



# Test Monitoring Center

6555 Penn Avenue  
Pittsburgh, PA 15206-4489  
(412) 365-1000

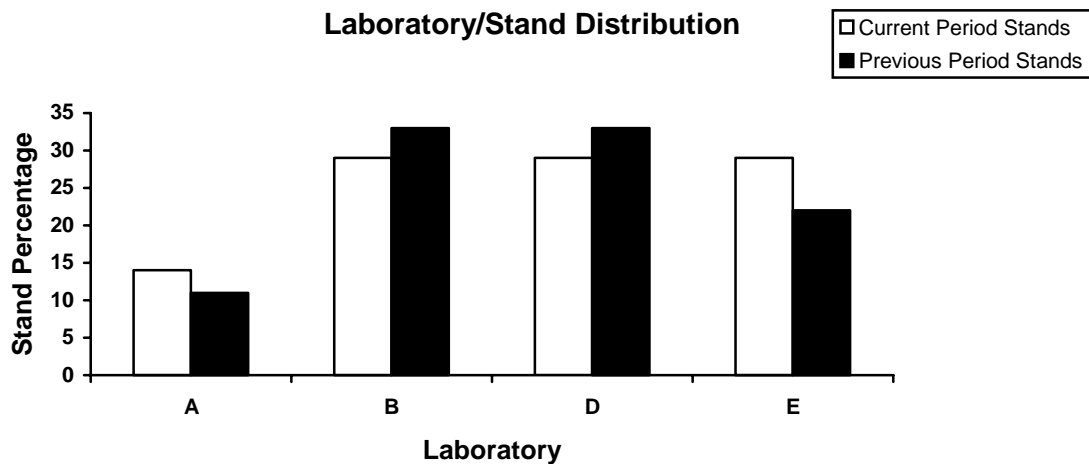
MEMORANDUM: 02-084  
DATE: October 14, 2002  
TO: Dale Smith, Chairman, L-33 Surveillance Panel  
FROM: Donald Lind  
SUBJECT: L-33 Reference Test Status from April 1, 2002 through September 30, 2002

The following is a summary of the L-33 reference oil tests that were reported to the Test Monitoring Center during the period April 1, 2002 through September 30, 2002.

### Lab and Stand Summary

	Reporting Data	Calibrated as of 9/30/02
Number of Laboratories	4	1
Number of Storage Boxes	14	1

The following chart shows the laboratory/stand distribution:

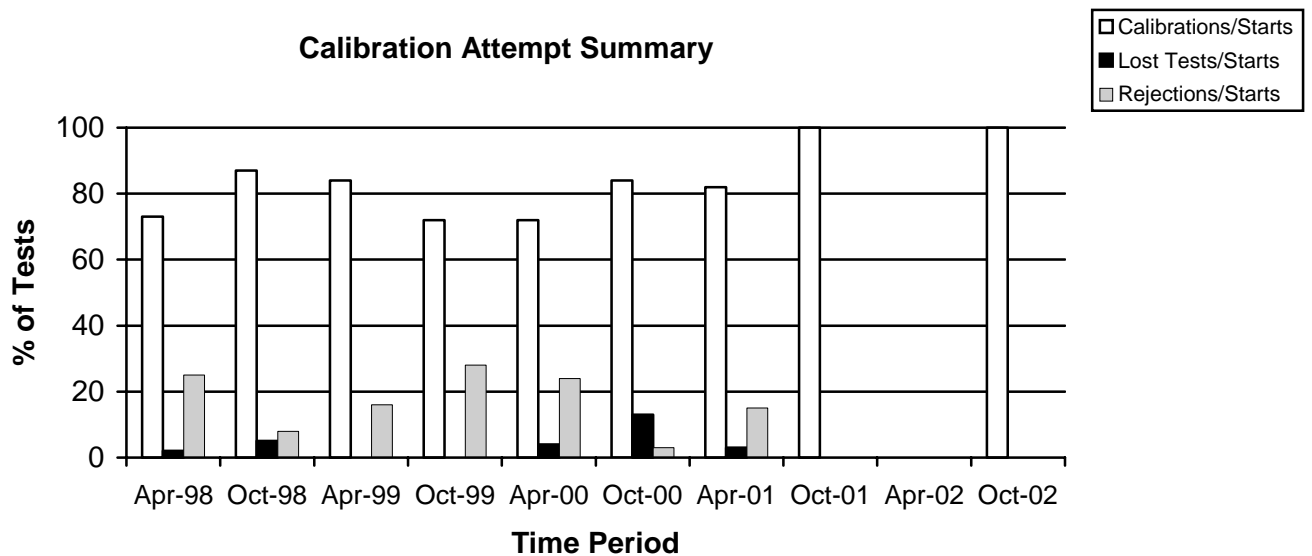


The following summarizes the status of the reference oil tests reported to the TMC:

