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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

Issued: March 21, 2014

Reply to: Dan Worcester
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These are the unapproved minutes of the 03.18.2014 Sequence VI Surveillance Panel meeting.

The meeting was called to order at 10:00 AM by Chairman Charlie Leverett.

Agenda

The Agenda is the included as Attachment 1.

1.0 Roll Call

The Attendance list Attachment 2.

2.0 Approval of minutes

2.1 Approval of the minutes of the 02.04.2014 meeting.

Motion – Accept the minutes of the 02.04.2014 VID SP CC.
Charlie Leverett, Dave Glaenzer, second. Unanimous.
The date was incorrect on those minutes and a corrected version sent to TMC.

3.0 Action Item Review

3.1 OHT to report VIx engine usage and depletion date of VID engines.
There are 23 2009 and 120 2012 engines in inventory.

3.2 Update on 0W 16 donated runs. – TMC See Old Business.

3.3 SwRI has torn down a couple of engines for oil consumption review and will report on these findings. – Dan GM has recommended a lower oil consumption level. SwRI has not found any mechanical issue that would reduce oil consumption. Lubrizol has found high levels of ring deposits in 1500-2000 hours similar to deposits on the VIB at 5000 hours. Afton said they had not seen deposits on dealer engines.

3.4 TMC will review and dispose of consortium reference oils. – Charlie to contact Jim Linden. **Done**

3.5 VIE Draft - Table 5 information which cannot be generated until sufficient testing/precision matrix has taken place (stats group).

3.6 VIE Draft - Consideration of the weighting of BLB2 and BLA for Candidate 1 & 2 calculations. It is based on the hours from Cand 1 & 2 evaluation relative to BLB2 & BLA evaluations. With aging moving from 16 plus 84 hours to 16 plus 109 hours, I believe the stats group may want to reconsider. ***At this time I'd like to make a formal request for the Stats Group to review and report their findings to me.***

3.7 VIE Precision Matrix – Charlie to inform AOAP we are ready and need to know their plans along with the engines to be used, in the VID we ran engines in different ranges of hours to determine Engine Hour Correction. – Done at Feb. AOAP meeting.

3.8 Requested Database from Haltermann – Charlie sent request on February 06, 2014

4.0 Old Business

4.1 Obtaining 0W 16 reference oil – Bruce has obtained a 0W 16 oil and it will be shipped to
Four labs have reported results on the 0W-16 oil. See Attachment 3.

5.0 New Business

5.1 Sulfur in EEE w/DCA - Labs have noticed that the sulfur is quite close to the upper limit (15 ppm) for the fuel? Labs have reports 13 ppm, and the upper limit is 15 ppm.

5.2 Currently the D7589 has the current wording concerning the fuel batch used in each test:

7.2.2 *Fuel Batch Usage/Documentation*—**A complete test shall be run on a single batch of test fuel.** If a new batch of test fuel is introduced to the laboratory fuel supply system, it shall be done between finite tests. Document the fuel batch designation in the test report. In cases where the run tank contains more than one fuel batch, document the most recent fuel batch in the report.

Dan would like this motion considered for the VID:

Motion – 7.2.2 *Fuel Batch Usage/Documentation*—A lab should strive to complete test on a single batch of test fuel. If a lab is not able to complete a test on a single fuel batch, the lab may switch to the next available fuel batch. Fuel is consumed at the stand level on a first in-first out basis. Once a stand migrates to the next fuel batch, it can no longer use a prior batch. Document the fuel batch in use at the start of the test in the test report. In cases where the run tank contains more than one fuel batch, document the most prevalent fuel batch in the report.

Dan Worcester / Nathan Moles, second. The motions passes with 8 yes and 4 waives, noted in the attendance list. There will be an information letter and data dictionary change.

5.3 Engine Life VIE/Oil Consumption – As previously discussed the engine life of the VIE is only ~ 10 tests counting the 3 reference tests for a new engine. There has been some discussion on the possibility of increasing the maximum allowable oil consumption on the VIE engines. IAR did some experimentation on oil levels, included as Attachment 4.

