



Test Monitoring Center

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

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

MEMORANDUM: 18-007
DATE: May 1, 2018
TO: Don Bell, Chairman, OSCT Surveillance Panel
FROM: Dylan Beck *Dylan Beck*
SUBJECT: OSCT Reference oil testing from October 1, 2017 through March 31, 2018

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

DJB/djb/mem18-007.djb.doc

cc: Frank Farber

Jeff Clark

Scott Parke

OSCT Surveillance Panel

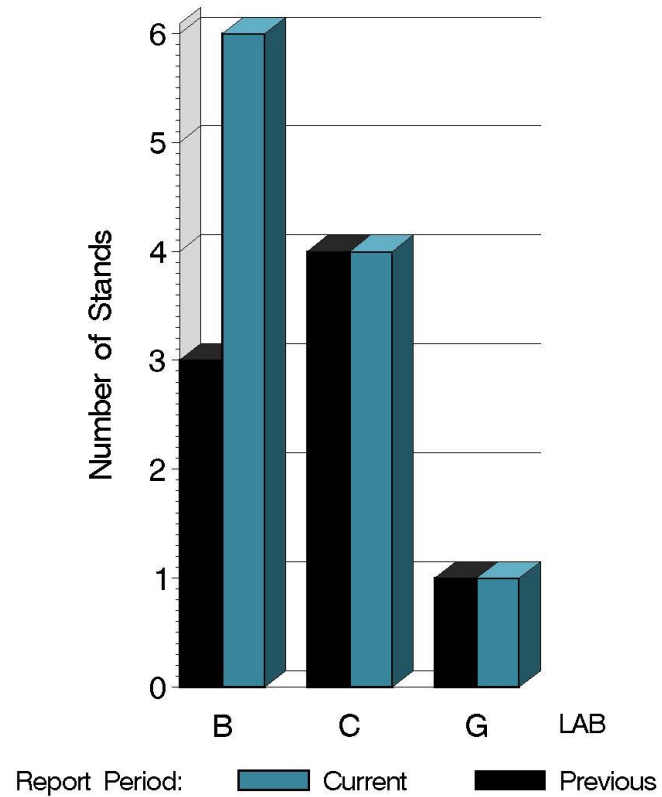
<http://www.astmtmc.cmu.edu/ftp/docs/gear/osct/semiannualreports/osct-04-2018.pdf>

Distribution: email

OSCT (D5662)

	Reporting Data	Calibrated on 3-31-2018
Number of Labs	3	3
Number of Stands	11	11

BY-LAB STAND
DISTRIBUTION



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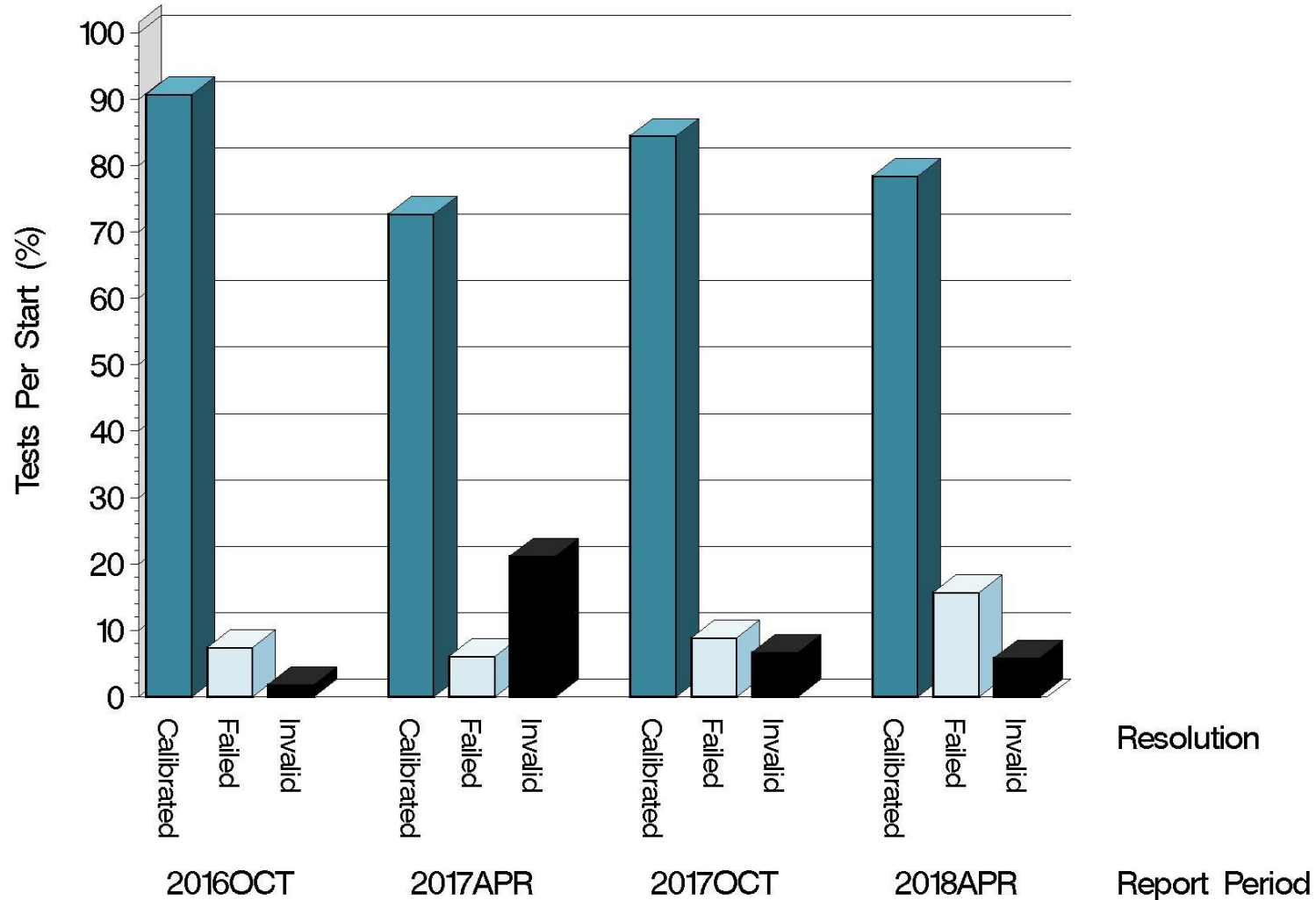
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Test Distribution by Elastomer and Validity

					Totals	
					Last Period	This Period
		FL	NI	PA		
Accepted for calibration	AC	16	8	16	38	40
Rejected (low result)	OC	0	1	0	2	1
Rejected (high result)	OC	2	2	3	2	7
Invalidated by lab	LC	0	0	2	0	2
Invalidated	RC	0	0	0	1	0
Aborted	XC	0	0	1	2	1
Elastomer approval run	NI	5	0	10	15	15
Unacceptable approval run	MI	0	0	4	5	4
Op. invalid approval run	LI	0	2	6	5	8
Aborted approval run	XI	0	0	1	2	1
Total		23	13	43	72	79

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CALIBRATION ATTEMPT SUMMARY



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CAUSES FOR LOST TESTS

Lab	Cause	Oil			Loss Rate		Lost	Starts	%
		FL	NI	PA	LC	XC			
B	Bath temp % out			●		●	2	36	5.5%
	Bath shutdown			●	●				
G	Only 6 specimens			●	●		1	14	7.1%
Lost		0	0	3	2	1			
Starts		23	13	43	79	79			
%		0%	0%	7.0%	2.5%	1.3%			

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Average Δ /s by Lab

Elastomer	Lab	n	PELA	PVCA	SAHA
FL	B	7	2.044	-0.035	-1.188
	C	9	0.243	0.057	-0.407
	G	2	0.436	-0.493	-1.231
	Industry	18	0.965	-0.040	-0.802
	Shift*	18	7.211	-0.021	-1.136
NI	B	5	1.180	0.204	-0.220
	C	6	0.665	-0.099	-0.121
	Industry	11	0.899	0.038	-0.166
	Shift*	11	4.771	0.020	-0.201
PA	B	6	-1.750	0.243	2.194
	C	9	-0.094	0.404	0.671
	G	4	-0.275	-0.422	1.179
	Industry	19	-0.655	0.179	1.259
	Shift*	19	-14.105	0.345	3.224

*computed using historic pooled s

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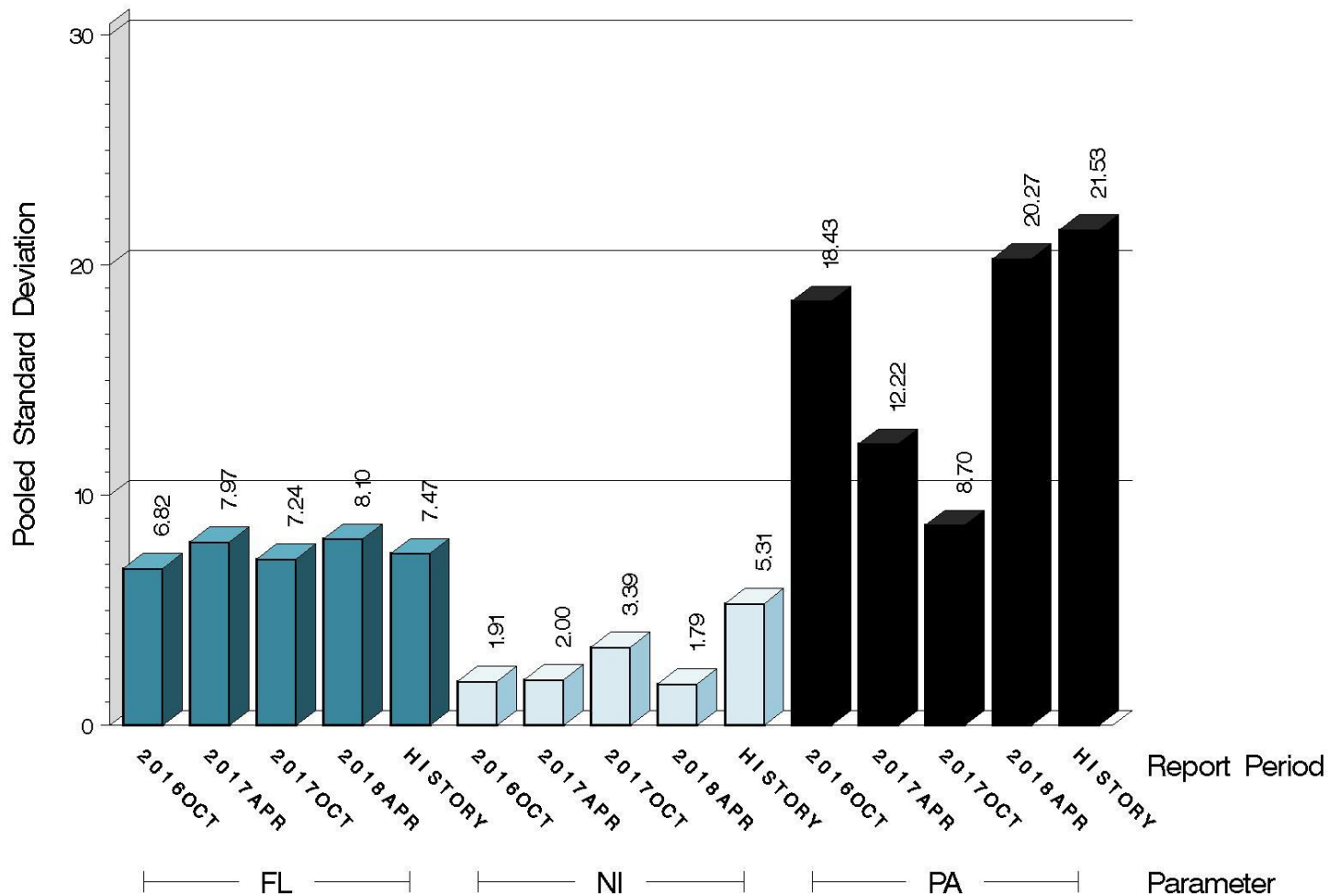


