

CAT Aeration Test Task Force meeting July 29, 2014

Attendees: Names Highlighted in **Yellow** attended the meeting

Participant	Name	Email	
1	Caroline Laufer Elisa Santos Pat Fetterman James Gutzwiller Bob Salgueiro	caroline.laufer@infineum.com elisa.santos@infineum.com pat.fetterman@infineum.com james.gutzwiller@infineum.com bob.salgueiro@infineum.com	Infineum
5	Jeff Clark Sean Moyer	jac@astmtmc.cmu.edu sam@astmtmc.cmu.edu	TMC
6	Zack Bishop Dan Lancott	zbishop@tei-net.com dlancott@tei-net.com	TEI
7	Jason Bowden	jhbowden@ohtech.com	OHT
8	Mark Jarrett Hind Abi-Akar	jarrett_mark_w@cat.com abi-akar_hind@cat.com	Caterpillar
10	Greg Miranda, Kevin O'Mally	greg.miranda@lubrizol.com Kevin.OMalley@lubrizol.com	Lubrizol
	Bob Campbell	bob.campbell@aftonchemical.com	Afton
12	James McCord Martin Thompson	jmccord@swri.org martin.thompson@swri.org	SWRI
14	Timothy Griffin Jim Moritz	tim.griffin@intertek.com jim.moritz@intertek.com	Intertek
16	Jim Rutherford Mark Cooper	jaru@chevron.com MAWC@chevron.com	Chevron
18	Mike Alessi	michael.l.alessi@exxonmobil.com	ExxonMobil

Agenda:

- 1) Brief Lab Status Update:
 - a) SWRI
 - b) Intertek
 - c) Lubrizol
- 2) Review LZ & Intertek shakedown test results.
- 3) Review SWRI HA test#1
- 4) Operational Parameter Discussion (Test Conditions) - follow-up?
- 5) Timeline
- 6) General Discussion

Lab Status:

1- SWRI

Martin is currently finishing 2nd flush cool-down with the test#2 with 1005 test oil. Finishing up the micro-motion check-out and planning to start the test this afternoon. Martin sent out the documentation of the micro-motion checkout after last week's meeting.

Martin sent out the 30 second data for both the LZ oil and HA oil.

2- Intertek

The first flush has started for the LZ oil and checking out the engine & calibration. Finalizing the engine setup and should be able to complete the micro-motion checkout within the next couple days. Tim hopes to send the micro-motion checkout within the next day or two.

3 – Lubrizol

Greg started the LZ oil shakedown test late last week. Greg noticed the micro-motion data is not falling on the D4052 curve. Greg is trying to investigate the issue. The micro-motion span was set to 0 to 5 g/cc². Greg has now dropped the range is helping have finer density increments.

Comparing the micro-motion settings to other labs:

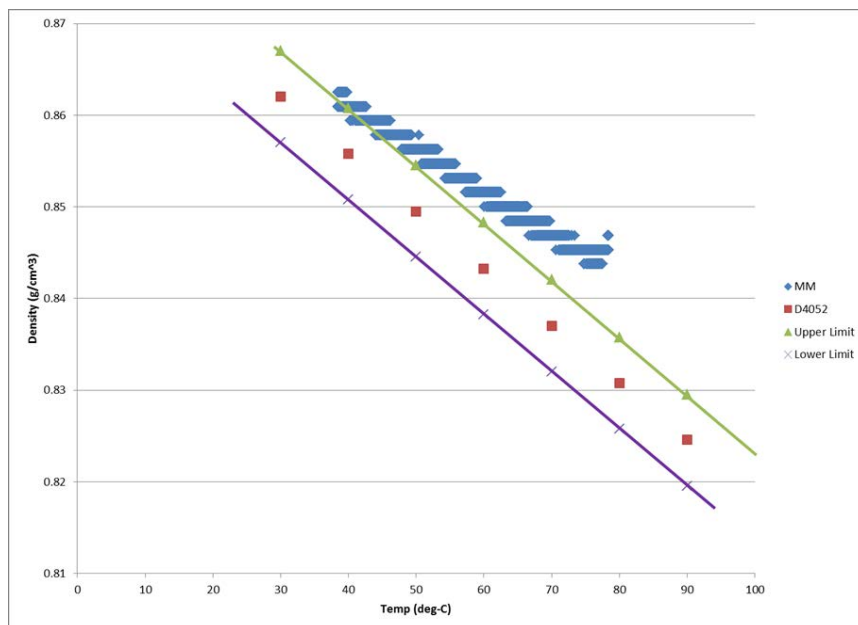
Intertek:

0 to 2 density at Intertek = 1 to 5 volts

1.6 sec and flow set at 1 sec?

