



Test Monitoring Center


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

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

MEMORANDUM: 14-028

DATE: November 3, 2014

TO: Don Bell, Chairman, OSCT Surveillance Panel

FROM: Scott Parke 

SUBJECT: OSCT Reference oil testing from April 1, 2014 through September 30, 2014

Please find attached a summary of reference oil testing activity this period.

SDP/sdp/mem14-028.sdp.doc

cc: Frank Farber
Jeff Clark

OSCT Surveillance Panel

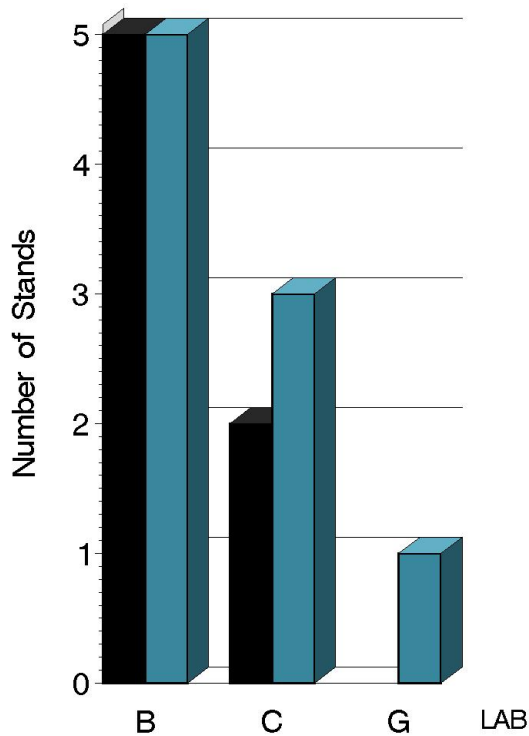
<ftp://ftp.astmtmc.cmu.edu/docs/gear/osct/semiannualreports/osct-10-2014.pdf>

Distribution: email

OSCT (D5662)

	Reporting Data	Calibrated on 9-30-14
Number of Labs	3	3
Number of Stands	9	9

BY-LAB STAND
DISTRIBUTION



Report Period: ■ Current ■ Previous

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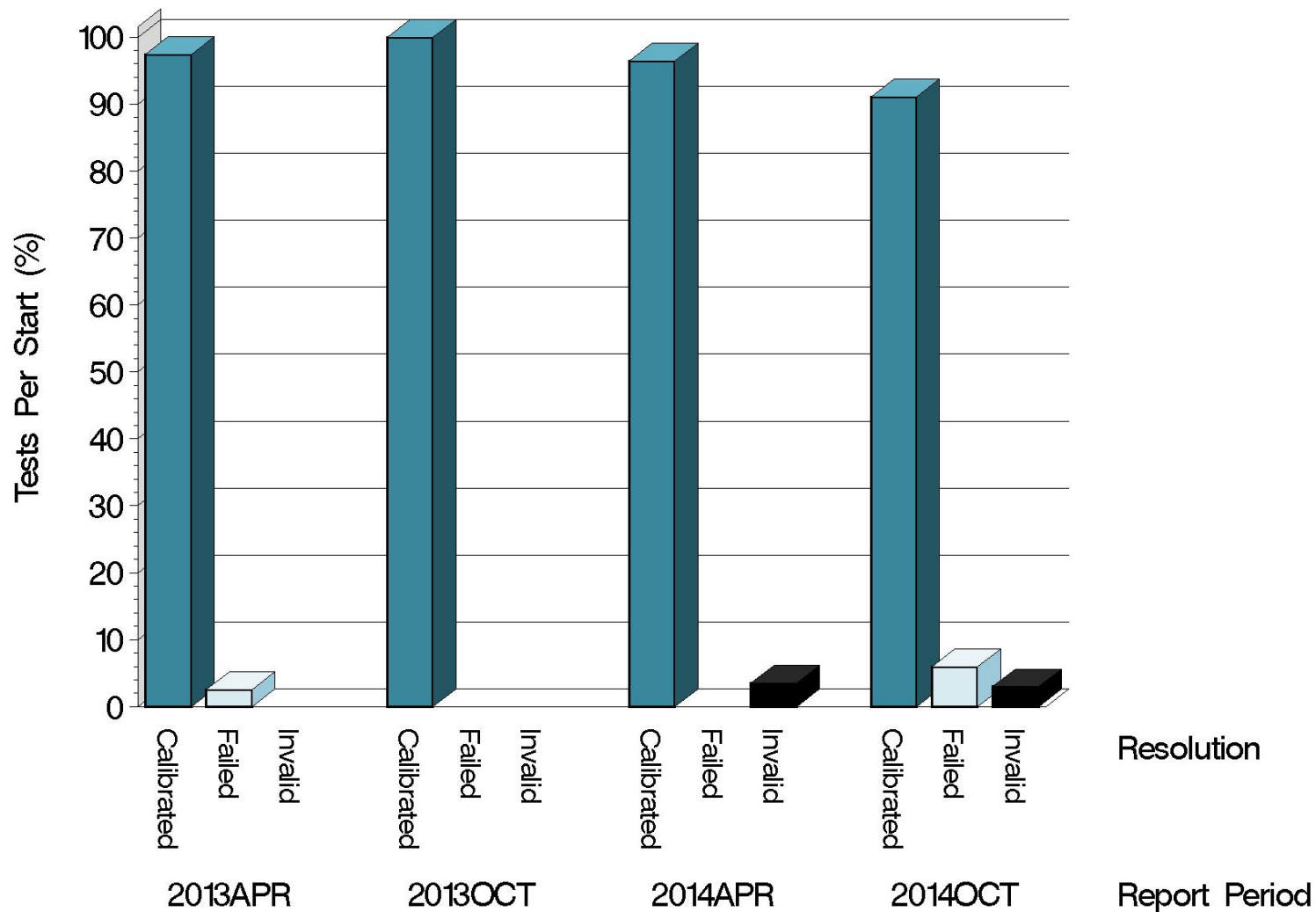
OSCT (D5662)

Test Distribution by Elastomer and Validity

					Totals	
					Last Period	This Period
		FL	NI	PA		
Accepted for calibration	AC	23	17	21	27	61
Rejected (low result)	OC	1	0	3	0	4
Rejected (high result)	OC	0	0	0	0	0
Invalidated	LC	0	0	0	1	0
Aborted	XC	0	2	0	0	2
Elastomer approval run	NI	8	4	8	4	20
Unacceptable approval run	MI	0	0	1	1	1
Total		0	0	0	33	88

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CALIBRATION ATTEMPT SUMMARY



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CAUSES FOR LOST TESTS

Lab	Cause	Oil			Validity			Loss Rate		
		FL	NI	PA	LC	RC	XC	Lost	Starts	%
C	Bath failed.		●				●	2	46	4%
	Wrong elastomer used.		●				●			
	Lost	0	2	0	0	0	2			
	Starts	32	23	33	88	88	88			
	%	0%	9%	0%	0%	0%	2%			

Lost tests are calibration attempts that were either aborted or operationally invalid

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Average Δ /s by Lab

Elastomer	Lab	n	PELA	PVCA	SAHA
FL	B	8	1.040	-0.458	-0.961
	C	12	1.051	0.289	-0.077
	G	4	-1.254	-1.266	-0.268
	Industry	24	0.663	-0.219	-0.403
	Shift*	24	5.007%	-0.119%	-0.561 pts
NI	B	8	-0.224	0.058	0.141
	C	9	0.023	-0.043	0.001
	Industry	17	-0.093	0.005	0.067
	Shift*	17	-0.523%	0.003%	0.086 pts
PA	B	8	-0.247	-0.577	0.301
	C	13	-0.174	7.511	-0.528
	G	3	0.736	-1.317	1.813
	Industry	24	-0.085	3.711	0.041
	Shift*	24	-1.848%	5.668%	0.104 pts

*computed using historic pooled s

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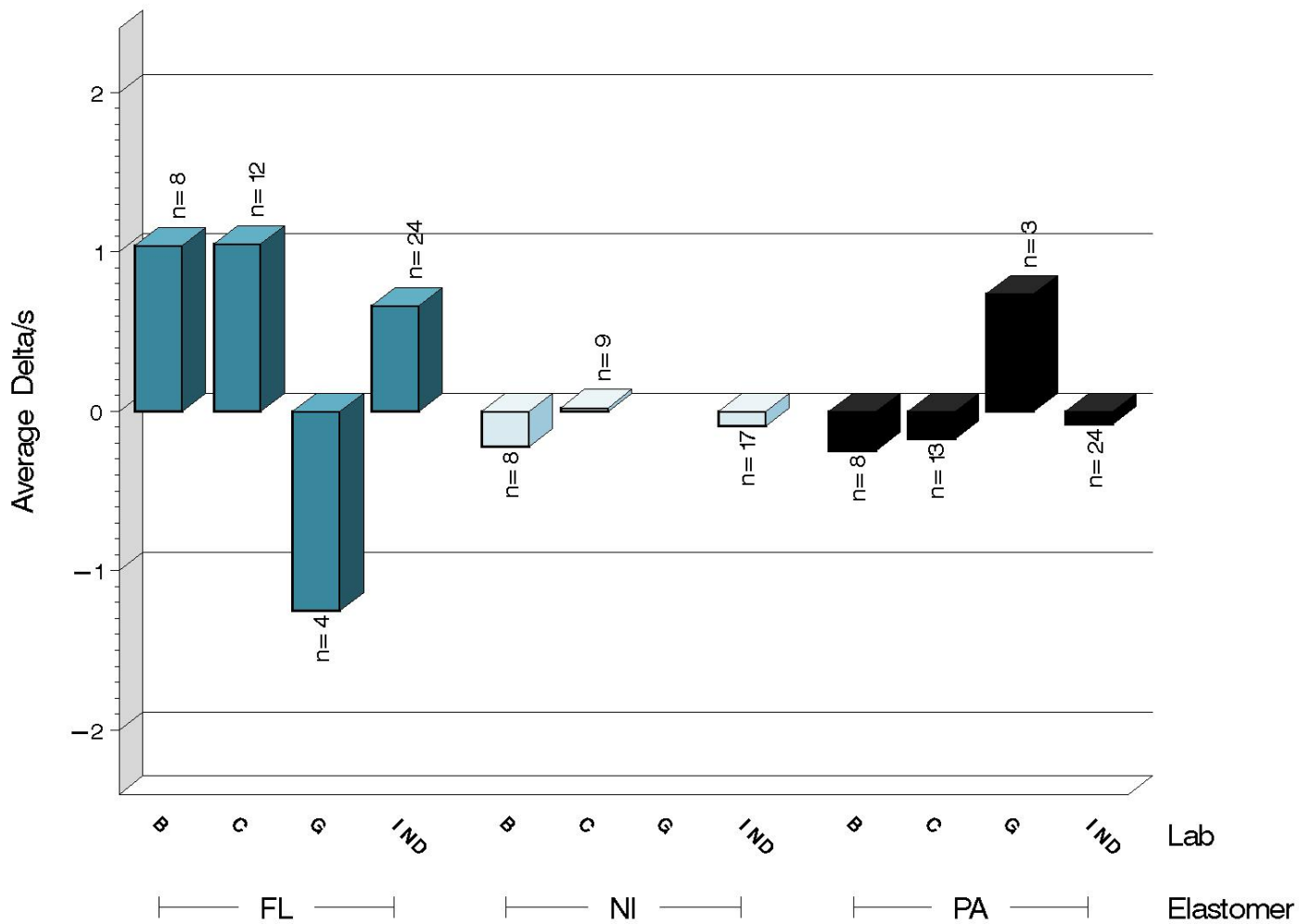


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OSCT (D5662)