	TMC Validity Codes	No. of Tests
Operationally and Statistically Acceptable	AC	13
Failed Acceptance Criteria	OC	0
Operationally Invalid (Lab Judgement)	LC	0
Operationally Invalid (Lab / TMC Judgement)	RC	0
Aborted	XC	0
<b>Total</b>		<b>13</b>

There were 32 additional tests conducted to evaluate the previous severity problem and to evaluate new hardware.

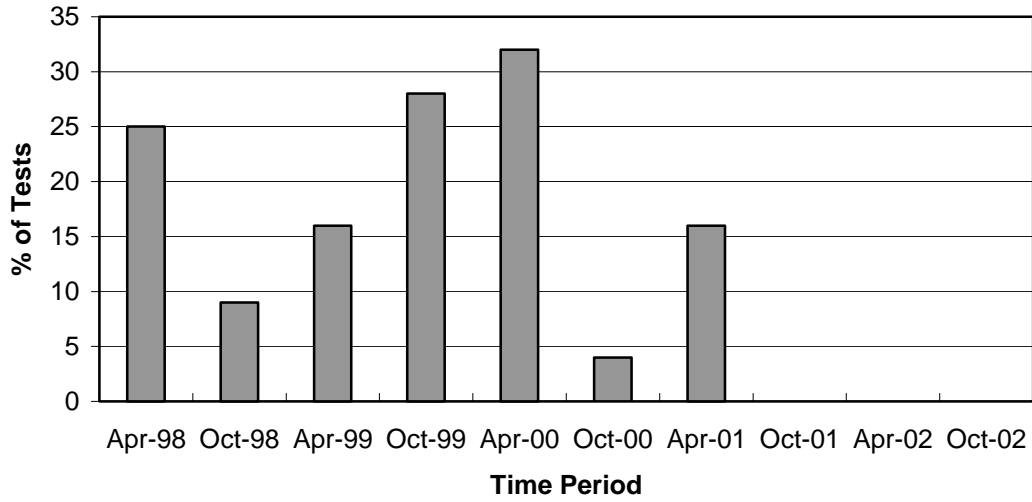
Calibrations per start, lost tests per start and rejection per start rates are summarized below:



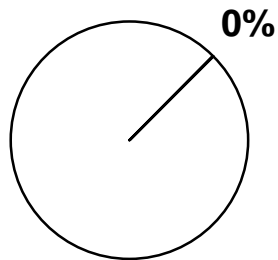
The calibrations per start, lost test per start, and rejected test per start rates compares well historically.

Again, due to the low calibration test activity no comparisons between the current period rates and past periods is meaningful.

