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

MEMORANDUM: 05-058

DATE: October 3, 2005

TO: Dale Smith, Chairman, L-33-1 Surveillance Panel

FROM: Donald Lind

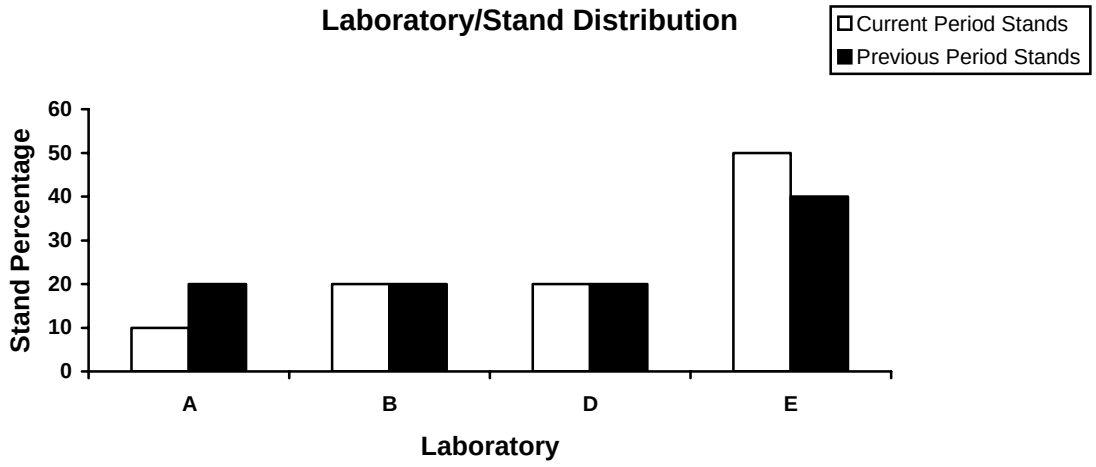
SUBJECT: L-33-1 Reference Test Status from April 1, 2005 through September 30, 2005

The following is a summary of the L-33-1 reference oil tests that were reported to the Test Monitoring Center during the period April 1, 2005 through September 30, 2005.

Lab and Stand Summary

	Reporting Data	Calibrated as of 9/30/05
Number of Laboratories	4	3
Number of Storage Boxes	10	6

The following chart shows the laboratory/stand distribution:

