



## Test Monitoring Center

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

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

MEMORANDUM: 20-020  
DATE: April 22, 2020  
TO: Don Bell, Chairman, OSCT Surveillance Panel  
FROM: Dylan Beck *Dylan Beck*  
SUBJECT: OSCT Reference oil testing from October 1, 2019 through March 31, 2020

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

DJB/djb/mem20-020.djb.doc

cc: Frank Farber  
Jeff Clark

OSCT Surveillance Panel

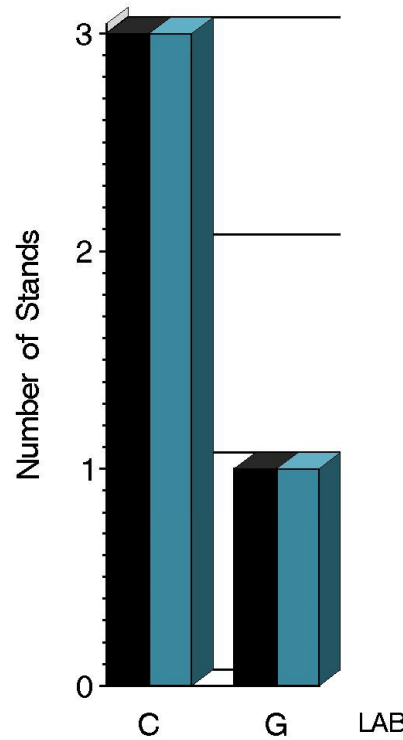
<http://www.astmtmc.cmu.edu/ftp/docs/gear/osct/semiannualreports/osct-04-2020.pdf>

Distribution: email

# OSCT (D5662)

	Reporting Data	Calibrated on 3-31-2020
Number of Labs	2	2
Number of Stands	4	4

BY-LAB STAND  
DISTRIBUTION



Report Period: ■ Current ■ Previous

13:48:03 20APR2020

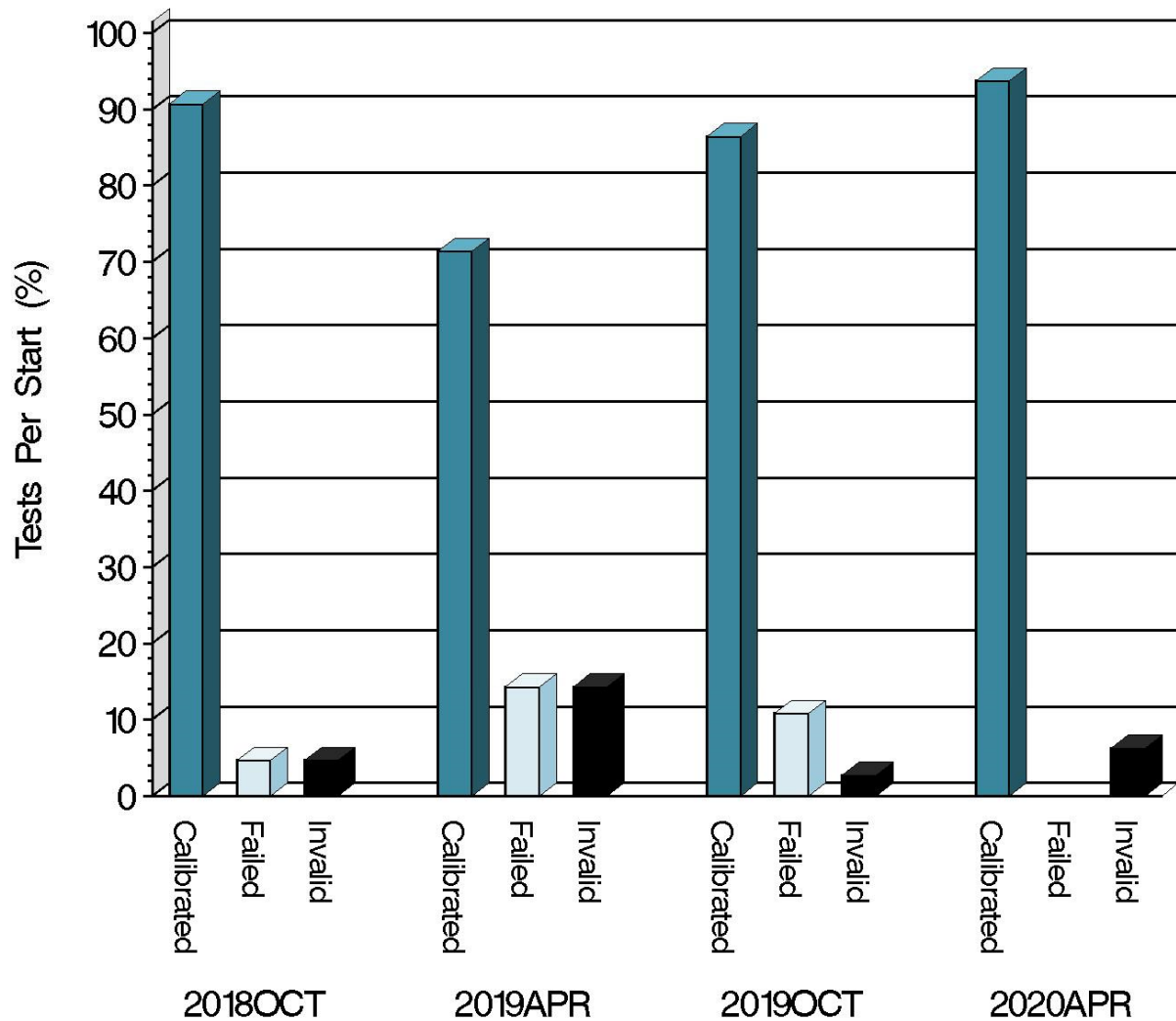
# OSCT (D5662)

## Test Distribution by Elastomer and Validity

					Totals	
					Last Period	This Period
		FL	NI	PA		
Accepted for calibration	AC	13	5	12	32	30
Rejected (low result)	OC	0	0	0	3	0
Rejected (high result)	OC	0	0	0	0	0
Rejected (high and low)	OC	0	0	0	1	0
Op. invalid	LC	1	0	1	1	2
Aborted	XC	0	0	0	0	0
Elastomer approval run	NI	15	0	16	28	31
Unacceptable approval run	MI	0	0	0	14	0
Op. invalid approval run	LI	1	0	1	0	2
Total		30	5	30	79	65

# OSCT (D5662)

## CALIBRATION ATTEMPT SUMMARY



Resolution

Report Period

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# OSCT (D5662)

## CAUSES FOR LOST TESTS

Lab	Cause	Elastomer			Loss Rate				Lost	Starts	%
		FL	NI	PA	LI	XI	LC	XC			
G	Test Data Loss	●					●		1	10	10%
				●	●				1	12	6.2%
				●			●		1	12	6.2%
C	Test Data Loss	●			●				1	20	5%
Lost		2	0	2	2	0	2	0			
Starts		30	5	30	50	50	50	50			
%		6.7%	0%	6.7%	4%	0.0%	4%	0%			

# OSCT (D5662)

## Average $\Delta/s$ by Lab

Elastomer	Lab	n	PELA	PVCA	SAHA
FL	C	9	-1.01892	-0.18779	0.13675
	G	4	-1.07296	1.16197	-0.65385
	Industry	13	-1.03555	0.22752	-0.10651
	Shift*	13	-7.82056	0.12049	-0.14918
NI	C	5	-0.33809	0.74763	-1.06686
	Industry	5	-0.33809	0.74763	-1.06686
	Shift*	5	-1.73745	0.37831	-1.27037
PA	C	8	-0.24863	0.16608	0.37986
	G	4	-0.32883	-0.10490	0.44170
	Industry	12	-0.27536	0.07576	0.40047
	Shift*	12	-5.87292	0.14249	1.01093

