



Test Monitoring Center

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

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

MEMORANDUM: 20-047
DATE: October 14, 2020
TO: Don Bell, Chairman, OSCT Surveillance Panel
FROM: Dylan Beck *Dylan Beck*
SUBJECT: OSCT Reference oil testing from April 1, 2020 through September 30, 2020

Attached is a summary of reference oil testing activity this period.

DJB/djb/mem20-047.djb.doc

cc: Frank Farber
Jeff Clark

OSCT Surveillance Panel

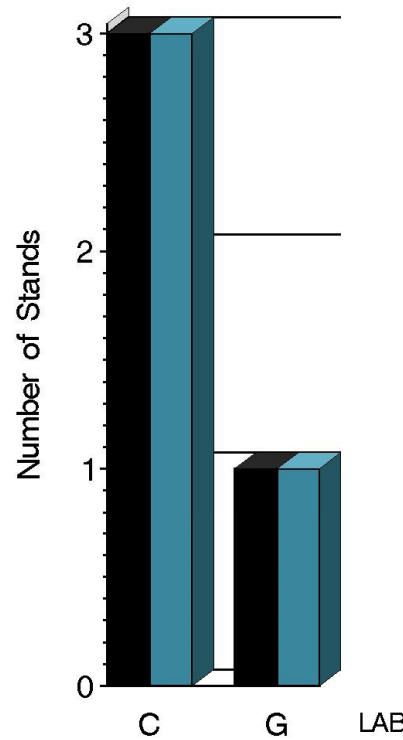
<http://www.astmtmc.cmu.edu/ftp/docs/gear/osct/semiannualreports/osct-10-2020.pdf>

Distribution: email

OSCT (D5662)

	Reporting Data	Calibrated on 9-30-2020
Number of Labs	2	2
Number of Stands	4	4

BY-LAB STAND
DISTRIBUTION



Report Period: ■ Current ■ Previous

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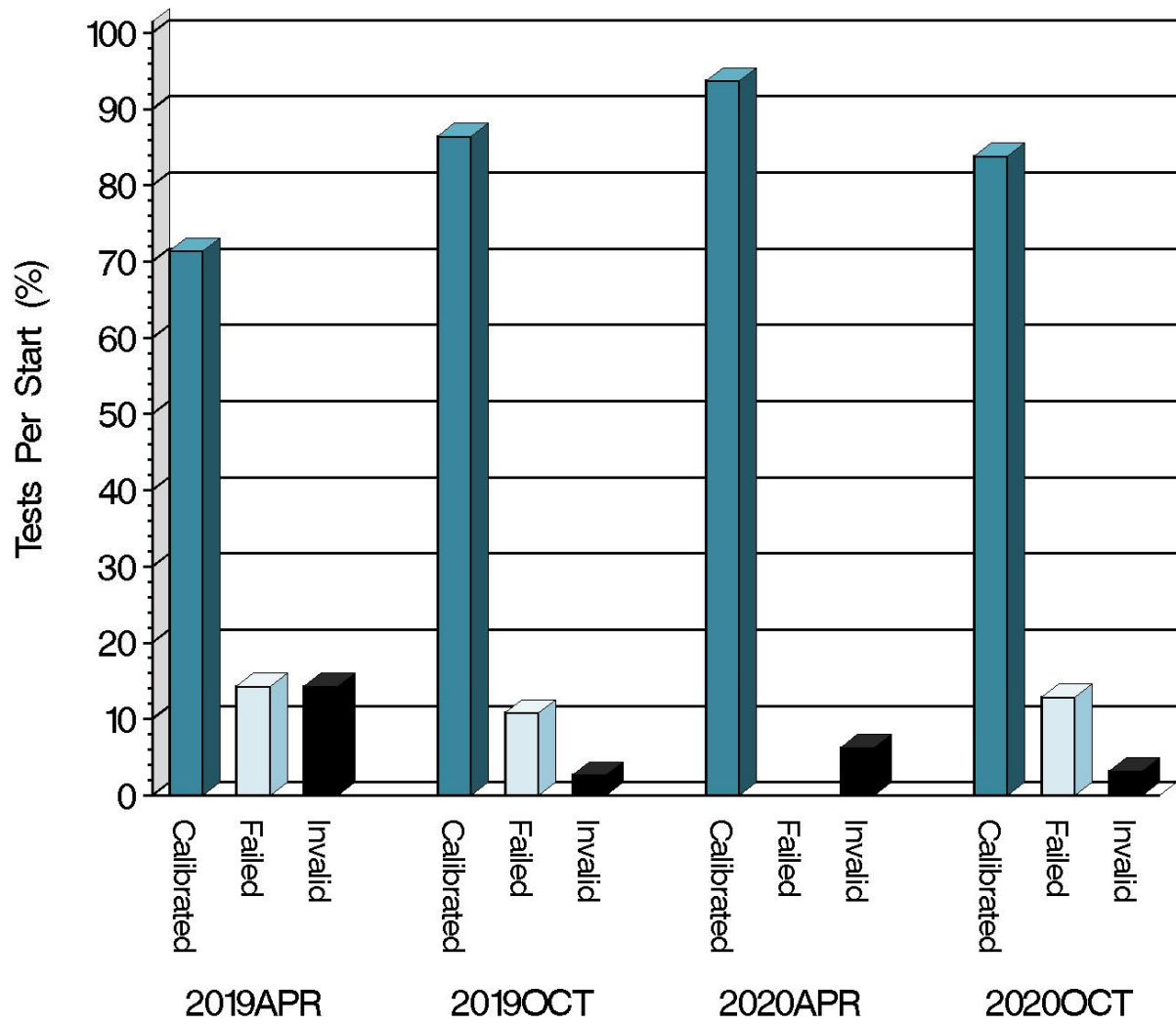
OSCT (D5662)

Test Distribution by Elastomer and Validity

					Totals	
					Last Period	This Period
		FL	NI	PA		
Accepted for calibration	AC	11	4	11	30	26
Rejected (low result)	OC	1	0	1	0	2
Rejected (high result)	OC	0	1	0	0	1
Rejected (high and low)	OC	0	1	0	0	1
Op. invalid	LC	0	0	0	2	0
Aborted	XC	1	0	0	0	1
Elastomer approval run	NI	9	0	12	31	21
Aborted information run	XI	1	0	0	0	1
Op. invalid approval run	LI	0	0	0	2	0
Total		23	6	24	65	53

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CALIBRATION ATTEMPT SUMMARY



Resolution

Report Period

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CAUSES FOR LOST TESTS

		Elastomer			Loss Rate						
Lab	Cause	FL	NI	PA	LI	XI	LC	XC	Lost	Starts	%
C	Test Data Loss	●				●			1	28	3.6%
		●						●	1	28	3.6%
	Lost	2	0	0	0	1	0	1			
	Starts	23	6	24	53	53	53	53			
	%	8.6%	0%	0%	0%	1.8%	0%	1.8%			

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Average Δ/s by Lab

Elastomer	Lab	N	PELA	PVCA	SAHA
FL	C	6	-1.7908	-0.39536	-0.02624
	G	6	-0.7698	0.24420	-0.97486
	Industry	12	-1.2803	-0.07558	-0.50055
	Shift*	12	-9.7006	-0.04009	-0.69873
NI	C	4	0.3659	0.52575	-0.95328
	G	2	1.0946	6.15770	-0.14643
	Industry	6	0.6088	2.40306	-0.68433
	Shift*	6	3.1141	1.20883	-0.80992
PA	C	7	-0.1005	-0.08571	0.30579
	G	5	-1.2174	-1.91587	1.32549
	Industry	12	-0.5659	-0.84828	0.73067
	Shift*	12	12.0194	-1.58777	1.83553

*computed using historic pooled s

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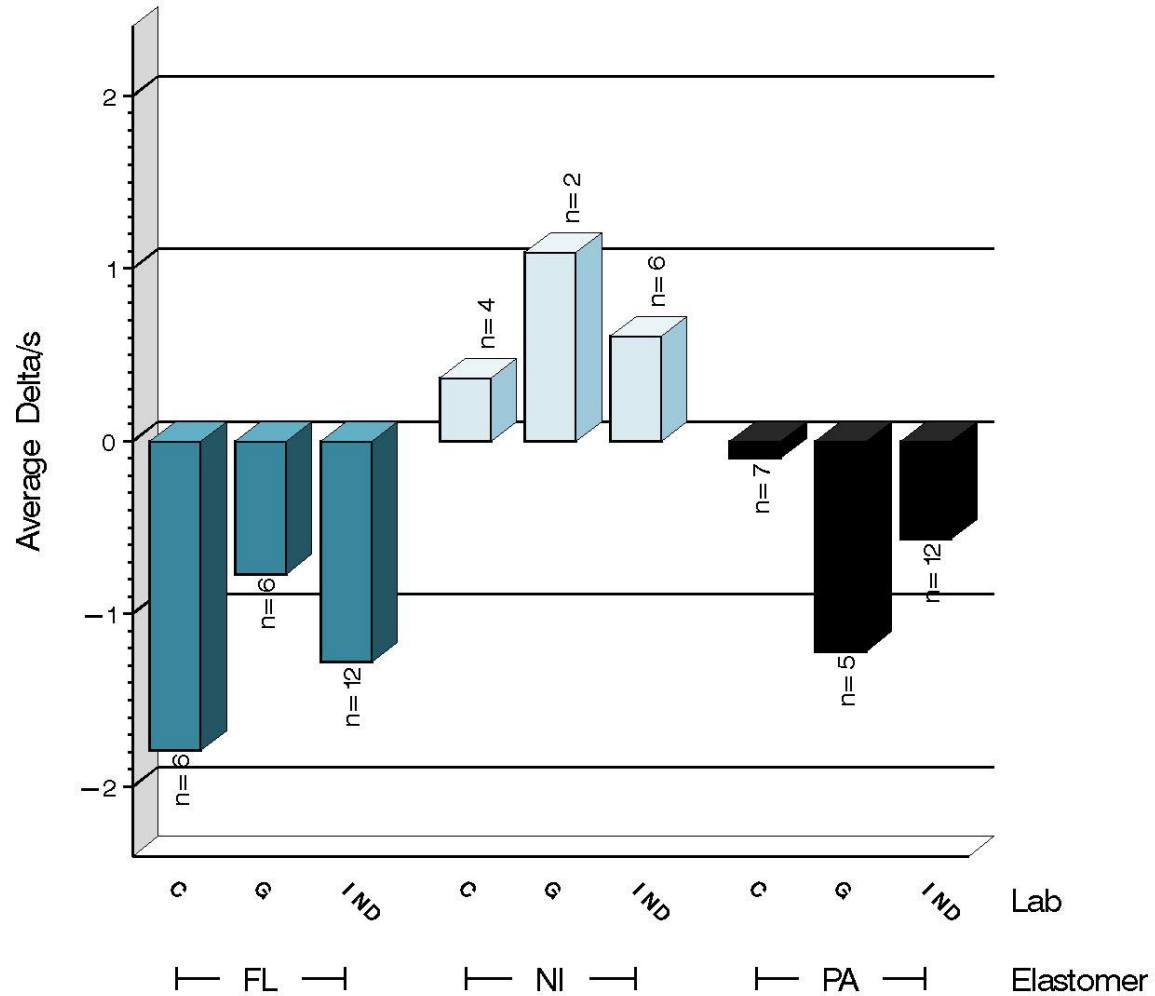
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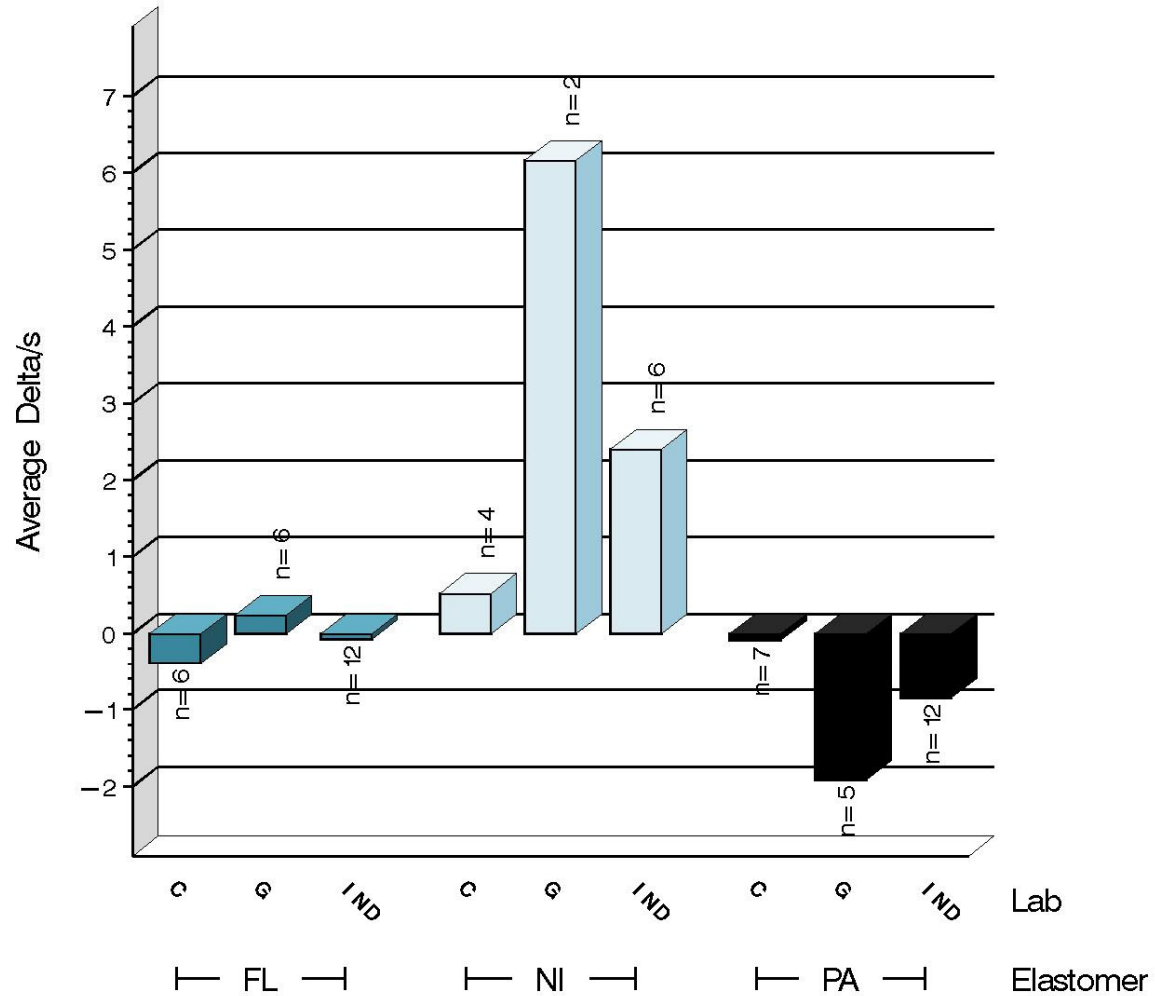
%ELONGATION SEVERITY
DELTA/S BY LAB



