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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

Originally Issued: June 1, 2005

Reply to: Frank Farber
ASTM Test Monitoring Center
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Unapproved Minutes of the May 17, 2005 Sequence III Surveillance Panel Meeting held in Tunkhannock, PA

The meeting was called to order at 9:00 am by Chairman Bill Nahumck. A membership list was circulated for members & guests to sign in. It's shown in Attachment 1.

Agenda Review

Bill Buscher is Action & Motion recorder.

The Agenda was accepted as shown on Attachment 2.

Membership Changes
Andy Ritchie replaces Gordon Farnsworth for Infineum

Meeting Minute Status
The November 17, 2004 meeting minutes were approved by the surveillance panel.

Review of Action Items from Last Meeting

Motions and Action Items As Recorded at the Meeting by Bill Buscher

1. *Motion – Surveillance Panel to release control of reference oil 432.*

Done.

2. *Action Item – GM to send the San Antonio laboratories a machined engine block for inspection, before the machining process is completed on the entire batch of blocks.*

Done.

3. *Motion – Implement the suggested Sequence III engine build worksheet into the annex of the Sequence IIIF and IIIG procedures. Laboratories will be required to perform all of these measurements during the build and retain the data. Data should be made available for TMC lab audits or Surveillance Panel requests. Effective with release of information letter.*

Done.

4. *Motion – Eliminate as a validity requirement from the Sequence IIIF procedure, the requirement to maintain an average blowby of 23.0 L/min for the first 26 hours of the test (procedure section 12.14.3). Effective 11/17/04.*

Done.

5. *Motion – The mineral spirits requirement will only require that the aromatic content, flash point and color requirements of ASTM D 235, Type II, Class C solvent must be met. Laboratories will use the Certificate of Analysis documentation for each batch to verify that these requirements have been met.*

Done.

6. *Motion – Revise yield stress units from cP to Pa on form 6 of the Sequence IIIF test report.*

   Done.

7. *Action Item – O&H Subpanel to research a replacement torque wrench or options for repairing existing torque wrench.*

Covered in O&H Report.

IIIF/IIIG/IIIIGA TMC Test Status

The complete TMC reports are posted to the TMC website. Rich Grundza gave a verbal summary of the number of calibration tests and general severity.

Sequence IIIG			
Parameter	Δ/s	Average Δ, in Reported Units	Direction
PVIS	**-0.639**	-56% VI	Mild
WPD	**-0.766**	-0.31 Merits	Severe
ALCW	-0.156	-3.0 µm	Mild

Sequence IIIF			
Parameter	Δ /s	Average Δ, in Reported Units	Direction
PVIS	**0.802**	120.1% VI	Mild
APV	0.152	0.02 Merits	On Target
WPD	-0.037	-0.03 Merits	On Target
PV60	**-0.737**	-31.4 % VI	Mild

When Δ/s is in **BOLD RED** the shift is significant!

RSI Report

No RSI attendance. Reports have been previously emailed to panel members and posted to the RSI website.

Fuel Supplier Report

Jim Carter presented data from the last 3 fuel batches. Haltermann is doing ~ 1 batch every 1.5 months. All items were within specification. See Attachment 3.

IIIG/IIIF CPD Reports

OHT

The OHT report was accepted as shown below.

1.) Rejections from 11/17/2004 to 5/10/2005 :

ITEM	DESCRIPTION	REASON REJECTED	QTY	REPLACED (Y/N)	DATE REPLACED
OHT3F-008-8	IIIG PHOS CAM	NO THREADS IN NOSE	1	YES	12/27/2004
OHT3F-030-2	COOLER, OIL	CORROSION	4	YES	12/27/2004
OHT3F-030-2	COOLER, OIL	CORROSION	5	YES	3/23/2005
OHT3G-059-1	SPRING, VALVE	HIGH LOAD TENSION	72	YES	2/21/2005
		OHT ACTION: RESET LOADS AT VENDOR			
OHT3F-029-3	LIFTER, TEST, ACI W/ FLAT	DEFECT ON FOOT	4	YES	4/1/2005
OHT3F-055-1	PISTON, GRADE 56	DAMAGE ON RING LANDS	2	YES	4/1/2005
		OHT ACTION: CHANGED PACKAGING PROCEDURES			

2.) Technical Memos Issued

None

3.) Batch Code Changes

IIIF	Batch Code	Date Introduced
Grade 12 Piston	BC 17	1/04/05
Grade 34 Piston	BC 16	3/15/05
Grade 56 Piston	BC 17	3/28/05
Cam Bearing	BC 11	3/15/05
Main Bearing	BC 11	3/15/05

IIIG	Batch Code	Date Introduced
Grade 12 Pistons	BC 17	12/30/04
Grade 34 Pistons	BC 16	12/17/04
Grade 56 Pistons	BC 17	1/28/05
Run 5 Rings	BC 5	4/05/04
Rocker Arm	BC 9	1/28/05
Cam Bearing	BC 11	1/03/05
Main Bearing	BC 11	

GM Motorsports

Sid Clark summarized verbally the GM Motorsports report. For the next 5 years, GM is projecting a usage rate of 150 blocks/year. No materials have been rejected this report period. The chairman will contact the Heavy Duty ASTM leadership to develop planning for future inventories. GM is changing the connecting rod design to eliminate the oil slinger slots sometime in the future. The current powered metal (pm) rods have the slinger slots and the cast iron rods do not. GM will be moving to piston cooling jets to cool pistons in the future. GM will report back on the timeframe for this change. It was noted by OHT that any implementation should be done in a controlled manner so that severity assessments of the new rods can occur.

