

HEAVY-DUTY ENGINE OIL CLASSIFICATION PANEL
OF
ASTM D02.B0.02
March 31, 2005
Embassy Suites Hotel – Rosemont, IL

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ACTION ITEMS

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| 1. Issue “Exit Ballot” on T-12 matrix readiness. | Jim McGeehan |
| 2. Issue “Exit Ballot” on ISM / M-11 EGR correlation limits. | Jim McGeehan |
| 3. Issue “Exit Ballot” on revised T-10 limits for T-9. | Jim McGeehan |
| 4. Issue “Exit Ballot” on T-10 limits for T-6. | Jim McGeehan |
| 5. Issue “Exit Ballot” on ISB matrix readiness when ISB TF approves. | Jim McGeehan |
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MINUTES

- 1.0 Call to Order
- 1.1 A meeting of the Heavy Duty Engine Oil Classification Panel (HDEOCP) was called to order at 8:10 a.m. on March 31, 2005 in the Walden Room of the Embassy Suites Hotel of Rosemont, Illinois by chairman Jim McGeehan. There were 20 members present or represented and approximately 21 guests present. The attendance list is shown as Attachment 2.
- 2.0 Agenda
- 2.1 The published agenda (Attachment 1) was reviewed and it was noted that Bengt Otterholm had inadvertently been omitted in the latest version of the agenda. Bengt’s presentation on turbocharger deposit testing was reinstated to the agenda before lunch.
- 3.0 Previous Meeting Minutes
- 3.1 Tom Cousineau suggested that “Surveillance Panel” be inserted in section 12.1 of the February 23, 2005 minutes, after “RFWT”. He also suggested that more detail be added in section 13.2 with regard to Charlie Passut and Afton’s concern regarding CF-4. Essentially, since the Mack T-9 is no longer available, there needs to be discussion on the future of CF-4.
- 3.2 The minutes of the February 23, 2005 meeting were approved with the above suggested additions, via voice vote.
- 4.0 Membership

- 4.1 There was no change to the panel membership. Frank Fernandez represented Bill Kleiser. Glenn Mazzamaro represented Scott Harold. Dave Stehouwer represented Warren Totten.
- 5.0 PC-10 Matrix Design and Funding
 - 5.1 Steve Kennedy reported on the current matrix design proposals and funding situation. See Attachment 3. Steve proposed that the ISB and T-12 matrix designs A-1, B-1, C-1 be accepted with the appropriate one used depending on the number of labs involved when the time comes. Greg Shank seconded the motion which was approved with a vote of 19 for, 0 against, 0 abstains.
- 6.0 C13 Exit Ballot Review
 - 6.1 Jim McGeehan reviewed the exit ballot responses. See Attachment 4.
 - 6.2 Pat Fetterman indicated Infineum would move their negative to a positive if "Oil D" were included in the matrix. They also continue to have concern with regard to the method used to assess oil consumption. See Attachment 5.
 - 6.3 Charlie Passut indicated Afton is concerned about insufficient discrimination by the test, especially for oil consumption, and lack of adequate test parts. See Attachment 6. Abdul Cassim stated that if oil consumption does not demonstrate discrimination in the matrix, it would be dropped as a pass/fail parameter.
 - 6.4 Lew Williams indicated Lubrizol is also very concerned that the test has insufficient discrimination. See Attachment 7. They are willing to go forward if discrimination is demonstrated, but otherwise the matrix should stop.
 - 6.5 Abdul Cassim reviewed C13 data and emphasized that the C13 is a piston deposit test. See Attachment 8. He also stated that all test kit parts for the matrix are now on hand and that parts for the rest of 2005 would be in stock soon.
 - 6.6 Jim McGeehan expressed concern, shared by others that "Oil D" may not discriminate from the low SAP matrix oils. Abdul indicated two additive companies had reported to him, better performance than "Oil D" with low SAP oils. Charlie Passut stated that if oil consumption is not necessarily a pass/fail parameter, then Afton would change their negative to a positive. Lew Williams observed that nothing had changed and there was still no plan to obtain adequate discrimination data before starting the matrix.
 - 6.7 Greg Shank proposed (with a little help from his friends) that the C13 proceed to matrix testing with conditions that the matrix pause after the first seven tests (3 on "Oil D", 2 on "PC-10 B" and 2 on "PC-10 E") for analysis of Top Land Carbon (TLC), Top Land Heavy Carbon (TLHC), Top Groove Fill (TGF), Top Groove Carbon (TGC) and Oil Consumption (OC), where OC is defined as the percent increase in oil consumption from the average of the 100 to 150 hour oil consumption to the average of the 450 to 500 hour oil consumption. The analysis is to include the five pre-matrix tests on "Oil D" and "Oil A" using alpha of 0.5 as the indication of significant difference. Abdul Cassim seconded the motion which passed with 19 for, 0 against, 0 abstains.
- 7.0 PC-10 Matrix Oils
 - 7.1 John Zalar reported several oils had arrived at the TMC...oils PC-10B, PC-10D, PC-10E and PC-10F. However, oil PC-10B was not blended as one batch, so it will have to be homogenized. Oil PC-10D has an analytical discrepancy and may need to be re-blended. Even so, if a re-blend is necessary, it is expected to be received by next week, along with oils PC-10A and PC-10C.
- 8.0 PC-10 Test Development Status
 - 8.1 Greg Shank reported on the Mack T-12 development results. See Attachment 9. Greg said TEI would have all needed matrix parts by April 8, 2005. Jim Rutherford reviewed

