Schwab, Afton Chemical

Michael Kunselman, Center for Quality Assurance

Robert Stockwell, Chevron Oronite

Quanchang Li, ExxonMobil

Michael Deegan, Ford

Melissa Chu, Infineum

Angela Willis, Infineum

Joe Franklin, Intertek

Karina Gil, Intertek

Yuliza Rocha, Intertek

Michael Johnscher, ISP

Litchi Xie, Lubrizol Additive (Zhuhai) Co., Ltd.

Victoria Fein, Lubrizol

Jason Bowden, OH Technologies Inc

Greg Miiller, Savant Group

Sean Alston, SGS North America

Jared Cavaliere, SwRI

Becky Grinfield, SwRI

Yong-Li McFarland*, SwRI

John Loop, TMC

Amy Ross, Valvoline

*Chair



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New EOGT WK86363, ILS# 1854

- Ford request for a new Engine Oil Gelation Test (EOGT): request to add a new test filterability test to better screen oils for field issues
- Status:
 - Method: 1 draft (Afton method V9.2) uploaded on ASTM Collaboration Area
 - Oils: 11 potential reference oils offered; 17 oils received at TMC
 - Screening Tests and ILS: Pilot II tests ongoing
 - Timing: ILS tests to be run by April, and test available in August 2025

Agenda 2-18-25:

- 1. ILS: confirm samples, report form, details, and ship out
- 2. Feedback on EOGT method V9.6 or will use for ILS
- 3. Determine EOGT SP and TMC monitoring
- 4. Concerns from industry on if EOGT is representative of field issue



Afton Method Updates 2-18-25

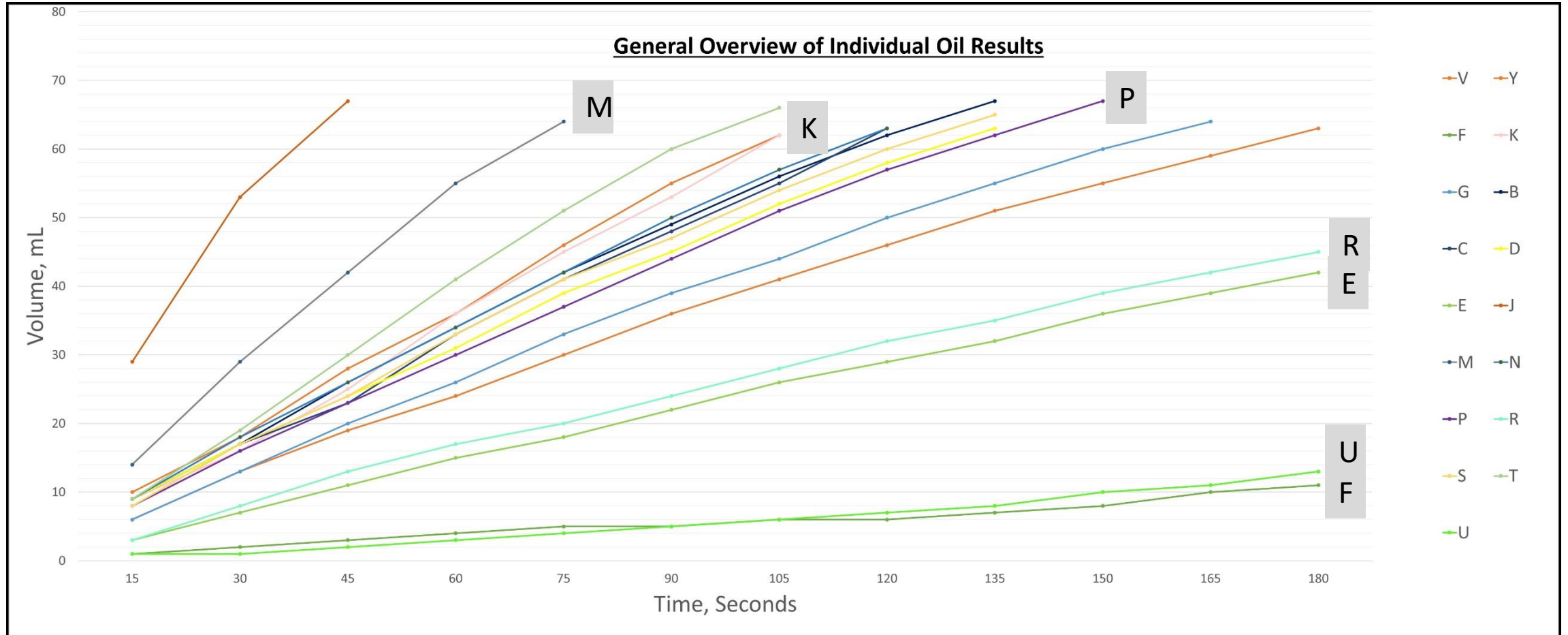
- Afton: completed Pilot II and Pilot III
- SwRI: completed Pilot II and Pilot III
- Savant: plan to rerun Pilot II by Feb 28
- Intertek: completed Pilot II
- Valvoline: completed Pilot II
- Infineum: completed Pilot II
- Lubrizol: Pilot II to run by end of Feb (still waiting for equipment)
- Richful: waiting for samples to arrive at lab