%ELONGATION SEVERITY

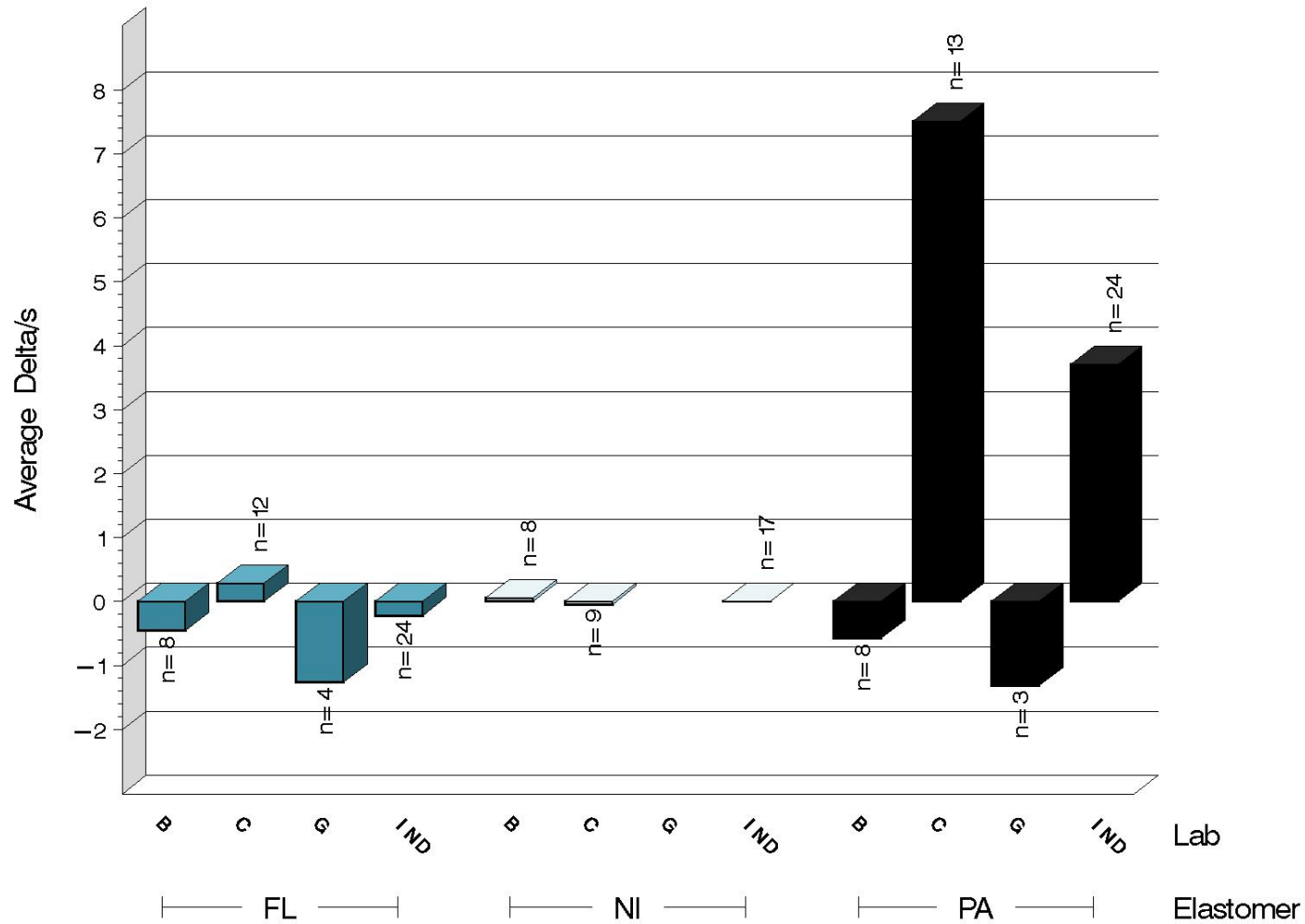
DELTA/S BY LAB



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OSCT (D5662)

%VOLUME CHANGE SEVERITY DELTA/S BY LAB

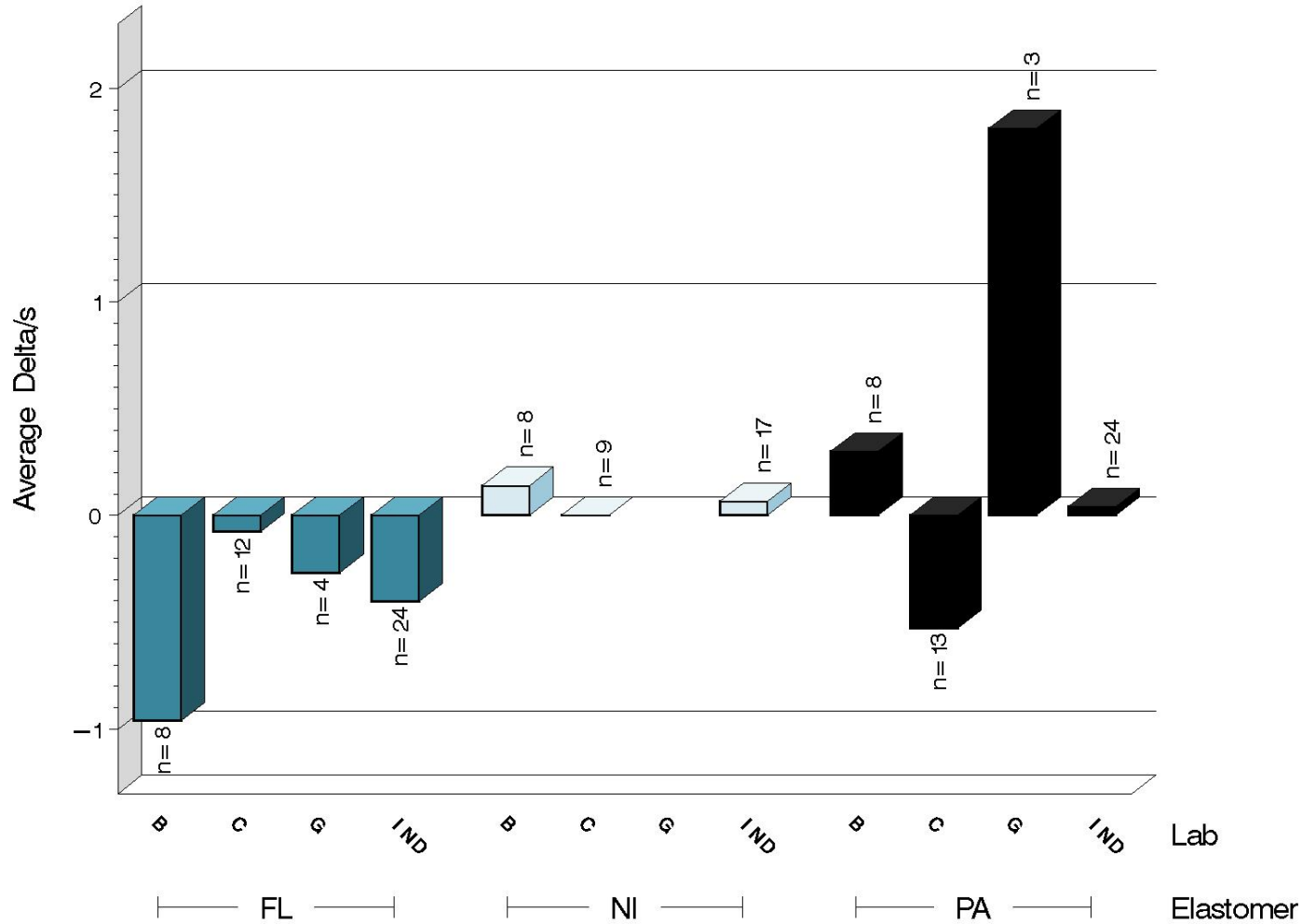


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OSCT (D5662)

S.A. HARDNESS SEVERITY

DELTA/S BY LAB

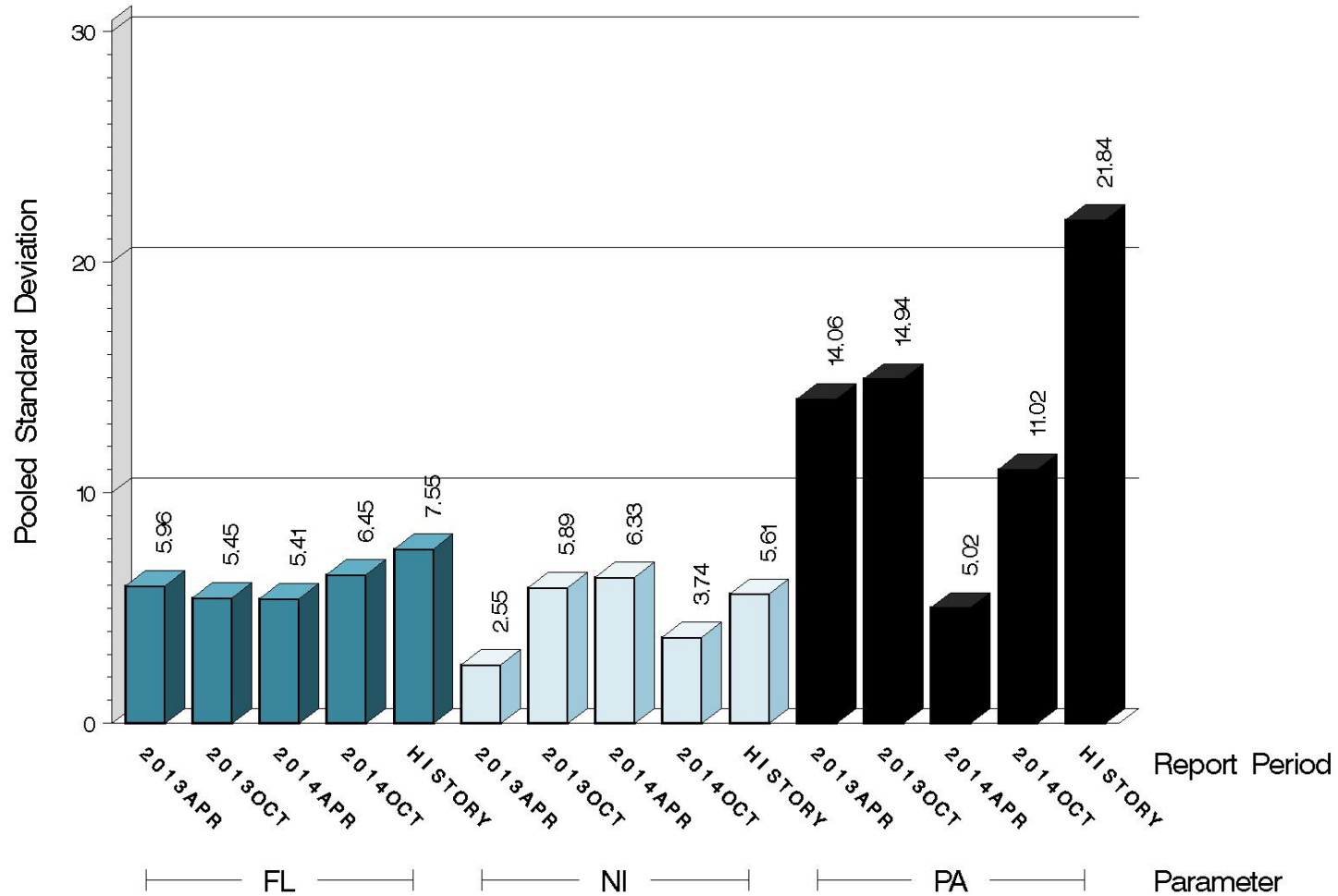


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OSCT (D5662)

%ELONGATION PRECISION

POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD

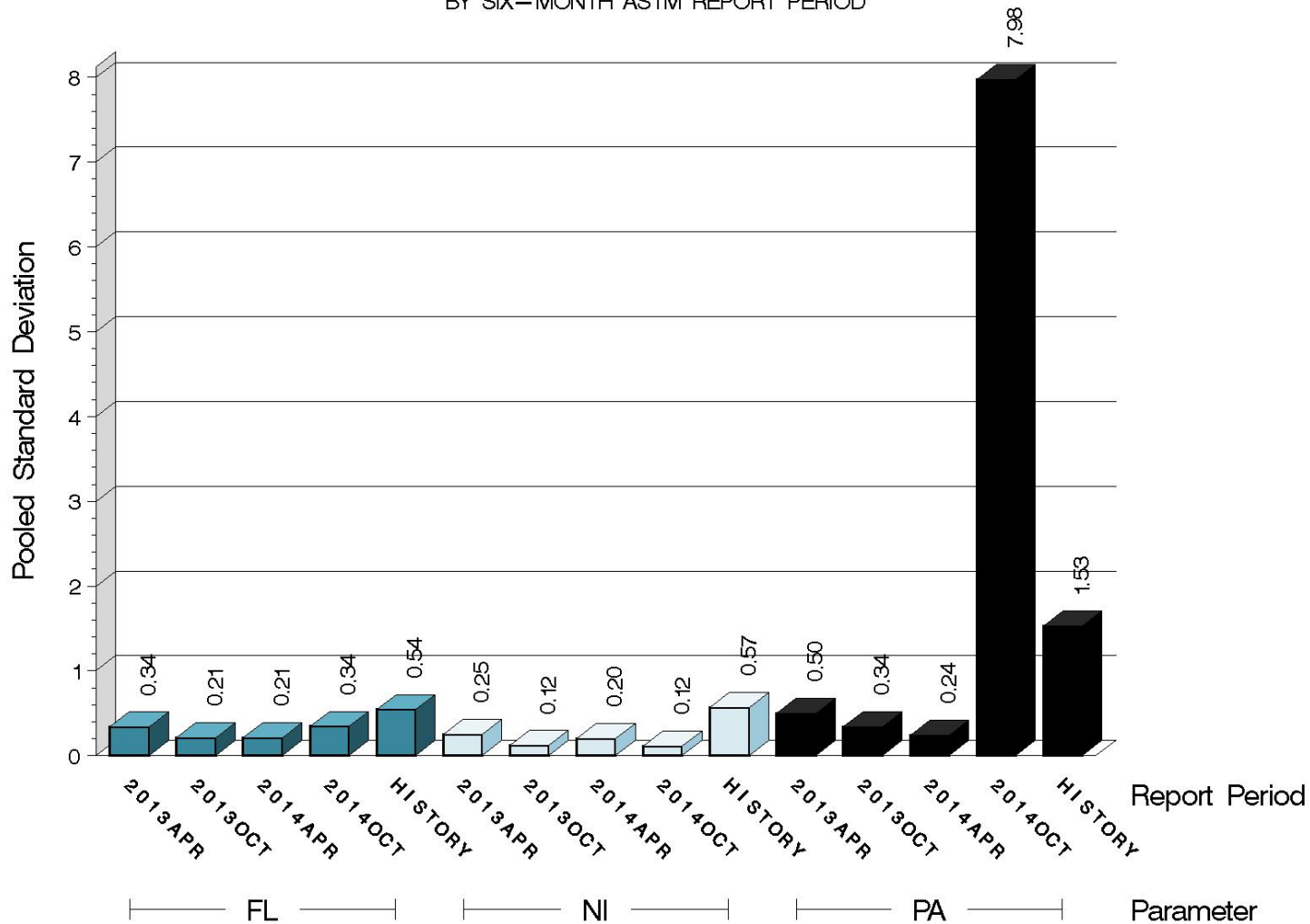


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OSCT (D5662)