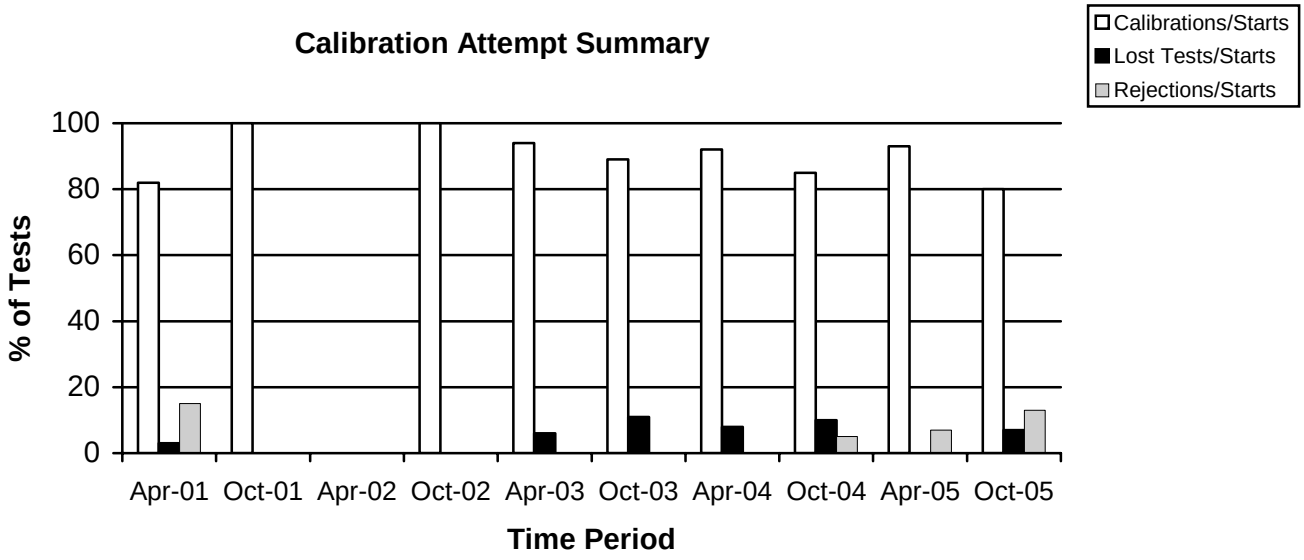


The following summarizes the status of the reference oil tests reported to the TMC:

	TMC Validity Codes	No. of Tests
Operationally and Statistically Acceptable	AC	12
Failed Acceptance Criteria	OC	2
Operationally Invalid (Lab Judgement)	LC	1
Operationally Invalid (Lab / TMC Judgement)	RC	0
Aborted	XC	0
Total		15

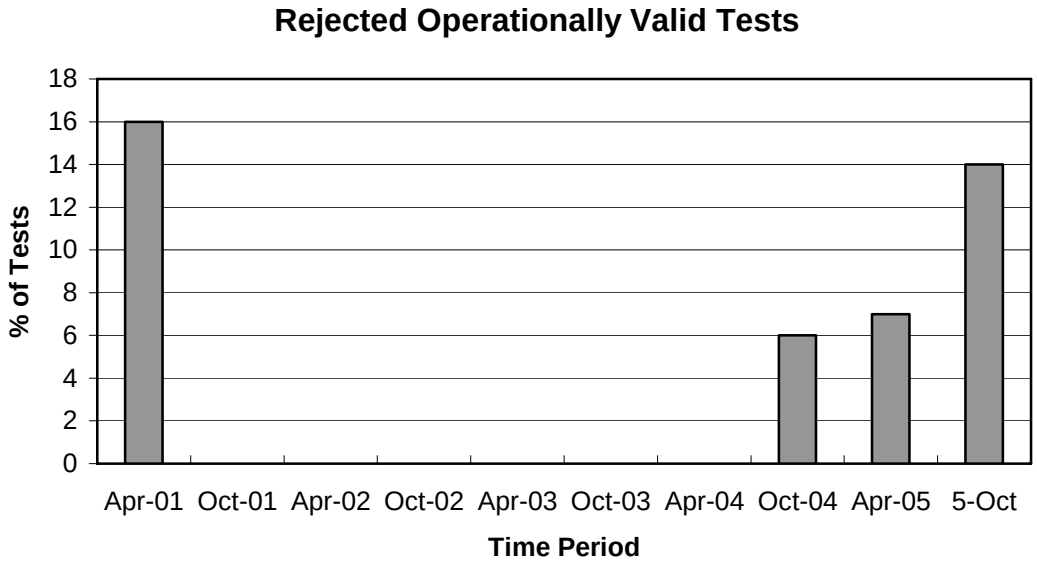
There were no additional tests conducted this report period.

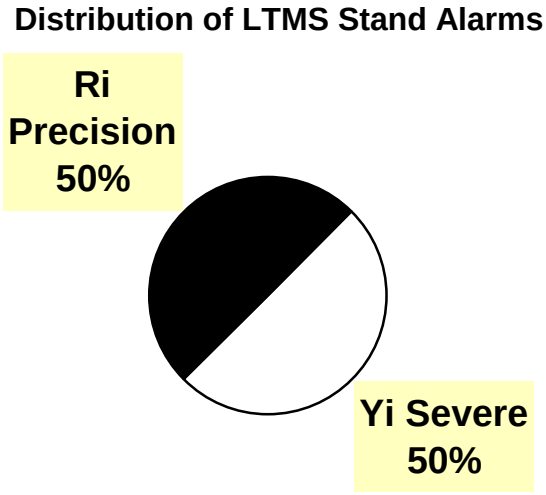
Calibrations per start, lost tests per start and rejection per start rates are summarized below:



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

There were two statistically rejected operationally valid tests reported this report period.

