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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

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May 25, 2001

Please forward any comments to:
Charlie Leverett
PerkinElmer Automotive Research
Email: charlie.leverett@perkinelmer.com

Unconfirmed Minutes from the ASTM L-38/Sequence VIII Surveillance Panel Held in San Antonio, TX May 22, 2001

Call to Order

Chairman Zack Bishop opened the Surveillance Panel (SP) and the agenda was distributed and is shown in Attachment #1.

Select Action Item and Motion Recorder

Ben Weber of Southwest Research Institute, volunteered to be the action item and motion recorder for all Surveillance Panel meetings.
Charlie Leverett of PerkinElmer AR volunteered to be the permanent L-38/VIII secretary.

Approval of Minutes

The minutes for the November 15, 2000 meeting were unanimously approved as-is. Future minutes including this meeting will no longer be mailed, it was decided that they would be posted on the TMC Web Site at:

ftp://tmc.astm.cmri.cmu.edu.docs

These minutes will be in a pdf format. Any questions concerning the access of these documents should be directed to TMC. Once these minutes are posted the secretary will inform all members and others currently on the mailing list by Email

of these postings. Please forward any changes that may occur to your Email address to:

charlie.leverett@perkinelmer.com

Technical Guidance Committee (TGC) Report

Gordon Farnsworth gave a report of the highlights for the recent (4/18/01) TGC meeting. A copy of this report is shown in Attachment # 2. The full report may be accessed from the TMC Web Site using the following link:

ftp://tmc.astm.cmri.cmu.edu/docs/Technical%20Guidance%20Committee/Meetin

TMC Report

Mike Kasimirsky presented the Semiannual Reports for the L-38 and Sequence VIII. The time period for this report is October 1, 2000 to March 31, 2001. Due to the lack of activity (4 reference test for the period) in the L-38 the SP accepted his report without a formal presentation. The L-38 report is shown in attachment #3. The Sequence VIII report for this period may be found at:

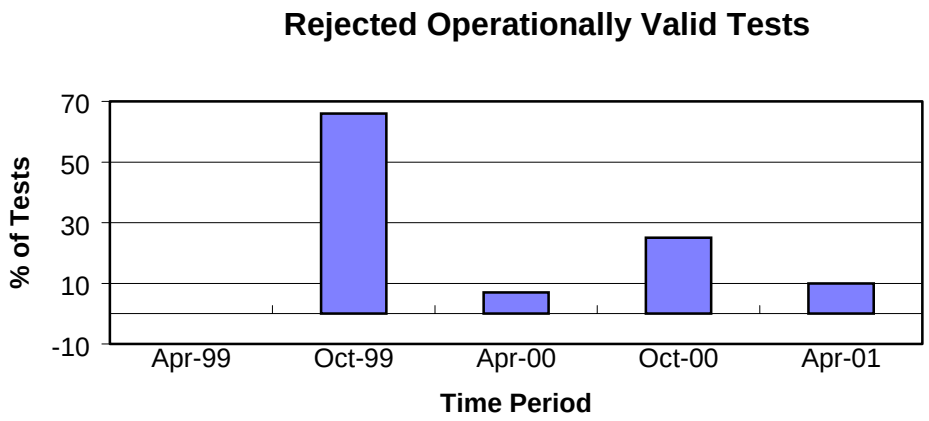
ftp://tmc.astm.cmri.cmu.edu/docs/gas/sequenceviii/semiannualreports/VIII-04-2001.pdf

A summary of this report is:

- Laboratory/Stand distribution shows three labs, one of these three did not have any activity during this period.

Calibration Start Outcomes	TMC Validity Code	No. of Tests
Operationally and Statistically Acceptable	AC	9
Failed Acceptance Criteria	OC	1
Stand/Engine failed to successfully calibrate, engine abandoned and data pulled	MC	0
Operationally Invalid (Laboratory Judgment)	LC	0
Operationally Invalid (Laboratory & TMC Judgment)	RC	0
Aborted	XC	1
Total		11

Donated & Industry Support Outcomes	TMC Validity Code	No. of Tests
none		
Total		0

