



# Test Monitoring Center

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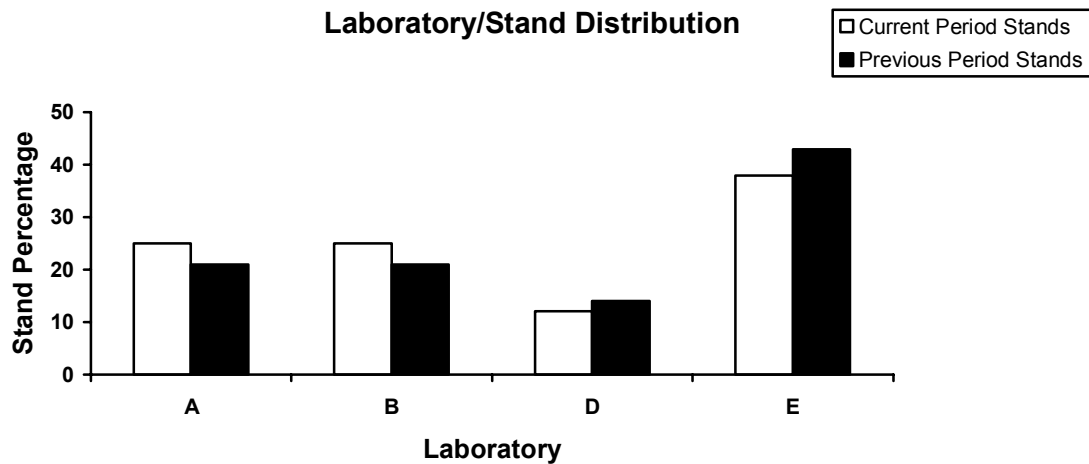
MEMORANDUM: 04-016  
DATE: April 16, 2004  
TO: Dale Smith, Chairman, L-33-1 Surveillance Panel  
FROM: Donald Lind  
SUBJECT: L-33-1 Reference Test Status from October 1, 2003 through March 31, 2004

The following is a summary of the L-33-1 reference oil tests that were reported to the Test Monitoring Center during the period October 1, 2003 through March 31, 2004.

### Lab and Stand Summary

	Reporting Data	Calibrated as of 3/31/04
Number of Laboratories	4	4
Number of Storage Boxes	8	8

The following chart shows the laboratory/stand distribution:

