

DD13 Surveillance Panel Teleconference Meeting Minutes

December 14, 2016

10:00 AM CST

Call Participants:

Lubrizol - Patrick Joyce, Kevin O'malley
Southwest Research Institute – Jose Starling, Jim McCord
Intertek - Jacob Goodale, Jim Moritz
Daimler - Suzanne Neal, Greg Braziunas
Infineum - Jim Gutzwiller, Elisa Santos, David Brass
Oronite - Robert Stockwell
TMC – Sean Moyer
TEI - Mark Sutherland
Exxon Mobile – Bhaskar Prabhakar
Evonik - Don Smolenski

Agenda Topics

- **Approval of last meeting's minutes**
Minutes of last week approved.
- **Parts Update – Mark Sutherland**
No new parts update
- **Fuel Update –**
Nothing discussed

Unfinished Business

- **TEI Liner Roughness Measurements – Mark Sutherland/SP**
TEI received the 0.0002" stylus and performed a set of measurements to compare with data produced by the 0.0001" stylus. TEI took 5 liners and performed 4 surface roughness measurements on each of the liners using each of the styluses at the same location. All the data completed to date has been done on the small stylus, but we as a group need to decide if changing to the larger stylus is necessary. The larger stylus (0.0002") is the size Detroit uses for their measurements and would prefer the use of the larger stylus. The panel will need to agree on which stylus size to use moving forward. If we use a new stylus is there enough data to make a correlation between the small and larger stylus on the same liners. In the short term TEI will continue to measure liners using both to continue building this data set while the panel decides how to proceed.
- **Statistics review of TEI kit data – Kevin O'Malley/SP**
Kevin's analysis summarized the kit measurement differences observed in reference tests using B batch top rings compared to prior reference tests. As stated by Kevin the following was found: "Tests using B Batch Top Rings generally have larger ring gap, and face peak height location measurements & smaller face width, Rk, Rpk, and back of ring width measurements compared to prior reference tests. Percent Cylinder Scuffing tends to be higher when the top ring face peak height to 2.75mm diff is lower. However, as we discussed in the call, this effect is not consistently observed in all tests when comparing the scuffing percent across cylinders. Instead,

this effect is a general trend observed in all the data. For this reason, the panel should consider its legitimacy.”

It was discussed that for all previous reference tests the second and oil control ring were not batched, but in the most recent rebuild kits going out these components will be batched and have a non PNB TEI number. None of these second and oil control rings in Kevin’s analysis were batched.

So far there have been two runs that went long on reference oil 864 (One at SwRI during the precision matrix and one at Intertek recently to bring in a new stand) and two runs that went long on reference oil 864-1 (one at Intertek recently and one at Lubrizol). Should coordinated reference tests on the matrix stand using the reference oil be run or is something else required? The panel will need to review the available data and decide how to best address this issue and how to proceed moving forward. There are a few errors on the LTMS data along with some of the labs needing to upload recent reference data.

The discussion on what to do will be postponed till all data is on the LTMS site and everybody has had a chance to digest it. The stylus change and liner specification limit decision is also postponed pending additional data review produced from both styluses.

New Business

- **Review of Lubrizol Reference Data – Patrick Joyce/SP**
Not required, all labs have shown to control very well.
Lubrizol’s latest reference run on batch B rings and reference oil 864-1 scuffed at 114 Hours.
- **Constant Improvement Plans – Jim McCord/SP**
Jim brought up the possibility to setup routine or periodic lab visits to perform stand inspections and build workshops in the future. Overtime labs tend to shift in practices generally agreed on at the start of a test type. With testing being conducted at increasingly tighter operational limits stand visits and inspections would insure that labs are running in the same manner. The difficulty involved in coordinating this for every test is large, however it should be kept in mind in future meetings. Lubrizol to look into possible 3 day windows in 2017 where it may be possible to host a build workshop and brief stand inspection for the DD13 test type.
- **TEI Data, Part Numbers – Patrick Joyce/Mark Sutherland**
Recently part number in TEI sheet have not matched the part number on the box for these components. For some of these the part number on the box may not match the part number on the part. Mark Sutherland stated that TEI uses actual part numbers on the part to list on the TEI sheet since this indicates differences clearly when a change has occurred to the part, where the listed part number on the box or assembly may stay the same. If we use the actual final part number on a box or for an assembly than there may be a chance that the actual part itself is changing but may not be caught or recorded in the test data.

Next Meeting

Meetings should be limited to 2 hours if at all possible moving forward. Next meeting is scheduled for Tuesday January the 10th from 10:30 to 12:30 Est.