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%ELONGATION PRECISION

POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD



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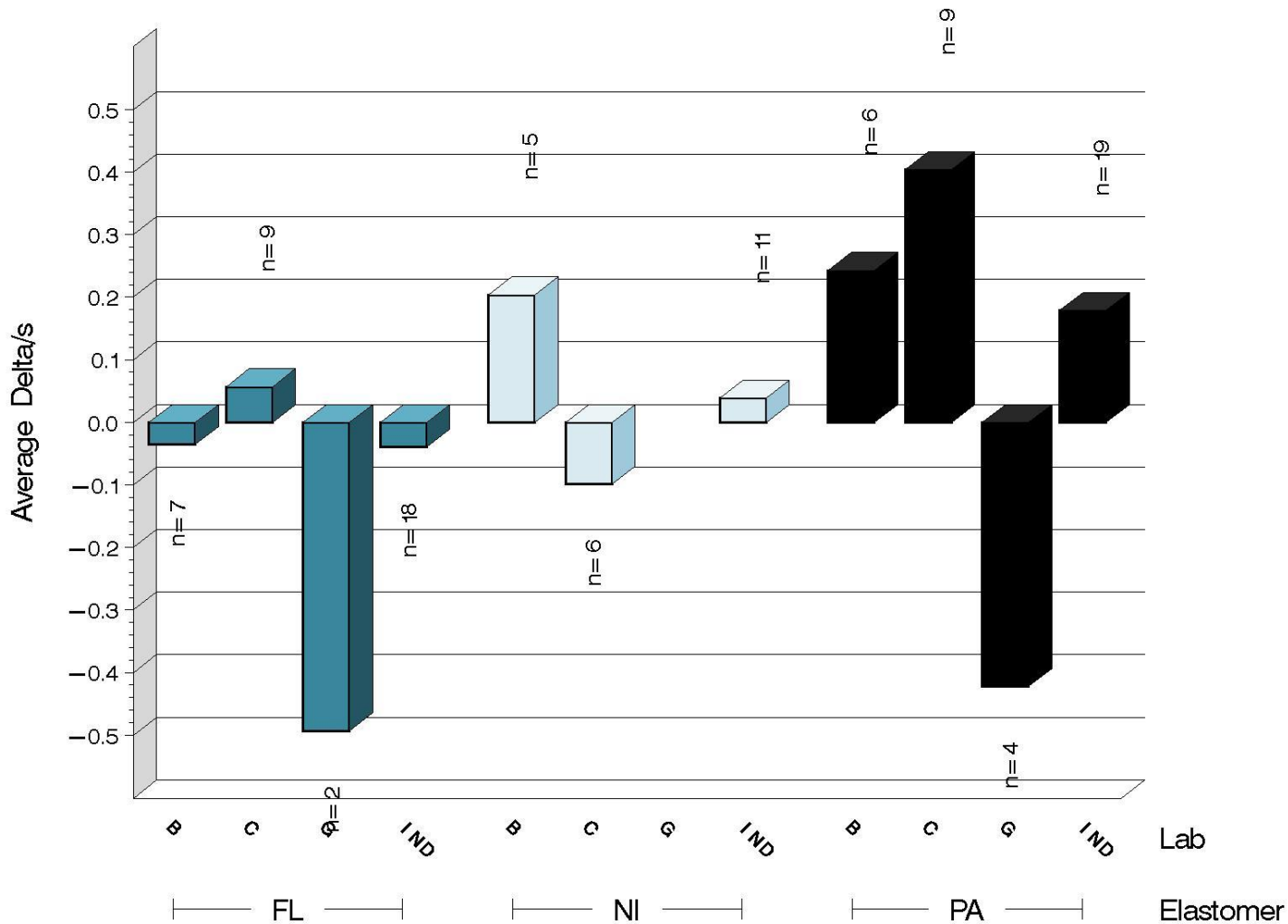
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%VOLUME CHANGE SEVERITY DELTA/S BY LAB

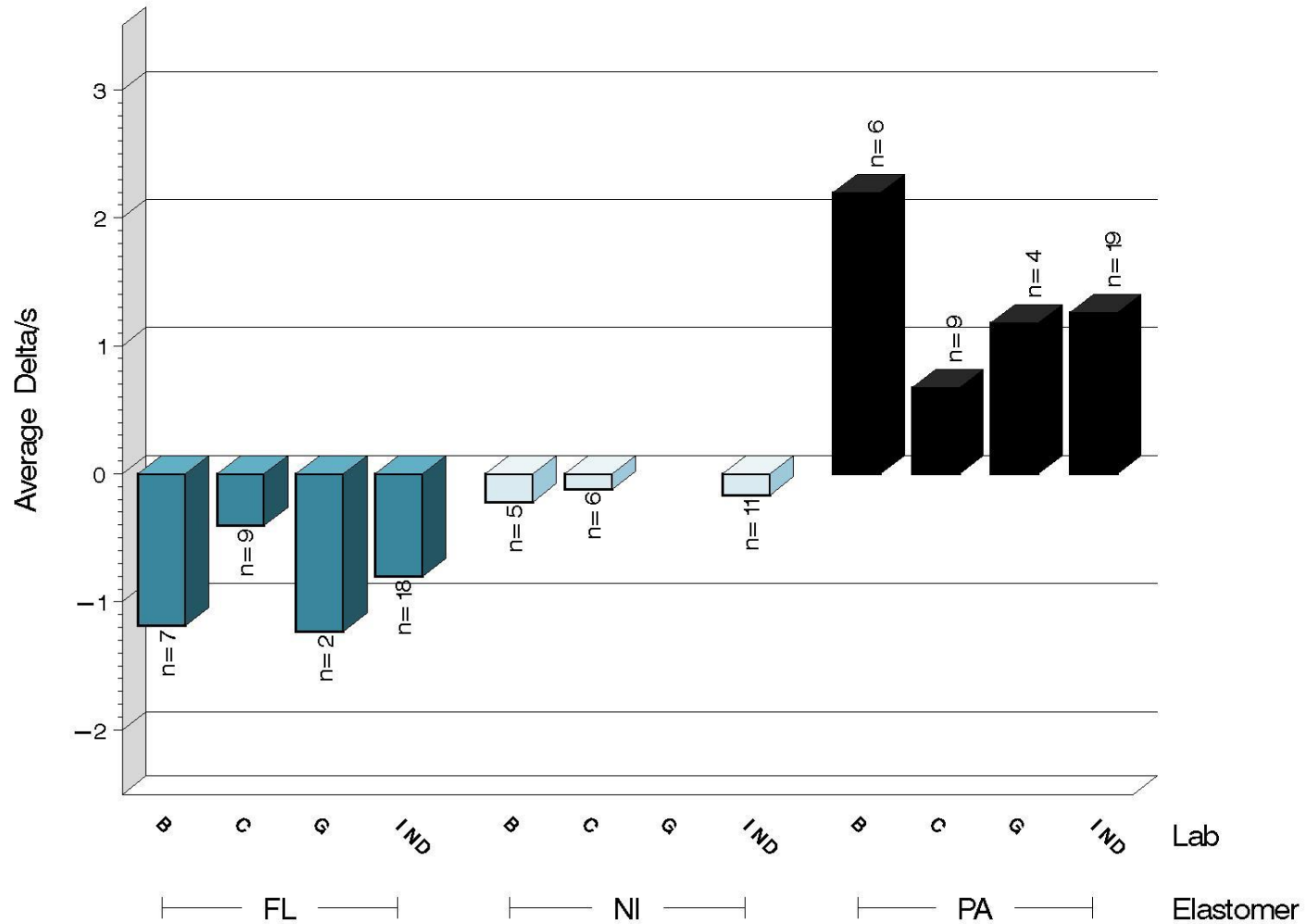


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S.A. HARDNESS SEVERITY

DELTA/S BY LAB

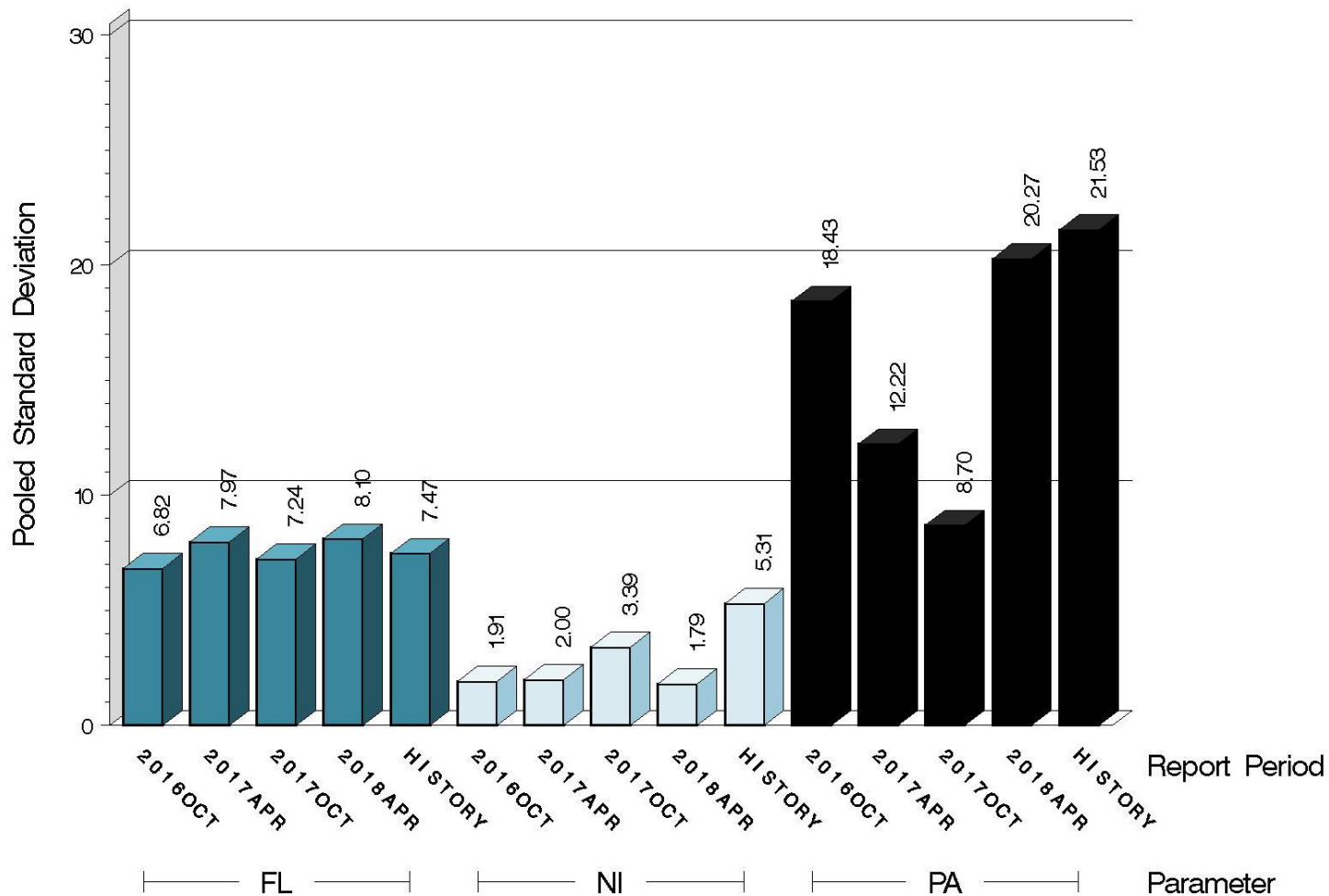


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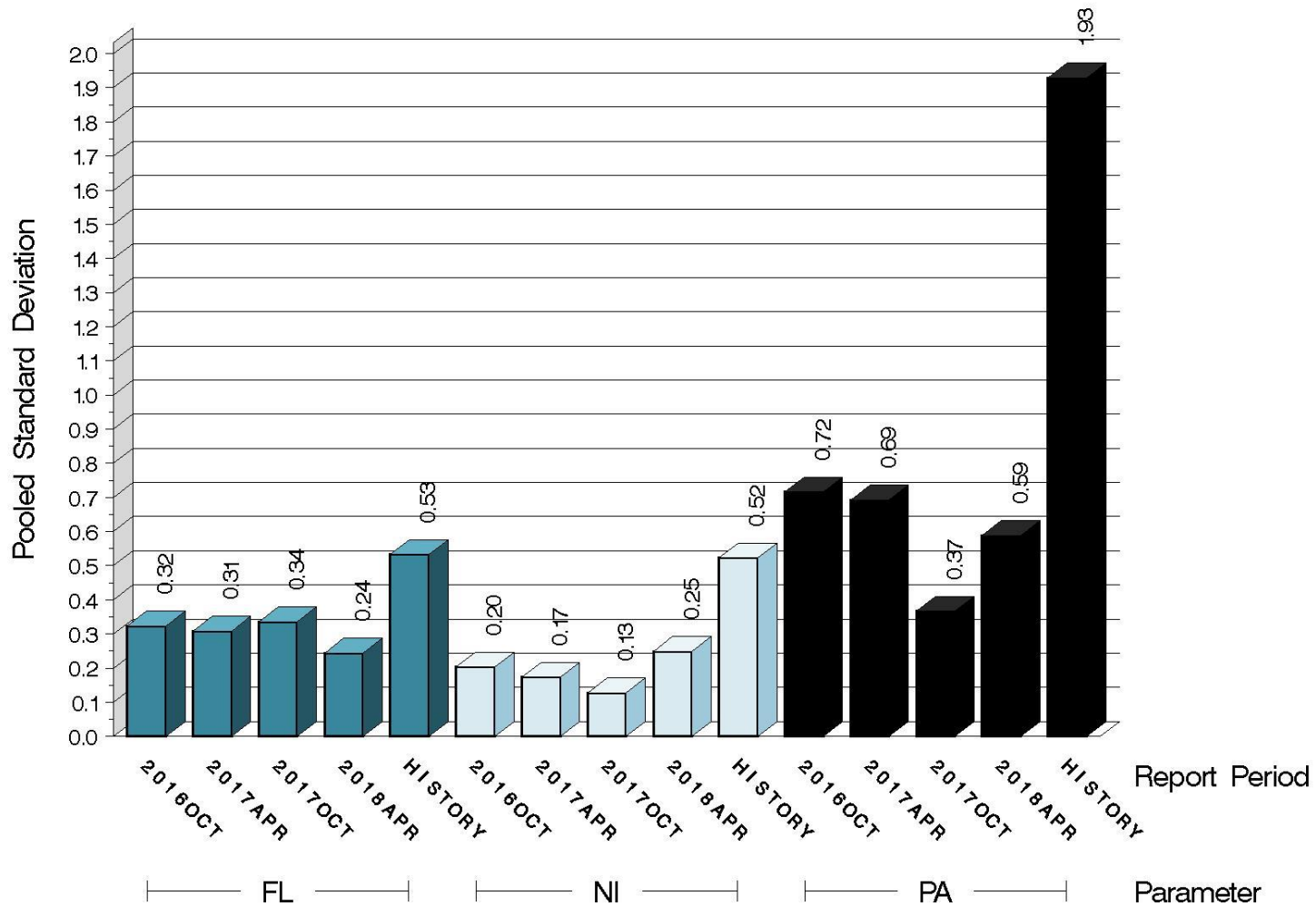


