



Address 100 Barr Harbor Drive
PO Box C700
W. Conshohocken, PA
19428-2959 | USA

Phone 610.832.9500
Fax 610.832.9666
Web www.astm.org

Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

Chairman: KENNETH O. HENDERSON, Cannon Instrument Co., 2139 High Tech Road, State College, PA 16803, (814) 353-8000, Fax: (814) 353-8007, e-mail: kenohenderson@worldnet.att.net
First Vice-Chairman: BEN R. BONAZZA, TI Group Automotive Systems, Caro Research Center, 326 Green Street, Caro, MI, 48723 (989) 673-8181 ext. 227, Fax: (989) 673-3241, e-mail: bbonazza@us.tiauto.com
Second Vice-Chairman: JANET L. LANE, ExxonMobil Research & Engrg., 600 Billingsport Rd, Paulsboro, NJ 08066-0480 (856) 224-3302, Fax: (856) 224-3616, e-mail: janet.l.lane@exxonmobil.com
First Secretary: RALPH A. CHERRILLO, Shell Global Solutions (US) Inc., Westhollow Tech Ctr., 3333 Highway 6 South, Houston, TX 77082 (281) 544-8789, Fax: (281) 544-8150, e-mail: ralph.cherrillo@shell.com
Second Secretary: MICHAEL A. COLLIER, Petroleum Analyzer Co. LP, PO Box 206, Wilmington, IL 60481, (815) 458-0216, Fax: (815) 458-0217, e-mail: macvarlen@aol.com
Staff Manager: DAVID R. BRADLEY, (610) 832-9681, Fax: (610) 832-9668, e-mail: dbradley@astm.org

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Reply to: Jeff Clark
Test Monitoring Center
6555 Penn Avenue
Pittsburgh, PA 15206
412-365-1032
jac@astmtmc.cmu.edu

Unapproved Minutes of the December 16, 2010 Sequence III Surveillance Panel Meeting Teleconference

1. Roll Call and Attendance

The meeting was called to order at 10:30 am by Chairman Dave Glaenzer. The attendance is show in **Attachment 1**.

2. TMC 1010 Results

Rich Grundza's summary of the results is shown in **Attachment 2**. The LTMS stats group has also reviewed the data, their response is shown in **Attachment 3**. Doyle Boese has also provided some work to verify the method used to determine the targets, **Attachment 4**. Doyle expressed concern about setting targets with the current data. The lab / oil interaction was

particularly troubling. Several comments were made that more data would be desirable and after further discussion this came to general consensus. The following motion (Brys / Matthews) was made:

MOTION:

The current 1010 results and the panel's concerns should be shared with ILSAC Oil with a request from for guidance and/or funding further testing. This motion passed 11-0-0.

ACTION: *Chairman Dave Glaenzer will coordinate the correspondence.*

The meeting concluded at 11:05 am.

Next meeting is scheduled for January 18, 2011 in San Antonio.

**Attachment 1
Teleconference Attendance
December 16, 2010**

Voting (11 of 17)

Dvorak representing Altman

Bowden, J

Caudill

Grundza

Buscher representing Lang

Leverett

Matthews

Mosher

McMillan representing Ritchie

Brys representing Seman

Sutherland

Non-Voting

Boese

Bowden, D

Rajakumar

Andrews

Castanien

Clark

Martinez

Rutherford

Attachment 2

Jeff Clark

From: Rich Grundza
Sent: Wednesday, December 08, 2010 9:07 AM
To: Glaenzer, Dave
Cc: Frank Farber; Jeff Clark
Subject: Plots of 1010 data
Attachments: iig 1010 plots.pdf

Dave:

Attached is a .pdf document containing plots of vis increase, oil consumption, breakdown of lobe wear and acw by position, WPD by piston and the individual components of wpd, and plots of PVIS and WPD versus oil consumption. Much of this was prompted by the recently conference call you and I participated in with the statistics group regarding 1010 targets. While the group felt like the approach we took to derive targets was about the best we could do, there were concerns about the results, specifically the variability of viscosity increase. With a standard deviation of 0.6110, the viscosity increase has more than twice the variability than that of the pooled standard deviation used for laboratory severity adjustments, 0.2919. It would appear that the variability was driven by two results, both greater than 200% vis increase. The oil consumption of these oils was > 4 liters and regression analysis suggests, based on very limited data, that there may be a correlation between viscosity increase and oil consumption. Regression of PVIS versus oil consumption for the current reference oil mix yields r-square values of 0.1404 for reference oil 434 and its reblend, 0.4814 for oil 435 and its reblend and 0.5841 for reference oil 438.