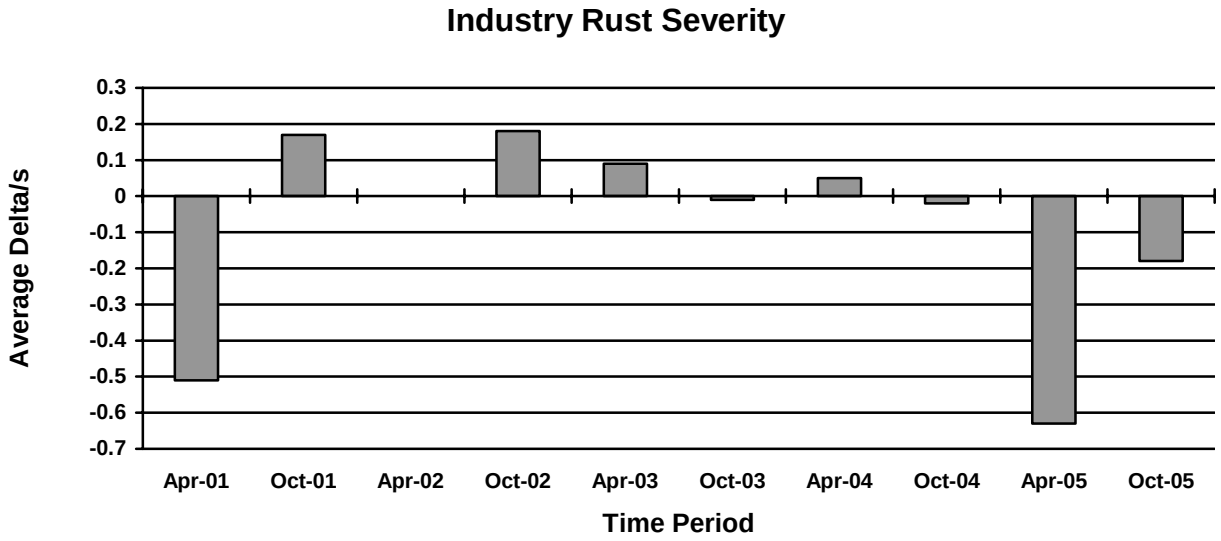




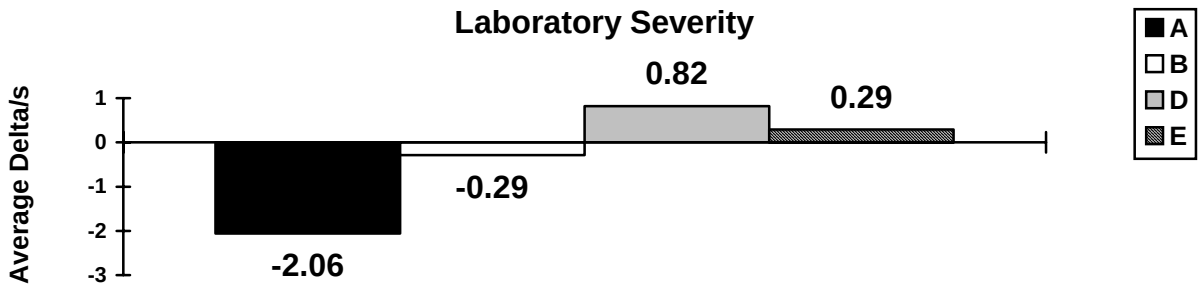
One test failed the acceptance criteria severe and one test failed the precision Shewhart acceptance criteria this report period.