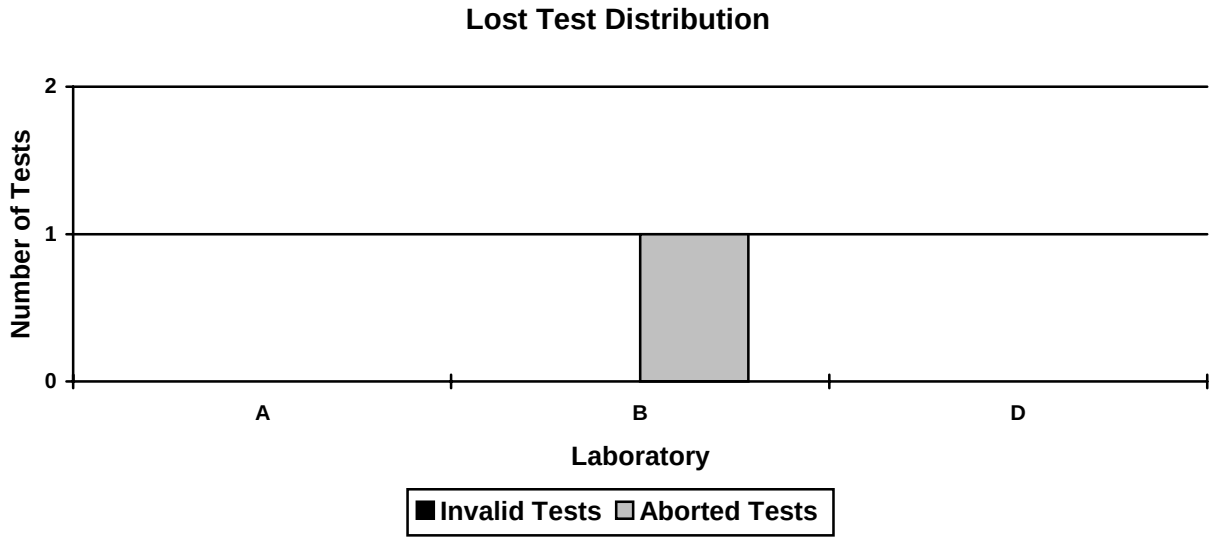


One test failed this period for mild BWL results. This test also sounded a Laboratory EWMA Precision Warning as well as Shewhart Precision Warning Alarm.

There were no LTMS Deviations this period. There have been no deviations from the LTMS since its introduction in 1999.

Lost Test Summary

One test was lost this period due to excessive downtime. Aborts and Operationally Invalid tests by laboratory are summarized with the following chart:



Mike also reported on the Seq. VIII Strip Viscosity Round Robin (RR). The background on this item is that last year TMC was requested to do a RR on stripped viscosity in the Seq. VIII. The data was presented at the November 15, 2000 SP meeting. The results are shown below:

Lab	Vis.@100
A	8.94
B	9.08
D	8.9
Mean	8.97
Std. Dev	0.09

The SP requested that the RR be expanded where one lab would strip the sample and the three labs would only measure the viscosity. The results are shown below:

Lab	Vis.@100
A	10.30
B	10.36
D	10.33
Mean	10.33
Std. Dev.	0.03

Discussion: The data lead us to believe that the stripping technique may differ between labs, but it was also noted that the two data sets were from different oil. *See Motion & Action Items List (#2) for resolution.*

RSI Report

Rick Oliver gave this report.