\*computed using historic pooled s

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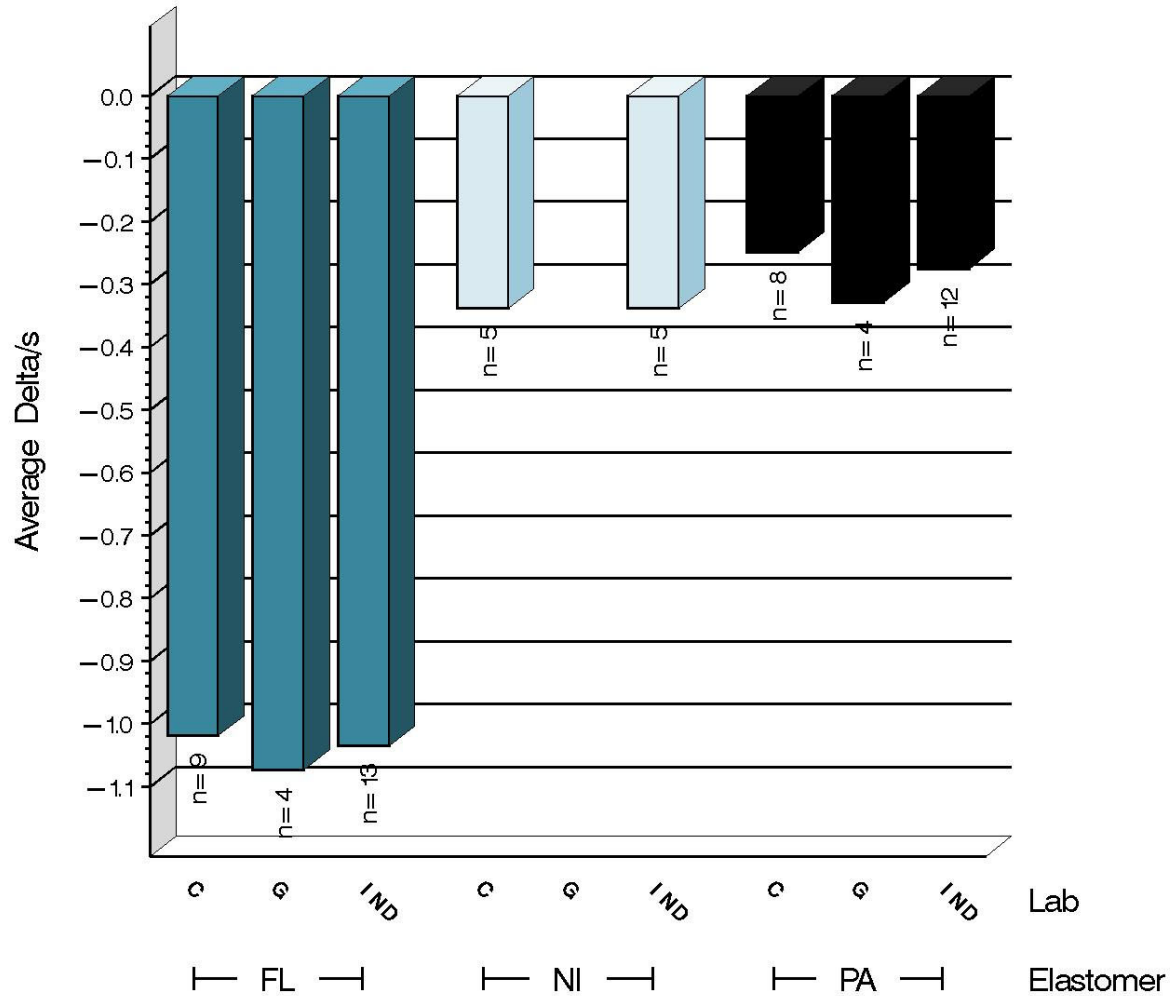
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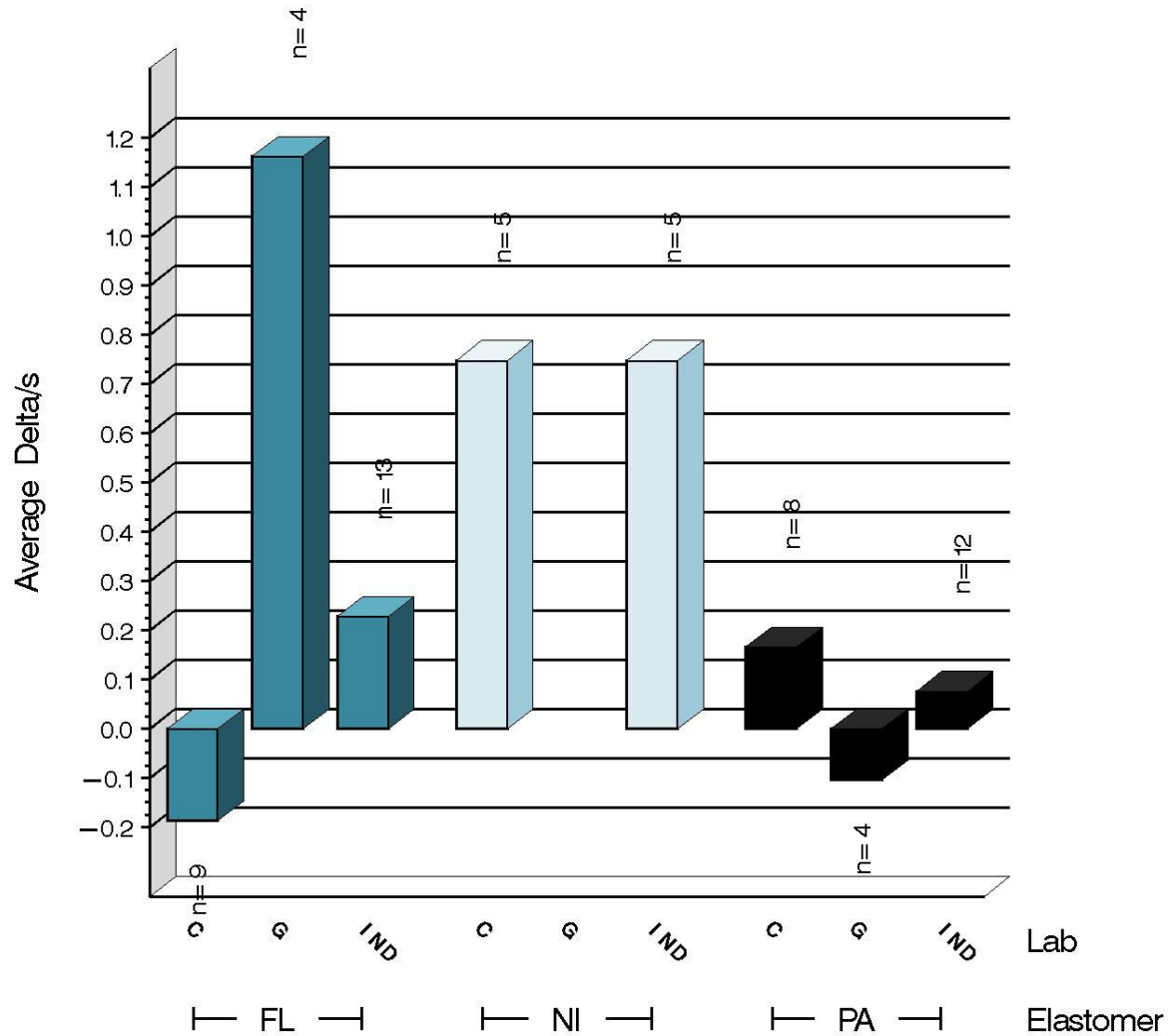
%ELONGATION SEVERITY  
DELTA/S BY LAB



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%VOLUME CHANGE SEVERITY  
DELTA/S BY LAB

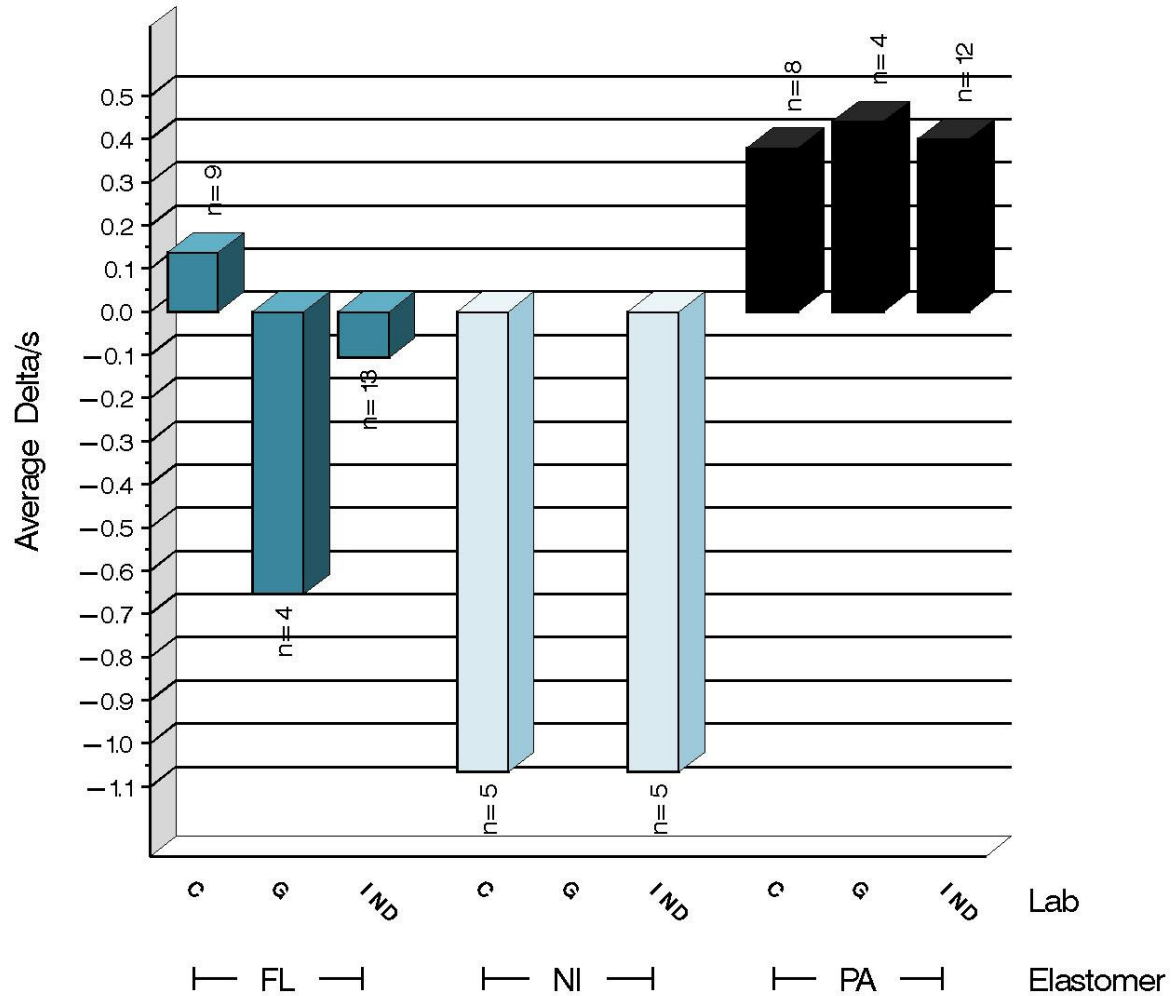


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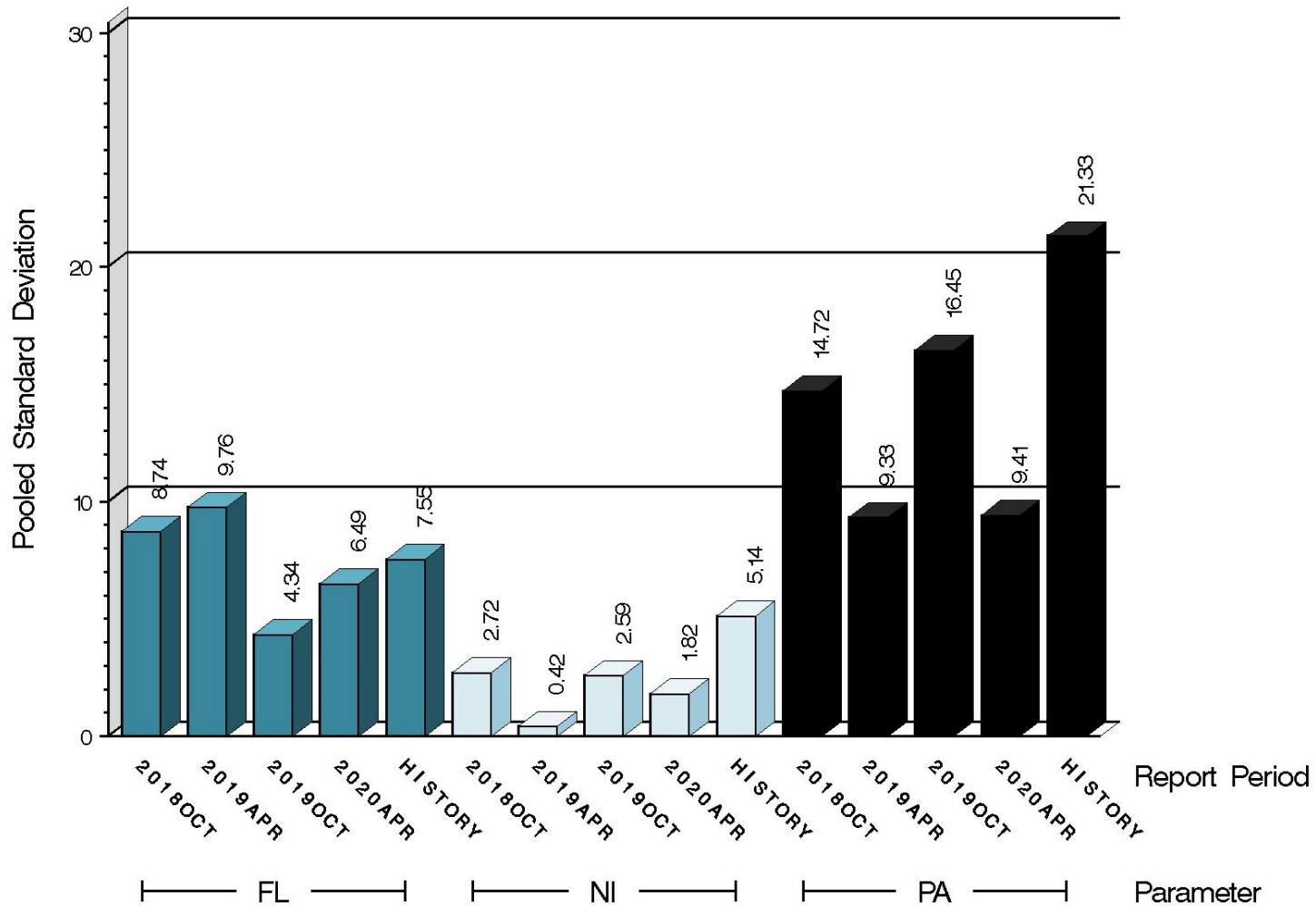
S.A. HARDNESS SEVERITY  
DELTA/S BY LAB