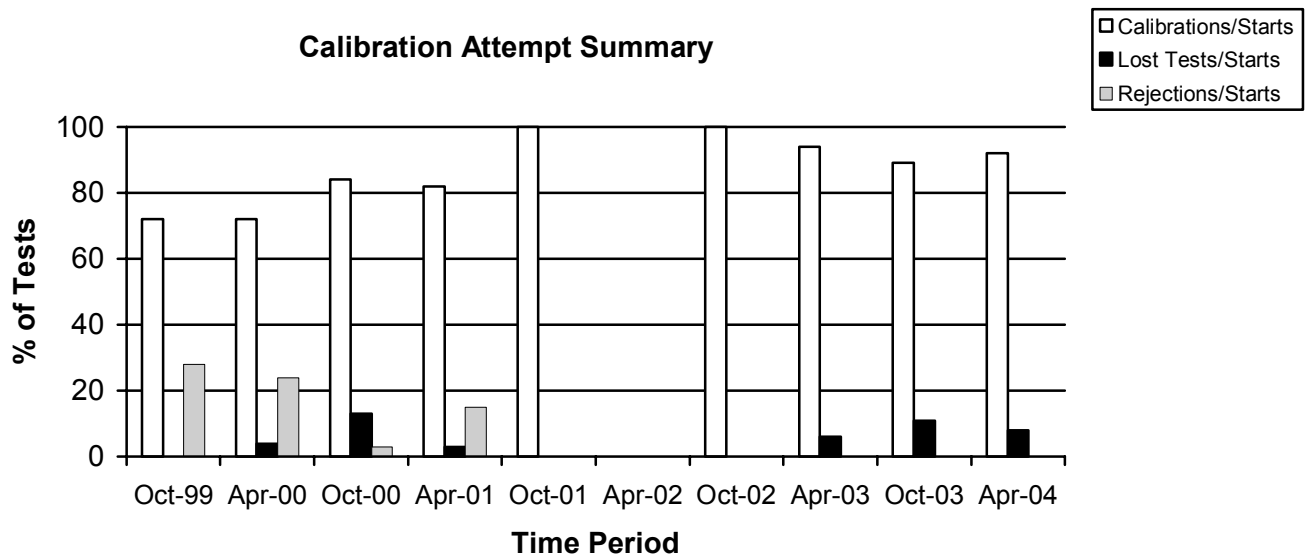


The following summarizes the status of the reference oil tests reported to the TMC:

	TMC Validity Codes	No. of Tests
Operationally and Statistically Acceptable	AC	12
Failed Acceptance Criteria	OC	0
Operationally Invalid (Lab Judgement)	LC	1
Operationally Invalid (Lab / TMC Judgement)	RC	0
Aborted	XC	0
<b>Total</b>		<b>13</b>

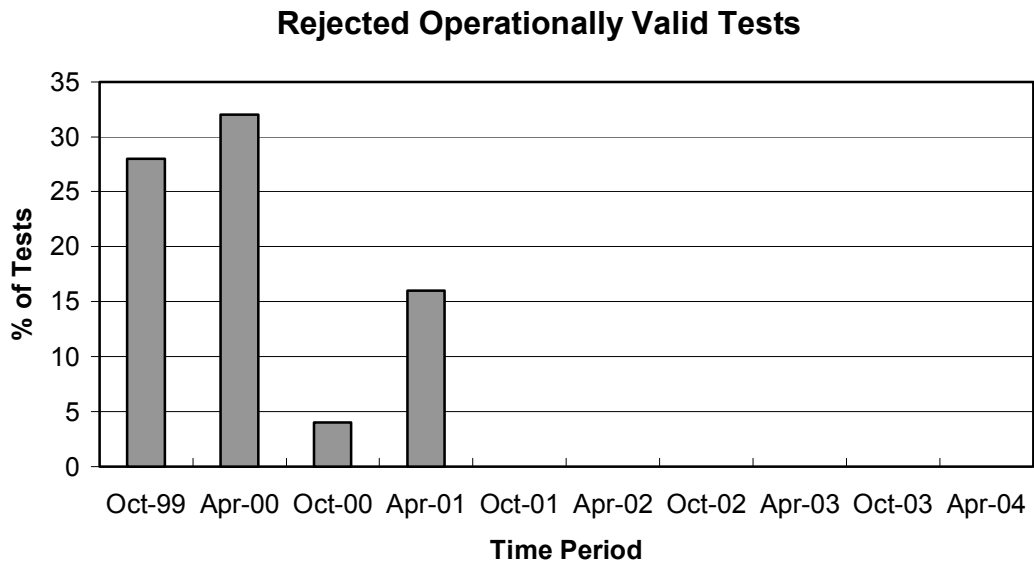
There were no additional tests conducted this report period.

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

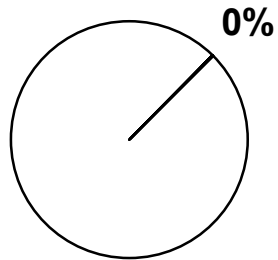


The calibration per start rate has increased slightly when compared to the previous period. The lost test per start rate has decreased slightly with respect to the previous period and the rejected per start rate has remained the same with respect to the previous period.

There were no statistically rejected tests this report period.