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OSCT (D5662)

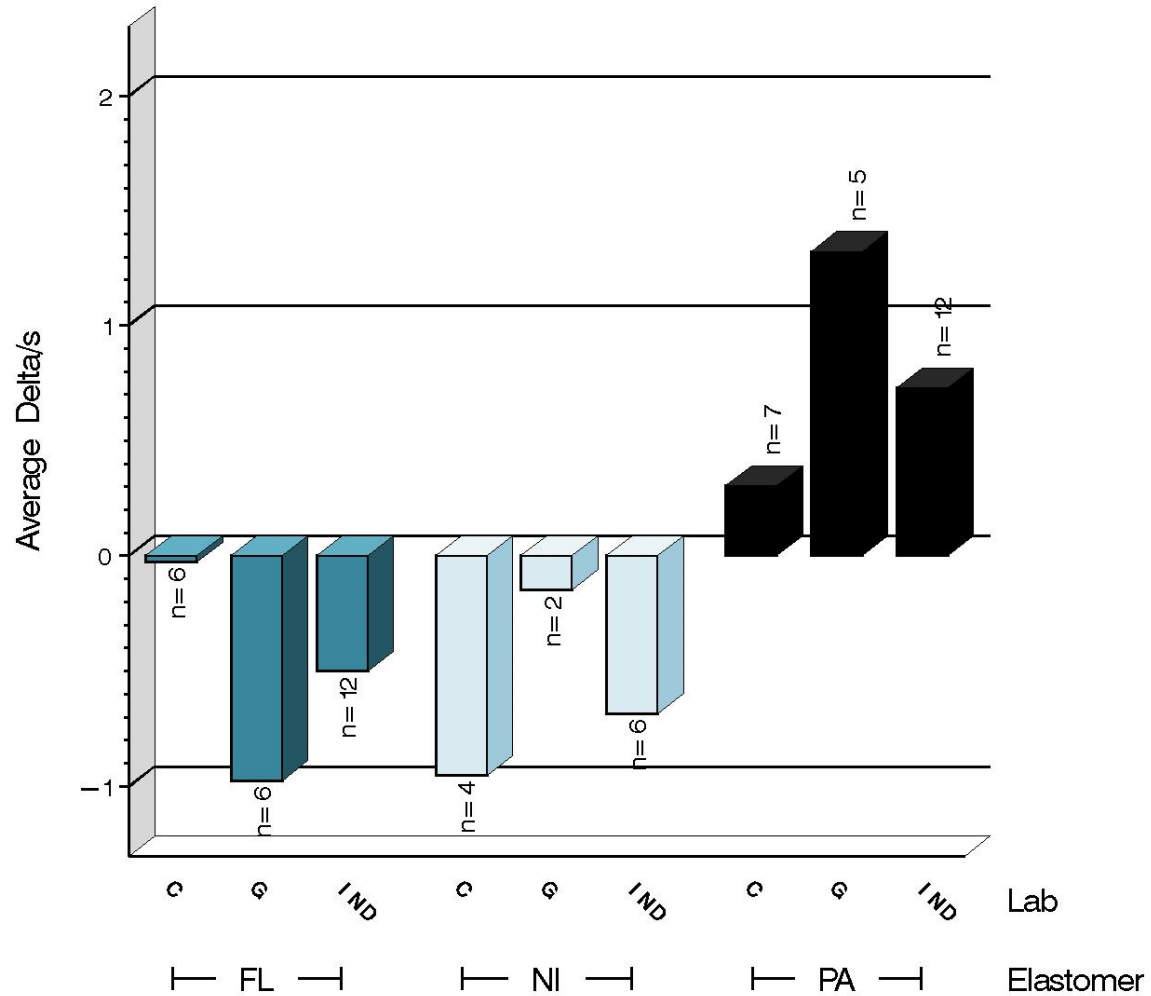
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DELTA/S BY LAB



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OSCT (D5662)

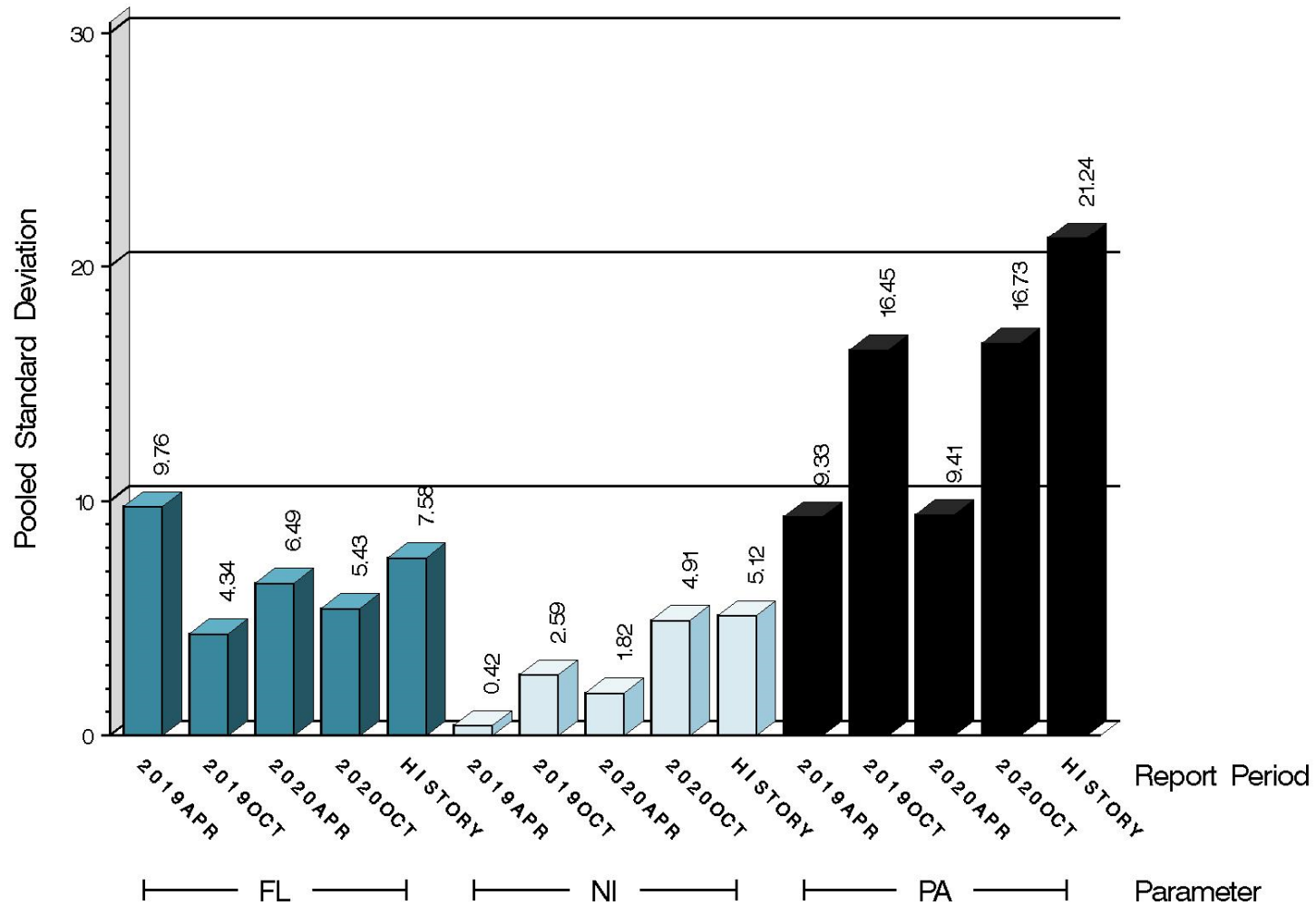
S.A. HARDNESS SEVERITY
DELTA/S BY LAB



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OSCT (D5662)

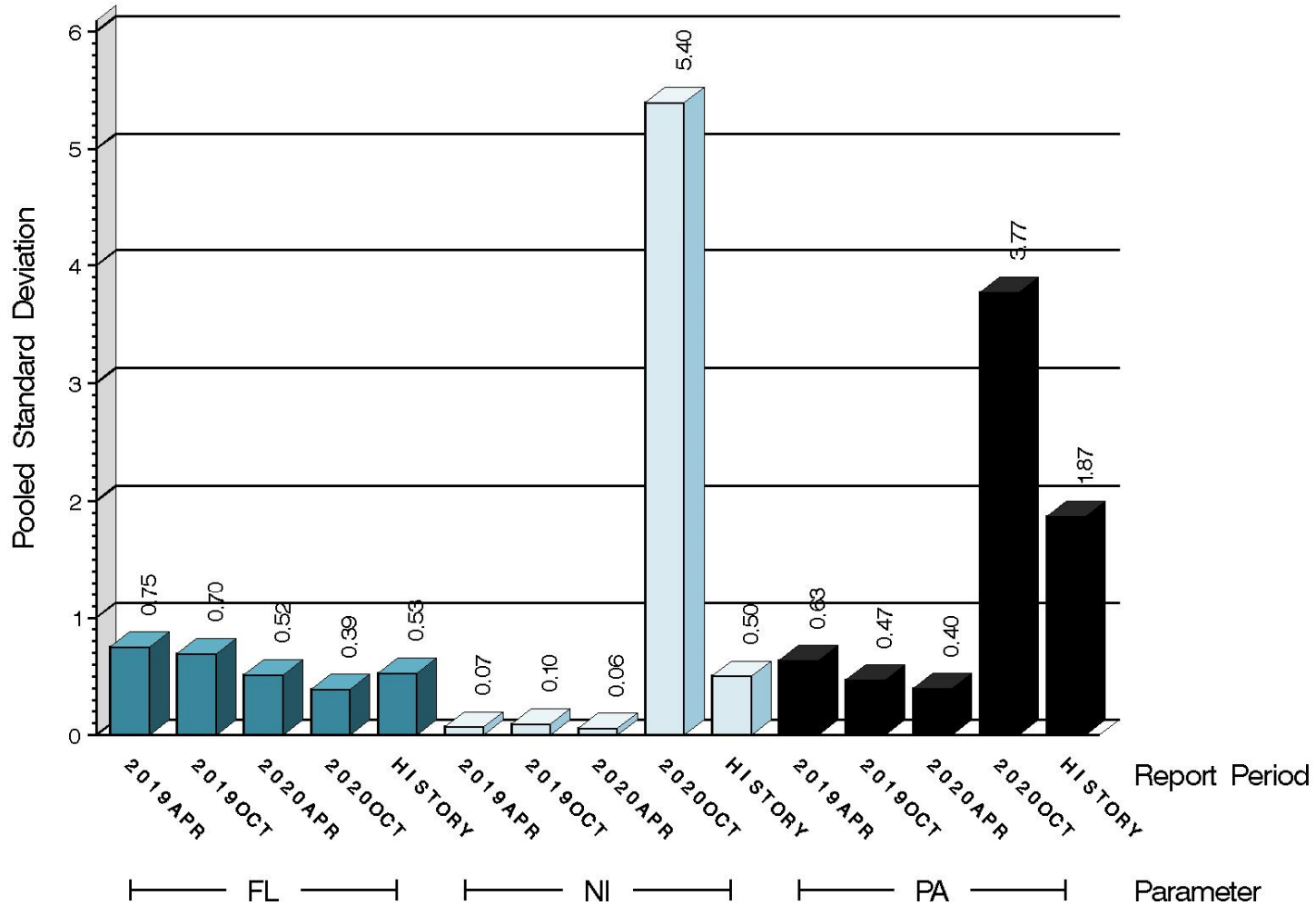
%ELONGATION PRECISION
 POOLED STANDARD DEVIATION
 BY SIX-MONTH ASTM REPORT PERIOD



