



Test Monitoring Center

@ Carnegie Mellon University
6555 Penn Avenue, Pittsburgh, PA 15206, USA

<http://astmtmc.cmu.edu>
412-365-1000

MEMORANDUM: 17-034
DATE: October 30, 2017
TO: Wes Venhoff, Chairman, L-37 Surveillance Panel
FROM: Dylan Beck *Dylan Beck*
SUBJECT: L-37 Rater Calibration from April 1, 2017 through September 30, 2017

Attached is a summary of L-37 rater calibration activity this period.

DJB/djb/mem17-034.djb.doc

cc: Frank Farber

Jeff Clark

Scott Parke

L-37 Surveillance Panel

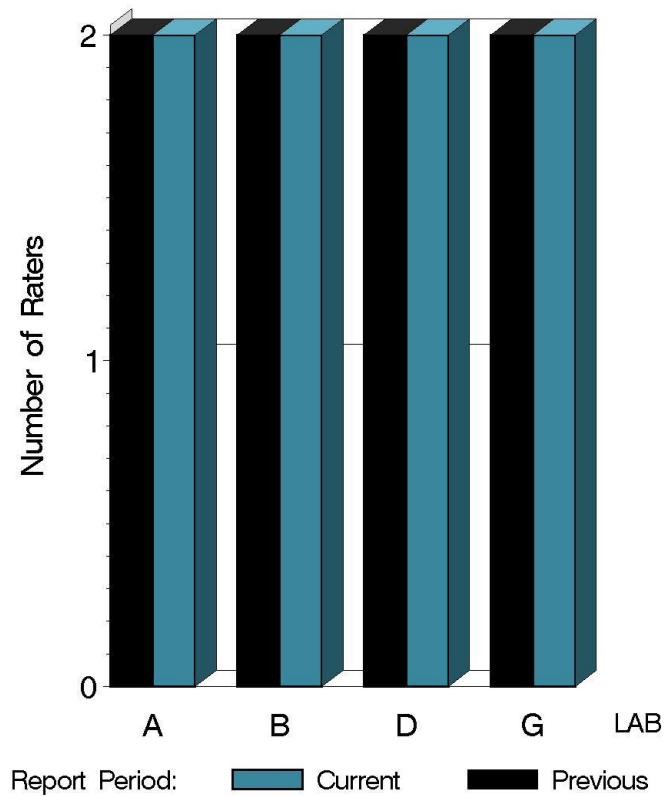
<http://www.astmtmc.cmu.edu/ftp/docs/gear/l37rc/semiannualreports/l37rc-10-2017.pdf>

Distribution: email

L-37 Rater Calibration

	Reporting Data	Calibrated on 9-30-17
Number of Labs	4	4
Number of Raters	8	8

BY-LAB RATER
DISTRIBUTION



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L-37 Rater Calibration

Test Distribution by Validity

		Totals	
		Last Period	This Period
Accepted for calibration	AC	10	10
Rejected (Mild)	OC	3	0
Rejected (Severe)	OC	3	2
Rejected (Multiple)	OC	0	0
Rejected (Precision)	OC	1	0
Workshop data	AG	24	9
<hr/>			
Total		41	21

L-37 Rater Calibration

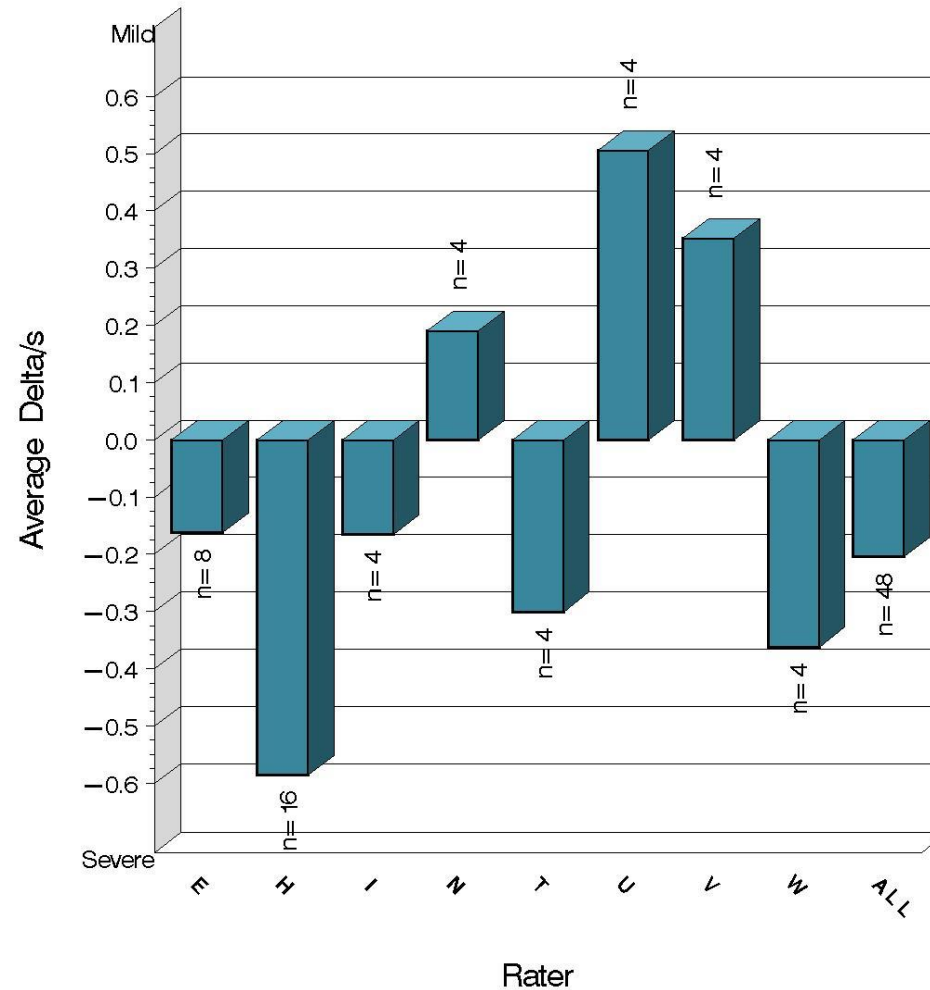
Rater	N	RIDG		RIPP		SPIT		WEAR	
		Avg Yi	STD*	Avg Yi	STD*	Avg Yi	STD*	Avg Yi	STD*
E	8	-0.162	1.361	0.193	0.736	-0.023	1.602	0.185	0.503
H	16	-0.585	3.139	0.514	1.796	-0.250	1.199	-0.155	1.040
I	4	-0.165	0.126	0.357	1.004	-0.044	0.303	-0.716	0.957
N	4	0.191	0.516	-0.017	0.560	-0.123	0.142	-0.166	0.459
T	4	-0.301	0.760	-0.161	0.500	0.000	0.419	-0.509	0.458
U	4	0.506	0.775	-0.862	1.298	0.140	0.196	-0.243	1.222
V	4	0.352	0.614	0.476	1.116	0.174	0.319	0.623	0.657
W	4	-0.362	0.695	0.158	0.504	-0.344	0.234	0.387	0.682
ALL	48	-0.204	1.924	0.199	1.252	-0.104	0.948	-0.073	0.865

* Due to the small number of ratings per pinion, the standard deviation of the Yi values is given in place of a pooled standard deviation.