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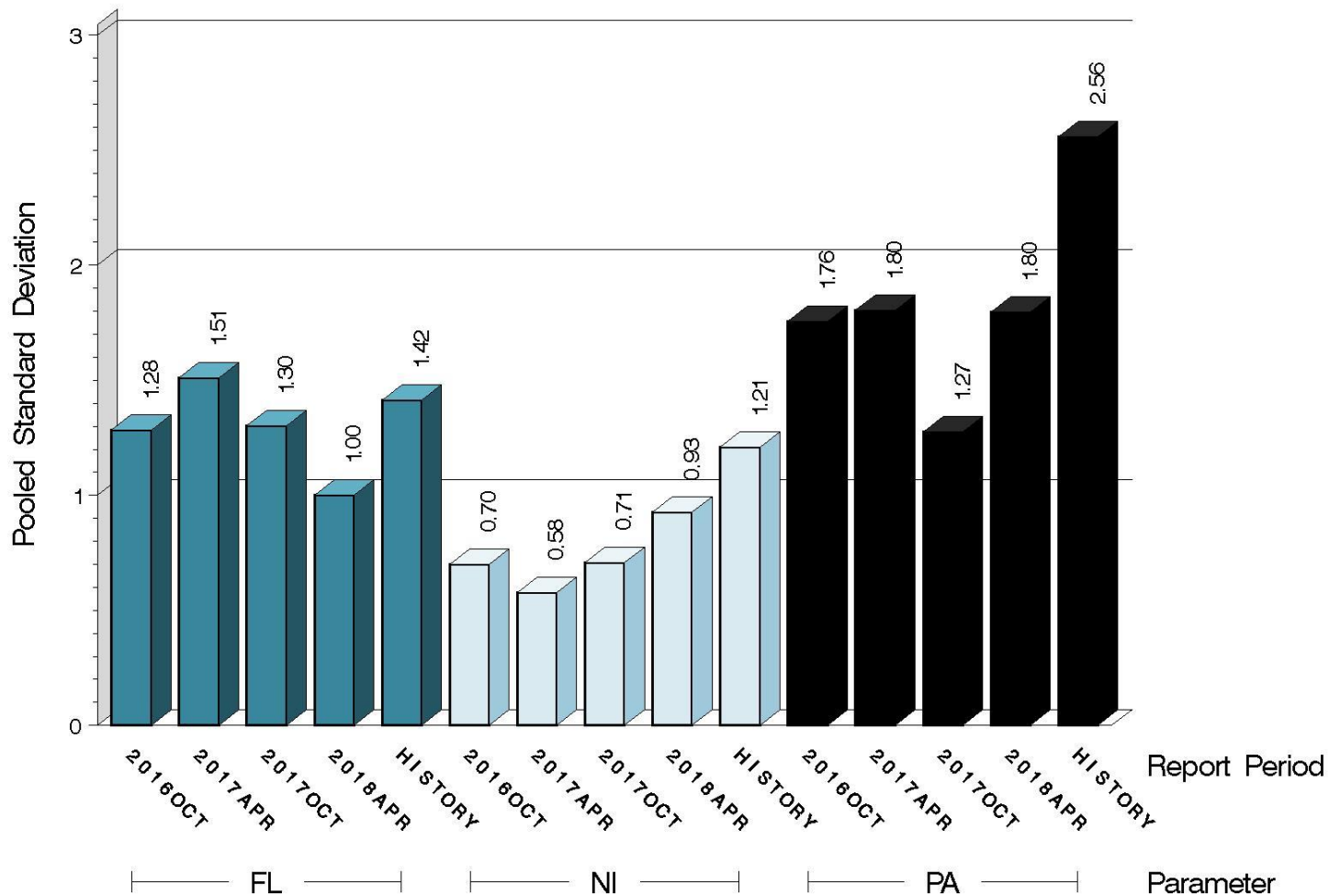


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S.A. HARDNESS PRECISION

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SUMMARY OF SEVERITY & PRECISION

Severity

The combined-elastomer industry charts show that the action limit for SAHA was exceeded during this period but is currently within limits.

The by-elastomer plots show that the within-limit performance for PELA and SAHA shown on the combined chart is not accurate. High PELA results on fluoroelastomer are being offset by low PELA results on polyacrylate. Likewise, low SAHA results on fluoroelastomer are being offset by high SAHA results on polyacrylate.

Nitrile results for all parameters have remained within control chart limits.

Precision

SAHA exceeded the action limit this period, but is currently within limits.

OSCT (D5662)

Precision

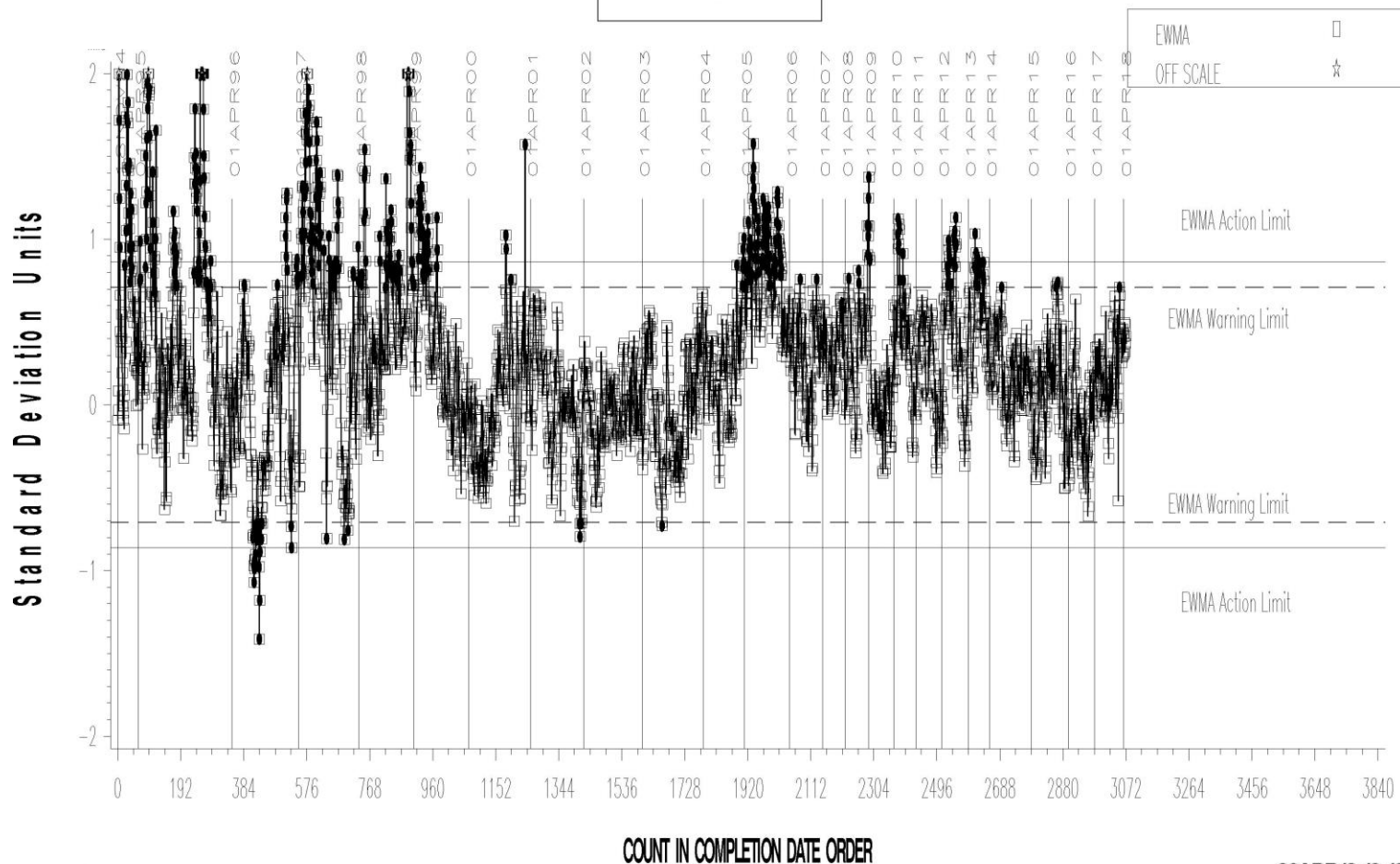
Industry control charts follow.

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OSCT INDUSTRY OPERATIONALLY VALID DATA

REF. ELONGATION CHANGE AVG.