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OSCT (D5662)

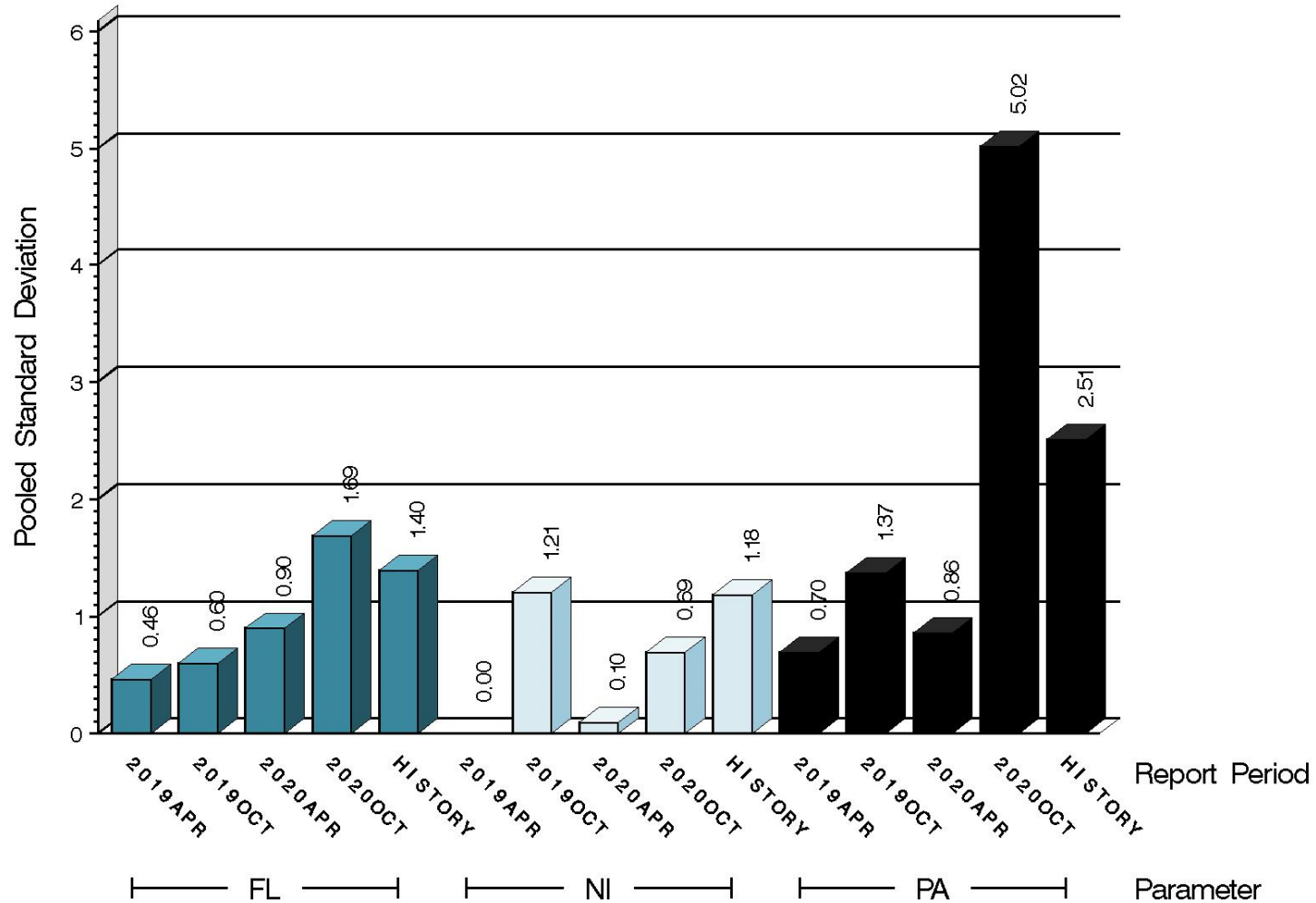
%VOLUME CHANGE PRECISION
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S.A. HARDNESS PRECISION
POOLED STANDARD DEVIATION
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SUMMARY OF SEVERITY & PRECISION

Severity

The combined-elastomer industry charts show that PVCA and SAHA exceeded the limits in the mild direction this period, but are now back in line. PELA exceeded the limits in the severe direction but is now back in line.

FL PELA, FL SAHA, NI PVCA, PA PVCA, NI SAHA, and PA SAHA all exceeded the limits this period.

Precision

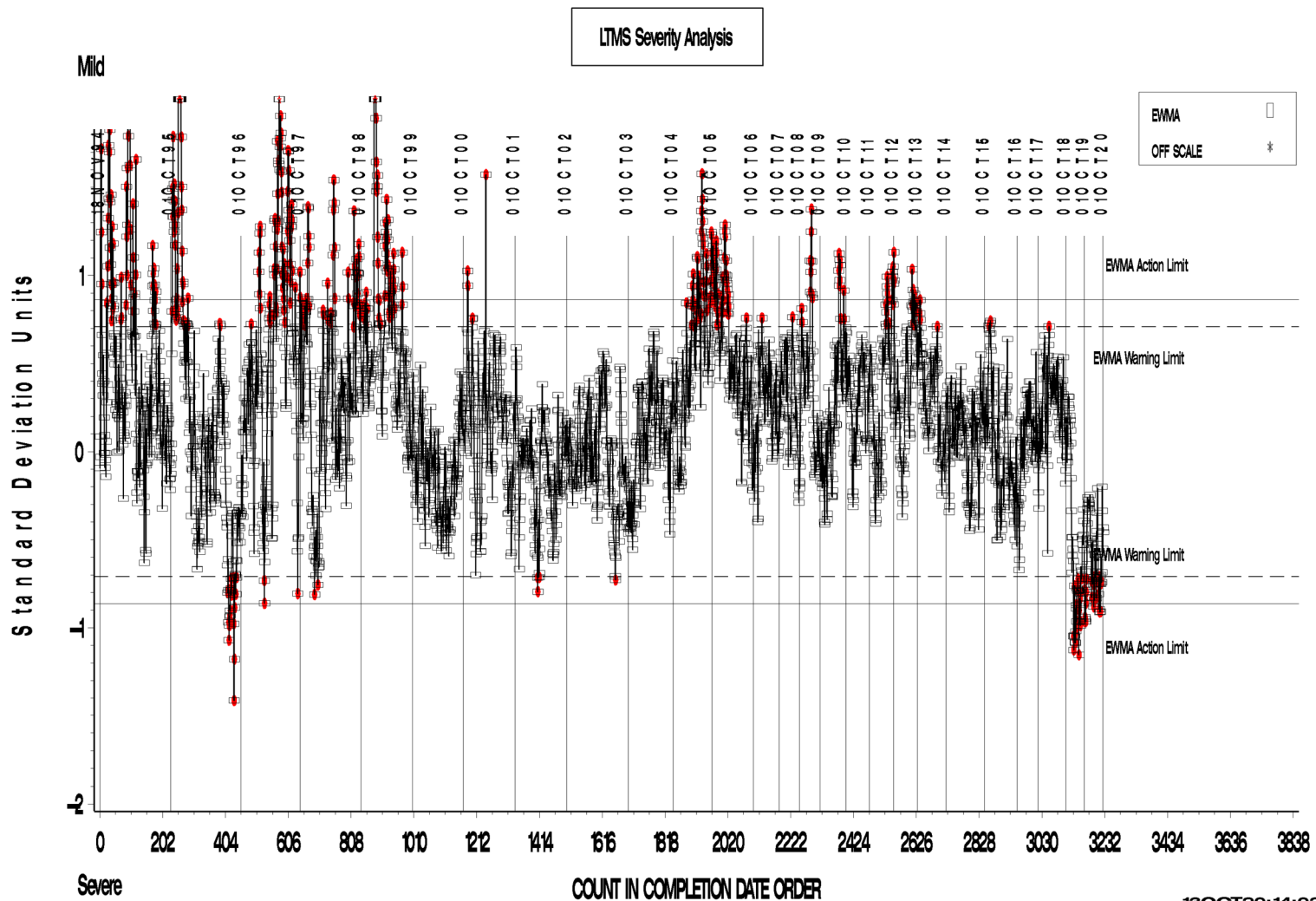
PVCA is currently exceeding the action limit. All other parameters ended the period within the precision limits.

Industry control charts follow.

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OSCT INDUSTRY OPERATIONALLY VALID DATA

REF. ELONGATION CHANGE AVG.



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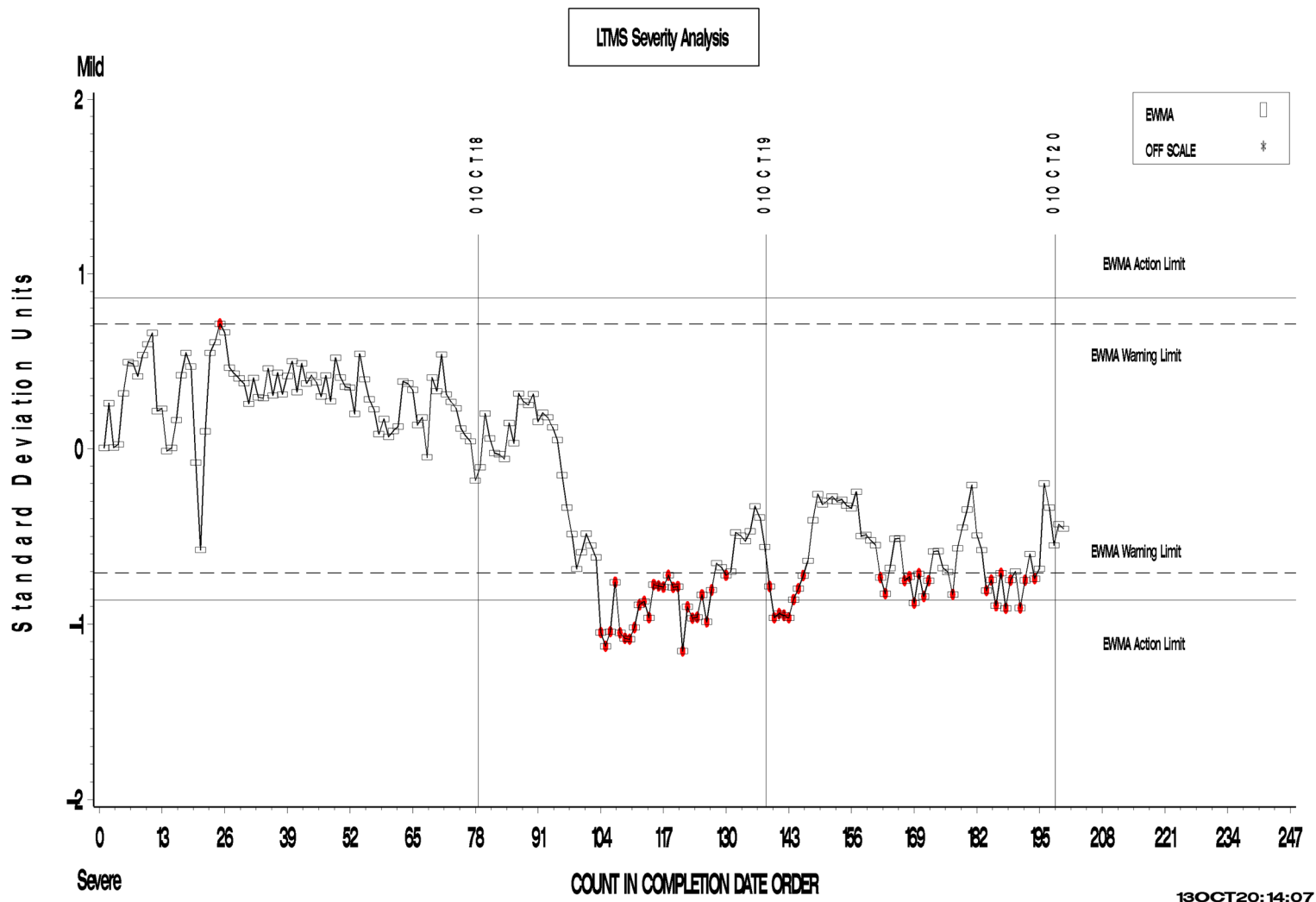
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OSCT (D5662)