L-37 Rater Calibration

RIDGING

Severity as Measured by Delta/s

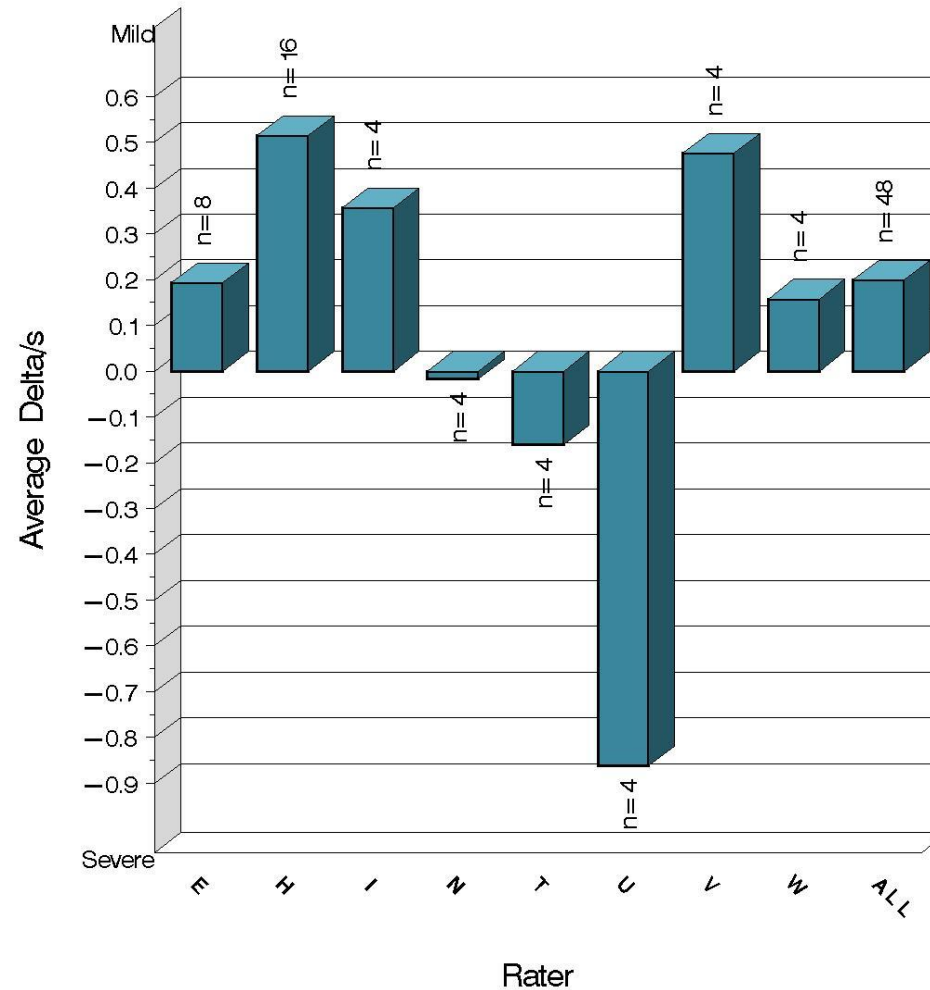


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L-37 Rater Calibration

RIPPLING

Severity as Measured by Delta/s

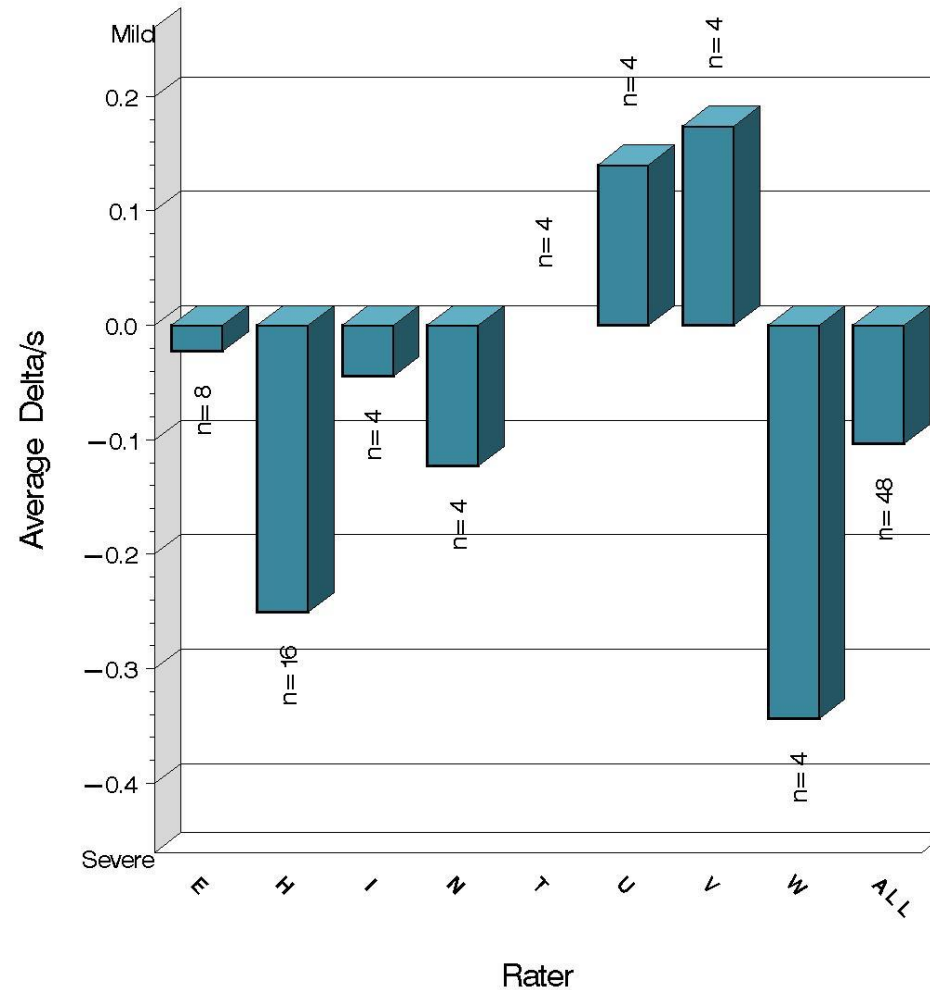


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L-37 Rater Calibration

SPITTING

Severity as Measured by Delta/s

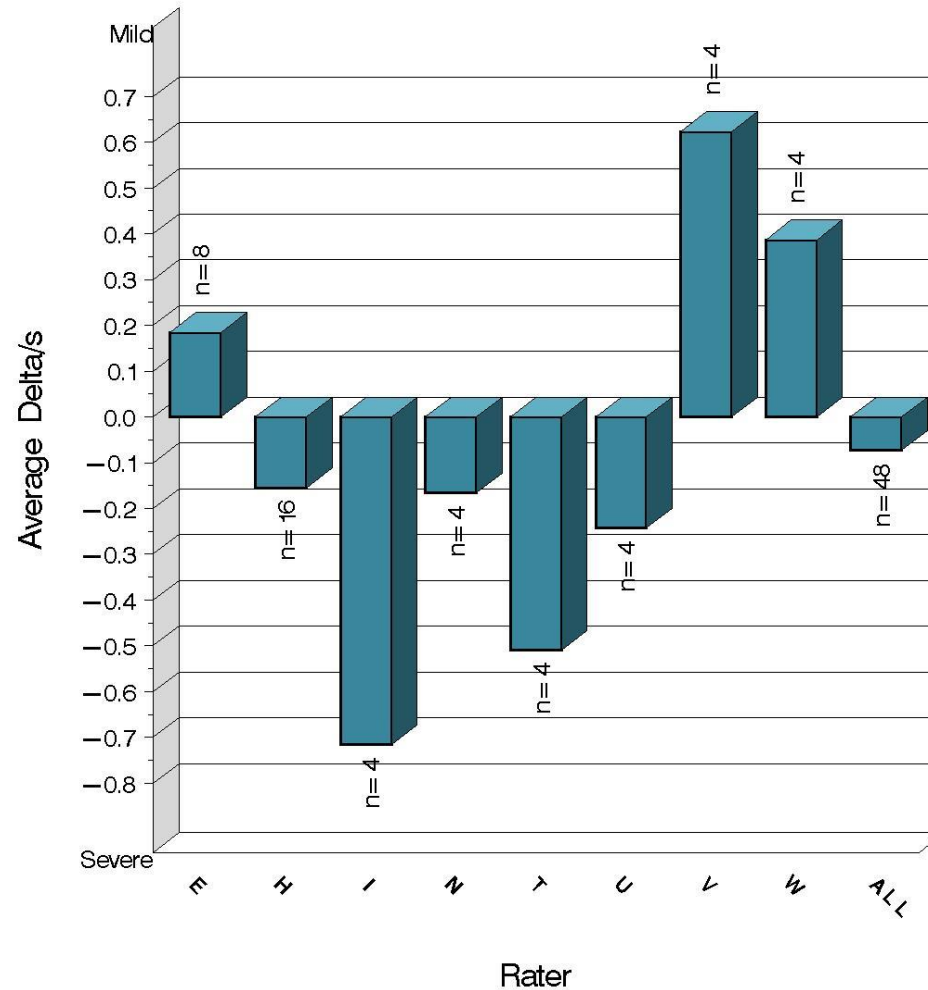


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L-37 Rater Calibration

WEAR

Severity as Measured by Delta/s

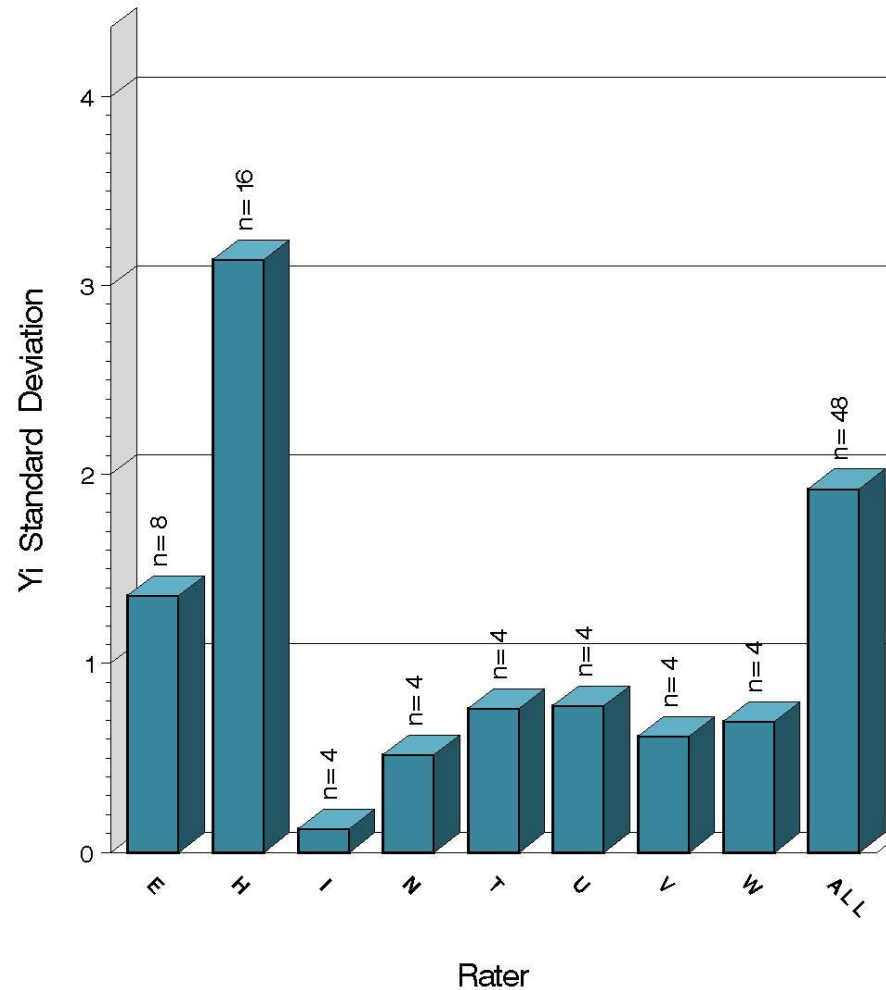


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L-37 Rater Calibration

RIDGING

Precision as Measured by Yi STD

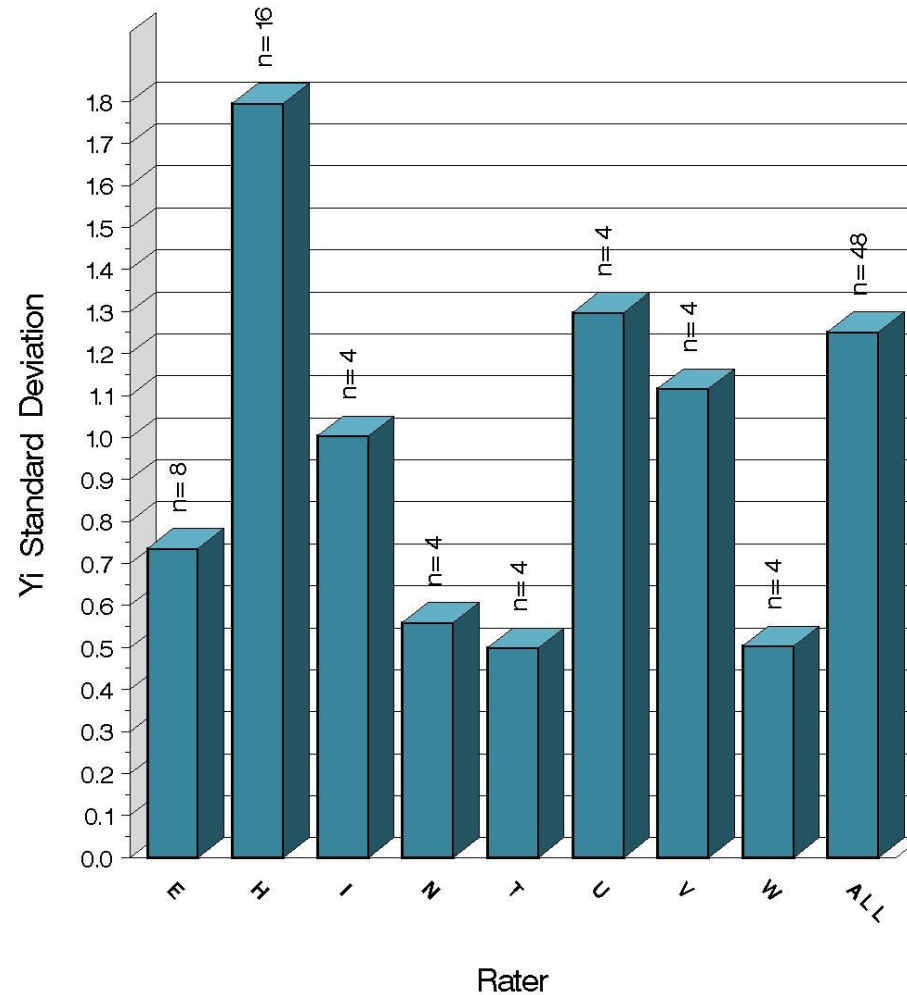


