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June 6, 2011 Originally Issued:

Reply to: Richard Grundza

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Unapproved Minutes of the June 1, 2011 Sequence VG Surveillance Panel Meeting held in Warren, MI

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The meeting was called to order at 1:00 pm by Chairman Andy Ritchie.

A list of attendees is included as attachment 1

Agenda Review

Bill Buscher is Action & Motion recorder.

The Agenda was accepted as shown on Attachment 2.

Sequence VG Meeting Minutes June 1, 2011 Warren, MI

Membership Changes

There were no changes noted.

Meeting Minute Status

The meeting minutes from the May 24, 2011 Conference Call were approved by the surveillance panel.

Review of Action Items from Last Meeting

Motions and Action Items As Recorded at the Meeting by Raham Kirkwood and Dan Worcester

- 1. Action Item Conference call will be held to determine the next fuel prove-out matrix. Statistics sub-group will develop recommendations and report back to the Surveillance Panel. Numerous Conference calls have been held, almost weekly, matrix to be reviewed and path forward to be addressed today.
- 2. Action Item Form a task force to develop a recommendation to the surveillance panel for adopting LTMS 2_{nd} Edition to the Sequence VG. Task force to report to surveillance panel before Tuesday July 13th at 2PM EST. No action taken. VID and III Surveillance Panels have voted not to adopt and IVA panel is no longer evaluating. This will be dropped.
- 3. Motion Based on successful results from the chemical analysis of the lab blend the Surveillance Panel instructs Haltermann to create a full tank of VG fuel. The first blend was not acceptable. A small batch of a reblend has been successfully tested. Ed Altman / Mark Sutherland / Passed 12-0-1 Status of large batch and subsequent testing to be addressed during today's meeting.
- 4. Motion To have Seq. VG procedures Section 11.1.1 wording changed to "15 operationally valid" tests. Al lopez / Ed Altman Completed, Information Letter 10-1 issued 7/7/11
- 5. Motion Accept both potential reference oils as GF-5 category reference oils. Consider using either oil for the Sequence VG and replacing one of the outdated reference oils currently in use. Conduct a follow-up surveillance panel conference call to develop a plan for adopting one or both of these potential reference oils. Rich Grundza / Mark Sutherland / Passed 12-0-1. To be further discussed today. All panels, except Sequence VIII agreed to one oil, designated 1010. Introduction of this oil to be discussed today.

Sequence VG Meeting Minutes June 1, 2011 Warren, MI

Test Sponsor Report

Ron Romano did not have a formal report, but summarized the recent issues with blocks and heads from Bishop. Ron also informed the panel that piston rings are no longer available and the tooling for manufacture of these ring is gone as well. Ron is looking to another source, but that supplier may only be able to supply two sizes, not the current four. Several members asked if this will impact minimum order requirements, and Ron was tasked with looking into this.

Test Monitoring Center Report

A copy of the TMC report can be obtained from the TMC website. Rich Grundza presented highlights from his report, which are included as attachment 3. There were no questions or comments regarding the TMC report. There were no questions or comments on the report.

ACC Monitoring Agency Report

Jeff Clark reviewed the ACC report, a copy of which is available on the ACC Monitoring Agency website. There were no questions about the report.

Fuel Supplier Report

Mark Overaker advised the panel that Haltermann is just about ready to ship the new fuel. All that remains is to "polish" the RVP. Mark expected that the fuel may ready to ship next week, with tests starting shortly thereafter. In anticipation of this, labs participating in the matrix were asked how much fuel they had remaining on site. SwRI had no fuel left in a 1000 gallon tank. Afton had ~400 gallons in a 5000 gallon tank, Intertek had ~400 gallons in 4000 gallon tank and Lubrizol had 340 gallons in a 4000 gallon tank. All labs agreed to put the new fuel in a tank that had been drained of fuel.

Test fuel approval matrix.