LTMS Severity Analysis



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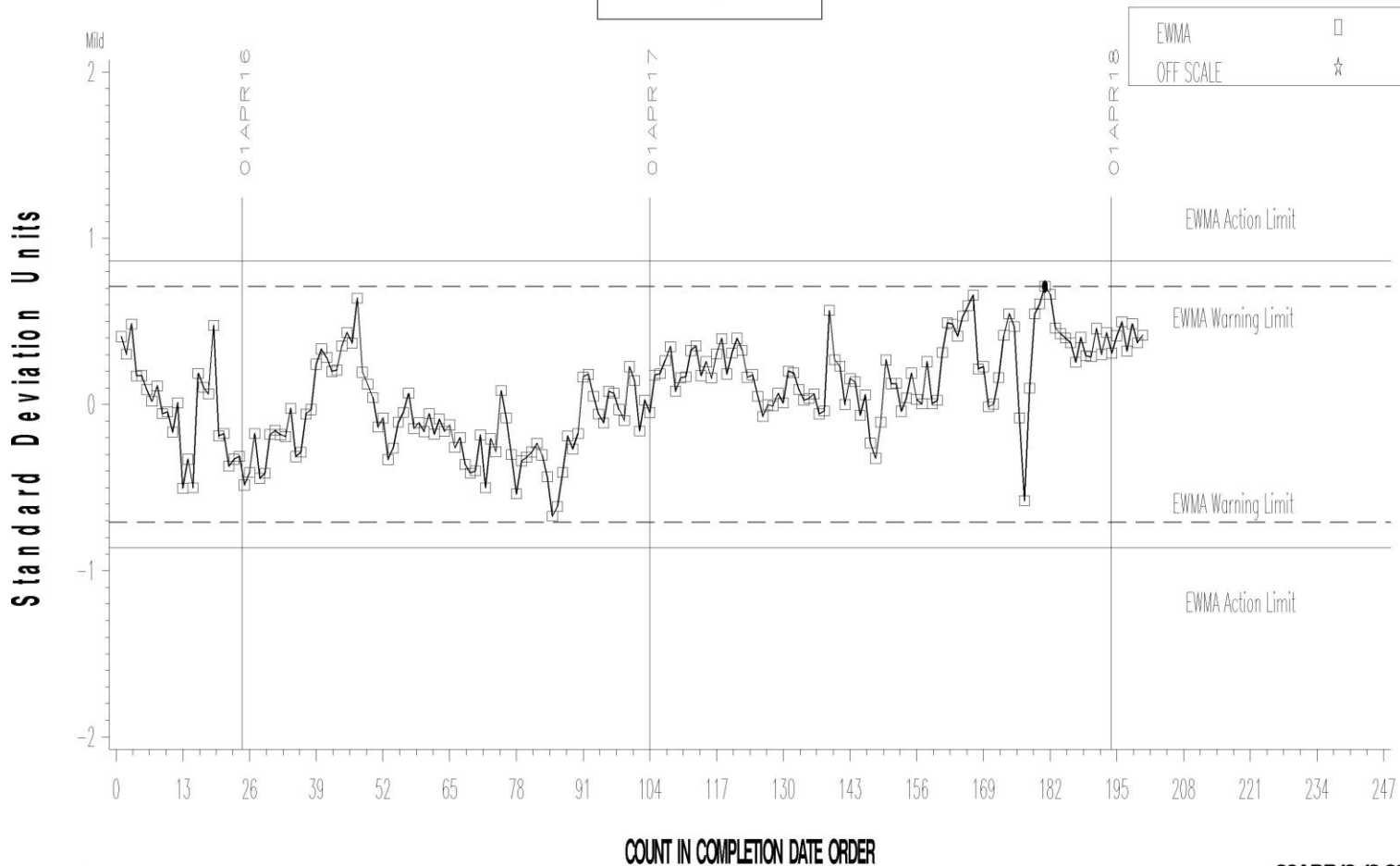
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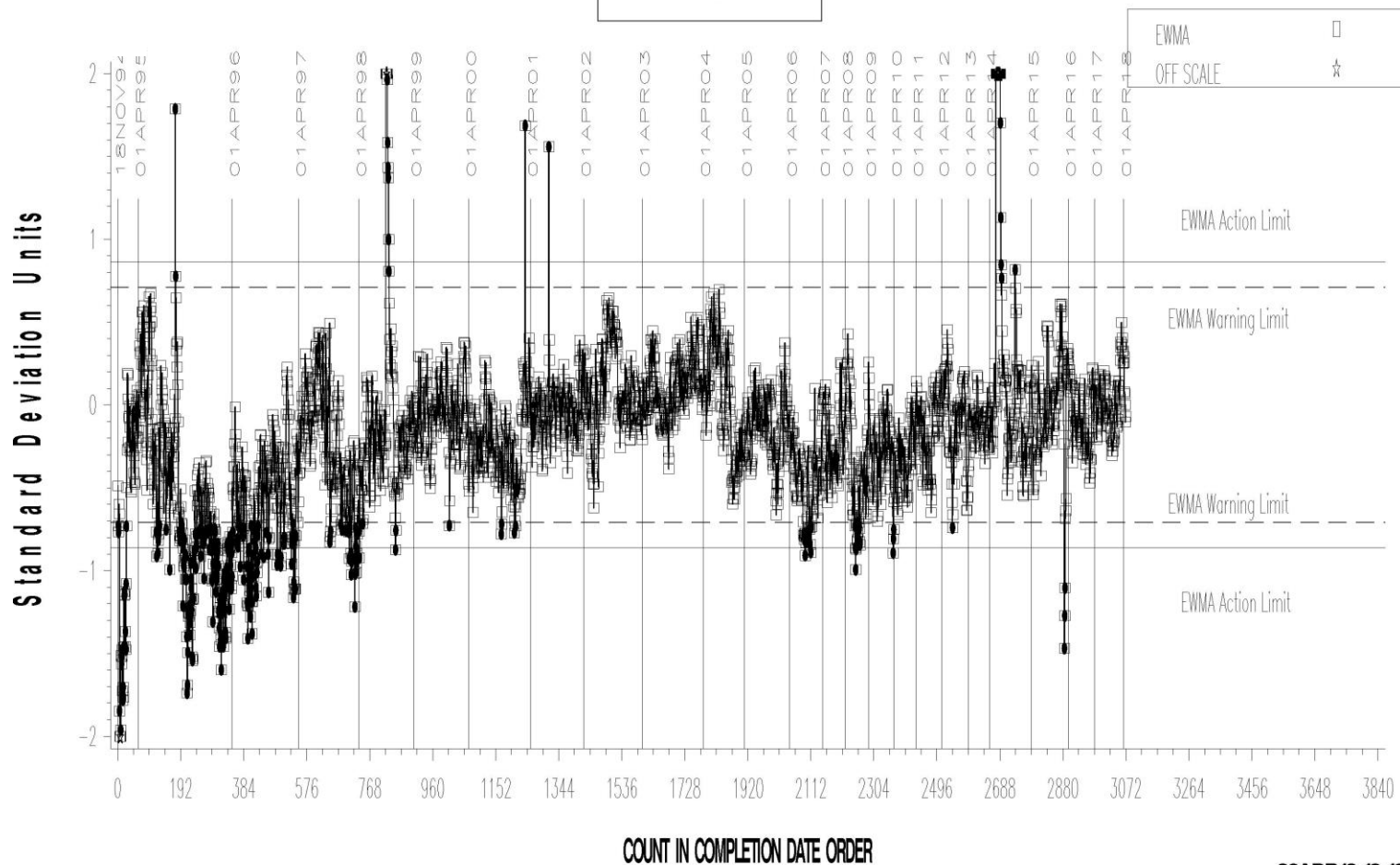
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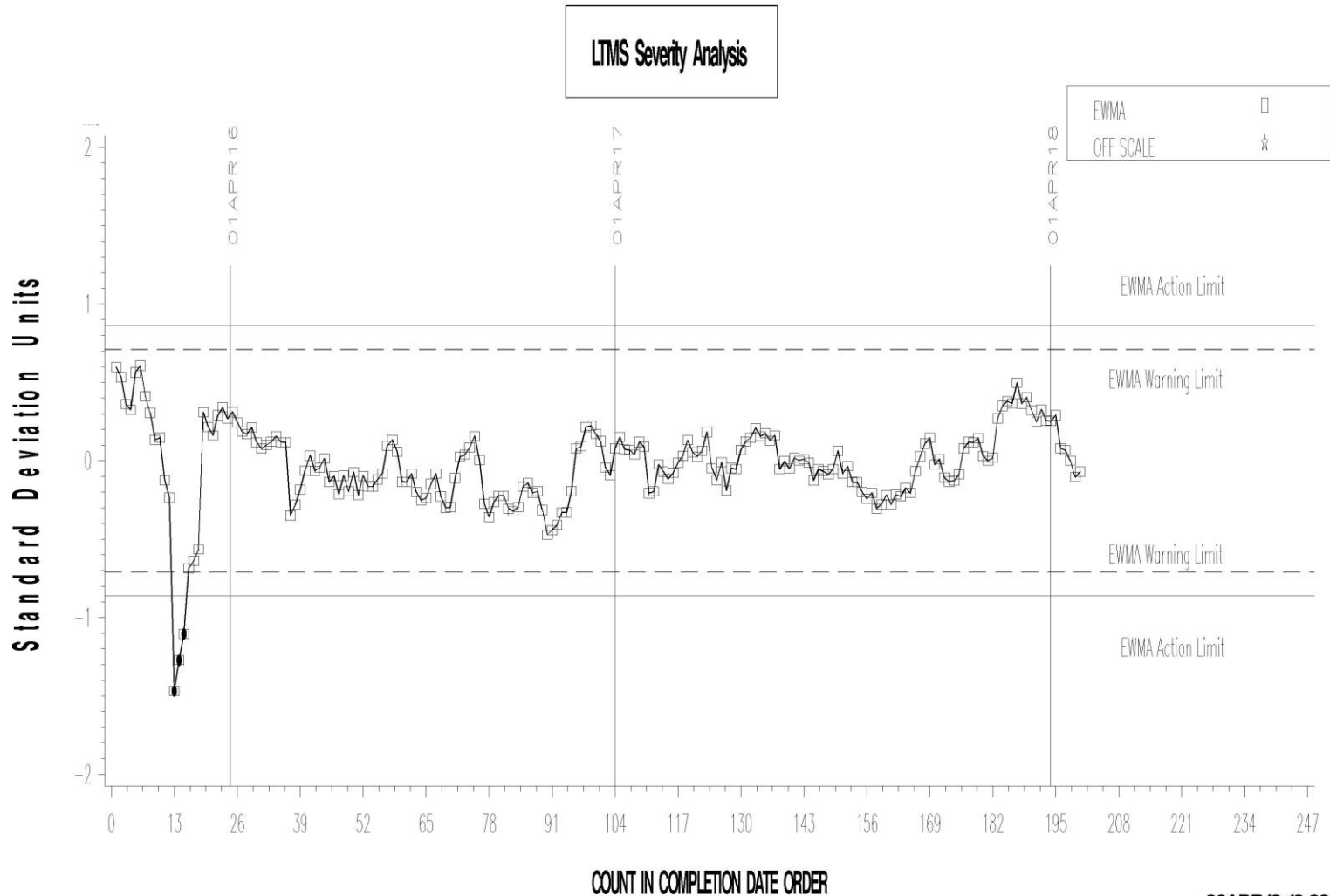
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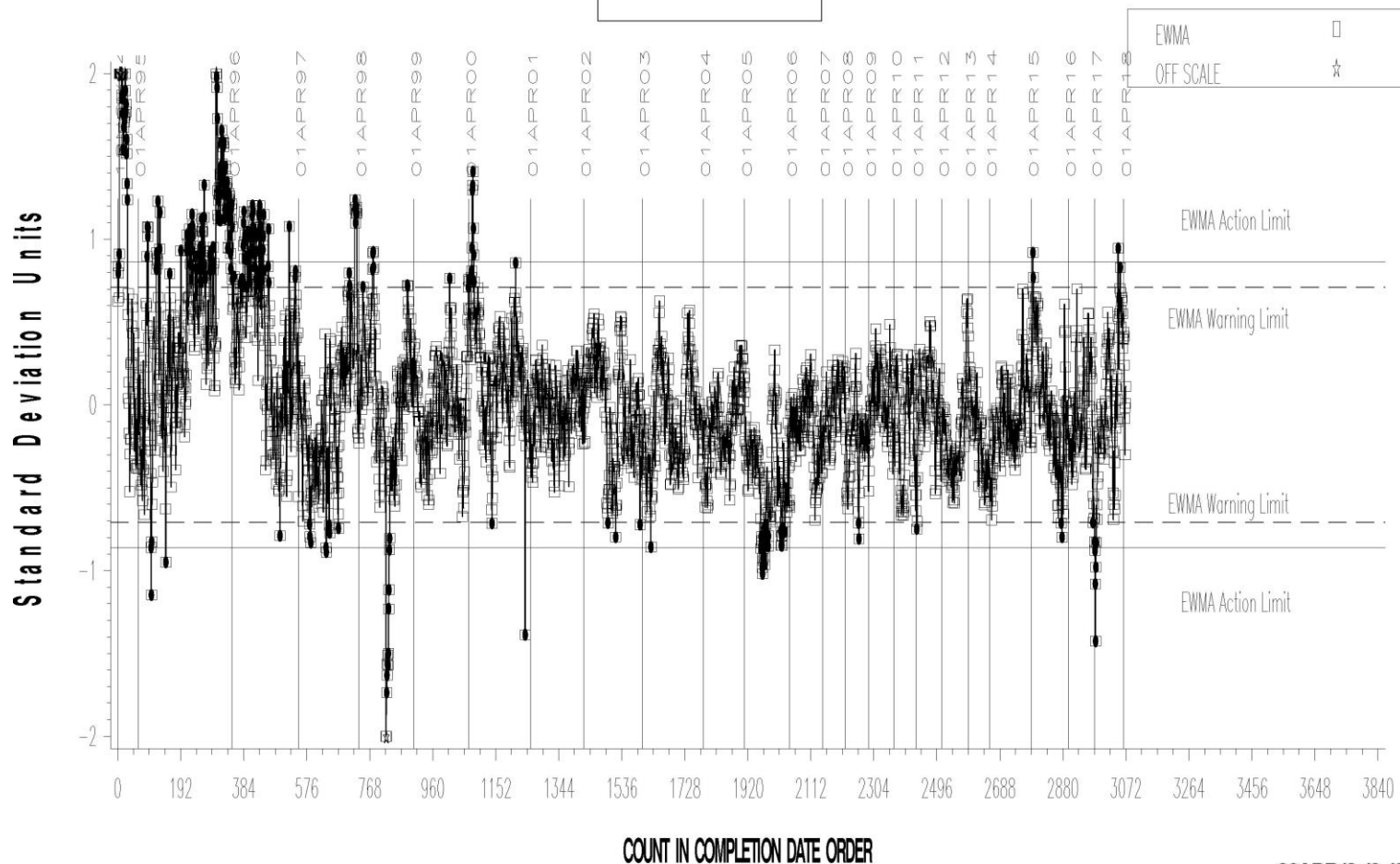


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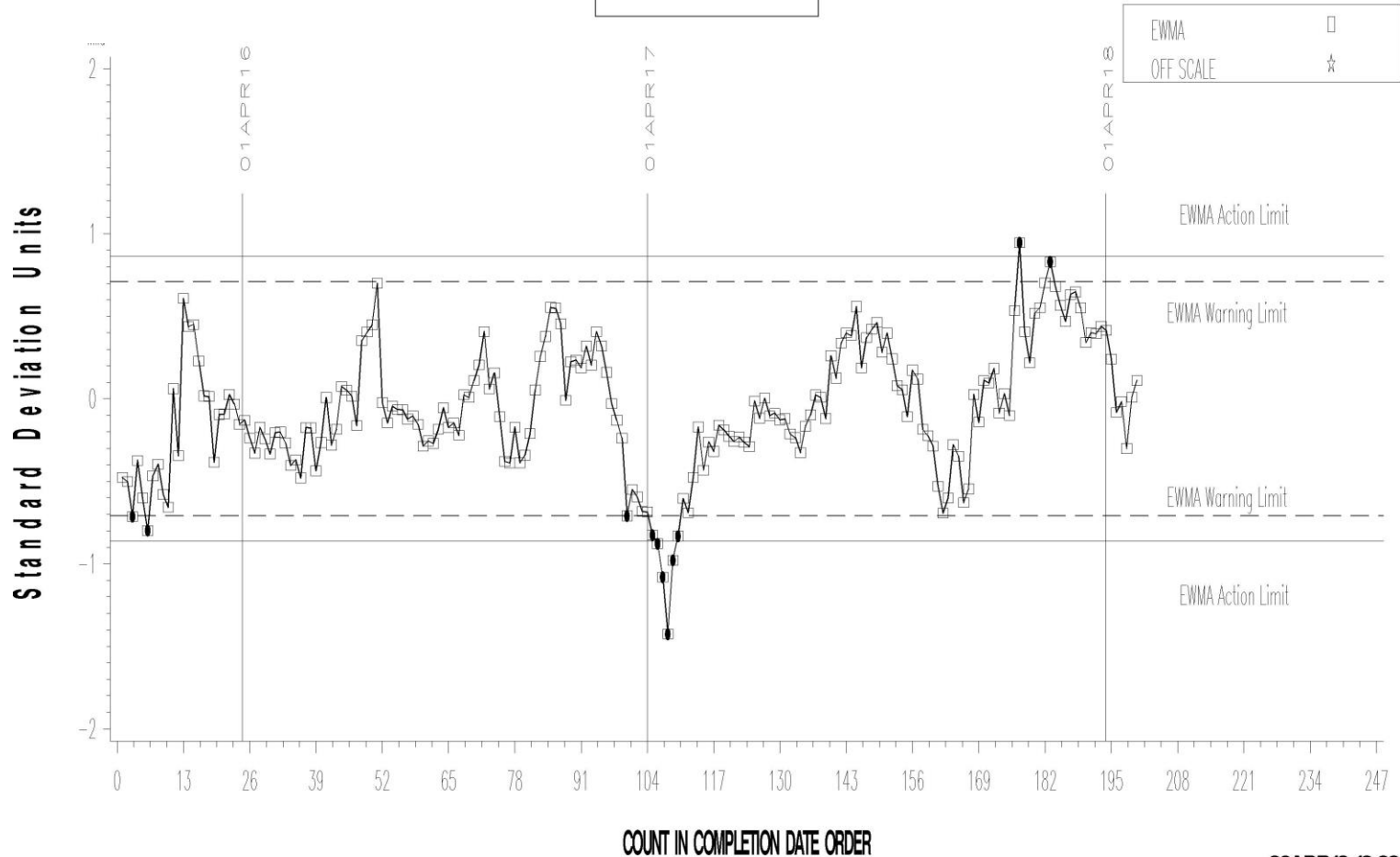