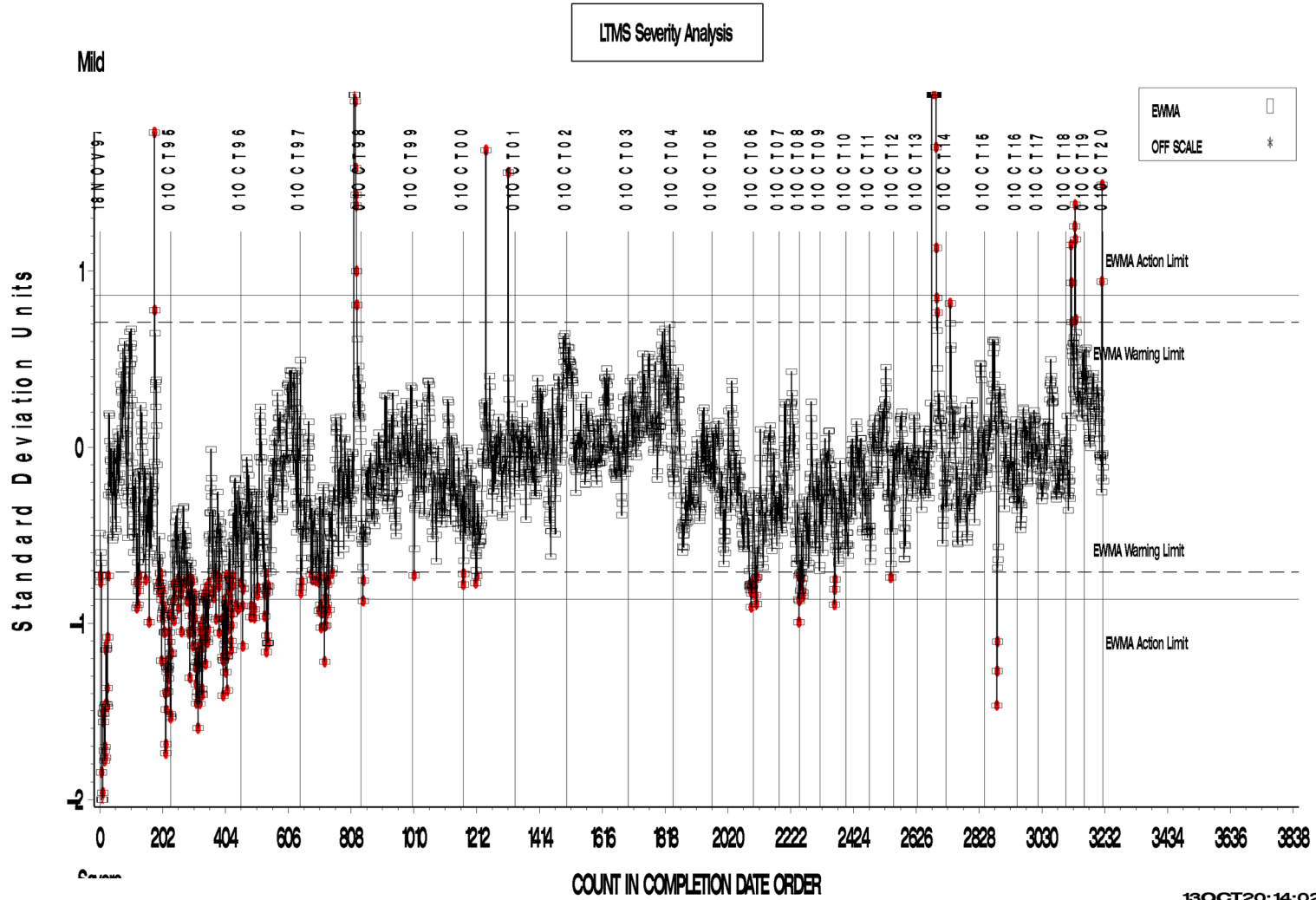
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REF. ELONGATION CHANGE AVG.



OSCT (D5662)

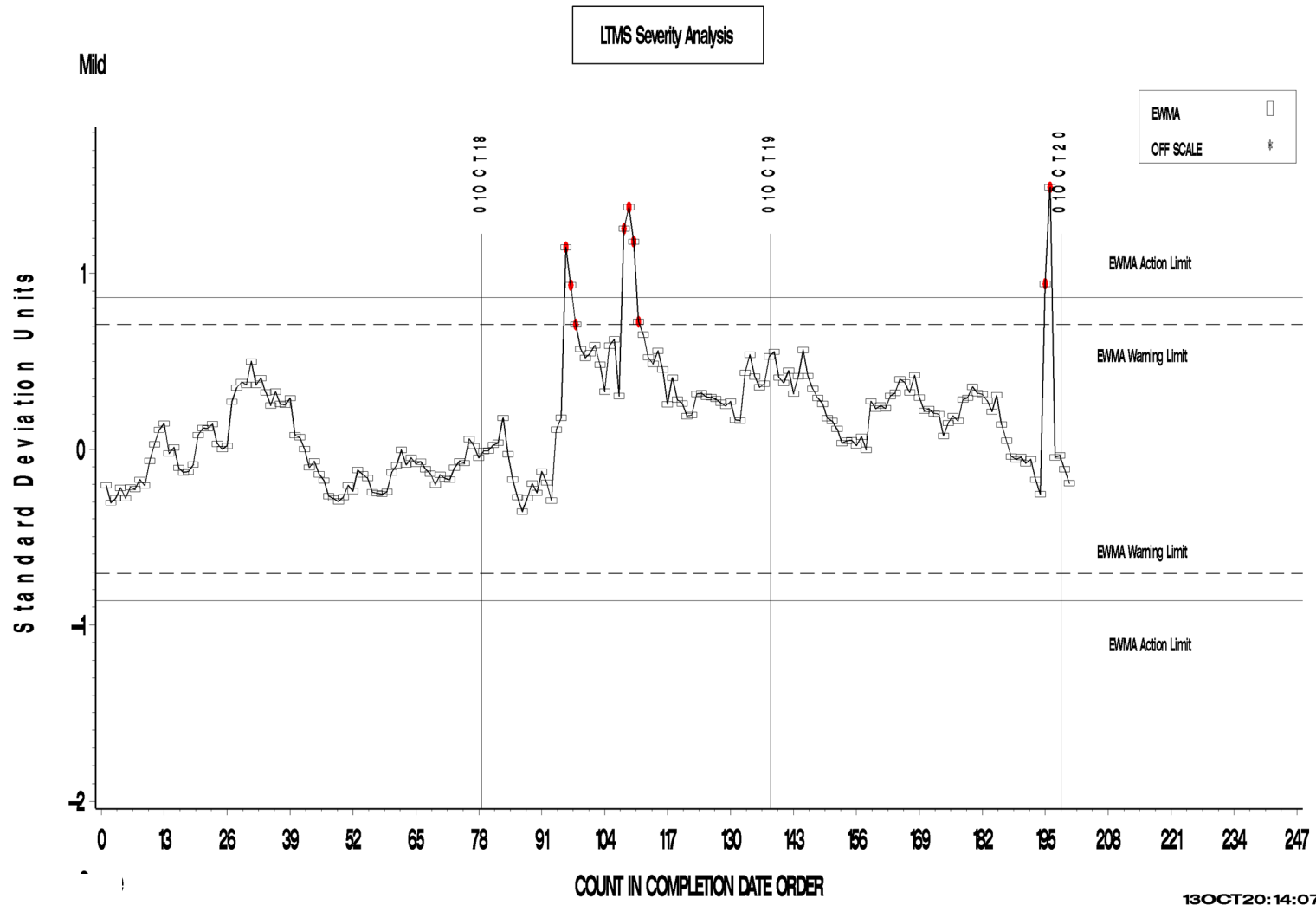
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REF. PERCENT VOLUME CHANGE AVG.



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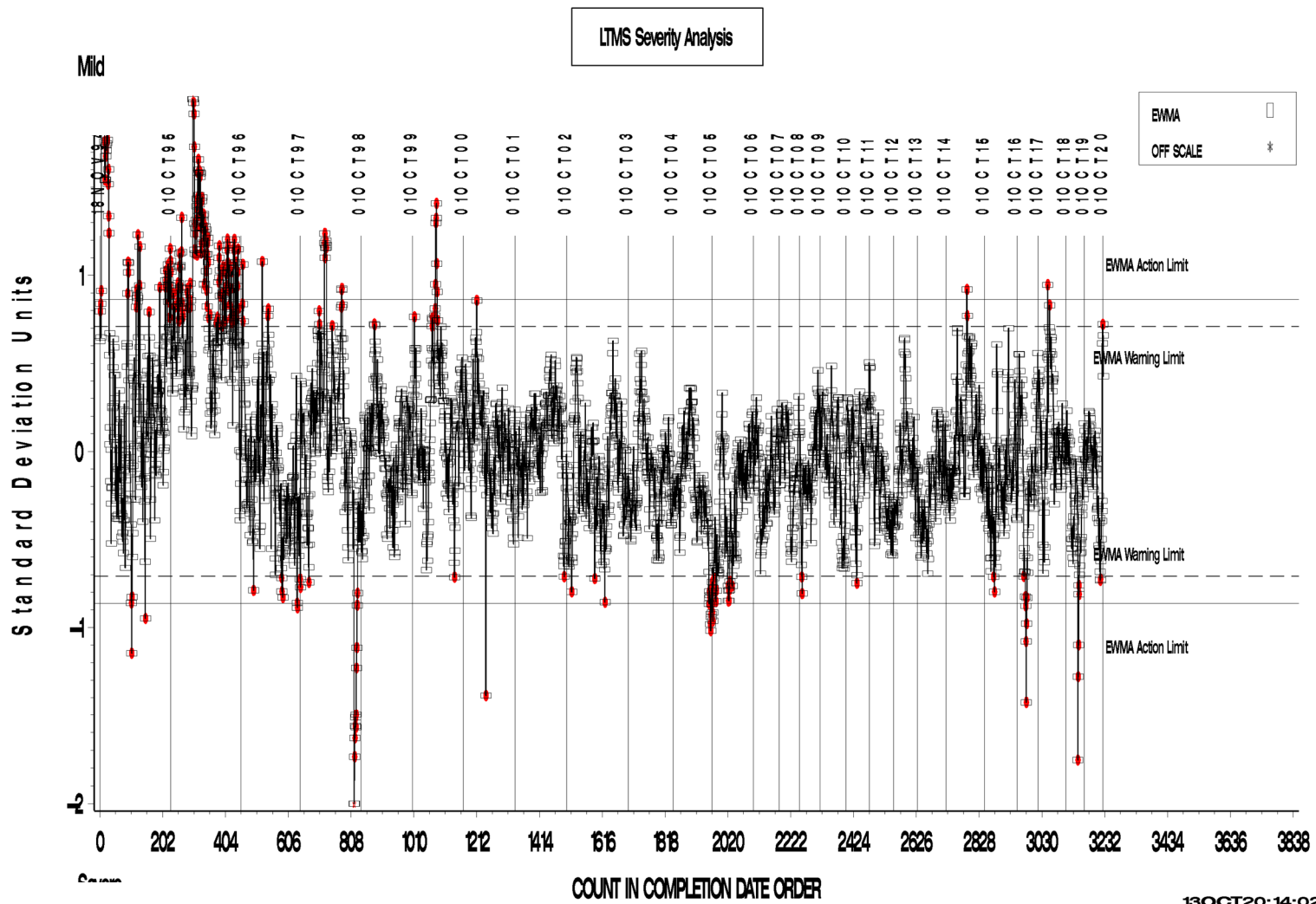
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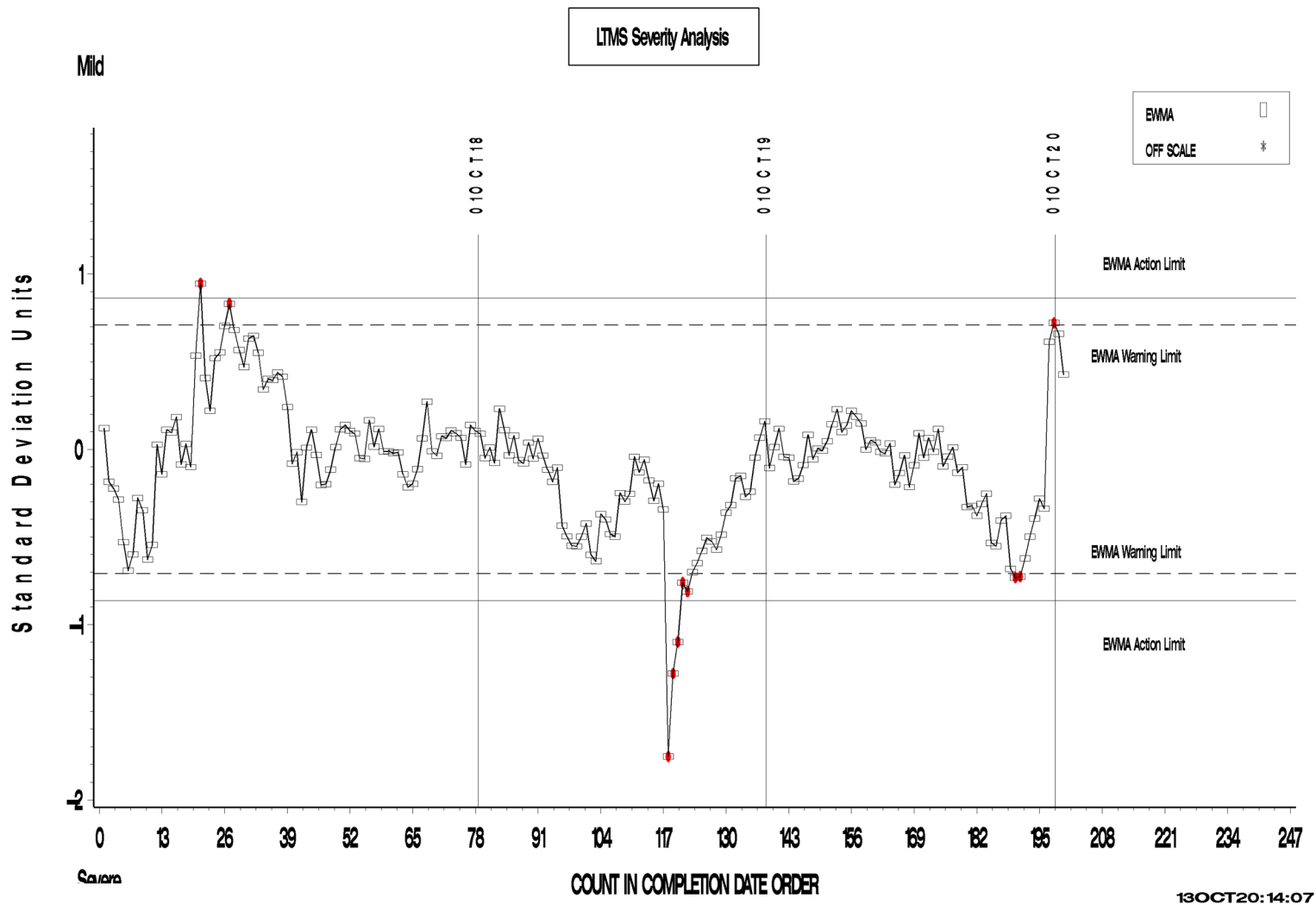
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REF. SHORE A HARDNESS CHANGE AVG.



