



ASTM INTERNATIONAL
Helping our world work better

100 Barr Harbor Drive
PO Box C700
West Conshohocken, PA
19428-2959 USA

tel +1.610.832.9500
fax +1.610.832.9666
www.astm.org

COMMITTEE D02 on PETROLEUM PRODUCTS, LIQUID FUELS, AND LUBRICANTS

CHAIRMAN: Randy F Jennings, Tennessee Dept Of Agric, P O Box 40627, Nashville, TN 37204, United States (615) 837-5150, Fax: (615) 837-5327, e-mail: randy.jennings@tn.gov

FIRST VICE CHAIRMAN: James J Simnick, Bp America, 150 Warrenville Rd, Naperville, IL 60563, United States (630) 420-5936, Fax: (630) 420-4831, e-mail: simnicjj@bp.com

SECOND VICE CHAIRMAN: Michael A Collier, Petroleum Analyzer Co Lp, 21114 Hwy 113, Custer Park, IL 60481, United States (815) 458-0216, Fax: (815) 458-0217, e-mail: michael.collier@pacpl.com

SECOND SECRETARY: Hind M Abi-Akar, Caterpillar Inc, Building H2000, Old Galena Road, Mossville, IL 61552, United States (309) 578-9553, e-mail: abi-akar_hind@cat.com

SECRETARY: Scott Fenwick, National Biodiesel Board, PO Box 104848, Jefferson City, MO 65110-4898, United States (800) 841-5849, Fax: (537) 635-7913, e-mail: sfenwick@biodiesel.org

STAFF MANAGER: Alyson Fick, (610) 832-9710, e-mail: afick@astm.org

Call to Order

ASTM D02.B0.08, the Test Monitoring System Executive Committee, met on Monday, June 24, 2019 at 5:40 p.m. in the Denver, CO. Nine voting members and 16 attendees were present. The attendance list is Attachment A.

Committee Voting Members

Bob Campbell, Present
Jason Anderson, Present
Nathan Seibert, Present
Jim Matasic, Present
Doyle Boese, Present
Mike Alessi, Present
Suzanne Neal, Present
Hind Abi-Akar, Present
Mark Sutherland, Present

The agenda is shown as Attachment B.


Meeting Minutes

The December 10, 2018 meeting minutes were approved as posted.

Membership

The membership was reviewed. No changes were made.
The current members and their terms are shown on the next page.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Hind Abi-Akar						U	U						
Jason Anderson		U	U	U	U	U	U						
Mike Alessi				P	P	P	P						
Suzanne Neal			U	U	U	U							
Nathan Seibert					U	U							
Bob Campbell		P	P	P	P	P	P						
Jim Matasic					P	P							
Doyle Boese	P	P	P	P	P	P							
Mark Sutherland						G	G						

 Eligibility; P=Producer, U=User, G=General Interest

Technical Guidance Committee (TGC) Report – Pat Lang

Pat's report is shown as Attachment C. The report included the Rating Task Force (Bob Campbell) and Fuel Task Force (Mike Lochte) reports. Highlights of the TGC report are:

- ▶ Rating Task Force activity:
 - Pre-workshop conference call held April 10, 2019
 - Light Duty Workshop held week of May 6th in San Antonio
 - Working on LED lighting assessment on ratings
 - Workshop registration with a cut-off date for calibrated labs should be implemented to gauge the level of participation at the heavy duty workshop due to the volume of participants.
- ▶ Fuels Task Force very active this period:
 - Mike Lochte of SwRI has taken over chairman position
 - Work continues on refining the fuel specifications
 - Identified alternate procedure for D1319 due to dye unavailability
 - Reviewing Sequence VI and IIIH EEE w/DCA and EEE
 - PC-9HS and PC-10 fuel specs posted to the TMC website

Test Monitoring Center (TMC) Report – Frank Farber

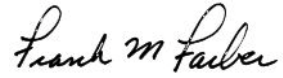
Frank's report is shown as Attachment D.

- ▶ 21 information letters were distributed this period and passed D02/Sub B balloting
- ▶ Bench and PCMO reference activity is slowing compared to last year
- ▶ HDEO reference activity is similar to last year. Gear reference activity is higher than last year.
- ▶ The replacement oil for 1006/SF105 has been received as has been named SL107.

There were no old or new business items.

The meeting ended at approximately 6:00 pm.

Respectfully submitted,

A handwritten signature in cursive script that reads "Frank M. Farber".

Frank M. Farber, Secretary
ASTM Test Monitoring System Executive Committee

Attachments
FMF/fmf

ASTM Test Monitoring System Executive Committee Meeting
 June 24, 2019
 Denver, CO