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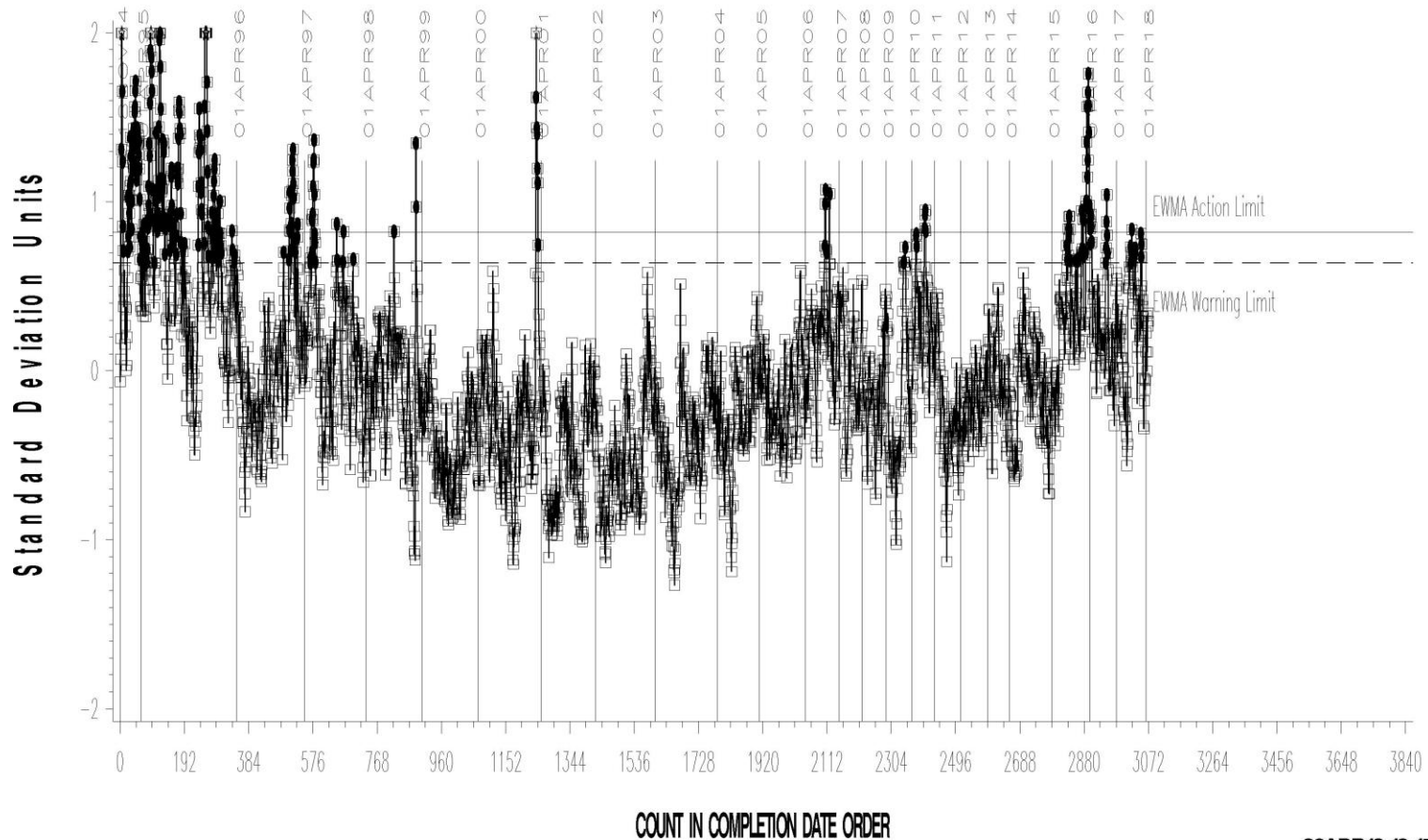
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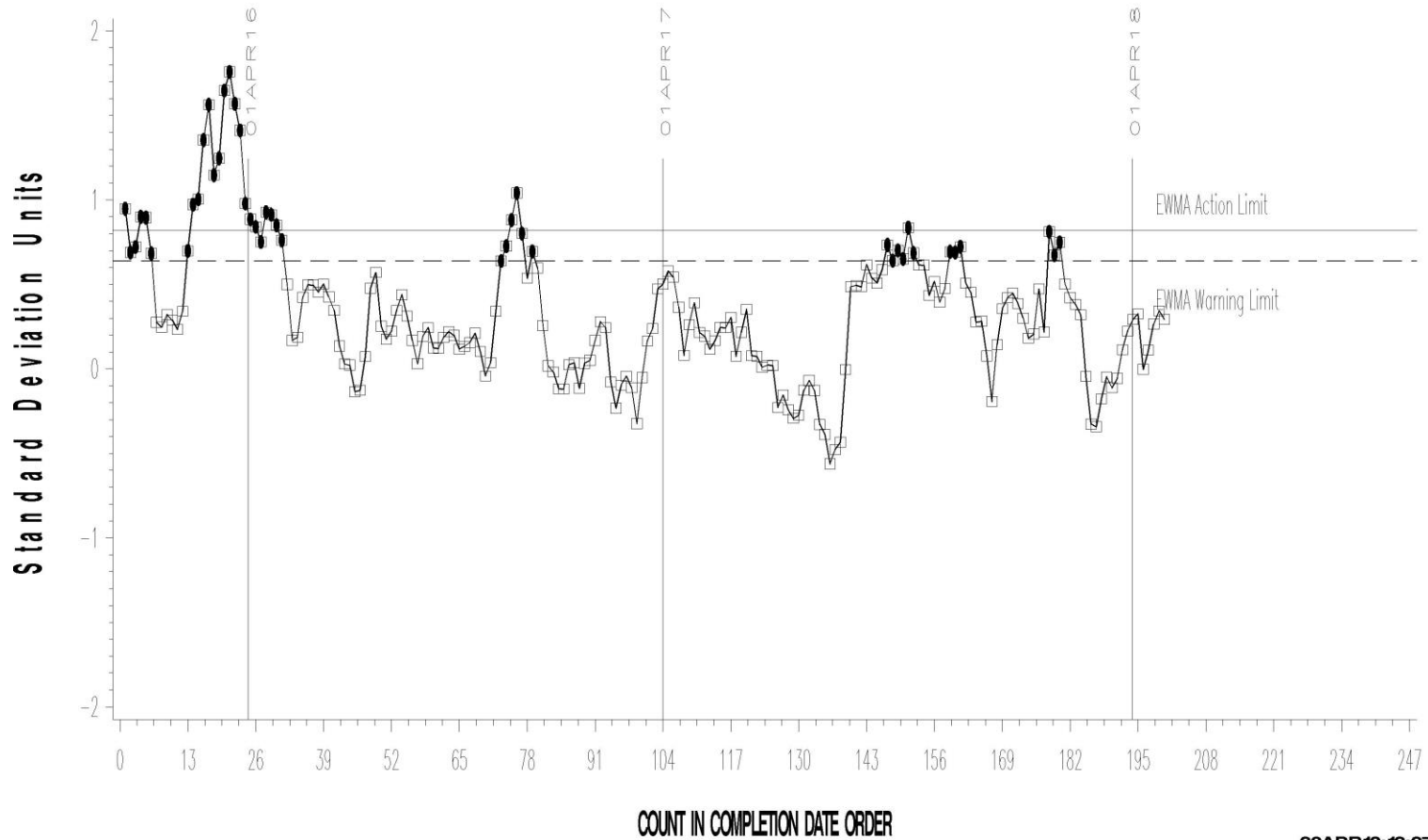


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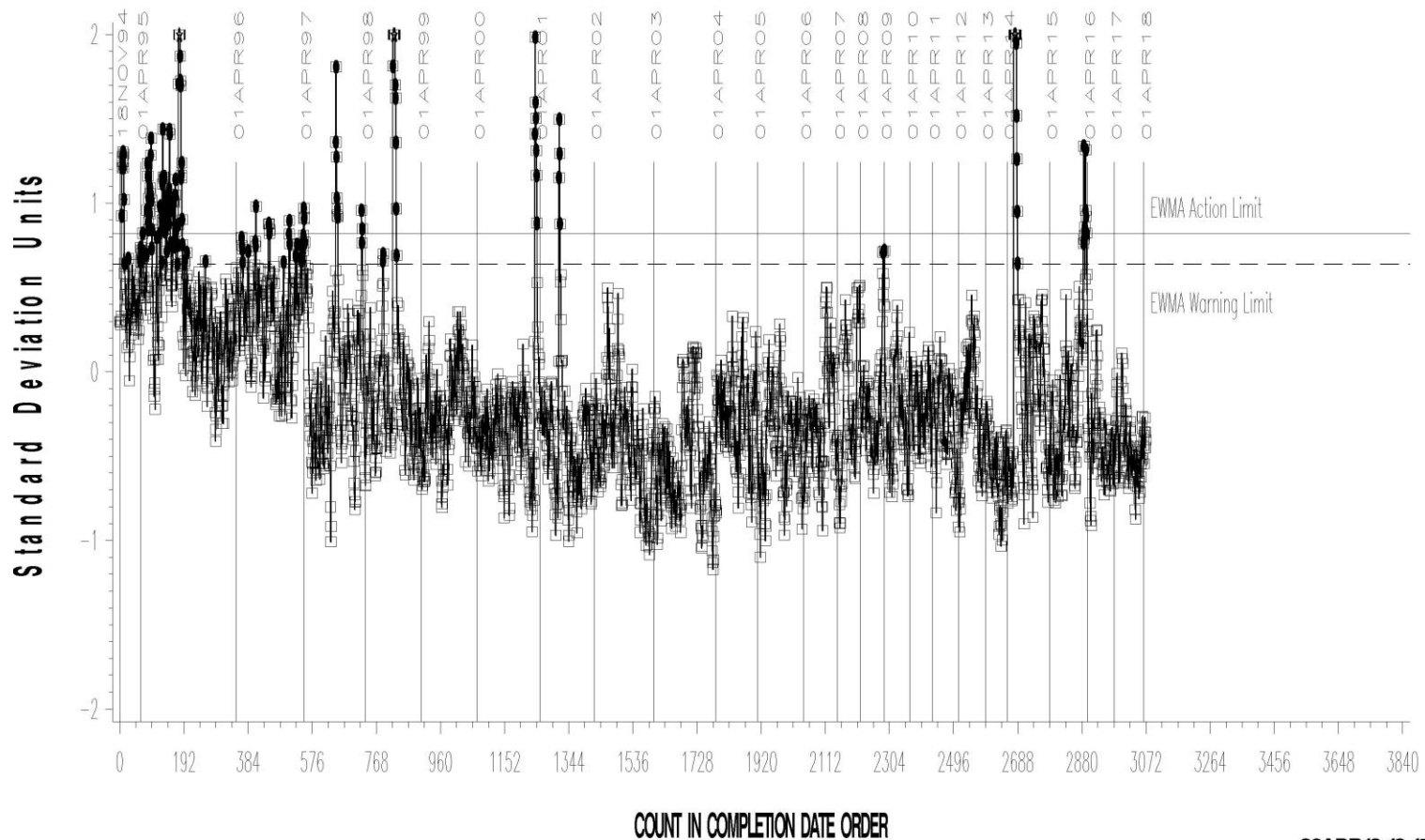
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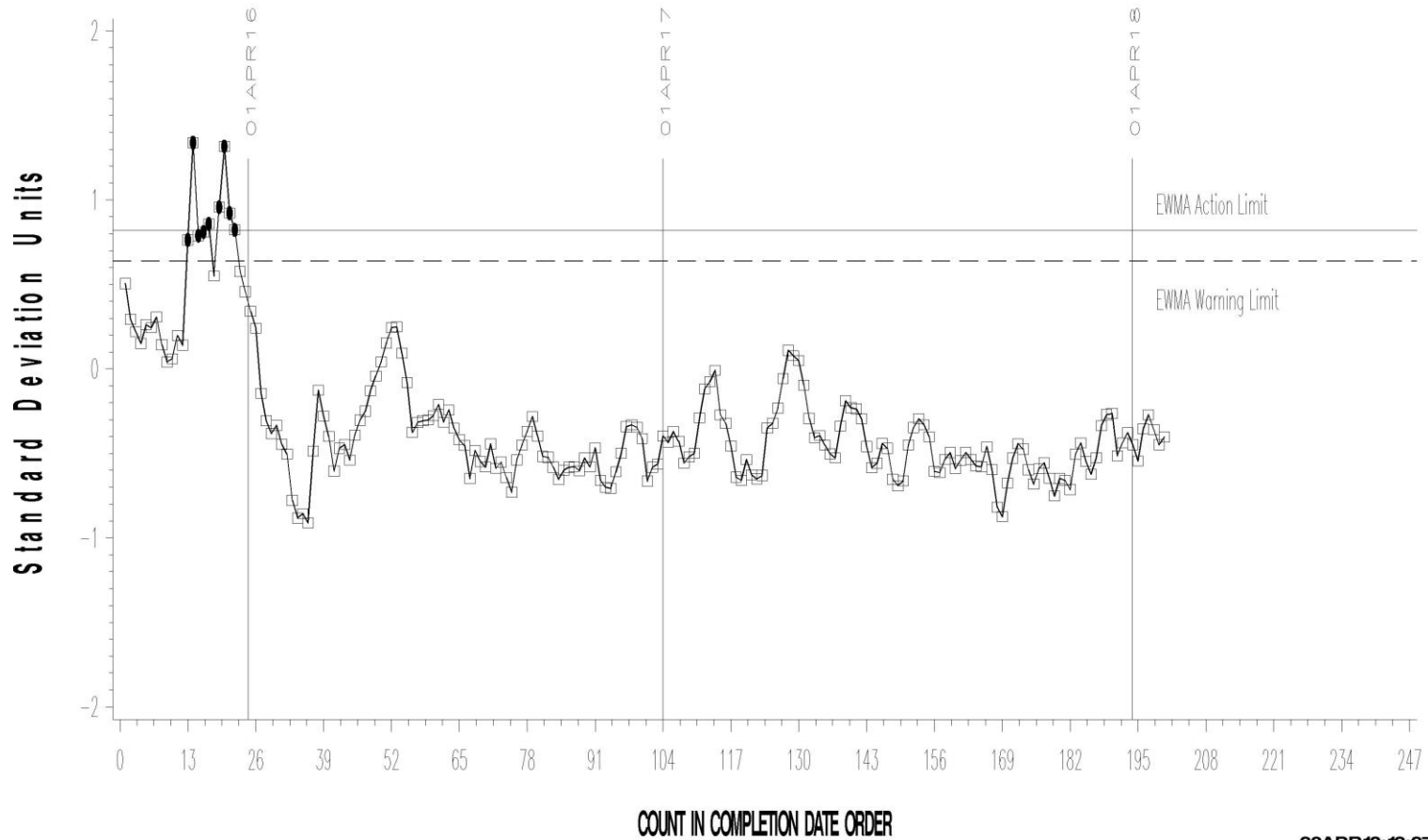