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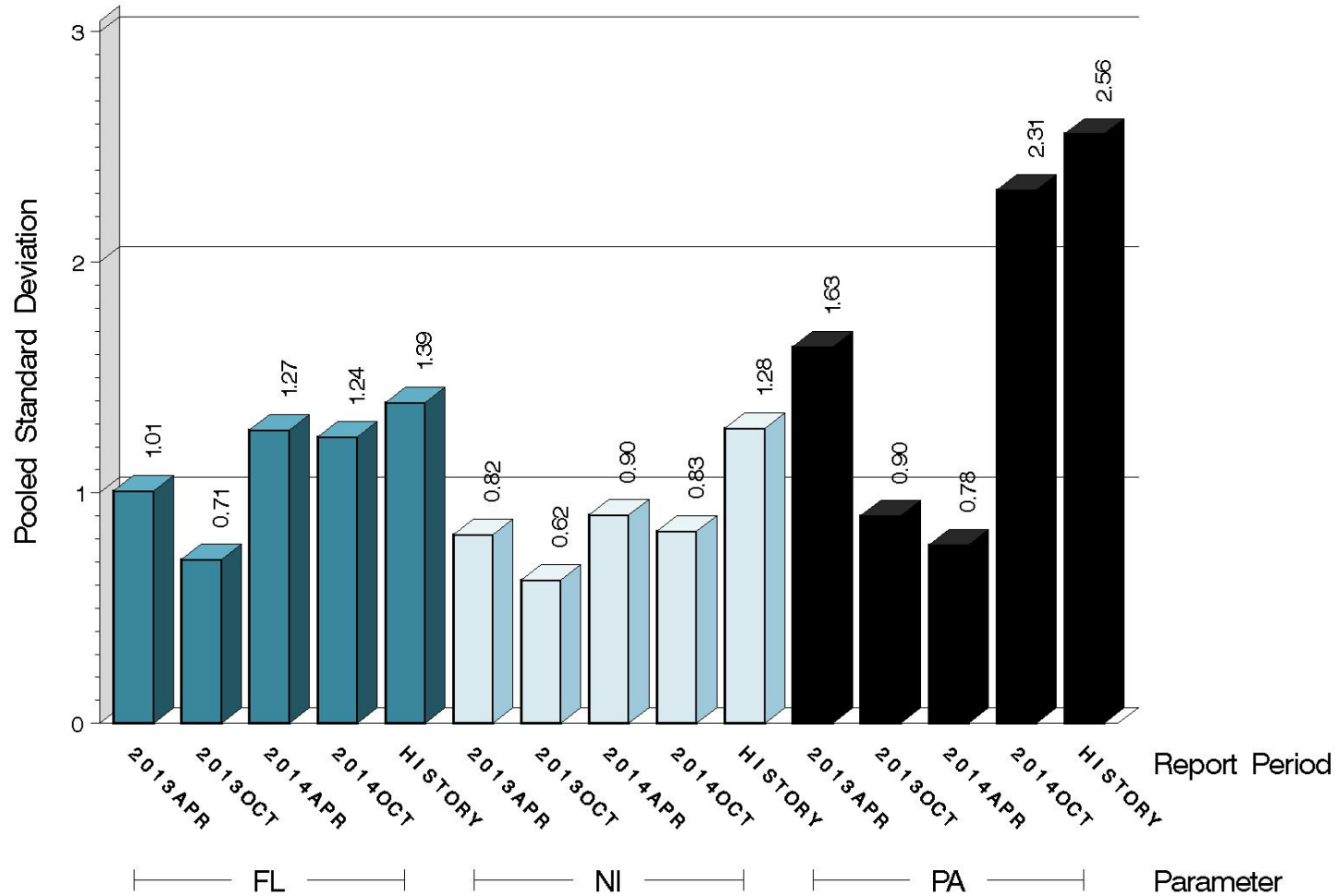


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OSCT (D5662)

S.A. HARDNESS PRECISION

POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD



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OSCT (D5662)

SUMMARY OF SEVERITY & PRECISION

Severity

The combined-elastomer industry PELA chart shows performance remaining on target this period. However, as shown in the by-elastomer charts, fluoroelastomer performance continues to be high of target. This is not attributable to any one FL elastomer batch.

One polyacrylate PVCA result 87 standard deviations from target produced dramatic impact on the charts. This result failed, of course, but the lab has not reported a cause to invalidate it. Subsequent, more expected results are returning the charts to target.

Two of the by-elastomer charts, polyacrylate PELA and fluoroelastomer PVCA, indicate long-standing off target performance. Polyacrylate PELA results are generally higher than target; fluoroelastomer PVCA results are generally lower. In 2011, the surveillance panel briefly discussed the appropriateness of industry correction factors or revised targets for these two elastomer/parameter combinations but took no action.

OSCT (D5662)

SUMMARY OF SEVERITY & PRECISION (continued)

Precision

Apart from a brief excursion resulting from the 87 standard deviation fail mentioned above, precision for all parameters continues to be good.

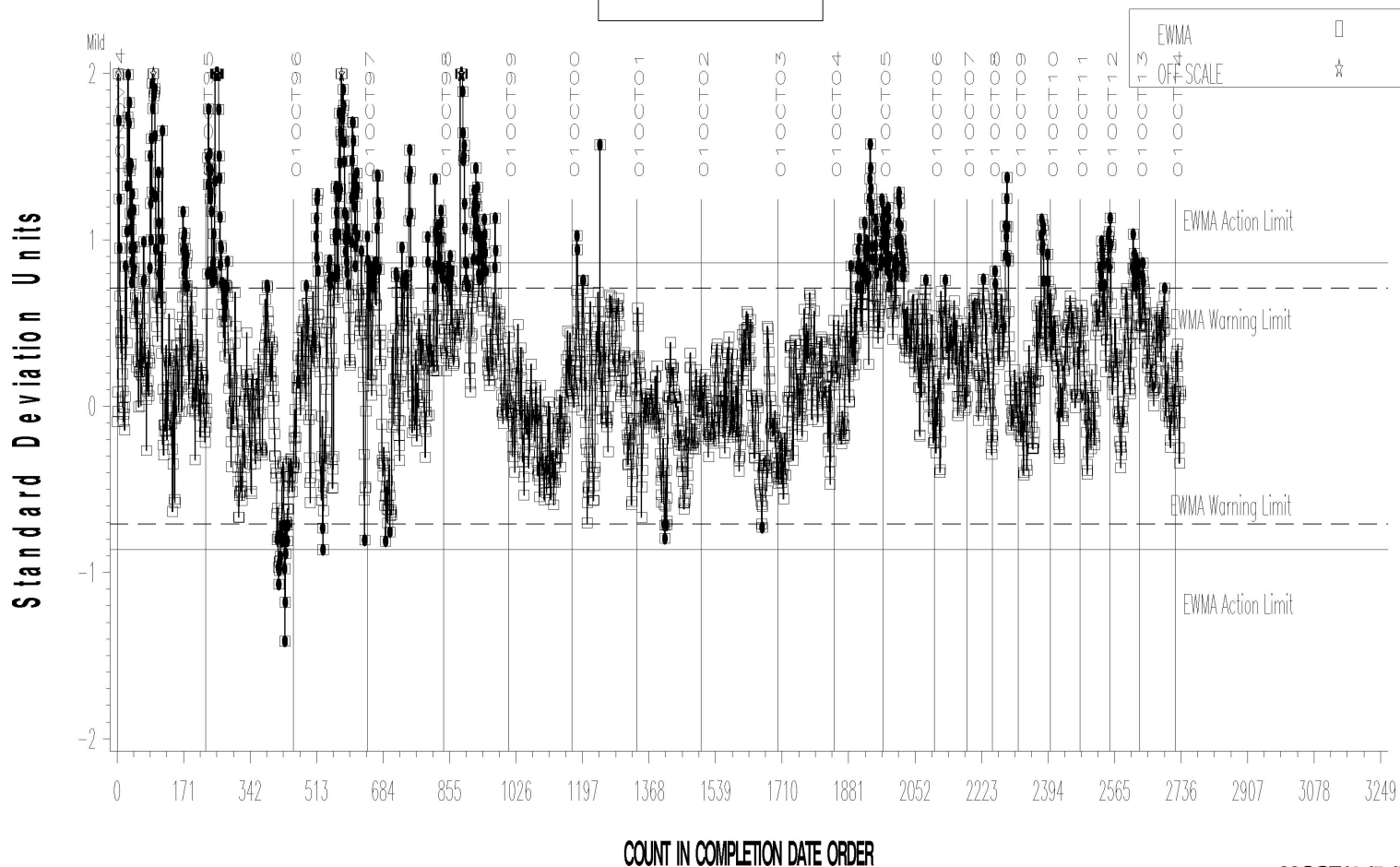
Industry control charts follow.

OSCT (D5662)

OSCT INDUSTRY OPERATIONALLY VALID DATA

REF. ELONGATION CHANGE AVG.