Attachment A

Voting Members

NAME	COMPANY AND ADDRESS	PHONE NUMBER E-MAIL ADDRESS	PRESENT
Bob Campbell Chairman	Afton Chemical Corporation 500 Spring Street P.O. Box 2158 Richmond, VA 23218-2158	Phone: (804) 788-5236 e-mail: bob.campbell@aftonchemical.com	
Mike Alessi	ExxonMobil Paulsboro Technology Center 600 Billingsport Road Paulsboro, NJ 08066-0480	Phone: (856) 224-2309 e-mail: michael.l.alessi@exxonmobil.com	<i>MAA</i>
Jason Anderson	PACCAR	Phone: e-mail: Jason.Andersen@PACCAR.com	
Doyle Boese	Infineum USA, L.P. 1900 East Linden Avenue Linden, NJ 07036-0536	Phone: (908) 474-3176 e-mail: doyle.boese@infineum.com	<i>DHB</i>
Nathan Seibert	General Motors Global Propulsion Systems 800 N Glenwood Ave Pontiac, MI 48340	Phone: 248-343-7274 e-mail: nathan.seibert@gm.com	<i>NS</i>
Jim Matasic	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, OH 44092	Phone: (440) 347-2487 e-mail: James.Matasic@lubrizol.com	<i>JM</i>
Suzanne Neal	Daimler/Detroit Diesel Corporation 13400 Outer Drive, West Detroit, MI 48239	Phone: (313) 592-7130 e-mail: Suzanne.neal@daimler.com	<i>SN</i>
Hind Abi-Akar	Caterpillar	Phone: (309) 578-9553 e-mail: Abi-Akar_Hind@cat.com	<i>HA</i>
Mark Sutherland	TEI	Phone: Email: msutherland@tei-net.com	<i>MS</i>

ASTM Test Monitoring System Executive Committee Meeting
 June 24, 2019
 Denver, CO

Attachment A

Non-Voting Members

NAME	COMPANY AND ADDRESS	PHONE NUMBER E-MAIL ADDRESS FAX NUMBER	PRESENT
Don Bell OSCT Chairman	Afton Chemical Corporation 500 Spring Street PO Box 2158 Richmond, VA 23218-2158	Phone: (804) 788-6332 e-mail: don.bell@aftonchemical.com	
Mike Birke LDEOC/EOEC Chairman	Southwest Research Institute 6620 Culebra Road San Antonio, TX 78228-0510	Phone: (210) 522-5310 e-mail: mbirke@swri.org	
William Buscher, III Sequence IVA, IVB & B01 Chairman	Intertek 5404 Bandera Road San Antonio, TX 78238	Phone: (210) 240-8099 e-mail: william.buscher@intertek.com	WAB
Tim Brooke ASTM International	ASTM 100 Barr Harbor Drive West Conshohocken, PA 19428	Phone: (610) 832-9729 e-mail: tbrooke@astm.org	
Mike Faile TEOST, TEOST- MHT Chairperson	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, OH 44092-2298	Phone: (440) 347- e-mail:	
Mark Cooper T-8/T-8E, T-11, T-12, T-13 Chairman	Chevron Oronite Company, LLC 4502 Centerview Drive, Suite 210 San Antonio, TX 78228	Phone: (210) 731-5606 e-mail: mawc@chevron.com	
Mark Devlin Gelation Index Chairman	Afton Chemical Corporation 500 Spring Street, P.O. Box 2158 Richmond, VA 23218-2158	Phone: (804) 788-6322 e-mail: mark.devlin@aftonchemical.com	
Frank Farber TMC Director	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, PA 15206-4489	Phone: (412) 365-1030 e-mail: fmf@astmtmc.cmu.edu	
Joe Franklin Subcommittee B Chairman	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238-1933	Phone: (210) 523-4671 e-mail: joe.franklin@intertek.com	JF
Pat Lang Sequence VIII TGC Chairman	Southwest Research Institute 6220 Culebra Road San Antonio, TX 78228-0510	Phone: (210) 522-2820 e-mail: plang@swri.org	
Robert Stockwell Sequence IIIF/IIIG/IIIH Chairman	Chevron Oronite 4502 Centerview Drive Suite 210 San Antonio, TX 78228	Phone: (210) 232-3188 e-mail: robert.stockwell@chevron.com	RJS

ASTM Test Monitoring System Executive Committee Meeting
June 24, 2019
Denver, CO

Attachment A

NAME	COMPANY AND ADDRESS	PHONE NUMBER E-MAIL ADDRESS FAX NUMBER	PRESENT
Kristijan Drlja L-60-1 Chairman	The Lubrizol Corporation 29400 Lakeland Blvd. Wickliffe, OH 44092-2298	Phone: (440) 347- e-mail:	
Ryan Johnson EOAT	Southwest Research Institute 6220 Culebra Road San Antonio, TX 78228-0510	Phone: (210) 522-2892 e-mail: ryan.johnson@swri.org	
Mary Stevens HTCT Chairman	Southwest Research Institute 6220 Culebra Road San Antonio, TX 78228-0510	Phone: (210) 522-3588 e-mail: mary.stevens@swri.org	
Andrew Stevens Sequence VI	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, OH 44092-2298	Phone: (440) 347- e-mail: andrew.stevens@lubrizol.com	ADS
Amy Ross D5800, D6417 Chairman	Valvoline Lexington, KY	Phone: e-mail: Amy_Ross@valvoline.com	
Yong-Li McFarland EOFT, EOWT Chairperson	Southwest Research Institute 6220 Culebra Road San Antonio, TX 78238-0510	Phone: (210) 522-2715 e-mail: yongli.mcfarland@swri.org F	
Jim Moritz ISB & ISM Chairman	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238-1933	Phone: (210) 523-4601 e-mail: jim.moritz@intertek.com	
Jessica Villarreal BRT Chairman	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238-1933	Phone: (210) 523- e-mail: jessica.villarreal@intertek.com	
Wes Venhoff L-37, B03 Chairman	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, OH 44092-2298	Phone: (440) 347- e-mail: Wes.Venhoff@Lubrizol.com	
Mike Lopez CBT, HTCBT Chairman	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238-1933	Phone: (210) 523- e-mail:	
Andrew Ritchie Sequence V Chairman	Infineum USA, L.P. 1900 East Linden Avenue Linden, NJ 07036-0536	Phone: (908) 474-2097 e-mail: andrew.ritchie@infineum.com	Ar
Al Lopez Sequence X Chairman	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238-1933	Phone: (210) 523-4601 e-mail: al.lopez@intertek.com	AL
Justin Mills ROBO Chairman	Evonik	Phone: e-mail: justin.mills@evonik.com	