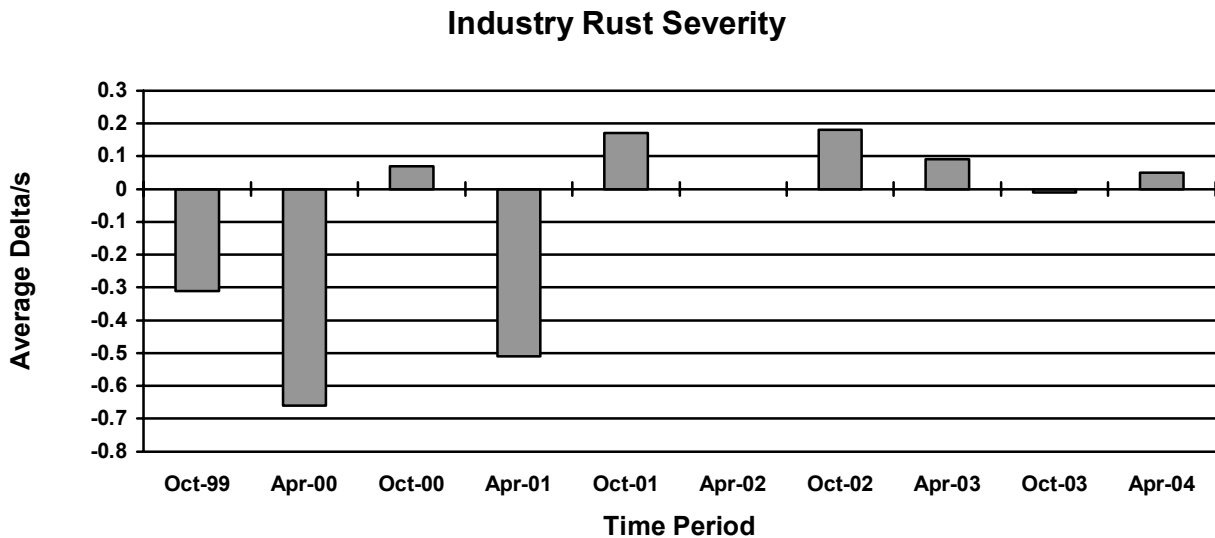
### Distribution of LTMS Stand Alarms



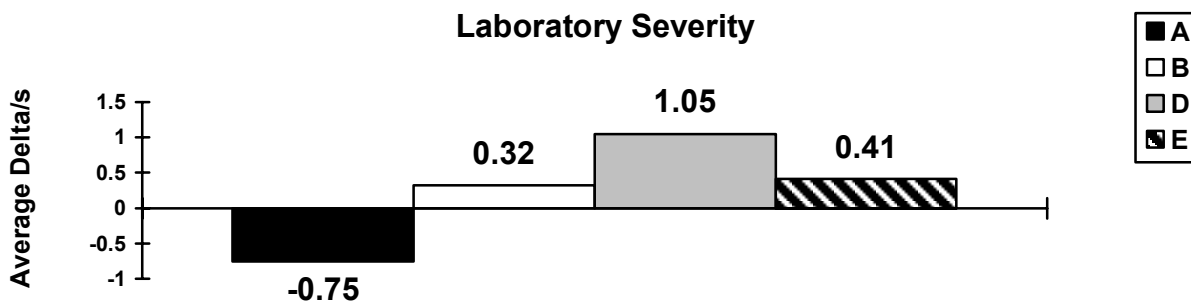
There were no tests that failed the acceptance criteria this report period.