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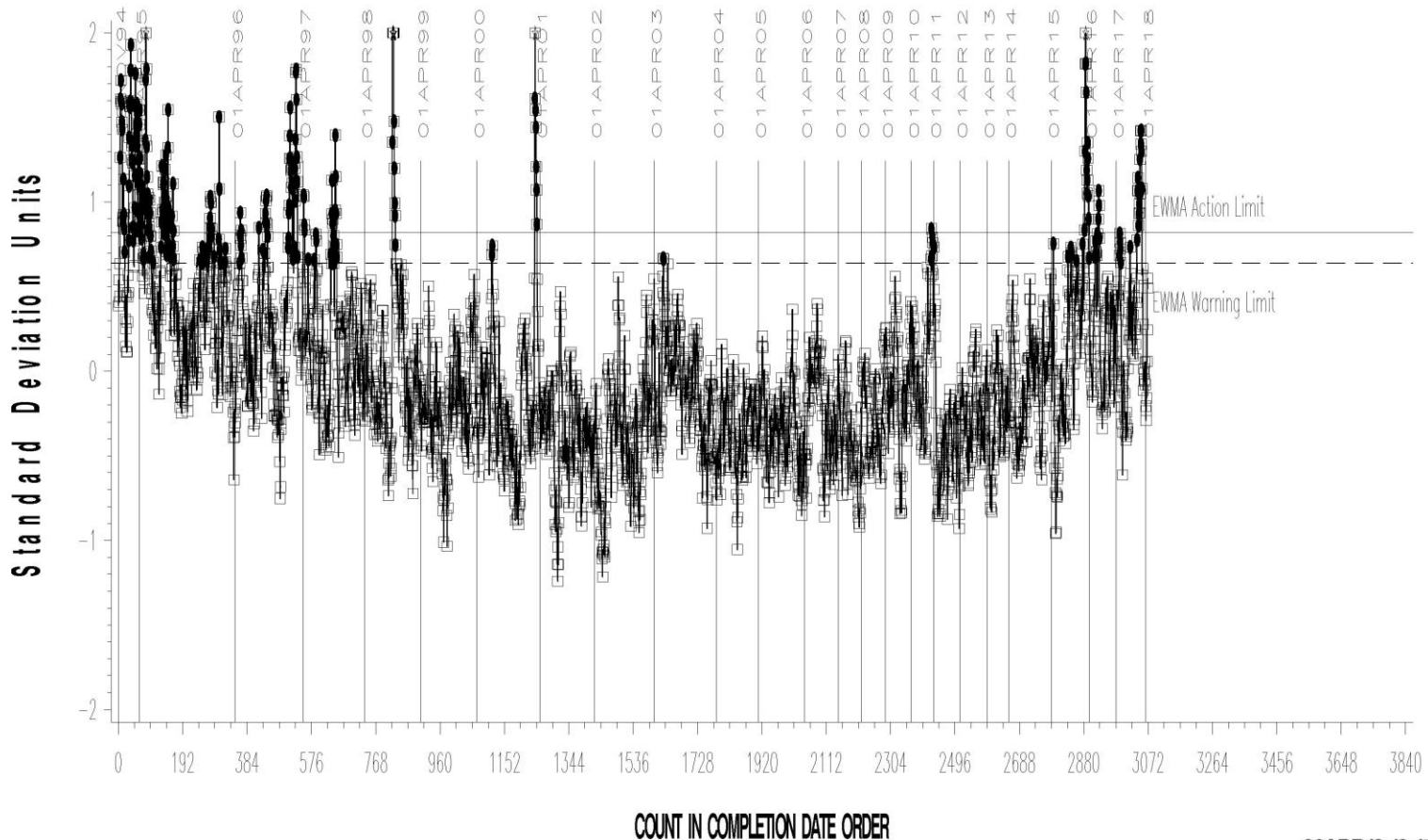
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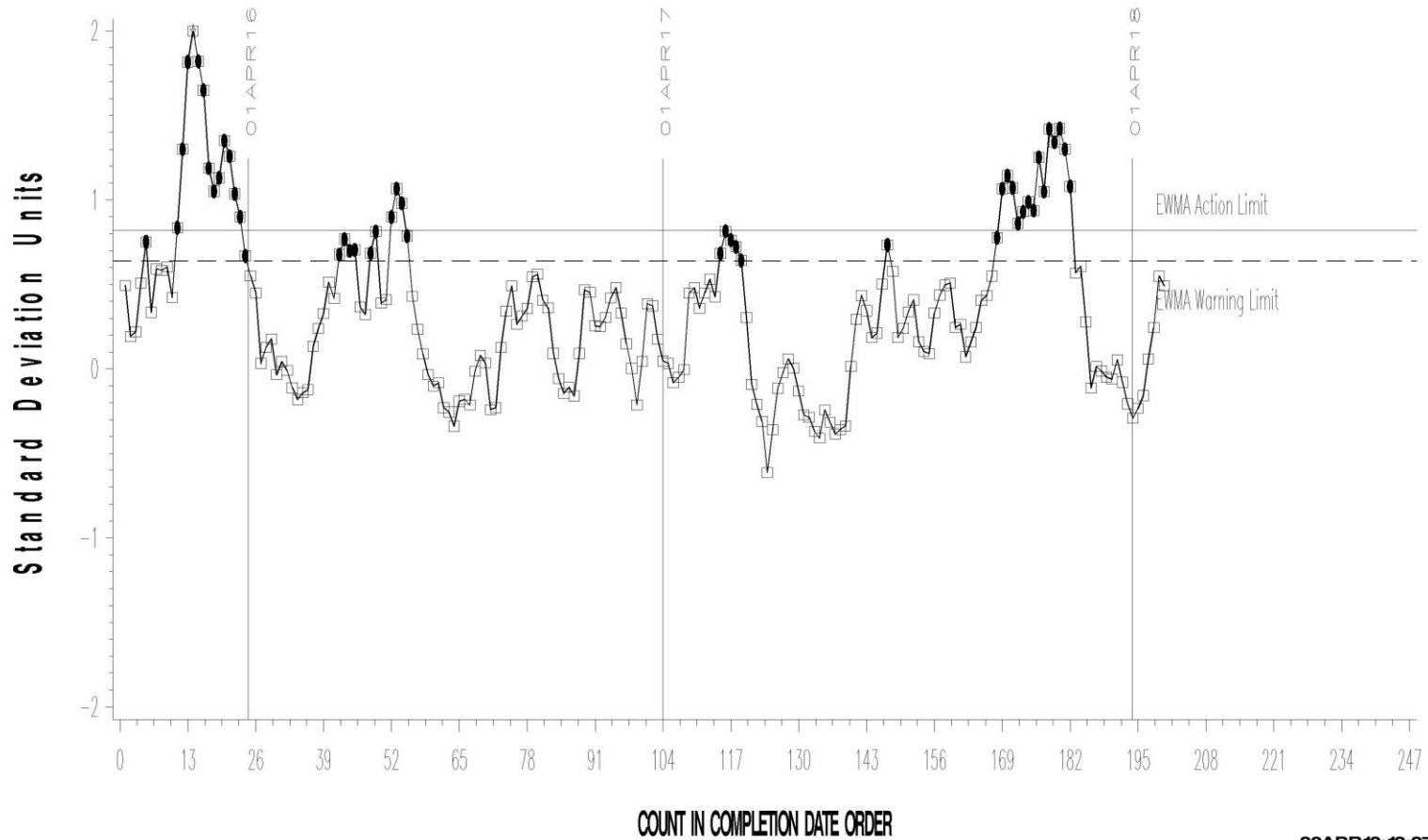