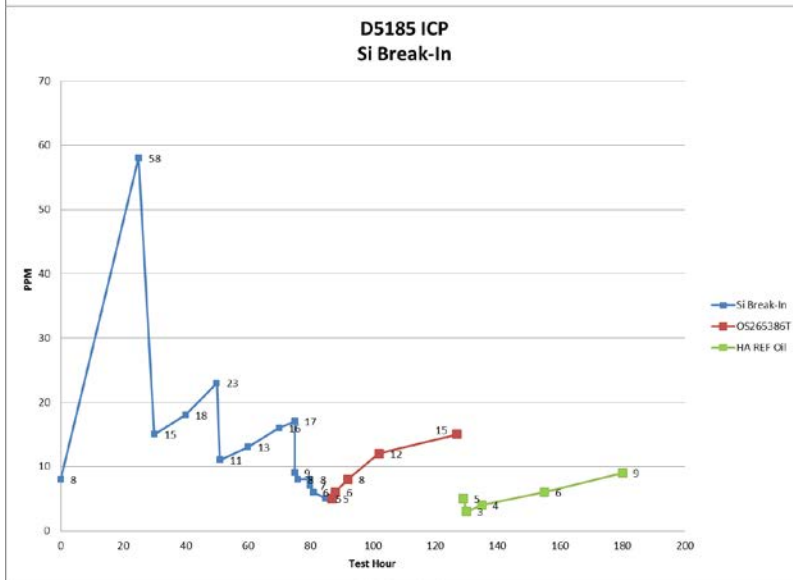
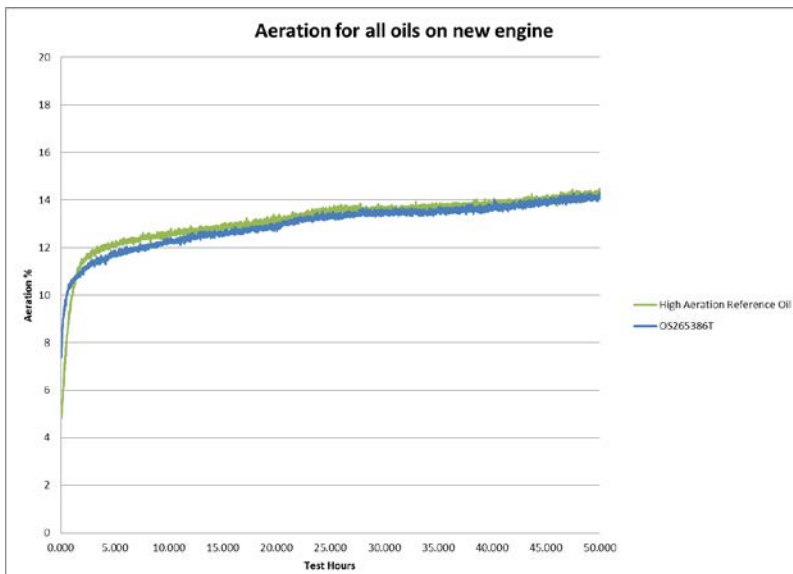
Reporting the density in the Excel sheet to 4 decimal places.

Action: over plot the D4052 data from the different labs.



SWRI results from HA Test#1

- The oil pump and oil pressure were replaced for this engine build. The oil gallery pressure on this 2nd engine is higher than the previous engine. It is now more comparable to the other labs.
- The HA oil aeration is similar to the prior shakedown oil with the LZ oil. We were expecting the HA oil to significantly higher yet it is not.
- It is too early to make any firm conclusions yet.
- Target to have 1005 results by this Friday and Martin is hoping to get the rerun with HA started before the weekend.
- Martin has enough HA oil for one more test.
- The Si level has been coming down. The HA oil did have a slight uptick in the Si by the end of test.



Timeline:

- If all goes well SWRI should have tests #1 through #3 complete
- Intertek hope to have LZ shake down test completed by the weekend.
- Need a couple days to crunch the data. It will also need to have the data reviewed by the Task Force. Target August 7th to start analyzing the data.
- We need to have the data & conclusions ready for the NCDT meeting August 14th.

STOP:
Review results
& decided if
more testing
desired

STOP:
Review results
& decided if
more testing
desired

	Test 1	Test 2	Test 3	Test 4	Test 5
Lab 1	HA	1005	HA	1005	HA
Lab 2	HA	1005	HA	1005	HA
Lab 3	1005	HA	1005	HA	1005

General Discussion:

- August 5th next meeting tentatively setup 2-4pm. Also setup a meeting for August 8th 10-12pm CST.
- Greg will gone August 4th through the 15th