Discussions centered on stand selection and actions to be taken on the matrix proposed at the last conference call. It was agreed that if additional testing was conducted for calibration attempts that labs would be able to purchase that fuel. Concerns were raised on the handling of "flier" data for tests that would be used for calibration. Labs agreed to not bill Halterman if a test during row 2 is used for calibration. Haltermann reminded the panel that a final price for the fuel could not be determined until the calibration question was resolved with the laboratories. Several labs wished to use calibration tests from stands other than the matrix stands for inclusion in the correction factor. Several members had concerns about this. Some of these were that these stands had changes made to them towards more standardization and additional data might be confusing and also that the addition of these stands won't improve precision. In order to sort through this the panel agreed to vote on the matrix testing of the new fuel as separate issues. To run row one of the matrix was approved with one member waiving and the other all affirmative. The panel then moved to conduct row 2 if there is no statistical significance between row two and the small batch. Prior to starting the Row 2 tests, the labs have the option to declare the Row 2 tests as calibration tests, as well as fuel approval tests. If the lab decides to conduct their Row 2 test as a calibration test, then Haltermann will charge the lab for the fuel used in the Row 2 test and the lab will not charge Haltermann for their test. This motion was approved affirmatively with two

Sequence VG Meeting Minutes June 1, 2011 Warren, MI

waives. A third motion to allow labs to also run calibration tests on additional test stands concurrent with the Row 2 tests, and data from these tests will be included in the calculation of correction factors, unless statistically significant differences can be found in the test results. This motion was defeated 3 to 2, with 8 waives.

Old and New Business

Under new business, the panel agreed to allow the use of honing brush OHT-IIIG-096-1 for VG engine building. Andy also made the panel aware that Reference Oil 925-3 cannot be reblended and the panel is actively seeking a replacement for this oil. The status of reference oil 1010 was also discussed. The panel agreed to potentially evaluate replacing oil 1007 with this oil. The panel also agreed to drop evaluation/adaptation of LTMS Version 2 for the Sequence VG test. The panel also reviewed the Best Practices in Lubricant Test Development Document and agreed to develop a response to that group by August 1, 2011.

Scope and Objectives

A review of the scope and objectives was conducted. The revised scope and objectives are were reviewed. The panel agreed to add seeking a replacement for reference oil 925-3 as an objective and to add finding a new source for piston rings as objectives. Andy Ritchie also gave a brief presentation of his report to subcommittee D0.02.B0..

A listing of Motions and Action items recorded during the meeting is included as attachment 4.

The meeting was adjourned at 3:08 pm.

Attachment 1

VG Surveillance Panel Meeting 6-1-11 Assiliation remail Rich Grundza reg oastntne, cmu, edu ASTMIMC jognacherron. um Mest @ cherron, con 10 Mantinez Oronite MARIC SUTHERLAND dove glanger Coffordamil After Chamical DAVID GLAGNULTL CHRISTIAN. POLICE @ AFTON CHEMERE AFTON CHEMICAL MUSTIAN PORTER AFton Chemicac Todd Dvorak todd dvorable after Chamico, com Afton Chemical Ed. Altman @Aftonchemical. com Ed Altman eric, lin. 2 Swri, edu ERIC LIV SARI mhoveraker@jho Herman, com MARK OVERAKER HALTERMANN Raham Kirkwood SWRT rkirkwood & SURI. OFG whuschere swritedu BILL BUSCHER SWRI BernadLaCPChem.com David Berman CPChem Sid Clark Sidney-L. Clark @ Sheglobal. Net SWRI Litertak plree @ vetzero, net Bob Olree IARRY. SMITH @ INFORUM. COM LARRY SMITH MEDEUM JECARTER @ THAUTERMANN. JIM CARTER HACTERMANN SERRY BRYS SABS @ LUBRIZOL, GOM 12 CHRIS CASTAVIEW CCA @ LUBRIZOL. 100 FORD rromanoe ford.com Ron Romano al lopez @ INTERTELL. COM AL LOPEZ Intertok in bonder @ ohtech Com Jason Bowden OHT adbowden@ohtech.com Adam Bowden OHT mj bowden @ ohtech. com MATTHEW BOWDEN OHT DHBOWDEN OF CHTECH. COM DWIGHT BOWDEN OIT GM Ral D dorald, j, smolenski agm, com DON SMOLOWSKI ANDREW. BUCZYNSKY @ GM. COM ANDREW BUCZYNSKY GM Bruce Matthews Jeff Clark jac e aston. tonc. comucel GM TMC

