Caterpillar Surveillance Panel Conference Call 06/11/2015 1:00PM CST

Attendance:

Jim Gutzwiller Martin Thompson Gary Hammer Vince Caliendo Hind Abi-Akar Kevin O'Malley Bob Salguero Elisa Santos Christian porter Sean Moyer Andrew Stevens Pat Fetterman Adam Roig Jim Rutherford

Agenda Items:

- 1P Cylinder Liners

Old Business:

Discussion Items:

1P cylinder liner prove out

New Cylinder liners are available now available.

CAT has indicated that the material hardness of the new liners are slightly higher. The surface finish is very close to the same as the previous batch.

The first reference results was presented by Infineum and CAT in **1P Liner New Supplier 6 1 2015**

The end of test oil consumption and delta oil consumption were the primary focus of discussions and were towards the high side or above the oil consumption of previous references.

CAT has commented that they could re-adjust the surface finish to see if the results come closer to previous references. This re-adjustment would involve additional plateau honing. This would require shipment of the liners back to China. This would take at least 1 month for rework. It would take at least 2 months for new liners.

CAT presented the comparison of new to old liners in ****DRT2631****

This presentation showed that Rk and Rpk were the two primary surface finished that could potentially point to high oil consumption and would be brought closer to the previous surfaces. However there is a risk in additional plateau honing and causing an increase in graphite pull out.

The graphite pullout test is used by CAT as a porosity measure and in their opinion represents the same indicator.

IAR and Lubrizol have agreed to run references on the new liners to generate two additional data points. SwRI and Afton have both opted not to reference on the new hardware at this time due to low demand.

Motion: Adam Roig Second: Andrew Stevens Two labs will perform reference tests on the new liners to create two additional data points for a total of 3 data points for use in creating correction factors. Opposed: 0 Waves: TMC Motion Carries

C13 Candidate Pass Fail Percentages

IAR and SwRI will request from all clients to release the number of tests and pass percentage for each year dating back to 2011 to be reviewed. This data will be presented blind by TMC as the number of tests in the industry and the pass percentage of each parameter by year.