Robert Stockwell noted:
Background: The VIE is about 27% longer than the VID. The VID oil consumption limit is 1400 ml low. Since engine brake specific oil consumption is pretty stable, it is reasonable to add 27% to the VID limit, which would be 1800 ml low maximum.
Bruce Matthews noted that oil level and oil consumption are critical to the life of the VIE test.

ACTION: Charlie Leverett will supply a procedure for the oil level experiment and all labs are recommended to run the procedure. A conference call will then be scheduled to review results.

6.0 Next Meeting or Conference Call

At the call of the Chairman

Meeting Adjourned

The meeting adjourned at 10:30 AM.

Sequence VI Surveillance Panel conference Call Agenda
March 18th @ 10:00 CDT

Call-in information is included below:

Call-in Number: 800-391-9177
Conference Code: 4875645502

1.0) Roll Call

Do we have any membership changes or additions?

2.0) Approval of minutes

2.1) Approve the minutes from the Feb. 04, 2014 Sequence VI Surveillance Panel CC.

3.0) Action Item Review

3.1 OHT to report VID & VIE engine usage and expected depletion date of VID engines. - OHT

3.2 Update on 0W 16 donated runs. – TMC

3.3 SwRI has torn down a couple of engines for oil consumption review and will report on these findings. – Dan

3.4 TMC will review and dispose of consortium reference oils. – Charlie to contact Jim Linden. **Done**

3.5 VIE Draft - Table 5 information which cannot be generated until sufficient testing/precision matrix has taken place (stats group).

3.6 VIE Draft - Consideration of the weighting of BLB2 and BLA for Candidate 1 & 2 calculations. It is based on the hours from Cand 1 & 2 evaluation relative to BLB2 & BLA evaluations. With aging moving from 16 plus 84 hours to 16 plus 109 hours, I believe the stats group may want to reconsider. ***At this time I'd like to make a formal request for the Stats Group to review and report their findings to me.***

3.7 VIE Precision Matrix – Charlie to inform AOAP we are ready and need to know their plans along with the engines to be used, in the VID we ran engines in different ranges of hours to determine Engine Hour Correction. – Done at Feb. AOAP meeting.

3.8 Requested Database from Haltermann – Charlie sent request on February 06, 2014

4.) Old Business

4.1 Obtaining 0W 16 reference oil – Bruce has obtained a 0W 16 oil and it will be shipped to Labs that agreed to participate. *Update on results from Rich*

5.) New Business

5.1 Sulfur in EEE w/DCA - Labs have noticed that the sulfur is quite close to the upper limit (15 ppm) for the fuel?

5.2 Currently the D7589 has the current wording concerning the fuel batch used in each test:

7.2.2 *Fuel Batch Usage/Documentation*—**A complete test shall be run on a single batch of test fuel.** If a new batch of test fuel is introduced to the laboratory fuel supply system, it shall be done between finite tests. Document the fuel batch designation in the test report. In cases where the run tank contains more than one fuel batch, document the most recent fuel batch in the report.

Due to the addition of the additized VIE fuel and the likely possibility of additional fuels in GF-6 it has/will be a burden on the Labs due to the lack of available storage tanks.

Dan would like this motion considered for the VID:

Motion – 7.2.2 *Fuel Batch Usage/Documentation*—A lab should strive to complete test on a single batch of test fuel. If a lab is not able to complete a test on a single fuel batch, the lab may switch to the next available fuel batch. Fuel is consumed at the stand level on a first in-first out basis. Once a stand migrates to the next fuel batch, it can no longer use a prior batch. Document the fuel batch in use at the start of the test in the test report. In cases where the run tank contains more than one fuel batch, document the most prevalent fuel batch in the report.

5.3 Engine Life VIE/Oil Consumption – As previously discussed the engine life of the VIE is only ~ 10 tests counting the 3 reference tests for a new engine. There has been some discussion on the possibility of increasing the maximum allowable oil consumption on the VIE engines. – Dicussion

Robert Stockwell noted:
Background: The VIE is about 27% longer than the VID. The VID oil consumption limit is 1400 ml low. Since engine brake specific oil consumption is pretty stable, it is reasonable to add 27% to the VID limit, which would be 1800 ml low maximum.

