



A Program of ASTM International

Test Monitoring Center

<https://www.astmtmc.org>

ASTM Reference Testing Semi-Annual Report D7216 EOEC

Fall 2021

EOEC Test Activity*

Test Status		Fluoroelast.	Nitrile	Polyacrylate	Silicone	VAMAC	Total
Acceptable Calibration Test	AC	65	55	56	60	56	292
Failed Calibration Test	OC	0	5	2	0	0	7
Operationally Invalid, by lab	LC	0	0	0	0	0	0
Operationally Invalid, by TMC	RC	0	1	0	0	0	1
Aborted	XC	0	0	0	0	0	0
Total		65	61	58	60	56	300

*April 1, 2021 – September 30, 2021

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EOEC Lost Tests*

Validity	Cause	#
RC	Reported as operationally valid, but reported test length was short of specification. Invalidated by TMC.	1
	Total	1

*Invalid and aborted calibration tests

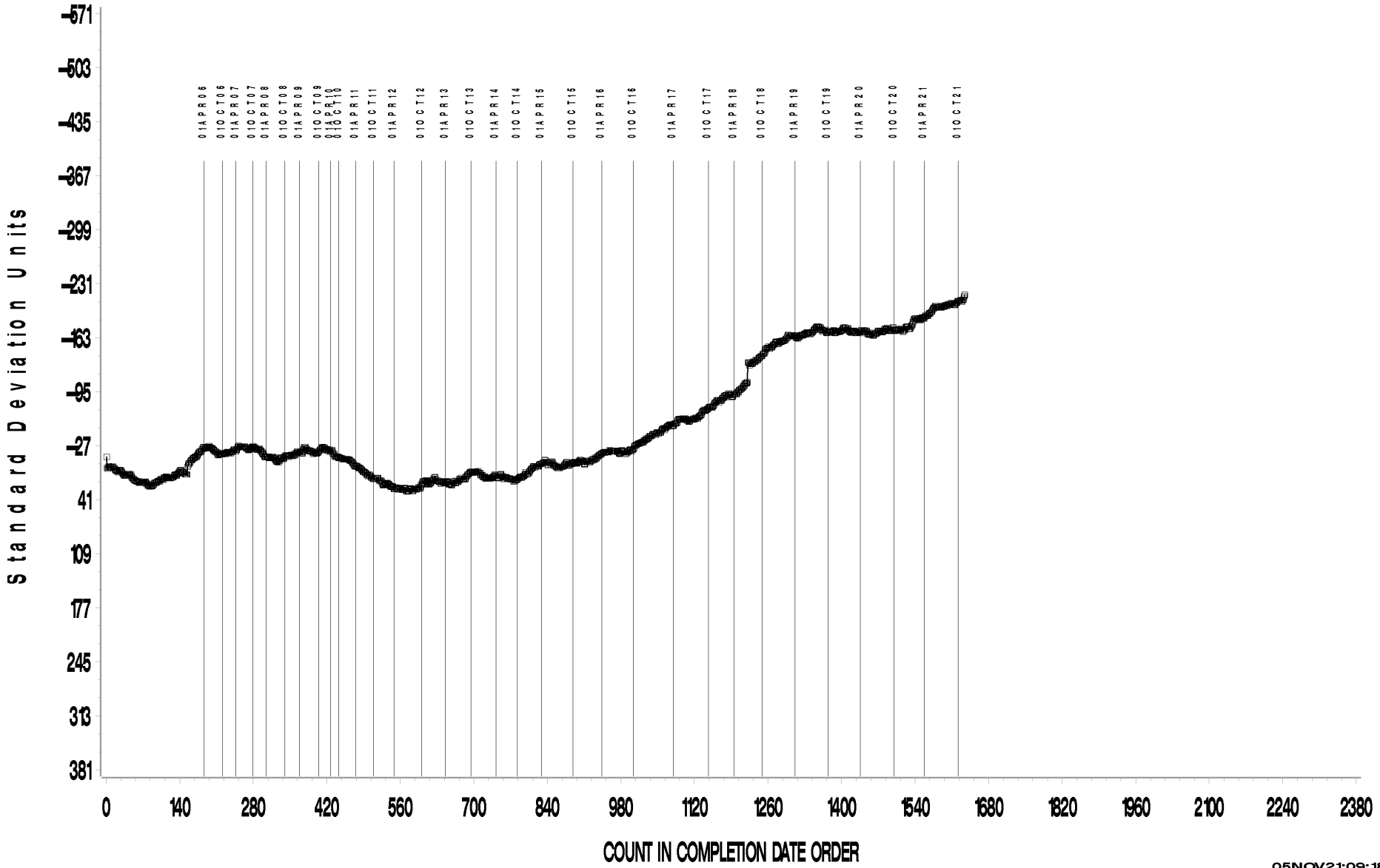
EOEC Test Severity

▶ Fluoroelastomer (FKM)

Parameter	Period Mean Δ /s	Status
Volume Change	-0.34	Mild
Points Hardness Change	0.07	On-target
Tensile Strength Change	0.30	Severe
Elongation Change	-0.75	Mild

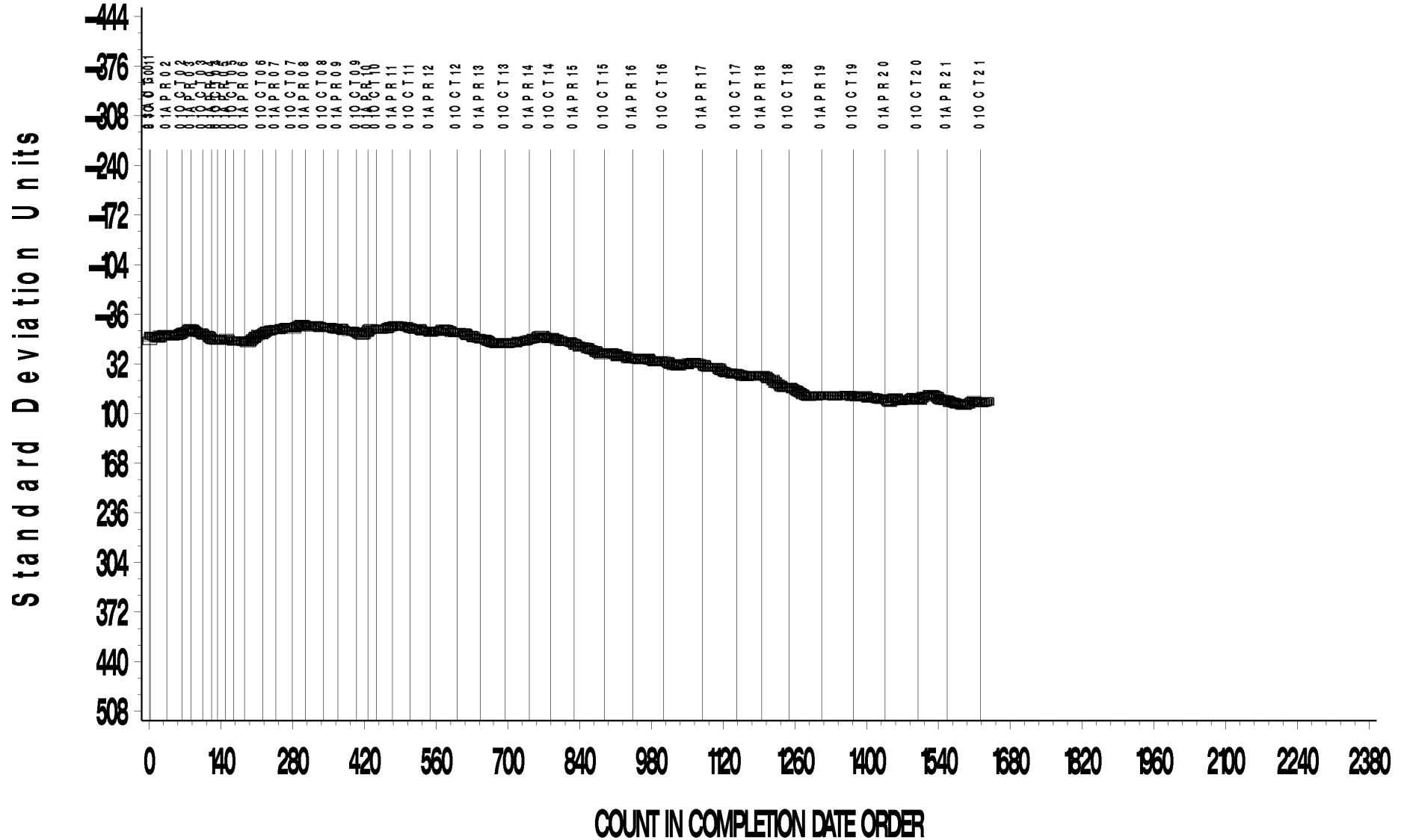
FLUOROELASTOMER VOLUME CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



