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

MEMORANDUM: 07-055

DATE: October 4, 2007

TO: Don Bartlett, Chairman, L-37 Surveillance Panel

FROM: Donald Lind

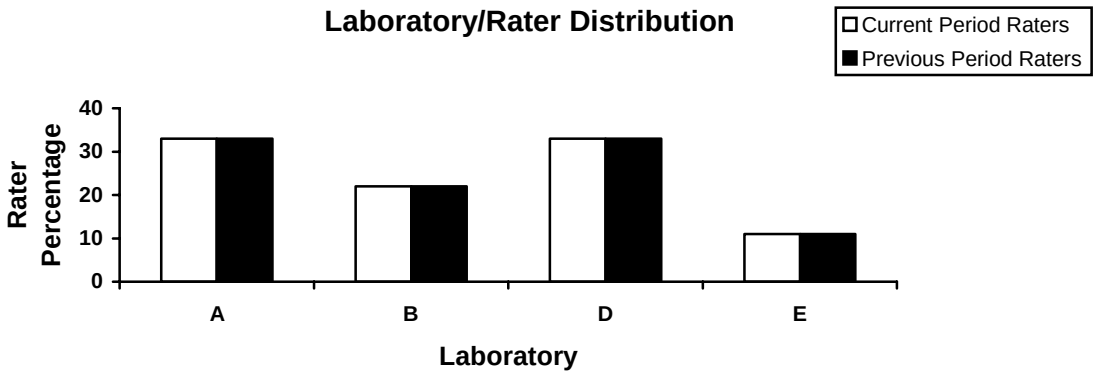
SUBJECT: L-37 Rater Calibration Status from April 1, 2007 through September 30, 2007

The following is a summary of the L-37 rater calibrations reported to the Test Monitoring Center during the period April 1, 2007 through September 30, 2007.

Rater Summary

	Reporting Data	Calibrated as of 9/30/07
Number of Raters	9	9

The following chart shows the laboratory/rater distribution:



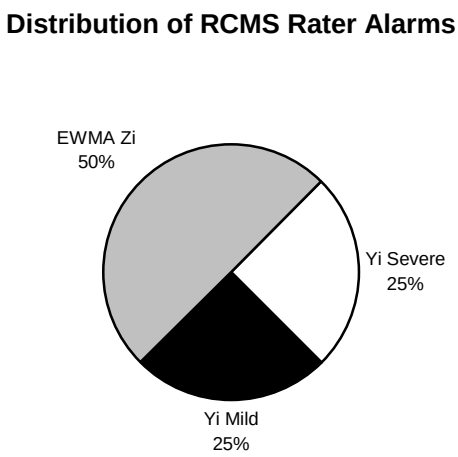
The following summarizes the status of the rater calibration tests reported to the TMC:

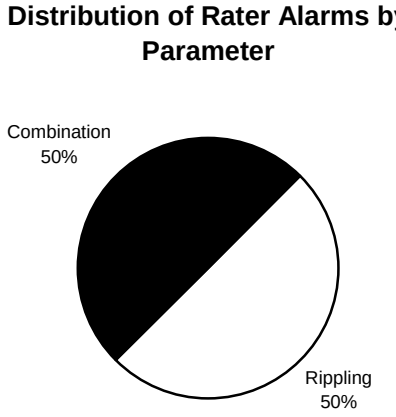
	TMC Validity Codes	No. of Calibrations
Statistically Acceptable	AC	11
Failed Acceptance Criteria	OC	2
Total		13

Summary

A total of 13 L-37 rater calibration results from nine different raters were reported to the TMC this period. Seven of the nine raters were within the acceptance criteria with their first set of pinions. Two of the raters needed a second set of pinions to calibrate. Two of the nine raters had their calibration period reduced to half (3 months) due to triggering an EWMA severity alarm. All nine raters are currently calibrated.

A detailed list of reasons tests failed the acceptance criteria are shown in Table 1. The following charts summarize these reasons with a breakdown by parameter of the failed tests.





There were no RCMS deviations written this period.