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L-37 Rater Calibration

RIPPLING

Precision as Measured by Yi STD

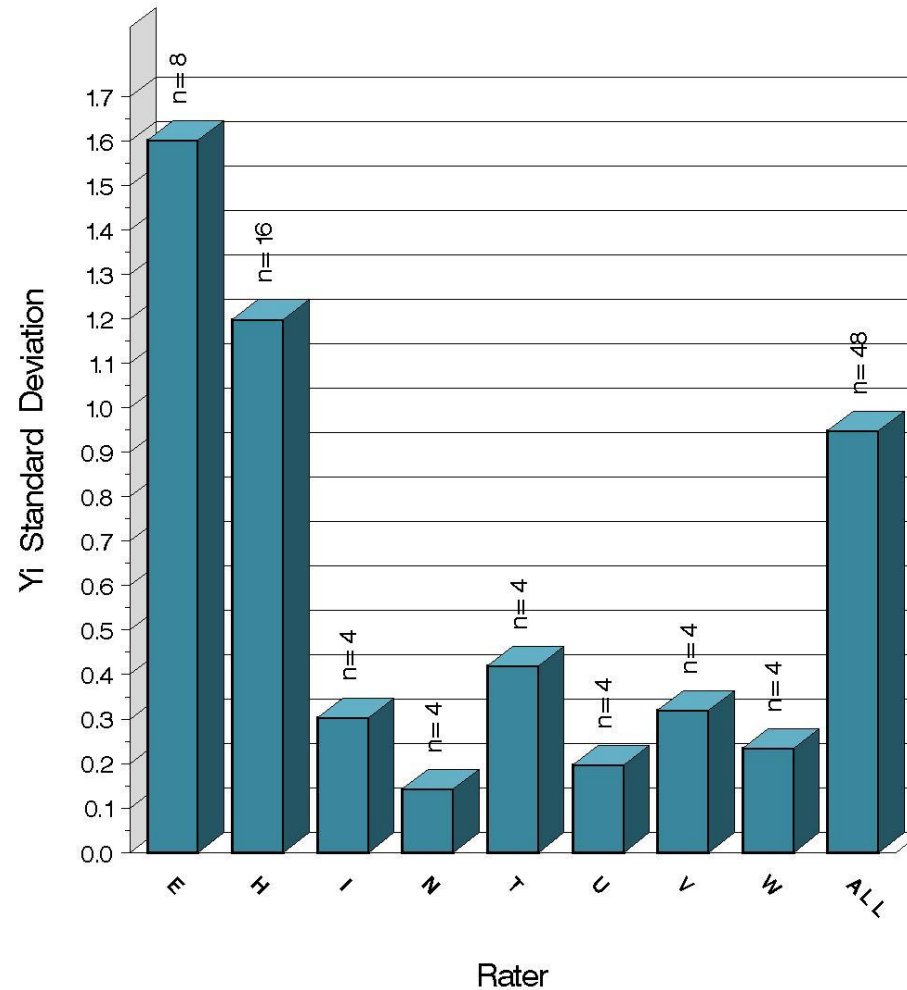


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Precision as Measured by Yi STD

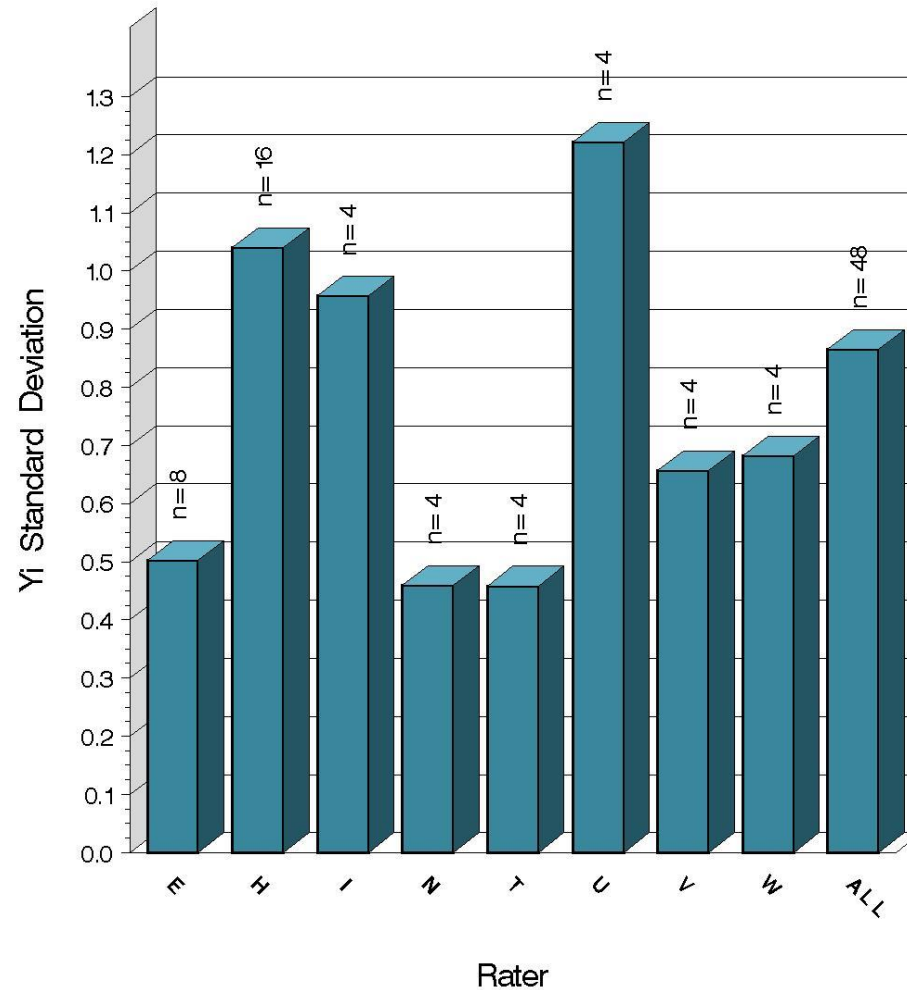


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L-37 Rater Calibration

WEAR

Precision as Measured by Yi STD



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L-37 Rater Calibration

SUMMARY OF SEVERITY & PRECISION

Severity

Industry rater severity for WEAR, RIDG, and SPIT have all exceeded the action limit within the past year, but are all currently within limits. RIPP exceeded the action limit with the most recent two tests.