Seq. VIII Semi-Annual Report
Six-Month Period Ending March 2001

SEQUENCE VIII STATUS OF REPORTED TESTS

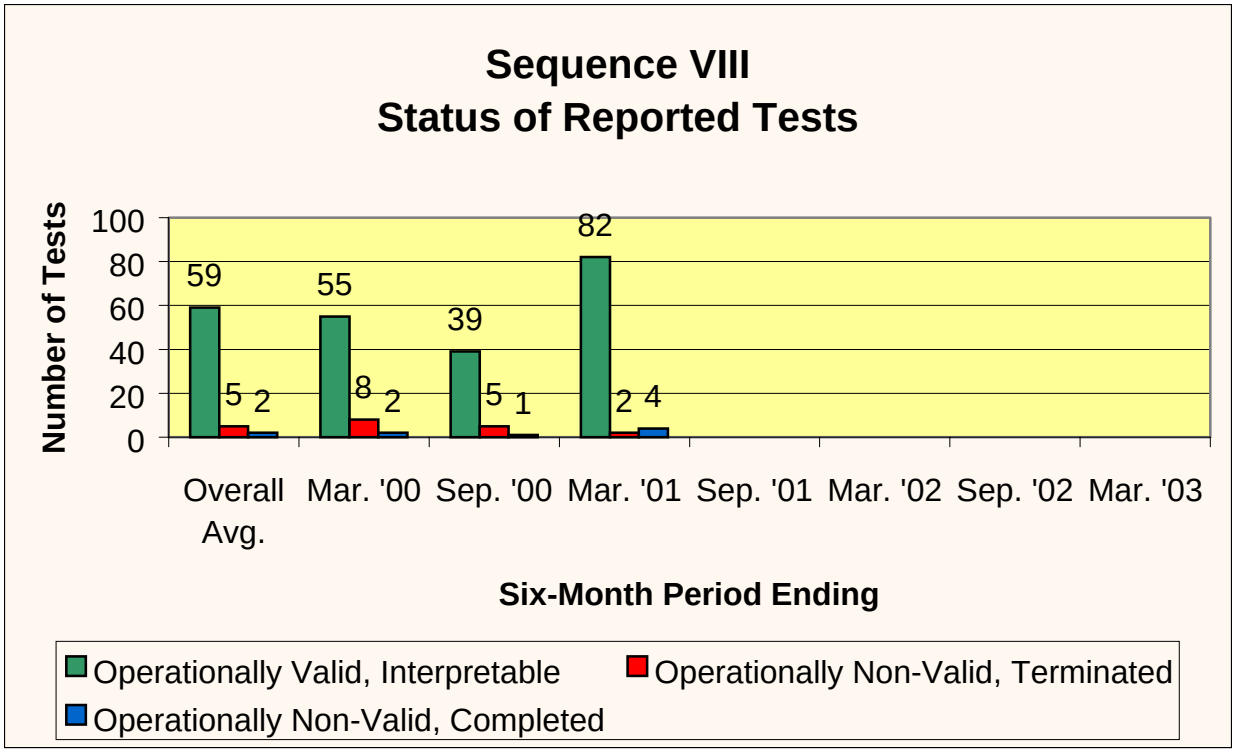
STATUS	N	PERCENT
Operationally Non-Valid, Terminated	2	2.2
Operationally Non-Valid, Completed	4	4.6
Operationally Valid, Interpretable	82	93.2
Total Reported Tests	88	100.0

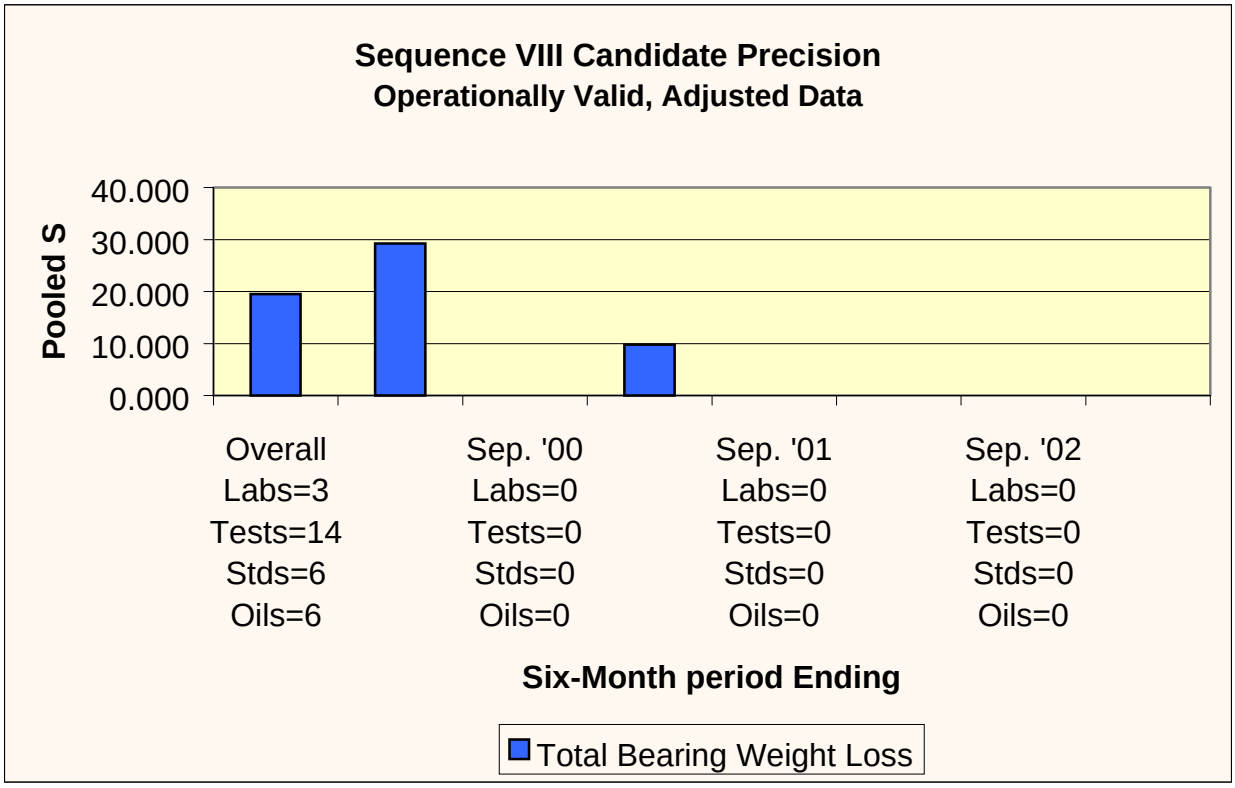
CAUSES FOR LOST TESTS	N
Down Time	1
Oil Loss	1
Support Equipment Problems	2
Operator Error	2