Attachment 1

VG Surveillance Panel Meeting 6-1-11 Assiliation remail Rich Grundza reg oastntne, cmu, edu ASTMIMC jognacherron. um Mest @ cherron, con 10 Mantinez Oronite MARIC SUTHERLAND dove glanger Coffordamil After Chamical DAVID GLAGNULTL CHRISTIAN. POLICE @ AFTON CHEMERE AFTON CHEMICAL MUSTIAN PORTER AFton Chemicac Todd Dvorak todd dvorable after Chamico, com Afton Chemical Ed. Altman @Aftonchemical. com Ed Altman eric, lin. 2 Swri, edu ERIC LIV SARI mhoveraker@jho Herman, com MARK OVERAKER HALTERMANN Raham Kirkwood SWRT rkirkwood & SURI. OFG whuschere swritedu BILL BUSCHER SWRI BernadLaCPChem.com David Berman CPChem Sid Clark Sidney-L. Clark @ Sheglobal. Net SWRI Litertak plree @ vetzero, net Bob Olree IARRY. SMITH @ INFORUM. COM LARRY SMITH MEDEUM JECARTER @ THAUTERMANN. JIM CARTER HACTERMANN SERRY BRYS SABS @ LUBRIZOL, GOM 12 CHRIS CASTAVIEW CCA @ LUBRIZOL. 100 FORD rromanoe ford.com Ron Romano al lopez @ INTERTELL. COM AL LOPEZ Intertok in bonder @ ohtech Com Jason Bowden OHT adbowden@ohtech.com Adam Bowden OHT mj bowden @ ohtech. com MATTHEW BOWDEN OHT DHBOWDEN OF CHTECH. COM DWIGHT BOWDEN OIT GM Ral D dorald, j, smolenski agm, com DON SMOLOWSKI ANDREW. BUCZYNSKY @ GM. COM ANDREW BUCZYNSKY GM Bruce Matthews Jeff Clark jac e aston. tonc. comucel GM TMC

Agenda Sequence VG Surveillance Panel June 1st 2011 1.00 - 5.00 P.M Warren MI

1. Chairman comments.	
2. Attendance sign-in distribution.	
3. Membership changes.	
4. Motion and Action recorders.	
5. Approval of minutes for May 24 th 2011.	All
6. Review action items from last meeting.	Andy Ritchie
7.Test Sponsor report.	Ron Romano
8.TMC Report.	Rich Grundza
- Questions on semi-annual report.	
9.ACC Report.	Rich Grundza
- Questions on semi-annual report.	
10. Update on new fuel.	Haltermann
11. Test fuel approval matrix	All
12. Operational and Hardware Items.	All
13. Review Scope and Objectives.	All
14. Old business	All
15. New business	All
16. Adjourn	





Test Monitoring Center

http://astmtmc.cmu.edu

VG Update

Warren, MI June 1, 2011

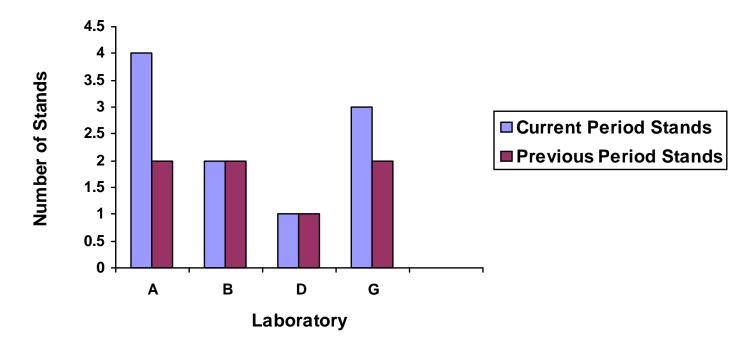
Lab/Stand Distribution

*Two stands had calibration periods extended due to unavailability of new fuel.