### Rejected Operationally Valid Tests



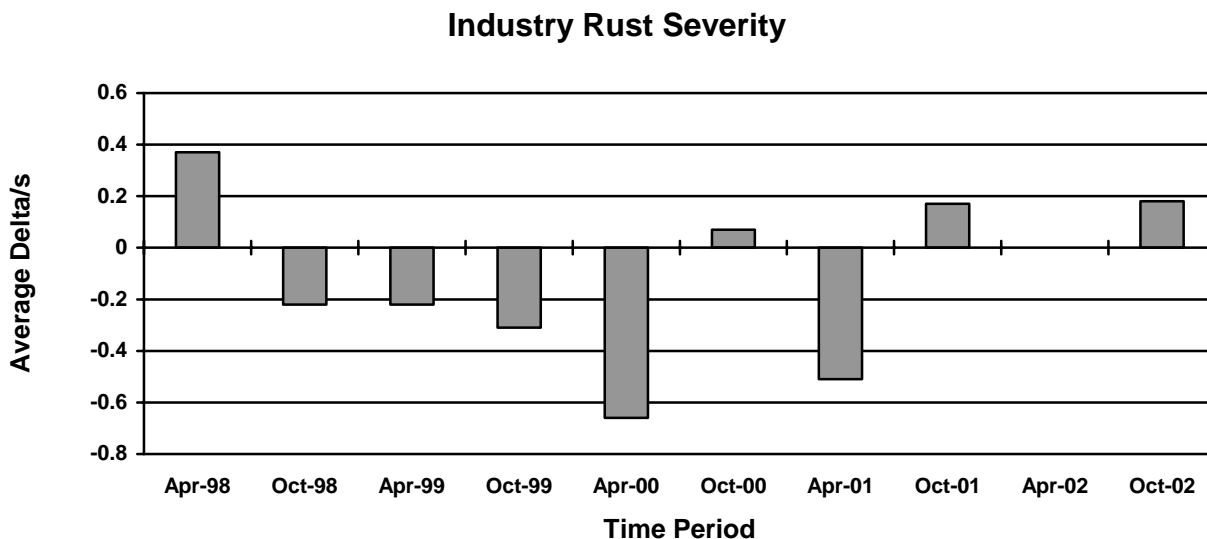
### Distribution of LTMS Stand Alarms



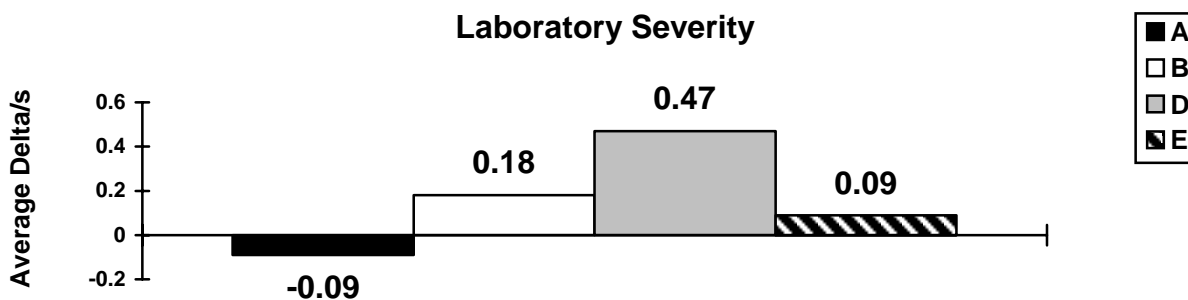
There were no tests that failed the acceptance criteria this report period.

Severity and Precision

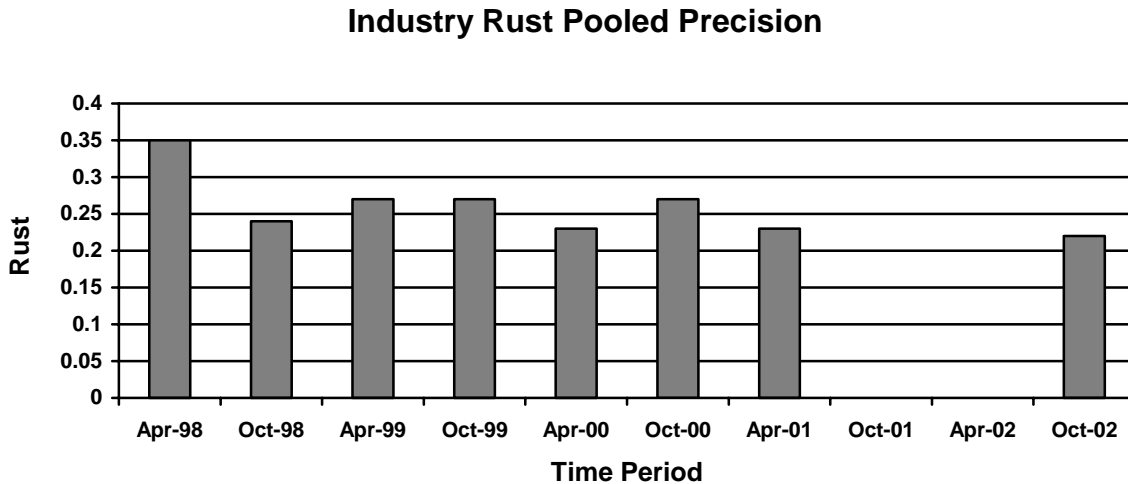
A total of 13 operationally valid test results were reported this period. These tests were conducted on gear batch V99.1. The mean delta/s for this period is 0.21 mild, which equates to 0.05 merits. Severity is slightly mild of target as indicated in the chart below and Figure 1. The Comparison with previous periods are shown below:



Shown below is a summary of the average rust  $\Delta/s$  for all laboratories reporting data this report period.