ASTM Test Monitoring System Executive Committee Meeting
June 24, 2019
Denver, CO

Attachment A

NAME	COMPANY AND ADDRESS	PHONE NUMBER E-MAIL ADDRESS FAX NUMBER	PRESENT
Dale Smith L-33-1 Chairperson	Intertek Automotive 5404 Bandera Road San Antonio, TX 78238-1993	Phone: (210) 264-5911 e-mail: dale.smith@intertek.com FAX: (210)	
Jim Gutzwiller Scote/C13 Chairman	Infineum USA, L.P. 4335 West Piedras Drive, Suite101 San Antonio, TX 78228	Phone: (210) 732-8132 x13 e-mail: james.gutzwiller@infineum.com FAX: (210) 732-8480	
Jason Bowden	OH Technologies 9300 Progress Parkway P. O. Box 5039 Mentor, OH 44061-5039	Phone: (440) 354-7007 e-mail: jbowden@ohtech.com FAX: (440) 354-7080	<i>JMB</i>
Eric Donovan L-42 Chairman	Afton Chemical Corporation 500 Spring Street P.O. Box 2158 Richmond, VA 23218-2158	Phone: (804) 788- e-mail: eric.donovan@aftonchemical.com FAX: (804) 788-6358	
Khaled Rais Sequence IX Chairman	Southwest Research Institute 6220 Culebra Road San Antonio, TX 78238-0510	Phone: (210) 522- e-mail: FAX: (210) 522-	

<i>Patrick Joyce Painter SP Chair</i>	<i>Lubrizol</i>	<i>Phone: (440) 347-4656 e-mail: patrick.joyce@lubrizol.com</i>	<i>PMO</i>
<i>Jason Soto</i>	<i>Intertek</i>	<i>(210) 383-9355 jason.soto@intertek.com</i>	<i>R</i>
<i>Juan Vega</i>	<i>Intertek</i>	<i>Juan.Vega@intertek.com</i>	<i>&</i>
<i>Josh Ward</i>	<i>Intertek</i>	<i>210-269-6959 joshua.ward@intertek.com</i>	<i>JC</i>

ASTM Test Monitoring System Executive Committee Meeting
 June 24, 2019
 Denver, CO

Attachment A

Visitors

NAME	COMPANY AND ADDRESS	PHONE NUMBER E-MAIL ADDRESS FAX NUMBER	PRESENT
Michael Lochte	SWRI	MLOCHTE@SWRI.ORG	✓
Jan M	TMC		✓
Brittany Pfleeger	TMC	bjp@astmtmc.cmu.edu	✓
ANGELA WILLIS	WILLIS ADVANCED CONSULTING	angela.willis@willisadvancedconsulting.com	✓
MIKE KUNSELMAN	CQA	M.Kunselman@CenterforQA.com	✓
MATTHEW BOWDEN	OHTechnologies	mjbowden@ohtech.com	✓
Nick Ariemma	Lubrizol	nickariemma@Lubrizol.com	✓
MIKE DEEGAN	FORD	mdeegan@ford.com	✓

**ASTM Test Monitoring System
Executive Committee Meeting
Monday – June 24, 2019
5:30 - 6:30 PM
Denver, CO
AGENDA**

- 1. Call to Order**
- 2. Approval of Minutes - December 10, 2018**
- 3. Membership**
- 4. Receive, Accept and Take Action on Reports**
 - Technical Guidance Committee – Pat Lang**
 - Test Monitoring Center – Frank Farber**
- 5. New Business**
- 6. Old Business**
- 7. Next Meeting – Monday, December 9, 2019
New Orleans, LA**
- 8. Adjournment**

Technical Guidance Committee Report

Prepared by: Patrick Lang

June 24, 2019

Denver, CO

Summary of Activity this Period

- Rating Task Force activity:
 - Pre-workshop conference call held April 10, 2019
 - Light Duty Workshop held week of May 6th in San Antonio
 - Working on LED lighting assessment on ratings
- Fuels Task Force very active this period:
 - Mike Lochte of SwRI has taken over chairman position
 - Work continues on refining the fuel specifications
 - Identified alternate procedure for D1319 due to dye unavailability
 - Reviewing Sequence VI and IIIH EEE w/DCA and EEE
 - PC-9HS and PC-10 fuel specs posted to the TMC website

Activity this Period (cont'd)

- The Sequence VI and IIIH Alternate Fuel Supplier Task Forces were formed during this reporting period.
 - The Sequence VI Task force is being led by Adrian Alfonso of Intertek.
 - The Sequence IIIH Task Force is being led by Ankit Chaudhry of Southwest Research.
 - Many conference calls held discussing potential requirements.
 - Stats group has been involved in the discussions.
 - Contemplating full interchangeability of fuel, i.e. multiple suppliers allowable at one time.
 - No final decisions have been made yet.