Severity and Precision

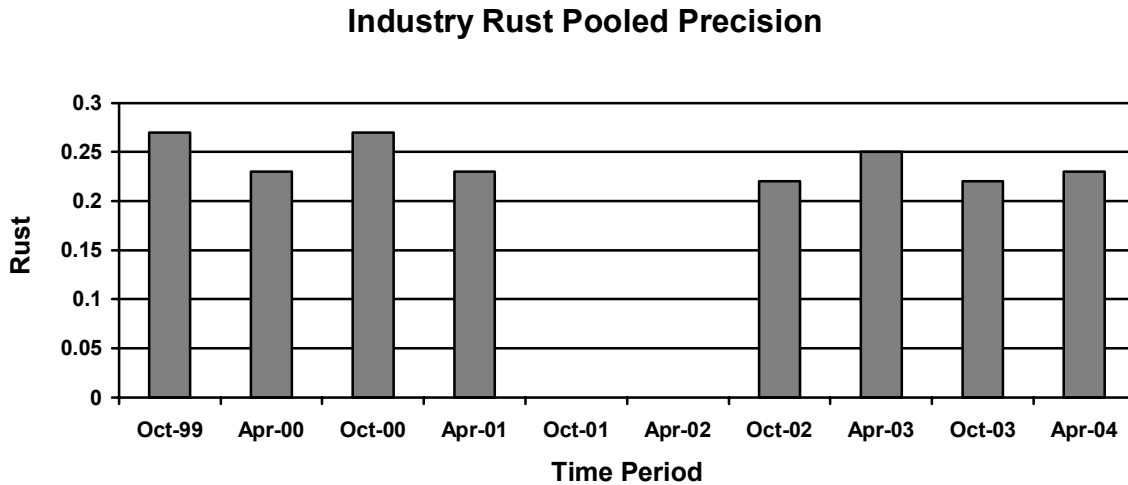
A total of 12 operationally valid test results were reported this period. The mean delta/s for this period is 0.05 mild, which equates to 0.01 merits. Of the 12 operationally valid tests reported this period, four were conducted on V99.1 hardware (-0.75 severe) and 8 on V01.1 (0.44 mild). The four tests on V99.1 hardware were run at the same lab. Severity for the 12 operationally valid test results is slightly mild of target as indicated in the chart below and Figure 1. Figure 2 and Figure 3 are the Industry EWMA severity and cusum plots for reference oils 123 and 151-3. Reference oil 123 is trending mild while reference 151-3 is trending severe.



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 with previous periods are shown below:



Industry Control Charts

Figure 1 is the Industry EWMA severity and precision chart of tests completed through March 31, 2004. There were no EWMA severity or precisions alarms triggered this report period.

TMC Lab Visits

There were two lab visits conducted this report period. During the lab visits two discrepancies were noted. Both discrepancies were at the same lab. The discrepancies were; there was no documentation for the pressure relief system calibration as outlined in Section 10.2.3, and there were missing stand instrument calibration records as well as stand instrument calibrations conducted two to three weeks prior to a reference oil test. Sections 10.2.1, 10.2.2, and 10.2.3 state that the instrument calibration shall be done immediately prior to each stand calibration sequence.

Information Letters

There were no information letters issued this report period.

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-33-1 reference oils are shipped in quantities of 1 gallon per test.

Reference Oil	Lab A	Lab B	Lab D	Lab E	TMC
123	5	6	8	6	0
123-2	9	9	5	5	241
151-3	9	10	10	7	*

\* 190 Gallons (Multiple test area usage)

## Attachments

c: L-33-1 Surveillance Panel

<ftp://ftp.astmtmc.cmu.edu/docs/gears/l331/semiannualreports/l331-04-2004.pdf>

J. L. Zalar

F. M. Farber

Distribution: Email

**Listing of Tables and Figures Included as Part of This Report to the L-33-1 Surveillance Panel**

Table 1 is the L-33-1 Industry Timeline.

Figure 1 is the Industry Control Chart for L-33-1 Rust, Reference Oils 123 and 151-3.

Figure 2 is the Industry Control Chart for L-33-1 Rust, Reference Oil 123 Only.

Figure 3 is the Industry Control Chart for L-33-1 Rust, Reference Oil 151-3 Only.