the statistical analysis of the T-12 data, see Attachment **10**. It was noted there is some question with regard to the IR data and that there is an IR method round robin in progress. Greg Shank proposed that the T-12 test is ready for matrix testing. Steve Kennedy seconded the motion. Discussion ensued over whether this should really go to exit ballot first. The motion as originally proposed, passed with 18 for, 0 against, 1 abstention. Pat Fetterman then proposed that an exit ballot on accepting the T-12 as ready for matrix testing be conducted with a one week turnaround, followed by an HDEOCP teleconference if necessary. Lew Williams seconded the motion which passed with 19 for, 0 against, 0 abstains.

8.2 Dave Stehouwer reported on the Cummins ISM and ISB test status. See Attachment **11**. Dave thanked Daryl Baumgartner, Mark Sarlo, Jeff Clark and the statisticians for all their work and help on these test procedures. He then reviewed the ISM / M-11 EGR correlation protocol shown in Attachment **11** and proposed adoption of the pass/fail limits shown on slide 4. During discussion, Lew Williams expressed concern that the OFDP limit of 55 KPa is too low. Greg Shank seconded the motion, which passed with 18 for, 0 against, 1 abstention. Lew Williams then proposed that these limits be exit balloted, including tiered limits, for the ISM to be accepted as an alternate test to the M-11 EGR in previous categories. Pat Fetterman seconded the motion, which passed via voice vote with none against and one abstention.

8.3 Dave then reported on the ISB (Attachment **11**) and indicated all discrimination requirements and parts supply should be complete by April 15. He proposed that an exit ballot for ISB matrix testing approval be issued when the ISB Task Force declares the test matrix ready. Greg Shank seconded the motion, which passed with 19 for, 0 against, 0 abstains.

9.0 Turbocharger Deposits

9.1 Bengt Otterholm reviewed the cause of and concern for turbocharger deposits. These concerns have prompted the development of a new bench test utilizing an actual turbocharger. See Attachment **12**. The test is being developed outside of CEC, but plans are to present it to CEC later this year for inclusion in a future oil category. This issue is still an EMA PC-10 concern, but at this time seems more applicable to PC-11.

10.0 NCDT

10.1 Bill Runkle presented an NCDT report (Attachment **13**) and an update on the PC-10 timeline (Attachment **14**). No action has been taken on including the 1P test in PC-10. Tom Cousineau asked the labs which have run "Oil A" for the C13 to see if they have any left – to try and consolidate enough to run a 1P test on "Oil A" at Afton. An NCDT meeting / teleconference will be called before the June ASTM meeting to make a decision by then (possibly before the May 10 LC meeting) on whether or not to include the 1P in PC-10. In reviewing the timeline, Bill noted the current predicted first license date is 12/28/06. EMA replied that is unacceptable.

11.0 Mack T-10 for T-9 Limits – Exit Ballot Review

11.1 Oronite, Infineum and Lubrizol negative responses are shown as Attachments **15**, **16** and **17**.

11.2 After the concerns were reviewed, Greg Shank proposed an exit ballot of new proposed one test limits of 32 microns for ALW, 150 mg for TRWL and 50 ppm for EOT delta lead. Pat Fetterman seconded the motion, which passed via unanimous voice vote. A two week turnaround for the exit balloted was requested. See Attachment **18** for the tiered limit details.

12.0 CF-4 Concerns

- 12.1 Charlie Passut presented Afton's concerns with CF-4 now that the T-9 test is no longer available. See Attachment **19**. Lubrizol and Afton feel CF-4 should not be obsolete. So, Charlie proposed an exit ballot for T-10 limits of 47 microns ALW and 180 mg TRWL as alternative to 90 merits for the T-6 test. Lew Williams seconded the motion, which passed via unanimous voice vote.

- 13.0 C13 / 1P Data
 - 13.1 Abdul Cassim presented some 1P / C13 data he had acquired. The data appear to be for three oils that have both 1P and C13 test results. In general, it seems that the C13 produced higher deposits than the 1P for these oils. See Attachment **20**.

- 14.0 Next Meeting
 - 14.1 Next meeting not discussed, but there probably will be one called by the chairman, before the June semi-annual meeting.

- 15.0 Adjournment
 - 15.1 This meeting was adjourned at 1:50 p.m. on March 31, 2005.

Submitted by:

Jim Wells
Secretary to the HDEOCP