Rater Task Force Update to TGC

6/24/2019

Passion for Solutions®

What we've been doing.....

-  **Conference call 4/10 (Pre-Workshop Discussion)**
-  **Light Duty Workshop week of 5/6**
-  **Post Workshop Call not held yet (target mid-late summer)**

-  **Next workshop (HD), week of 9/30 in San Antonio**

Spring Workshop update

New format continues to work well

- ▲ 2 sessions, 12 raters in session A (non-yellow from last LD workshop), 16 in session B

Improved Trainer visibility works well

- ▲ 2-3 local, 4 non-local Trainers worked second half

Workshop data available very quickly after workshop

Experienced Rater (rather than TMC) led opening discussion for both sessions

LED booths set up for parallel ratings

- ▲ Data not used for color codes but is very encouraging
- ▲ **Impacted panels please review (III, V, Cat, GMOD)**

CEC Manuals 20/21

 **Rater TF tasked with updating and “owning” them**

 **Will not be “D” number**

- ▲ ASTM Rating Manual 20
 - Information Letter system employed for updates

 **Manual review completed**

- ▲ Awaiting final LED decision before ASTM will reissue

Conversion to LED lights

- ▶ Need input from panels (do we need more data or are we ok)

Continue to review parts availability and workshop protocols to ensure the industry are properly served

Ensure more interaction between rating community and surveillance panels

- ▶ Panel Chairs, please have discussions within your respective panels regarding rating, and raise any particular concerns to our group so they may be addressed either through the workshop or discussions.

Investigate combining LD/HD workshops to better serve standardized testing

- ▶ Test procedures may need modifications
- ▶ Potentially use vacant workshop as training placeholder or field test workshop

Fall HD Workshop

Expect larger-than-normal Fall attendance

- ▲ Many with limited experience
- ▲ Perhaps pull forward signup dates to gauge interest
 - Allow for contingency planning

TGC Fuels Task force Update

Michael Lochte, Chairman

SOUTHWEST RESEARCH INSTITUTE®



SCOPE

- The scope of this task force is to create a document including best practices for HD and PC test fuel monitoring, handling, storage, and supply. The task force also needs to establish mechanisms for single and multiple source supply.

OBJECTIVES

- Maintain a data depository for all test fuel data, located in the TMC website. This should include test fuel formulation details (similar to reference oils) and create a procedure to indicate when significant changes occur in a test fuel formulation.
- Develop test fuel monitoring plans, include what to analyze (what are key parameters) and how to determine what properties of the test fuel affect the parameters the lubricant test is evaluating. Define what a “batch” is.
- Establish best practices for test fuel transporting, handling, and storage at the suppliers and laboratories.
- Develop robust back up plans to account for lack of supply, natural disasters, raw material shortages, etc. From original supplier or alternative suppliers.
- Include test fuel as critical parameter and test fuel suppliers as partners at the start of test development. Start out with multiple supply scenarios in new procedures.

OBJECTIVES, cont'd

- Look to reduce the amount of industry test fuels and reduce storage complexity for labs.
- Develop alternative supplier standards for test fuel across lubricant testing procedures. (being handled by surveillance panels, recommend we remove this from the objectives)

Activity since last ASTM TGC meeting....

Attachment C

- Dye used for the D1319 “Standard Test Method for Hydrocarbon Types in Liquid Petroleum Products by Fluorescent Indicator Adsorption” test is no longer available. The D1319 is called out in every test fuel specification, gasoline and diesel. Alternative methods were adopted for PC-9HS, PC-10, Sequence III, and Sequence VI fuel.
- Olefins and Saturates were dropped as a reporting requirement for PC-9HS and PC-10 as there is no ASTM method to measure them.
- Revised PC-9HS and PC-10 fuel specifications were posted to the TMC website and forwarded to the various HD panels for discussion and approval.
- Addressed comments on proposed Sequence III and Sequence VI fuel specifications.
- D5769 “Standard Test Method for Determination of Benzene, Toluene, and Total Aromatics in Finished Gasolines by Gas Chromatography/Mass Spectrometry” will be used to measure aromatics per limits agreed upon for Sequence III and VI fuel.