Feel free to distribute these plots and data to the surveillance panel in anticipation of another call/meeting regarding final disposition of targets for reference oil 1010.

If you have any questions, feel free to contact me.

Regards;

Richard E. Grundza
Senior Project Engineer
ASTM Test Monitoring Center
6555 Penn Avenue
Pittsburgh, PA 15206
412-365-1031
412-848-8840 (cell)



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IIIG 1010 Results

November 19, 2010

Results to Date

Testkey	LTMSLAB	LTMSAPP	PVIS	WPD	ACLW
• 77822-IIIIG	E	1	86.93	3.31	16.7
• 77823-IIIIG	G	4	.	.	.
• 77824-IIIIG	G	4	107.55	4.13	8.0
• 77825-IIIIG	D	2	81.66	3.31	17.4
• 77826-IIIIG	B	2	220.39	2.98	19.7
• 77828-IIIIG	F	1	0.00	0.00	0.0
• 77829-IIIIG	A	4A	71.96	3.51	18.1
• A 77835-IIIIG	F	1	298.06	3.10	23.3
• 78820-IIIIG	F	1	0.00	0.00	0.0

A Test run on green (1st run) block, for conditioning.

NOTE: NOT all IIIIGA and B results reported yet.

Severity Adjusted Results

1010 Results	PVIS	WPD	ACLW	PVISSA	WPD SA	ACLW SA	Adj PVIS	ADJ WPD	ADJ ACLW
Lab D	81.7	3.31	17.4	0	0	0.2944	81.7	3.31	23.4
Lab A	72	3.51	18.1	-0.2026	0.507	0.2416	58.79555	4.017	23.0
Lab B	220.4	2.98	19.7	0	0.3376	0.231	220.4	3.3176	24.8
Lab E	86.9	3.31	16.7	0	0	0.2663	86.9	3.31	21.8
Lab G	107.5	4.13	8	0	0.4052	0.4254	107.5	4.5352	12.2
Supplier	81	3.49	9.9	0	0.479	0.226	81	3.969	12.4
Mean							96.4	3.74	18.8
Lab F results	298.1	3.1	23.3	0	0	0.1165	298.1	3.1	26.2
Mean including F results							113.2	3.65	19.7

11/12/2010

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Severity Adjusted Results, using Continuous SA's

1010 Results	PVIS	WPD	ACLW	PVIS SA	WPD SA	ACLW SA	Adj PVIS	Adj WPD	Adj ACLW
Lab D	81.7	3.31	17.4	-0.12493	0.24	0.2944	72.10481	3.55	23.4
Lab A	72	3.51	18.1	-0.2026	0.507	0.2416	58.79555	4.017	23.0
Lab B	220.4	2.98	19.7	-0.04758	0.3376	0.231	210.159	3.3176	24.8
Lab E	86.9	3.31	16.7	0.151204	0.1704	0.2663	101.085	3.4804	21.8
Lab G	107.5	4.13	8	-0.11764	0.4052	0.4254	95.56964	4.5352	12.2
Supplier	81	3.49	9.9	-0.08932	0.479	0.226	74.07868	3.969	12.4
Mean							92.8	3.81	18.8
Lab F results	298.1	3.1	23.3	0.035904	0.1344	0.1165	308.9973	3.2344	26.2
Mean including F results							110.2	3.73	19.7

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MRV + Phos

1010 Results	PHOS	MRV	Phos SA	Adj Phos	xformed MRV
Lab D	86.93	11837	-1.44	85.49	9.378985
Lab A	83.94	10800	0	83.94	9.287301
Lab B	84.31	25900	0	84.31	10.162
Lab E	87.32	24280	0	87.32	10.09741
Lab G	86.86	14095	0	86.86	9.553575
Supplier	86.47	11400	-1.36	85.11	9.341369
Mean				85.505	9.636773
Lab F results	83.09 NM		0	83.09 NM	
				85.16	
std dev				1.353791	0.392636
std dev with Lab F results				1.536381	N/A