Criteria to move forward to ILS: Root cause group to finalize method and Ford to give recommendation to move forward

- 1-30-25: With more than 4 labs able to complete Pilot II, group (including Ford) approved to move forward with ILS.



Pilot III results – SWRI



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ILS Details

EOGT ILS Details

Labs (8)	Samples (7)	Details
Afton	2 low flow oils: Oil U* (eligible to be reference oil) (2 containers- Duplicate)	Each Test is 2 runs, results will be reported as average of 2 runs. A duplicate test is 4 runs. A triplicate test is 6 runs.
Infineum	2 low flow oils: Oil F (eligible to be reference oil) (2 containers- duplicate)	Duplicate test (two 120 mL) or triplicate test (three 120 mL) per sample
Intertek	2 mid flow oils: Oils E (not eligible to be reference oil) (3 containers- triplicate)	ILS Test Matrix with run order will be used
Lubrizol	2 mid flow oils: Oil R (likely eligible to be reference oil) (3 containers-triplicate)	Enough Oil E, F (2 batches), K, M, P, R, U for 6 runs per sample per lab?
Richful	3 high flow oils: Oil K (eligible to be reference oil) (2 containers-duplicate)	Labs send EOGT ILS Report Form when completed to TMC by March 28?
Savant	3 high flow oils: Oil M (eligible to be reference oil) (2 containers-duplicate)	EOGT Procedure Version 9.61 used for ILS
SwRI	3 high flow oils: Oil P (eligible to be reference oil) (2 containers-duplicate)	Data dictionary? – John to coordinate
Valvoline	Total runs/lab: 32	Start on Research Report?



ILS Oils Data



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ILS Planning

- Goals: Establish precision (repeatability and reproducibility) statement with different levels of performance and different operators, and select reference oil(s)
- Labs: 7
- Oils: Optimal would be 2 good, 2 bad, 2 borderline oils. Each lab runs 12-18 tests total?
 - We have 11 oils eligible as reference oils and 6 additional oils at TMC
 - Include range of Vis grade samples, check with TMC on info supplied
 - Consider BOI-VGRA matrix: three technologies from at least 2 companies in different vis grades and base oils? (check with BOI-VGRA group on funding/matrix – John L to check with oil suppliers if still eligible as ref oil and if they can release viscosity grade and base oil info)
- Process
 - All labs should prove they can “gel” poor oils before being included in ILS (complete Pilot II)
 - Labs send Excel results to TMC (John Loop)
- ASTM Ballot deadlines:
 - **Main/Concurrent Committee ballot deadlines:** April 28, 2025, then May 6, July 29, Sept 27
 - TMC can issue new method as an Info letter and if unanimous approval, then we can ballot method concurrently to Sub B and D02.



EOGT procedure

- Will EOGT be TMC monitored (like EOFT D6795) or not (like D7563)?
 - Yes, needs to be TMC monitored like D6795 with a quantitative result/acceptance limit on reference oil, based on ACC code of practice and/or Test Readiness recommendations, may need to be run in duplicate for reference oil. Method will include TMC inclusion and LTMS will include reference criteria for this test. Will wait on referencing period once more data comes in.
- Determine Report Section
- Define Low, Mid, and High Flow

- Which SP will EOGT fit in? New one?