Current proposed Sequence III fuel spec

Seq. III, IX, and X Lube Cert Gasolines					
TEST	METHOD	UNITS	1-May-19		
			Seq. III Specs		
			MIN	TARGET	MAX
Seq. III, IX, and X Lube Cert Gasolines					
1-May-19					
TEST	METHOD	UNITS	Seq. III Specs		
			MIN	TARGET	MAX
Distillation - IBP	ASTM D86	°C	23.9		35.0
5%		°C			
10%		°C	48.9		57.2
20%		°C			
30%		°C			
40%		°C			
50%		°C	93.3		110.0
60%		°C			
70%		°C			
80%		°C			
90%		°C	151.7		162.8
95%		°C			
Distillation - EP		°C			212.8
Recovery		vol %		Report	
Residue		vol %		Report	
Loss		vol %		Report	
Gravity @ 60°F/60°F	ASTM D4052	API	58.7		61.2
Density @ 15° C	ASTM D4052	kg/l	0.734		0.744
Dry Vapor Pressure Equivalent	ASTM D5181	kPa	60.1		63.4
Carbon	ASTM D3843	wt fraction		Report	
Carbon	ASTM D5231	wt fraction		Report	
Hydrogen	ASTM D5231	wt fraction		Report	
Hydrogen/Carbon ratio	ASTM D5231	mole/mole		Report	
Oxygen*	ASTM D4815	wt %			0.2
Oxygenates Ethanol	ASTM D4815	%		Report	
MTBE		%		Report	
ETBE		%		Report	
Methanol		%		Report	
Sulfur	ASTM D5453	mg/kg	3		15
Benzene	ASTM D3606	vol %			1
Composition, aromatics	ASTM D5769**	vol %	31.0		34.0
C6 aromatics (benzene)	ASTM D5769	vol %			1.0
C7 aromatics (toluene)	ASTM D5769	vol %		Report	
C8 aromatics	ASTM D5769	vol %		Report	
C9 aromatics	ASTM D5769	vol %		Report	
C10+ aromatics	ASTM D5769	vol %		Report	
Composition, olefins	ASTM D6550**	wt%			2.0
Lead*	ASTM D3237	mg/l			2.6
Manganese*	ASTM D3831	g/gal			0.01
Phosphorus*	ASTM D3231	mg/l			1.3
Silicon*	ASTM D5185	mg/kg			4
Particulate matter	ASTM D5452	mg/l			1
Oxidation Stability	ASTM D525	minutes	1000		
Copper Corrosion	ASTM D130				1
Gum content, washed	ASTM D381	mg/100mls			5.0
Gum content, unwashed	ASTM D381	mg/100mls			10.0
Research Octane Number	ASTM D2699		96.0		
Motor Octane Number	ASTM D2700			Report	
R+M/2	D2699/2700			Report	
Sensitivity			7.5		
Net Heating Value, btu/lb	ASTM D9338	btu/lb		Report	
Gross Heating Value, btu/lb	ASTM D240	btu/lb		Report	
Net Heating Value, btu/lb	ASTM D240	btu/lb		Report	
Water and Sediment	ASTM D2709	vol%			0.01
Color **	VISUAL	1.75 ptb		Red	

*no intentional addition of these elements permitted.

** Innospec Oil Red B4 Liquid Dye

Current proposed Sequence VI fuel spec

Seq. VI Lubs Certification Fuel			1-May-19		
TEST	METHOD	UNITS	Seq. VI Specs		
			MIN	TARGET	MAX
Distillation - IBP	ASTM D86	°C	23.9		35.0
5%		°C			
10%		°C	48.9		57.2
20%		°C			
30%		°C			
40%		°C			
50%		°C	93.3		110.0
60%		°C			
70%		°C			
80%		°C			
90%		°C	151.7		162.8
95%		°C			
Distillation - EP		°C			212.8
Recovery		vol %		Report	
Residue		vol %		Report	
Loss		vol %		Report	
Gravity @ 60°F/60°F	ASTM D4052	°API	58.7		61.2
Density @ 15° C	ASTM D4052	kg/l	0.734		0.744
Dry Vapor Pressure Equivalent	ASTM D5191	kPa	60.1		63.4
Carbon	ASTM D6843	wt fraction		Report	
Carbon	ASTM D5291	wt fraction		Report	
Hydrogen	ASTM D5291	wt fraction		Report	
Hydrogen/Carbon ratio	ASTM D5291	mole/mole		Report	
Oxygen*	ASTM D4815	wt %			0.2
Oxygenates Ethanol	ASTM D4815	%		Report	
MTBE		%		Report	
ETBE		%		Report	
Methanol		%		Report	
Sulfur	ASTM D5453	mg/kg	3		15
Composition, aromatics	ASTM D5769***	vol %	31.0		34.0
C6 aromatics (benzene)	ASTM D5769	vol %			1.00
C7 aromatics (toluene)	ASTM D5769	vol %		Report	
C8 aromatics	ASTM D5769	vol %		Report	
C9 aromatics	ASTM D5769	vol %		Report	
C10+ aromatics	ASTM D5769	vol %		Report	
Composition, olefins	ASTM D6550 ***	wt%			2.0
Lead*	ASTM D3237	mg/l			2.6
Manganese*	ASTM D3831	g/gal			0.01
Phosphorus*	ASTM D3231	mg/l			1.3
Silicon *	ASTM D5185	mg/kg			4
Particulate matter	ASTM D5452	mg/l			1
Oxidation Stability	ASTM D525	minutes	1000		
Copper Corrosion	ASTM D130				1
Gum content, washed	ASTM D381	mg/100mls			5.0
Gum content, unwashed	ASTM D381	mg/100mls	7.0		20.0
Research Octane Number	ASTM D2699		96.0		
Motor Octane Number	ASTM D2100			Report	
R+M/2	D2699/2100			Report	
Sensitivity			7.5		
Net Heating Value, btu/lb	ASTM D3338	btu/lb		Report	
Gross Heating Value, btu/lb	ASTM D240	btu/lb		Report	
Net Heating Value, btu/lb	ASTM D240	btu/lb		Report	
Water and Sediment	ASTM D2703	vol%			0.01
Color **	VISUAL	1.75 ptb		Red	
Top Tier Additive***		63.3 ptb		Report	

* no intentional addition of these elements

** Inospec Oil Red B4 Liquid Dye

*** top tier additive product

**** or use D6839 for everything measured by D5769 and D6550



On the to-do list for TGC fuels task force....