Severity and Precision

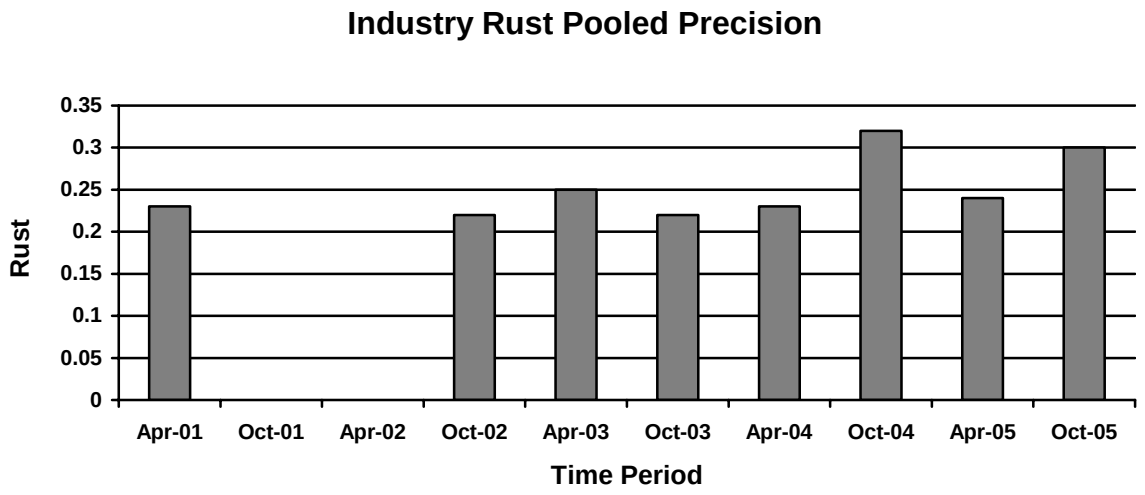
A total of 14 operationally valid test results were reported this period. The mean delta/s for this period is -0.18 severe, which equates to -0.05 merits. All of the 14 operationally valid tests reported this period were conducted on V01.1 hardware. Severity for the 14 operationally valid test results is slightly severe of target as indicated in the chart below and Figure 1. Note, that for most of the period the trend was mild. The last three tests reported (2 from one lab and 1 from another) shifted the trend severe. Figure 2 and Figure 3 are the Industry EWMA severity and cusum plots for reference oils 123 and 151-3. Reference oil 123 and reference 151-3 are both trending slightly severe –0.20 and –0.16, respectively.



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



The industry precision estimate for this report period is 0.30 merits (pooled s). Precision this report period has degraded slightly compared to previous period as shown below:



Industry Control Charts

Figure 1 is the Industry EWMA severity and precision chart of tests completed through September 30, 2005. There was one EWMA severity warning alarm triggered this report period. The alarm was related to severe results from two labs (labs A and B).

TMC Lab Visits

There were three lab visits conducted this report period. There was one discrepancy noted. Section 9.2.1 requires that all parts be dried before abrasive blasting. One lab was placing the wet parts directly into the abrasive blasting cabinet.

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	2	0	3	0	0
123-2	9	9	5	5	241
151-3	9	3	3	6	*

* 103 Gallons (Multiple test area usage)

Attachments

c: L-33-1 Surveillance Panel
ftp://ftp.astmtmc.cmu.edu/docs/gear/l331/semiannualreports/l331-10-2005.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	Tests run on non-calibrated stands are deemed non-interpretable tests	03-1
20030507	Revision to light rust definition	03-1
20030507	Editorial changes	03-1
20030916	Addition of bearing replacement guidelines	03-2
20030916	Addition of Dana Bulletin No. 5304-2 for Drive Pinion Shaft Installation	03-2
20040101	Change in cleaning solvent specification	03-2
20050221	Revised Solvent Specification	05-1
20050221	Revised Cover Plate Guide Pin Requirement	05-1
20050221	Updated Test Precision	05-1
20050221	Donated Reference Oil Test Programs/Calibration Period Length Adjustment	05-1
20050221	Revised Footnote 2	05-1