SEQUENCE VIII PRECISION

COMPONENTS OF REPLICATE DATA BASE	N
Number of Tests	8
Number of Oils	3
Number of Labs	3
Number of Stands	5
Number of Stand/Engine Combinations	5
Number of Severity Total Bearing Weight Loss	0

VARIABLE	Pooled s	R
Total Bearing Weight Loss, Non-Adjusted	9.76	27.31
Total Bearing Weight Loss, Adjusted	9.76	27.31


Sequence VIII
Status of Reported Tests
Number of Tests
100
80
60
40
20
0
59
5
2
55
8
2
39
5
1
82
2
4
Overall Avg.
Mar. '00
Sep. '00
Mar. '01
Sep. '01
Mar. '02
Sep. '02
Mar. '03
Six-Month Period Ending
Operationally Valid, Interpretable
Operationally Non-Valid, Terminated
Operationally Non-Valid, Completed


Sequence VIII Candidate Precision
Operationally Valid, Adjusted Data
Pooled S
40.000
30.000
20.000
10.000
0.000
Overall
Labs=3
Tests=14
Stds=6
Oils=6
Sep. '00
Labs=0
Tests=0
Stds=0
Oils=0
Sep. '01
Labs=0
Tests=0
Stds=0
Oils=0
Sep. '02
Labs=0
Tests=0
Stds=0
Oils=0
Six-Month period Ending
Total Bearing Weight Loss

CPD Report
Beto Araiza of TEI gave this report.

- Crankshafts: TEI has produced a new batch of crankshafts and ran 1 reference with acceptable results on the original prototype. Additional cranks will be available within a few weeks.
- Liners: The first liner sample was rejected due to "metal problems". It is expected that TEI will have liners in inventory in 6-8 weeks.
- Pistons: Beto passed around their rough piston sample, they expect to have a few available for prove out testing soon. Once approved they should have pistons available within 3-4 weeks. *See action items list (#6) for prove out details*.
- Connecting Rods: The latest batch of con rods will be available within 3-4 weeks.
- Connecting Rod Bearings: Lot # 7 of the 11-93 batch is almost depleted, Lot #8 will be the next lot available. *See Motions for changes concerning rod bearing usage.*

O& H Sub Panel Report
Charlie Leverett stated that he had sent out an Email to the O&H members February 21, 2001asking if the panel had any items that need to be covered. No response was received so the panel did not have any activity for this period.

Fuel Supplier Report (Seq. VIII)
Bob Rumford of Haltermann gave the report, which is summarized as follows:

*28,588 Saleable Gallons Available
26,435 Gallons Shipped in the last 6 months
4,406 Average usage/month
* Est. 6 months Inventory

Bob noted in the Seq. IVA meeting that when the inventory got down to approximately 15K their customer service department would survey their customers to determine how much is needed for next blend.

Discuss possibility of changing Sequence VIII LTMS to Stand System
The chairman noted that he had received a call concerning this subject and had discussed it with some of the industry statistical advisors and they had no problem with the stand concept. After a lengthy discussion it was decided that the TMC should investigate. *See Action item list (#7).*

Discuss Ballots concerning Seq. VIII and L-38
Zack gave a summary of the two ballots currently out concerning these test types and no major comments came out of this discussion. It was noted that the ballot

concerning the use of D6278 as an "alternative" may have been misinterpreted. It was stated that the L-38 and Seq. VIII are still need for the core technology, the D6278 would be used were only the 10 hr strip viscosity is required in a read across case.