Attachment C

- Discuss D6839 “Standard Test Method for Hydrocarbon Types, Oxygenated Compounds, and Benzene in Spark Ignition Engine Fuels by Gas Chromatography” as an alternative to D5769 and D6550 “Standard Test Method for Determination of Olefin Content of Gasolines by Supercritical-Fluid Chromatography” for the Sequence III and Sequence VI fuel.
- Do final revision of the Sequence III and Sequence VI fuel specs for final vote before submission to the Sequence III, VI, IX, and X surveillance panels.
- Will need to address the KA24E (IVA and IVB) and STDF (diesel IMPC) fuel specifications because of the D1319 issue.

Scope and Objectives

The Technical Guidance Committee is a standing committee under the ASTM Test Monitoring System Executive Committee. The TGC shall consist of the chairmen of the surveillance panels of monitored tests, a representative of each of the test developers/sponsor who are responsible for the test procedures and the Director. The Technical Guidance Committee will advise the Director in technical matters concerning test procedures.

This will involve working with the surveillance panels, test developers, critical parts suppliers, fuel suppliers and testing laboratories across all testing types to improve the repeatability and reproducibility of the test procedures. The TGC will provide guidance for future test developments. Additionally, the TGC chairman will liaise with the ACC PAPTG Chair.

Objectives:

- 1) Develop guidelines for issues that are potentially common to all HD/PC engine, gear and bench testing.
- 2) Work with the Rating Committee to provide guidance for issues related to visual deposit ratings.
- 3) Provide guidance on best practices for critical component identification within test procedures.
- 4) Continue to refine the “Guide for Test Development” document as new categories are developed.

Test Monitoring Center Report

- ▶ June 24, 2019
 - ▶ Denver, CO

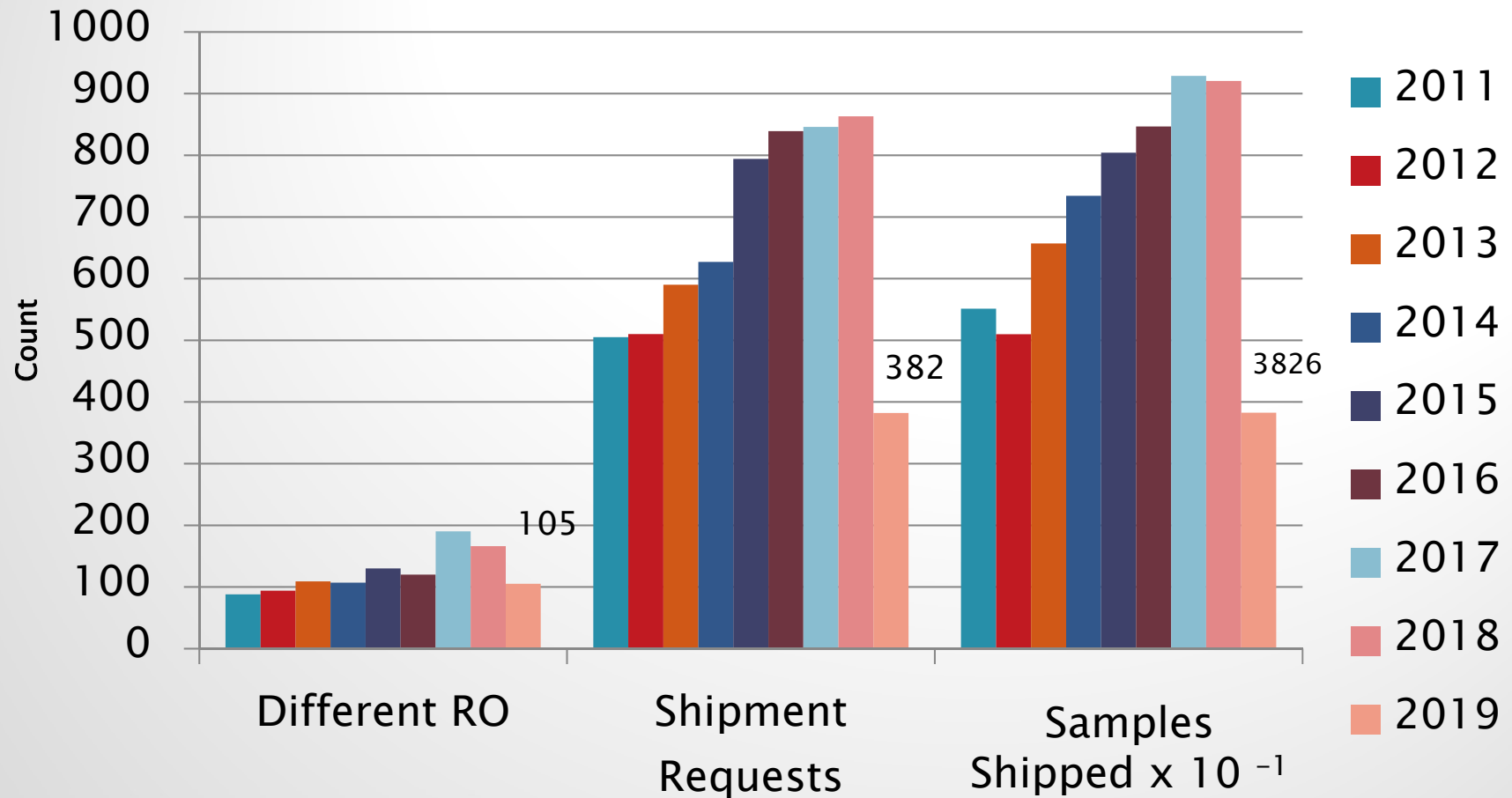
21 Information Letters Passed Sub B Ballot