Severity and Precision

For this period, the mean delta/s was -0.07 severe for Wear, -0.04 severe for Rippling, -0.18 severe for Ridging, and -0.10 severe for Spitting. Precision was 0.69 for Wear, 0.86 for Rippling, 0.86 for Ridging, and 0.66 for Spitting. A straight standard deviation of Yi was used because the number of ratings per pinion was too small to determine a pooled standard deviation. Below is a table illustrating rater severity for this report period:

Rater	Wear		Rippling		Ridging		Spitting	
	Yi	S.D. *	Yi	S.D. *	Yi	S.D. *	Yi	S.D. *
B	-0.37	0.55	-0.40	0.43	-0.67	0.45	0.08	0.59
D	-0.48	0.46	0.42	0.93	0.30	0.65	-0.12	1.18
E	0.32	0.97	-0.27	0.94	-0.23	0.53	0.00	0.18
F	-0.20	0.68	-0.24	0.77	-0.75	1.23	0.18	0.38
H	0.35	1.01	-0.54	0.41	-0.71	1.33	0.02	0.25
I	0.50	0.46	-0.04	0.64	-0.25	0.47	-0.23	0.15
K	0.03	0.72	-0.52	0.95	-0.46	0.72	-0.11	0.55
M	-0.20	0.87	-0.45	0.89	-0.45	0.55	-0.24	0.47
N	0.05	0.50	0.65	0.59	0.37	1.02	-0.26	0.42

*A straight standard deviation of Yi was used as the number of ratings per pinion was too small to determine a pooled standard deviation.

Industry Control Charts

Figures 1 through 4 are the L-37 rater industry control charts for pinion Wear, Rippling, Ridging, and Spitting, respectively. Figures 5 through 8 are the rater industry control charts of the last 30 test results for pinion Wear, Rippling, Ridging, and Spitting, respectively. Precision EWMA charts for pinion Wear, Rippling, Ridging, and Spitting were in control this report period. Severity EWMA charts for pinion Wear, Rippling, and Spitting were in control this report period. Ridging triggered one severity EWMA alarm. The alarm does not appear to be related to any one lab, rater, or RCMS pinion.

Attachments

c: L-37 Surveillance Panel
L-37 Rater Task Force
J. L. Zalar
F. M. Farber
ftp://ftp.astmtmc.cmu.edu/docs/rater_calibration/l37rc-10-2007.pdf

Distribution: Email

Listing of Tables and Figure Included as Part of This Report to the L-37 Rater Calibration Report

Table 1 is a Detailed List Summarizing the Reasons for Failed Tests

Figure 1 is the L-37 Rater Industry Control Charts for Pinion Wear

Figure 2 is the L-37 Rater Industry Control Charts for Pinion Rippling

Figure 3 is the L-37 Rater Industry Control Charts for Pinion Ridging

Figure 4 is the L-37 Rater Industry Control Charts for Pinion Spitting

Figure 5 is the L-37 Rater Industry Control Chart of the last 30 test results for Pinion Wear

Figure 6 is the L-37 Rater Industry Control Chart of the last 30 test results for Pinion Rippling

Figure 7 is the L-37 Rater Industry Control Chart of the last 30 test results for Pinion Ridging

Figure 8 is the L-37 Rater Industry Control Chart of the last 30 test results for Pinion Spitting