Review of Scope and Objectives
The Sequence VIII Scope and Objectives as revised at the 05/22/01 meeting are:

SCOPE AND OBJECTIVES
VIII SURVEILLANCE PANEL

SCOPE

The Sequence VIII Surveillance Panel is responsible for the Surveillance of the Sequence VIII test procedure (ASTM D XXXX-XX). This panel works in conjunction with **Test Engineering Inc. (TEI)** who supplies the test hardware. Improvements in the test operation, test monitoring and test validation will be accomplished through continual communications with the test hardware supplier, the **ASTM Test Monitoring Center**, the **Technical Guidance Committee**, and the **ACC Monitoring Agency**. The panel will maintain an up-to-date evaluation of the precision of the VIII reference oils and will report this precision and test severity levels to the **D02.BO.01 Oil Classification Panel** and section. These combined efforts will help to assure that the Sequence VIII test will continue to provide the industry with a precise method for evaluating a lubricant's ability to protect against copper-lead bearing weight loss and to evaluate the viscosity stability of multi-viscosity-grade oils.

OBJECTIVES

Work with TGC to bring one to two GF-3 oils into the VIII LTMS.	November, 2001
Review Strip Viscosity Round Robin Data.	November, 2001

Motions and Actions Items as Recorded at the Meeting

1. The TMC L-38 report was accepted as written

2. Perform a 1006 viscosity round robin on the original 4oz sample that will be stripped by PerkinElmer. TMC will also see what they can find on the stripping procedure and viscosity measurement technique during their next lab visits.
3. Delete the requirement to recalibrate the stand/engine when a new bearing lot is introduced for tests run during a reference period. You must deplete the previous bearing lot before using the next lot. Effective for tests starting on or after 5/23/01. Charlie Leverett/Dwight Bowden – Passed unanimously.
4. The TMC Sequence VIII report was accepted as written
5. ACC report was accepted as presented in its new and improved format
6. TEI will sponsor at least two tests; one on each reference oil to prove the acceptance of the new pistons provided by TEI. The O&H panel will review this data and make a recommendation to the Surveillance Panel regarding acceptability.
7. TMC will review the Sequence VIII reference data and determine how many lab precision alarms have occurred and then investigate the stand effects, if any. The data will be distributed to the Sequence VIII Surveillance Panel for review and possible future action.
8. It was recommended that the test labs collect data if they are interested in changing 12.2 in the Test Method concerning the time requirement of measuring the bearings for weight loss.
9. The Chairman will contact John Shipinski about his L-38 leaded fuel aviation needs.
10. A motion was made to have the O&H panel mark the report forms as to what data they want listed on the TMC Website and in what priority. The O&H will have final authority to implement their actions. Passed unanimously.
11. A motion was made to have the TMC to create a new comma delimited header file for every comma delimited data file. Passed unanimously.

Old/New Business

No additional Old Business or New Business

Next Meeting

At the time the tentative date for the next meeting will be November 2001 in San Antonio, TX.

Adjournment

The meeting was adjourned at 15:45. The attendance roster is shown in Atachmen#4.

ATTACHMENT #1

AGENDA
L-38 / VIII Surveillance Panel Meeting
Southwest Research Institute - San Antonio, Texas
May 22, 2001

- Call to Order
- Select Action Item and Motion Recorder
- Membership Changes
- Approval of Minutes from Last Meeting (November 15, 2000)
- TGC Report - Gordon Farnsworth
- TMC Report - Mike Kasimirsky
- RSI Report - Rick Oliver
  - Non-Interpretable test discussion
- CPD Report - Beto Araiza
- O&H Report - Charlie Leverett
- Fuel Supplier Report - Robert Rumford
- Discuss possibly changing Sequence VIII LTMS to Stand System (currently Lab System)
- Review time frame requirement in Sequence VIII procedure re BWL determinations (section 12.2)
- Discuss HDEOCP Ballot (April 23, 2001) to replace L-38 with Sequence VIII in API categories CF, CF-2, CF-4 and CG-4
- Discuss PCEOCP Ballot (April 6, 2001) to use ASTM D6278 as an alternative to Sequence VIII 10-hr. Stripped Viscosity
- Review Scope & Objectives
- Old Business
- New Business
- Next Meeting
- Adjournment

ATTACHMENT #2

Technical Guidance Committee
April 18, 2001 meeting Highlights

Rater Calibration:
A rater calibration procedure was agreed and details of the procedure are available from Zack Bishop.