LTMS Severity Analysis



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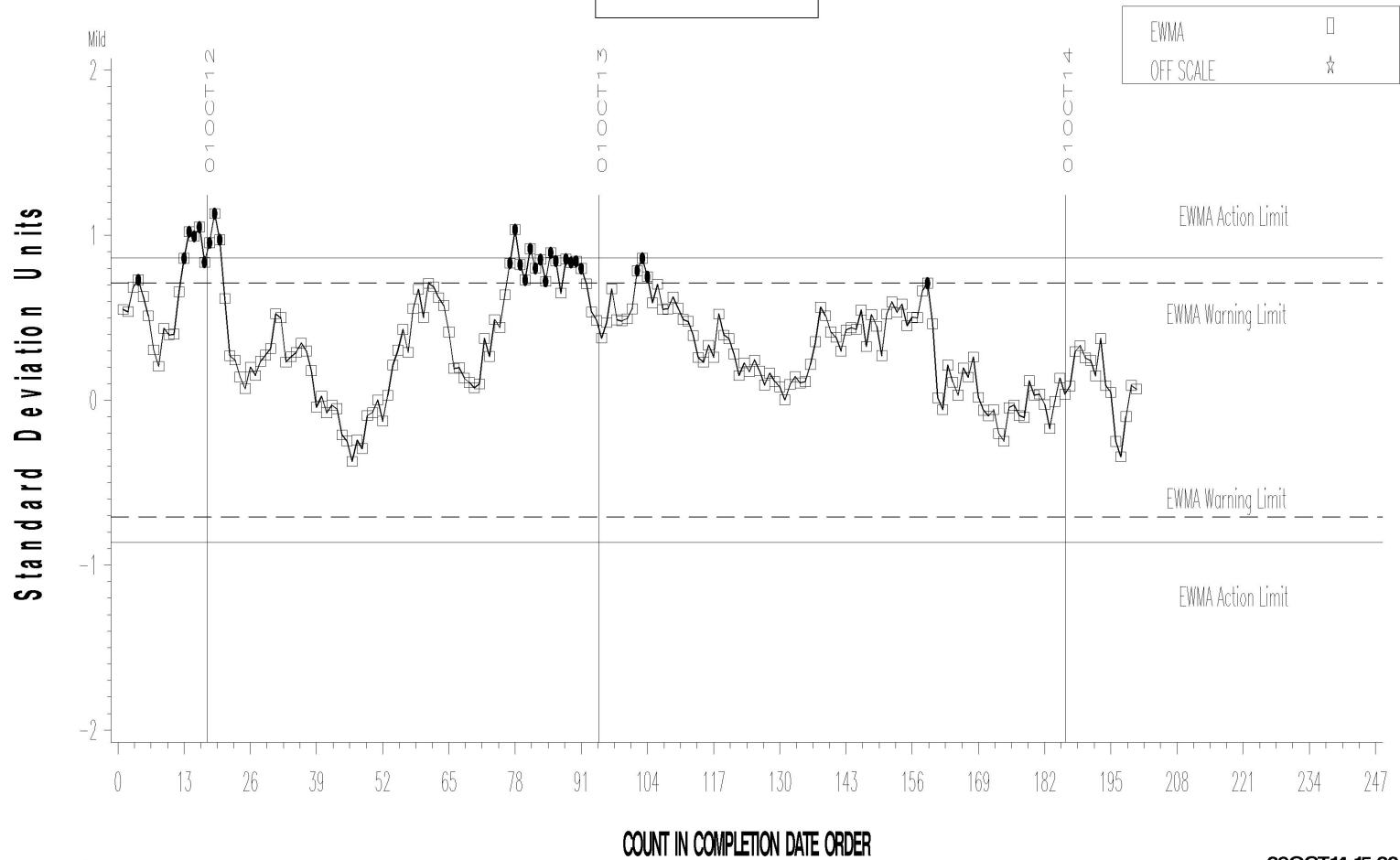
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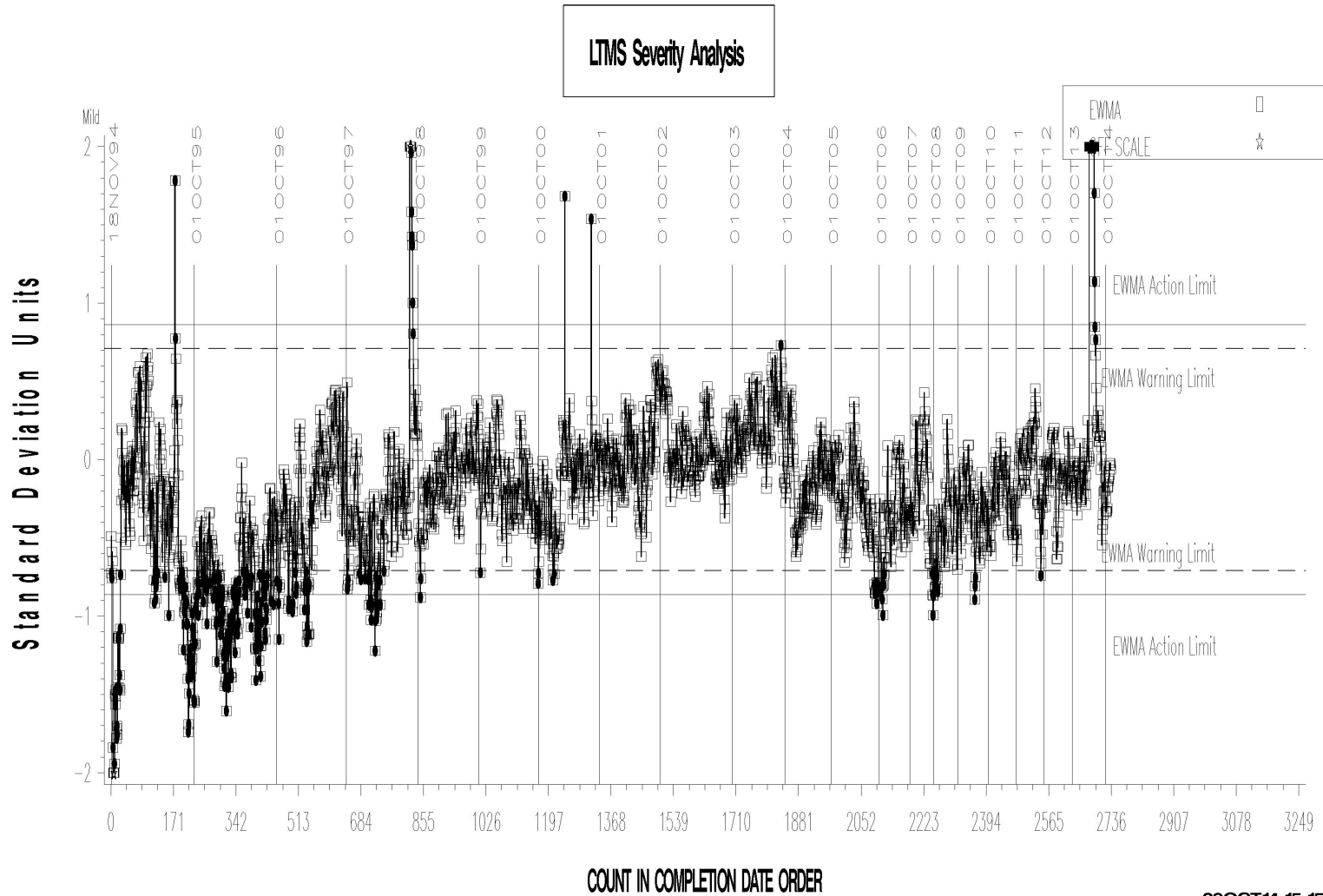
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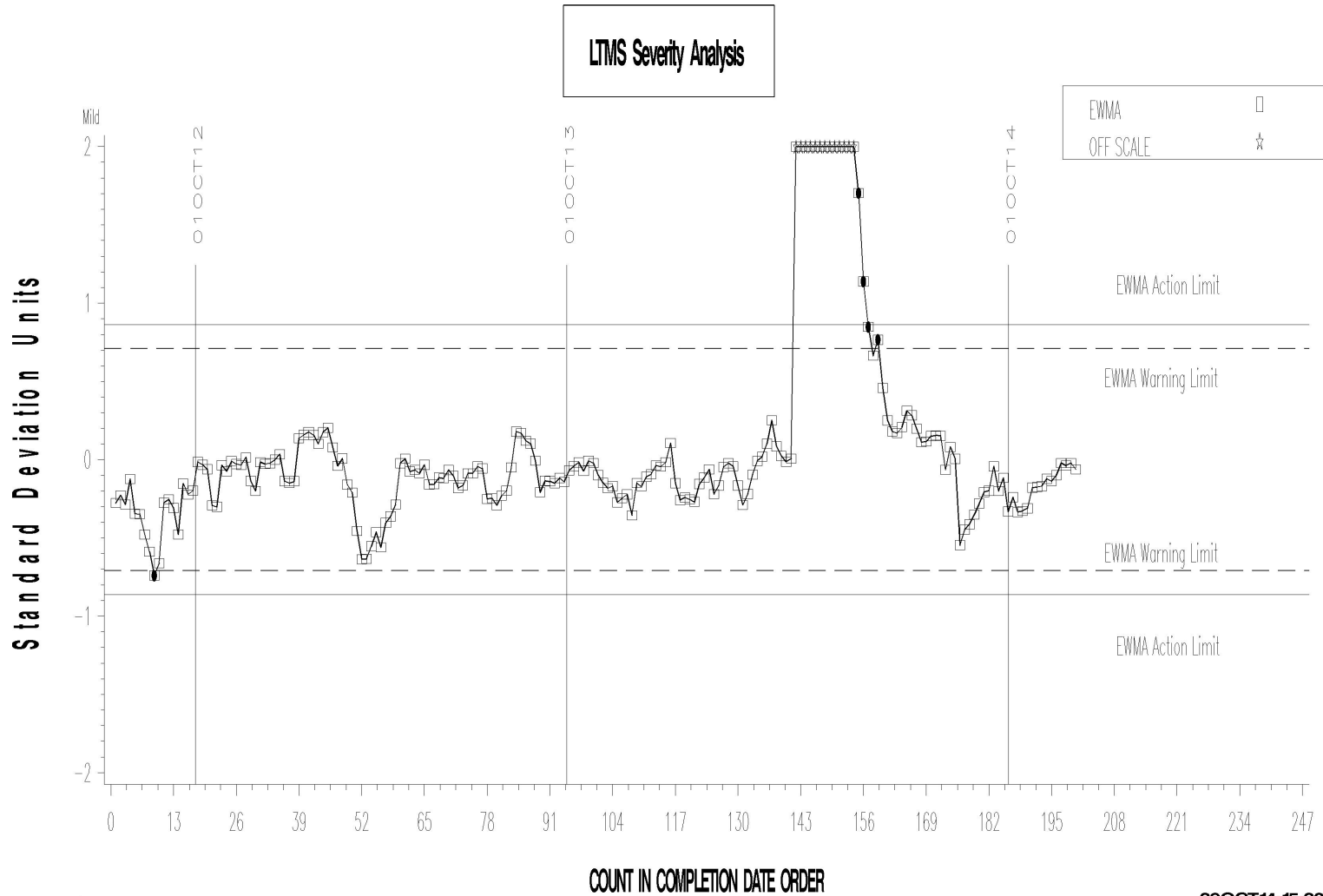
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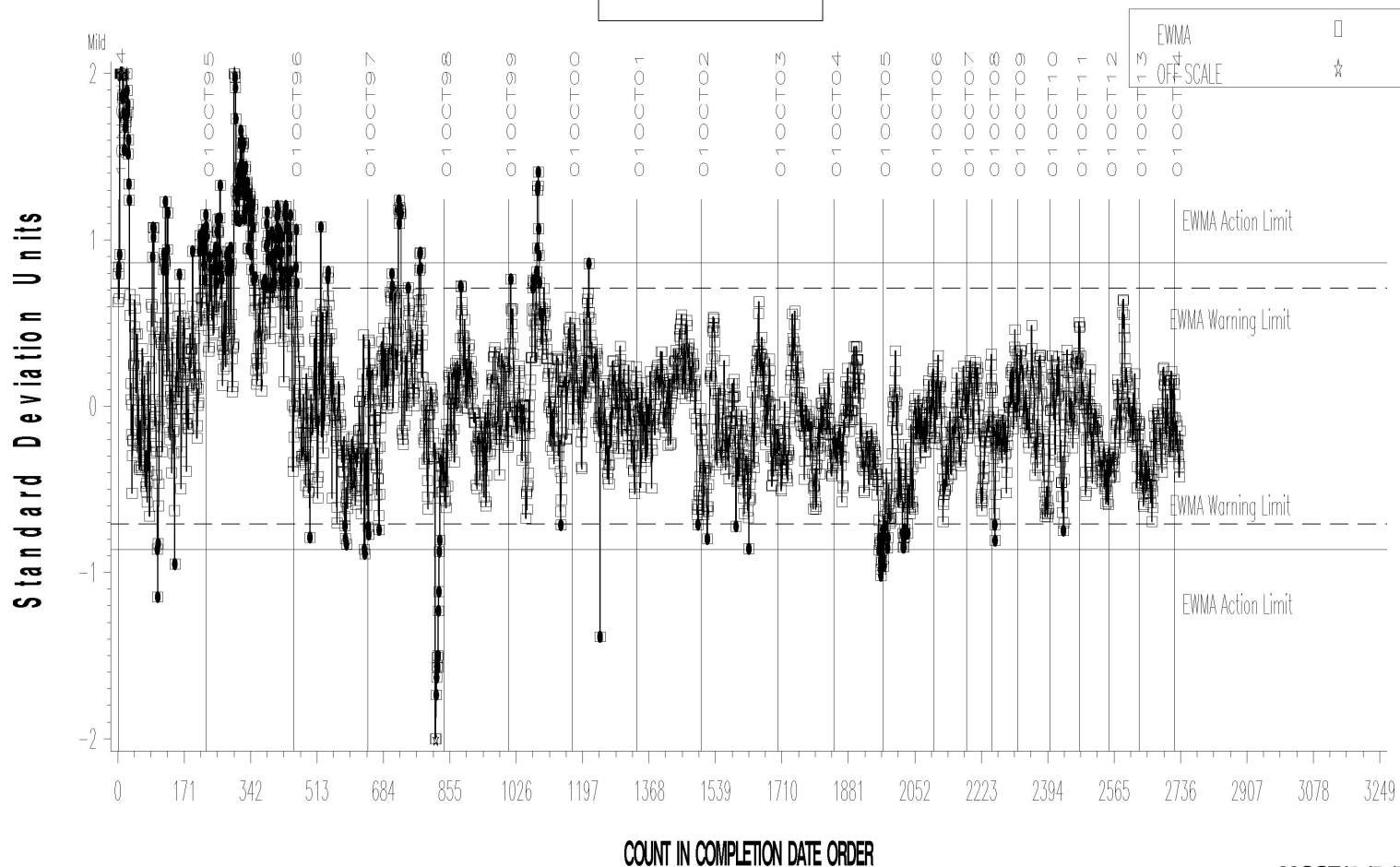
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LTMS Severity Analysis