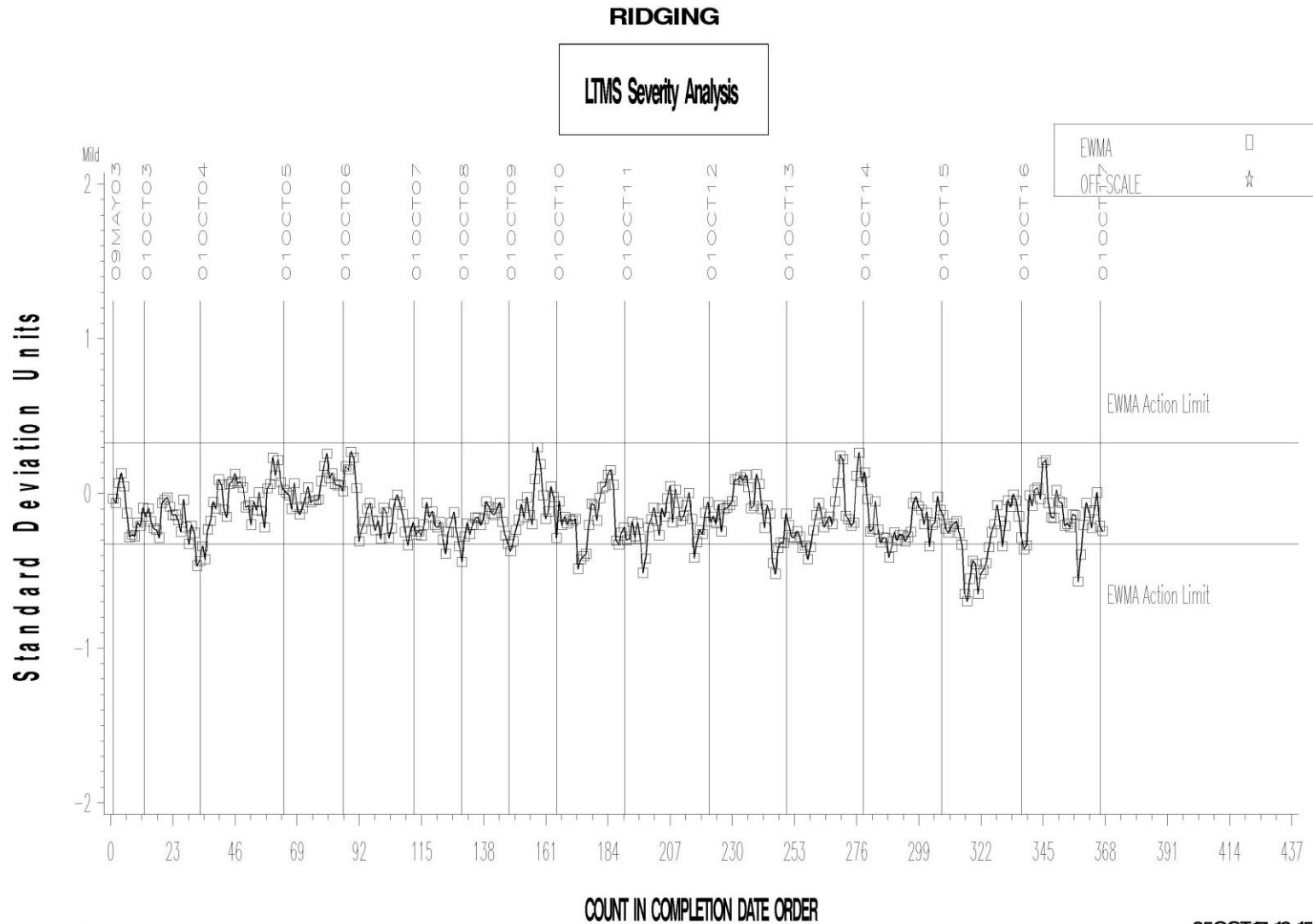
Precision

Industry precision for all parameters remained within limits throughout the period with the exception of RIDG. RIDG has since move back within the limits with the following test.

Industry rater control charts follow.

L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA



Spvrp

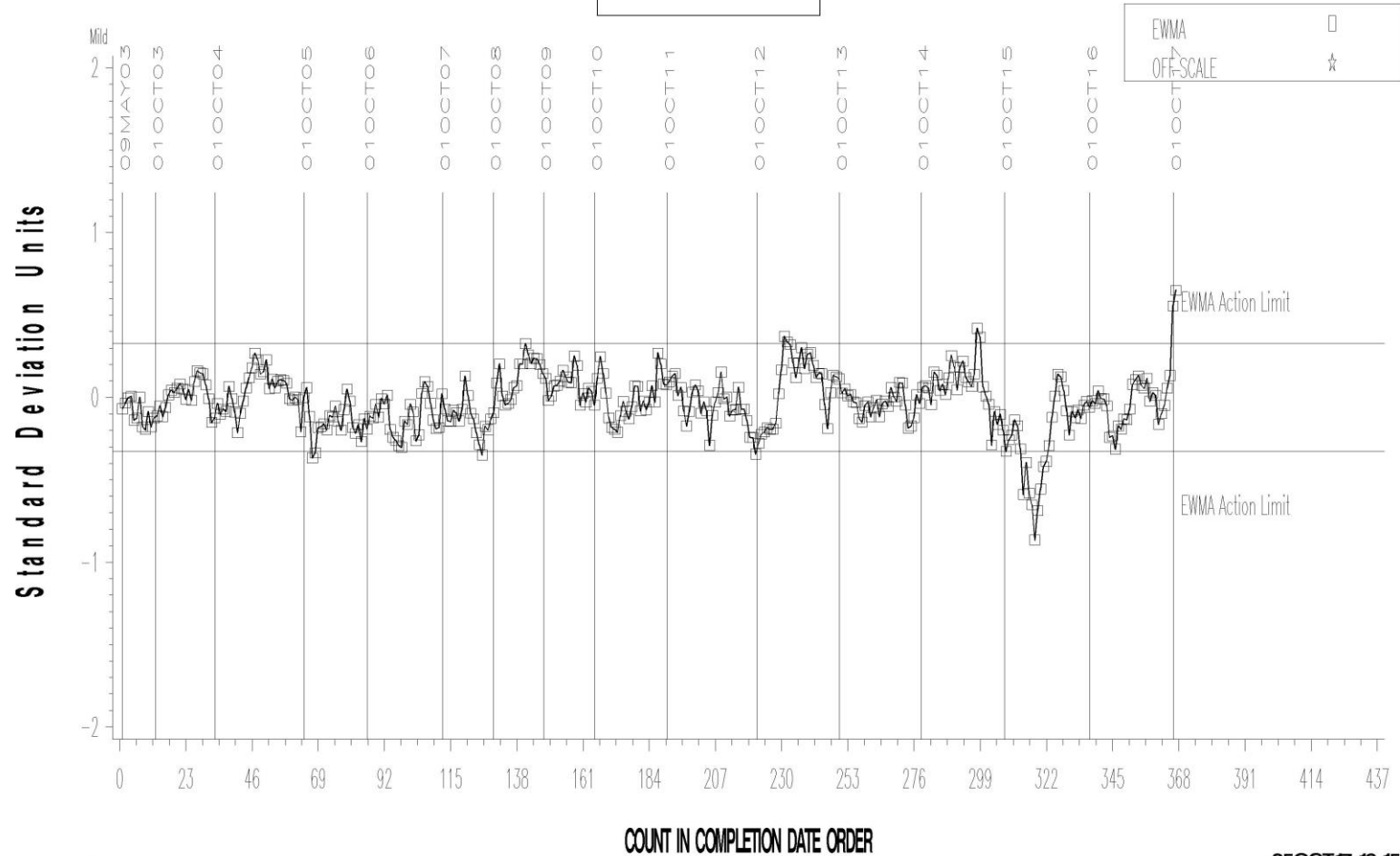
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L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIPPLING

LTMS Severity Analysis

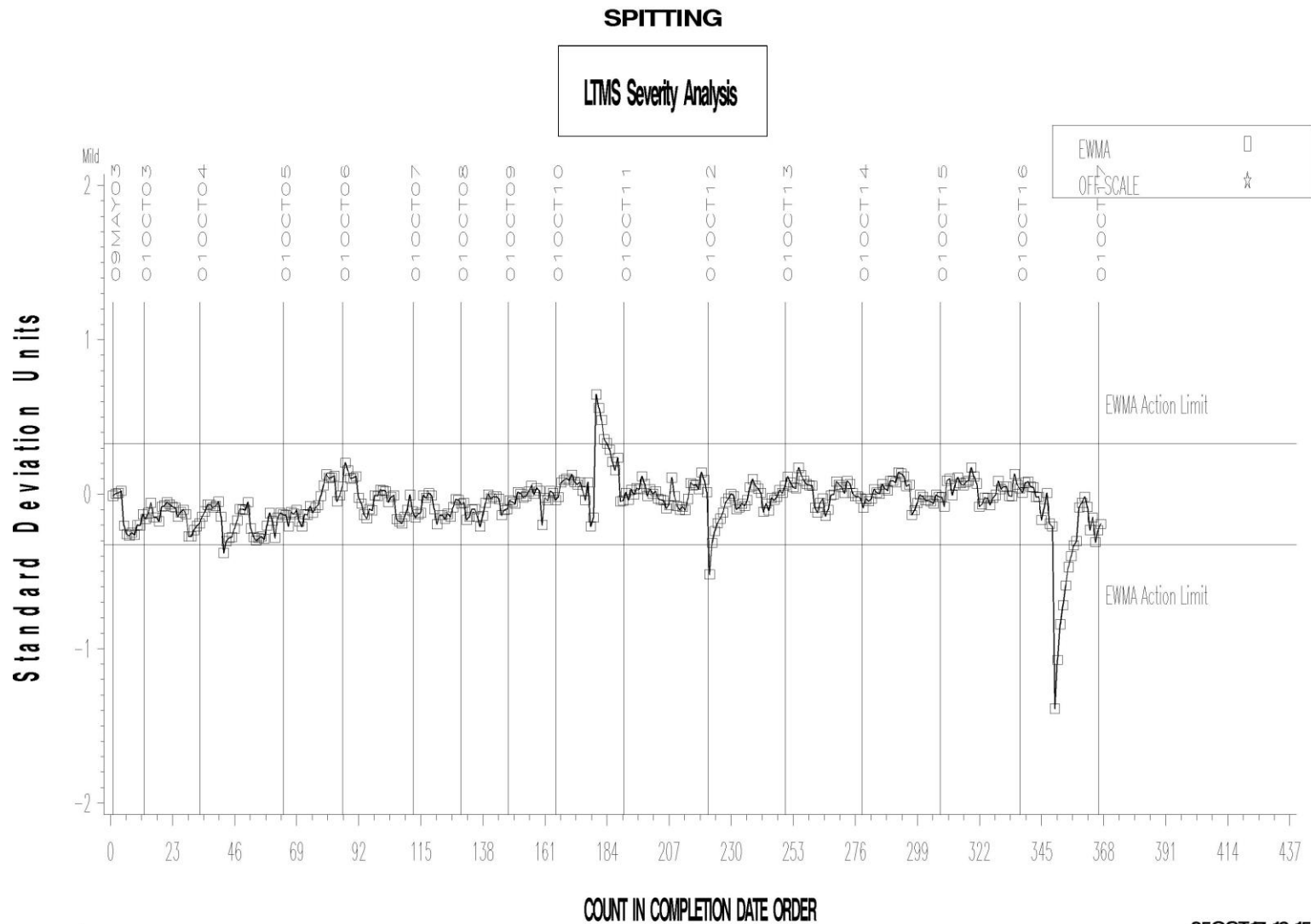


Severp

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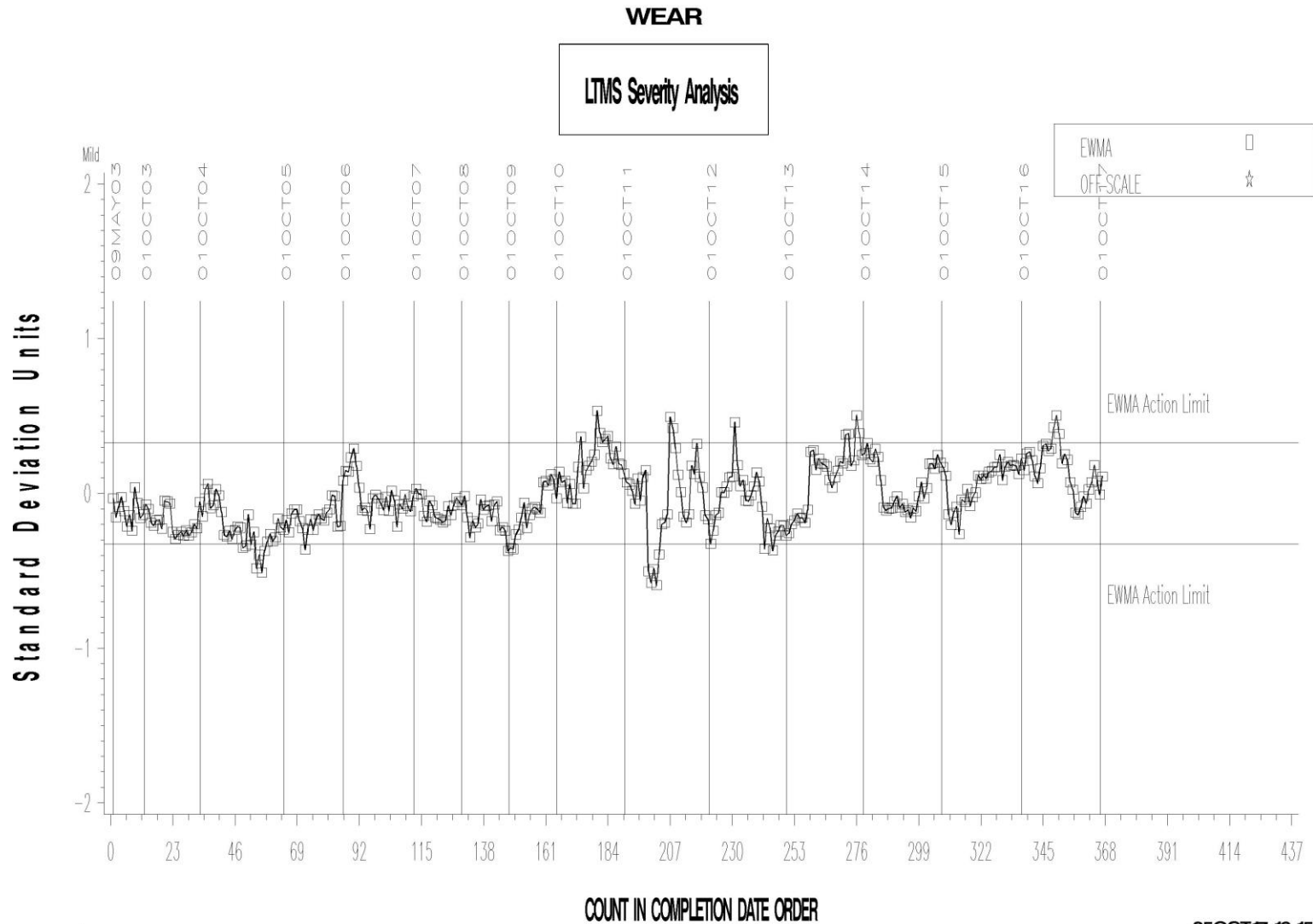


Severp

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L-37 Rater Calibration

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Severp

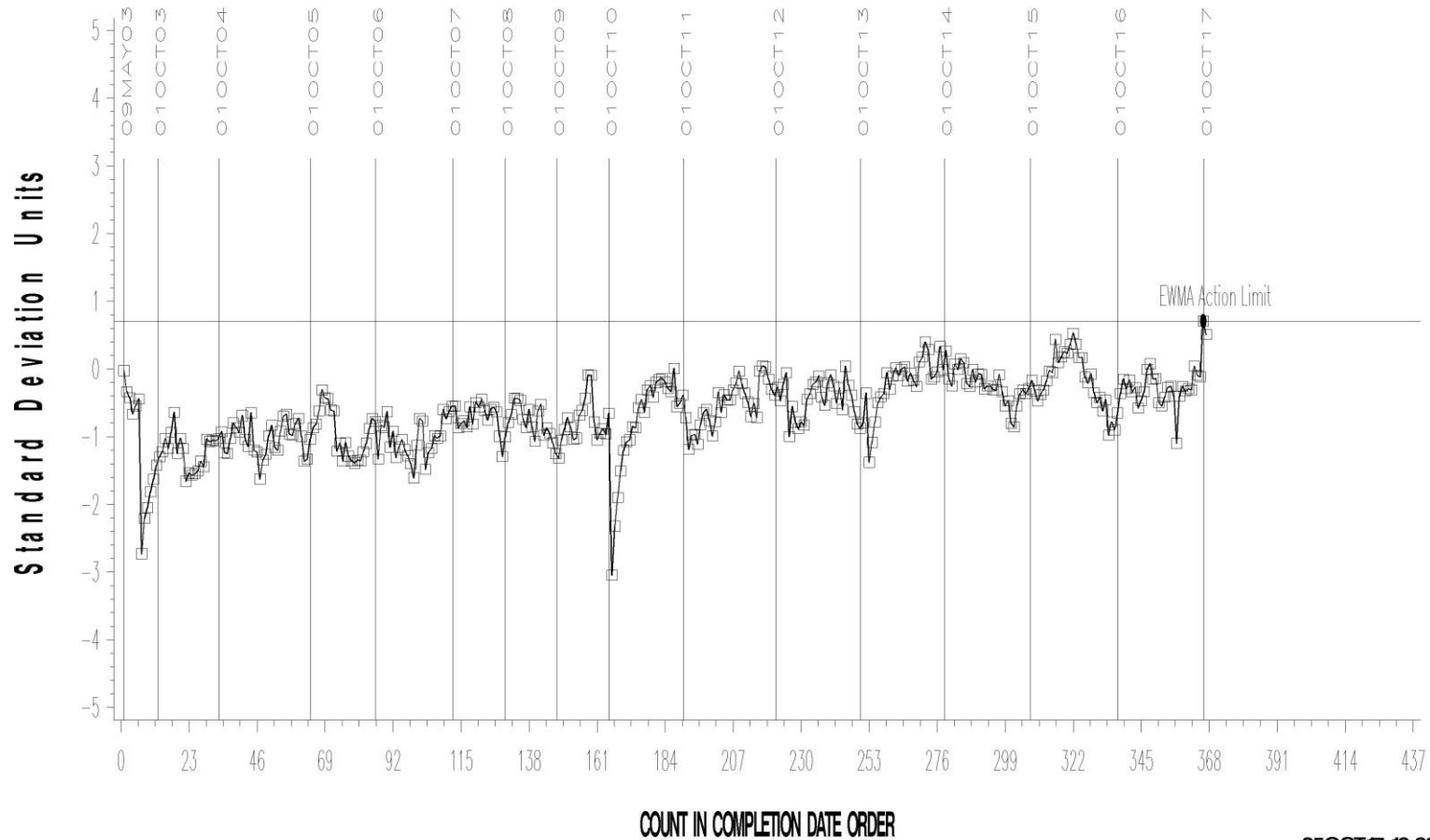
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L-37 Rater Calibration

