

ESCIT meeting 4/24/07

1. HM opens with GF-5 MY2011 is mandatory
2. Exit ballot results
 - a. PEI 165
 - b. Seq IIIG @ 20 hours
 - c. CIBA
 - d. ROBO
 - e. PEI 250
 - f. Seq III EOT
 - g. OEM's slightly preferred the PEI 165.
 - h. 6 additive, 5 OEM and 2 other groups voted
3. Afton
 - a. PEI165 16 hour
 - i. Expedient cost effective. Correlates.
 - ii. Inherently less variable than engine test
 - iii. Concern 20 hour flush and run due to blow by changes and engine aging – fuel dilution
 - iv. Run bench test on final formulation
 - v. Cost and time with engine for screening a lot
 - vi. Quicker adoption of BOI/VGRA rules
 - vii. Work needed for ICP measurement
 - viii. Test method must be written in ASTM and monitored by TMC
 - ix. Can live with IIIG @ 20 hours
4. Lubrizol
 - a. Snyder asks how field trial fluids look in P31 NMR
 - b. Deckman asks if ICP is the same method – yes

- c. Olree asks about C=O for PEI?
 - d. Wang asks about 100 hour IIIG – will it go to 100% Phosphate.
 - e. CIBA asks about disulfides
 - i. Selby argues he's seen disulfides in interim sampling
 - ii. Engel asks if should have a catalyst – Ted will not speculate
 - f. PEI results shown
 - i. Wang asks about lab where run
 - g. Mazzamaro asks is ROBO okay as a thermal bench test
 - i. Williams points out Nitration included in ROBO
 - ii. Why are we struggling to find a bench test to replace a test we're already running?
 - h. Gunther believes PEI variability on ICP variability – will bring data
 - i. Williams states we can fool PEI but never fooled the IIIG
 - j. Wang claims Savant is the only lab certified – now
 - k. Some support from Ritchie for IIIG pointing out statistician supports IIIG
 - i. Might have voted different had he known scoring system
 - l. Lab to lab issue? Wang claims 5 runs on two oils over 4 months
 - i. Selby - Ca going down – accumulation of deposits on glassware
 - m. Romano would like to see additive co data on IIIG@20
 - n. Gunther asks if repeatability is plus or minus 5? What would an 80% look like? Don't have an 80%
5. Selby
- a. Rebuttal
 - i. Claims samples at 1,5, etc hrs shows some intermediates
 - b. PEI value of 50 correlates to 800 ppm in volatilized (collected) oils?
 - i. Oronite involved in oil selection for Selby!
 - ii. Williams points out 20 data points likely contain repeat chemistries and may give completely different results.

- iii. Oils are GF-4/SM – so there are repeat chemistries
- c. Test uses a “carrier” which is volatilized. Conservation of mass needed (Olree)
- d. Selby suggests setting a limit at 50 mg?
- i. Linden puts down limit recognition
- e. Linden wants to see 20 point plot with PEI values
- f. Olree points out P limits set up based on oil consumption vs. volatility – didn’t know volatility was a problem
- g. Ciba points out Oronite should be credited for transparency
- 6. SwRI
- a. 2002 Malibu 3.1L V6. 0.6L cat
- b. 150C sump temp external heat
- i. Heating done fluid to fluid (Afton – adds 9C)
- c. LZ offers Ford field oils
- 7. Oronite
- a. References LZ data (copy write) without permission
- b. Reversal in some oils?
- c. Selby did some of the plots. Not labeled.
- d. Claim that %Phos delta small compared to mg/L PEI data.
- e. Do you think IIIG doesn’t work? Oronite thinks could work but why use parts (IIIGA replaced by ROBO).
- i. Infineum supports
- ii. Olree pushes, “Does the IIIG work?”
- f. Wang claims Appendix F would be needed for IIIG @ 20 hours test.
- g. Oronite supported PEI and rejected IIIG in ballot. Voted to support CIBA and ROBO.
- h. Mazzamaro asks about minor mods for P retention. Williams suggests rules will be written.
- 8. Afton redux
- a. Afton test is run like a IIIG

- b. Scatter between 10 oil changes in PR for a single oil is, on average, 7.5%
 - c. Double flush between tests
 - d. Gunther shows 7 pairs of oils run at Savant. Delta is around 5mg/L. Olree – all numbers less than 50. Highest number 42. As low as 8. Olree notes this – raises likely hood that they can beat test!!!!
 - e. Gunther talks about ICP variability. Feels measurement repeatability is poor.
9. Murray summary
- a. Need to work time lines with critical milestones
 - i. Savant offers PEI-165
 - ii. LZ offers IIIIG
 - 1. Who's willing to spend some money and spin some engines?
 - a. Include this discussion in milestone review at next meeting.
 - b. How far to go? Precision matrix to ILSAC/OIL?
 - iii. CIBA offers their test
 - iv. SwRI needs to run real formulations to see if they can differentiate
 - v. ROBO will be done by Roh Max
 - vi. Williams argues others need to step up and offer oils. Just about wore out Ford Field Trial oils.
 - vii. Selby says he'd like to see 4 oils.
 - b. Ask labs to provide info on ICP accuracy.
10. Next meeting TBD