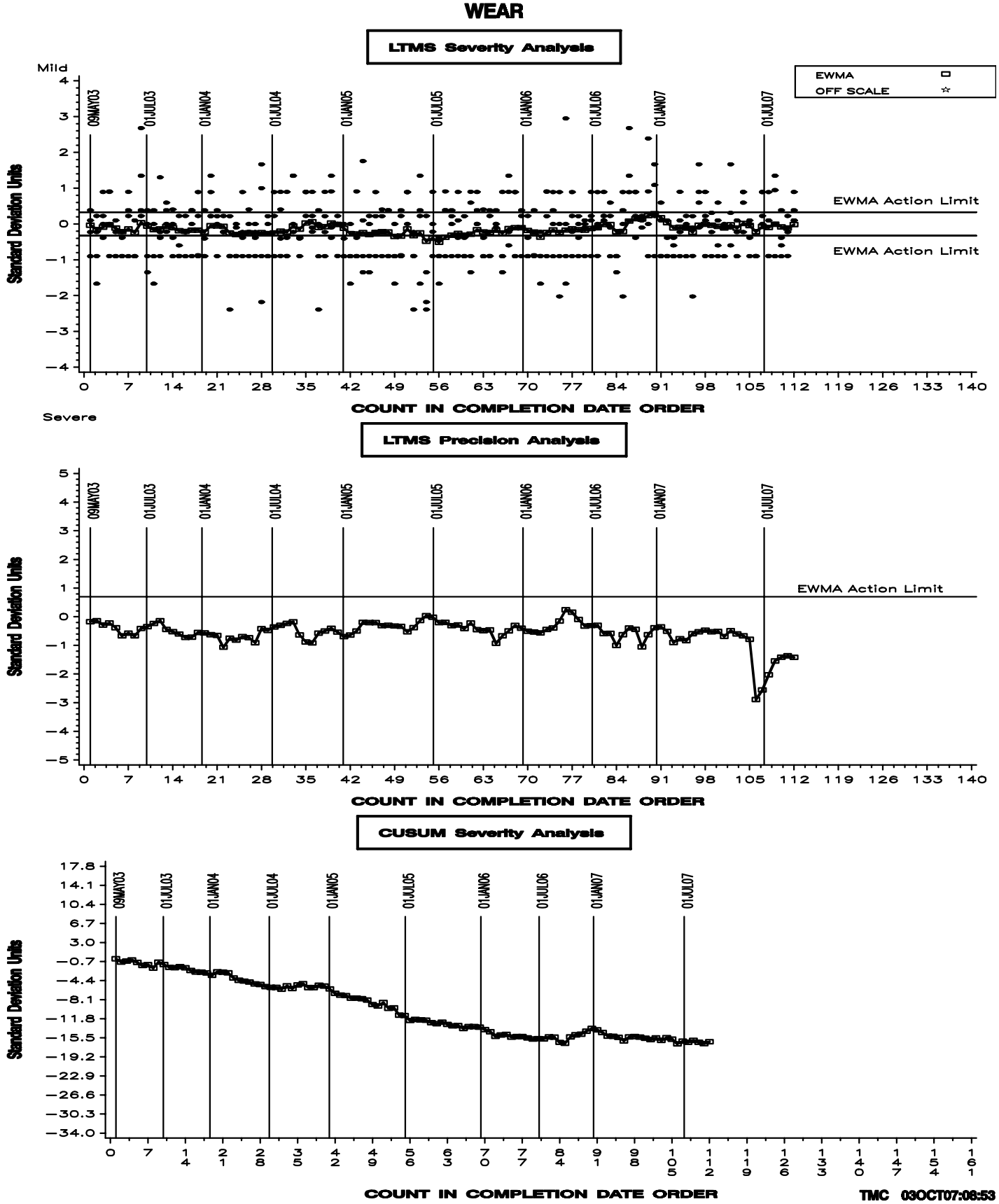
Table 1

Summary of Alarms This Period

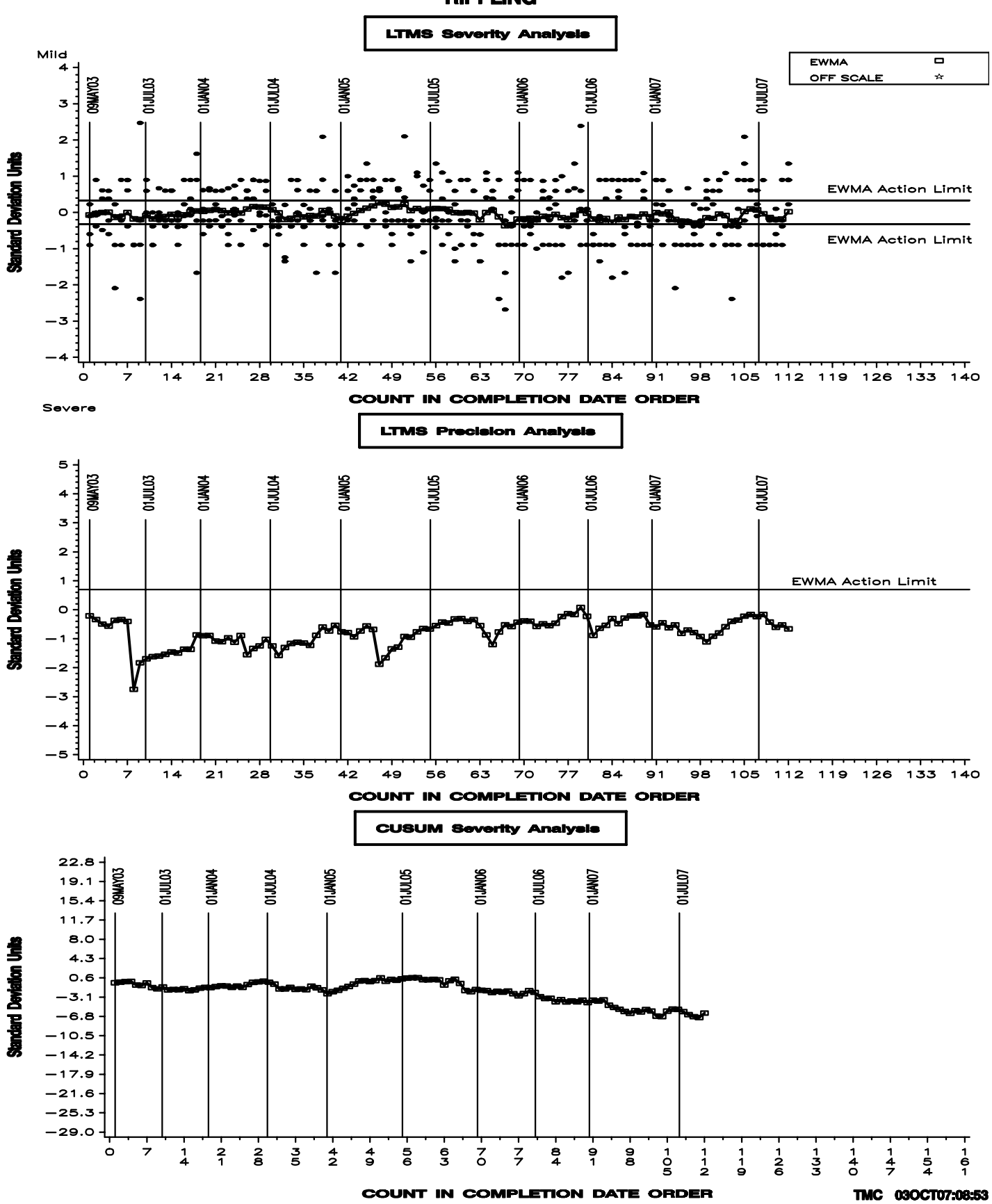
Lab	Rater	Reason
E	K	Rippling and Ridging Yi Severe
E	K	Ridging EWMA Severity (Calibration Period Cut in Half)
D	D	Rippling Yi Mild
D	D	Wear EWMA Severity (Calibration Period Cut in Half)