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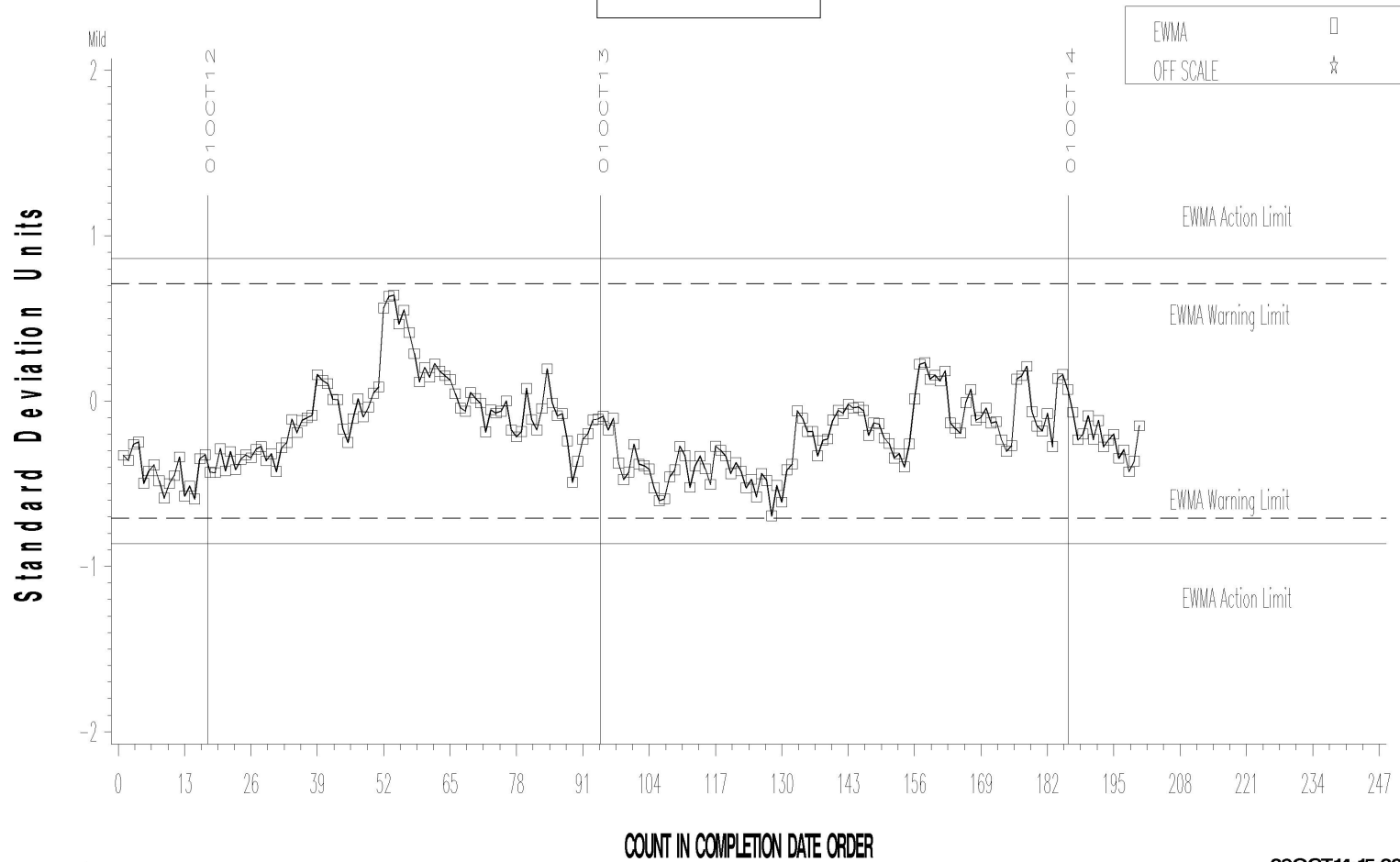
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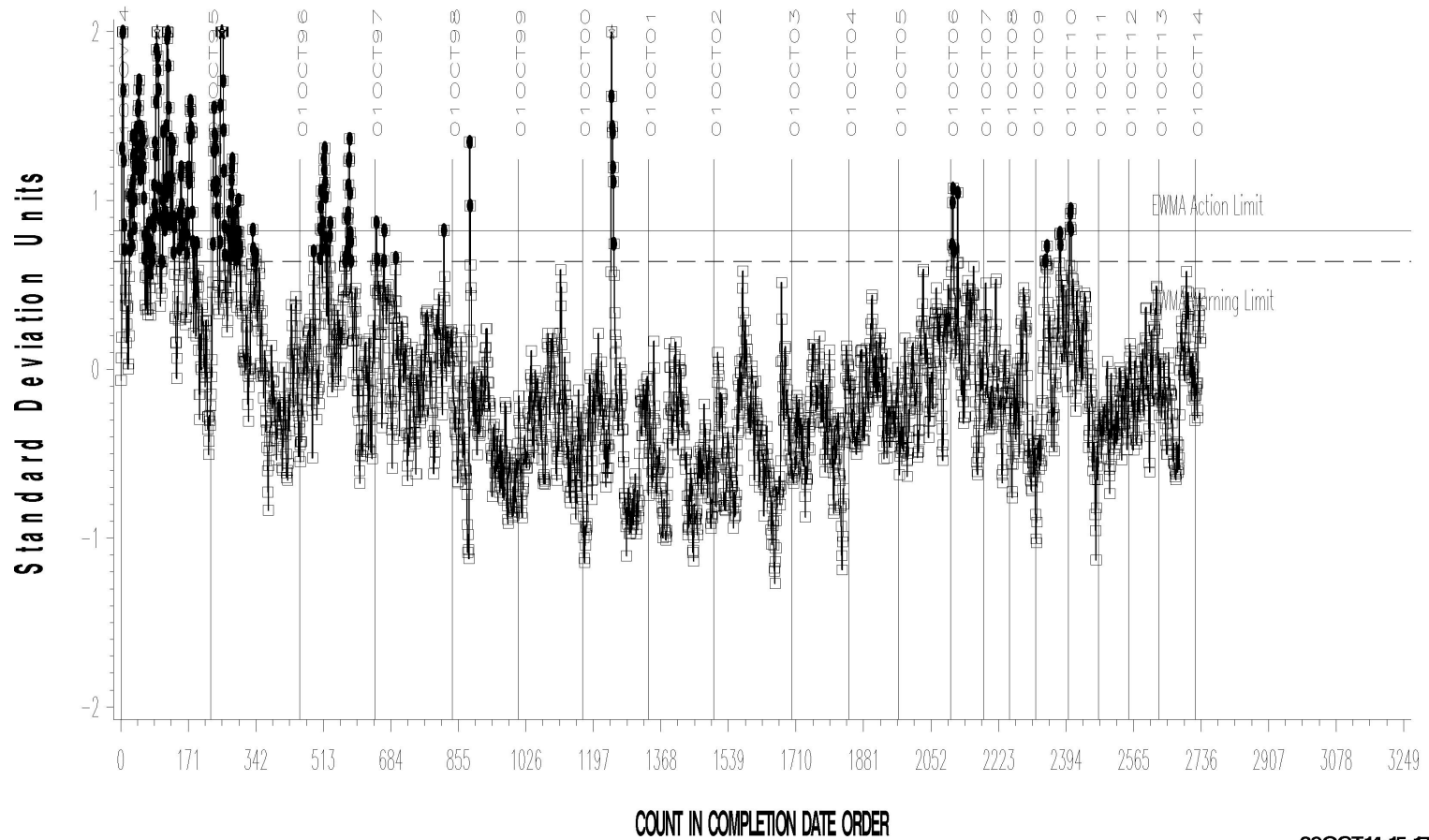
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LTMS Precision Analysis