O&H Report

Pat Lang's report is Attachment 4. Pat will distribute a draft of the MRV precision report from Chris May.

Blowby evacuation standardization was dropped and will be addressed more clearly in Sequence IIIH. Labs can continue to use their current systems as long as the crankcase is not exposed to a vacuum.

The SPS Torque wrench replacement from Ingersoll-Rand (p/n ETW-125) and will be available by the end of June. Also, OHT has 2 wrenches available for use by the laboratories.

Frank Farber discussed CRC grouping of raters based upon their performance at the April 2005 workshop (see Attachment 5). Initial indication is that the grouping is being accepted b the raters and can be useful in developing a rater calibration process. Frank recommended that the Sequence III panel review the CRC technique in May of 2006 for use in a rater calibration protocol.

Sequence IIIG Severity Discussion

Mild Viscosity, Severe WPD: GM commented that the severity adjustments are taking care of the issue from their point of view.

Dwight Bowden noted that the Sequence III group is not utilizing matrix type testing to assess severity impacts of hardware changes to the test.

TMC presentation is inconclusive with regard to whether honing, piston batch or pm connecting rods have caused the severity shifts. Charlie Leverett commented that he believes that the honing and connecting rod changes are somewhat responsible for the shifts.

Afton candidate data presentation: Data indicates that directionally oil consumption is lower with Batch 4 rings.

It was suggested that it might be a good idea to look at possible fuel effects since fuel is sitting around longer at labs. The panel approved a motion (Motioned by Dwight Bowden, seconded by Gordon Farnsworth) that each lab sample their EEE fuel and send to Jim Carter. Labs are to include the reporting batch and last batch received number along with sample date. Samples should be taken from the storage tank similar to the way VG samples are taken. Jim Carter from Haltermann agreed to supply to each laboratory the proper sampling containers, shipping instructions and labels for safe shipment.

The panel recommended that the O&H panel should convene soon and review issues such as honing, rods, valves and heads for their effect on the severity and report back as soon as possible if any significant information is found.

The setting new reference oil targets were removed from the agenda until the severity shifts are understood and can properly interpreted.

Status of IIIG Standard

The Sequence IIIG Test Method is being worked on by Ben Weber and is currently being reviewed by Lyle Bowman. The Test Method will be reviewed by the panel later this year and then submitted for concurrent balloting within ASTM.

GF-5 Crystal Ball

IIIH engine choice is being defined. Development work should start in 2007. GM is working diligently to get an engine down to San Antonio for preliminary testing. Oxidation and deposits should be the main focus. Wear will not be part of this test.

Scope & Objectives

See Attachment 6.

New Business

Frank Farber presented a follow-up to the recent TGC ballot regarding test precision (see Attachment 7). The panel agreed to look at the proposal and make a decision downstream of the meeting.

Adjournment

The meeting was adjourned at 1:20 pm.

Motions and Action Items As Recorded at the Meeting by Bill Buscher

1. Motion – Approval of Minutes for 11/17/04. Approved without changes.
   Bill Nahumck / Dwight Bowden / Passed unanimously

2. Action Item – Bill Nahumck will contact Jim McGeehan concerning the choice of the Sequence IIIF or IIIG for inclusion in PC-10, due to hardware needs and availability concerns.

3. Action Item – Sid Clark will investigate the status of the oil slinger slots in the powder-metal connecting rods for the Sequence IIIG test engine, and report back to the Surveillance Panel.

4. Action Item – Pat Lang to obtain a copy of the draft of D4684 from Chris May, and distribute it to the Surveillance Panel members.

5. Motion – Remove the blowby evacuation system investigation from the O&H Sub-panel's action items list. Laboratories can continue to use their current systems as long as the crankcase is not exposed to a vacuum.
   Pat Lang / Sid Clark / Passed unanimously

6. Action Item – Pat Lang will obtain brochures from Ingersoll-Rand for the replacement SPS wrench when they become available, and distribute them to the laboratories for review. Pat will also inquire Ingersoll-Rand to see if a demo wrench can be obtained for review.

7. Motion – Laboratories to sample the Haltermann EEE fuel that they currently have on hand and send the samples to Dow for analysis. Each laboratory should obtain samples at the fuel tank from each fuel tank (storage and run tanks) containing Haltermann EEE fuel. Haltermann will supply the required sample bottles and shipping instructions to each of the laboratories.
   Dwight Bowden / Gordon Farnsworth / Passed unanimously

8. Action Item – O&H Sub-panel to schedule a conference call to discuss the outcome of the 05/17/05 Surveillance Panel meeting and establish a plan to address the current Sequence IIIG severity trends.