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RIDGING

LTMS Precision Analysis



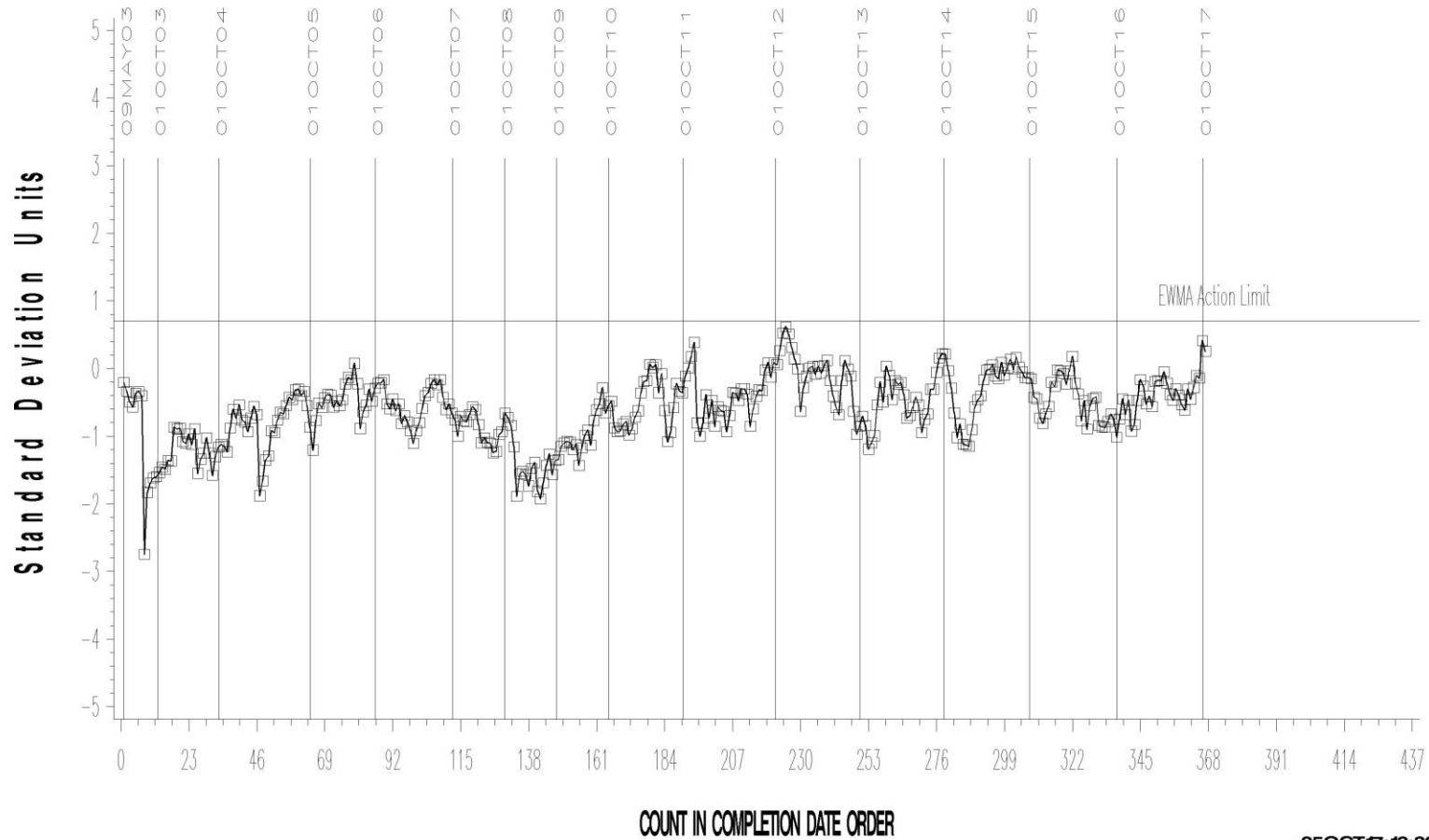
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L-37 Rater Calibration

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RIPPLING

LTMS Precision Analysis



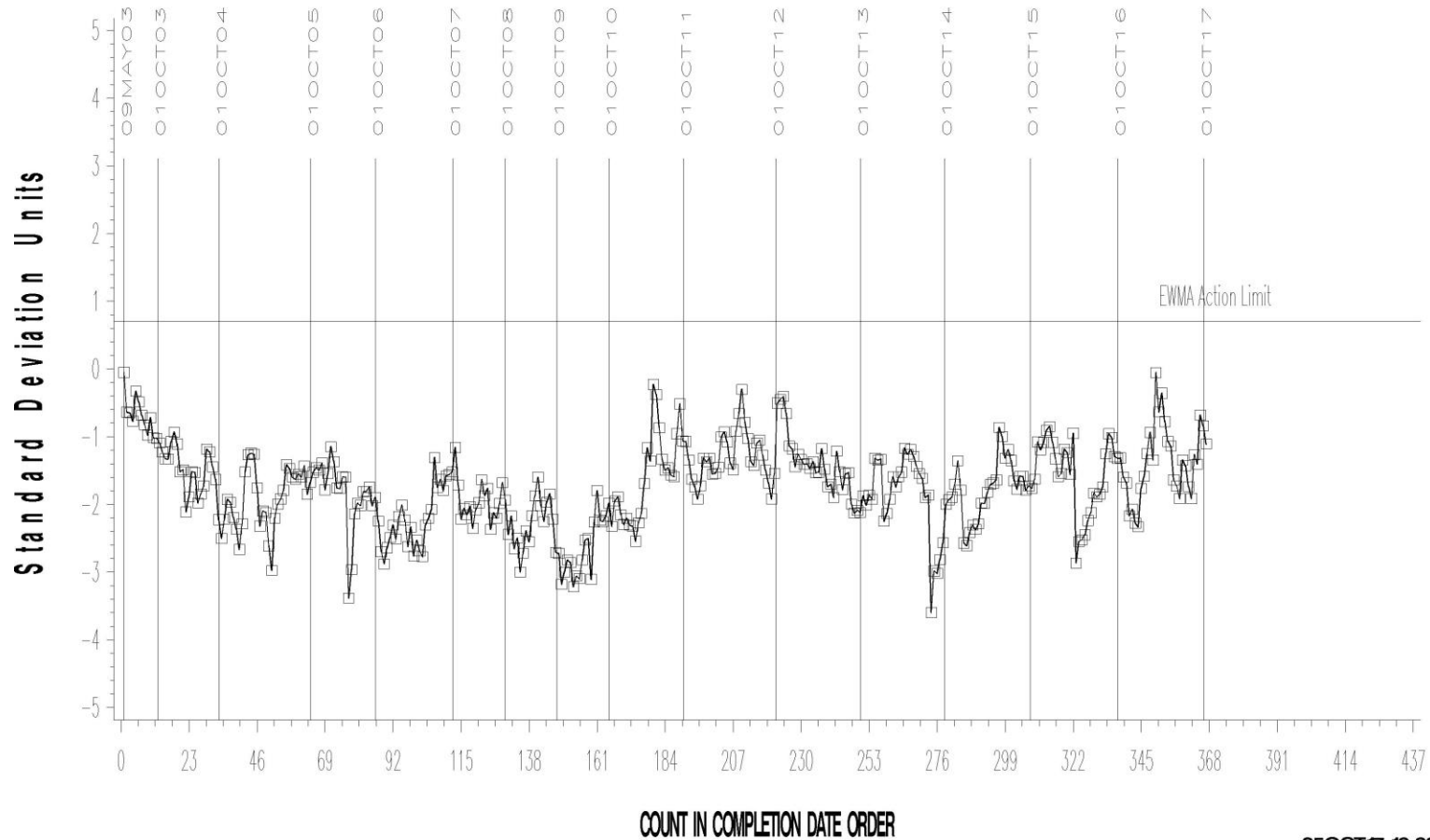
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LTMS Precision Analysis