We did some experiments at IAR, see attachment below:

IAR VIE Oil Level Experiment 3-11-14.p

6.) Next Meeting

Call of the chairman

7.) Meeting Adjourned

ASTM SEQUENCE VI

Name	Address	Phone/Fax/Email	Attendance
Jason Bowden Voting Member	OH Technologies, Inc. P.O. Box 5039 Mentor, OH 44061-5039	Phone: 440-354-7007 Fax: 440-354-7080 jhbowden@ohtech.com	Waive attend
Timothy Caudill Voting Member	Ashland, Inc. 21st and Front Streets Ashland, KY 41101	Phone: 606-329-5708 Fax: 606-329-3009 Tlcaudill@ashland.com	yes attend
David Glaenzer Voting Member	Afton Research Center 500 Spring Street Richmond, VA 23218	Phone: 804-788-5214 Fax: 804-788-6358 Dave.Glaenzer@aftonchemical.com	Yes attend
Rich Grundza Voting Member	ASTM TMC 6555 Penn Ave. Pittsburgh, PA 15206-4489	Phone: 412-365-1034 Fax: 412-365-1047 reg@astmtmc.cmu.edu	Waive attend
Tracey King Voting Member	Haltermann	tking@jhaltermann.com	Waive attend
Charlie Leverett Voting Member	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238	Phone: 210-647-9422 Fax: 210-523-4607 charlie.leverett@intertek.com	Yes attend
Terry Kowalski Voting Member	Toyota	teri.kowalski@tema.toyota.com	
Bruce Matthews Voting Member	GM Powertrain Engine Oil Group Mail Code: 483-730-472 823 Joslyn Rd	Pontiac, MI 48340 Phone: 248-830-9197 bruce.matthews@gm.com	Yes attend
Timothy Miranda Voting Member	BP Castrol Lubricants USA 1500 Valley Road Wayne, NJ 07470	Phone: 973-305-3334 Timothy.Miranda@bp.com	
Nathaniel Moles Voting Member	Lubrizol 29400 Lakeland Blvd. Wickliffe, OH 44092	Phone: (440) 347-4472 Nathaniel.Moles@Lubrizol.com	Yes attend
Mark Mosher Voting Member	ExxonMobil 600 Billingsport Road Paulsboro, NJ 08066	Phone: 856-224-2132 Fax: 856-224-3628 mark_r_mosher@exxonmobil.com	
			Waive attend

ASTM SEQUENCE VI

Name	Address	Phone/Fax/Email	Attendance
Andy Ritchie Voting Member	Infineum 1900 East Linden Ave. Linden, NJ 07036-0735	Phone: 908-474-2097 Fax: 908-474-3637 Andrew.Ritchie@infineum.com	
Ron Romano Voting Member	Ford Motor Company 21500 Oakwood Blvd POEE Bldg Rm DR 167 MD 44 Dearborn, MI 48121-2053	Phone: 313-845-4068 rromano@ford.com	**Yes attend**
Kaustav Singa Voting Member	Chevron Oronite Company LLC 4800 Fournace Place Bellaire, TX 77401	Phone: 713.432.6642 Fax: 713.432.3330 LFNQ@chevron.com	**Yes attend**
Mark Sutherland Voting Member	TEI	Phone: 123.456.7890 Fax: 123.456.7890 msutherland@tei-net.com	
Haiying Tang Voting Member	Chrysler	Phone: 248-512-0593 HT146@Chrysler.com	
Dan Worcester Voting Member	Southwest Research Institute 6220 Culebra Road San Antonio, TX 78228	Phone: 210.522.2405 dan.worcester@swri.org	**Yes attend**