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Attachment 3

Attached is a Word document containing the unapproved meeting minutes as recorded by Jim Rutherford from the December 02, 2010 teleconference of the LTMS TF STG. At this teleconference the group was asked to look at the data generated to date by the Sequence III Surveillance Panel using RO 1010 and provide insight into the setting of initial test targets. Richard Grundza and I were included in the teleconference. The following is copied directly from Jim's minutes.

- General consensus that Rich Grundza's analysis was probably about the best that could be done with the data at hand.
- We had several concerns about the data. There is high variability for viscosity increase that could be related to variability in oil consumption. The way these tests were run could bias both the targets and the standard deviations.
- Although we don't recommend incorporating data from RO 1010 into the severity adjustment standard deviations today, standard deviations should be reviewed soon.
- Doyle will do a pretend analysis to see if targets for existing reference oils were created in the same way as Rich did for 1010 whether they would come close to current targets. He will send directly to Dave with a copy to LTMS TF STG.

At the conclusion of our part of the teleconference, I agreed to allow Doyle Boese time to complete an analysis of existing reference oil targets that would be presented to the Sequence III SP at their teleconference to deal with the initial targets for RO 1010. Doyle's note is attached.

Attachment 4

In the last LTMS TF STG teleconference, I stated that I would apply the procedure used to calculate targets for RO 1010 on the most recent current reference oils. The intent was to compare those calculated targets against the LTMS targets to verify the method. I collected the most recent result from each lab (A, B, D, E, F and G) for each reference oil (434 / 434-1, 435, and 438) and applied the continuous SA from Jo's analysis. The SA utilized was that which existed prior to that oil being run and therefore differed for each oil. Below is a table summarizing the analysis.

Average SA Adjusted IIIG Parameters										
Oil	Percent Viscosity Increase				Average Cam & Lifter Wear				Weighted Piston	
	Transformed		Untransformed		Transformed		Untransformed		Deposits	
	[Ln(PVIS)]		(PVIS)		[Ln(ACLW)]		(ACLW)		(WPD)	
	Avg SA	Target	Avg SA	Target	Avg SA	Target	Avg SA	Target	Avg SA	Target
	Adjusted		Adjusted	Adjusted		Adjusted		Adjusted		
434 / 434-1	4.9328	4.7269	139	113	3.5466	3.4657	34.7	32.0	4.31	4.80
435	5.0859	5.1838	162	178	3.4076	3.4985	30.2	33.1	3.58	3.59
438	4.6547	4.5706	105	97	2.7805	2.8814	16.1	17.8	3.29	3.20

- For PVIS, the estimated targets from this method (Average SA Adjusted) are higher than the actual targets of the passing oils and lower than that of the failing oil thereby compressing the range somewhat.
- For ACLW, the Average SA Adjusted results compare well with the Targets.
- For WPD, the Average SA Adjusted and Targets for 435 and 438 are very similar, however, they differ widely for 434 / 434-1. Because the Average SA Adjusted WPD of RO 1010 is close to that of 435, we might expect the method to yield a reasonably good estimate of 1010's target.

This analysis indicates that the method does a reasonable job of estimating the target (other than that of WPD for 434). Normally, we would suggest maintaining whatever targets we calculate from this initial set of runs for RO 1010 and not update them. However, due to the dichotomous PVIS results, I believe we should consider, as a minimum, updating the targets after maybe 5 more results are obtained on RO 1010. A more drastic approach would be to ask for additional runs before setting targets. In any case, I would like to avoid the lab * oil interaction that now exists. Does anyone else have a suggestion on how to resolve this?

Doyle

Doyle Boese, Ph.D.
Statistics and Modeling

Infineum USA L.P.
Linden Technology Center
1900 East Linden Avenue
Bldg 1, C309
Linden, NJ 07036
Tel: 908 474 3176
Fax: 908 474 3241