	Reporting Data	Calibrated as of 3/31/11
Number of Laboratories	4	4
Number of Stands	10	9*

Laboratory/Stand Distribution

2

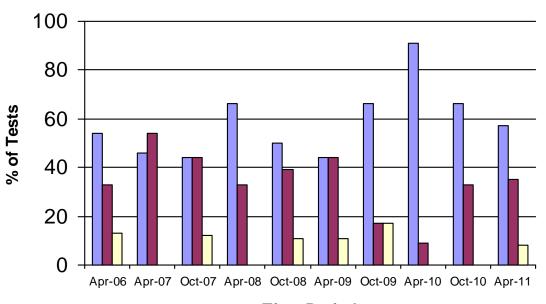


Test Monitoring Center
http://astmtmc.cmu.edu



Validity	TMC Validity Codes	No. of Tests
Operationally and Statistically Acceptable	AC	8
Operationally Invalid, Lab Judgment	LC	2
Aborted	XC	1
Stand Abandoned	MC	2
Operationally Valid, Failed Acceptance Criteria	OC	1
Aborted Fuel Approval test	XF	1
Unacceptable Fuel Approval Test	RF	14
Total		29

Calibration Attempt Summary



□ Calibrations/Starts
■ Lost Tests/Starts
□ Rejections/Starts

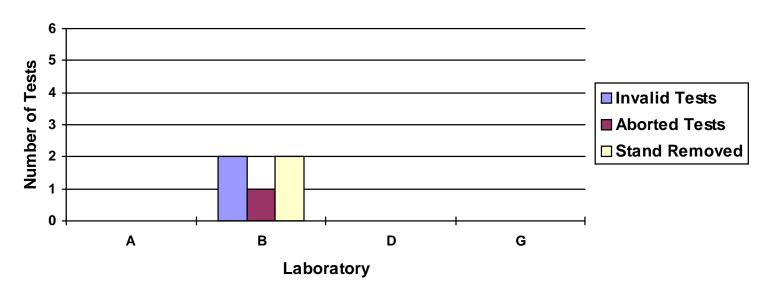
Time Period

Test Monitoring Center
http://astmtmc.cmu.edu

Lost Tests

Reason	Number of Tests
Failed Position Sensor	1
Improper Cleaning	1

Lost Test Distribution





Severity Issues

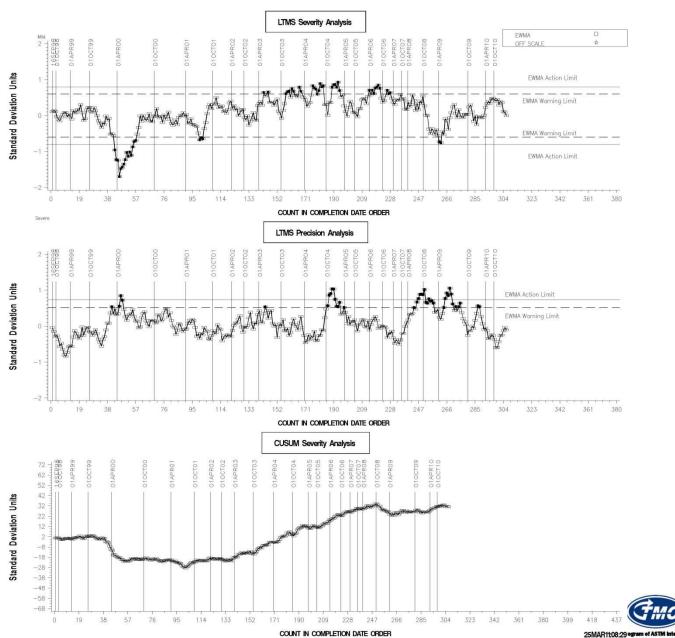
Variable	Pooled s All Oils	Mean Delta/s	Based on	Delta in Reported Units
RAC	0.16	0.23	8.0	0.04
AES	0.31	0.02	7.8	0.01
APV	0.36	-0.94	7.5	-0.10
AEV	0.17	-0.80	8.9	-0.14
OSCR	0.71	-0.10	20	-1.4



SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA



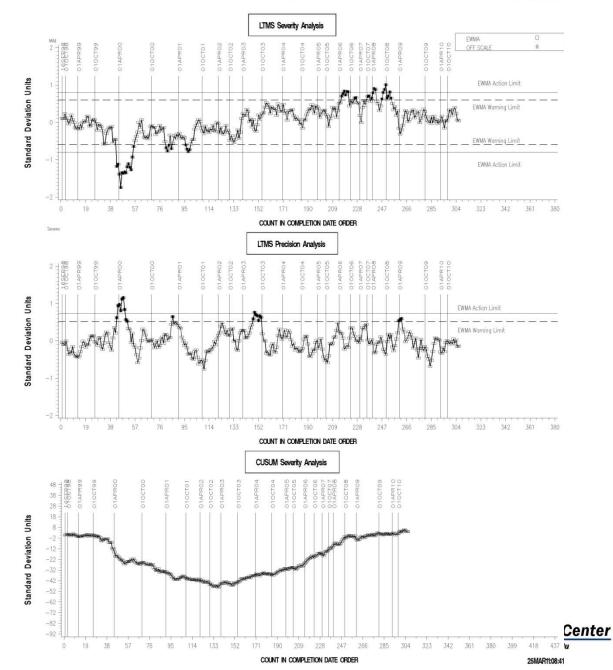
AVERAGE ENGINE SLUDGE



SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA



AVERAGE ROCKER COVER SLUDGE

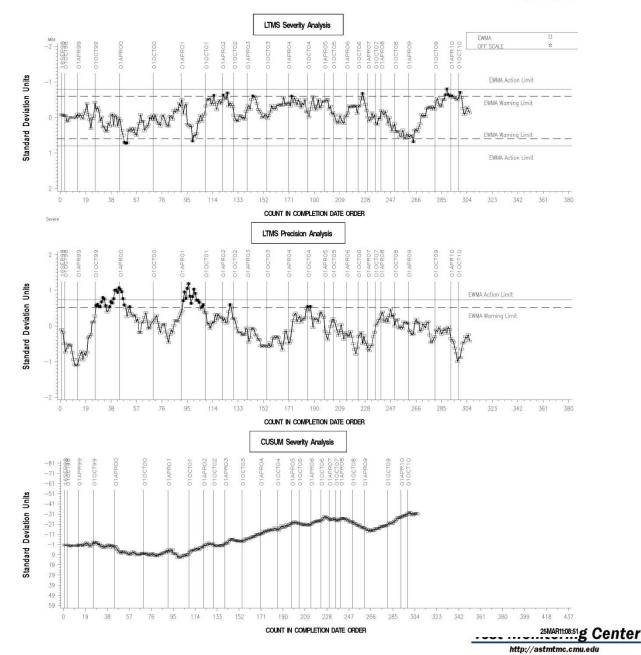




SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA OIL SCREEN SLUDGE





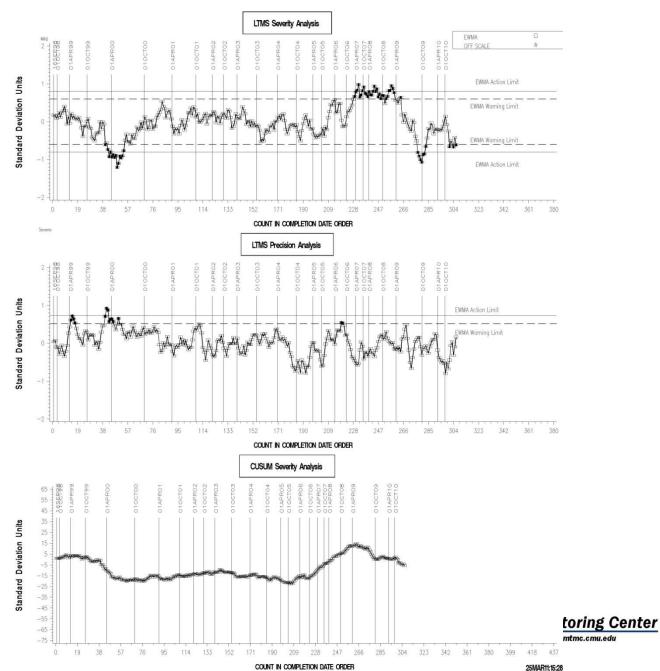




SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA



AVG. ENG. VARN. 3-PART APV + BAFFLES

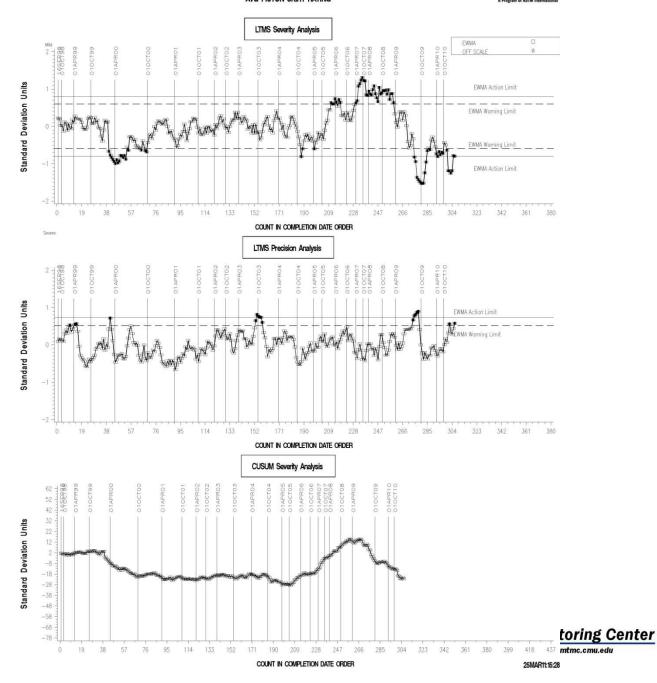




SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA

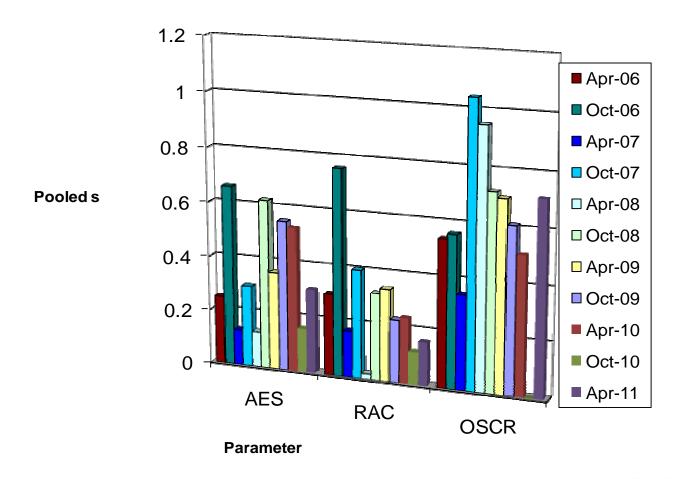


AVG PISTON SKIRT RATING





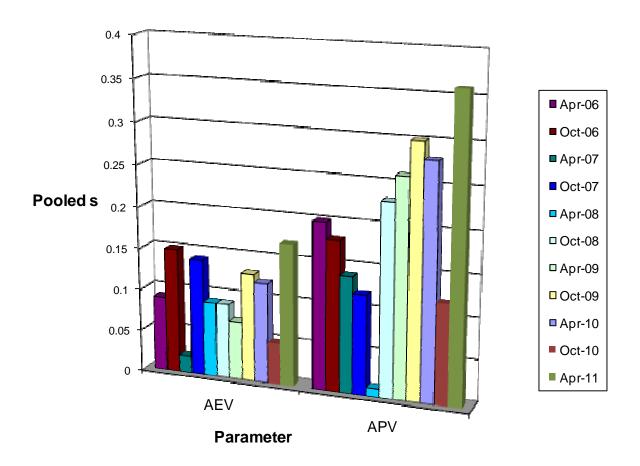
Comparison of Pooled Precision Estimates By ASTM Report Period







Comparison of Pooled Precision Estimates By ASTM Report Period







Sequence VG Surveillance Panel June 1, 2011 1:00PM – 5:00PM GM Technical Center Warren, MI

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

- 1. Action Item Ford to investigate alternate suppliers for piston rings. If aftermarket rings from an alternate supplier are available for one or more of the Sequence VG piston/bore sizes, then Ford will acquire some of these piston rings for comparison to the current Sequence VG piston rings.