Guests

Ed Altman	ed.altman@aftonchemical.com	Afton	
Bob Campbell	Bob.Campbell@aftonchemical.com	Afton	
Todd Dvorak	todd.dvorak@aftonchemical.com	Afton	attend
Christian Porter	Christian.porter@aftonchemical.com	Afton	attend
Terry Hoffman	Terry.Hoffman@aftonchemical.com	Afton	attend
Jeremy Styer	Jeremy.styer@aftonchemical.com	Afton	
Greg Guinther	greg.guinther@aftonchemical.com	Afton	
Don Smolenski	donald.j.smolenski@gm.com	Evonik	
Doyle Boese	Doyle.boese@infineum.com	Infineum	

ASTM SEQUENCE VI

Name	Address	Phone/Fax/Email	Attendance
Mike McMillan	mmcmillan123@comcast.net	Infineum	
Bob Olree	olree@netzero.net	Intertek	
Addison Schweitzer	addison.schweitzer@intertek.com	Intertek	attend
Angela Willis	angela.p.willis@gm.com	GM	
Robert Stockwell	Robert.Stockwell@GM.com Phone: 210.563.0785	GM	
Jeff Kettman	Jeff.kettman@gm.com	GM	
Jerry Brys	Jerome.brys@lubrizol.com	Lubrizol	attend
Jessica Buchanan	Jessica.Buchanan@Lubrizol.com	Lubrizol	
Michael Conrad	Michael.Conrad@Lubrizol.com	Lubrizol	attend
Dwight Bowden	dhbowden@ohtech.com	OHT	attend
Matt Bowden	mjbowden@ohtech.com	OHT	attend
Guy Stubbs	Guy.Stubbs@swri.org	SwRI	attend
William Buscher	wbuscher@swri.edu	SwRI	
Scott Stap	Scott.stap@tgdirect.com	TG Direct	
Clayton Knight	cknight@tei-net.com	TEI	
Jeff Clark	jac@astmtmc.cmu.edu	TMC	
Hap Thompson	Hapjthom@aol.com	ASTM VIE Facilitator	

ASTM SEQUENCE VI

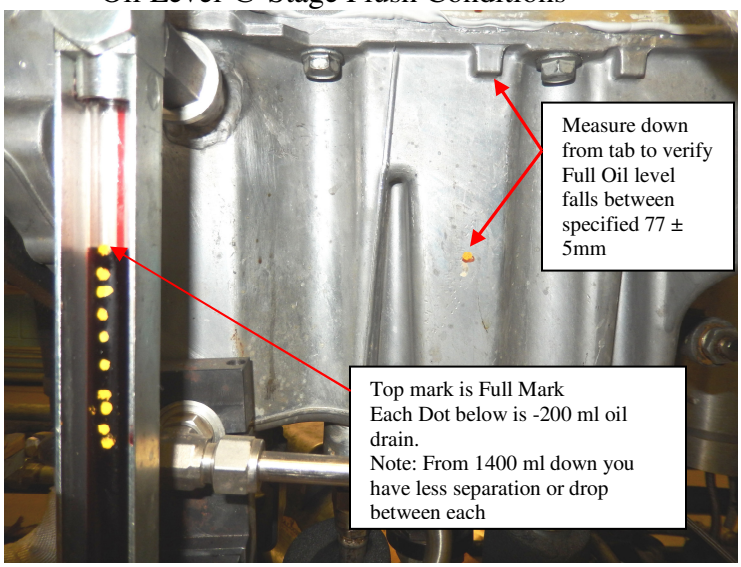
Name	Address	Phone/Fax/Email	Attendance

TESTKEY	LTMSAPP	LTMSLAB	IND	FEI1	FEI1_OR	FEI2	FEI2_OR	FEISUM
98335-VIE	2	D	Honda0	1.3	1.44	1.58	1.71	2.88
98327-VIE	3	A	Honda0	0.83	0.74	0.82	0.73	1.65
98333-VIE	3	G	Honda0	1.08	1.22	1.53	1.66	2.61
98334-VIE	5	B	Honda0	0.67	0.63	0.48	0.45	1.15
			Average	0.97		1.1025		2.0725
			std dev	0.277248		0.54101		0.810447