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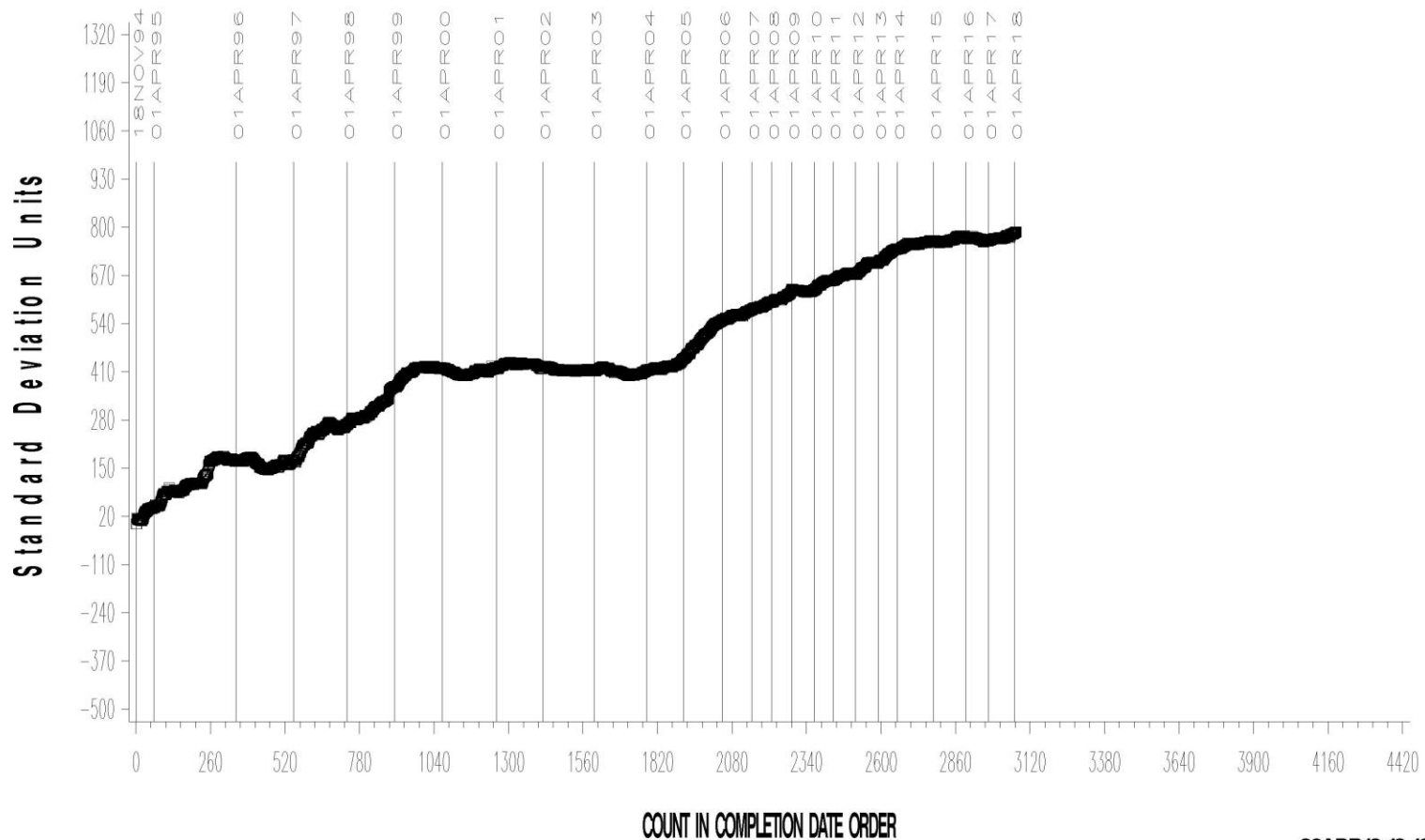
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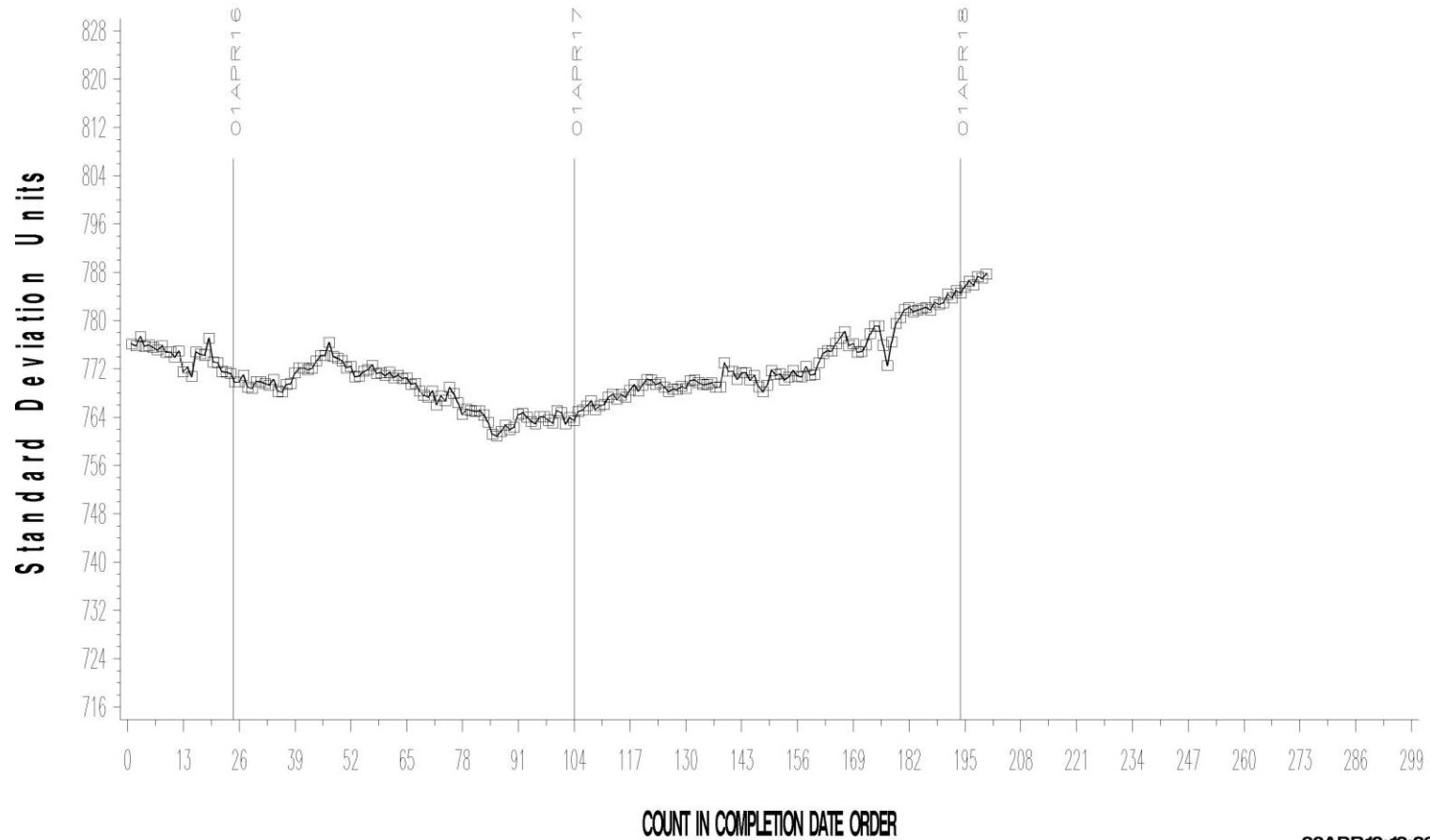


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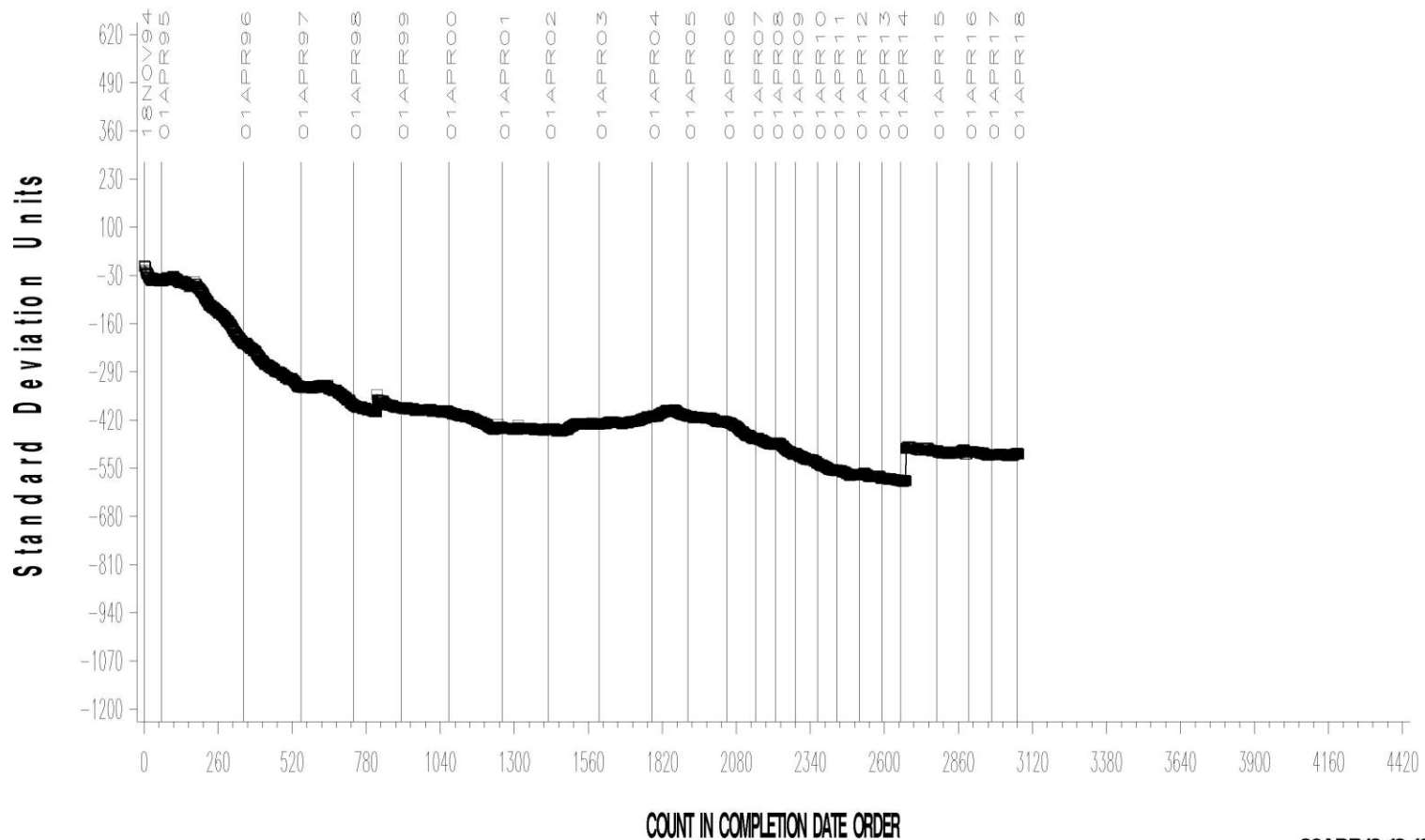
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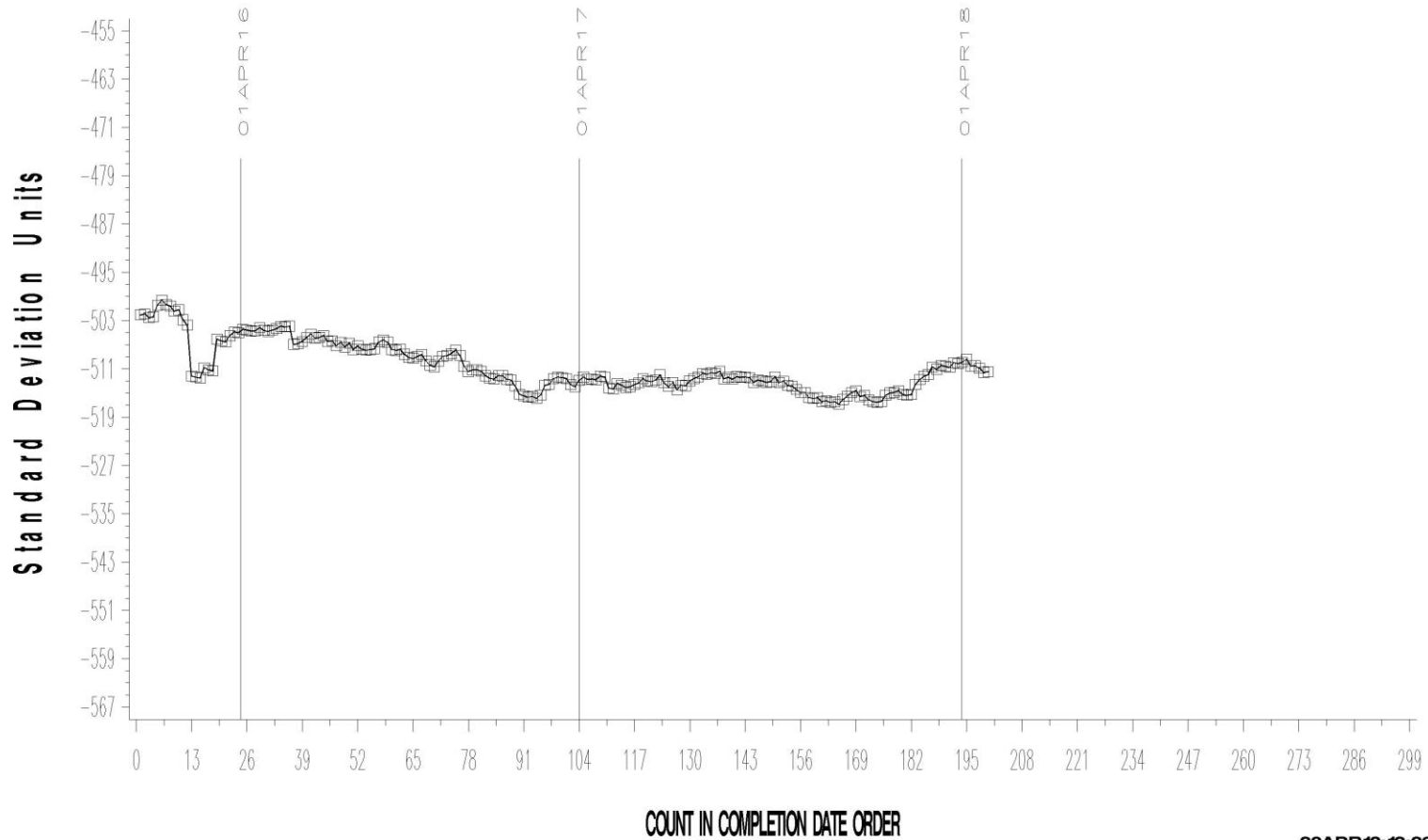