- Raters classified by skill level (Category I or II)
- Attend at least one rating workshop per year (make-up sessions allowed in rare instances where attendance not possible)
- Maintain records of internal training classification

Precision for API Conformance Audit calculations:
The TGC recommendation is that "The LTMS Severity Adjustment standard deviation for the specific test type be used and that AMAP testing should only be scheduled during periods when the specific test is in control, as defined by the industry and laboratory LTMS precision charts".

Consensus ratings:
There was agreement that all test procedures should have consistent statements regarding consensus ratings. The statement agreed is "If multiple ratings are deemed necessary of a given part or parts, consensus rating may be used according to the following: The raters shall be from the same laboratory in question or an outside rater if required (no category 1 rater available in the lab). No averaging of ratings is permitted. Only one rating value is to be reported and is to be agreed to by the original rater involved. Any consensus rating shall be documented in the comment section of the test report.".

TMC Web Site:
The TGC approved a recommendation that all reference oil test data, valid or invalid, be posted on the TMC web site. The TMC will post this information as an Excel file.

GF-3 Category reference Oil:
The TGC agreed that a GF-3 reference oil should be pursued and introduced in all GF-3 sequence tests. Anyone wishing to provide an oil to the TMC should supply supporting test data to the TMC by June 1. The only current candidate is TMC 1008. The data for all reference candidates received will be blind coded and circulated to the TGC membership for review. One candidate will be selected.

ATTACHMENT #3

Memorandum: 01-044

Date: April 27, 2001

To: Zack Bishop, Chairman, L-38 Surveillance Panel

From: Michael T. Kasimirsky

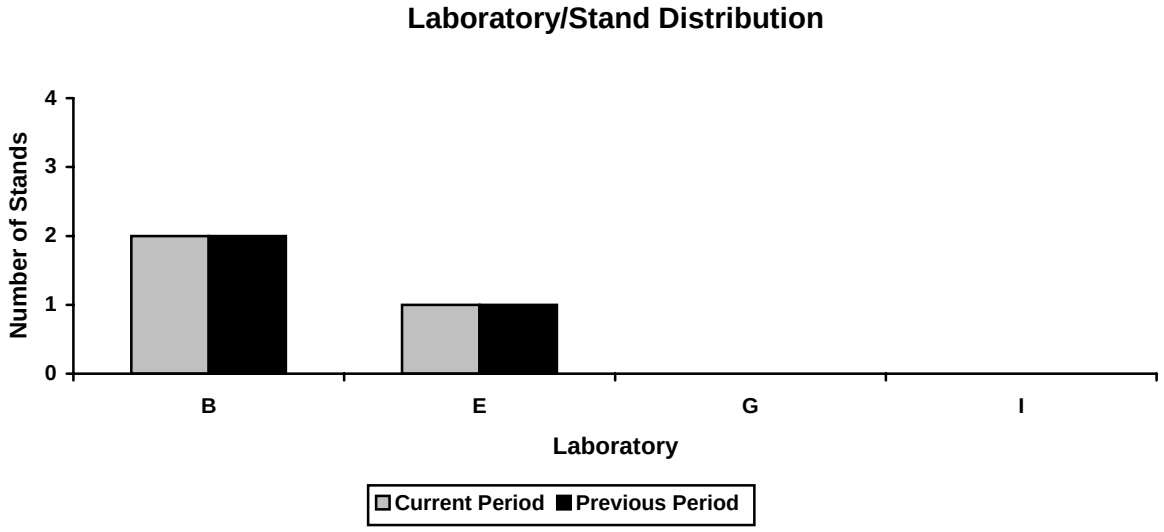
Subject: L-38 Semiannual Report: October 1, 2000 to March 31, 2001

The following is a summary of L-38 reference oil tests that were reported to the Test Monitoring Center during the period from October 1, 2000 to March 31, 2001.