ENGNO	ENHREND	comments
F12	974	Dealer engine
18	2217	BL1 versus 2 shift >0.40
24	992	
19	1809	

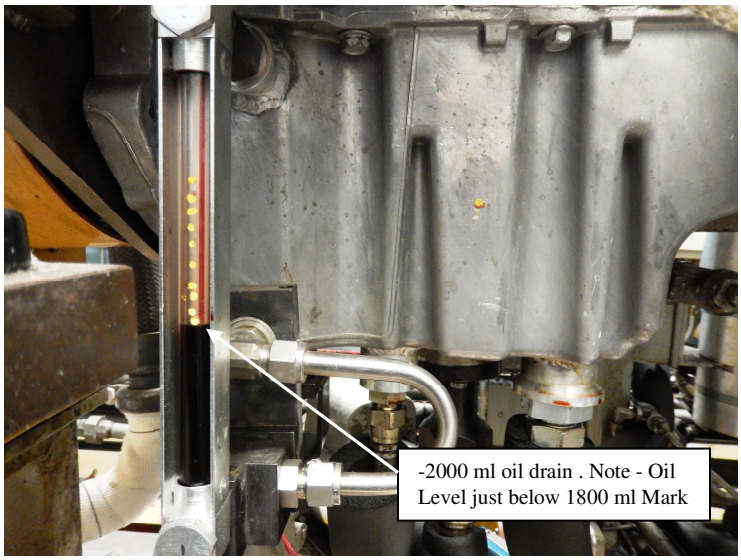
IAR VIE Oil Level Experiment
03/11/2014

Oil Level @ Stage Flush Conditions

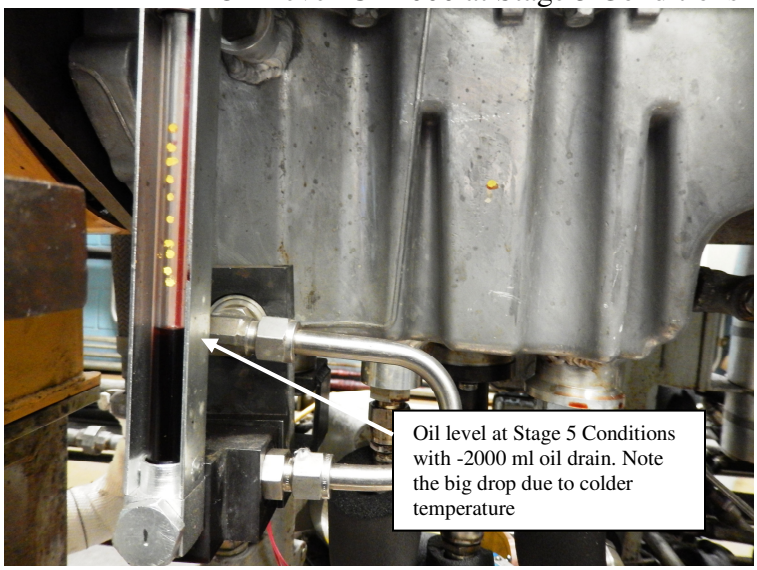


2000 ml Oil Drain

Oil Level @ -2000 ml at Stage Flush Conditions



Oil Level @ -2000 at Stage 5 Conditions



Experiment Completed with Engine At Stage 5 Conditions. Start Point @ -2000ml, added 100 ml at a time then measured oil pressure.

Oil Level @ -2000 ml	Oil pressure Fluctuating between 423 – 457	Oil avg. had smaller delta then would see more of a bounce
Oil Level @ -1900 ml	Oil pressure Fluctuating between 463 – 485	Oil bounce less but still there
Oil Level @ -1800 ml	Oil Pressure between 502 – 508	Less Bounce @ 1800 ml
Oil Level @ -1700 ml	Oil Pressure between 523 – 525	More stable
Oil Level @ -1600 ml	Oil pressure between 523 – 525	Stable and No Real Change
Oil Level @ -1500 Ml	Oil pressure between 524 – 526	Stable