FIGURE 1

L−37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA



L−37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA



L−37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

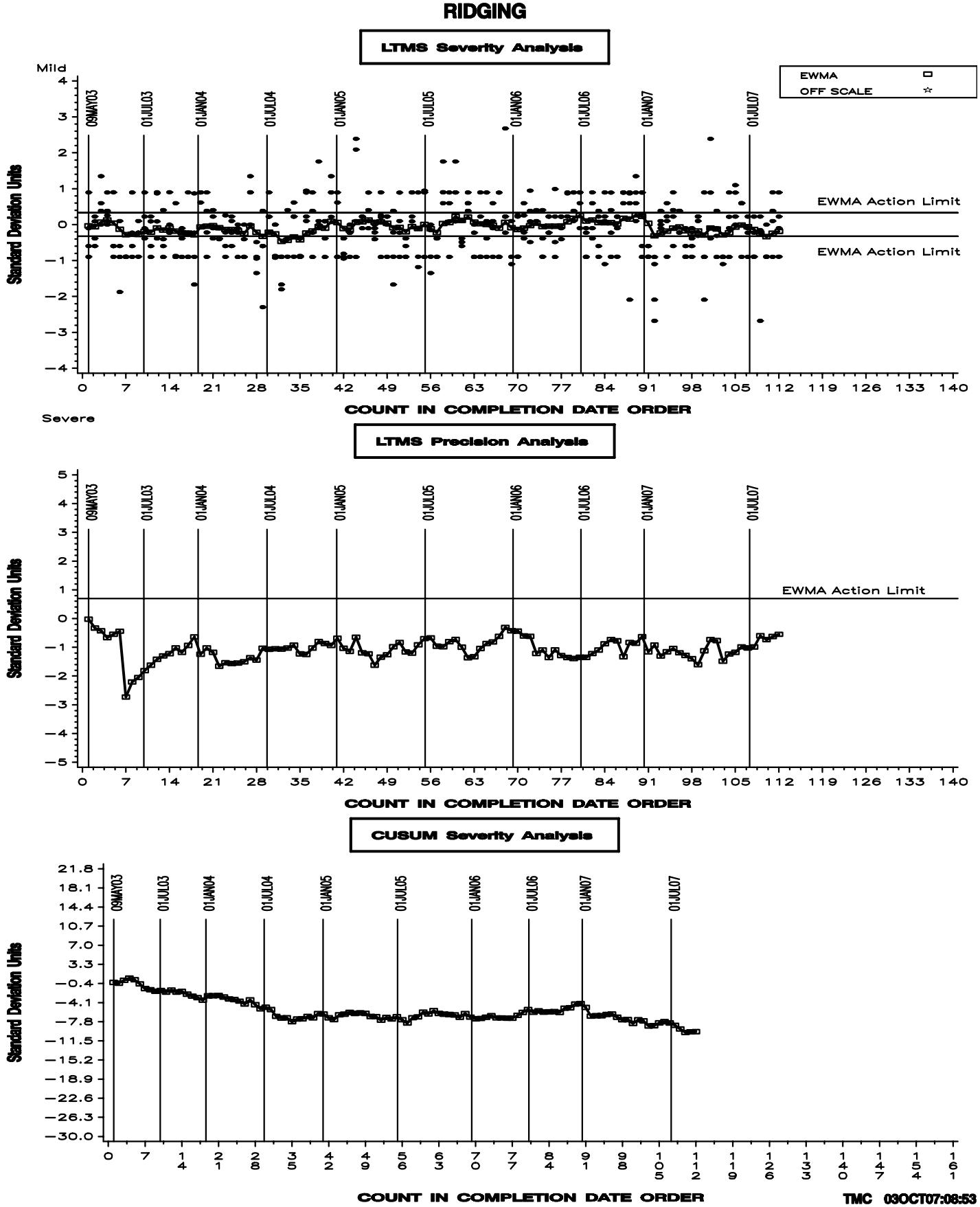
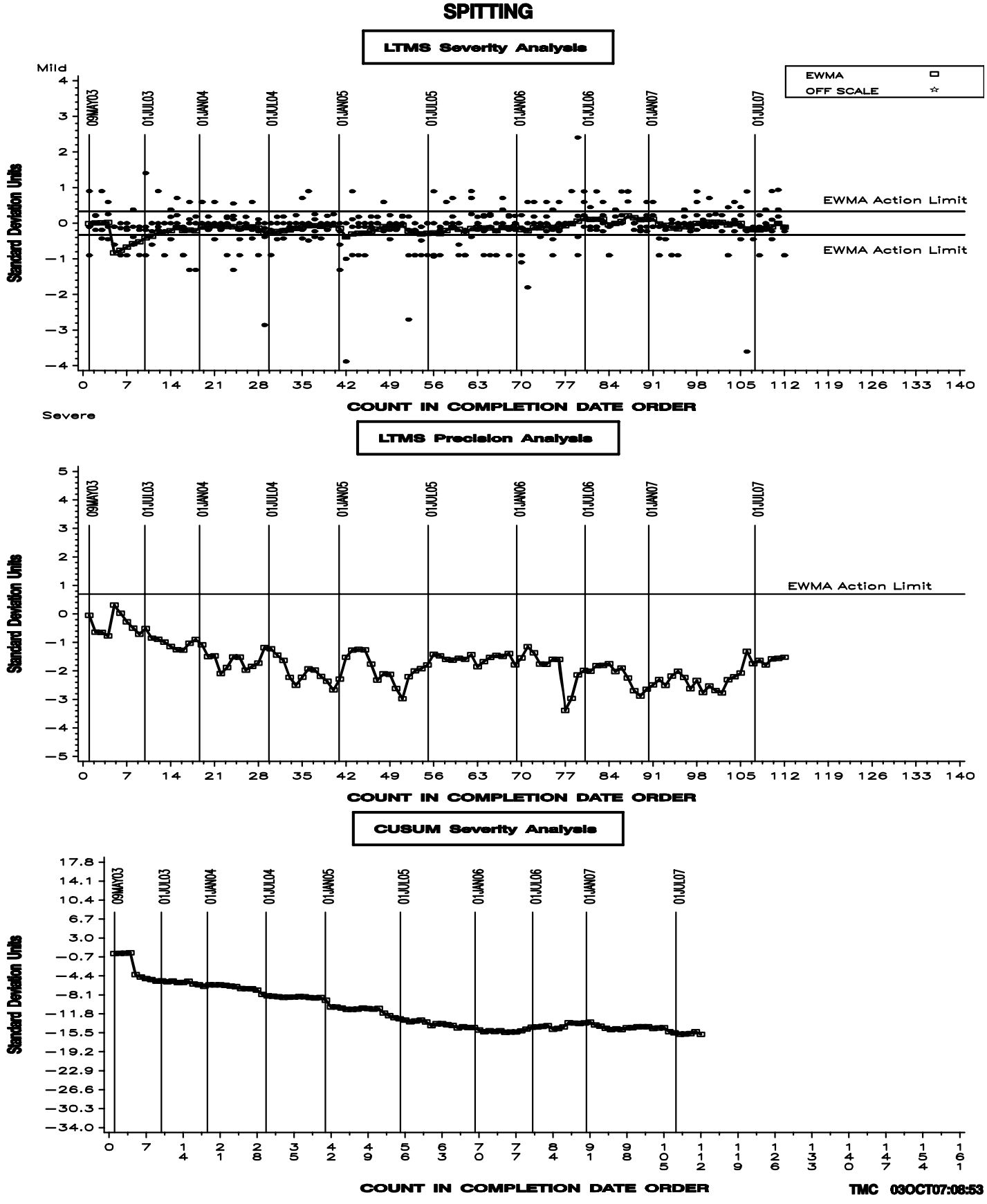
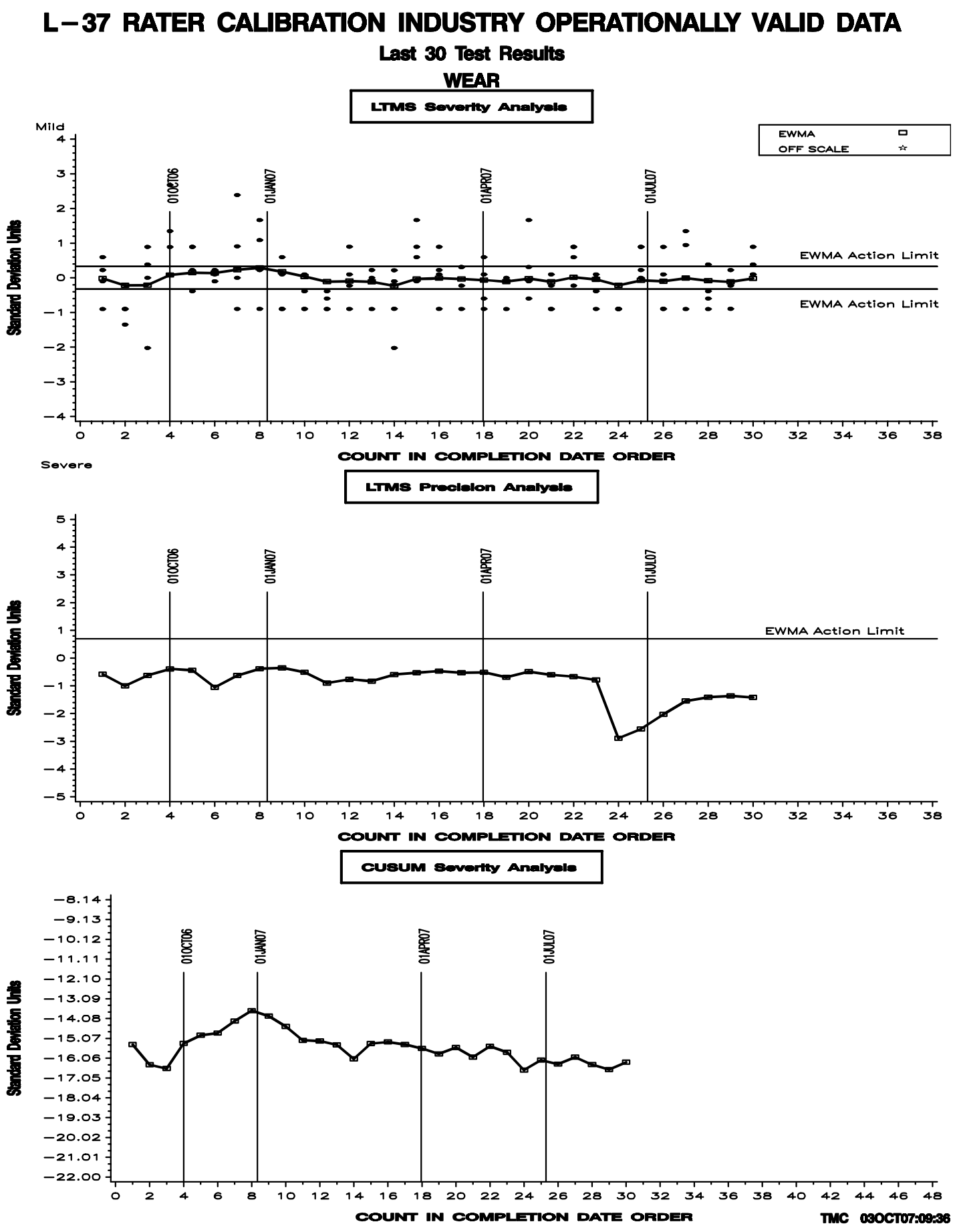


