



B07 Volatility Surveillance Panel Update

25 September 2019

Amy Ross

Agenda

- Role Call
- Antitrust Statement
- Review and Approve meeting minutes from last meeting
- Panel updates
 - LTMS Data dictionary update for Proc D Orifice selection
 - VOLB12 disposal
 - D5800 Revision update
- Stats team request – *recommendations presented by Elisa Santos*
 - Calibration interval
 - Daily QC Oil database retention
 - Calibration fluid SD
 - LTMS document updates, TBD; Ln transformation guidelines, new field for transformed value(s) in data dictionary
- Discussion Items
 - Procedure conversion and adjustments
 - Cup/Lid pairing requirement for Procedure D

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Read Antitrust Statement

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Meeting Minutes 05 Dec 2018 (emailed 06 Dec 2018)

- **The panel moved to accept VOLD18 as replacement daily QC check oil for VOLD14, using the targets and acceptance range proposed; New targets: mean 12.06%, SD 0.46, range 11.2-13.0%. Effective December 19th, 2018;** (Motion 1: Tom Schofield, Shawn Dubecky); labs may continue to report VOLD14 QC data until inventory is consumed.
- Panel members discussed the potential positive and negative consequences of implementing an industry-level D5800 severity adjustment in which severe test stands may (re)gain calibration status while test stands operating mildly may be penalized and pushed out of the population; As an adjacent matter, panel members discussed the definition of a “new” test stand upon replacement of critical parts; Current LTMS guidelines surrounding protocol following replacement of a pump, thermocouple or firmware shall be reviewed by a subset of SP members with focus on definition of “critical parts”, and identification of units which are deemed “new” and the associated history of those units.
- WK65475 revision of D5800 method D to include TMC calibration and API licensing processes will be cancelled and added to the concurrent D5800 work item, led by Greg Miller and Larry Spino, to correct errors in procedure D.
- The panel reviewed a statement which defines the requirement of fixed cup/lid pairing within a TMC calibration cycle; **The panel moved to issue a TMC Technical Memo with this statement, in addition to adding the statement to the D5800 standard, under Appendix X4.** (Motion 2: Tom Schofield, Robert Stockwell); The Volatility Surveillance Panel chair will create a work item, or coordinate with Greg Miller and Larry Spino to include in the concurrent D5800 work item, to implement the statement. The proposed statement which was presented to the panel:
 - It is the perception of the D02.B0.07 Volatility Surveillance Panel that maintaining crucible cup and lid pairings is a measure of good practice which minimizes variability. Under authority of the D02.B0.07 Volatility Surveillance Panel, it has determined that for D5800 Procedure B tests to be considered operationally valid on TMC calibrated instruments, crucible cups and lids are to be initially paired by the testing lab and then remain paired for the entire life-cycle of the crucible set. Moreover, labs may implement and retire paired crucible sets as needed but once initially paired for calibration and candidate product testing, crucible cups and lids must remain paired for all subsequent test runs. Cups and lids shall be engraved or indelibly marked to maintain unique identification. Note that the use of multiple cup-lid pairings does not affect the TMC calibration status of an instrument.
- In light of discussion surrounding the potential implications of cup/lid pairings on air flow and thus test result variability, the panel is in agreement that Procedure D orifice selection shall be monitored; **The panel moved to add a field to the LTMS data dictionary (Vessel Reactor) to record orifice diameter (mm, 4SF).** (Motion 3: Tom Schofield, Shawn Dubecky)
- It was brought to the attention of the panel that the statement within the LTMS document that allows rigs which have lapses in calibration greater than nine weeks, to “...be treated as a new instrument and historical data for the stand would not be included for instrument charting going forward.” had not been removed, despite previous requests by the panel; **The panel moved to have this section, 42-B-1-b, removed in its entirety.** (Motion 4: Tom Schofield, Mike Birke)

Motion to accept – Tom Schofield; Second – Shawn Dubecky

Panel Updates

- In the Dec2018 term, the panel voted to require fixed cup/lid pairings for the duration of the calibration interval; TMC issued a technical memo 12/21/2018; shortly after that, PAC began serializing cups and lids which satisfies the indelible mark requirement of the memo sent
- The LTMS data dictionary has been updated to capture orifice size for Procedure D test results
- Calibration fluid VOLB12 has been discarded, as the standard deviation for this fluid is no longer comparable to the other calibration fluids
- Tech Memo sent 08/27/2019 notifying members of D5800 standard update