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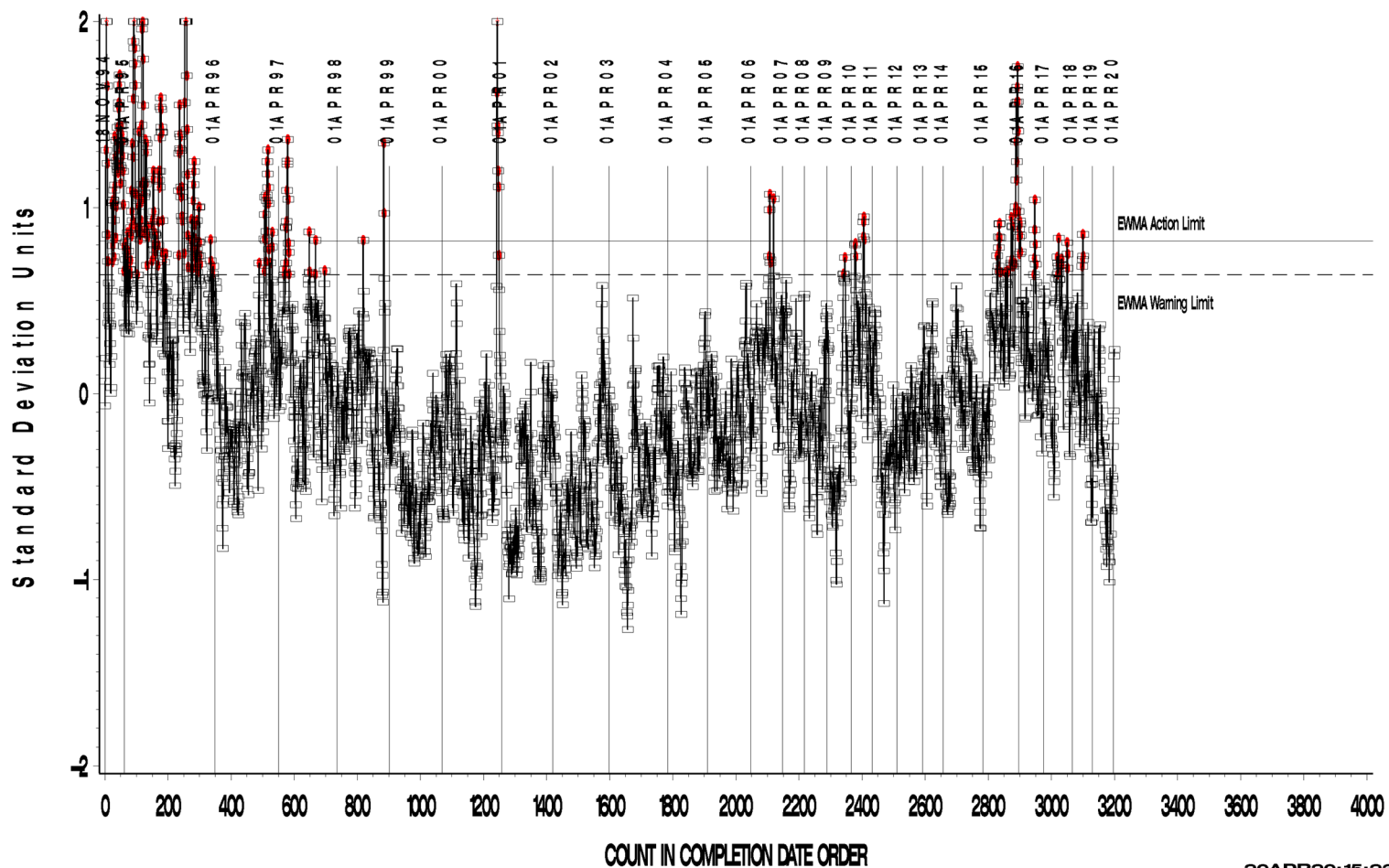


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LTMS Precision Analysis



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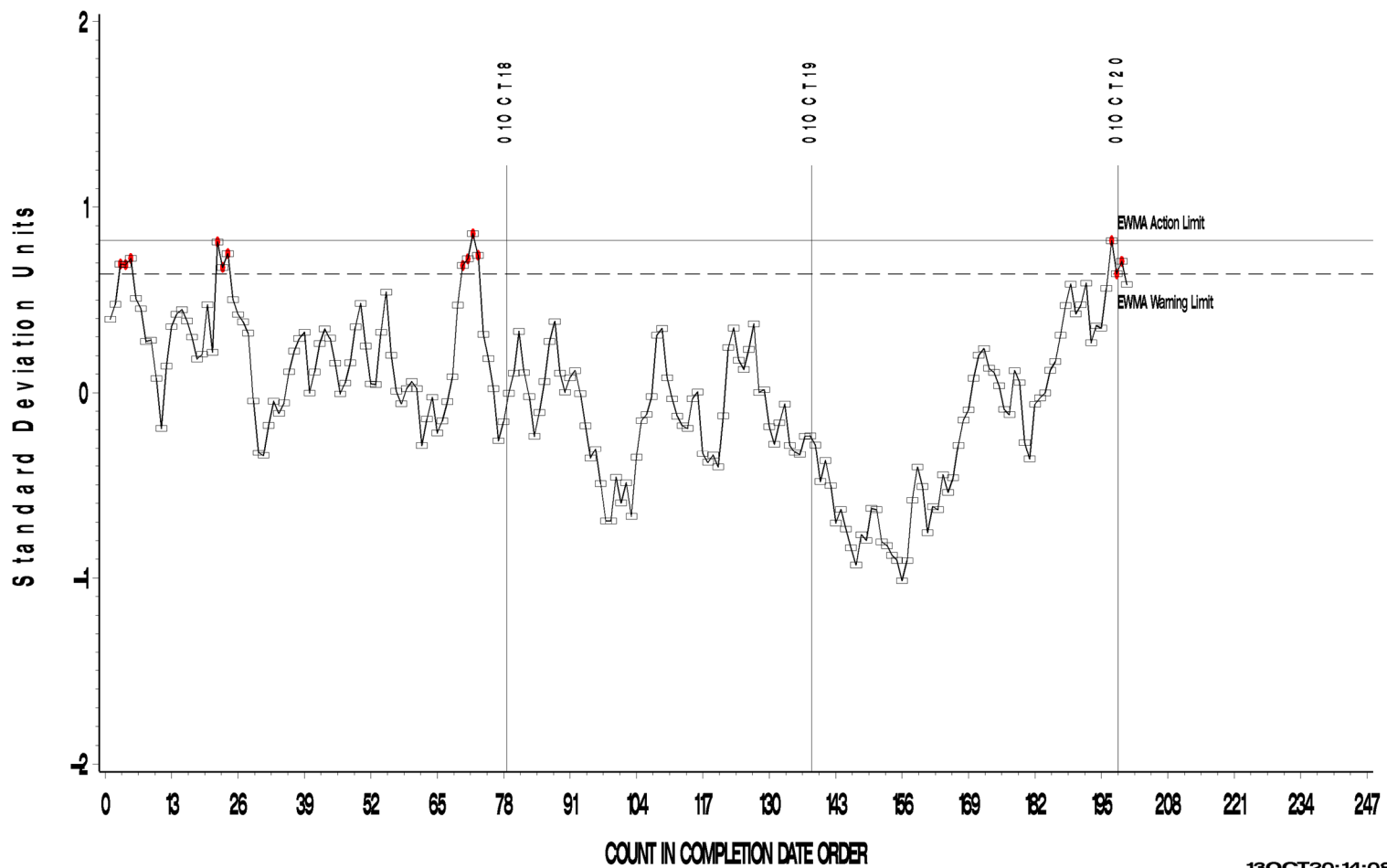


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OSCT (D5662)

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REF. ELONGATION CHANGE AVG.

LTMS Precision Analysis



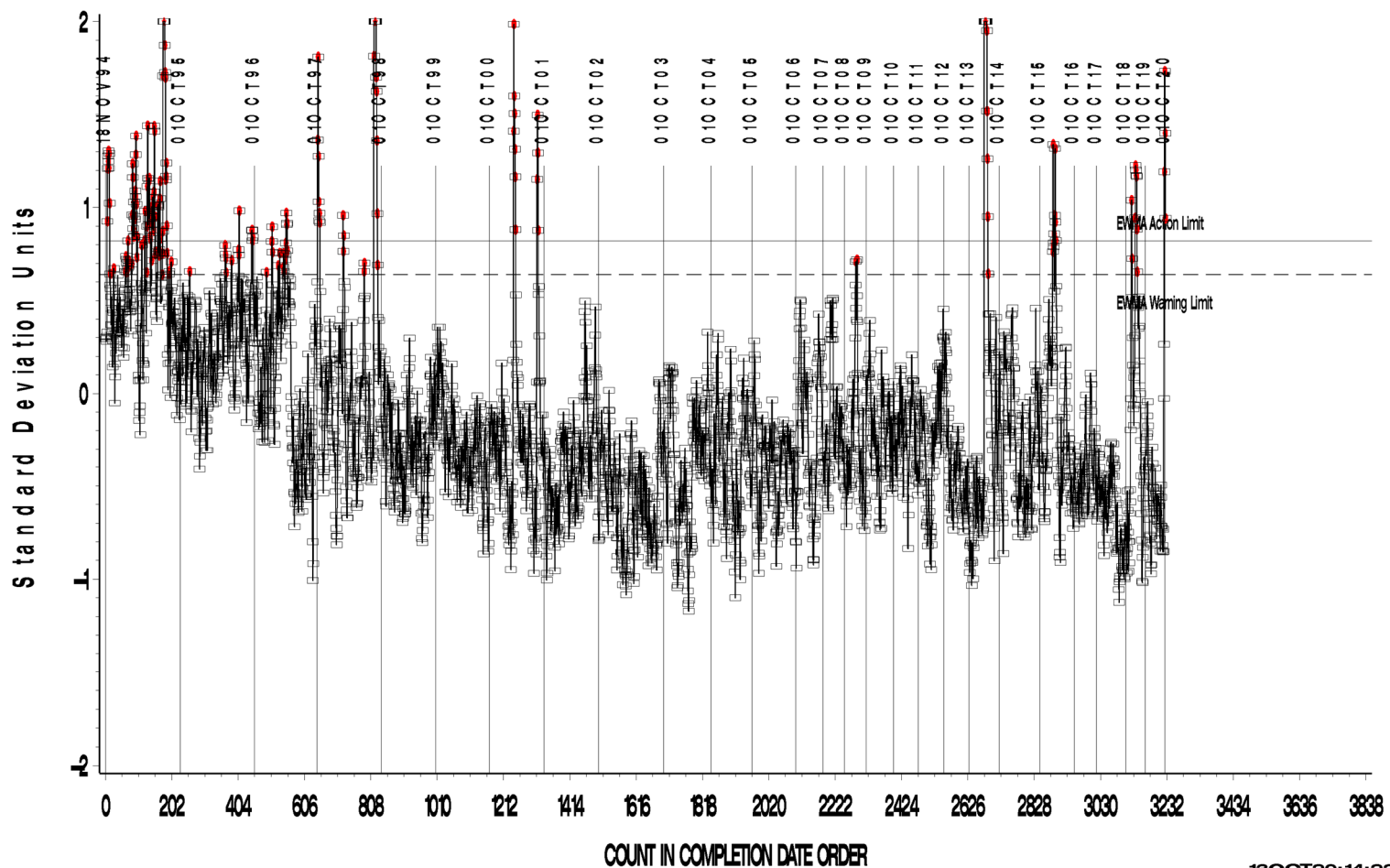
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LTMS Precision Analysis