Lab/Stand Distribution

	Reporting Data	Calibrated as of March 31, 2001
Number of Laboratories:	2	2
Number of Stand/Engine Combinations:	3	3

The following chart shows the laboratory/stand distribution:



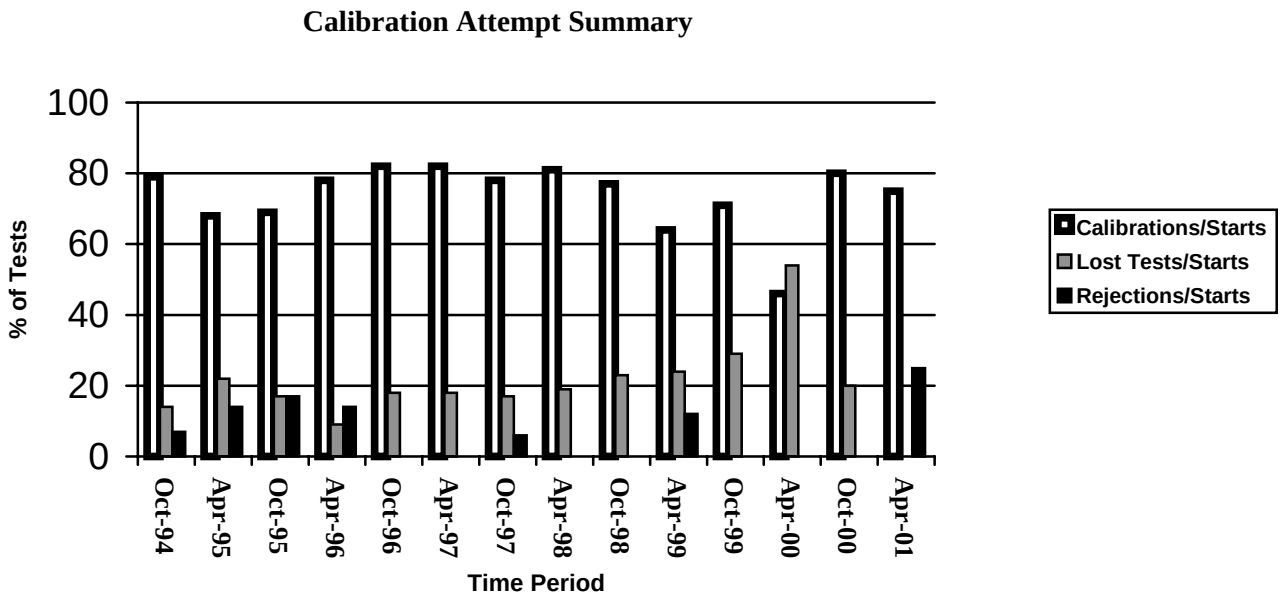
The following summarizes the status of the reference oil tests reported to the TMC:

Calibration Start Outcomes	TMC Validity Code	No. of Tests
Operationally and Statistically Acceptable	AC	3
Failed Acceptance Criteria	OC	1
Operationally Invalid (Laboratory Judgment)	LC	0

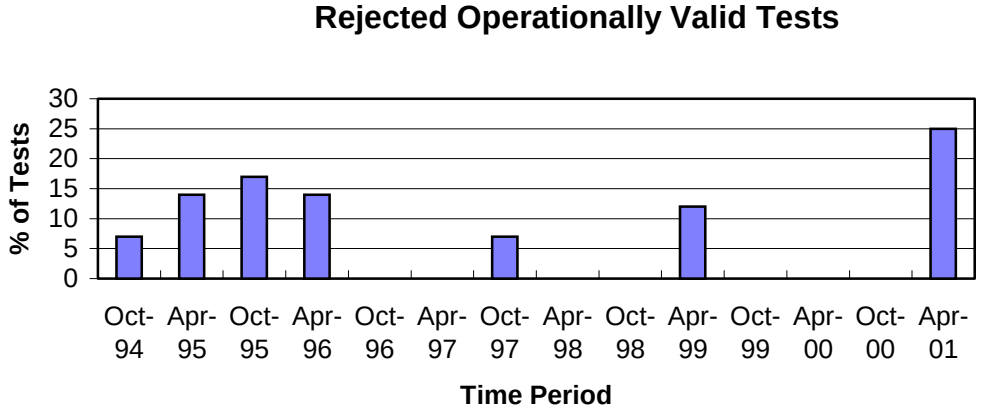
Operationally Invalid (Laboratory & TMC Judgment)	RC	0
Aborted	XC	0
Total		4

Donated & Industry Support Outcomes	TMC Validity Code	No. of Tests
none		
Total		0

Calibrations per start, lost tests per start and rejection rates are summarized below:



The calibration per start rate is worse than last report period. The rejected test rate is much higher this period. There were no lost tests last period. Given the reduced test activity level, none of these changes are significant.