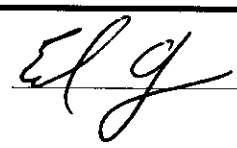
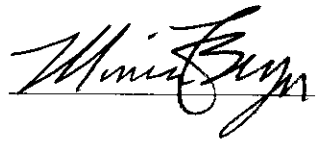
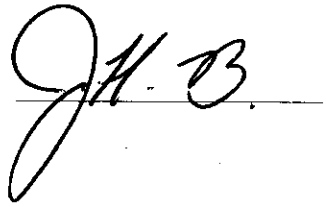
9. Motion – Approve the concept that the severity adjustments and the test precision calculation should use the same standard deviations.
   Dwight Bowden / Gordon Farnsworth / Passed unanimously

10. Action Item – Frank Farber to distribute the TGC test precision calculation proposal to the Surveillance Panel members for agreement on oil selection for each parameter.

ATTACHMENT 1

ASTM SEQUENCE IIIF LIST

May 17, 2005 Tunkhannock, Pennsylvania

NAME / ADDRESS	PHONE / FAX / E-MAIL		SIGNATURE
Ed Altman Afton Chemical Corporation P.O. Box 2158 Richmond, VA 23218-2158 USA	804-788-5279 804-788-6358 ed.altman@aftonchemical.com	☑ IIIF SURV PANEL ☐ IIIF MAILING LIST ☑ O&H SUBPANEL ☐ O&H Mailing List	Present 
Monica Beyer The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, OH 44092 USA	440-347-2006 440-347-4096 mbey@lubrizol.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☑ O&H SUBPANEL ☐ O&H Mailing List	Present 
Jason Bowden OH Technologies, Inc. 9300 Progress Parkway P.O. Box 5039 Mentor, OH 44061-5039 USA	440-354-7007 440-354-7080 jhbowden@ohtech.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☑ O&H Mailing List	Present 
Dwight H. Bowden OH Technologies, Inc. 9300 Progress Parkway P.O. Box 5039 Mentor, OH 44061-5039 USA	440-354-7007 440-354-7080 dhbowden@ohtech.com	☑ IIIF SURV PANEL ☐ IIIF MAILING LIST ☑ O&H SUBPANEL ☐ O&H Mailing List	Present 
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May 17, 2005 Tunkhannock, Pennsylvania

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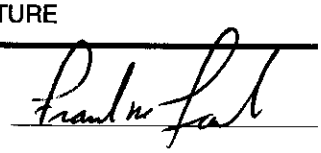
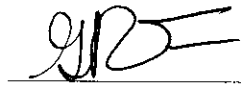
Frank Farber ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, PA 15206 USA	412-365-1030 412-365-1047 fmf@astmtmc.cmu.edu	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☐ O&H Mailing List	Present 
Gordon R. Farnsworth Infineum RR # 5 Box 211 Montrose, PA 18801 USA	570-934-2776 570-934-0141 gordon.farnsworth@infineum.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☑ O&H Mailing List	Present 
Frank Fernandez ChevronOronite Co., LLC 4502 Centerview Drive Suite 210 San Antonio, TX 78228 USA	210-731-5603 210-731-5699 ffer@chevron.com PCEOCP Chair	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☐ O&H Mailing List	Present
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May 17, 2005 Tunkhannock, Pennsylvania

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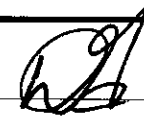
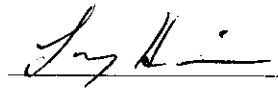
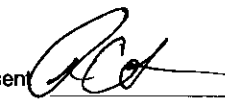
David L. Glaenzer Afton Chemical Corporation 500 Spring Street P.O. Box 2158 Richmond, VA 23218-2158 USA	804-788-5214 804-788-6358 dave.glaenzer@aftonchemical.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☑ O&H Mailing List	Present 
Irwin L. Goldblatt Castrol Americas 240 Centennial Avenue Piscataway, NJ 08854-3910 USA	732-980-3606 973-686-4224 irwin.goldblatt@cnacm.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☐ O&H Mailing List	Present
Larry Hamilton The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, OH 44092 USA	440-347-2326 440-347-4096 ldha@lubrizol.com	☐ IIIF SURV PANEL ☐ IIIF MAILING LIST ☑ O&H SUBPANEL ☐ O&H Mailing List	Present 
Rich Grundza ~~Michael T. Kasimirsky~~ ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, PA 15206 USA	1031 412-365-~~1033~~ 412-365-1047 ~~mtk~~@astmtmc.cmu.edu reg	☑ IIIF SURV PANEL ☐ IIIF MAILING LIST ☑ O&H SUBPANEL ☐ O&H Mailing List	Present 
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May 17, 2005 Tunkhannock, Pennsylvania