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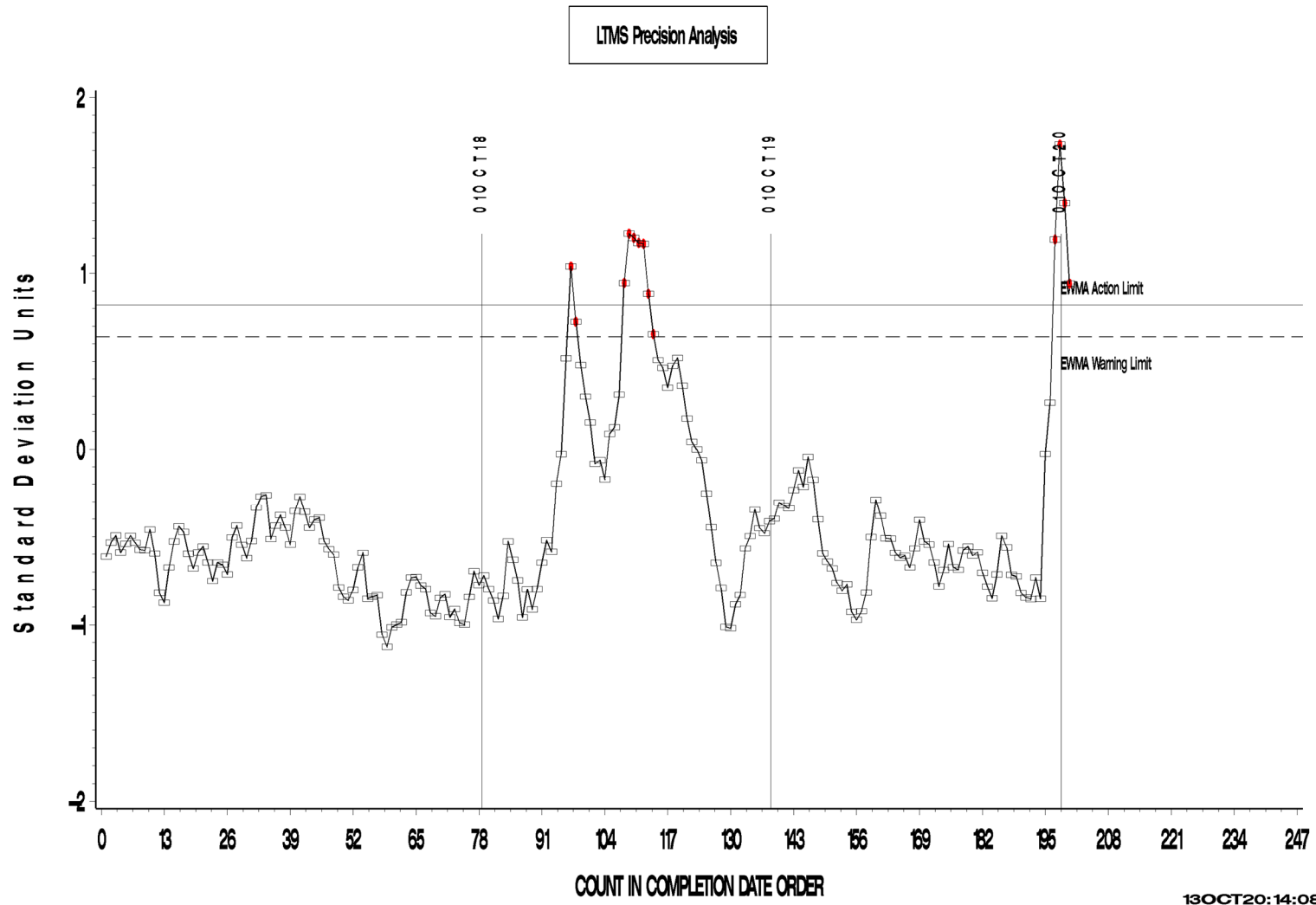
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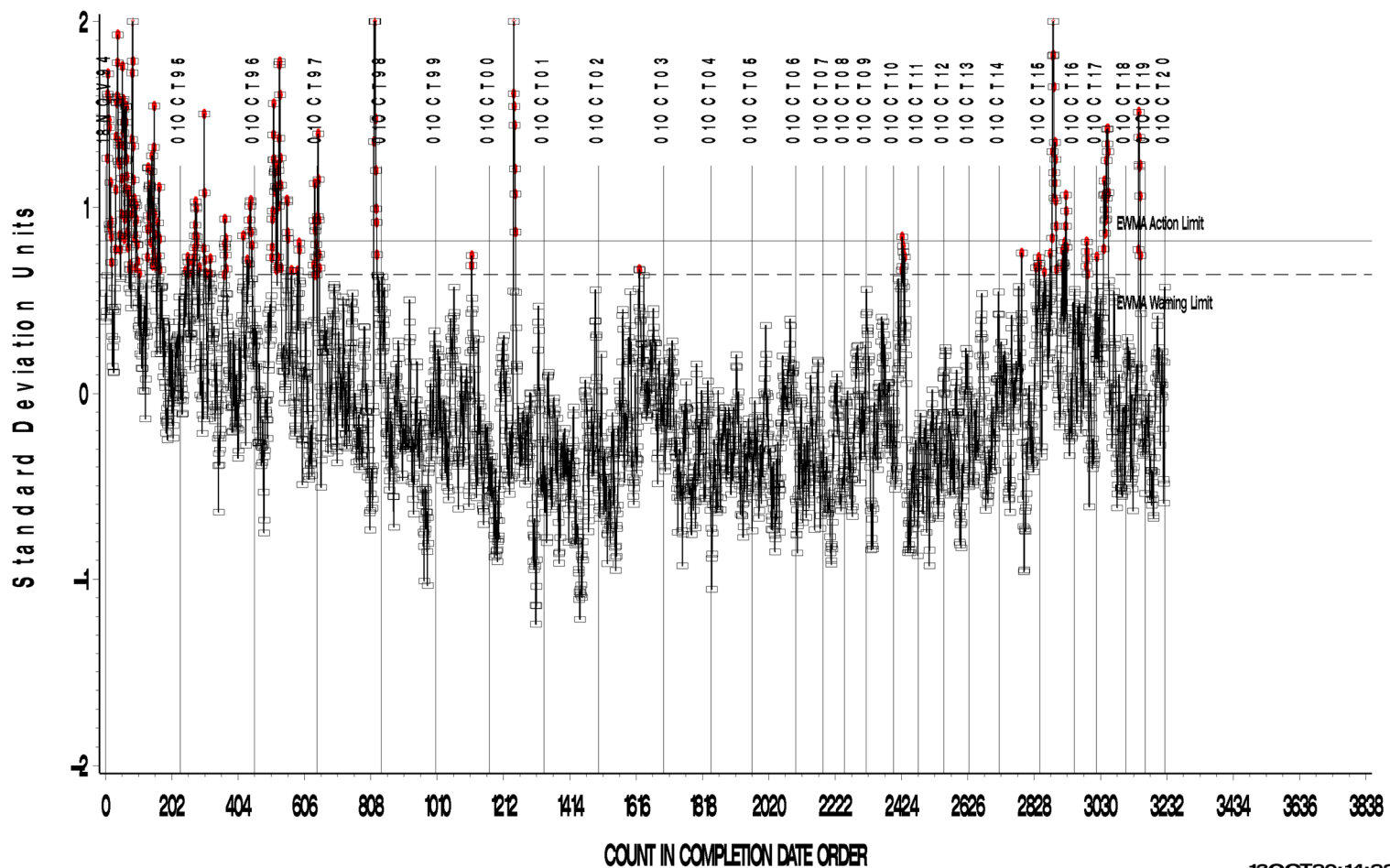


OSCT (D5662)

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LTMS Precision Analysis



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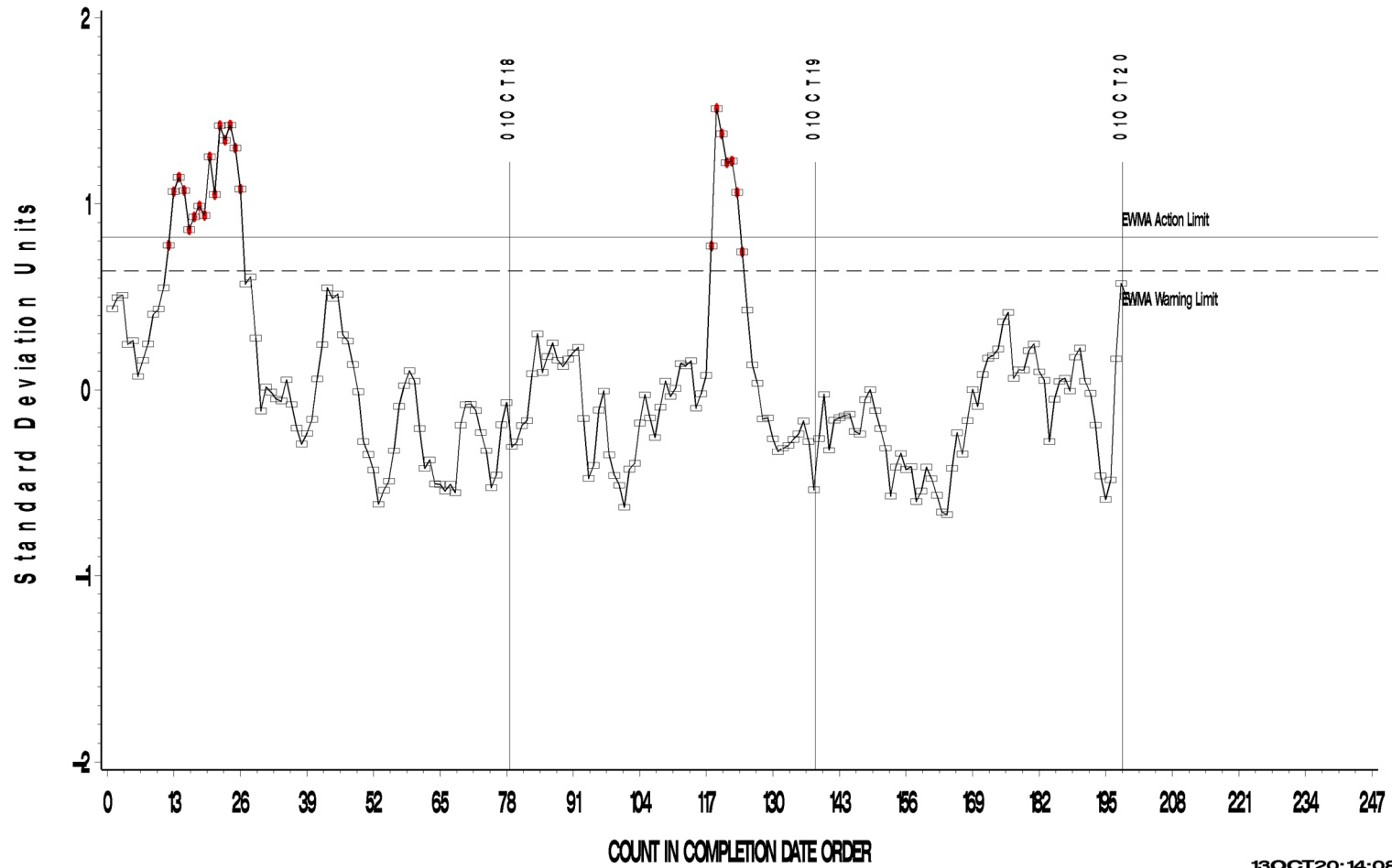


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OSCT (D5662)

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LTVS Precision Analysis



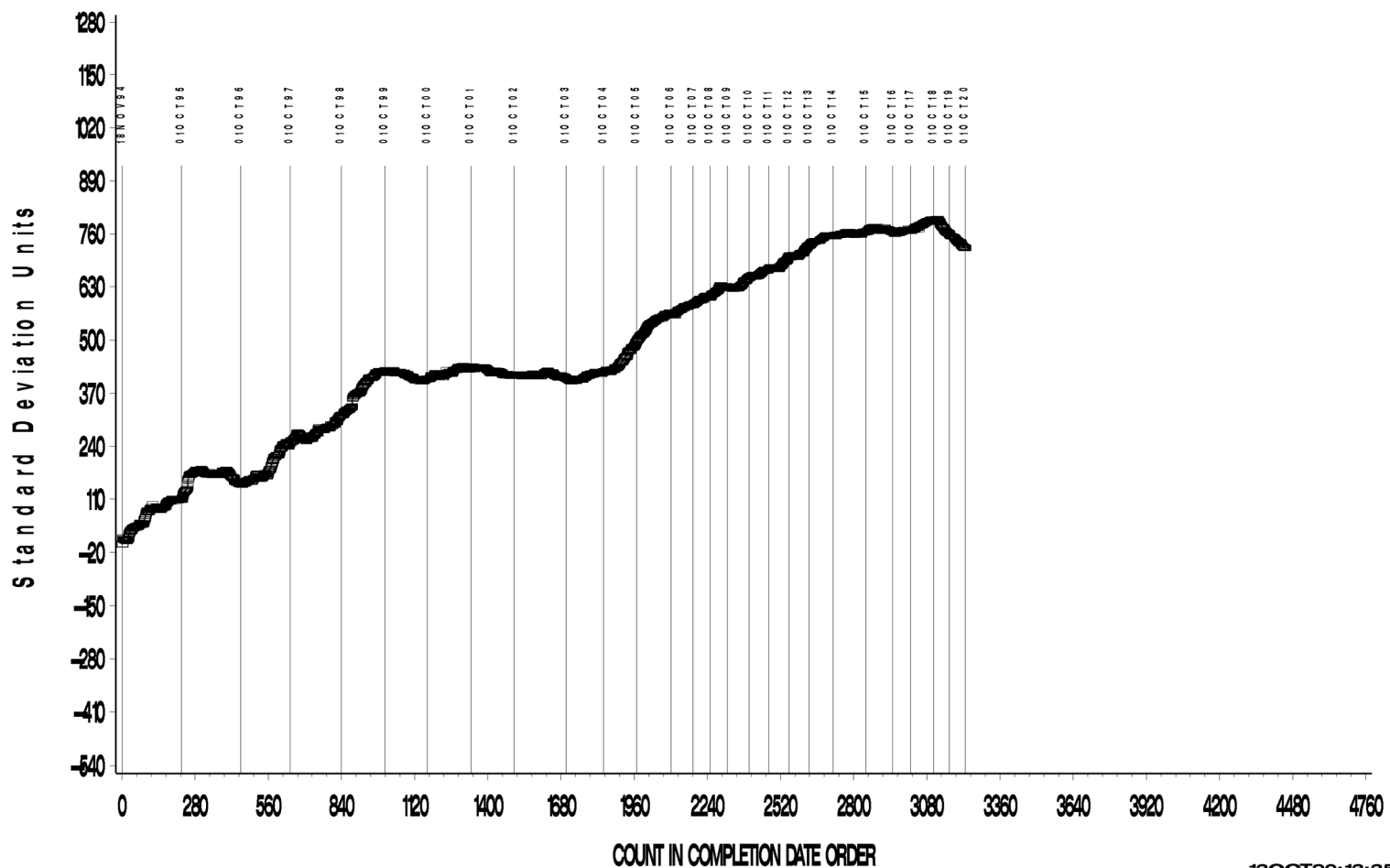
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CUSUM Severity Analysis