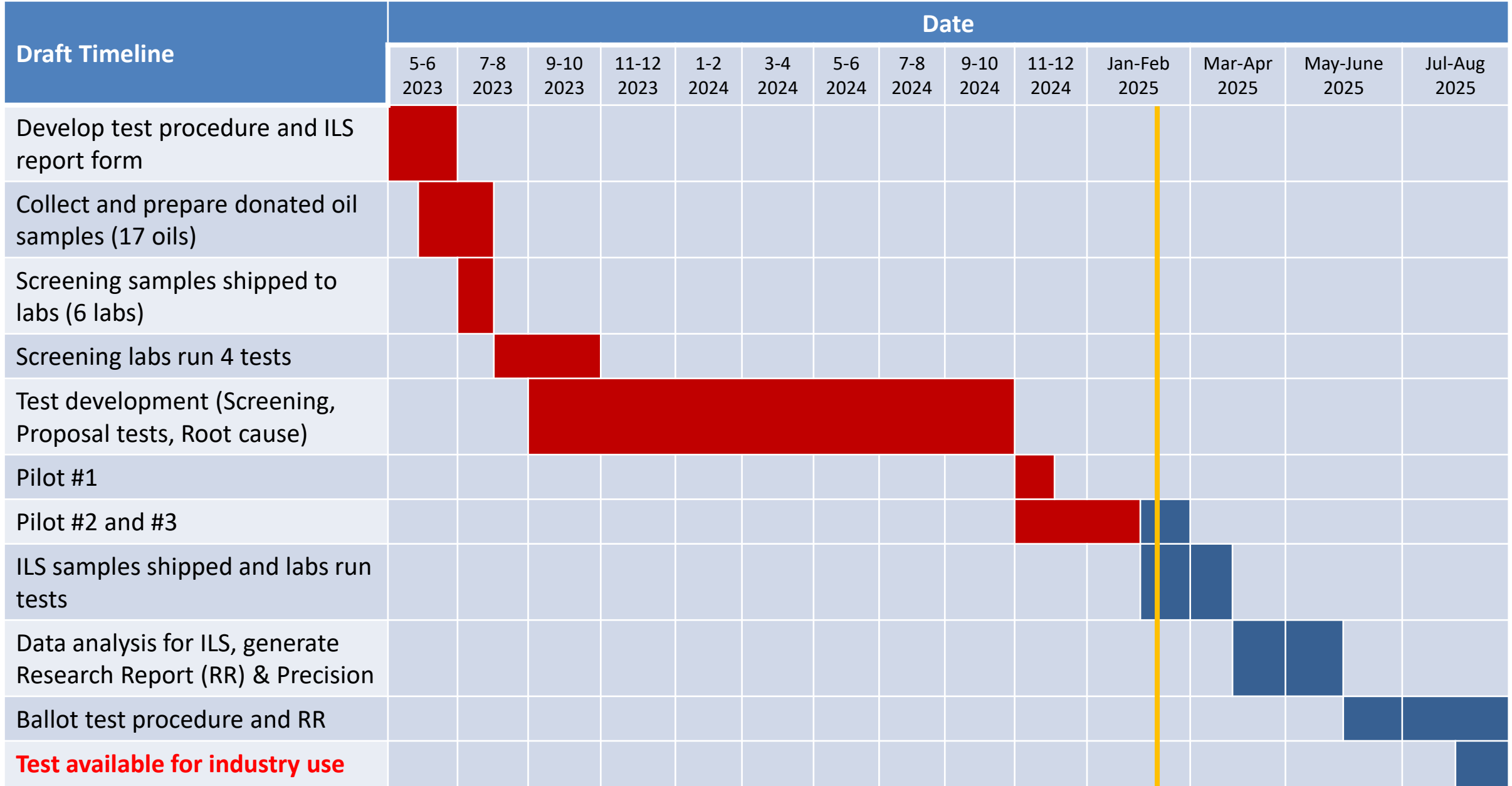
EOGT representative of field issue?

- During Feb 2025 API meetings, multiple questions regarding if the test is representative of the field issue, if gel samples were tested and similar to field samples
- Concern if EOGT test is correlated to original issue
- Gel analysis?

- What is group's response, next steps?



Draft Timeline – updated Feb 18, 2025



Thank you for your support!

Participants		
Method Development (11)	Oil Donations (9)	Testing Labs (10)
Afton	Afton	Afton
ExxonMobil	Ford	Infineum
Ford	Infineum	Intertek
Infineum	Lubrizol	ISP
Intertek	OH Technologies (donate filters only)	Lubrizol
ISP	Oronite	Richful
Lubrizol	Subaru	Savant
Oronite	TMC (collection, shipping only)	SwRI
Savant	Toyota	TMC (monitoring system only)
SwRI		Valvoline
TMC		