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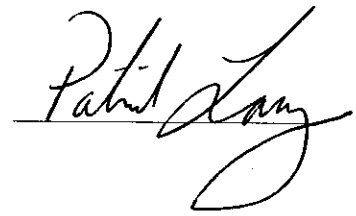
Patrick Lang Southwest Research Institute 6220 Culebra Road P.O. Box 28510 San Antonio, TX 78228 USA	210-522-2820 210-684-7523 plang@swri.edu O&H Subpanel Chairman	☑ IIIF SURV PANEL ☐ IIIF MAILING LIST ☑ O&H SUBPANEL ☐ O&H Mailing List	Present 
Charlie Leverett PerkinElmer Automotive Research, 5404 Bandera Road San Antonio, TX 78238 USA	210-647-9422 210-523-4607 charlie.leverett@perkinelmer.com	☑ IIIF SURV PANEL ☐ IIIF MAILING LIST ☑ O&H SUBPANEL ☐ O&H Mailing List	Present 
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May 17, 2005 Tunkhannock, Pennsylvania

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Mike McMillan GM R&D Center MC480-106-160 Chemical & Environmental Science 12 Mile & Mound Roads Warren, MI 48090-9057 USA	586-986-1935 586-986-2094 micheal.l.mcmillan@gm.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☑ O&H Mailing List	Present
Timothy Miranda Castrol Technology Center 240 Centennial Avenue Piscataway, NJ USA	732-980-3634 973-686-4039 Timothy.Miranda@Castrol.com	☑ IIIF SURV PANEL ☐ IIIF MAILING LIST ☑ O&H SUBPANEL ☐ O&H Mailing List	Present

new address
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May 17, 2005 Tunkhannock, Pennsylvania

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Robert Olree GM Powertrain General Motors Corporation MC - 483-730-322 823 Joslyn Rd. Pontiac, MI 48090-9055 USA	248-857-9989 robert.olree@gm.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☑ O&H Mailing List	Present

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ASTM SEQUENCE IIIF LIST

May 17, 2005 Tunkhannock, Pennsylvania

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Robert H. Rumford Specified Fuels & Chemicals, LLC 1201South Sheldon Road Channelview, TX 77530-0429 USA	281-457-2768 281-457-1469 rhrumford@specified1.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☐ O&H Mailing List	Present
Jim Rutherford Chevron Oronite Company LLC 100 Chevron Way Richmond, CA 94802 USA	510- 510- jaru@chevrontexaco.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☐ O&H Mailing List	Present
Philip R. Scinto The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, OH 44092 USA	440-347-2161 440-347-9031 prs@lubrizol.com	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☐ O&H Mailing List	Present

ATTACHMENT 1

ASTM SEQUENCE IIIF LIST

May 17, 2005 Tunkhannock, Pennsylvania

NAME / ADDRESS	PHONE / FAX / E-MAIL		SIGNATURE
Mark Sutherland Chevron Oronite Company LLC 4502 Centerview Drive Suite 210 San Antonio, TX 78228 USA	210-731-5621 210-731-5699 msut@chevrontexaco.com	☑ IIIF SURV PANEL ☐ IIIF MAILING LIST ☑ O&H SUBPANEL ☐ O&H Mailing List	Present
Ben O. Weber Southwest Research Institute 6220 Culebra Road P.O. Box 28510 San Antonio, TX 78228 USA	210-522-5911 210-684-7530 bweber@swri.edu Sub-Committee D02.B01 Chair	☐ IIIF SURV PANEL ☑ IIIF MAILING LIST ☐ O&H SUBPANEL ☐ O&H Mailing List	Present

SEQUENCE III SURVEILLANCE PANEL MEETING
GUEST LIST

ATTACHMENT 1

May 17, 2005
Tunkhannock, Pennsylvania

NAME/ADDRESS	PHONE/FAX/EMAIL	SIGNATURE
WILLIAM A BUSCHER III 6220 CULEBRA RD SAN ANTONIO, TX 78228	210-522-6802 210-684-7530 wbuscher@swri.edu	William A Buscher III
ADAM D. BOWDEN P.O. BOX 5039 MENTOR, OH 44061-5039	440.354.7007 440.354.7080 adbowden@ohtech.com	Adam D Bowden
John Glaser PerkinElmer 5401 Bandera Rd San Antonio, Tx 78238	210-647-9459 210-523-4607 john.glaser@ perkinelmer.com	
Bob Sutherland Shell 3333 Highway 6 South Houston, Tx 77082	281-544-8620 281-544-8150 R.sutherland@ shell.com	RJS
William A. Buscher, Jr. PO Box 112 Hopewell Jct, NY 12533 Buscher Consulting Services	845/897-9658 buschwa@aol.com	

SEQUENCE III SURVEILLANCE PANEL MEETING
GUEST LIST
ATTACHMENT 1

May 17, 2005

Tunkhannock, Pennsylvania

NAME/ADDRESS	PHONE/FAX/EMAIL	SIGNATURE
Todd Dvorak 500 Spring Street Richmond, VA 23219	804-788-6307 F: 804-788-6308 todd.dvorak@afftonchemical.com	

Attachment 2

AGENDA
SEQUENCE III SURVEILLANCE PANEL MEETING

Shadowbrook Inn, Tunkhannock, PA
May 17, 2005
9:00 AM to 5:00 PM

1. **APPOINTMENT OF RECORDER OF ACTIONS/MOTIONS**
2. **AGENDA REVIEW**
3. **MEMBERSHIP CHANGES**
4. **APPROVAL OF THE MINUTES FROM THE NOVEMBER 2004 MEETING**
5. **REVIEW OF ACTION ITEMS FROM THE LAST MEETING**