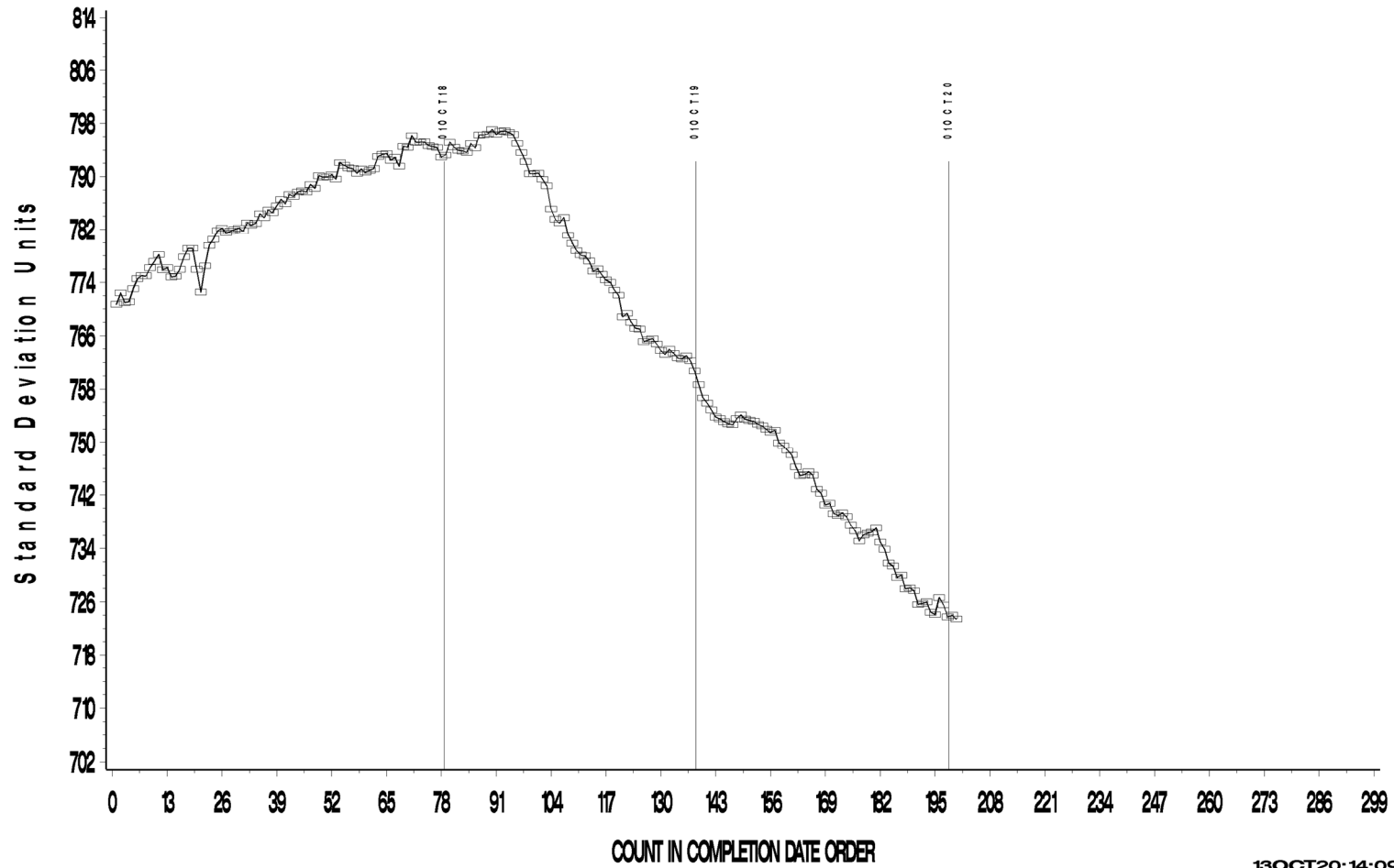


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CUSUM Severity Analysis



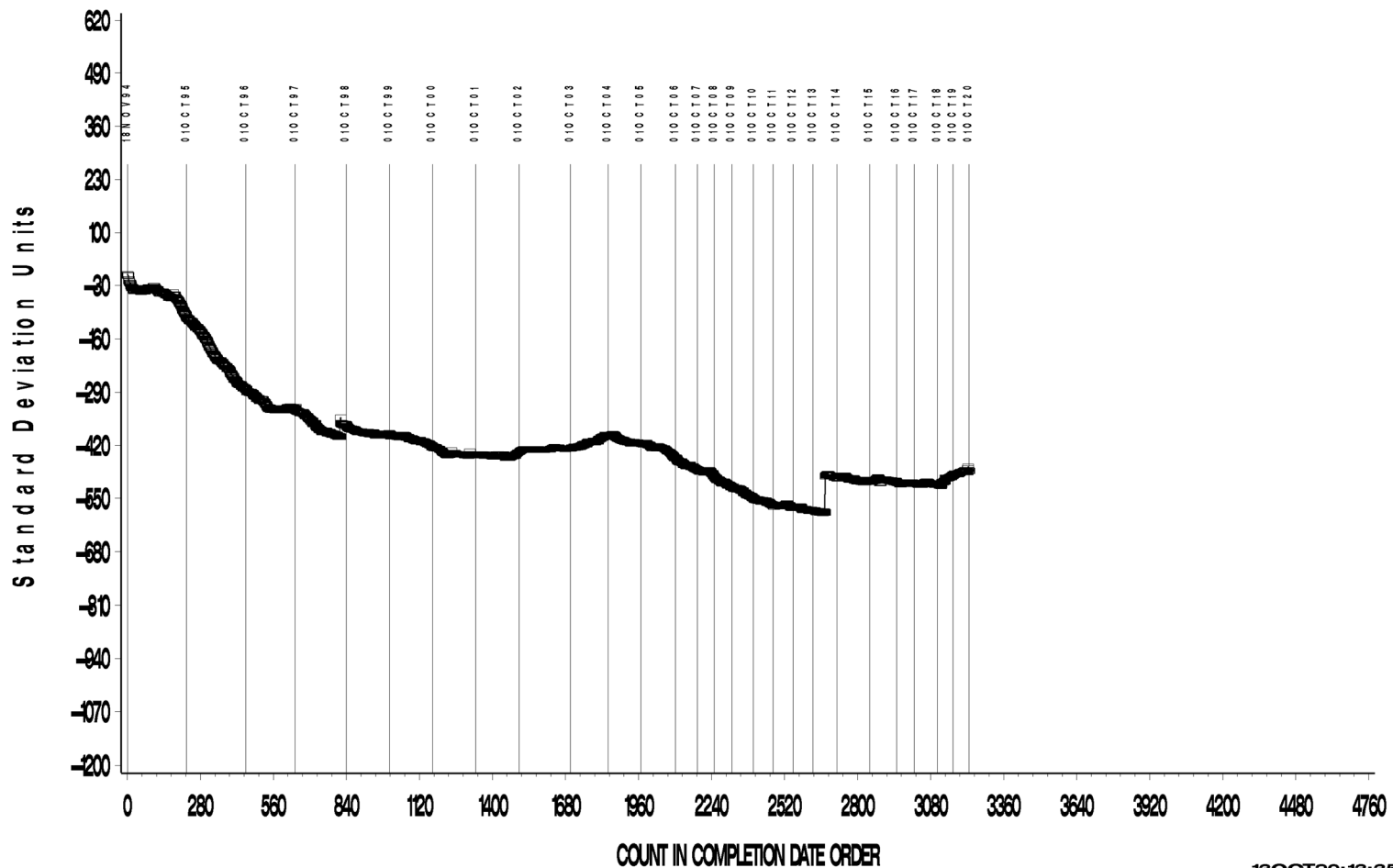
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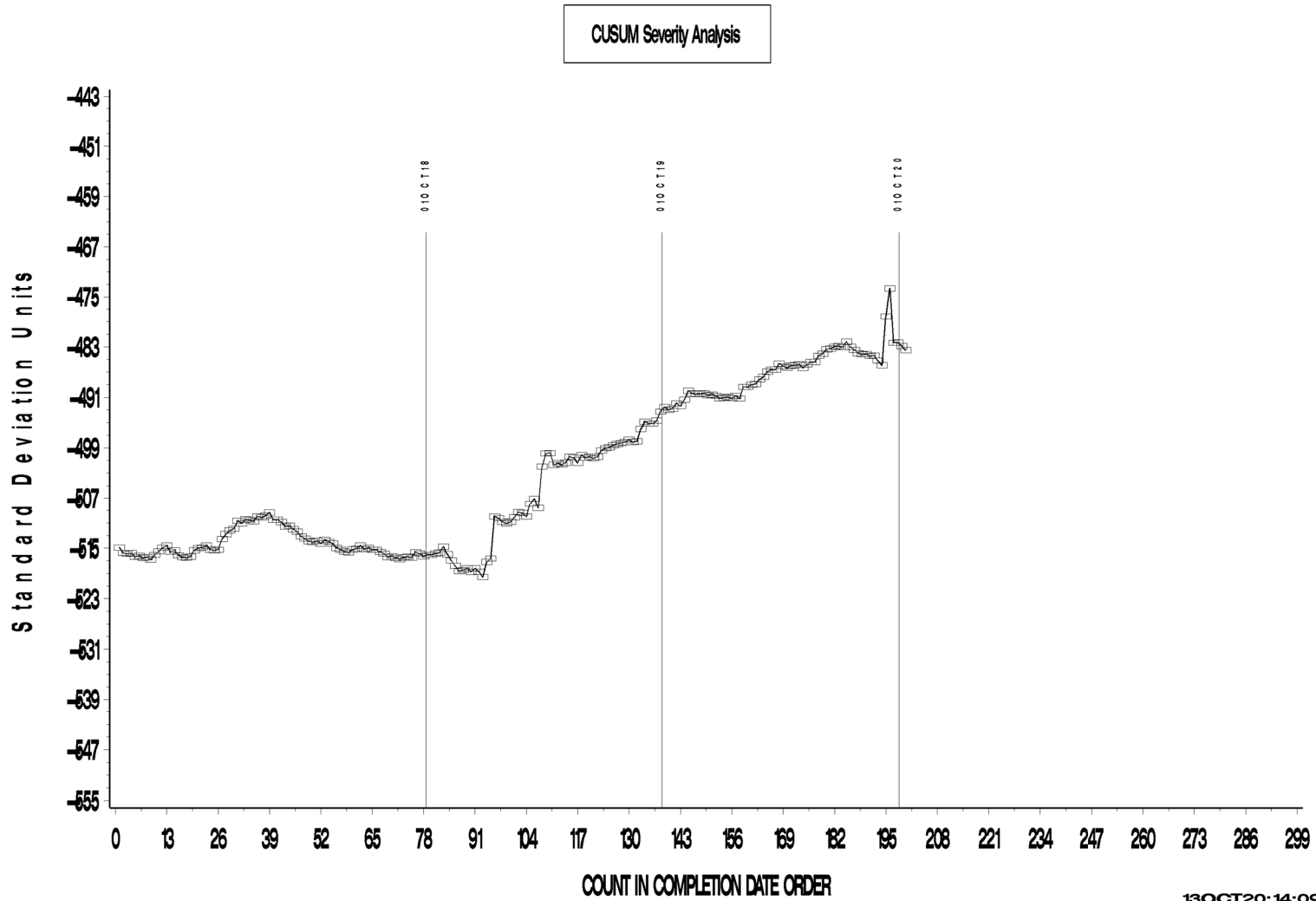
CUSUM Severity Analysis