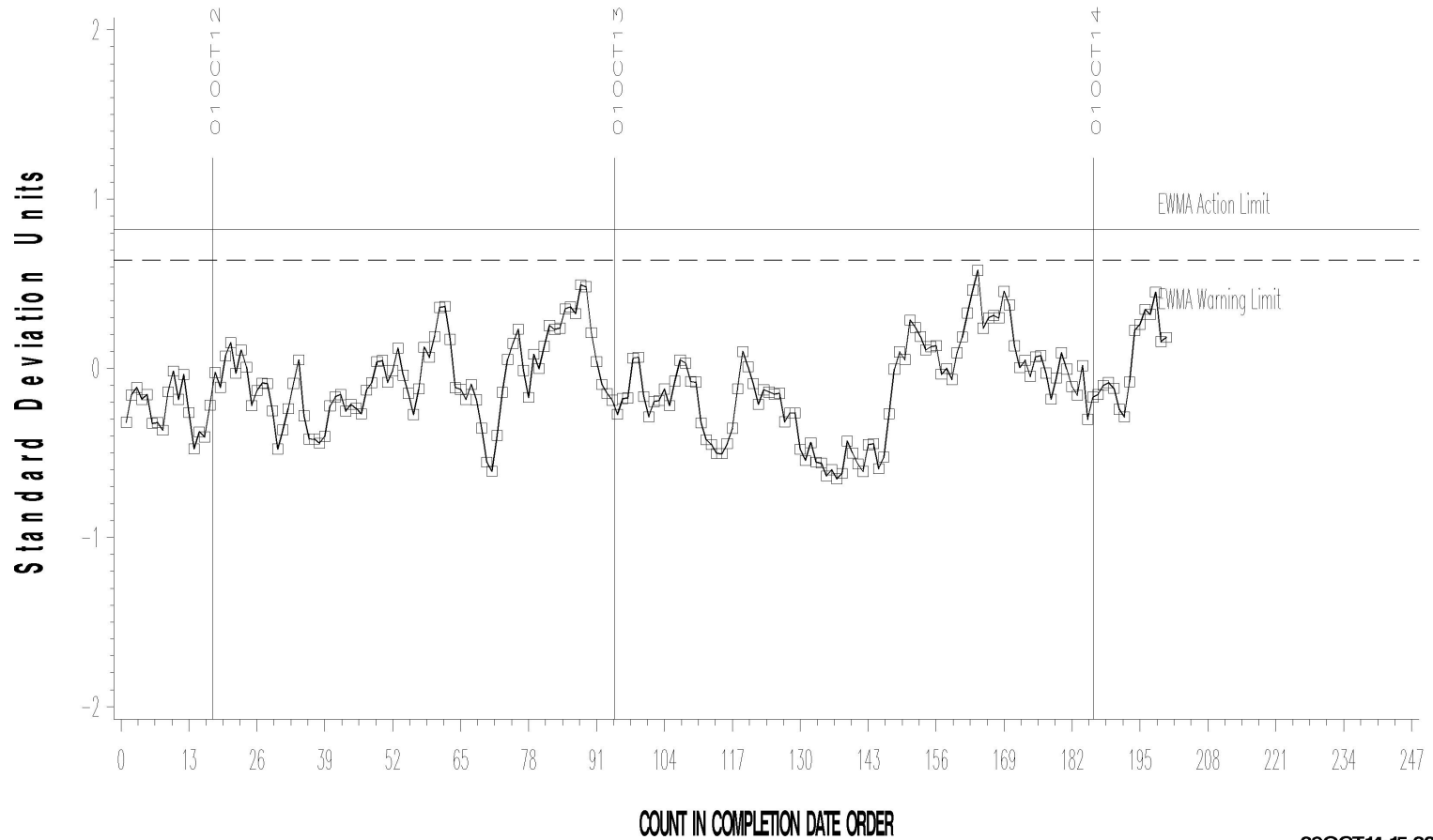
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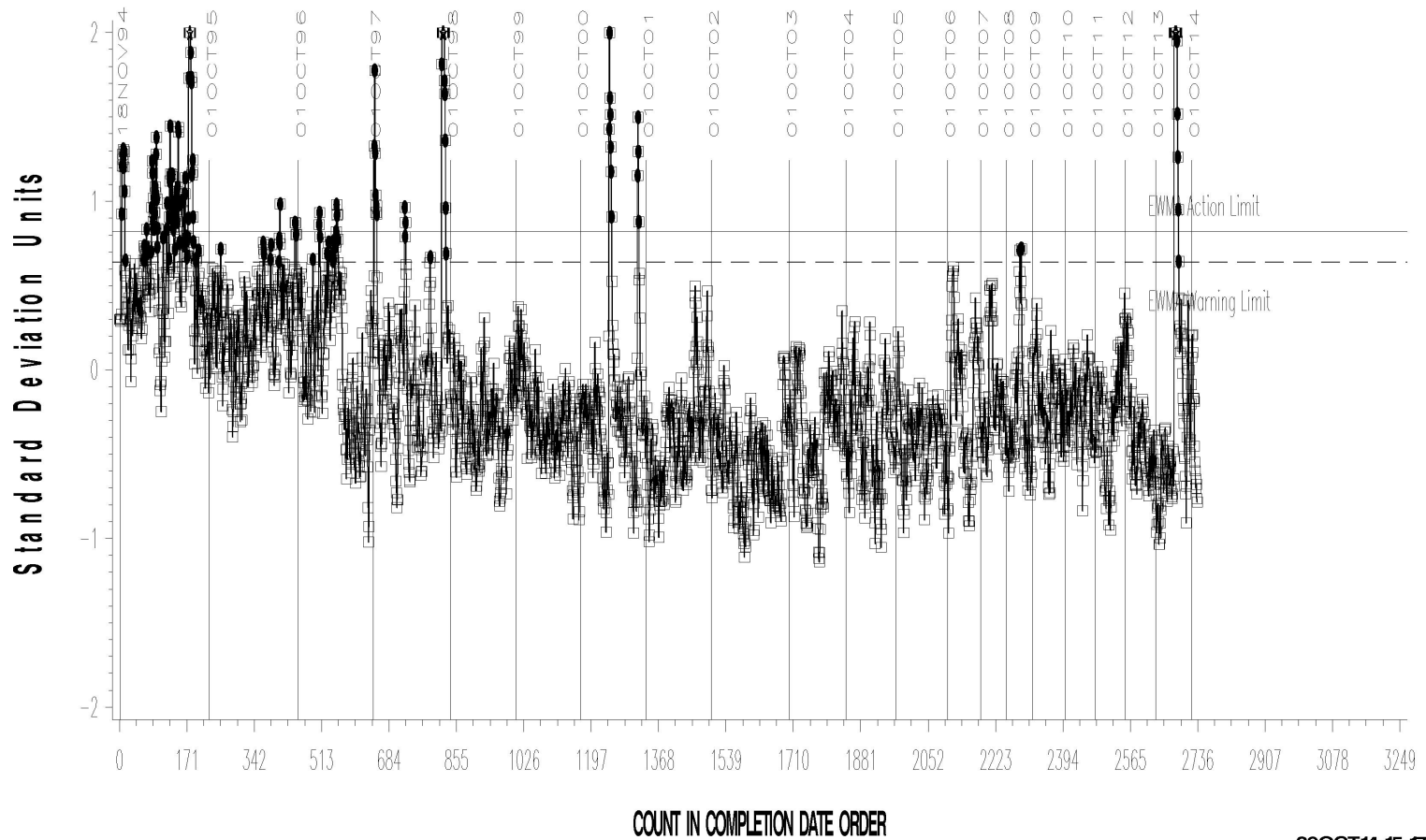
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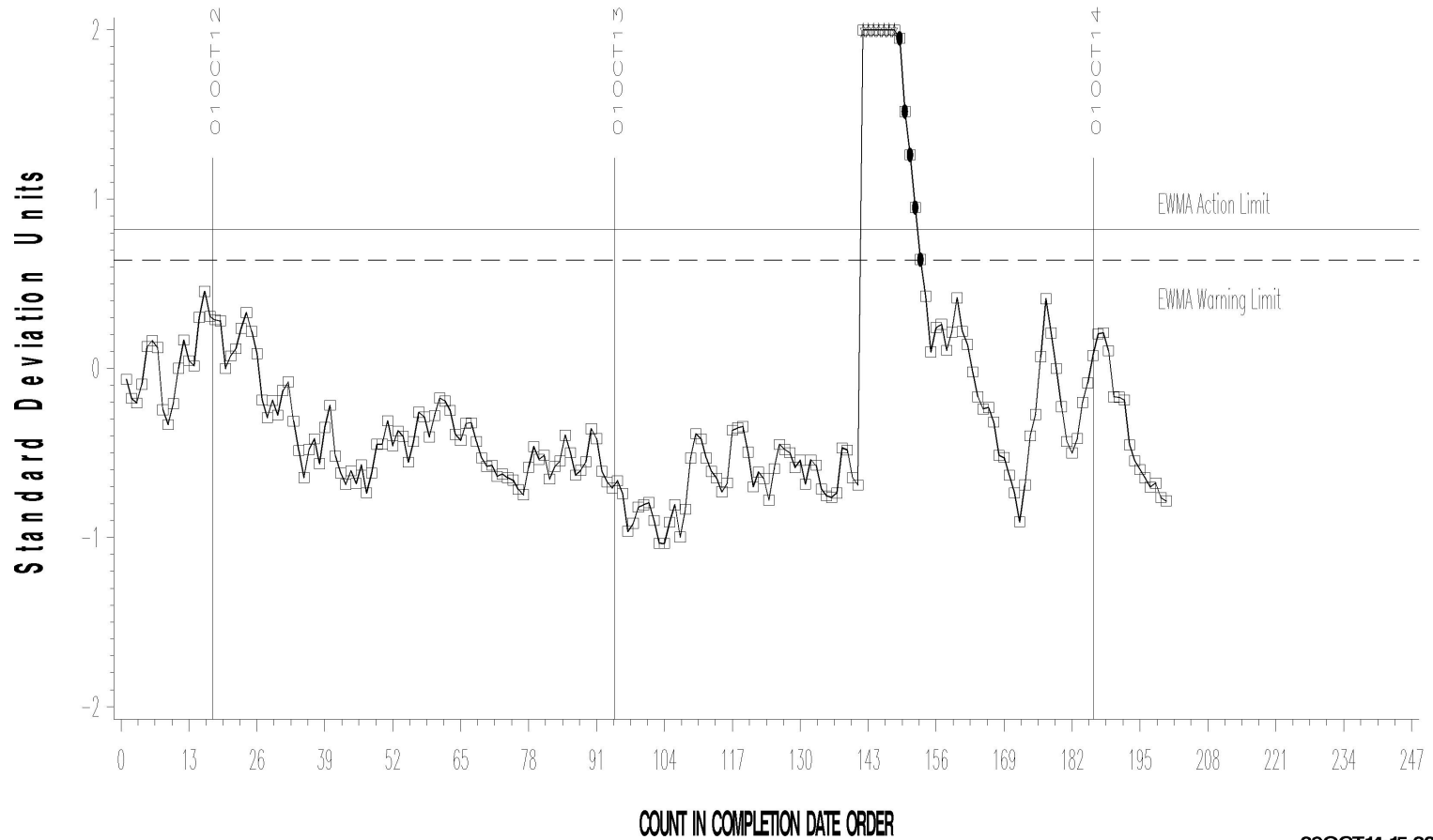
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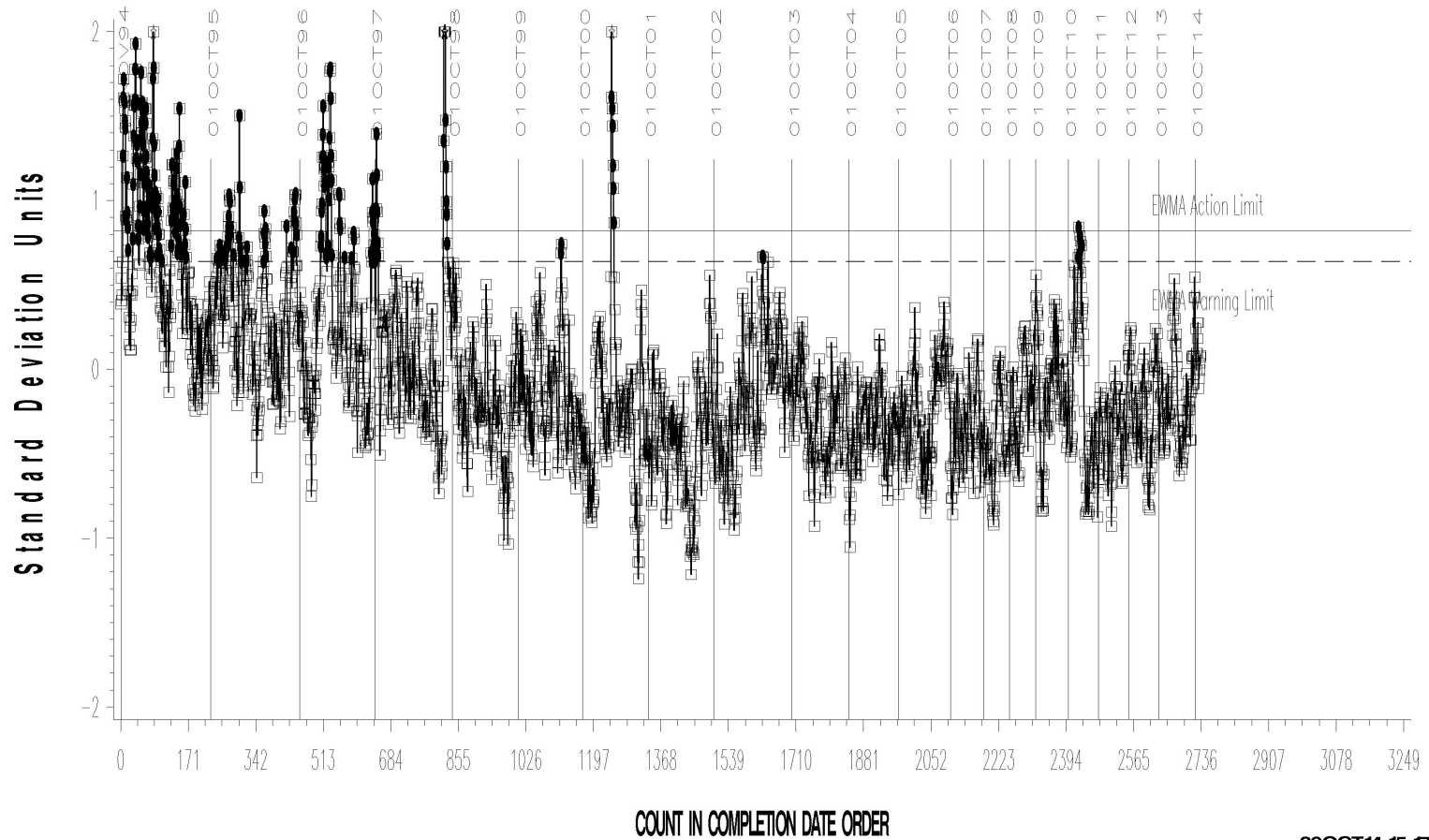
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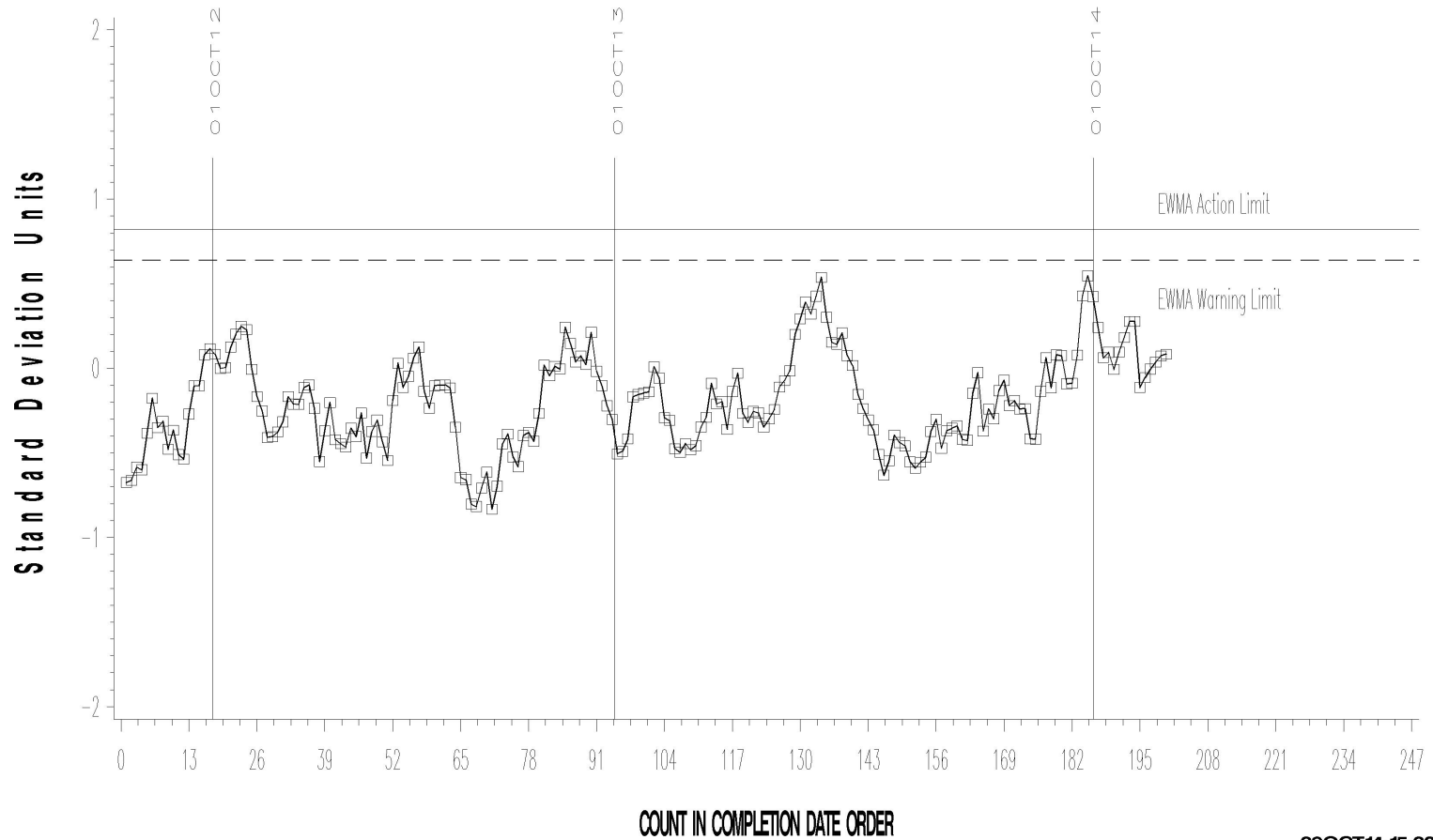
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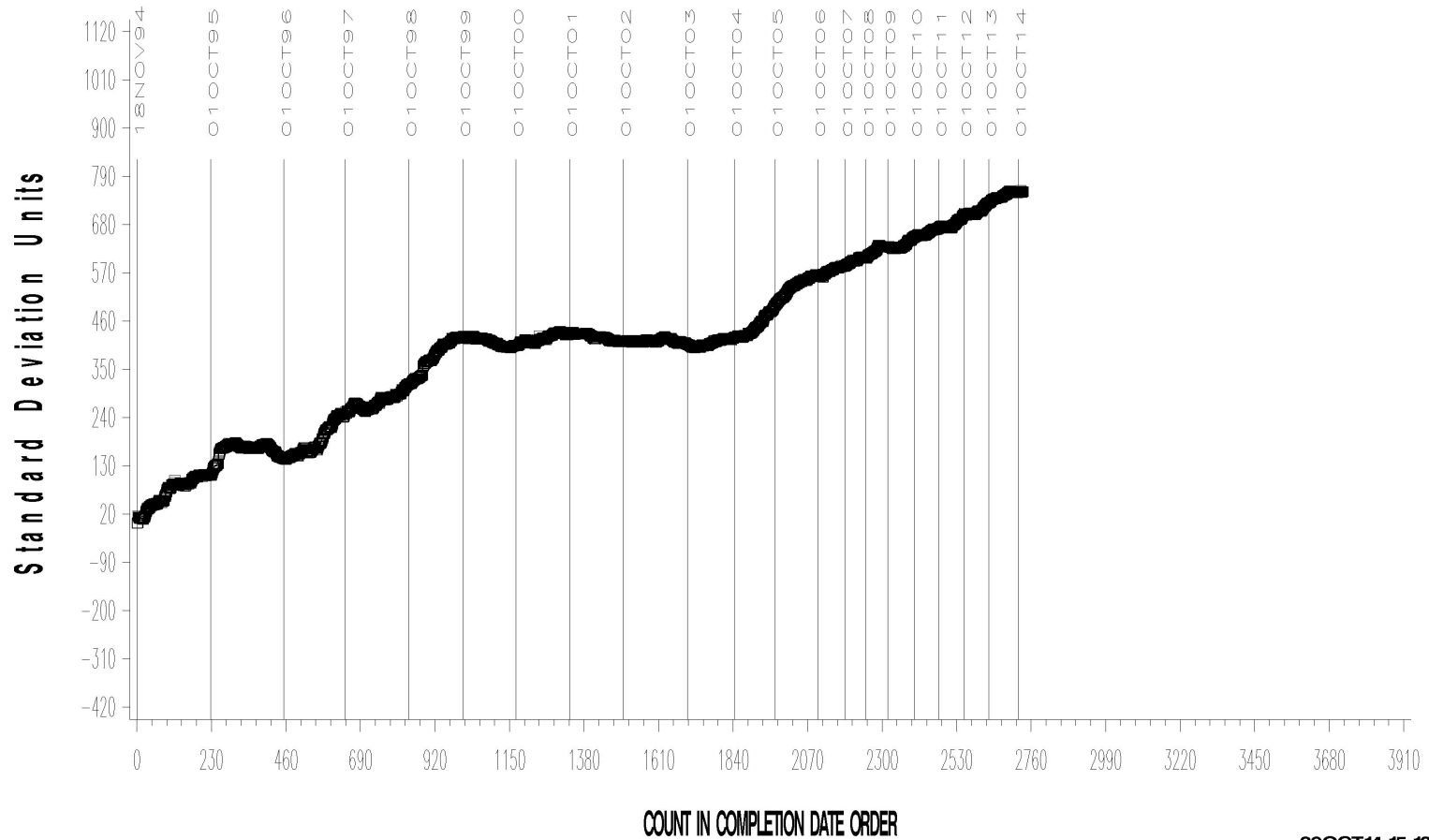
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CUSUM Severity Analysis