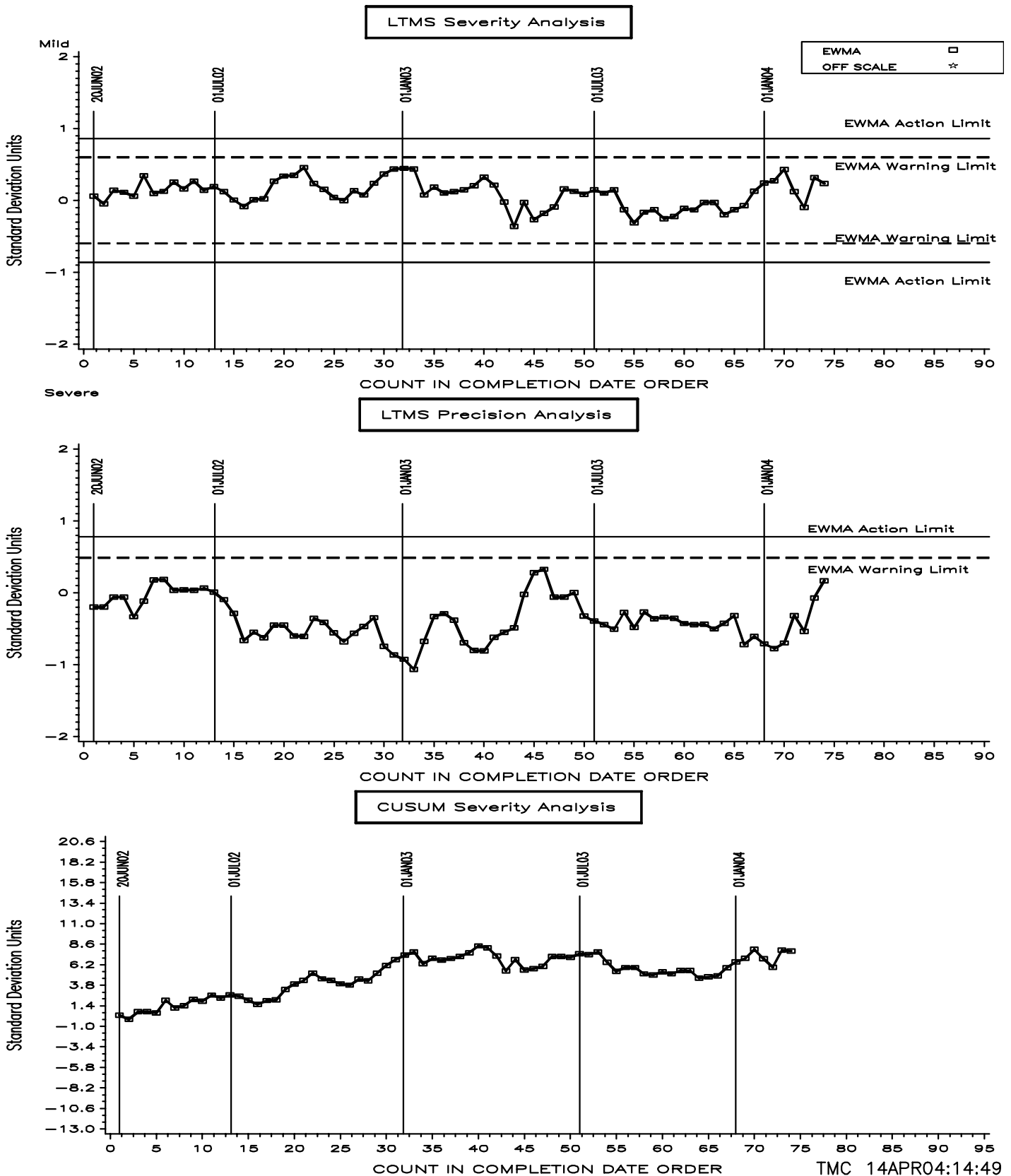
**Table 1**  
**L-33-1 Industry Timeline**

Effective Date	Topic	Information Letter Number
20030106	New L-33-1 test procedure	02-1
20030507	Revised test unit assembly procedure	03-1
20030507	Revised specification for the abrasive blasting cabinet regulator	03-1
20030507	Revised electric fan motor RPM specification	03-1
20030507	Non-interpretable tests	03-1
20030507	Revision to light rust definition	03-1
20030507	Editorial changes	03-1
20030916	Bearing replacement	03-2
20030916	Addition of Dana bulletin No. 5304-2	03-2
20040101	Change in solvent specification	03-2