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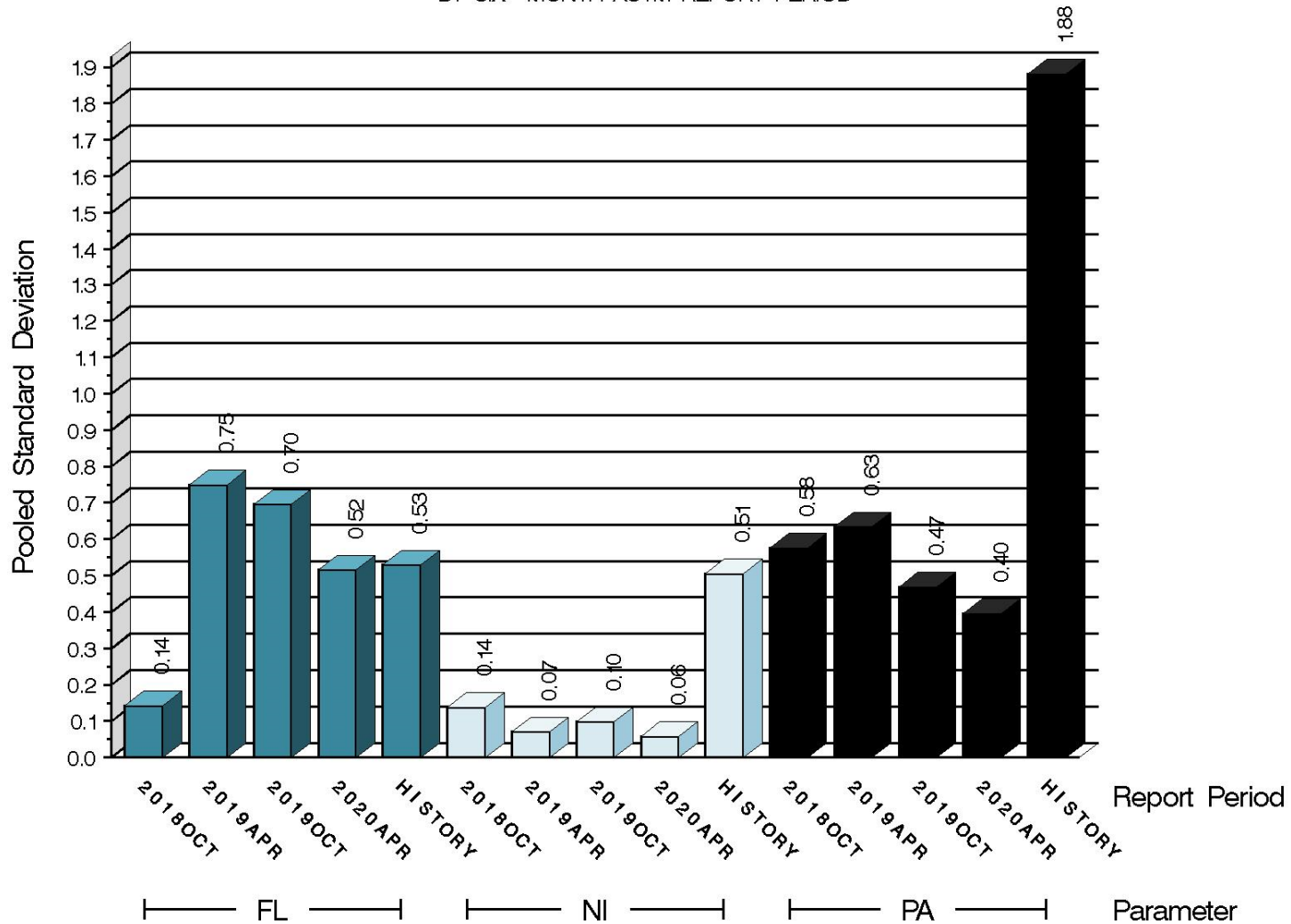
%ELONGATION PRECISION  
 POOLED STANDARD DEVIATION  
 BY SIX-MONTH ASTM REPORT PERIOD



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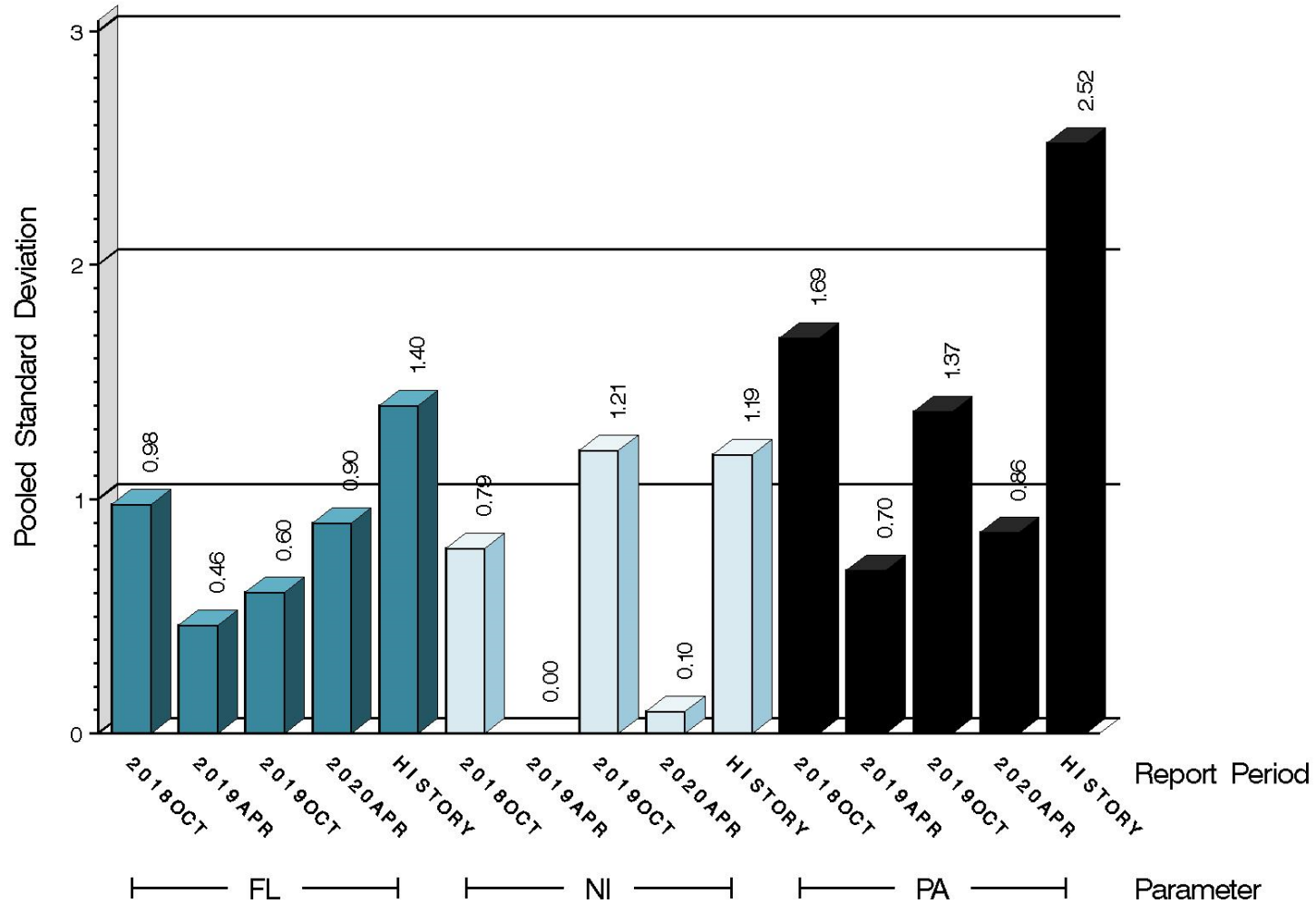
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# OSCT (D5662)

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 charts show that PELA is currently exceeding the warning limit.

FL PELA and NI SAHA both ended the period exceeding the action limit.

### Precision

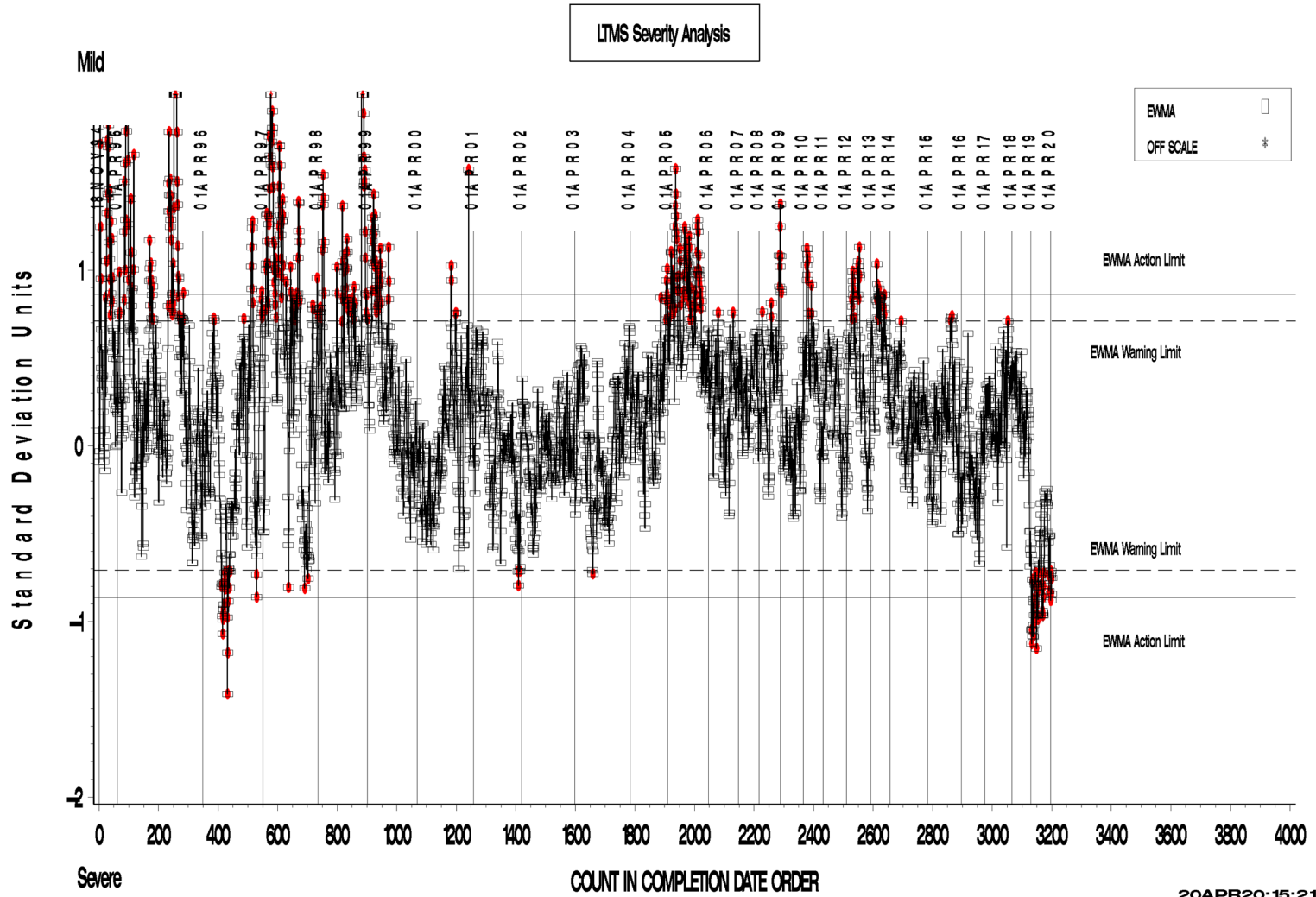
All parameters ended the period within the precision limits.

