

Unapproved Minutes of the June 19, 2013
Sequence VG Surveillance Panel
Conference Call

The meeting was called to order by Chairman Andy Ritchie at 2:00 PM EST.

A list of the attendees on the call is included as Attachment 1.

Chairman Ritchie listed the agenda items he would like to cover in this call:

- 1) Review and approval of minutes from June 11, 2013 call
- 2) Discussion of Statistical Group's analysis of results from the fuel approval matrix for Batch No. AK2821NX10-1 fuel
- 3) Plans for additional data analysis or future testing, if any
- 4) Old Business.
- 5) New Business.
- 6) Next Meeting

Chairman Ritchie asked if there were any corrections to the minutes from the June 11, 2013 VG Panel conference call. There being none, Ed Altman made a motion to approve the minutes. Dwight Bowden seconded the motion. The motion was approved unanimously.

Chairman Ritchie then asked Doyle Boese to go through the analysis and recommendations which the Statistical Group had prepared on the fuel matrix results. (See Attachment 2) Rather than going through the complete 48 slide presentation the Statistical Group had prepared, Doyle indicated he would just cover the highlights and conclusions from the analysis. The process used was to combine the separate analyses conducted by the individual Statistical Group members into a single presentation. After discussing the analyses, there was consensus agreement among the Statistical Group members on the material shown in Attachment 2. The analyses were done with and without the results from Oil 925-3, because Oil 925-3 contains older chemistry which may not react the same as oils containing current chemistry. Also, the results for Oil 925-3 are not close to the pass/fail limits for the various parameters. As indicated in Attachment 2, Oil 925-3 discriminates with Oil 1006-2 for all parameters, but Oil 925-2 discriminates with Oil 1009 only for RCS and AEV. The two do not discriminate for AES, APV or OSCR. Oil 1009 does discriminate with Oil

1006-2 for AES, APV and OSCR. The labs were not statistically different for AES and AEV, but there were some differences found between some labs for RCS, APV and OSCR. Stands within labs were not found to be statistically different for all parameters. For variability, AES has larger variability compared to LTMS, while AES, RCS, APV and OSCR all have variability comparable to LTMS. Oil 1009 AES had the highest standard deviation. Attachment 2 contains the full analysis, including fuel batch adjustment recommendations and the calibration rate for each of the oils with no adjustments and with the recommended adjustments, the latter including Oil 925-3 and excluding Oil 925-3.

Chairman Ritchie then asked the Panel to focus on the subset of slides from the Statistical Group presentation shown in Attachment 3. Discussion of these slides centered around whether or not to include results from Oil 925-3 in the analysis. Rich Grundza commented that the Oil 925-3 results were noticeably different from the results from the other two oils and that the varnish results for Oil 925-3 were also highly variable. Doyle and Rich then calculated how the calibration results would change if the varnish parameter were excluded from the analysis. This improves the calibration rates for all three scenarios mentioned in the previous paragraph. Martin Chadwick added that, in his analysis, after three runs a precision alarm would be tripped, primarily because one oil is so far away from the other two. This assumes the new failing oil, Oil 940, behaves like Oil 925-3. Chairman Ritchie commented that Oil 940 is likely to fail, and others agreed.

Looking at the matrix results and analysis package as a whole, Ron Romano indicated he is uncomfortable accepting this fuel batch without more data. He expressed concern about making all of the recommended adjustments and then going forward with a different, failing oil that may react differently. Others commented that shortening the test length could be a possibility. Ed Altman asked if we should look at what would happen if Oil 940 does or does not react the same as Oil 925-3 did. Chairman Ritchie asked how long it would take to determine this, and Doyle answered that this could probably be done in couple of hours. Martin suggested that there are more issues if we want to look at LTMS implications, and Doyle replied that he was not including LTMS considerations in his time estimate. Other Panel members agreed that seeing how Oil 940 impacts the calculations is a good idea, and Chairman Ritchie suggested the Panel adjourn and reconvene on Friday to give the Statistical Group time to make those calculations. It was agreed

that another conference call would be held on Friday, June 21, at 10:30 am EDT.

Old Business

Ed Altman, referring to minutes from previous Sequence VG Surveillance Panel meetings and conference calls, questioned why Haltermann had released the last 24K gallons of the current VG fuel when the Panel had indicated it was to be conserved, particularly the last 6000 gallons which was indicated as being kept for emergency purposes. Ed indicated he had been told that Haltermann had divided this 6000 gal of fuel, distributed it, and now has no more of the current fuel remaining. Ed wants to know what happened to this fuel and wants Afton to have access to some of it. Ron Romano indicated he though the last 6000 gallons went to SwRI and Intertek for VH development work. Bill Buscher confirmed that 3000 gallons had indeed been sent to each lab for this purpose. Ed said he was under the understanding that it would be a Surveillance Panel decision as to what to do with the last 6000 gallons, and he still feels Afton should get some of that fuel. Bill said he thinks SwRI has enough fuel left for about two tests. Al Lopez said he thinks Intertek probably has enough fuel remaining for about 3 months of testing. Ed said one possibility is that the remaining fuel be divided among the labs running VG tests. After some further discussion, Wayne Petersen said Mark Overaker will have a report at the next call on the disposition of the last 24K gallons of current VG fuel by Haltermann.

New Business: None

Next Meeting: The next VG Panel conference call was scheduled for Friday, June 21, 2013 at 10:30 AM EDT.

Attachment 1

Attendees during 6/19/2013 Sequence VG Surveillance Panel Call

BP Castrol – Timothy Miranda

Afton – Ed Altman

Ford - Ron Romano

GM – Bruce Matthews

Haltermann – Wayne Petersen, Tracey King

Infineum – Andy Ritchie, Mike McMillan, Doyle Boese

Intertek – Al Lopez, Martin Chadwick

Lubrizol – Chris Mileti, Jerome Brys, Jessica Buchanan, Chris Castanien

OHT – Dwight Bowden

Oronite– Jo Martinez

SwRI – Raham Kirkwood, Bill Buscher

TEI – Clayton Knight

TMC – Rich Grundza

Toyota – Jim Linden