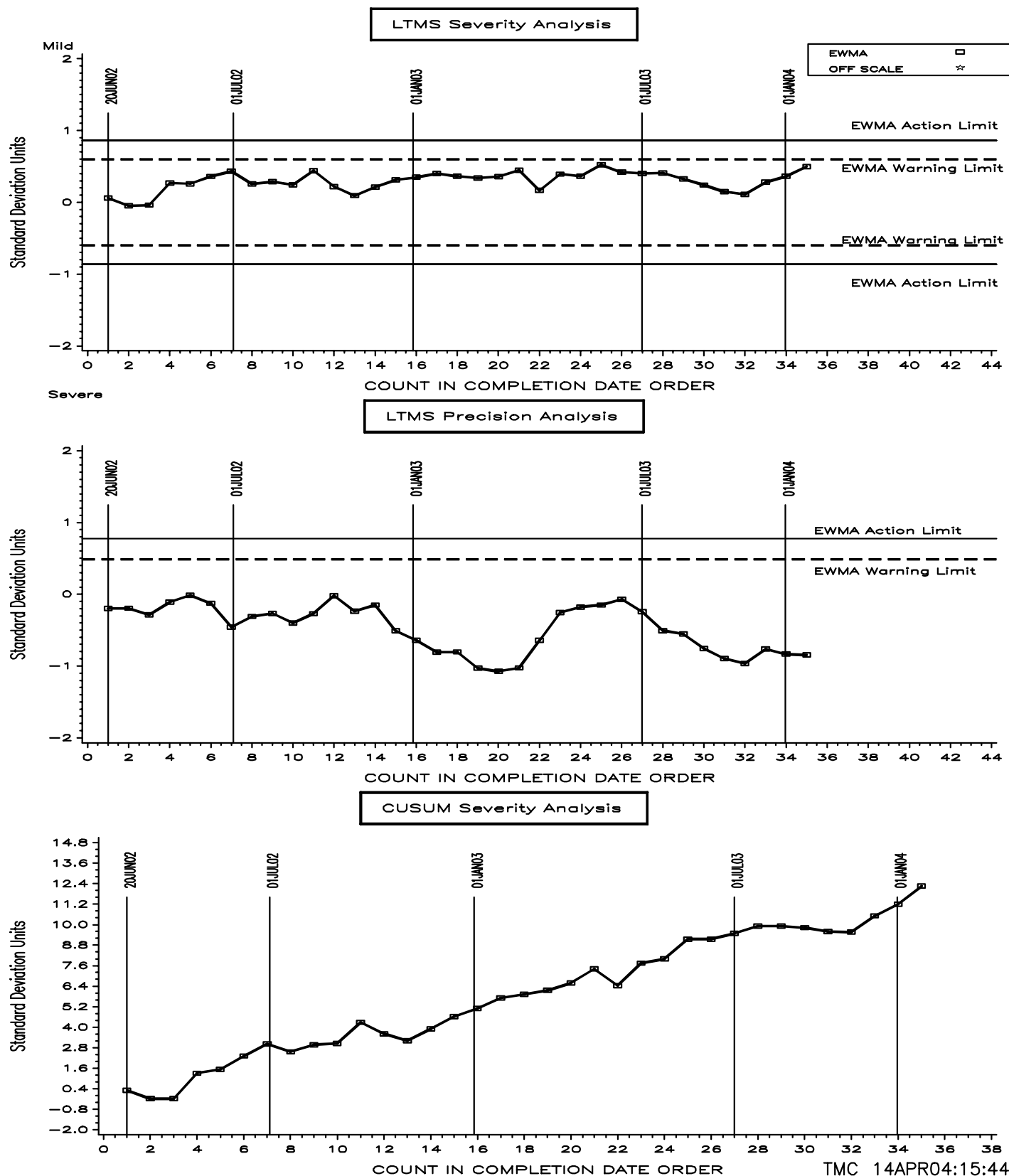


L-33-1 INDUSTRY OPERATIONALLY VALID DATA

ORIGINAL RUST CORROSION MERIT RATING



L-33-1 INDUSTRY OPERATIONALLY VALID DATA  
 Reference Oil 123  
 ORIGINAL RUST CORROSION MERIT RATING



L-33-1 INDUSTRY OPERATIONALLY VALID DATA  
 Reference Oil 151-3  
 ORIGINAL RUST CORROSION MERIT RATING