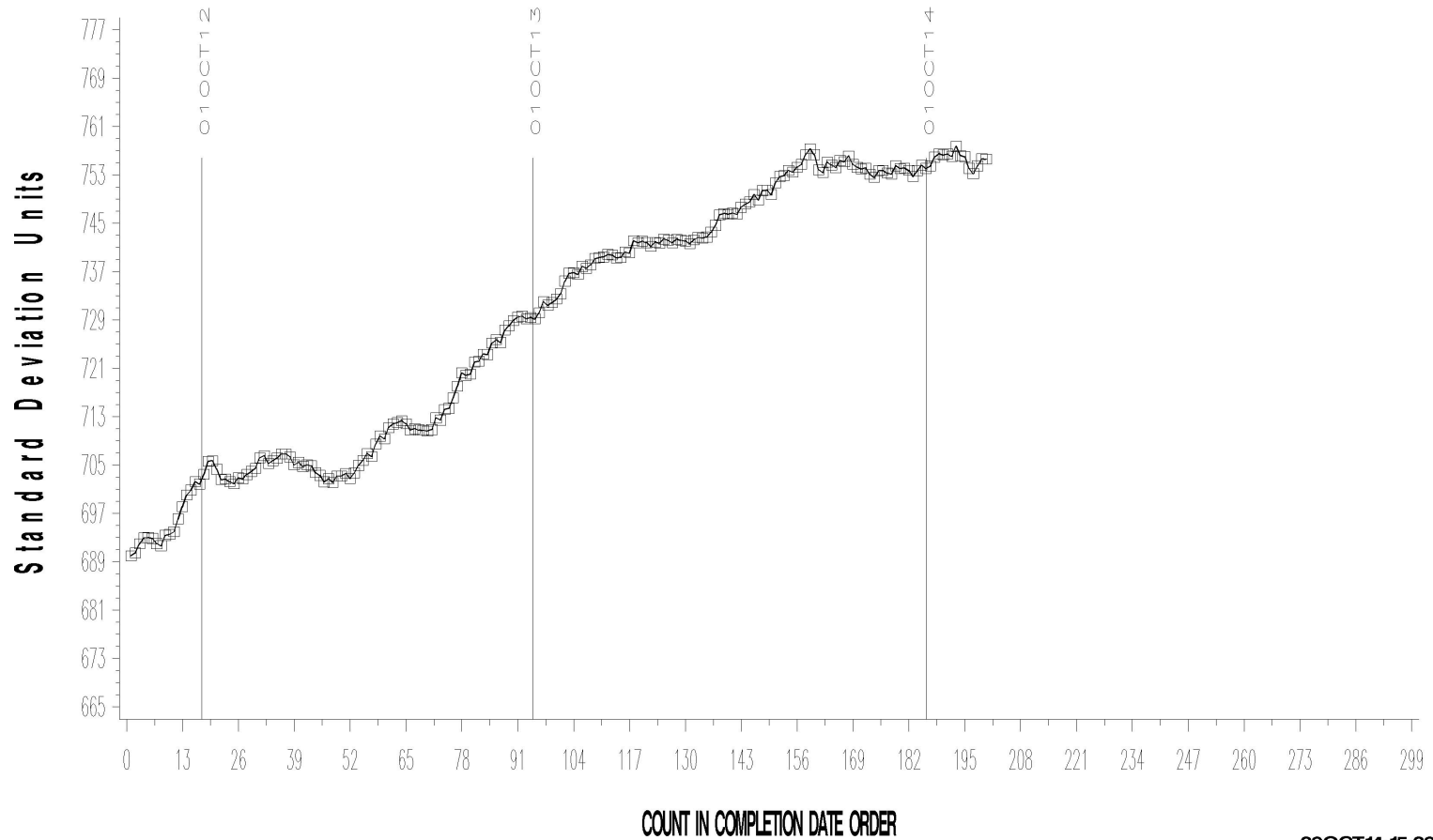
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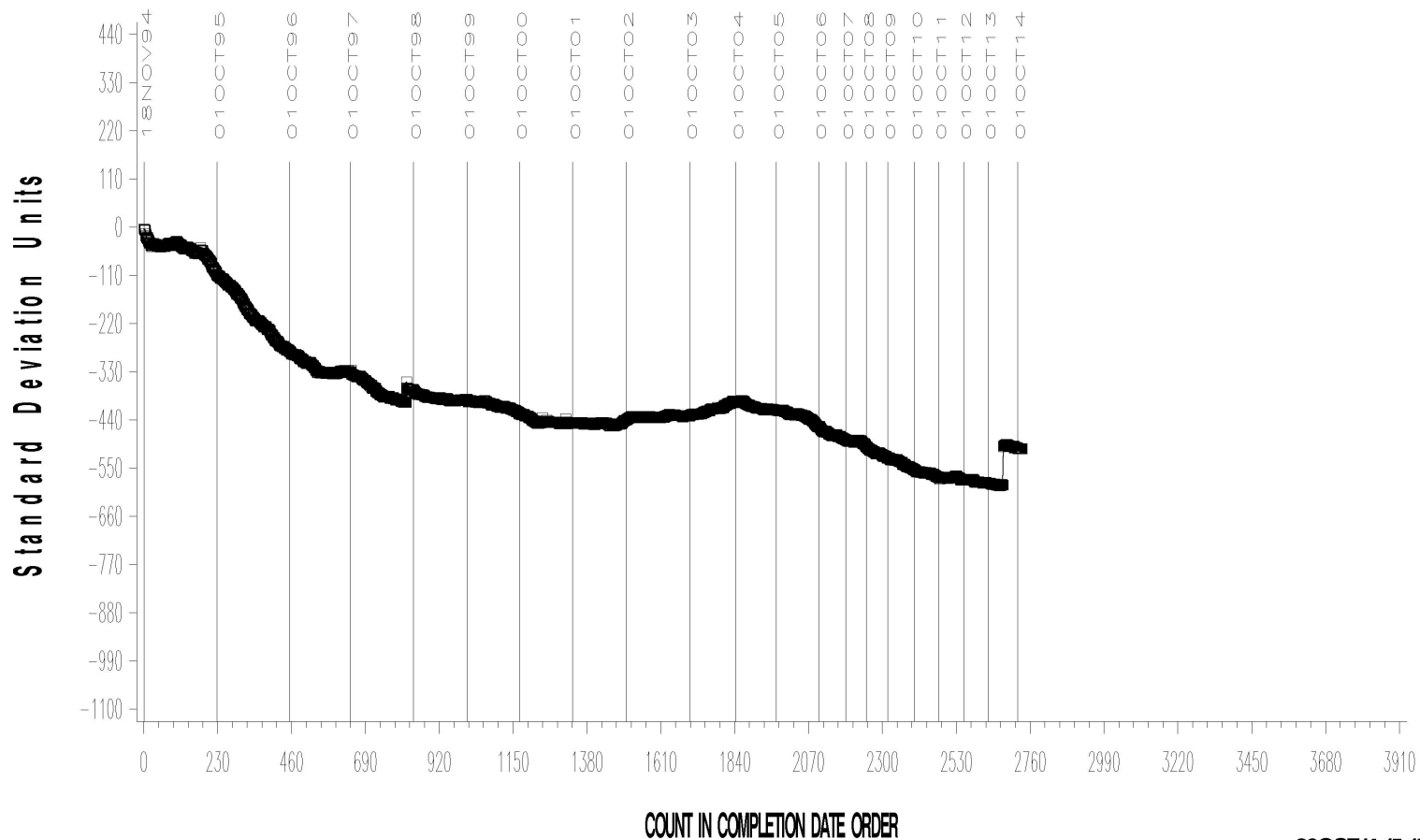
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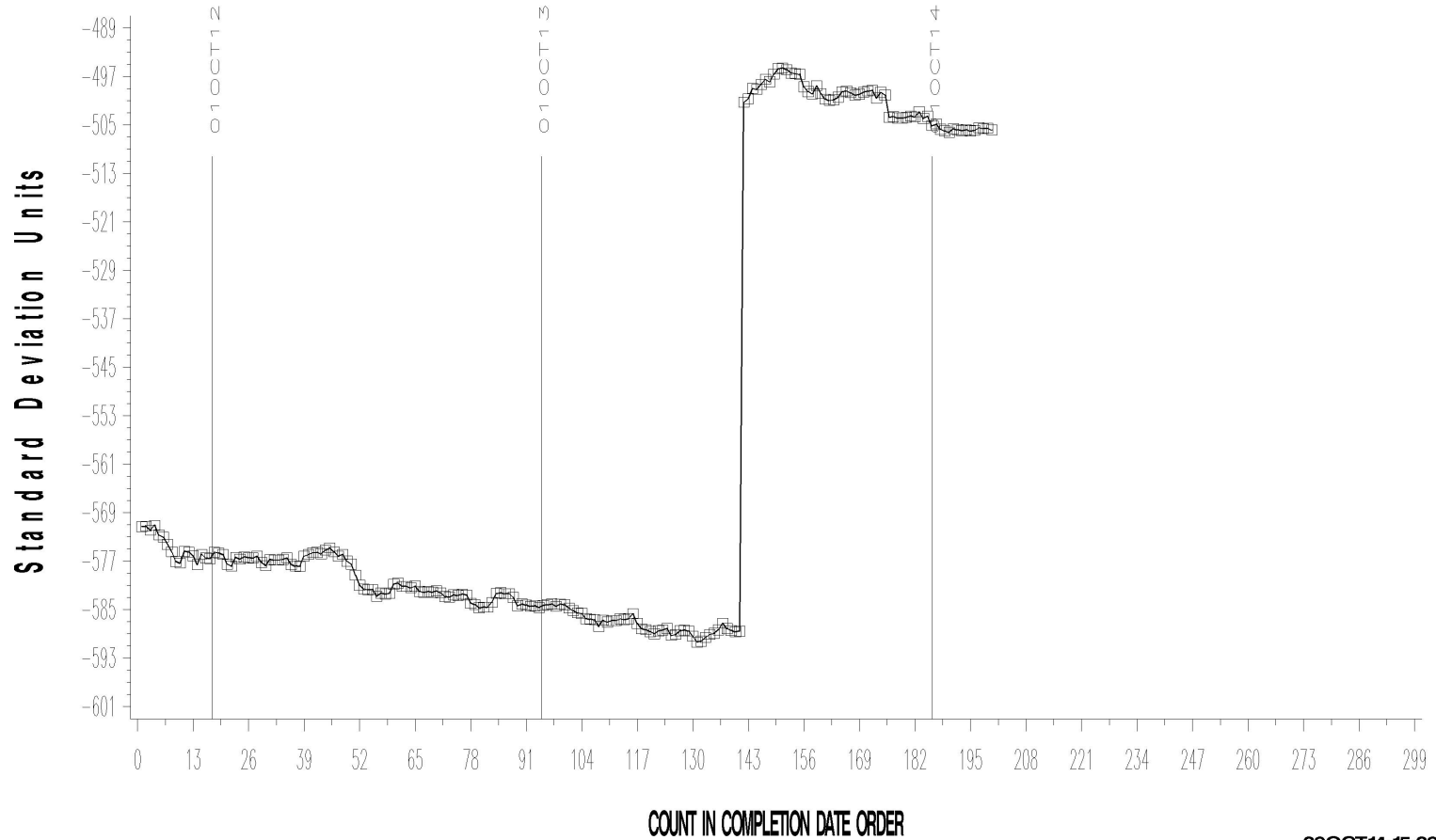
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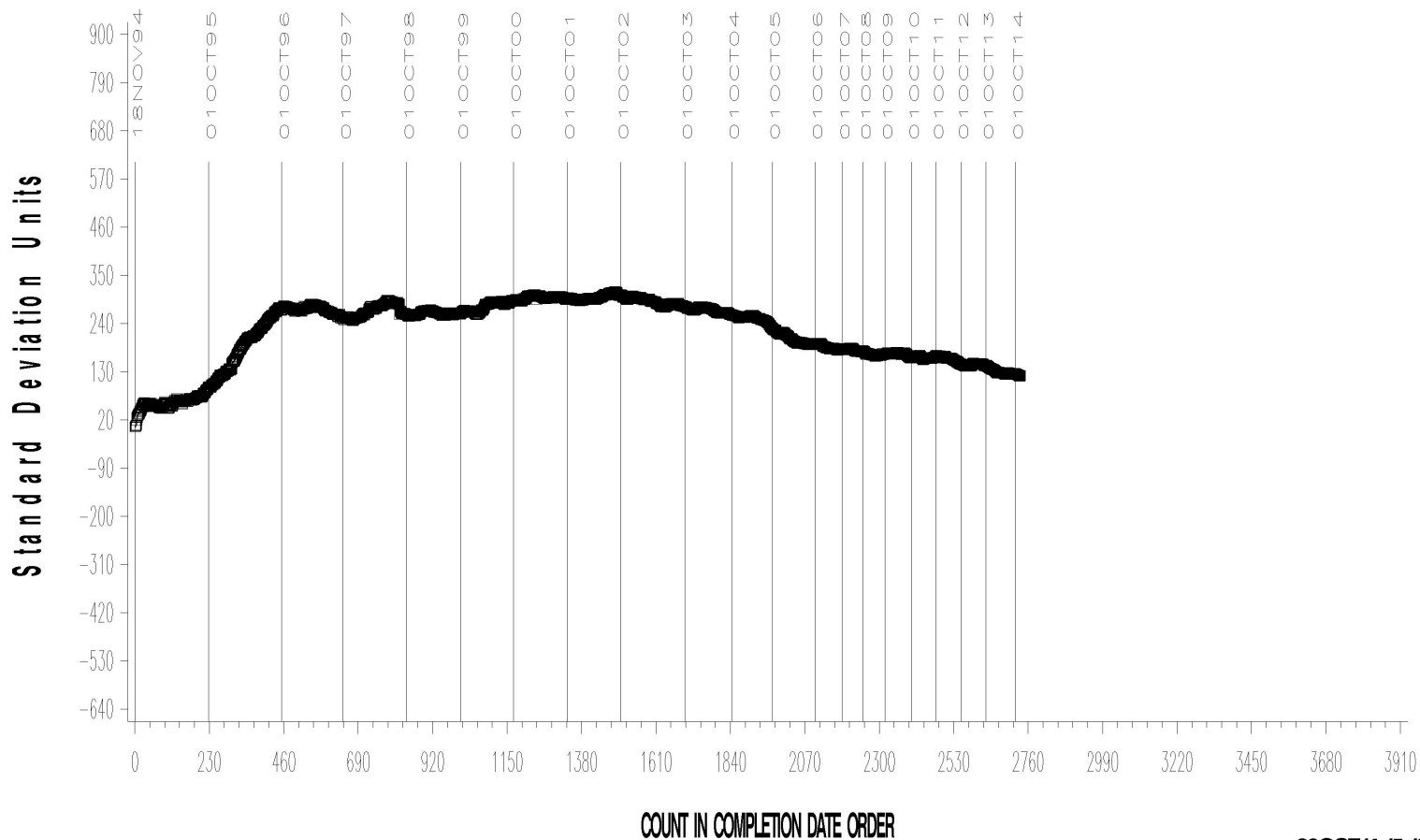
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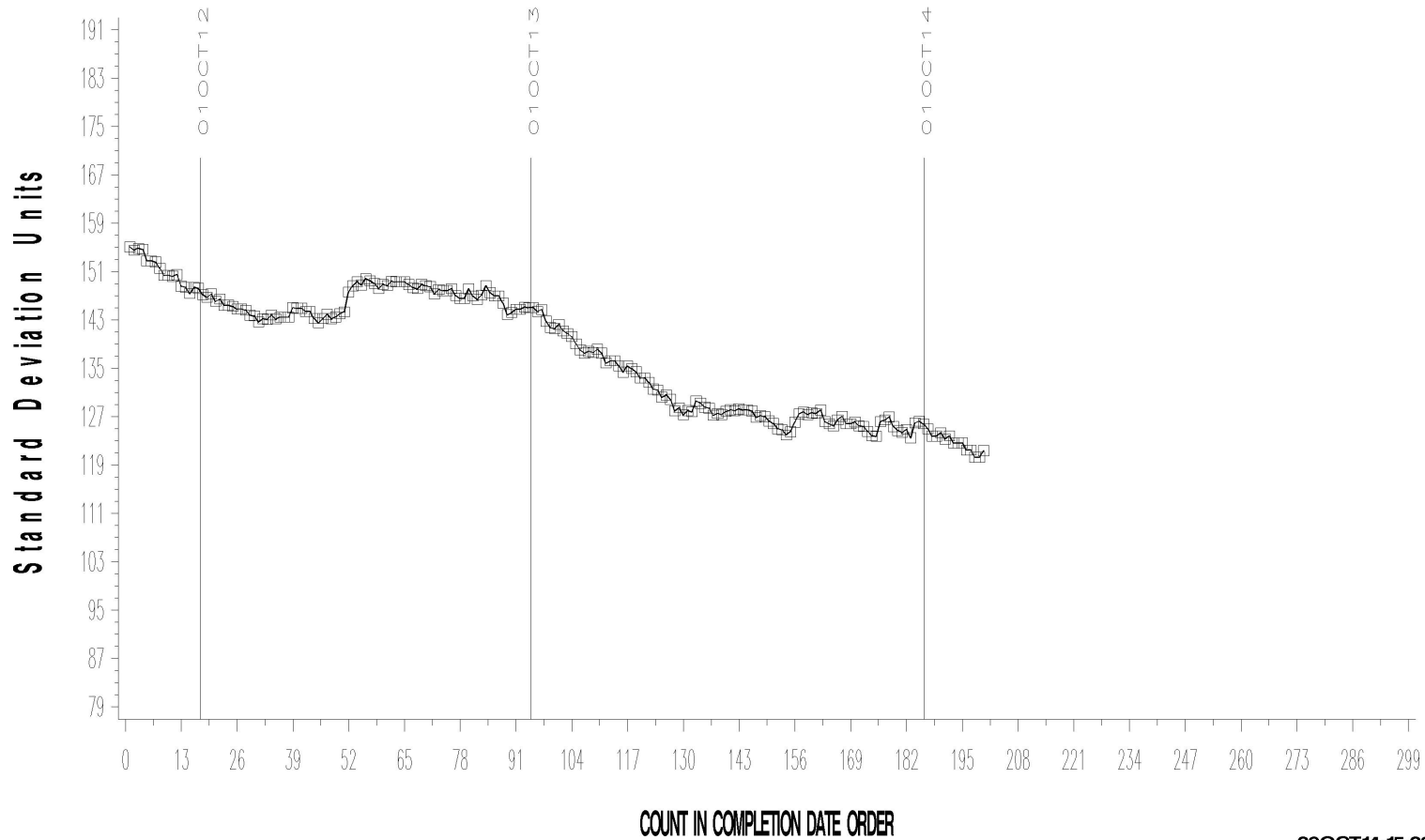
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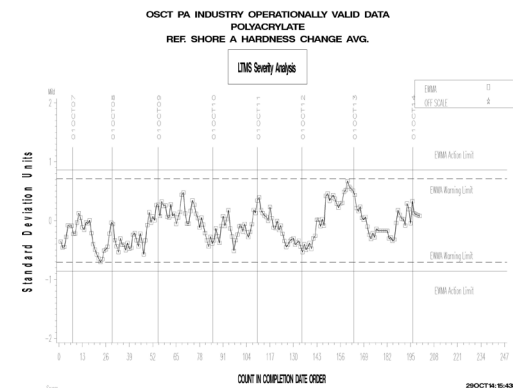
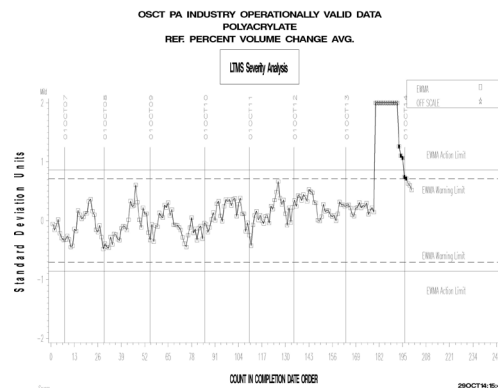
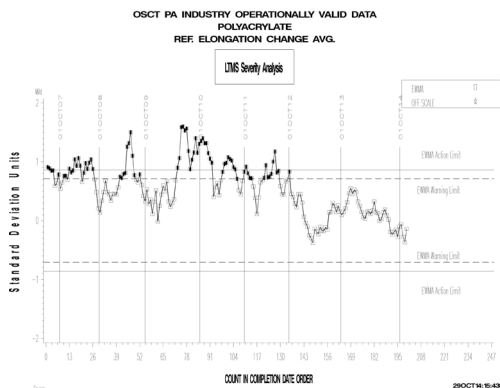
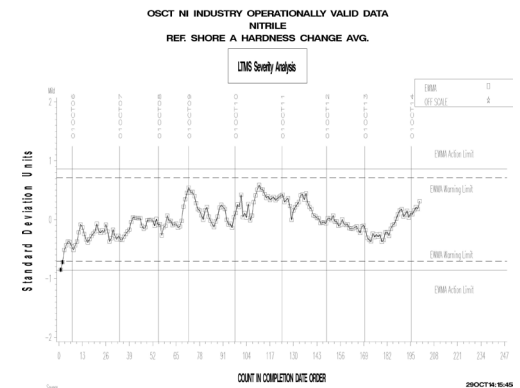
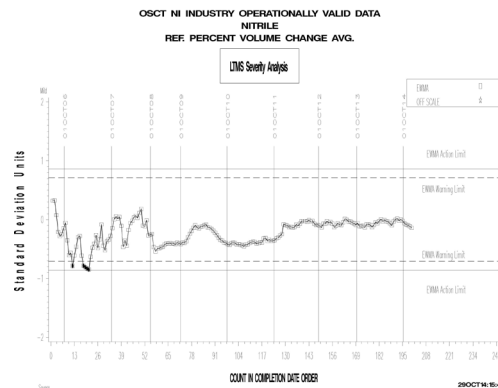
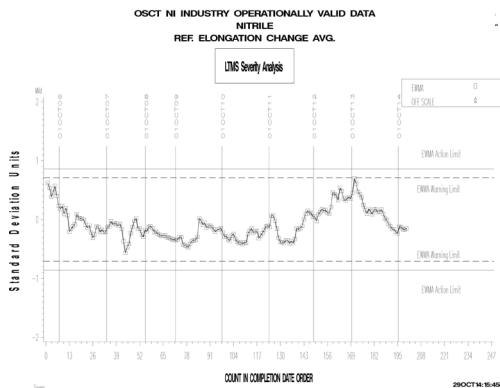
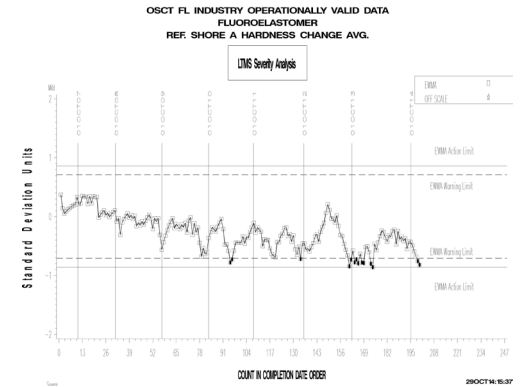
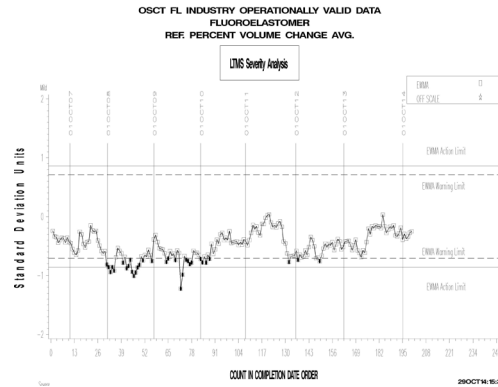
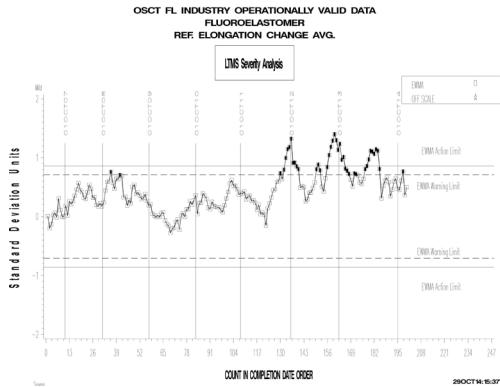
REF. SHORE A HARDNESS CHANGE AVG.

CUSUM Severity Analysis



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OSCT (D5662)



OSCT (D5662)

TIMELINE ADDITIONS

Effective Date	Information Letter	Event
20140725	n/a	First charted test from lab G.

OSCT (D5662)

LAB VISITS

Two OSCT lab visits were conducted during this period. No procedural non-conformances were found.

INFORMATION LETTERS

No information letters were issued this period.

OSCT (D5662)

STATUS OF REFERENCE OIL SUPPLY

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
160-1	29	249	49.5
161-1	4	0	0.0
168	39	33	6.6
169	19	1163	230.6
Total	91	1445	286.7

Oil 161-1 has been depleted from TMC inventory. A reblend is not available. Oil 169 has been introduced as a replacement. Oil 168 is nearing depletion and is not re-blendable.