L−33−1 INDUSTRY OPERATIONALLY VALID DATA

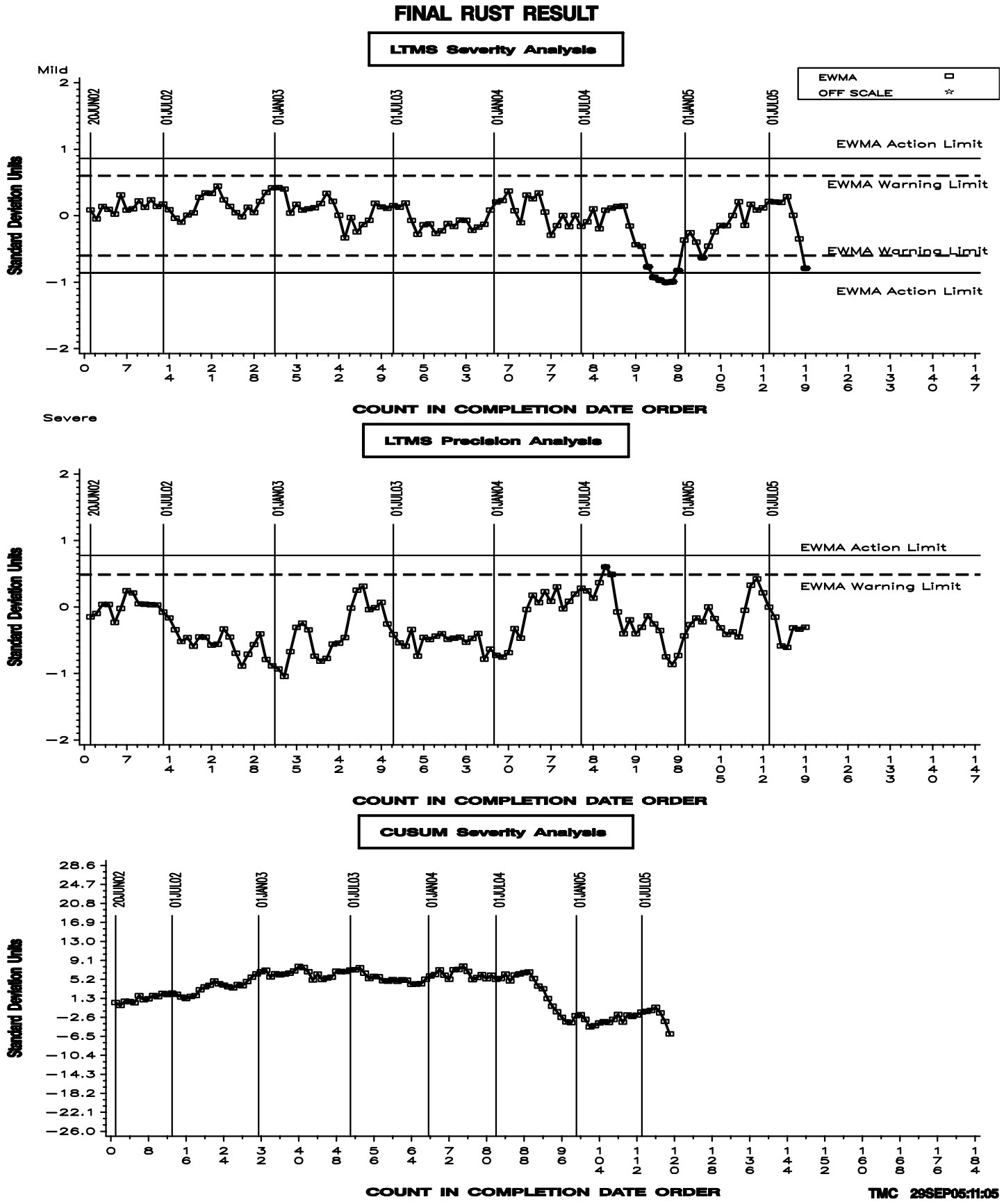
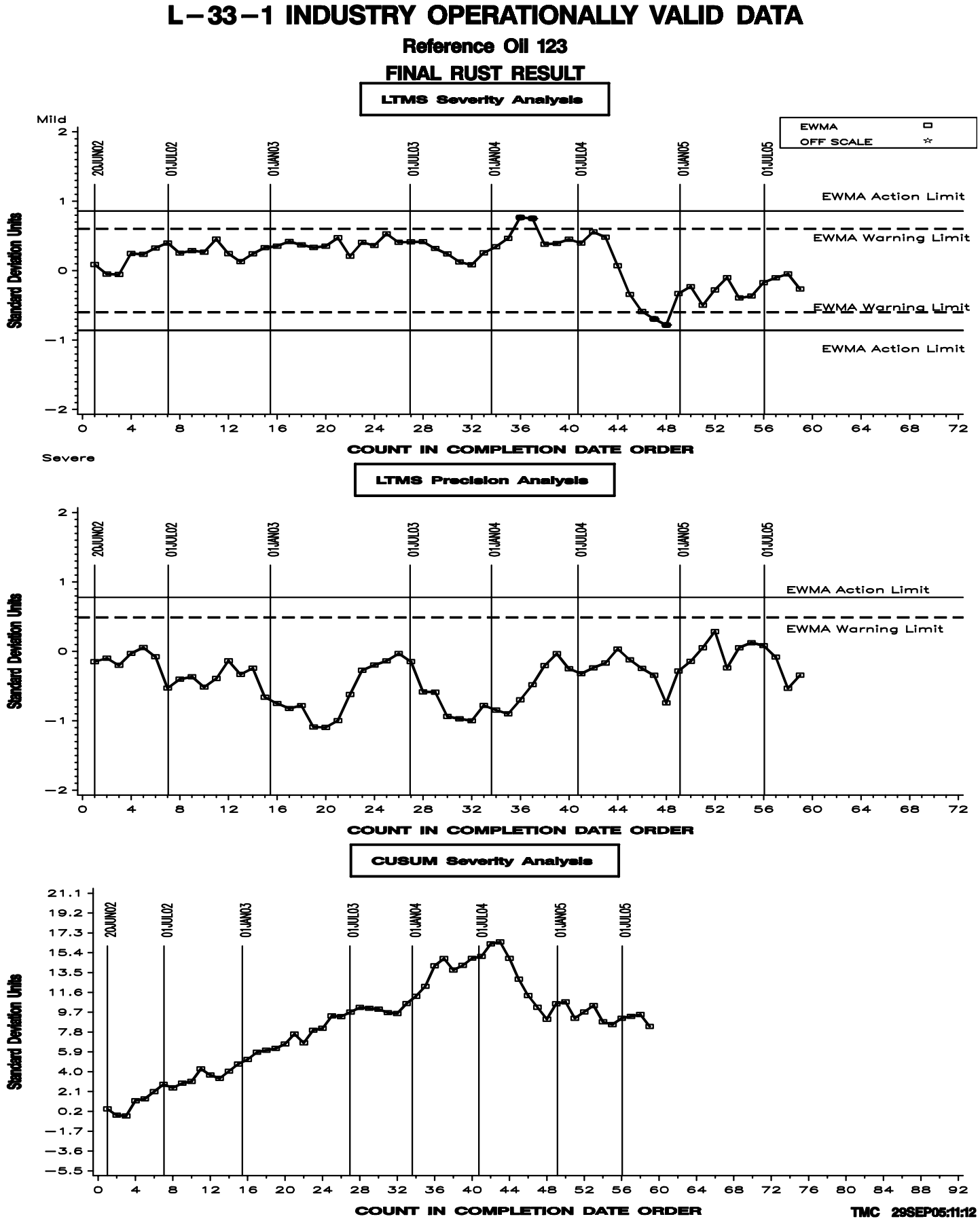
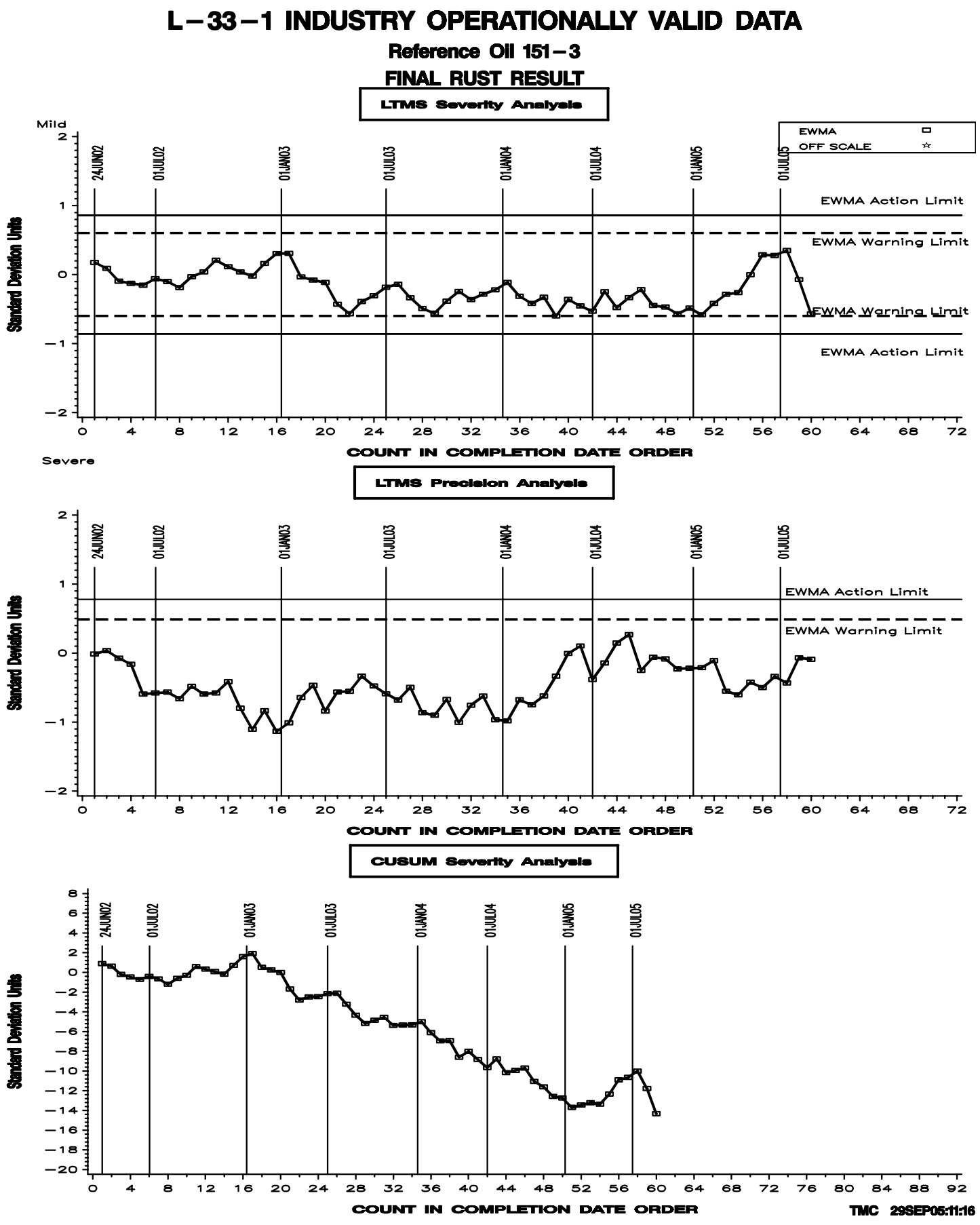


FIGURE 2


L−33−1 INDUSTRY OPERATIONALLY VALID DATA
Reference Oil 123
FINAL RUST RESULT
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
20JUN02
01JUL02
01JAN03
01JUL03
01JAN04
01JUL04
01JAN05
01JUL05
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
CUSUM Severity Analysis
TMC 29SEP05:11:12


L−33−1 INDUSTRY OPERATIONALLY VALID DATA
Reference Oil 151−3
FINAL RUST RESULT
LTMS Severity Analysis
Mild
Severe
Standard Deviation Units
EWMA
OFF SCALE
EWMA Action Limit
EWMA Warning Limit
EWMA Warning Limit
EWMA Action Limit
24JUN02
01JUL02
01JAN03
01JUL03
01JAN04
01JUL04
01JAN05
01JUL05
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
EWMA Action Limit
EWMA Warning Limit
COUNT IN COMPLETION DATE ORDER
CUSUM Severity Analysis
COUNT IN COMPLETION DATE ORDER
TMC 29SEP05:11:16