

**Sequence VIII Surveillance Panel
February 5th, 2014 10:00 AM CST
Dial-In Number: (866) 588-1857
Conference code: 2105226802**

AGENDA

1.0 Attendance:

Infineum: Andy Ritchie
GM: Bruce Matthews, Robert Stockwell
SwRI: Bill Buscher, Fred Gerhart
Intertek: Charlie Leverett, Addison Schweitzer
Afton: David Glaenzer (Charlie Leverett given proxy)
TMC: Rich Grundza
Lubrizol: George Szappanos
OHT: Jason Bowden, Matthew Bowden
Oronite: Sinha Kaustav
TEI: Zack Bishop, Clayton Knight
Valvoline: Timothy Caudill

11 of 14 voting members in participation, quorum achieved.

2.0 Old Business

- 2.1) Results from Donated Testing using an External Oil Pump Group
- 2.2) Discussion of next steps Group

Motions and Action Items
As Recorded at the Meeting by Addison Schweitzer

Charlie Leverett initiated the motion below:

MOTION:

Require the use of the external pump as shown in the IAR presentation with the exception of the oil heater mounting being either vertical or horizontal for ASTM D6709. All Seq. VIII calibrations after Tech B approval of any procedural changes in an Information Letter will require the use of this external pump and all non-reference testing following an acceptable calibration shall be run with the external pump configuration.

Andy Ritchie seconded motion

Discussion:

Andy Ritchie began discussion by summarizing the Surveillance Panel's efforts to date regarding the external oil pump configuration on the Sequence VIII. During the summer Infineum worked with IAR with a 0W-16 oil and Sequence VIII engine with a new external oil pump configuration. Data acquired from this cooperative effort supported the engineered solution to controlling oil pressure on low viscosity oils. The Surveillance Panel meeting on 8/28/2013 reviewed the data and it was agreed that additional data (particularly strip vis results) would be needed with the current reference oils and the external oil pump configuration. Two currently calibrated labs A and B agreed to run one test each on these reference oils. During the Surveillance Panel call on 12/19/2013, the group reviewed the data from lab A and B on current reference oils 704-1 and 1006-2. The strip vis results were found to be acceptable for both Labs A and B, however Lab A BWL result for 1006-2 was very high. At this meeting, it was agreed that Lab A would run 704-1 and Lab B would run reference oil 1006-2 to compare results. The new data from Lab B on reference oil 1006-2 met calibration requirements for the Sequence VIII utilizing the external oil pump configuration. No new data from Lab A on reference oil 704-1 has been provided to the panel to date. Lab B currently has the original 0W-16 data in addition to the reference oil results using 704-1 and 1006-2 which confirms lab B can calibrate with this external oil pump configuration. At this point, Andy requested that this solution be moved forward to address low viscosity testing requests on the Sequence VIII. Bruce Matthews felt that this is a potential solution to this issue of controlling lower viscosity oil pressure, however could not vote positive due to the lack of test results from SwRI. Fred believes the issue with the severe BWL results was driven by the long line lengths to the external system and possibly differences in oil heater orientation. Fred's concerns with the oil heater configuration were as follows: possibility of entrapping air in the oil heater causing some localized hot spots, also a liquid proof wire configuration would need to be developed from a safety standpoint in the event that a horizontal position was required at SwRI. Fred stated that the recommendation from a technical standpoint was to leave the heater orientation as it is currently configured at SwRI in the vertical position. Fred felt that line lengths to the external oil pump were more of an issue due to evacuating more oil out of the engine than what is experienced in the

original engine layout. Bill Buscher suggested that the panel re-convene to discuss pending data from SwRI on February 17th. SwRI planned to shorten the line lengths to attempt to solve the issue of BWL severity prior to running reference oil 1006-2. In the event that acceptable results are still not achieved at SwRI, a horizontal orientation of the oil heater would be considered. SwRI plans to run reference oil 1006-2 first this week and have results by Monday February 10th. Pending SwRI's results on reference oil 1006-2, further re-configuration of the Sequence VIII stand utilizing the external oil pump may have to take place. Bill suggested that IAR and SwRI work together to diagnose possible differences between stands if needed at this time. There is a week and a half of time to run off two tests on 1006-2 and 704-1 between today's Surveillance Panel meeting and the next scheduled meeting, and SwRI agreed that data on both reference oils could be available by February 17th. Results from the tests conducted at SwRI would be provided to the panel as they become available. Andy suggested that the motion be tabled until the February 17th surveillance panel meeting. Charlie Leverett withdrew his motion to be re-instated at the Surveillance Panel meeting on February 17th.

3.0) Next Meeting

3.1) Next meeting is scheduled to take place on Monday February 17th 2014 at 10:00 AM CST.

4.0) Meeting Adjournment

4.1) 10:23 AM CST