ASTM Engine Oil Gelation Test (EOGT) WK86363 Update

EOGT Meeting

January 9, 2026

Yong-Li McFarland

ASTM Antitrust and Recording Policy

ASTM International is a not-for-profit organization and developer of voluntary consensus standards. ASTMs leadership in international standards development is driven by the contributions of its members: more than 30,000 technical experts and business professionals representing 135 countries.

The purpose of antitrust laws is to preserve economic competition in the marketplace by prohibiting, among other things, unreasonable restraints of trade. In ASTM activities, it is important to recognize that participants often represent competitive interests. Antitrust laws require that all competition be open and unrestricted.

It is ASTMs policy, and the policy of each of its committees and subcommittees, to conduct all business and activity in full compliance with international, federal and state antitrust and competition laws. The ASTM Board of Directors has adopted an antitrust policy which is found in Section 19 of ASTM Regulations Governing Technical Committees. All members need to be aware of and compliant with this policy. The Regulations are accessible on the ASTM website http://www.astm.org/COMMIT/Regs.pdf).

Electronic recording of ASTM meetings is prohibited.

EOGT Membership

21 members

Sarah Fitzgerald, Afton Chemical
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
Michael Kunselman, KJA Group
Litchi Xie, Lubrizol Additive (Zhuhai) Co., Ltd.
Victoria Fein, Lubrizol
Jason Bowden, OH Technologies Inc
Clarence McCollum, Richful (Xinxiang Richful)
Greg Miiller, Savant Group
Sean Alston, SGS North America
Becky Grinfield, SwRI
Yong-Li McFarland*, SwRI
John Loop, TMC
Jared Cavaliere, Valvoline

*Chair

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 (V10.3) uploaded on ASTM Collaboration Area
  - Oils: 11 potential reference oils offered; 17 oils received at TMC
  - Screening Tests and ILS: ILS tests completed
  - Timing: test available in April 2026

Agenda:

- 1. Precision approval
- 2. Oil F reblends
- 3. Method suggestions / revision
- 4. Report form updates

EOGT Report value and Precision

- ILS objectives:
  - 1) Determine report value: *Report the volume at 120 s for each of the duplicate runs. The primary result is the average volume at 120 s. Report batch Oil F result (for tests needing TMC referencing).*
  - 2) Establish precision (determinability, repeatability, and reproducibility) statement:
  - *Determinability (d)-The difference between successive determined values obtained by the same operator in the same laboratory using the same apparatus for a series of operations leading to a single result, would in the long run, in the normal and correct operation of this test method, exceed the values indicated only in one case in twenty:*
    - *The difference between determinations shall be less than or equal to 9 mL of its duplicate run. Each determination shall reach 120 seconds (for reference oils only).*
  - *Repeatability (r)—The difference between successive test results, obtained by the same operator with the same apparatus under constant operating conditions on identical test material, would in the long run, in the normal and correct operation of the test method, exceed the following value only in one case in twenty:*

    Repeatability= 11 mL
  - *Reproducibility (R)—The difference between two single and independent results, obtained by different operators working in different laboratories on identical test material, would in the long run, in the normal and correct operation of the test method, exceed the following value only in one case in twenty:*

    Reproducibility= 18 ml

Votes

- Motion to approve the determinability, repeatability, and reproducibility for EOGT as listed:
  - *Determinability: The difference between determinations shall be less than or equal to 9 mL of its duplicate run. Each determination shall reach 120 seconds (for reference oils only).*
  - *Repeatability= 11 mL*
  - *Reproducibility= 18 ml*

  - *In favor: all*
  - *Opposed: 0*
  - *Waive: 0*

EOGT Reference oil process

- ILS objectives:
  - 3) Select reference oil(s) for test: *Run reference oils F and M (blinded samples for both). If not acceptable reference run, need to rerun both oils. Acceptance criteria: the difference between the average result for Oil F and Oil M must be greater than 31. Referencing is every 30 days (from start to start). Check oil: passing batch Oil F (only 1 run needed when testing candidates) (internally checked, not submitted to TMC) (Acceptance criteria Oil F: average volume at 120s of 10 mL, with acceptance range from 0 to 25 mL. A workshop for the test would be available annually. SP will reassess workshop value after 3 years.*
  - Need to set new test lab criteria for referencing: New lab shall run 2 sequential sets of valid Oil F and M tests. If not calibrated in last 6 months, lab needs to run "new test lab criteria".
- 1-9-26: group agreed with the above reference oil criteria.
- Need to build separate EOGT SP.