Industry control charts follow.

# OSCT (D5662)

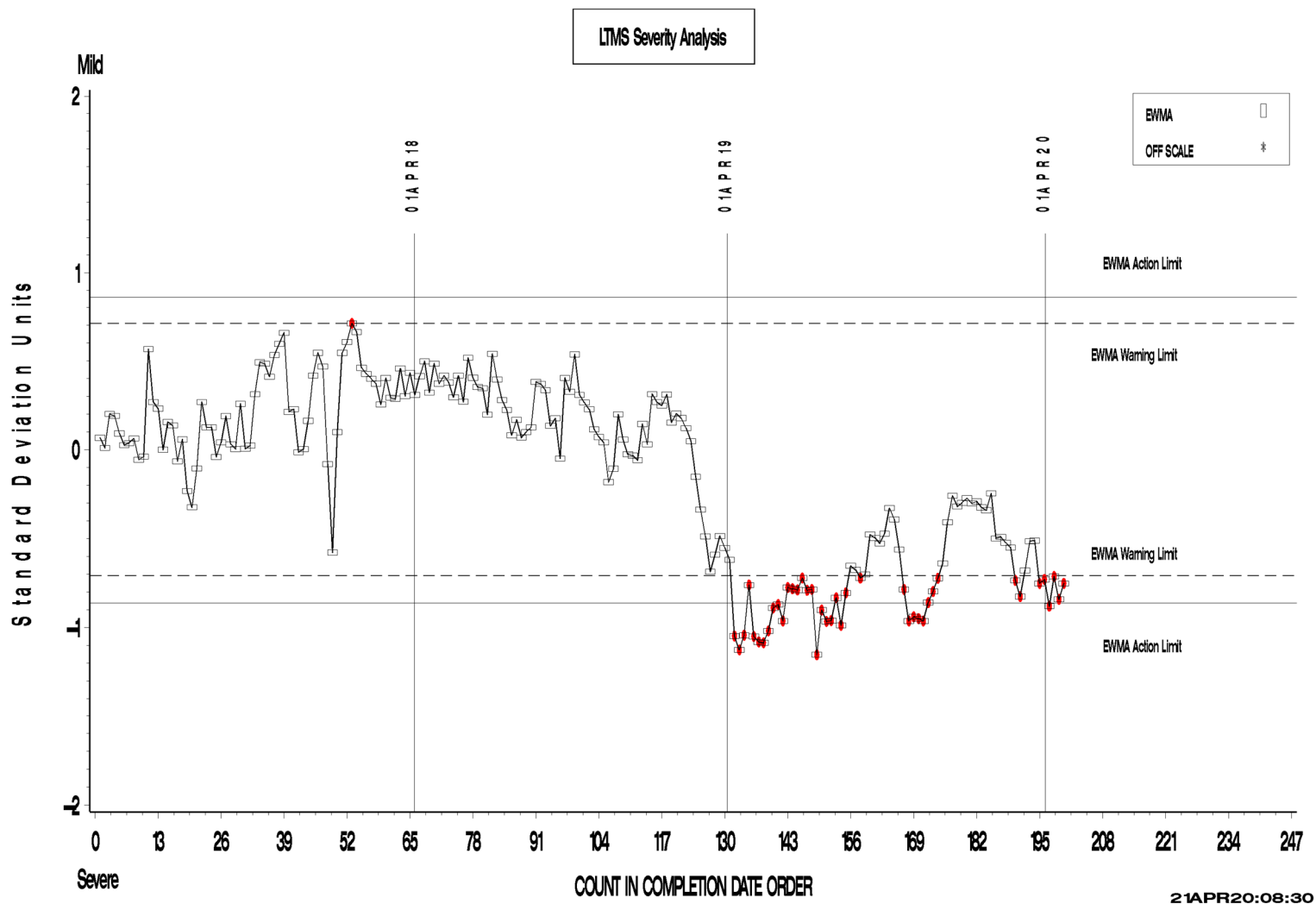
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REF. ELONGATION CHANGE AVG.



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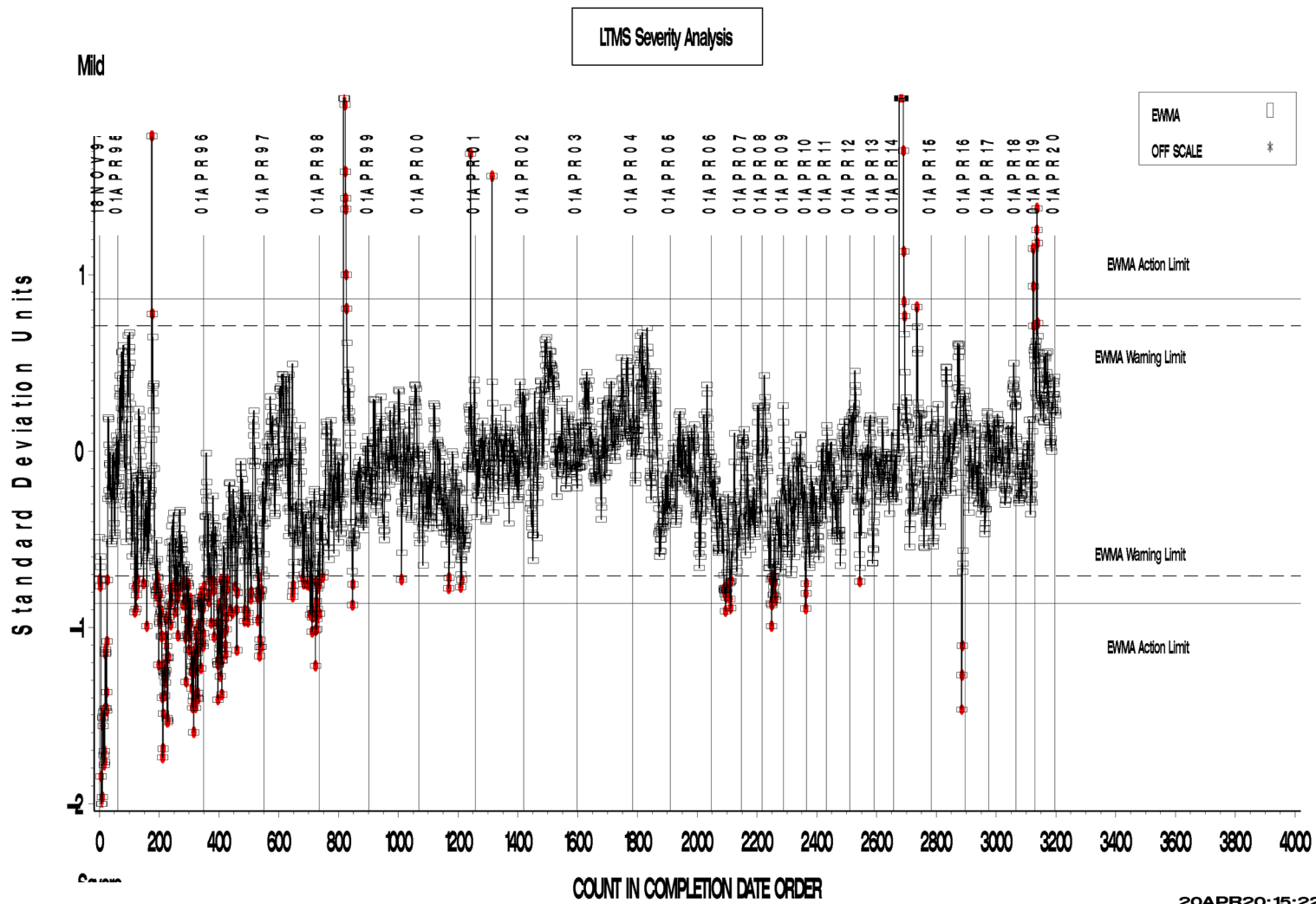
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# OSCT (D5662)

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REF. PERCENT VOLUME CHANGE AVG.



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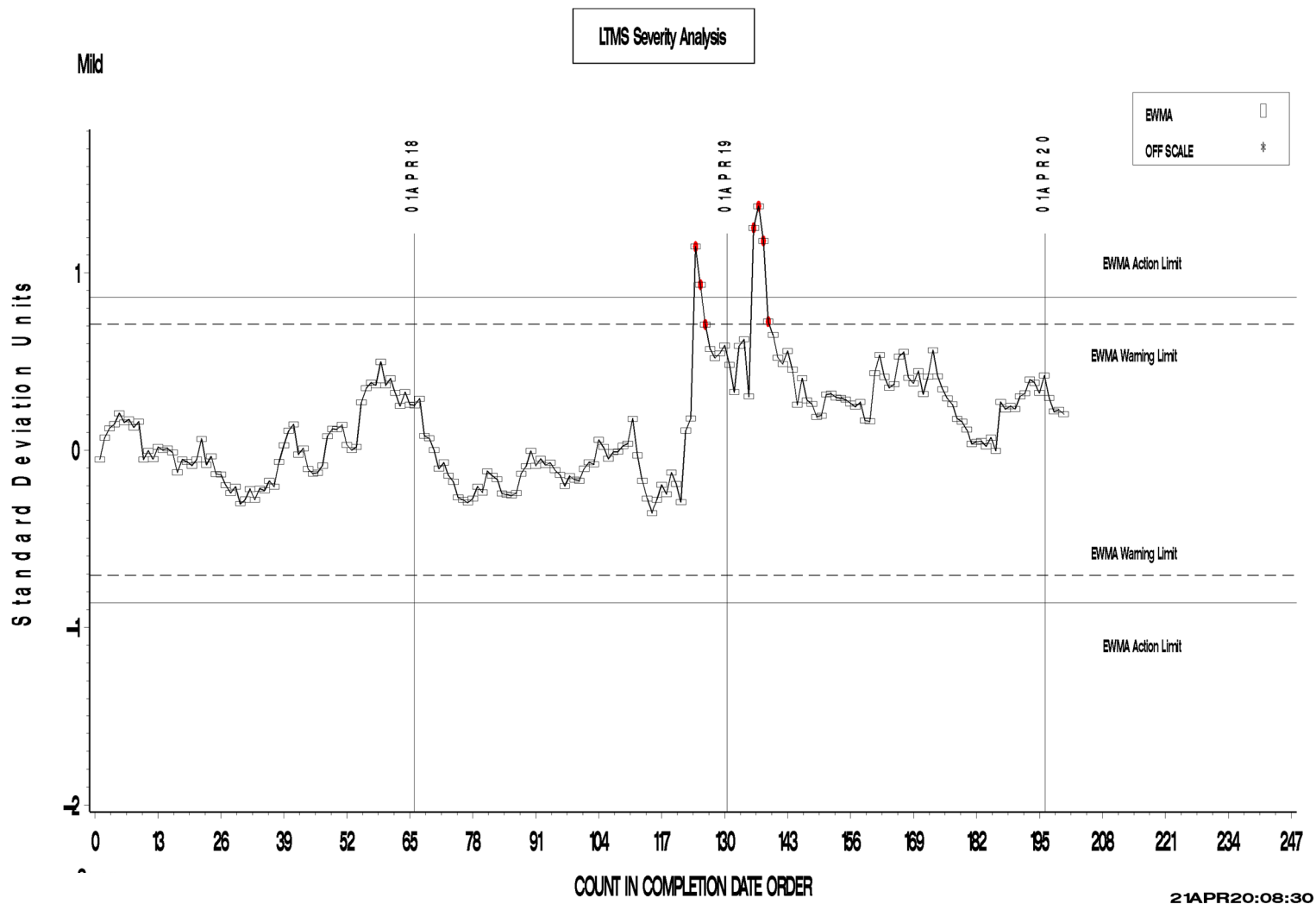