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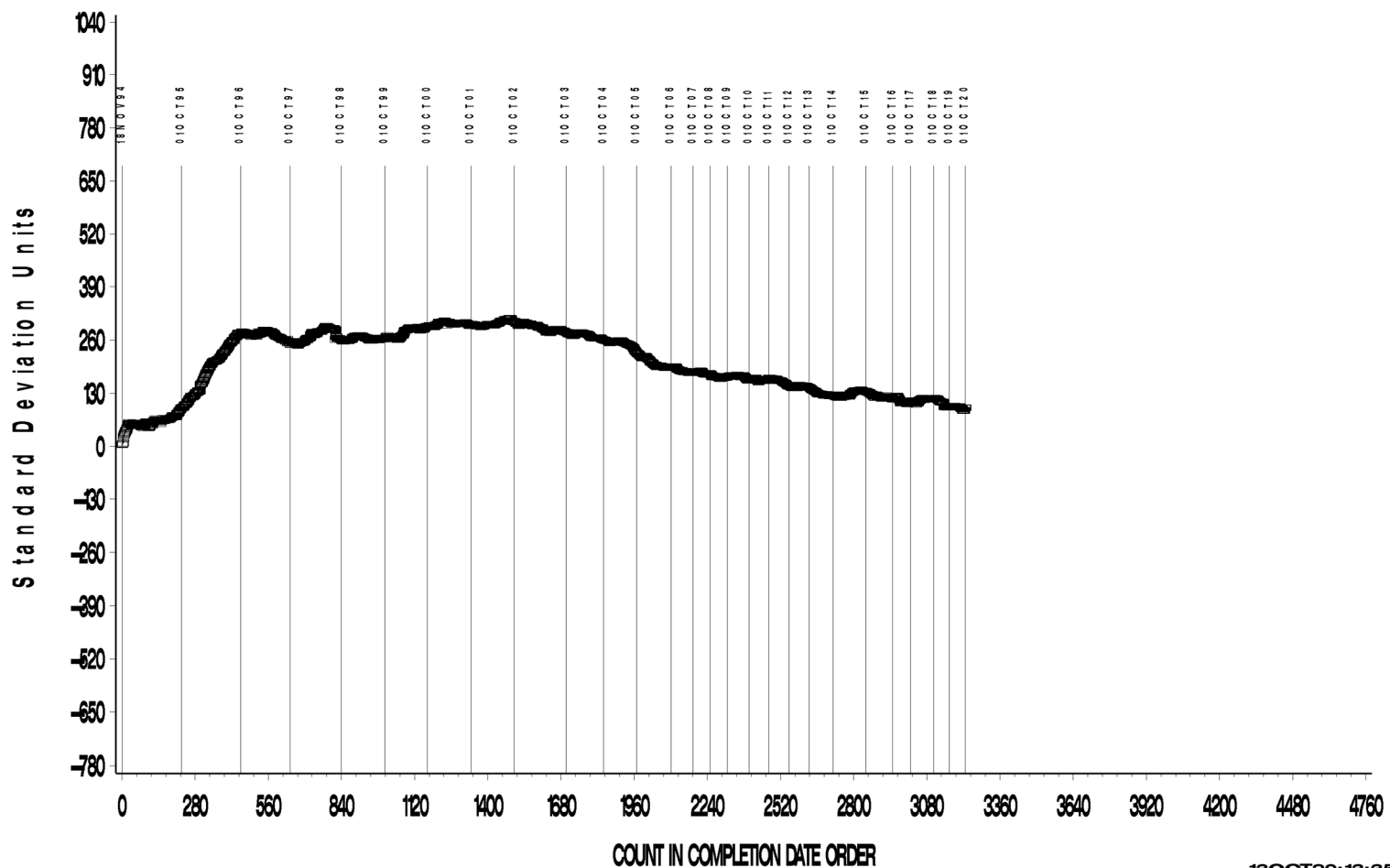


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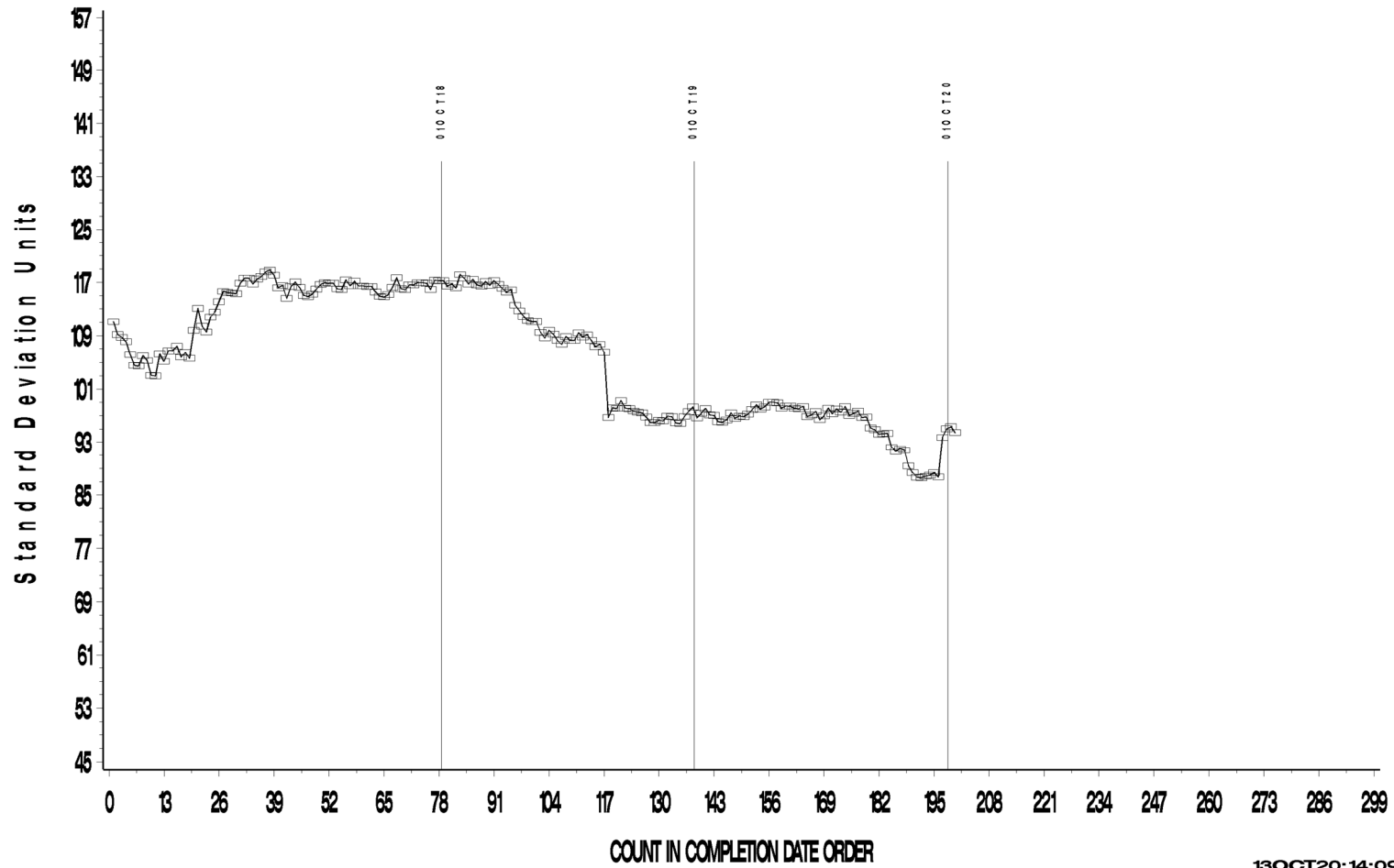


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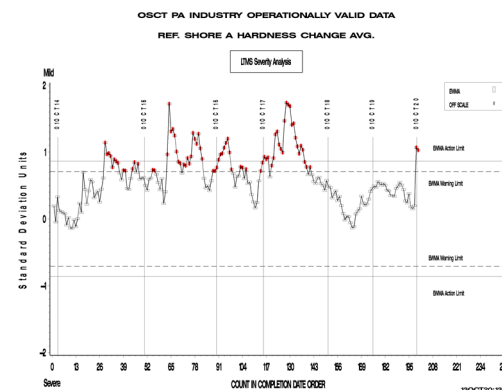
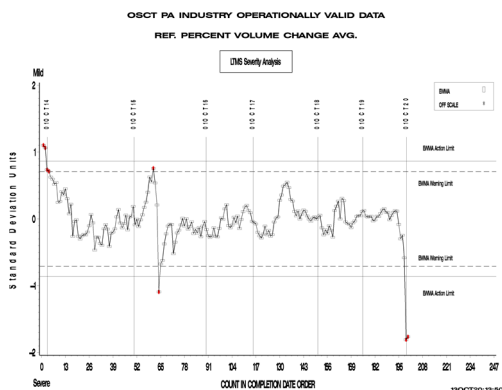
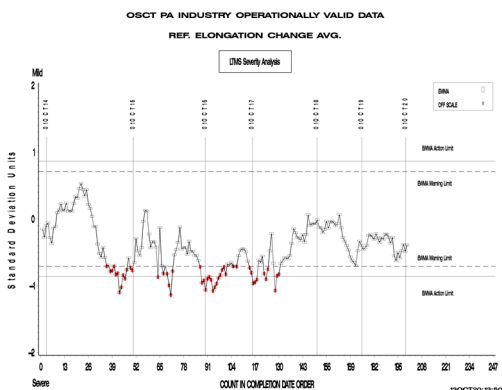
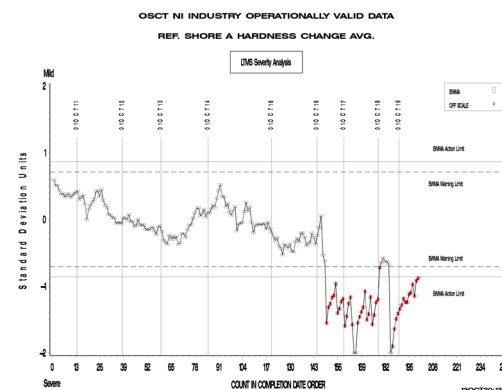
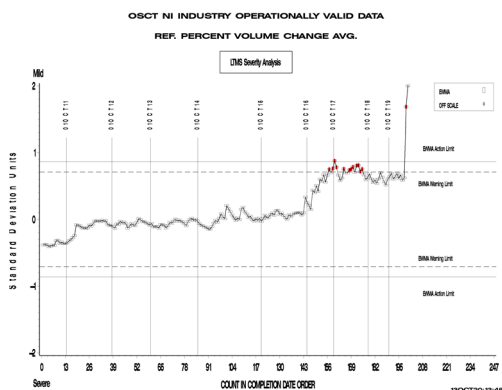
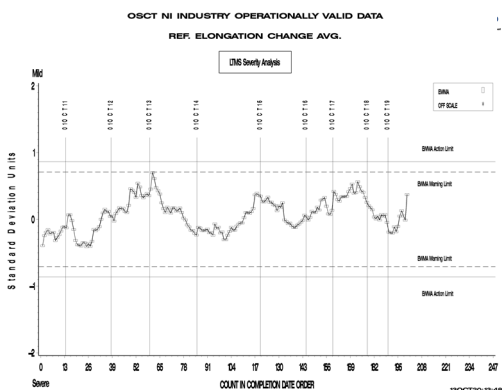
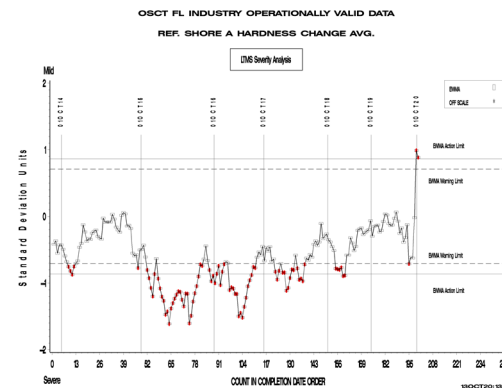
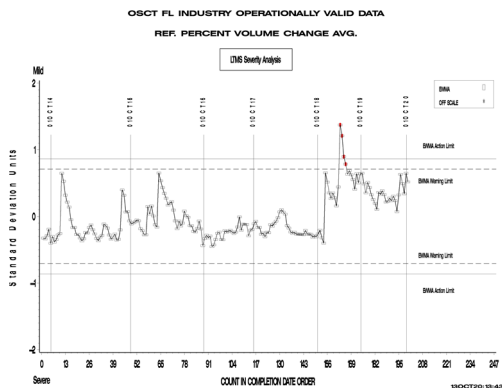
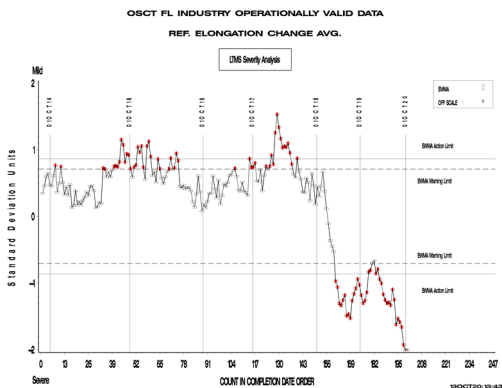
CUSUM Severity Analysis



13OCT20:14:09

OSCT (D5662)

BY-ELASTOMER SEVERITY



OSCT (D5662)

TIMELINE ADDITIONS

Effective Date	Information Letter	Event
		No information letters were issued during this period.

OSCT (D5662)

LAB VISITS

No lab visits were conducted during this period.

INFORMATION LETTERS

No information letters were issued during this period.

OSCT (D5662)

STATUS OF REFERENCE OIL SUPPLY

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
155-1	9	251	49.8
160-1	2	0	0.0
168	13	0	0.0
169	29	721	143.0
170	29	161	32.0
171	33	128	25.5
Total	106	1010	200.4

Oil 168 is nearing depletion. Oil 170 has been introduced as a replacement. Oil 171 is the same additive package as oil 160-1 in a different base oil and has been introduced as a replacement.