TMC TEST SEMIANNUAL REPORT HIGHLIGHTS – Rich Grundza
SEQUENCE IIIF – D6984
SEQUENCE IIIG
SEQUENCE IIIGA

RSI SEMIANNUAL REPORT– Bill Mahoney
SEQUENCE IIIF – D6984
SEQUENCE IIIG

SEQUENCE III FUEL SUPPLIER REPORT – James Carter

SEQUENCE III CPD SUPPLIER REPORTS
1. OHT
2. GM MOTORSPORTS

SEQUENCE III O&H REPORTS– Pat Lang
Configuration of the IIIG blowby evacuation system
Torque Wrench Update
Rating Workshop Update
Resolution of the Description of MRV Results

SEQUENCE IIIG ISSUES
1. **Current Severity concerns**
2. **Setting new reference oil targets**

OLD BUSINESS
1. **Status of IIIG Standard – Bill Nahumck**
2.

NEW BUSINESS
1. **GF-5 Crystal Ball**
2. **TGC Proposal for Test Precision Calculation Guidelines – Frank Farber**

REVIEW OF SCOPE & OBJECTIVES – Bill Nahumck

ADJOURNMENT

PRODUCT: **EEE Unleaded Gasoline**
PRODUCT CODE: **HF003**

Batch No.:	TD1421LS11	TB2821LS10	TA1221LS11
Tank No.:	2012	2014	2012
Analysis Date:	4/25/2005	3/8/2005	1/21/2005

TEST	METHOD	UNITS	FED Specs		HALTERMANN Specs			RESULTS	RESULTS	RESULTS
			MIN	MAX	MIN	TARGET	MAX			
Distillation - IBP	ASTM D86	°F	75	95	75		95	83	85	89
5%		°F						107	113	117
10%		°F	120	135	120		135	122	126	131
20%		°F						143	147	152
30%		°F						168	171	175
40%		°F						196	198	201
50%		°F	200	230	200		230	219	220	221
60%		°F						231	231	232
70%		°F						244	242	243
80%		°F						265	265	264
90%		°F	305	325	305		325	321	320	321
95%		°F						339	337	338
Distillation - EP		°F		415			415	390	403	390
Recovery		vol %				Report		96.7	98.2	98.7
Residue		vol %				Report		1.0	1.0	1.0
Loss		vol %				Report		2.3	0.8	0.3
Gravity	ASTM D4052	°API	58.7	61.2	58.7		61.2	59.3	59.5	59.1
Density	ASTM D4052	kg/l			0.734		0.744	0.741	0.741	0.742
Reid Vapor Pressure	ASTM D323	psi	8.7	9.2	8.7		9.2	9.2	9.2	9.0
Reid Vapor Pressure	ASTM D5191	psi				Report		9.2	9.2	8.9
Carbon	ASTM D3343	wt fraction				Report		0.8669	0.8670	0.8659
Carbon	ASTM E191	wt fraction				Report		0.8639	0.8646	0.8630
Hydrogen	ASTM E191	wt fraction				Report		0.1324	0.1333	0.1351
Hydrogen/Carbon ratio	ASTM E191	mole/mole				Report		1.826	1.837	1.865
Oxygen	ASTM D4815	wt %					0.05	<0.05	<0.05	<0.05
Sulfur	ASTM D5453	ppm		1000	3		15	7	3	4
Lead	ASTM D3237	g/gal		0.05			0.01	<0.01	<0.01	<0.01
Phosphorous	ASTM D3231	g/gal		0.005			0.005	<0.0008	<0.0008	<0.0008
Composition, aromatics	ASTM D1319	vol %		35.0			35.0	31.9	32.5	30.1
Composition, olefins	ASTM D1319	vol %		10.0			10.0	0.3	0.4	0.5
Composition, saturates	ASTM D1319	vol %				Report		67.8	67.1	69.4
Particulate matter	ASTM D5452	mg/l					1	0.4	0.6	0.8
Oxidation Stability	ASTM D525	minutes			240			>1000	>1000	>1000
Copper Corrosion	ASTM D130						1	1	1	1
Gum content, washed	ASTM D381	mg/100mls					5	<1	<1	<1
Fuel Economy Numerator/C Density	ASTM E191				2401		2441	2429	2425	2425
C Factor	ASTM E191					Report		1.0007	1.0022	1.0028
Research Octane Number	ASTM D2699		93.0		96.0			96.8	96.8	96.8
Motor Octane Number	ASTM D2700					Report		88.0	88.2	88.1
Sensitivity			7.5		7.5			8.8	8.6	8.7
Net Heating Value, btu/lb	ASTM D3338	btu/lb				Report		18433	18431	18462
Net Heating Value, btu/lb	ASTM D240	btu/lb				Report		18455	18419	18370
Color	VISUAL	1.75 ptb				Report		Red	Red	Red

Report of the O&H Subpanel to the Sequence III Surveillance Panel

Presented by

Pat Lang

May 17, 2005

ATTACHMENT 4

Used Oil MRV Precision

- Chris May reported that a research report has been drafted and D4684 revised to incorporate precision and bias for used gasoline oils consistent with the research report results.
- This is currently being balloted within Subcommittee 7 (Ballot 05-02).
- After a successful ballot it will then be directed to DO2 for ballot.