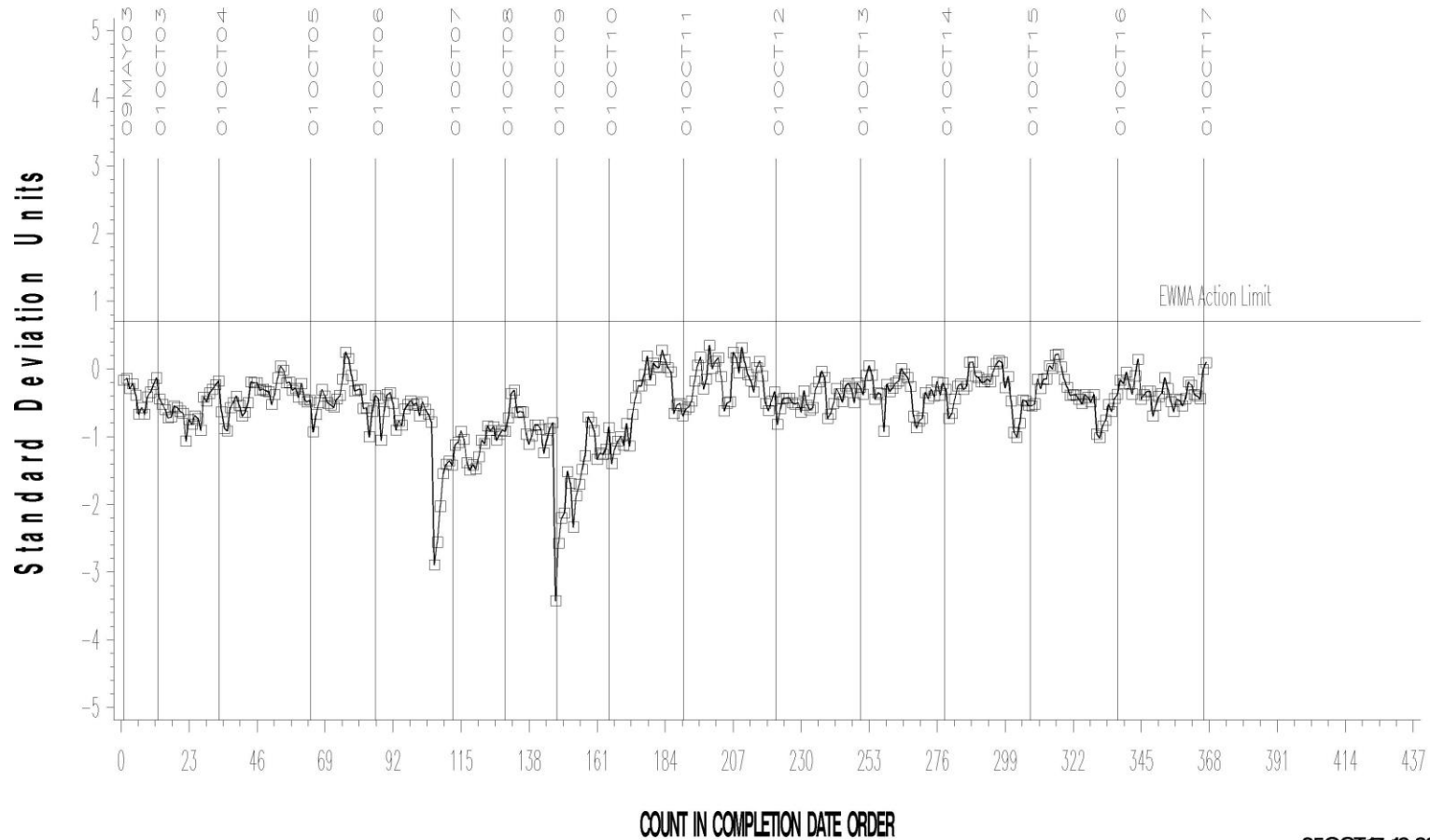
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L-37 Rater Calibration

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WEAR

LTMS Precision Analysis



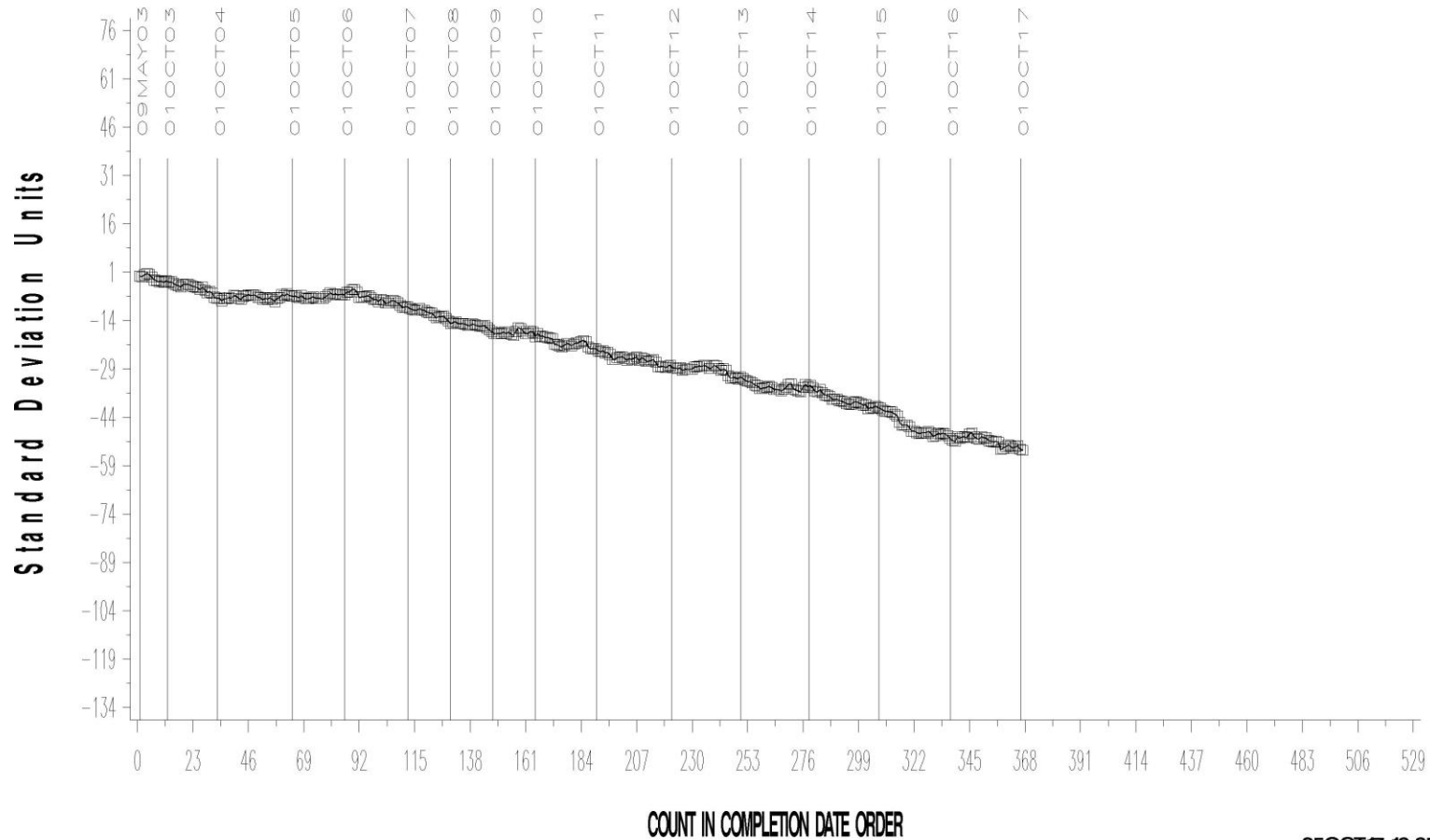
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L-37 Rater Calibration

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIDGING

CUSUM Severity Analysis



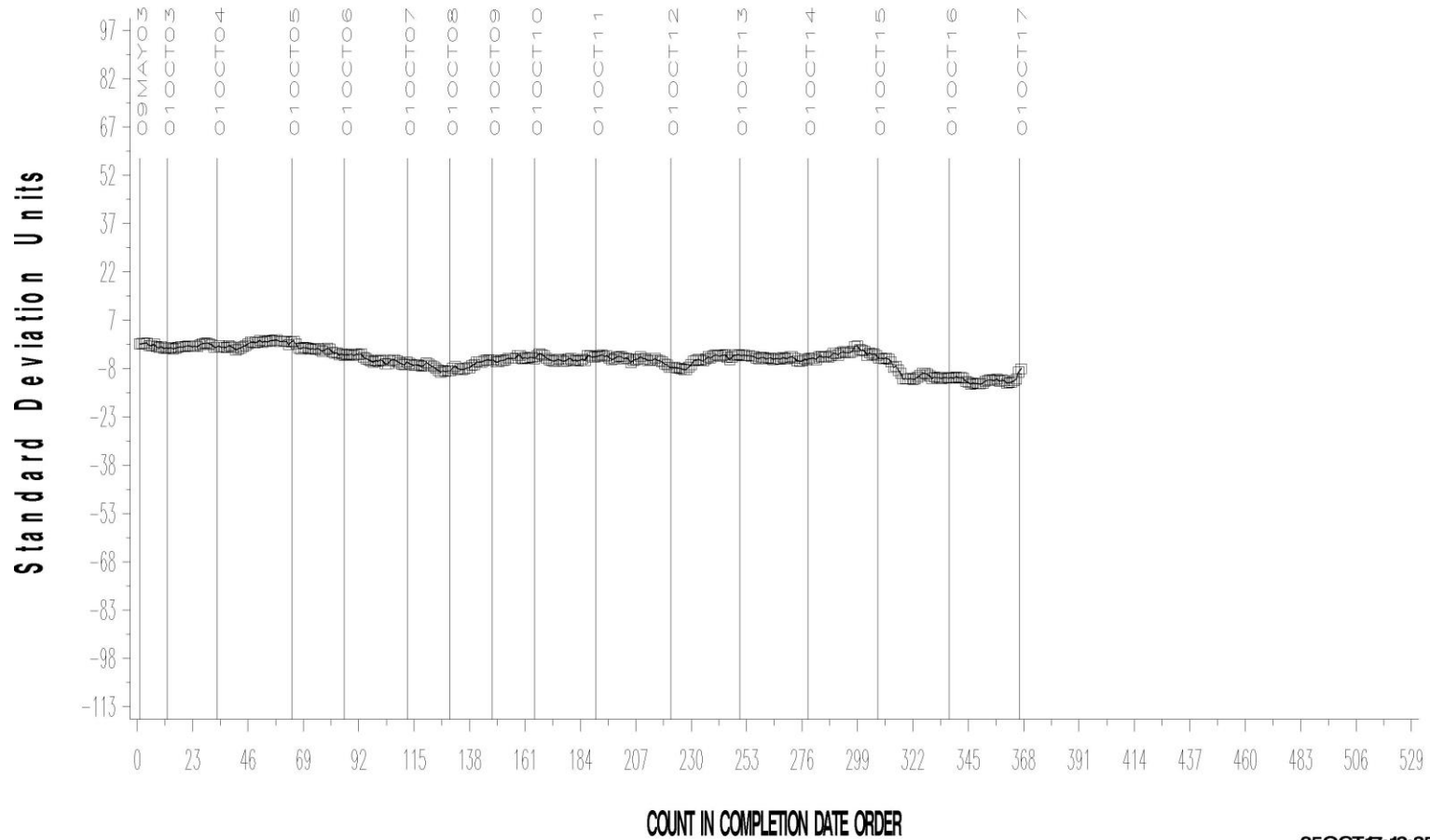
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L-37 Rater Calibration

