

# Sequence VH Conference Call | MINUTES

Revision Date 6/1/2017 10:36:00 AM

<b>Relevant Test:</b>	Sequence VG and VH
<b>Note Taker:</b>	Chris Mileti
<b>Meeting Date:</b>	05-25-2017
<b>Lubrizol Attendees:</b>	Chris Mileti, Jerry Brys
<b>Comments:</b>	Conference call with full Surveillance Panel to conduct Sequence VH "Ready for Precision Matrix" vote.

## 1. CONFERENCE CALL:

### a) Background Information:

- i) Andrew Ritchie distributed an email on 05/23/2017 at 10:09AM EST that contained supporting documentation for the conference call on 05/25/2017.

**(1) This email included links to the following documents:**

- (a) Sequence VH draft test procedure dated 02/27/2017
- (b) Sequence VH Appendix K document
- (c) Sequence V LTMS document

**(2) This email included the following summary statements:**

- (a) Operational review of (22) tests from (4) laboratories has confirmed that all tests are operationally valid.
  - (b) Statisticians confirmed that Precision Matrix meets requirement of providing at least (6) test results per reference oil.
  - (c) Valvoline will not be completing two of their Precision Matrix tests due to time constraints.
  - (d) Sludge demonstrates statistical discrimination between REO940 and REO1011.
  - (e) AEV50 and APV50 statistically discriminates between REO940 and REO1011.
  - (f) AEV50 and APV50 demonstrate slightly better oil discrimination than AEV and APV.
  - (g) OSC will be changed to a "rate and report" parameter until improvements can be made to its measurement procedure.
- ii) Andrew Ritchie distributed an email on 05/24/2017 at 2:44PM EST that summarized the status of the Sequence VH Precision Matrix:

	Lab Stand	D1	E1	G1	G2	A1	A2
Run Order	1	1011 119162-VH	1009 100682-VH	940 119150-VH	940 119151-VH	1009 117777-VH	1011 122929-VH
	2	1011 121400-VH	940 120502-VII 940 122931-VH	940 123887-VH	1011 122926-VH	1009 119143-VH	1009 119141-VH
	3	940 121398-VH	1011 120503-VH	1009 118693-VH	1009 118692-VH	1011 119147-VH	940 108997-VH
	4	1009 119160-VH	1011	1011 122927-VH	1009 119155-VH	940 118698-VH	940 108998-VH

Reported Invalid

**b) Opening Comments From A. Ritchie:**

- i) It has been several months since the last full Surveillance Panel conference call.
- ii) There have been numerous engineering and statistician conference call since then.

**iii) Review of Precision Matrix:**

- (1) [24] Precision Matrix tests have been completed.
- (2) [22] Precision Matrix tests have been deemed operationally valid.
  - (a) Twenty of these tests are from Intertek, SWRI and Afton.
  - (b) Two of these tests are from Valvoline.
- (3) Valvoline will forgo their last two Precision Matrix tests.
  - (a) They had operational problems that caused them to fall behind schedule.
- iv) The statisticians confirmed that there is enough Precision Matrix data to proceed with the statistical analysis.

**v) TMC Comments:**

- (1) There are no issues with the Quality Index calculations from the submitted tests.
- (2) The VH Development Task Force reviewed the operational data from the controlled parameters, uncontrolled parameters and stage/phase transitions.
- (3) They are in agreement with Ritchie that the Precision Matrix data is ready for statistical analysis.

**vi) Ford Comments:**

- (1) There are lab-to-lab differences with the Precision Matrix data.
  - (a) These differences have been noted in the most recent conference call minutes issued by SWRI.
- (2) There will be a follow-up meeting to discuss these minutes.
- (3) These differences will not impact the validity of the Precision Matrix data.
- vii) D. Boese confirmed that the statisticians are in agreement with Ritchie's opening remarks.

**c) "Ready for Matrix" Vote:**

**i) A. Ritchie Comments:**

- (1) The Surveillance Panel will need to decide today whether or not to proceed with the statistical analysis of the Precision Matrix data.
- (2) The Sequence VH is a strong sludge test that still appears to discriminate varnish.

**ii) Official Motion:**

- (1) Ford made the motion to vote on the readiness of the Precision Matrix.
- (2) *Motion:* "The Surveillance Panel directs the statisticians to analyze the (22) operationally valid tests from the Sequence VH Precision Matrix for precision and discrimination, recommend a new LTMS system, and report back to the Surveillance Panel with the output of the LTMS system."
- (3) Equivalency between the Sequence VG and VH tests will be done separately from this statistical study.

**iii) Vote Results:**

- (1) The vote received unanimous approval.
- (2) *Voting parties:* Intertek, Chevron, Southwest, Afton, Lubrizol, Ford, OHT, Ashland, Haltermann, Exxon, TMC, Infinium and Shell
- iv) D. Boese expects the statistical review to be complete within 3-weeks.

**d) Forward Action Plan for Precision Matrix:**

- i) Ford would like the engineers to review the statistical analysis results prior to June 29<sup>th</sup>.
  - (1) The Surveillance Panel will need to hold a vote to approve the LTMS system around this time.

- (2) The TMC stated that a conference call vote should be sufficient (as long as the statisticians do not identify any major problems).
- (3) A face-to-face meeting will need to be held in Detroit if a major problem is identified.
- ii) Ford plans to hold a vote for the AOAP to approve the Sequence VH test on July 13<sup>th</sup>.
  - (1) Intertek reminded the group that the AOAP panel will need to see a summary document prior to this meeting.

**e) Haltermann Update on Fuel:**

- i) They have 220,000 gross gallons of Sequence V fuel available.
- ii) This equates to approximately 170,000 accessible gallons.
- iii) Haltermann will conduct a trend analysis within the next week to project when this inventory will be depleted.
  - (1) They expect that the next fuel batch will need to be started in the 1<sup>st</sup> quarter of 2018.
- iv) SWRI expects a significant increase in fuel usage once the Sequence VH test is approved.

Action Items	Person responsible	Completion Date

Follow-up Notes/Updates:	Initials	Date Added