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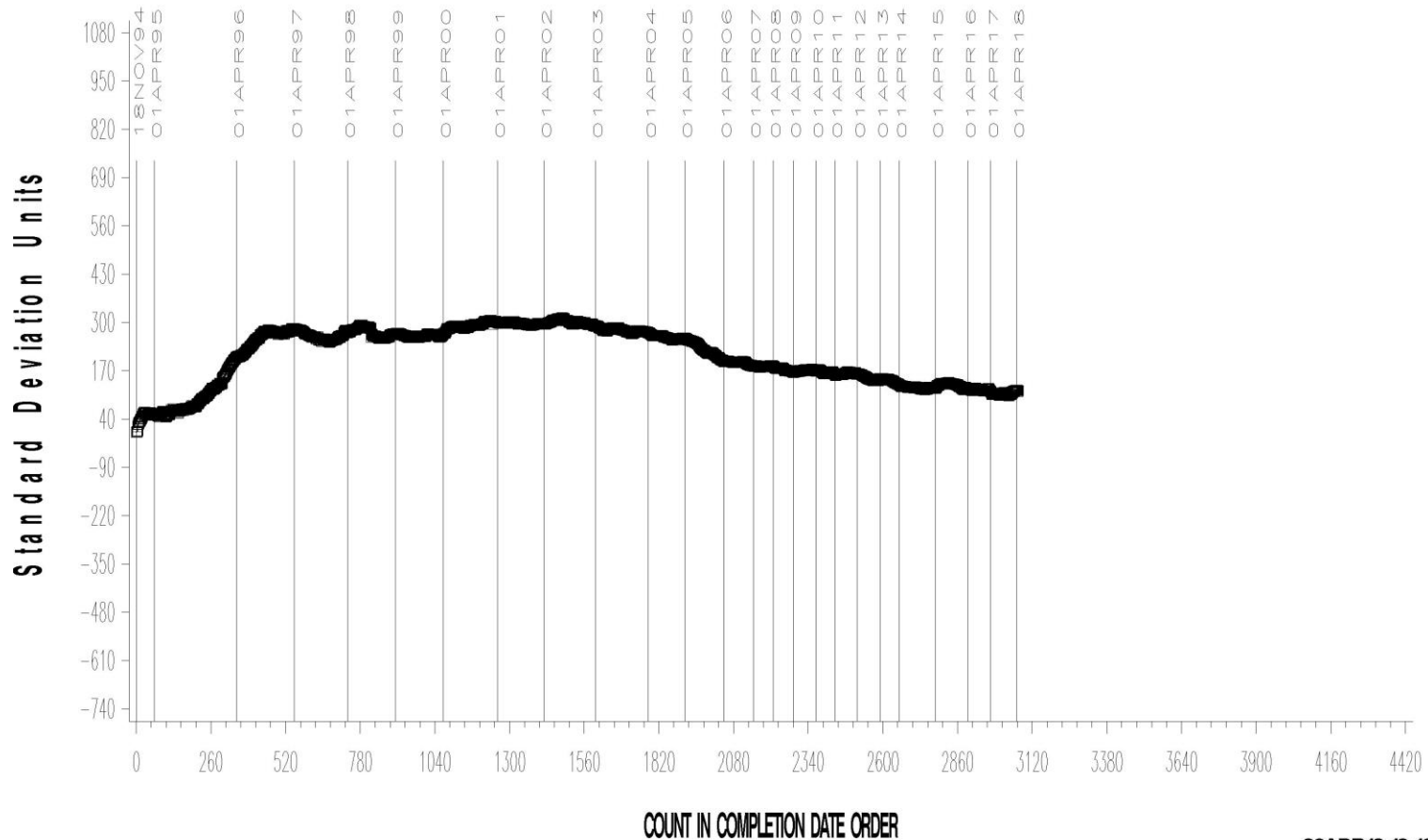
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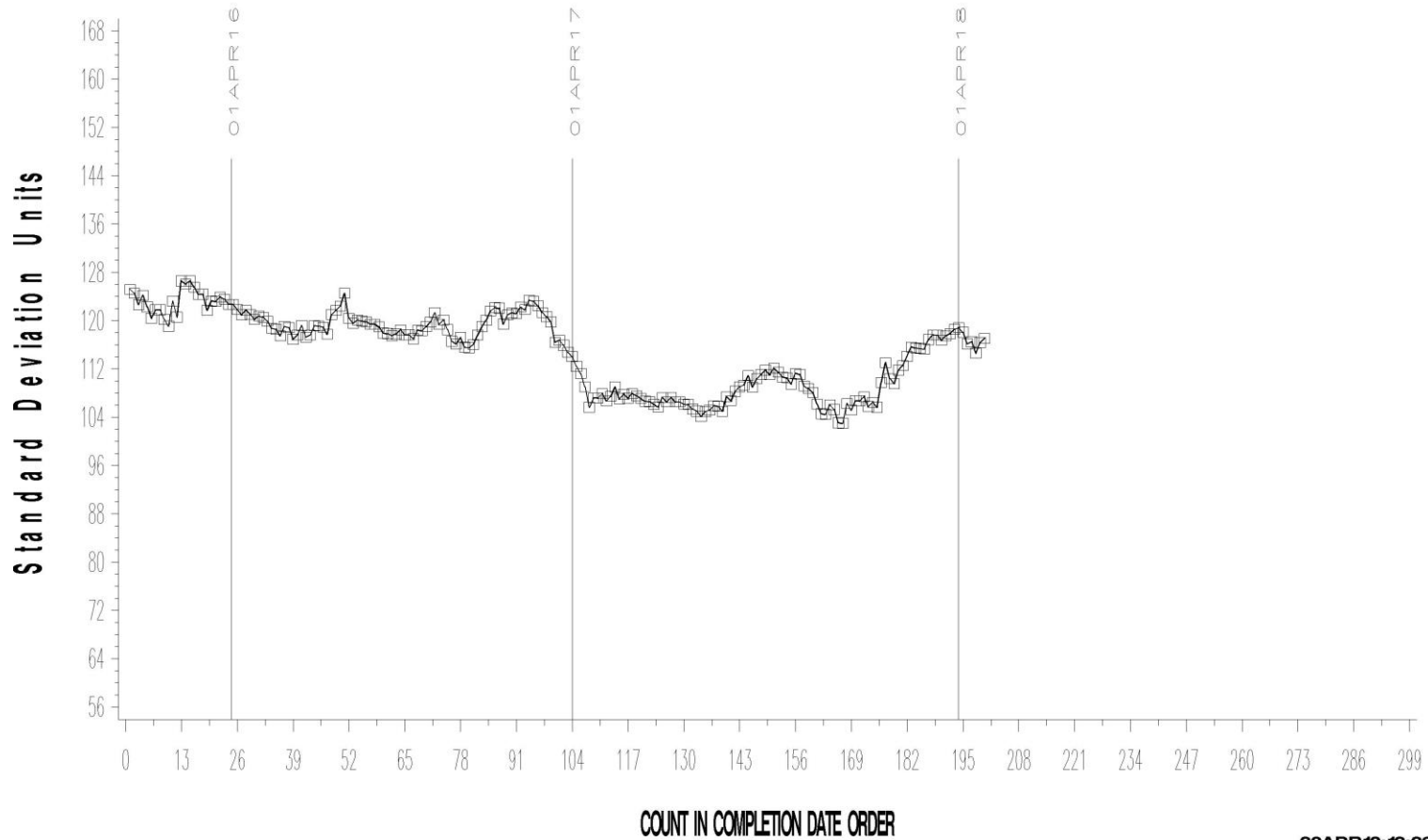


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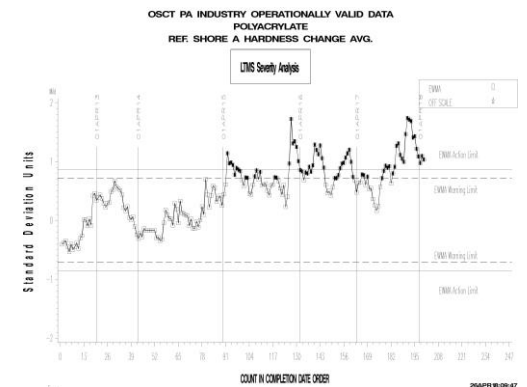
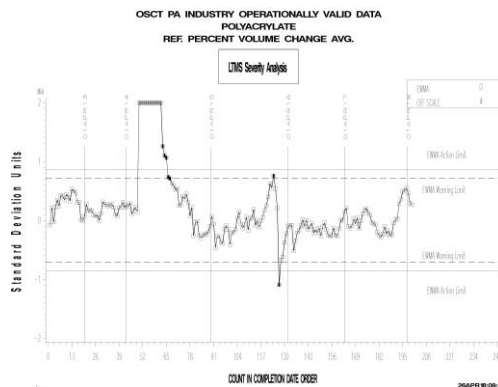
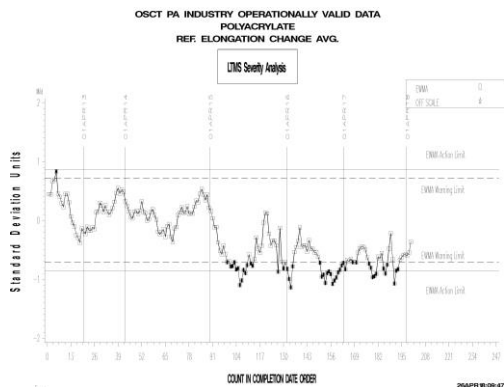
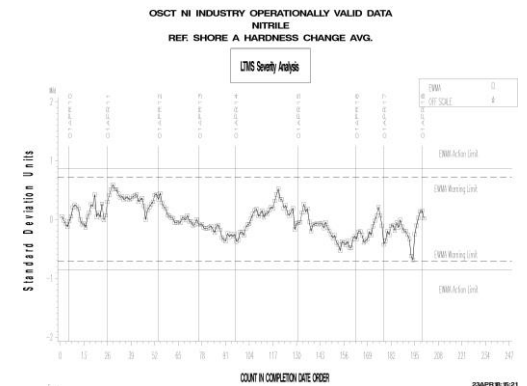
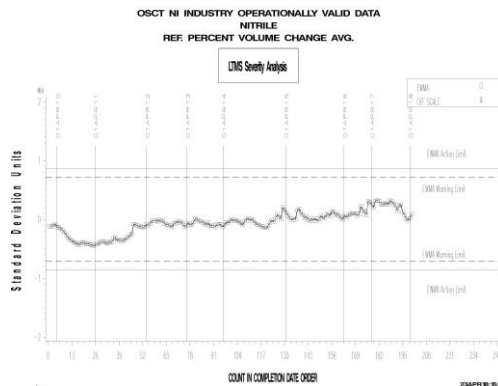
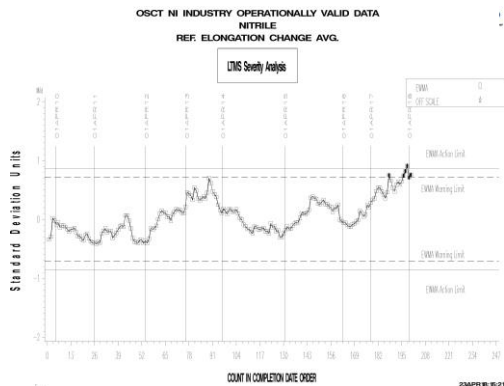
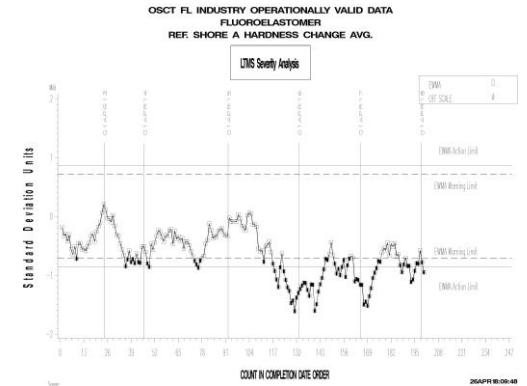
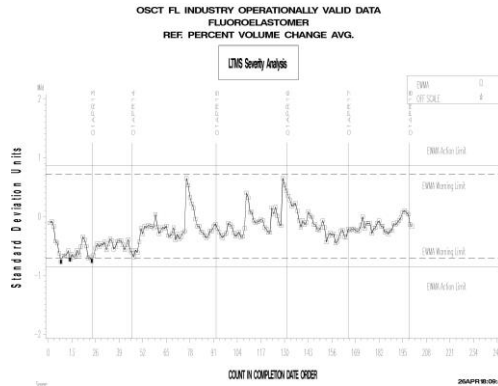
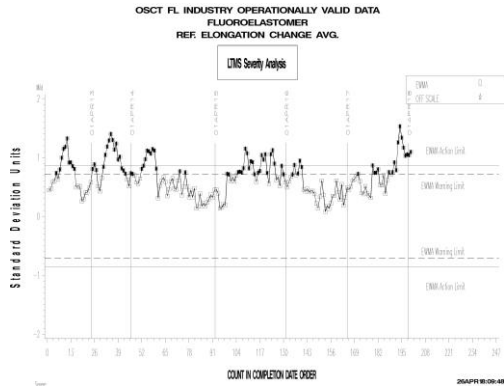
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TIMELINE ADDITIONS

Effective Date	Information Letter	Event
	None this period	

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LAB VISITS

One OSCT lab visit was conducted during this period. All of the aspects examined were found to be in compliance with the documented test procedures.

INFORMATION LETTERS

No information letters were issued this period.

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STATUS OF REFERENCE OIL SUPPLY

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
155-1	12	890.7	176.5
160-1	18	0	0.0
168	13	0	0.0
169	67	851	168.0
170	13	218	43.2
171	24	237.5	47.1
Total	135	1306.5	258.3

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. Oil 170 has been introduced as a replacement. Oil 160-1 is nearly depleted. Oil 171 is the same additive package in a different base oil and will be introduced as a replacement.