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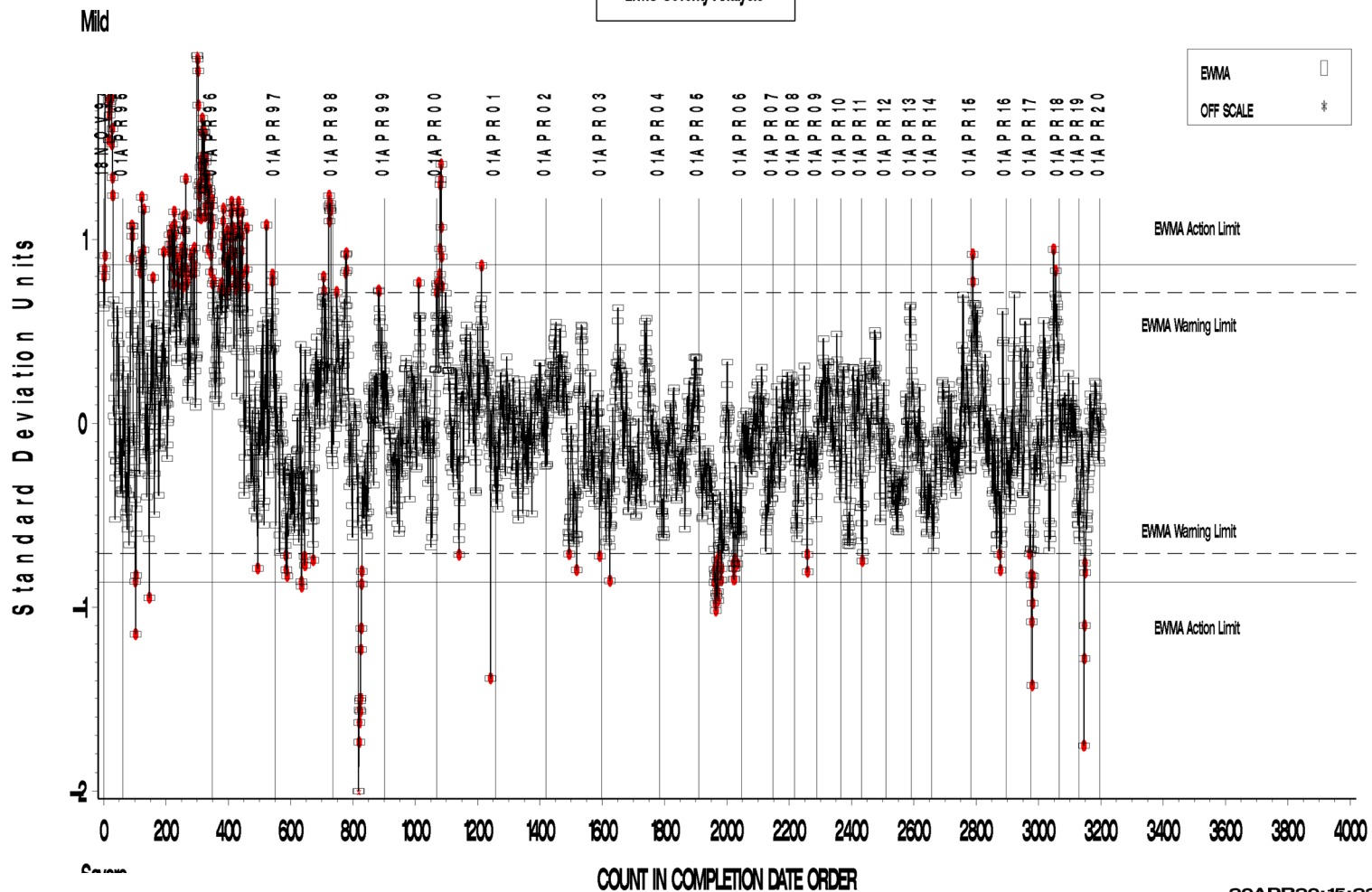


# OSCT (D5662)

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REF. SHORE A HARDNESS CHANGE AVG.

LTMS Severity Analysis



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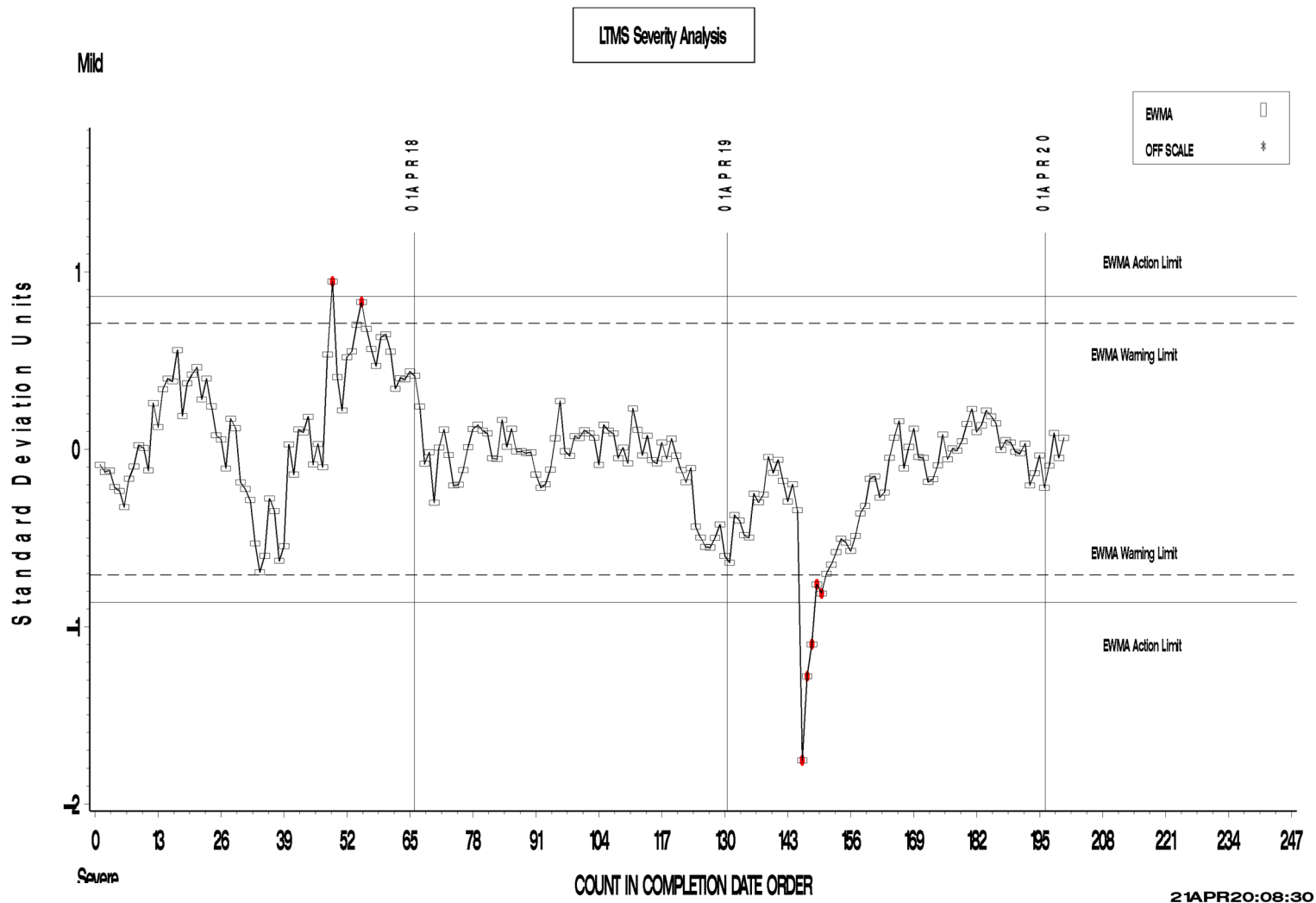
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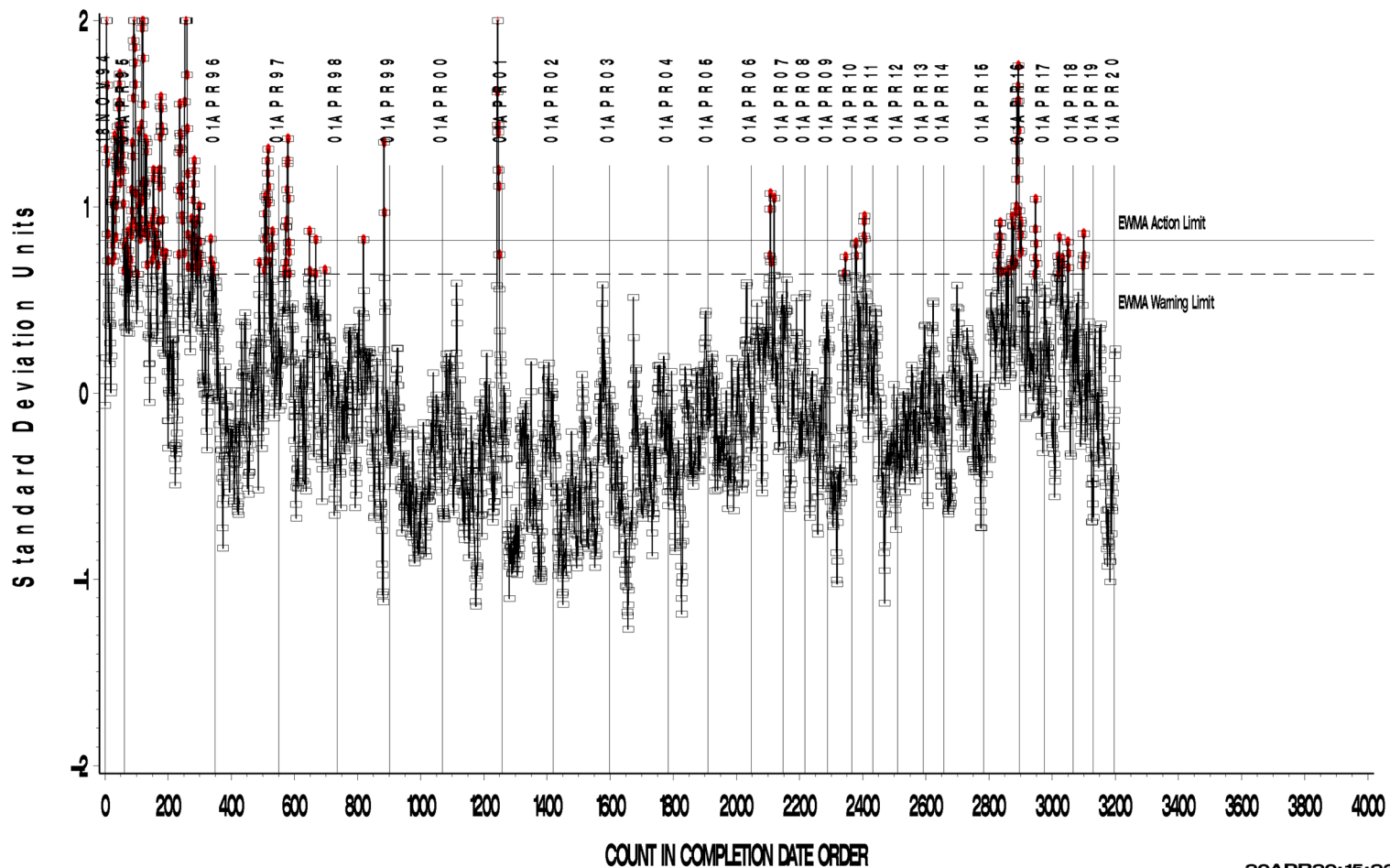