The industry precision estimate for this report period is 0.23 merits (pooled s). Comparisons of previous periods are shown below:



Industry Control Charts

Figure 1 is the Industry EWMA severity and precision chart of tests completed through September 30, 2002. There were no EWMA severity or precisions alarms triggered this report period.

TMC Lab Visits

There were no lab visits this report period.

Information Letters

There were three information letters issued this report period. Information Letter 02-02, Sequence Number 16 was issued on May 28, 2002, Information Letter 02-03, Sequence Number 17 was issued on June 12, 2002 and Information Letter 02-04, Sequence Number 18 was issued on June 26, 2002. Items changed with these information letters are documented in the L-33 timeline (Table 1).

Reference Oils

The following is a listing of reference oils with the expected number of tests remaining at the Test Monitoring Center and at the testing laboratories. L-33 reference oils are shipped in quantities of 1 gallon per test.

Reference Oil	Lab A	Lab B	Lab D	Lab E	TMC
123	9	9	8	4	31
123-1	5	1	1	4	0
123-2	3	4	5	5	253
151-3	4	8	8	4	*

\* 339 Gallons (Multiple test area usage)

## Attachments

c: L-33 Surveillance Panel

<ftp://www.astmtmc.cmu.edu/docs/gear/133/semiannualreports/133-10-2002.pdf>

J. L. Zalar

F. M. Farber

**Listing of Tables and Figure Included as Part of This Report to the L-33 Surveillance Panel**

Table 1 is the L-33 Industry Timeline

Figure 1 is the Industry Control Chart for L-33 Rust

**Table 1**  
**L-33 Industry Timeline**

Effective Date	Topic	Information Letter Number
19930901	Ultrasonic Parts Cleaning Requirement	1
19930901	Abrasive Blasting w/ AL Oxide Required	1
19930901	Differential Housing Cover Plate Preparation Requirement	1
19930901	Functional Surface Preparation Requirement	1
19930901	Pre-test Inspection for Rust Requirement	1
19930901	Acetone Usage Report Note Requirement	1
19931221	Report Forms and Dictionary Version 19931129	2
19941020	Test Stand Calibration Schedule Change	3
19941020	Report Forms and Dictionary Version 19940909	3
19950820	Revised Definition of Corrosion Rust and Light Rust	4
19950820	Report Forms and Dictionary Version 19950509	4
19960312	Revised Time Limit for Parts Rating	96-1
19960506	Report Forms and Dictionary Version 19960329	96-2
19970602	Rating Scale Revisions	97-1
19970602	Discrimination Oil Test Requirement	97-1
19970602	Area Weighting Factors for Reference Oil Tests	97-1
19970602	Report Forms and Dictionary Version 19970411	97-1
19970602	New TMC Address and Test Reporting Clarifications	97-1
19970602	Discrimination Oil Test Correction	97-2
19970602	Rust Rating Correction	97-2
19970602	Report Forms and Dictionary Version 19970609	97-3
19980303	Report Forms and Dictionary Version 19971218	98-1
19980701	Pinion torque requirements for assembled unit	98-2
19990104	Removal of Discrimination Oil Test Requirement	99-1
19990430	Reference Oil 121-1 Targets 45 Test Update	
20000419	Approval of Teflon Gasket and Water Column for V99.1 Hardware Testing	00-1, Sequence No. 13
20000730	Standardization of Abrasive Blasting Equipment	00-2, Sequence No. 14
20010411	Calibration of Test Stands Suspended Until Severity Trend Issues Resolved	
20020222	Revision of the L-33 Test Procedure	02-1, Sequence No. 15
20020610	Report Form Changes	02-2, Sequence No. 16
20020510	Percent Deviation Implementation	02-3, Sequence No. 17
20020617	Severity Adjustment Implementation	02-4, Sequence No. 18
20020617	New Weighting Factors	02-4, Sequence No. 18



# L33 INDUSTRY OPERATIONALLY VALID DATA

## ORIGINAL RUST CORROSION MERIT RATING