ATTACHMENT 9/2

Blowby Evacuation System

1. Conference call held with O&H group on April 5, 2005:
    1. Reviewed procedure, current wording not explicit in defining system but does not allow crankcase to be exposed to a vacuum
    2. There are two configurations of systems in use now but it is not know how they potentially affect severity; labs are successfully calibrating with both systems

ATTACHMENT 4

Blowby Evac. System (cont'd)

- No data to prove that this system is the driver for the current WPD trend.
- The test developer supports not mandating any changes to the systems that are currently in place as long as a vacuum is not drawn on the crankcase.
- The next version of the Seq. III test (IIIH) will clearly define blowby evacuation system configuration.

ATTACHMENT 4

Motion #1

- Remove blowby evacuation system investigation from the O&H actions list. Labs can continue to use their current systems as long as the crankcase is not exposed to a vacuum.

ATTACHMENT 4

Torque Wrench Replacement

- According to the technical representative at Ingersoll-Rand, the replacement SPS wrench will be available at the end of June.
- Part number will be ETW-125
- O&H chair will get brochures as soon as they are available and distribute to labs for review.

ATTACHMENT 4

The combination of the histogram and the summary statistics give a *very good* depiction of where the rater's data fell at this particular workshop.

Evaluating this information, however, can be more complicated than what a rater is interested in.

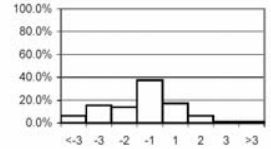
In 2003, in order to provide the rater with a simple comparison of his own data to every other rater at the workshop, CRC began to group together raters with similar summary statistics.

CRC Groups

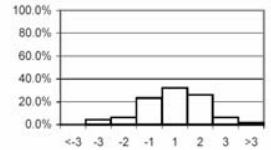
Attachment 5

Yellow

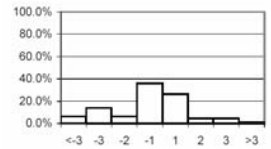
-1 < yi ≤ 1	54.7%
-2 < yi ≤ 2	75.0%
-3 < yi ≤ 3	92.2%
>3	7.8%
Overall Yi STD	1.48
Parts Rated	8



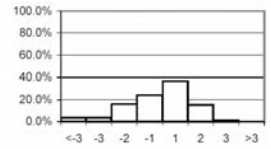
-1 < yi ≤ 1	55.4%
-2 < yi ≤ 2	87.5%
-3 < yi ≤ 3	98.2%
>3	1.8%
Overall Yi STD	1.22
Parts Rated	14



-1 < yi ≤ 1	62.5%
-2 < yi ≤ 2	73.4%
-3 < yi ≤ 3	92.2%
>3	7.8%
Overall Yi STD	1.53
Parts Rated	8

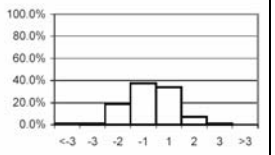


-1 < yi ≤ 1	60.7%
-2 < yi ≤ 2	92.0%
-3 < yi ≤ 3	96.4%
>3	3.6%
Overall Yi STD	1.23
Parts Rated	14

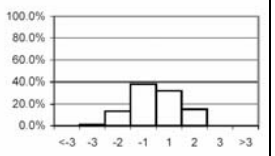


White

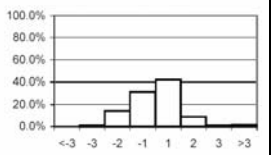
-1 < yi ≤ 1	71.4%
-2 < yi ≤ 2	97.3%
-3 < yi ≤ 3	99.1%
>3	0.9%
Overall Yi STD	0.92
Parts Rated	14



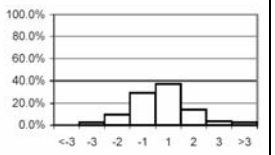
-1 < yi ≤ 1	70.5%
-2 < yi ≤ 2	99.1%
-3 < yi ≤ 3	100.0%
>3	0.0%
Overall Yi STD	0.87
Parts Rated	14



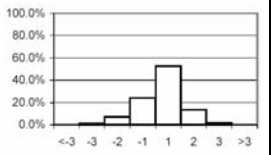
-1 < yi ≤ 1	73.2%
-2 < yi ≤ 2	96.4%
-3 < yi ≤ 3	98.2%
>3	1.8%
Overall Yi STD	0.98
Parts Rated	14



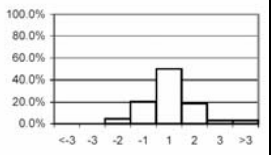
-1 < yi ≤ 1	67.0%
-2 < yi ≤ 2	91.1%
-3 < yi ≤ 3	97.3%
>3	2.7%
Overall Yi STD	1.16
Parts Rated	14



-1 < yi ≤ 1	76.8%
-2 < yi ≤ 2	97.3%
-3 < yi ≤ 3	100.0%
>3	0.0%
Overall Yi STD	0.84
Parts Rated	14