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LTMS Precision Analysis



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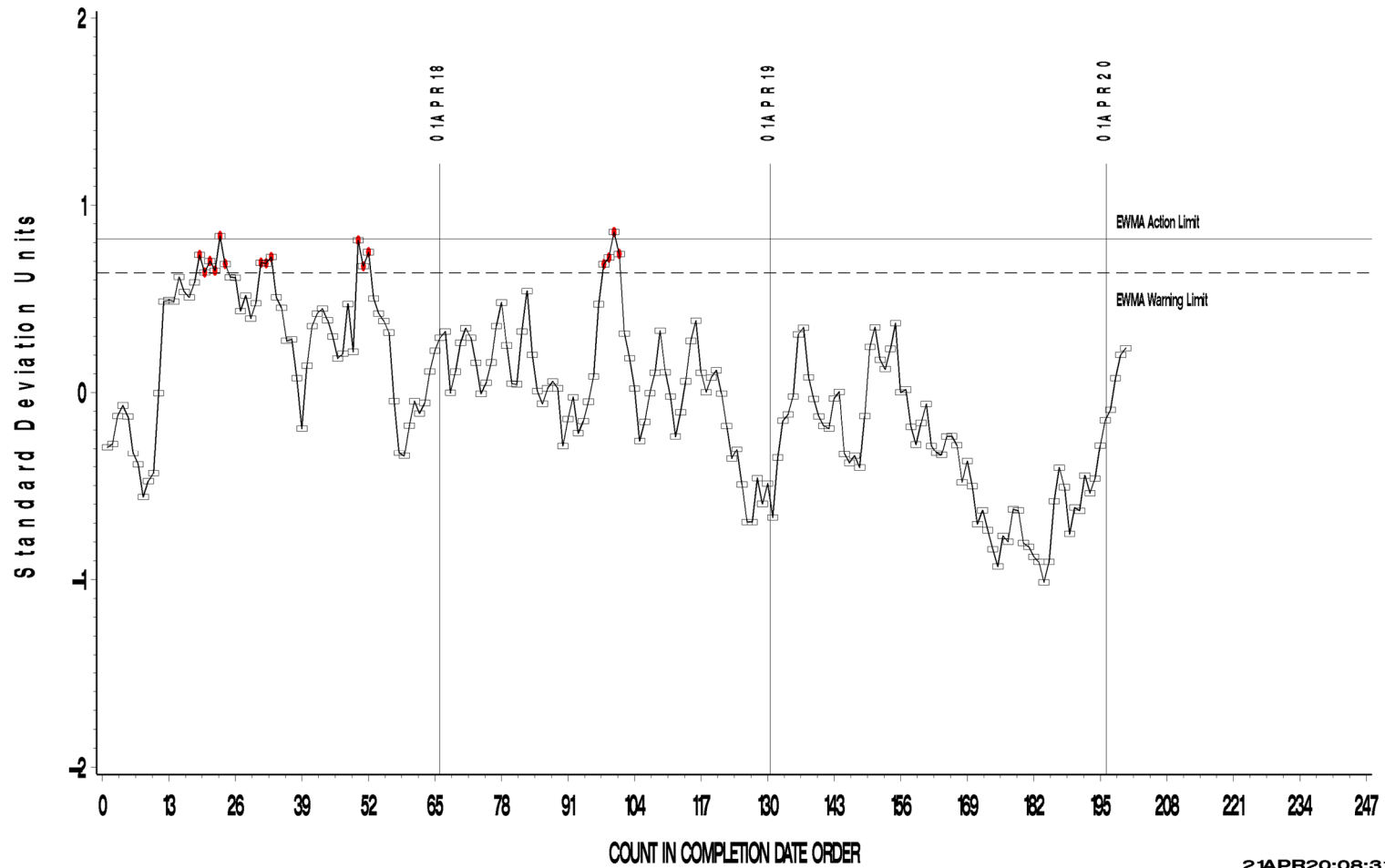


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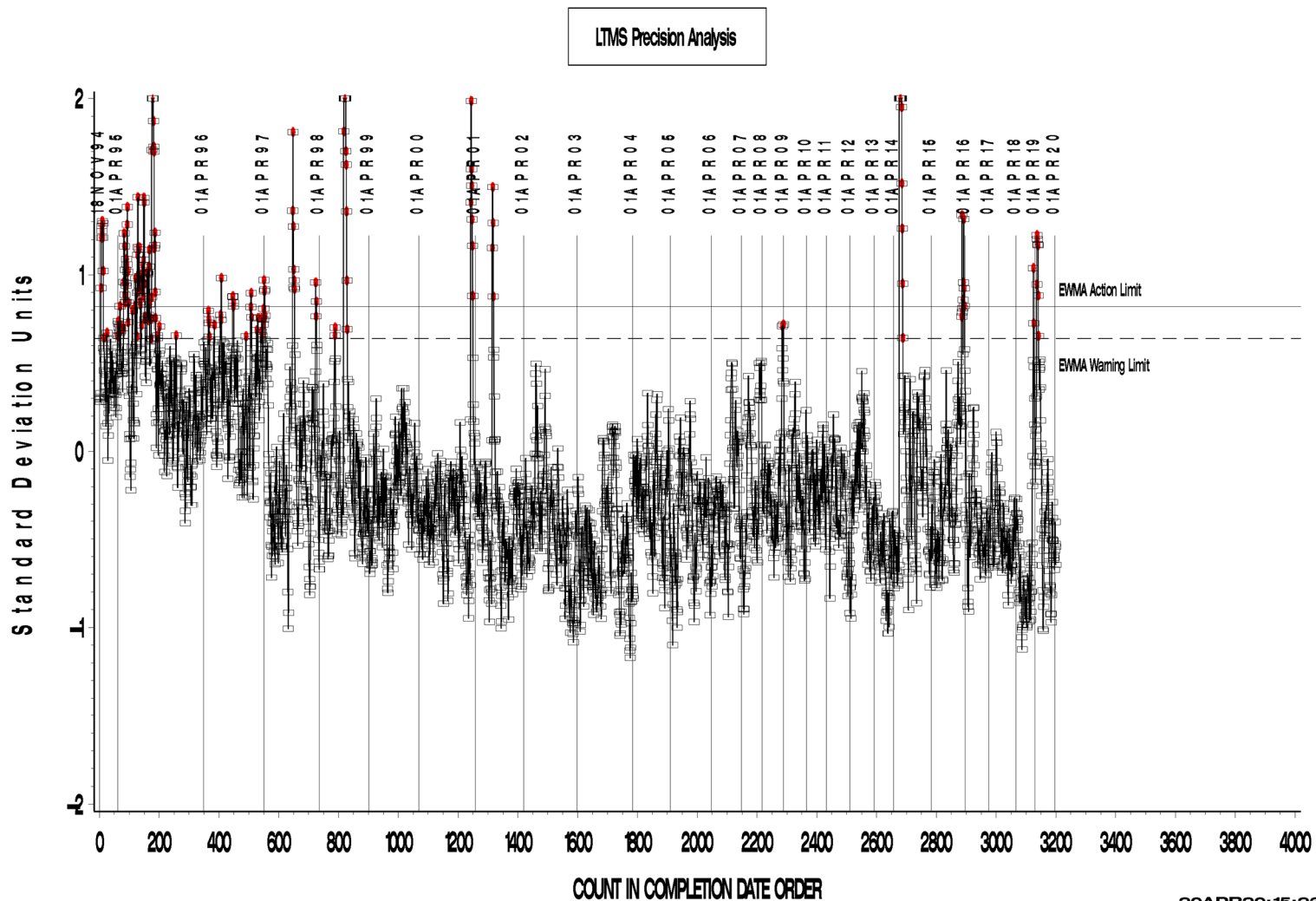


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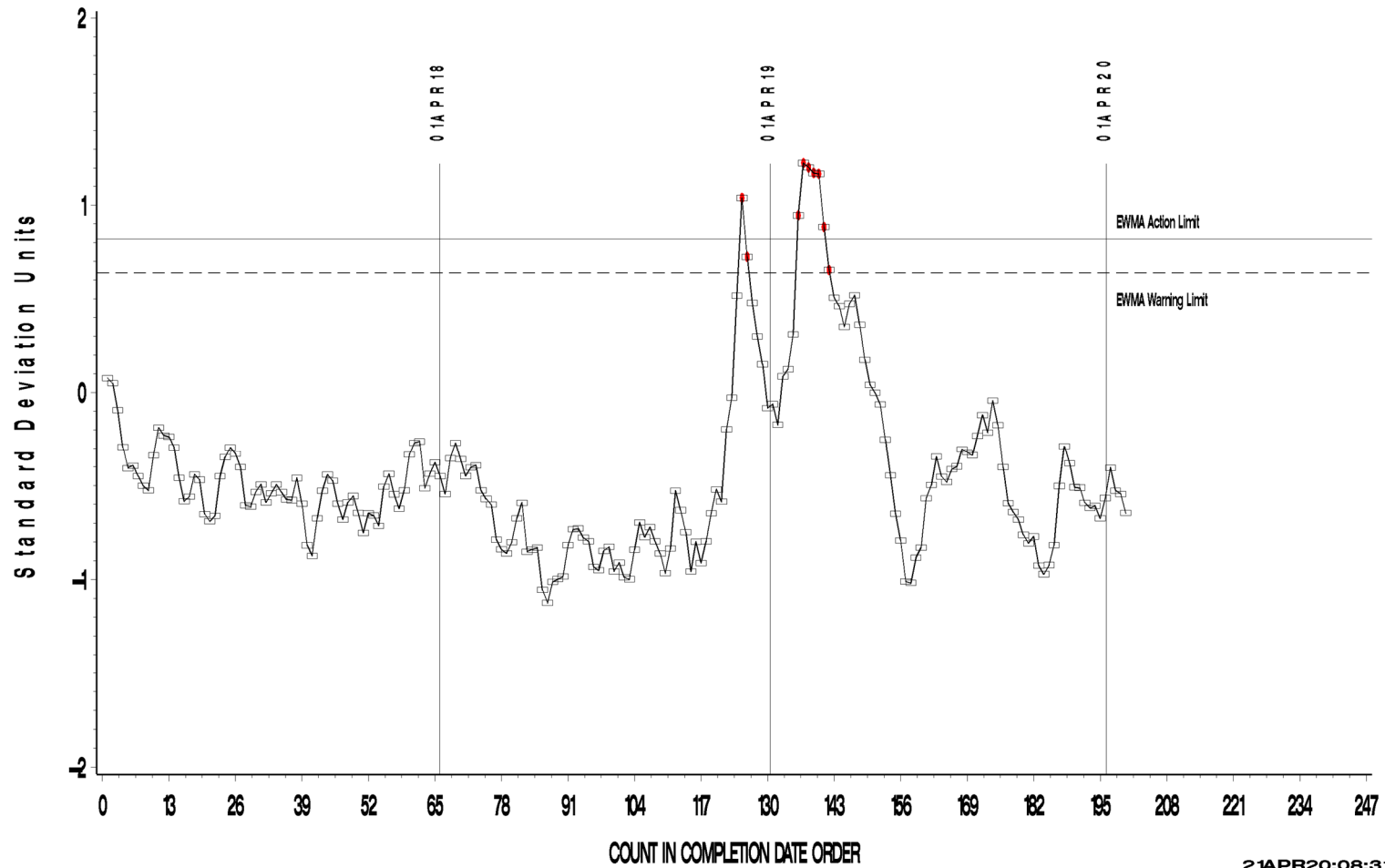