Test Area	No.	Issued	Sub. B	Subject
CBT	18-1	20181109		Correction to Test Coupon Dimensions
HTCBT	18-1	20181109		Correction to Test Coupon Dimensions
VIE	18-4	20181119		1. Additional Fuel Flow Measurement Device
				2. Additional Oil Circulation Pump and Updated Motor Specifications
L-37-1	18-1	20181129		1. Requirement to Include Ring Gear Photos in Test Report
				2. LTMS Reference Added
				3. Type of Test Added to Broken or Cracked Tooth Section 12.5
IVB	18-1	20181206	needs D02 balloting	Reporting of Severity Adjusted End of Test Used Oil Iron Results
EOFT	18-1	20181220		Refinements to the Test Method
C-13	18-3	20181226		Updated Valve Guide and Seal Part Numbers in Critical Parts List and Rescind Information Letter 18-2
VIE	19-1	20190107		Alternate Procedure for Establishing Oil Level Marks
VIF	19-1	20190110		1. Additional Fuel Flow Measurement Device
				2. Additional Oil Circulation Pump and Updated Motor Specifications
				3. Alternate Procedure for Establishing Oil Level Marks
L-42	19-1	20190220		1. Clarification of stand referencing procedure added to section 9.6.1
				2. Figure A6.2 modified to better define the location of the axle cooling spray nozzles
L-37-1	19-1	20190221		Typographical error corrected in sections 10.4, 10.5 of the test method
L-37	19-1	20190221		Clarification on approval requirements of axle build procedure
EOEC	19-1	20190326		Light Duty Polyacrylate Elastomer Correction Factor for Volume Change
EOWT	19-1	20190401		Test Method Refinements
VIE	19-2	20190411		Clarification of additional break-in
VIF	19-2	20190411		Clarification of additional break-in
OSCT	19-1	20190425		FL & PA Shelf Life
ISB	19-1	20190429		Fuel Specifications for TMC-Monitored Tests
ISM	19-1	20190429		Fuel Specifications for TMC-Monitored Tests
L-37-1	19-2	20190502		Validity for Adhesive Wear
IIIH	19-1	20190503		60 & 70 hour test added