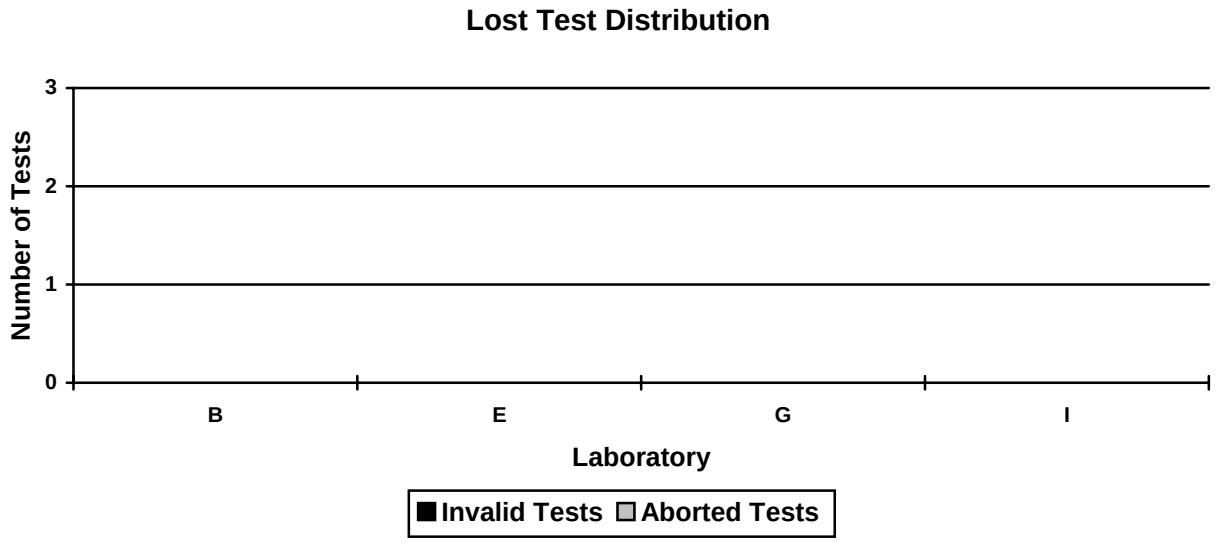


One test failed for the period due to severe TBWL.

There were no LTMS Deviations this period. There have been 11 deviations from the LTMS since its introduction in 1992.

Lost Test Summary

No tests were lost this period. Aborts and Operationally Invalid tests by laboratory are summarized with the following chart:



Information Letters

No Information Letters were issued this period.

L-38 ASTM Standard Test Method Update

The revised L-38 Test Method, D5119-00, which incorporates all the changes included through Information Letter No. 30, has been approved and is available from ASTM Headquarters.

Severity and Precision Analysis

Below is a summary of the average Δ/s, pooled standard deviation, and average Δ in reported units for the tests reported during this period. Also below is a summary of the average Δ/s value for all laboratories reporting data during this period.

Industry Severity Summary			
Parameter	Average Δ/s	Pooled standard deviation (degrees of freedom)	Shift in mg, at the 40 mg level
TBWL	0.57	11.15 (df=2)	5.13

Average Δ/s by Laboratory	
Lab	TBWL
B	-0.46
E	1.62
G	-
I	-

Test Severity and Precision

The Industry TBWL mean Δ/s is 0.57 severe for this report (see Figures 1 and 2). This equates to 5.13 mg at the 40-mg level. The precision estimate has degraded since the last report period (pooled s = 11.15 mg). The industry experienced a single-point precision alarm during the period (see Figures 1 and 2).

This alarm was caused by the test that failed due to severe TBWL results. Subsequent testing cleared the alarm. Precision for the period has been within limits. Figures 3 and 4 plot bearing weight loss mean delta/s and pooled standard deviation respectively, for the current report period compared with the previous report periods. Figures 5 and 6 graphically illustrate the lead content, in ppm, in the bearing storage oil. The highest concentration of lead reported this period was 90 ppm.

Hardware

No hardware changes were made this period.

Reference Oils

Oil	TMC Inventory, In gallons	TMC Inventory, in tests	Laboratory Inventory, in tests	Estimated Life
701-1	48	24	1	10+ years[1]
702	322	161	5	10+ years
703	0	0	0	Not in use
704	0	0	0	6 months
704-1	506	253	5	10+ years
1006	498	249	6	10+ years[2]

[1] 10% usage oil
[2] Multiple test area reference oil; total TMC inventory shown

MTK/mtk

Attachments

ATTACHMENT #4

ASTM L-38 / SEQUENCE VIII SURVEILLANCE PANEL MEMBERSHIP LIST

Name	Address	Phone/Fax/Email	Attendance
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