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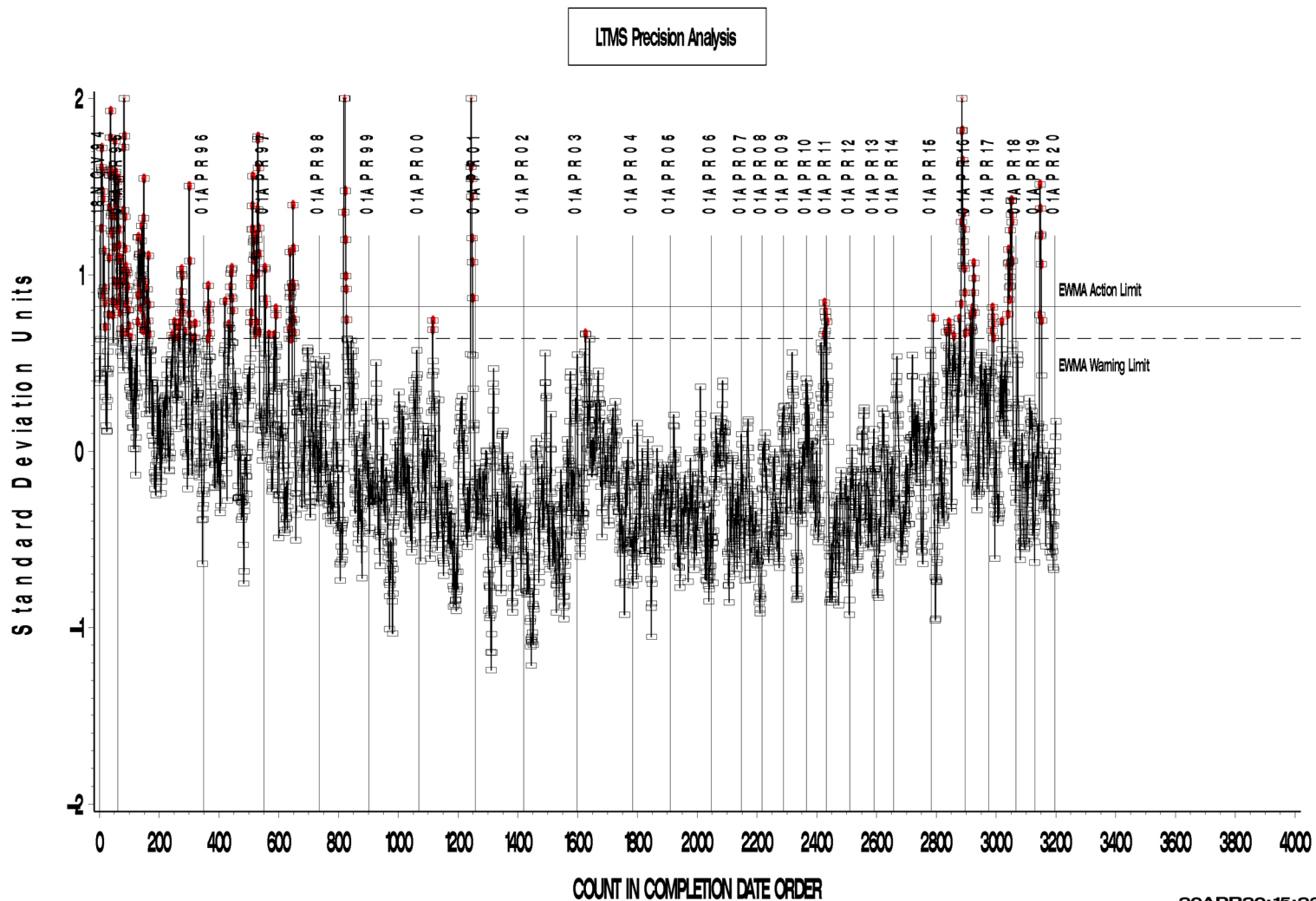


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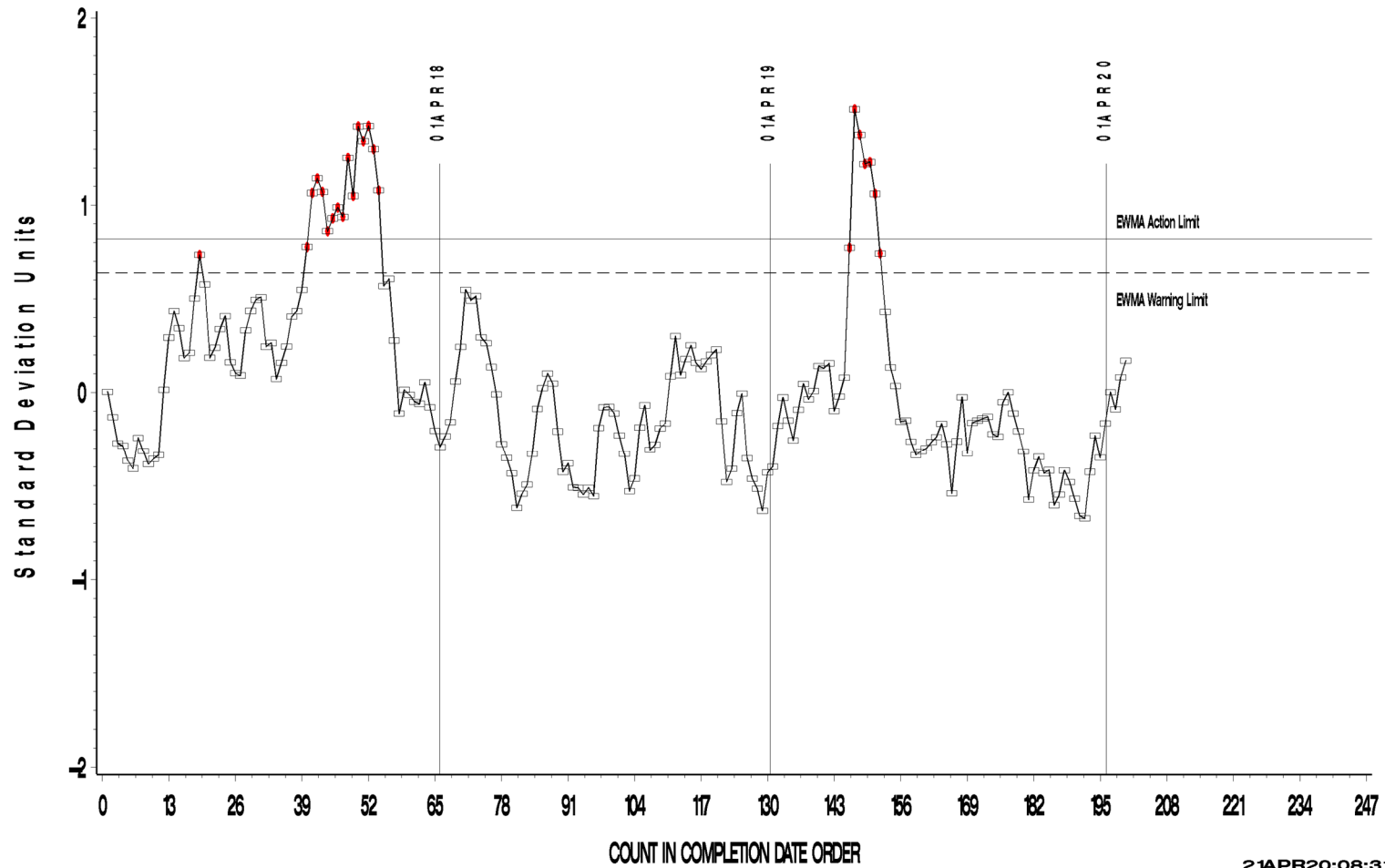
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LTMS Precision Analysis