FIGURE 4

L−37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA




L−37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA
Last 30 Test Results
WEAR
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
01OCT06
01JAN07
01APR07
01JUL07
EWMA Action Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
TMC 03OCT07:09:36

L−37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

Last 30 Test Results

RIPPLING

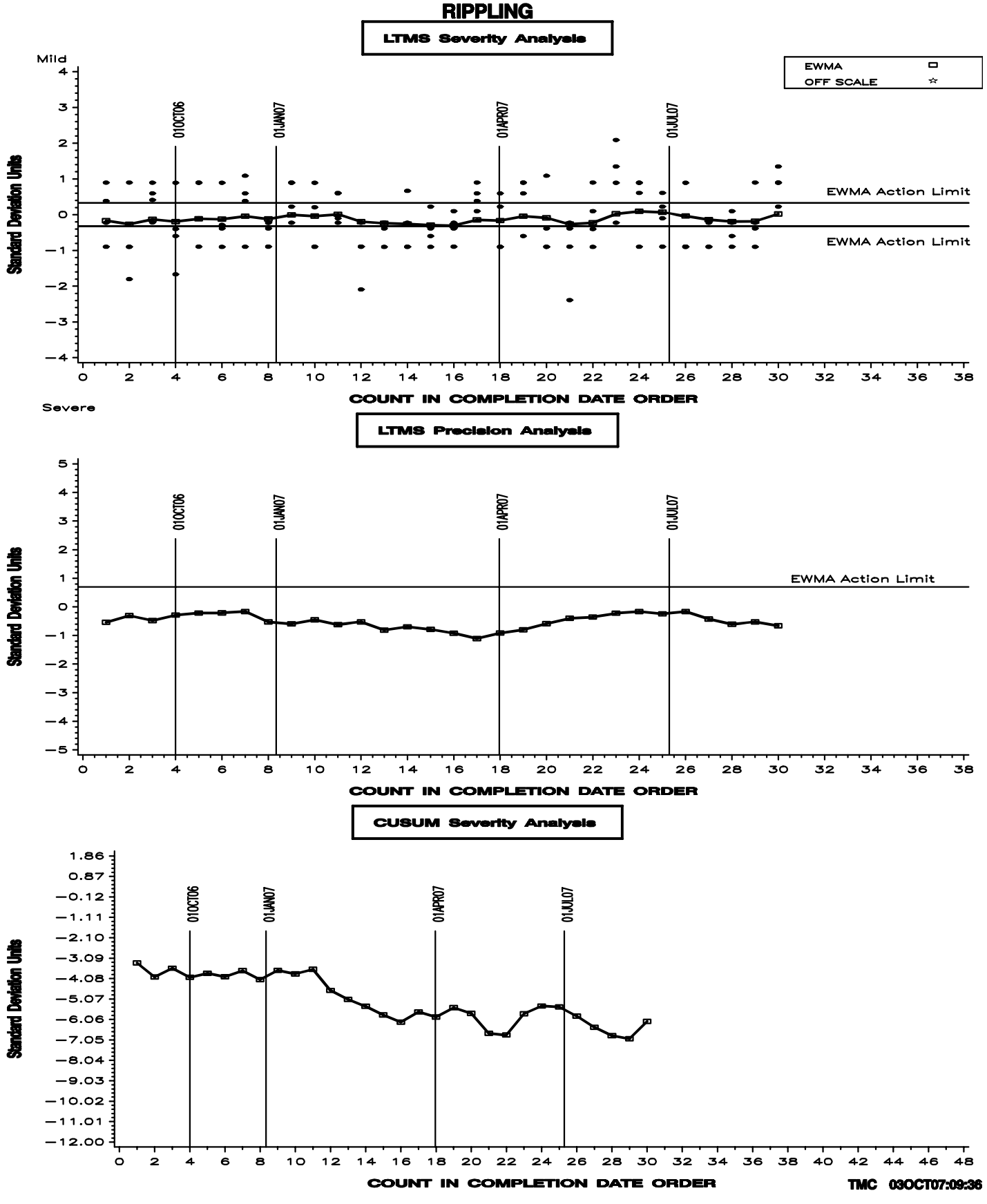
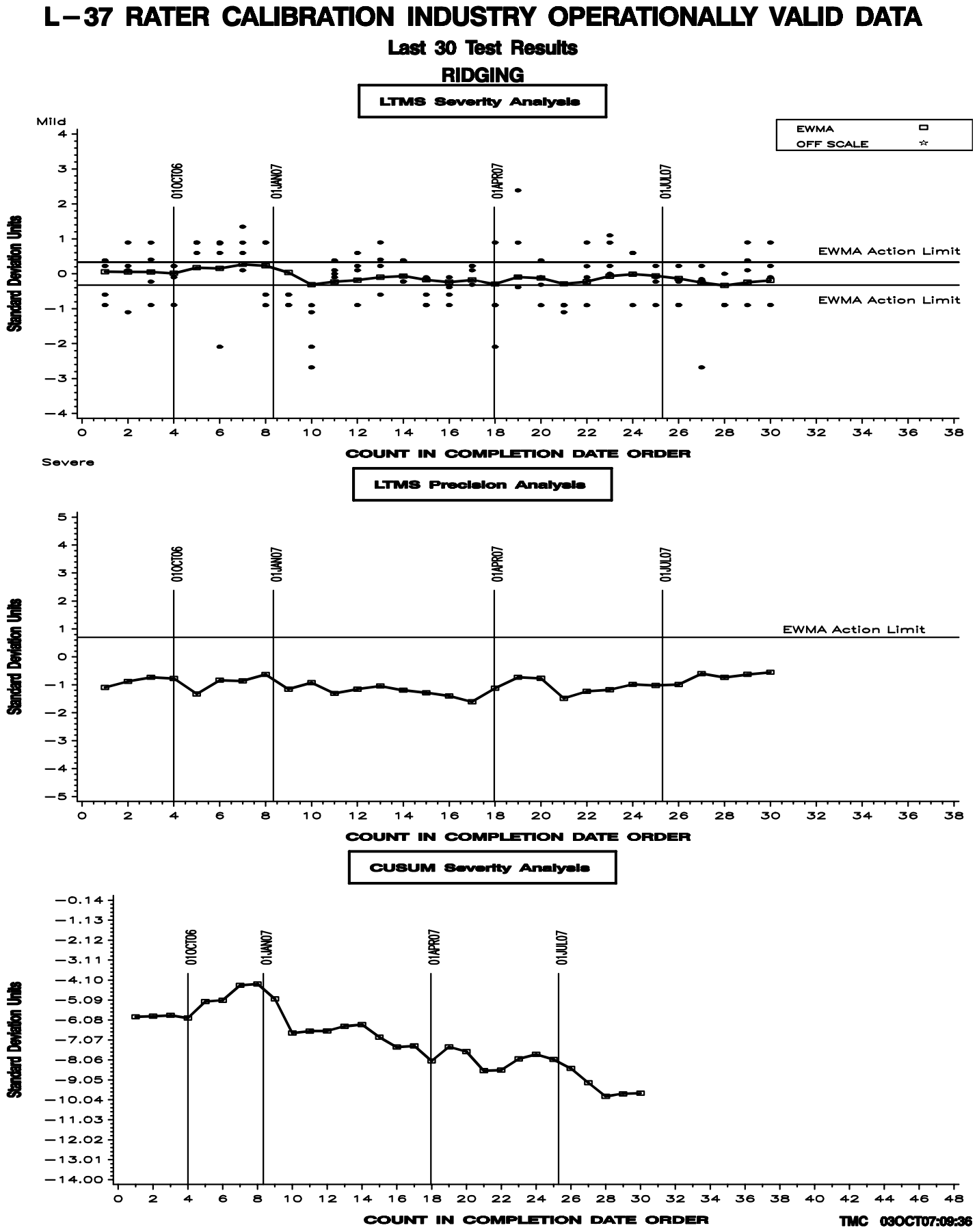


FIGURE 7


L−37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA
Last 30 Test Results
RIDGING
LTMS Severity Analysis
Mild
Severe
EWMA
OFF SCALE
01OCT06
01JAN07
01APR07
01JUL07
EWMA Action Limit
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
LTMS Precision Analysis
EWMA Action Limit
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
CUSUM Severity Analysis
Standard Deviation Units
COUNT IN COMPLETION DATE ORDER
TMC 03OCT07:09:36

L−37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

Last 30 Test Results

SPITTING