Panel Updates

- D5800 items resubmitted (G. Miiller and L. Spino), currently in final ballot
 - *Revised Scope Section 1*
 - *Moved Procedure A—Woods Metal Section 6 to Annex A1*
 - *Moved Procedure C—Selby-Noack Volatility Test Section 25 to Annex A2*
 - *All footnotes and notes renumbered during editing.*
 - *Added FIG.1 Automated Non-Woods Metal Noack Evaporative Apparatus to Section 6*
 - *Added footnote 4 - Equipment available from ISL (PAC LP), B.P. 70285 14653 Version, France to Section 6*
 - *Revised Procedure A and Appendix X1.11 – Updated to read CEC Oils.*
 - *Revised Section 25 to include Procedure D.*
 - *Procedure D from required reference run to recommended.*
 - *Added matching pair for top/bottom in procedure B.*
 - *Added Noack reference oil NCO-12.*

Comment by Tom Schofield regarding improper placement of Note 24 (cup/lid pairing requirement) in latest D5800 standard update; AR to follow up with Greg Miiller/Larry Spino

Stats Team Request

- A request was submitted by T. Schofield and A. Ross:
 - Calibration interval review
 - LTMS database retention of daily QC Oil checks
 - Standard deviation of calibration fluids
 - Ln transformation of data sets

Assessments and recommendations presented by Elisa Santos (Slides attached to email)

- LTMS guidelines updates, ***pending panel approval of transition:***
 - Updated values; updated alarm limits
 - Procedure (transformation, SA, transformation)
 - LTMS data dictionary update

Reference oil	Target Mean w/ LN Xform	Standard deviation w/ LN Xform
VOLC12	2.6523	0.0465
VOLD12	2.5264	0.0465
VOLE12	2.8175	0.0465

Stats Team Request

- Graphical representations of overlaid daily QC and calibration fluid test data (apparatus A8 being the demonstrative unit) indicated that the 30 day calibration interval is appropriate and that reducing the calibration interval was not recommended; a panel member asked if extending the calibration interval was reviewed— Elisa Santos and Tom Schofield reiterated the original recommendation from the stats team for a calibration interval of 30 days, based on the original assessment of the calibration data [no greater than 30 days]
- Upon review of data presented by Elisa Santos, the recommendation to maintain 2 years of daily QC oil in the LTMS database was made
- Motion by Matt Schlaff to accept stats team recommendation of maintaining 30 day calibration interval and to retain daily QC check data for 2 years in LTMS database; Second—Tom Schofield

Stats Team Request

- Elisa Santos presented analysis of a dataset for calibration fluids (VOLC12, VOLD12, VOLE12; ~1200 data points) using two models – untransformed and transformed into natural log scale
 - Model 1: analysis of the untransformed data set, including all instrument models for all fluids, resulted in a SD of 0.69; when the SD was estimated for the individual calibration oils, unequal variability was observed which indicated the need to transform to a Ln scale; it was also noted that the Ln transformation is being applied to engine test data and to MRV data results from ROBO testing
 - Model 2, transforming the dataset to the natural log scale yielded a SD of 0.0469; there was an observed improvement in distribution of variability for the three calibration fluids; overall, the targets and ranges for the calibration fluids were not significantly different than the current targets (see slide 8 and slides presented by E. Santos);
 - a panel member noted that the ISL instrument models (NCK2 and NCK2 5G) showed improvement with the Ln transformation while the Tannas units (SVT1 and SN2) showed minimal/no improvement in equalizing the variability; panel member(s) requested reanalysis of the SD values in separate subsets by instrument manufacturer/model; the SD values for the subsets (ISL and Tannas) were quite different; it was acknowledged that the Tannas dataset (~170 data points at time of extract) is much smaller than the ISL subset (~1000 ISL data points)

Stats Team Request

- Model 2, Natural log transformation discussion notes, continued
 - the panel expressed the need for more information and time to review the data presented in the teleconference before taking a vote; follow-up discussions will be held amongst the stats team to reevaluate the dataset, including further investigation of the instrument model subsets; another Volatility Surveillance panel meeting will take place after those discussions are complete
 - Tom Schofield has preemptively drafted the amendments to the LTMS guidelines which would be needed, should the natural log transformation be accepted by the panel; the amendments include the procedure for transformation of test result, generation and application of the SA, and the newly allocated fields to record transformed values; it was also noted that the entire population of active rigs would need new SAs generated the day this transition is made effective

Discussions

- A question was raised by a panel member regarding the procedure when applying a translation factor between procedures and a severity adjustment; TMC has advised that the severity adjustment be applied and then the translation factor, in that order;
Discussion: Should this “order of operations” be defined in the LTMS document?
 - Discussion about placing this clarification in the LTMS guidelines

Motion by Shawn Dubecky to add “order of operations” to LTMS guidelines; Second – Tom Schofield
- Cup/Lid Pairing requirement for Procedure D? Differentiation in observed results?
 - Discussion from panel members regarding lack of data to make an informed recommendation
- Other topics of discussion?