Oil F re-blends

SwRI – CMIR	202682		202683		202684		202685	
Time, s	Run 1	Run 2	Run 1	Run 2	Run 1	Run 2	Run 1	Run 2
	Reblend F		Reblend F		Original F		Original F	
15s	2	2	2	2	2	2	2	2
30s	4	5	4	4	5	5	5	5
45s	7	8	7	7	7	8	8	7
60s	9	11	9	10	10	10	11	10
75s	11	13	12	12	12	12	13	13
90s	13	16	14	14	15	15	17	15
105s	15	18	16	17	18	18	19	17
120s	18	20	19	19	20	20	22	20
135s	29	23	21	21	23	23	25	23
150s	22	25	23	24	25	26	28	25
165s	25	28	26	26	28	28	30	28
180s	27	30	28	28	31	31	33	30

Intertek Test Key:	202686		202687		202688		202689	
Time, s	Run1	Run 2	Run 1	Run 2	Run 1	Run 2	Run 1	Run 2
	Original F		Original F		Reblend F		Reblend F	
15	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-
75	-	-	-	-	-	-	-	-
90	-	-	-	-	-	-	-	-
105	-	-	-	-	-	-	-	-
120	-	-	-	10	-	-	-	-
135	-	-	-	11	-	-	-	-
150	-	-	-	12	-	-	-	-
165	10	10	10	13	-	-	-	-
180	11	11	11	13	10	9	10	10

Stats Group: Reblend of Oil F is acceptable and close.

Report forms – Updated 12-29-25

ASTM Test Method D XXXX
Engine Oil Gelation Test
Test Report Cover

Version	VERSION
Method Version	METHVER

Conducted For
TSTSPN1
TSTSPN2

LABVALID	V = Valid I = Invalid
TSTOIL	NR = Non-Reference Test Oil RO = Reference Oil Result

Test Number:	TSTNO
Oil Code:	OILCODE
Lab Oil Code:	LABOCODE
Test Stand:	FORM
Alternate Code:	ALTCODE1
Date Completed:	DTCOMP
Time Completed:	EOTTIME

In my opinion this test **OPVALID** been conducted in a valid manner in accordance with the Test Method D XXXX and the appropriate amendments through the information letter system. The remarks included in this report describe the anomalies associated with this test.

Submitted By: SUBLAB
Testing Laboratory
SUBSIGIM
Signature
SUBNAME
Typed Name
SUBTITLE
Title

Final Report Cover Sheet

ASTM D XXXX Report (Engine Oil Gelation Test)
Test Data & Daily QC
Form 2

Lab:	LAB	Oil Code:	OILCODE
Start of Test Date:	SOTDATE	End of Test Date:	DTCOMP
Start of Test Time:	SOTTIME	End of Test Time:	EOTTIME
TESTKEY	TESTKEY	TESTKEY PAIR	PTESTKEY
Reference Oil ID	REFOILID	Reference Oil Pair ID	PAIREFID

Non-Reference Oil Test Result

Non-Reference OILCODE	Date Started	Date Completed	Time to 40C (min)	Funnel Stem ID (mm)	Run 1 Volume (120sec)	Run 2 Volume (120sec)	Variance of Test Runs	Average Volume (120sec)
OILCODE	STRTDTOC	DTCOMPOC	TIME40C	FNLSTMOC	VOLUM1OC	VOLUM2OC	DIFVAROC	VOLAVGOC

Reference Test Results

Reference Oil Pairs	Reference Oil Number	Reference Date Started	Reference Date Completed	Reference Time to Reach 40 C (min)	Reference Funnel Stem ID (mm)	Reference Run 1 Volume (120sec)	Reference Run 2 Volume (120sec)	Reference Variance of Test Runs	Reference Average Volume (120sec)
TESTKEY	REFOILNO	REFSTDT	RFDTCOMP	RFTIME40	REFUNLID	REFVOL1	REFVOL2	REFVAR	REFVAVG
PAIRED REF	PREFOLNO	PREFDTST	PREFDTCP	PREFTIME	PREFNLID	PREFVOL1	PREFVOL2	PREFVAR	PREFVAVG
N Value (Absolute difference between two reference test results)								NVALUE	

Daily QC Result

Daily QC Sample Test Key	Daily QC Oil ID	Daily QC Start Date	Daily QC End Date	DailyQC Time to Reach 40 C (min)	DailyQC Funnel Stem ID (mm)	Daily QC Run1 Volume (120sec)	Daily QC Run2 Volume (120sec)	Daily QC Average Volume (120sec)	Daily QC Determinants Variance
DQCTSTKY	DQCOILID	DQCSTDAT	DQCDTCMP	DQTIME40	DQFUNLID	DQCR1VOL	DQCR2VOL	DQCVLAVG	DQCDVARI
Daily QC Operationally Valid?[1]								DQCOPVLD	
Daily QC Statistically Valid? [2]								DQCSTATV	

1 - Report "Y" if QC result was Operationally Valid, "N" if result was Operationally Invalid
2 - Report "Y" if QC result is in acceptance range, "M" if MILD of range, "S" if SEVERE of range

Test Data and Daily QC

ASTM D XXXX Report (Engine Oil Gelation Test)
Comments
Form 3

Lab:	LAB	Oil Code:	OILCODE
Lab Sample Code:	LABOCODE	Test Run Number:	TESTNO
Start of Test Date:	SOTDATE	Start of Test Time:	SOTTIME
End of Test Date:	DTCOMP	End of Test Time:	EOTTIME
TESTKEY	TESTKEY	PAIRED TESTKEY	PTESTKEY