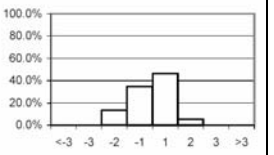


-1 < yi ≤ 1	70.3%
-2 < yi ≤ 2	93.8%
-3 < yi ≤ 3	96.9%
>3	3.1%
Overall Yi STD	0.93
Parts Rated	8

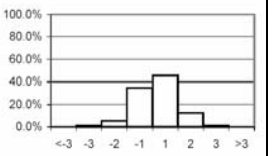


Red

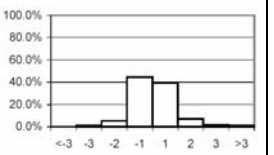
-1 < yi ≤ 1	81.3%
-2 < yi ≤ 2	100.0%
-3 < yi ≤ 3	100.0%
>3	0.0%
Overall Yi STD	0.74
Parts Rated	14



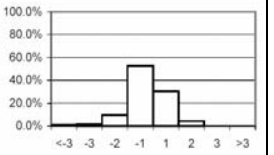
-1 < yi ≤ 1	80.4%
-2 < yi ≤ 2	98.2%
-3 < yi ≤ 3	100.0%
>3	0.0%
Overall Yi STD	0.83
Parts Rated	14



-1 < yi ≤ 1	83.9%
-2 < yi ≤ 2	96.4%
-3 < yi ≤ 3	99.1%
>3	0.9%
Overall Yi STD	0.78
Parts Rated	14

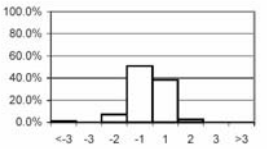


-1 < yi ≤ 1	83.0%
-2 < yi ≤ 2	97.3%
-3 < yi ≤ 3	99.1%
>3	0.9%
Overall Yi STD	0.78
Parts Rated	14

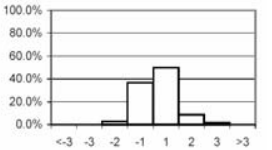


Blue

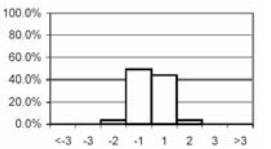
-1 < yi ≤ 1	89.3%
-2 < yi ≤ 2	99.1%
-3 < yi ≤ 3	99.1%
>3	0.9%
Overall Yi STD	0.66
Parts Rated	14



-1 < yi ≤ 1	86.5%
-2 < yi ≤ 2	98.1%
-3 < yi ≤ 3	100.0%
>3	0.0%
Overall Yi STD	0.66
Parts Rated	13



-1 < yi ≤ 1	92.9%
-2 < yi ≤ 2	100.0%
-3 < yi ≤ 3	100.0%
>3	0.0%
Overall Yi STD	0.57
Parts Rated	14



Attachment 5

The groups are *not* intended to equally sized.

Conceptually, the white group is the largest. The boundaries between the groups are intended to place the majority (50-60% in experience so far) of the raters into the white group. Among journeyman raters, this percentage is higher.

Raters producing the most variable data are placed into the yellow group. In experience thus far, the yellow group has consisted almost entirely of either novice raters or raters not as familiar with the hardware (usually field raters). The yellow group is usually 20% or less of the workshop participants.

Attachment 6

THE ASTM SEQUENCE III SURVEILLANCE PANEL

SCOPE & OBJECTIVES

SCOPE

The Sequence III Surveillance Panel is responsible for the surveillance and continual improvement of the Sequence IIIF and IIIFHD test documented in ASTM Standard D6984-03 as update by the Information Letter System. The Sequence III Surveillance Panel is also responsible for the surveillance and continual improvement of the new Sequence IIIG and IIIGA tests which will be documented as an ASTM Standard DNNNN-XX and updated by the Information Letter System. Data on test precision and laboratory versus field correlation will be solicited and evaluated at least every six (6) months for Sequence III test procedures. The Surveillance Panel is to provide continual improvement of rating techniques, test operation, test monitoring and test validation through communication with the Test Sponsor, ASTM Test Monitoring Center, Operations and Hardware Subpanel, the Central Parts Distributor, fuel supplier, ASTM B0.01 Passenger Car Engine Oil Classification Panel, ASTM Light Duty Rating Task Force, ASTM Committee B0.01, ACC Monitoring Agency and CRC Motor Rating Methods Group. Actions to improve the process will be recommended when appropriate based on input to the Surveillance Panel from one or more of the previously stated groups. Develop updated test procedures when necessary and review the correlation with previous test procedures. This process will provide the best possible Sequence III Type Test Procedure for evaluating automotive lubricant performance with respect to the lubricant's ability to prevent oil thickening, varnish formation, oil consumption and engine wear.