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RIPPLING

CUSUM Severity Analysis



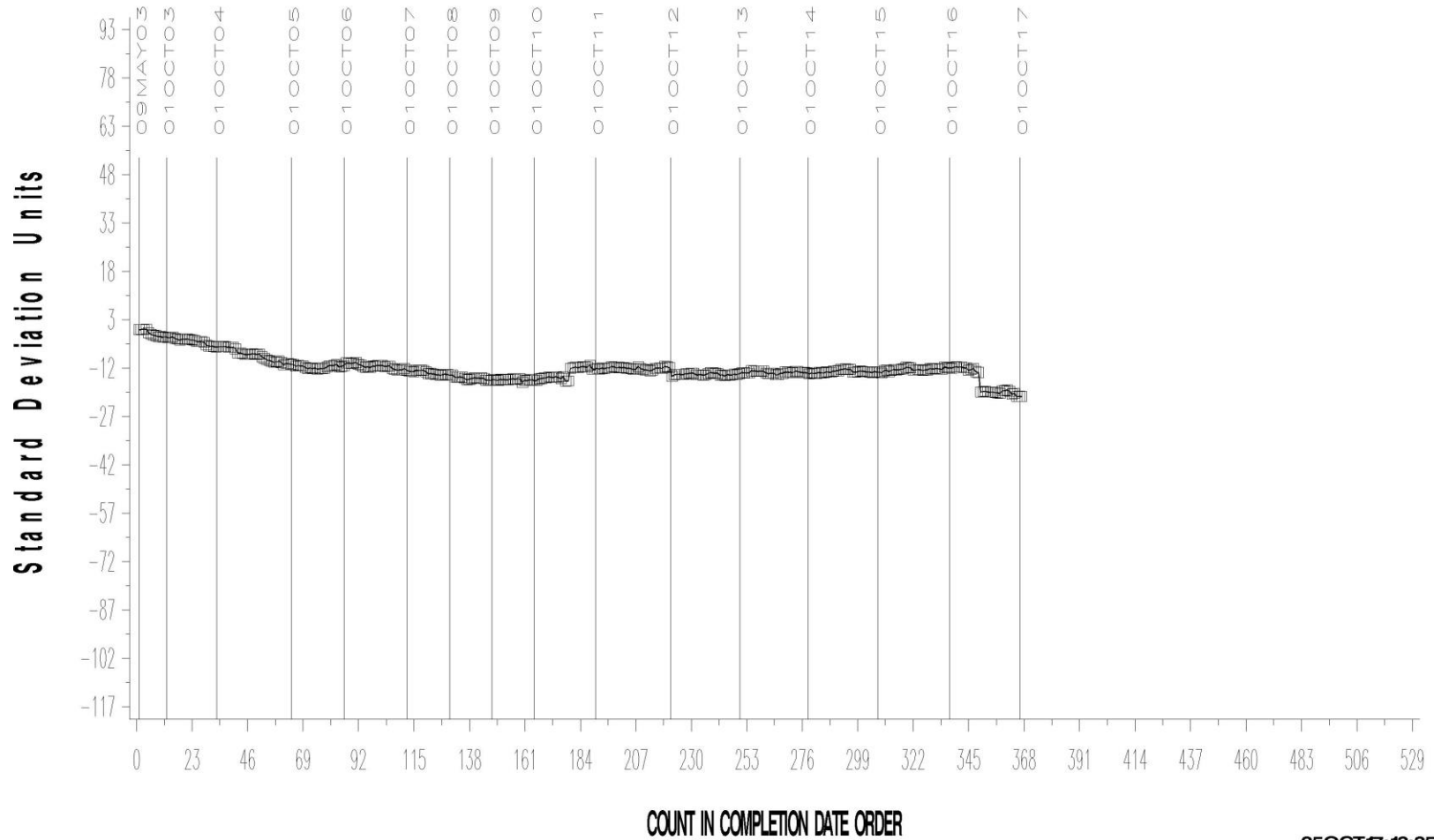
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SPITTING

CUSUM Severity Analysis



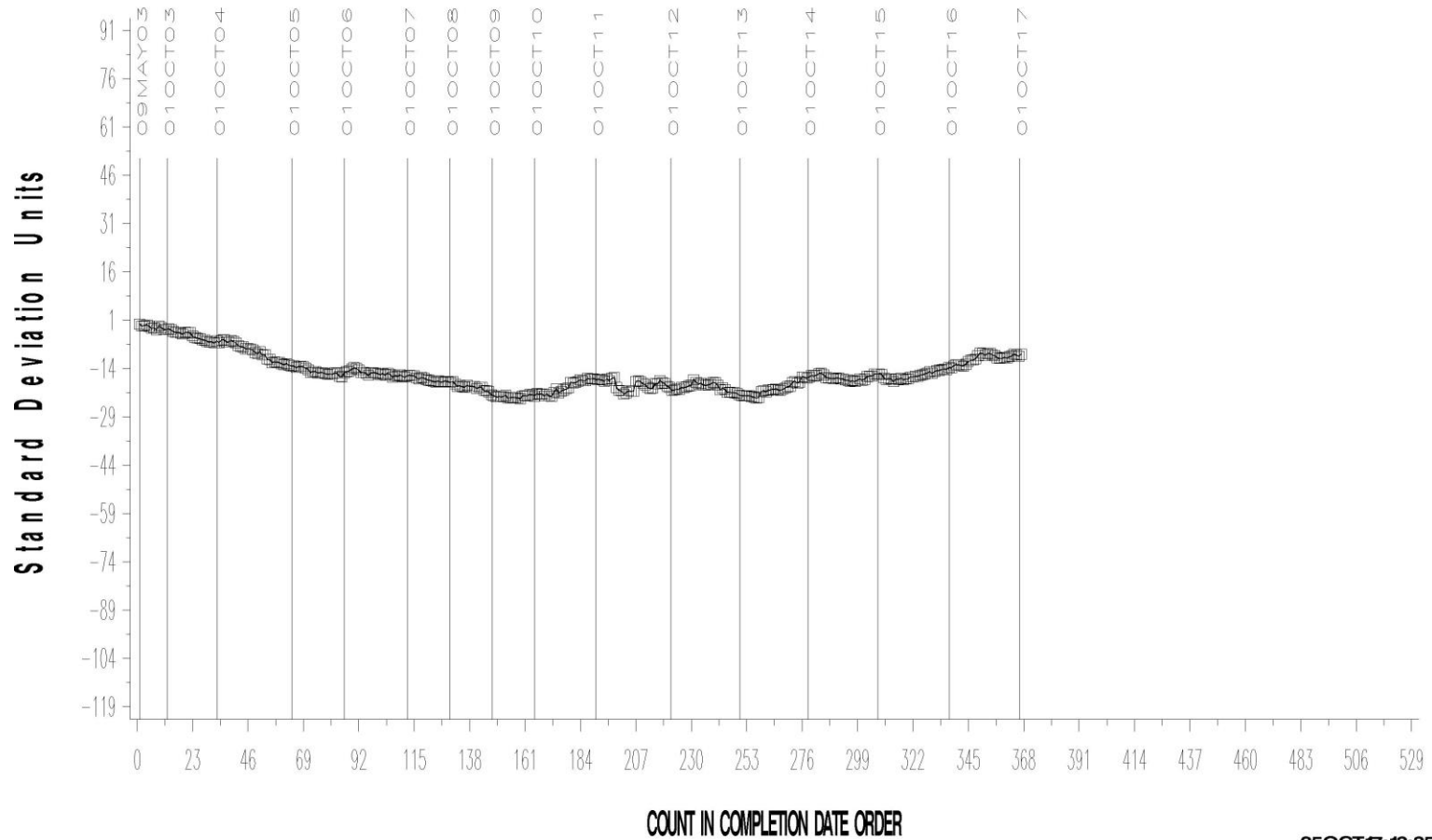
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L-37 Rater Calibration

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WEAR

CUSUM Severity Analysis



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