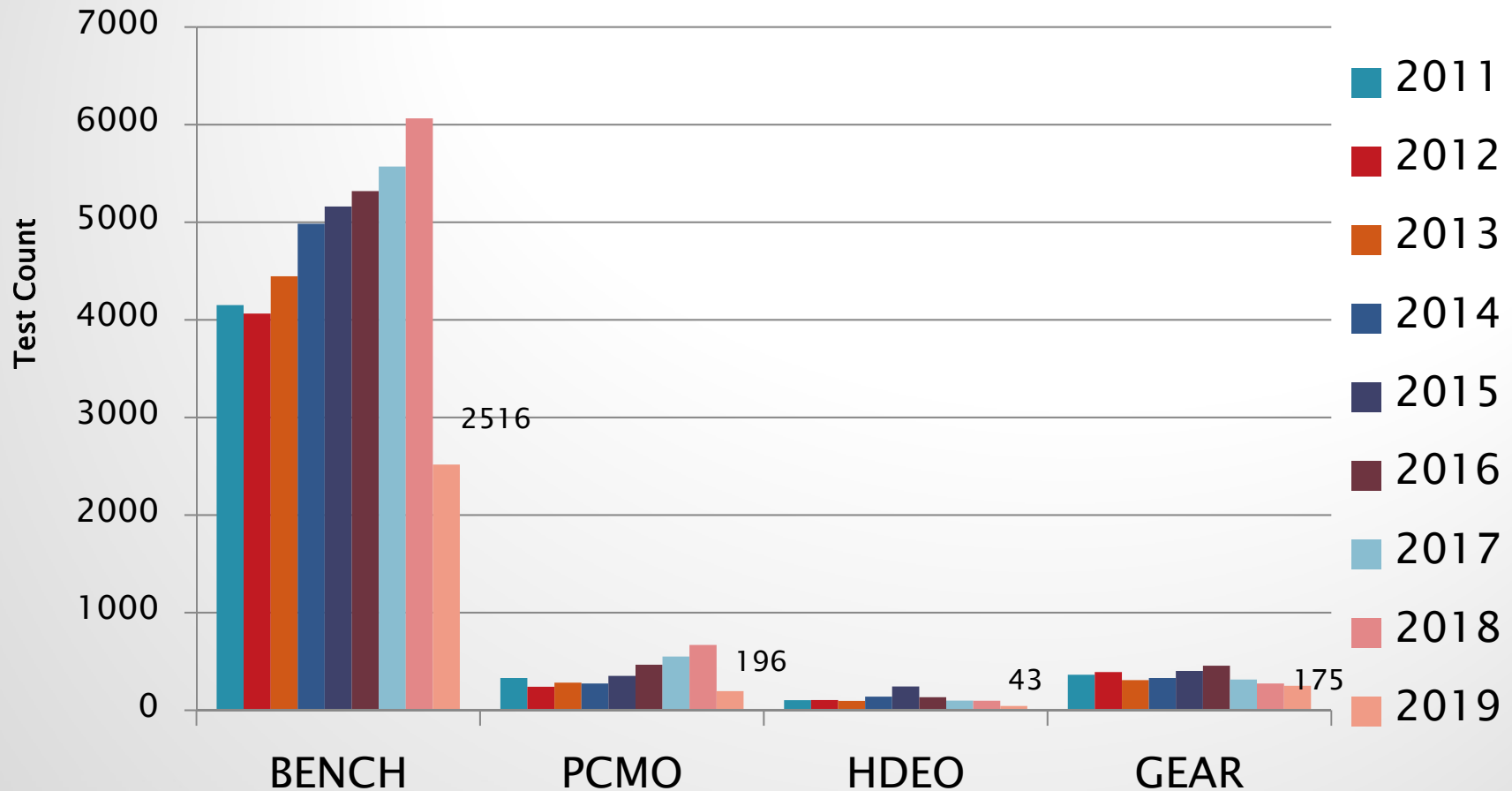
Reference Oil Procurement

Type	Oil Code	Quantity (drums)
Seals	SL107	81
GMAER	GMAER02-5	1

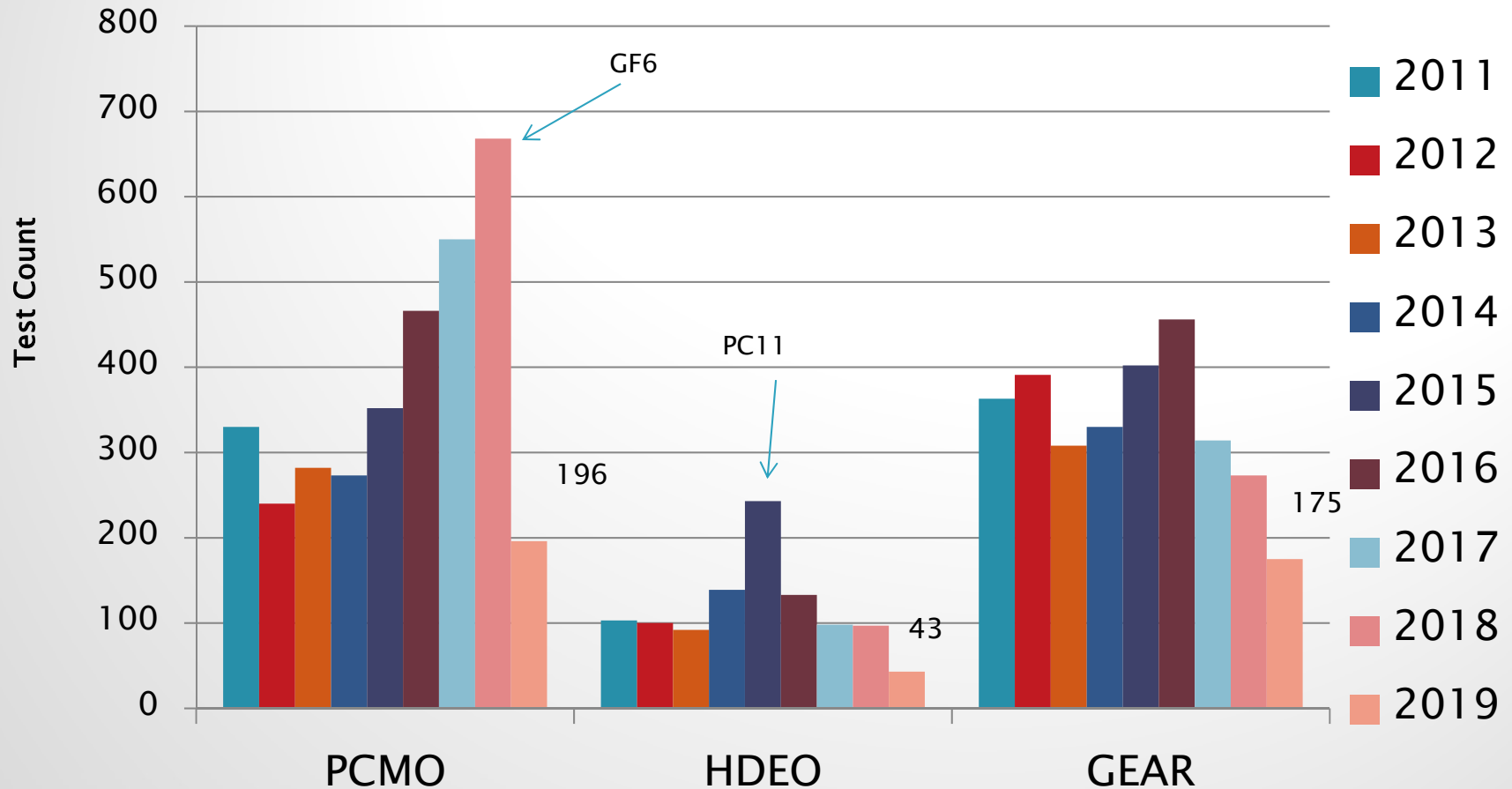
Reference Oil Shipment Overview



Reference Test Activity



Reference Test Activity



1006-2 Status

- ▶ TMC Inventory of 1006-2 is at 573 gallons (10.5 drums)
 - 8 drums reserved for Sequence IVA
 - 2.5 drums for EOEC/LDEOC Use
- ▶ 6-month usage
 - SF105 108 gallons
 - EOEC/LDEOC 116 gallons
 - VIII 6 gallons
 - IVA 8 gallons
 - Total 228 gallons
- ▶ Estimated Life ~ Gone!