- 2. Action Item Labs to use fuel tanks for the fuel approval matrix tests that have been drained of all Haltermann SVGM2 fuel from a previous fuel batch or that have been thoroughly cleaned if the previous fuel was something other than SVGM2 fuel.
- 3. Motion Labs will use their pilot batch test stand for Row 1 fuel approval matrix tests. Labs will conduct Row 1 of the fuel approval matrix design only as fuel approval tests, charging Haltermann for these tests.

Ron Romano / Rich Grundza / Passed 12-0-1

4. Motion – If no statistical significant differences are found between fuel batches, then labs will conduct Row 2 of fuel approval matrix design. Labs will use their pilot batch test stand for Row 2 fuel approval matrix tests. Prior to starting the Row 2 tests, the labs have the option to declare the Row 2 tests as calibration tests, as well as fuel approval tests. If the lab decides to conduct their Row 2 test as a calibration test, then Haltermann will charge the lab for the fuel used in the Row 2 test and the lab will not charge Haltermann for their test.

Ron Romano / Bill Buscher / Passed 11-0-2

5. Motion – The labs can also choose to run calibration tests on additional test stands concurrent with the Row 2 tests, and data from these tests will be included in the calculation of correction factors, unless statistically significant differences can be found in the test results.

Bill Buscher / Dwight Bowden / Failed 2-3-8

6. Motion – Accept OHT part number OHT3G-096-1 for use in the Sequence VG as a replacement for Sunnen part number C30-PHT-31 plateau honing tool. Labs to switch when tool replacement is needed.

Jason Bowden / Ed Altman / Passed Unanimously

- 7. Action Item Sequence VG needs a replacement for RO 925-3 as soon as possible. Panel members to solicit oil suppliers for a potential replacement failing reference oil.
- 8. Action Item Consider accepting RO 1010 for calibration purposes in the Sequence VG as a replacement for RO 1007, freeing up RO 1007 for exclusive use in the Sequence IVA.
- 9. Action Item Surveillance panel members to provide input for the TGC Best Practices in Lubricant Test Development document by 8/1/11 to the panel chairman and the TMC. The chairman will distribute material as it comes in to the panel members for review. A face-to-face meeting for all interested will be scheduled prior to the next panel meeting and input for the document will be compiled for review at the next panel meeting.