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CUSUM Severity Analysis



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CUSUM Severity Analysis



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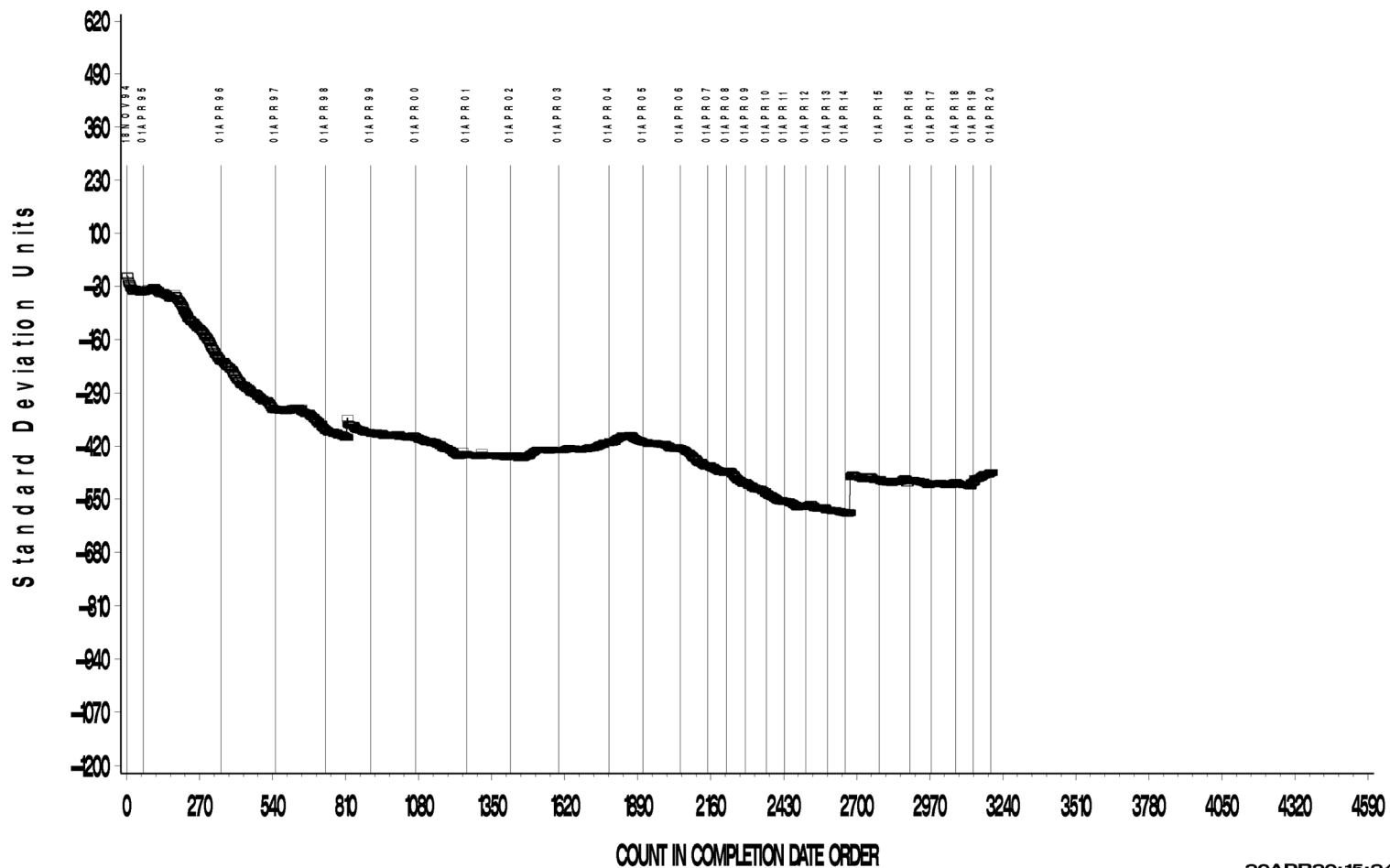
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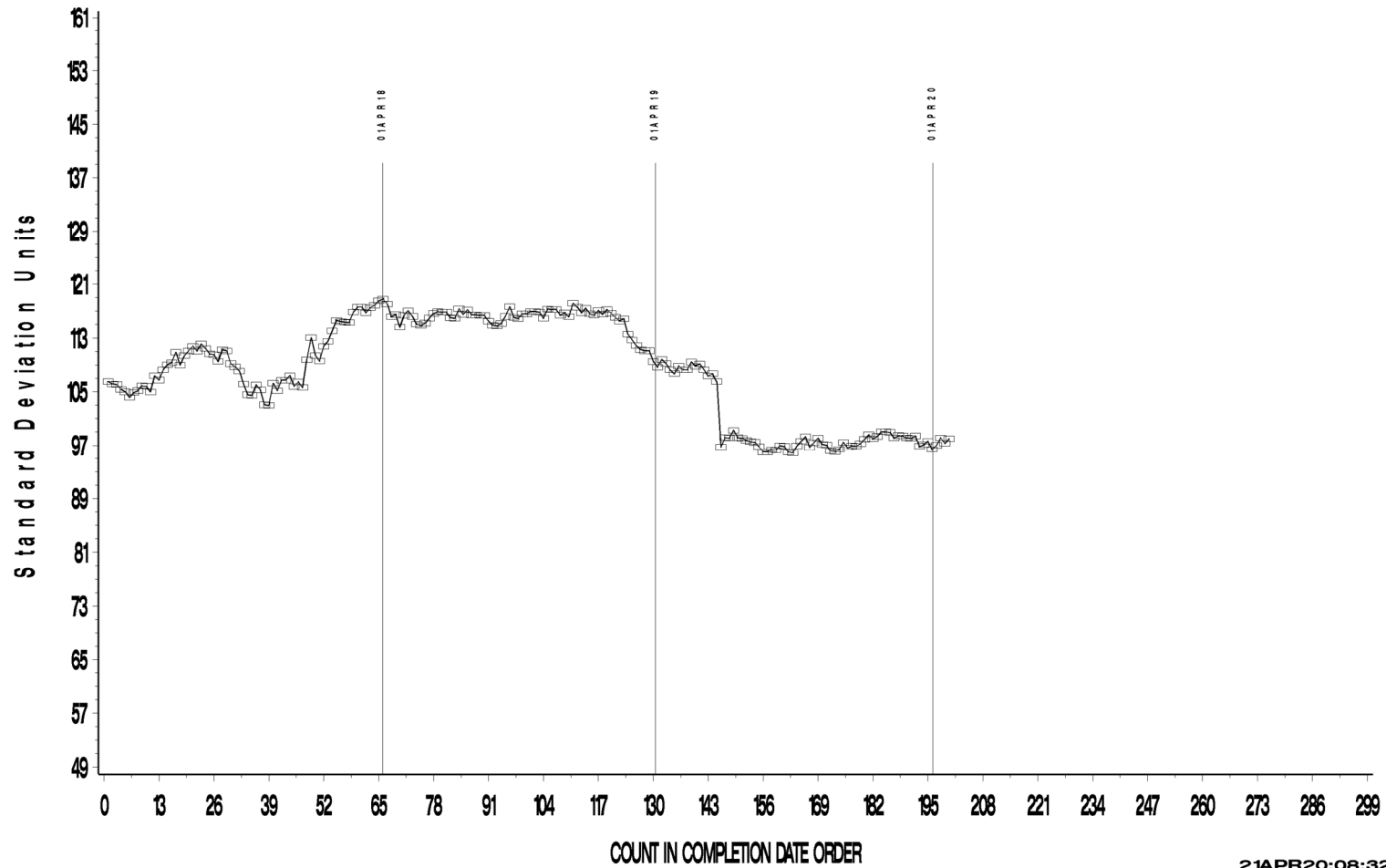


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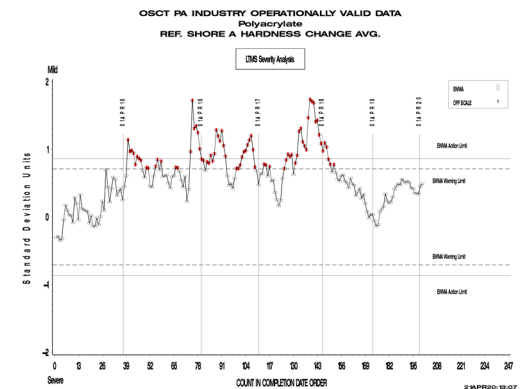
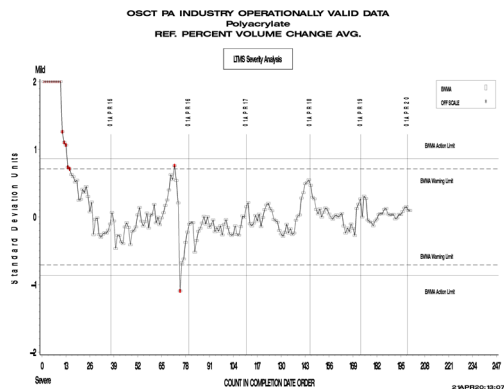
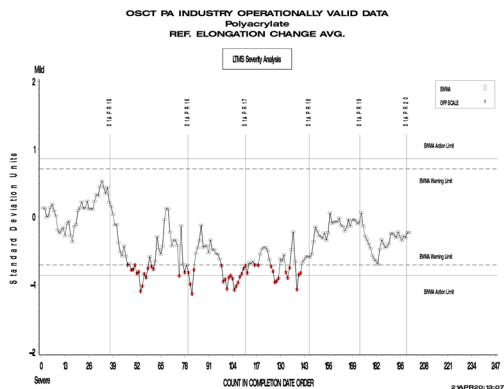
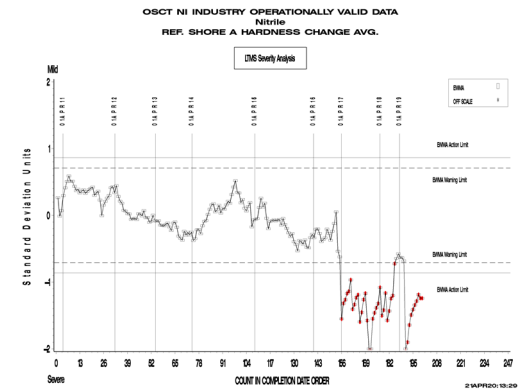
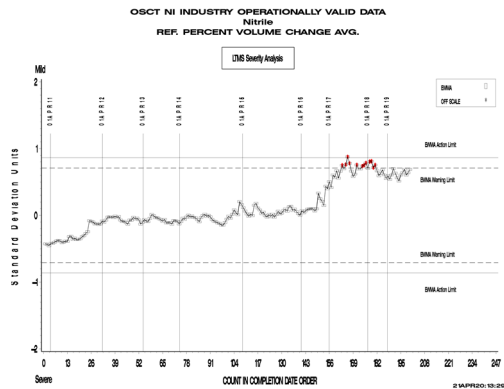
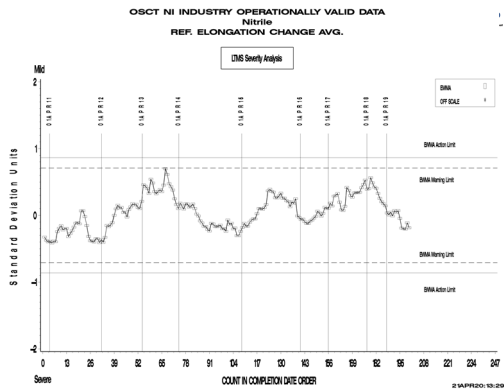
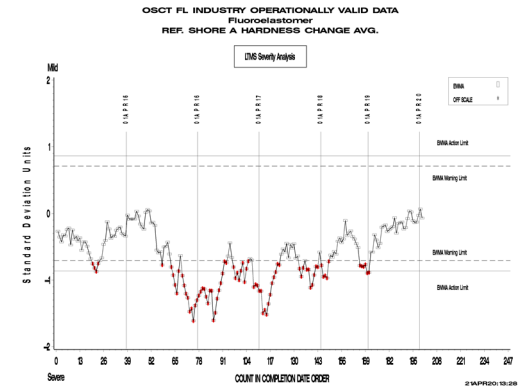
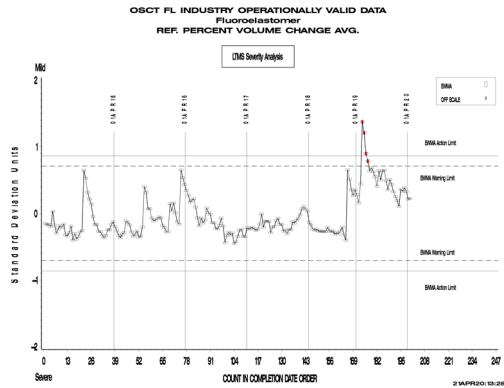
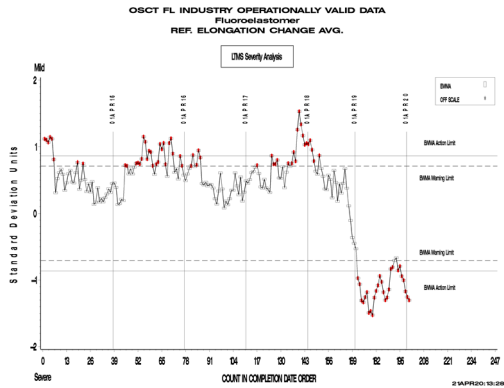
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CUSUM Severity Analysis



21APR20:08:32

# OSCT (D5662)





# OSCT (D5662)

## TIMELINE ADDITIONS

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

# OSCT (D5662)

## LAB VISITS

One OSCT lab visits was conducted during this period. All reviewed aspects were found to be in accordance with the test procedure.

## 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	13	330	65.4
160-1	5	0	0.0
168	13	0	0.0
169	33	734	145.5
170	17	177	35.1
171	34	143	28.4
Total	102	1054	209.0

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.