OBJECTIVES		**TARGET DATE**
1.	**Prepare the IIIG Test Method for elevation to ASTM Standard**	**October 2005**
2.	**Issue the IIIG Test Method for ballot to ASTM for approval as a Standard**	**November 2005**
~~**3.**~~	~~**Reporting of used oil D4684 apparent viscosity and yield stress**~~	~~**May 2005**~~
3.	**Develop a Sequence III rater calibration proposal**	**May 2006**
4.	**Complete PVIS and WPD Severity Investigation by the O&H Subpanel**	**November 2005**

William M. Nahumck, Chairman
Sequence IIIF Surveillance Panel

Updated May 17, 2005
Tunkhannock, Pennsylvania

TGC Test Precision Ballot Review

May 2005

Attachment 7

Ballot Issuance

- Technical Guidance Committee Chairman Gordon Farnsworth emailed TGC membership a unanimous consent ballot on 2/3/2005
  - TGC membership : Surveillance Panel Chairs
  - Close date of ballot was March 1, 2005
  - Negatives were received
  - Motion was not implemented

Ballot Subject

- Attached is a proposal from the TMC for "Test Precision Reporting Guidelines". As chairman of the ASTM TGC I will instruct the TMC to adopt this practice on March 1, 2005 unless I receive other input from any TGC member.

- The ASTM TMC has proposed a standard methodology for calculating and updating the test precision listed in the various Sequence test procedures (see attached). This proposal is complementary to the recently issued LTMS appendix G "Guidelines for developing Reference Oil Targets and Severity Adjustment Deviations - B.01 & B.02 Tests" that the TGC approved via e-mail.

Test Precision Reporting Guidelines

As test targets are updated or a need arises to update test method precision statements the TMC will be working with each surveillance panel to identify which reference oils should be used in the Severity Adjustment standard deviation calculation. The recommendation from the TMC is to use reference oil(s) that are as close to the pass limit as possible. In some test areas, only one oil may be used. Other test areas may use multiple oils depending on the available oils and number of pass fail parameters. As always it will be the surveillance panel who will ultimately decide the oil(s) selection.

To be consistent on the precision value that is provided to the industry, the TMC will be updating test method Intermediate Precision standard deviation with the same value that is used for the SA standard deviation. Data to be used for this calculation will be severity adjusted and pooled by oil and lab. The test method Reproducibility standard deviation will then be based on the same data set and pooled by oil.

The only time the test method precision values will be changed is when the SA std. dev. is updated. And this of course will occur according to the recently accepted LTMS guidelines. As mentioned above, the surveillance panels can always intervene and make changes as they see fit.

Background

- At the December 2004 ASTM meeting D02.B advised that test method precision statements are to be reviewed/updated on an annual basis
- The TMC was aware that inconsistencies existed in how test precision was being reported

Background (continued)

- TMC developed guidelines for updating test method precision values
- TMC forwarded the guidelines to the TGC Chairman for his review
- TGC ballot was subsequently released

Sequence IIIG Status

	Test Method	LTMS SA Std. Dev.
Oils	434, 435 and 438	See Below
Viscosity Increase	0.392[1]	0.2919 (RMSE Matrix)
WPD	0.655[1]	0.60 (RMSE Matrix)
ACLW	0.224[1]	0.1903 (434 & 435 -1/04)

[1] Precision as of December 22, 2004

Attachment 7

Sequence IIIG Performance

Oils	Viscosity Increase		WPD		ACLW	
	Target	Pass Limit	Target	Pass Limit	Target	Pass Limit
434	113	**150%**	4.80	3.5	32	60
435	178		3.59		33	
438	97		3.20		18	

Attachment 7

Sequence IIIG Recommendation

	Test Method	LTMS SA Std. Dev.	Recommendation
Oils	434, 435 and 438	See Below	See Below
Viscosity Increase	0.392[1]	0.2919 (RMSE Matrix)	~0.4444 (434 & 438)
WPD	0.655[1]	0.60 (RMSE Matrix)	~0.6984 (434 & 435)
ACLW	0.224[1]	0.1903 (434 & 435 -1/04)	~0.2423 (434 & 435)

[1] Precision as of December 22, 2004

Attachment 7

Sequence IIIF Status

	Test Method	LTMS SA Std. Dev.
Oils	1006-2, 1008-1 and 433-1	See Below
Viscosity Increase @ 80 Hours	0.016755[1]	0.0129546
APV	0.220[1]	0.220
WPD	0.532[1]	0.658
VIS60	0.146264[1]	0.17334

[1] Precision as of December 6, 2004

Attachment 7

Sequence IIIF Performance

	1006-2	1008-1	433-1	Pass Limit
VIS80	515	**115**	37	275
APV	9.35	**9.77**	9.30	9.0
WPD	3.94	**4.57**	4.59	4.0
VIS60	235	**76**	35	295

Attachment 7

Sequence IIIF Recommendation

	Test Method	LTMS SA Std. Dev.	Recommendation
Oils	1006-2, 1008-1 and 433-1	?	See Below
Viscosity Increase @ 80 Hours	0.016755[1]	0.0129546	~0.005979 (1008-1)
APV	0.220[1]	0.220	~0.220 (1006-2,1008-1,433-1)
WPD	0.532[1]	0.658	~0.374 (1006-2)
VIS60	0.146264[1]	0.17334	~0.1247 (1006-2)

[1] Precision as of December 6, 2004

Attachment 7

Reproducibility

- Reproducibility will be calculated from same data set as Intermediate Precision.