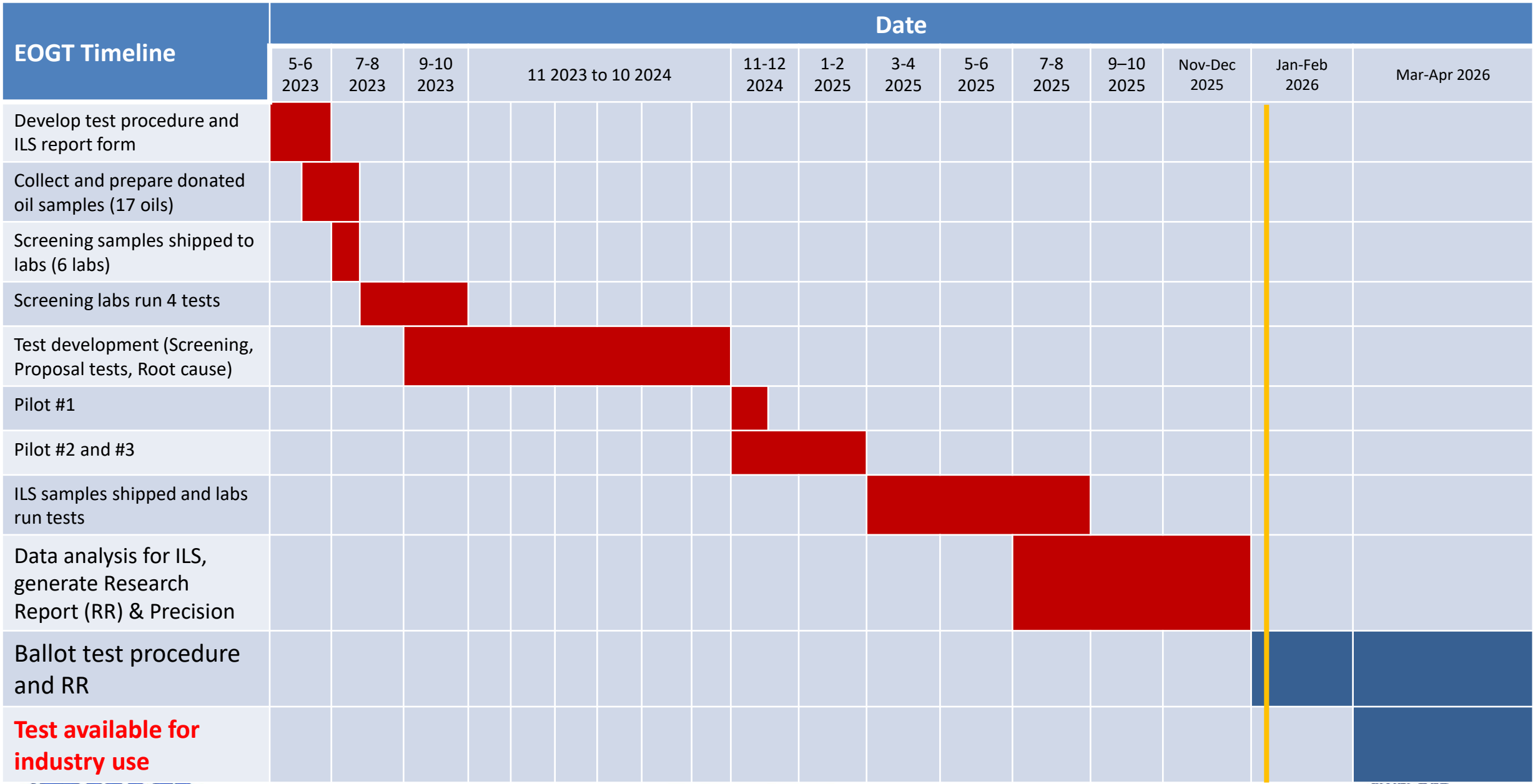
Number of Comment Lines	TOTCOM
OCOMR001	
OCOMR002	
OCOMR003	
OCOMR004	
OCOMR005	
OCOMR006	
OCOMR007	
OCOMR008	
OCOMR009	
OCOMR010	
OCOMR011	
OCOMR012	
OCOMR013	
OCOMR014	
OCOMR015	
OCOMR016	

Comments

LTMS Draft 1

- See Document

Timeline – updated Dec 19, 2025



Action Items and Next Meeting

- John to update data dictionary, TMC report forms, and EOGT LTMS, if needed
- All: review method V10.3 and bring up any items to change before next meeting
- Stats group: send statistics used to generate precision to Yongli so it can be sent to ASTM ILS team for Research Report.
- Stats group: Please review the existing ILS data for time to reach 40C to make any comments on what range of time is currently seen in data.
- All: send Yong-Li names for EOGT SP chair

- Next meeting: *group to confirm method to go to ASTM concurrent ballot.*

- Next Meeting: Tuesday Jan 20 at 9am CST for 1 hr

Thank you for your support!

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