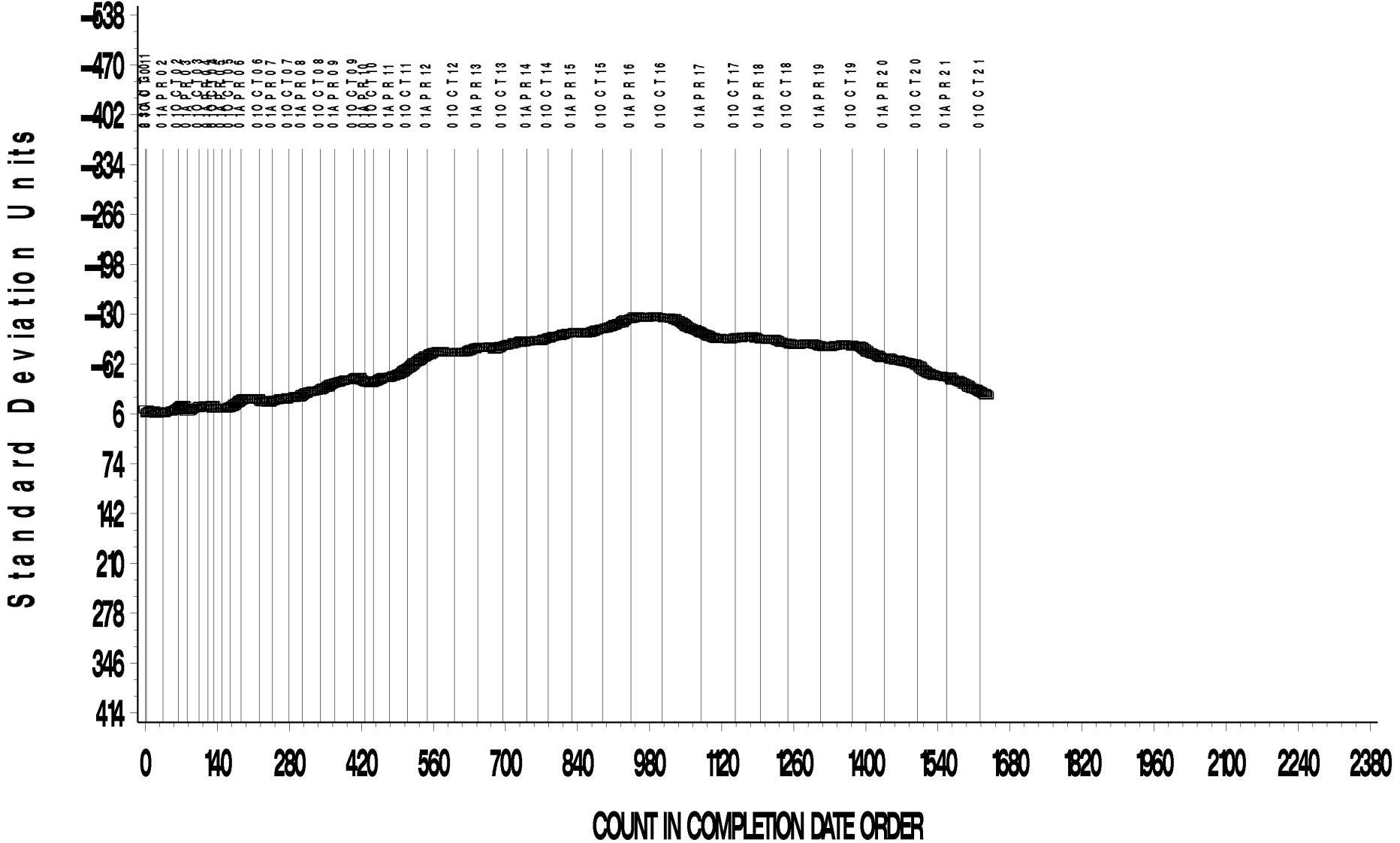
FLUOROELASTOMER PTS HARDNESS CHANGE CORRECTED AVG

CUSUM Severity Analysis



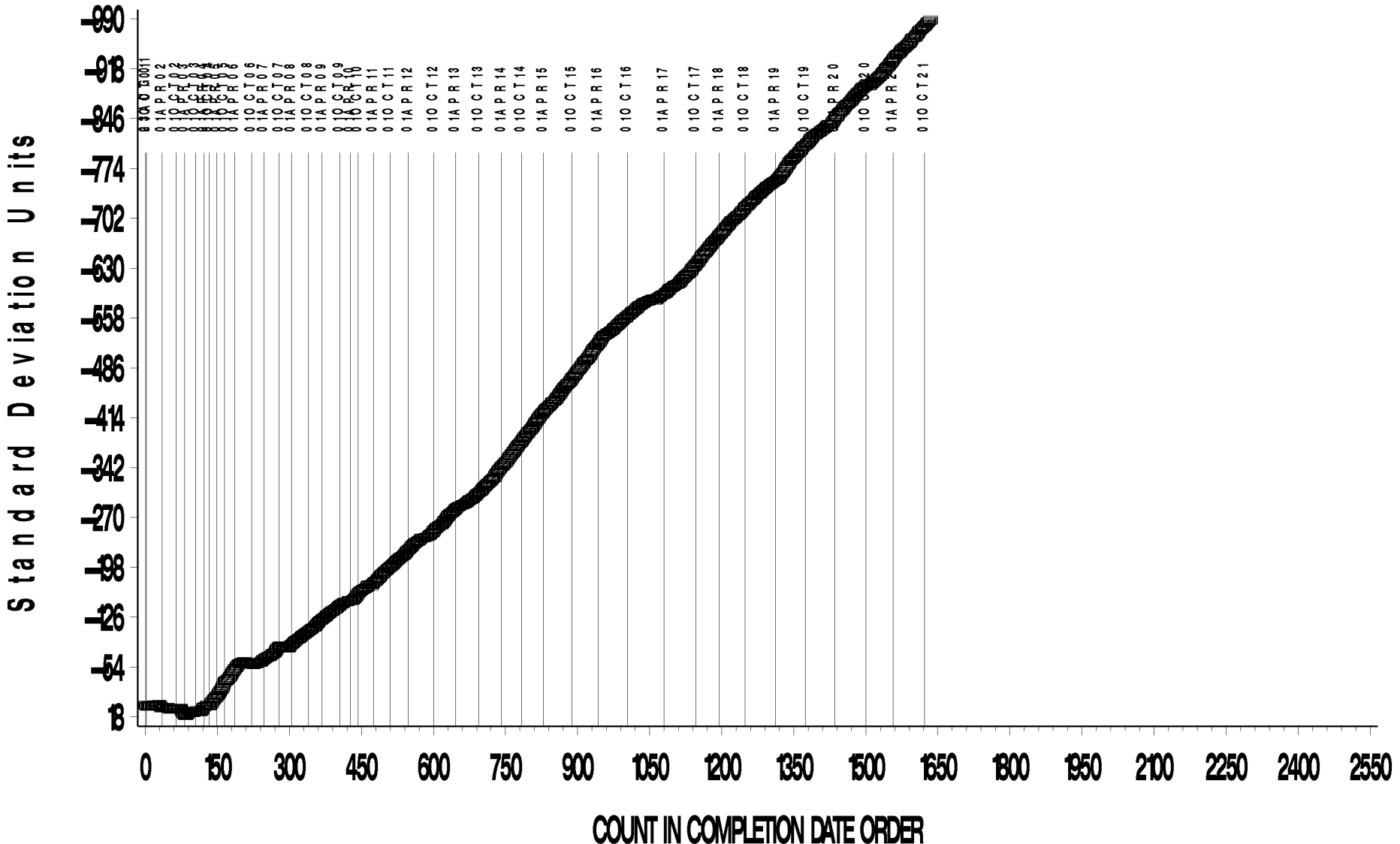
FLUROELASTOMER TENS STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



FLUOROELASTOMER ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis



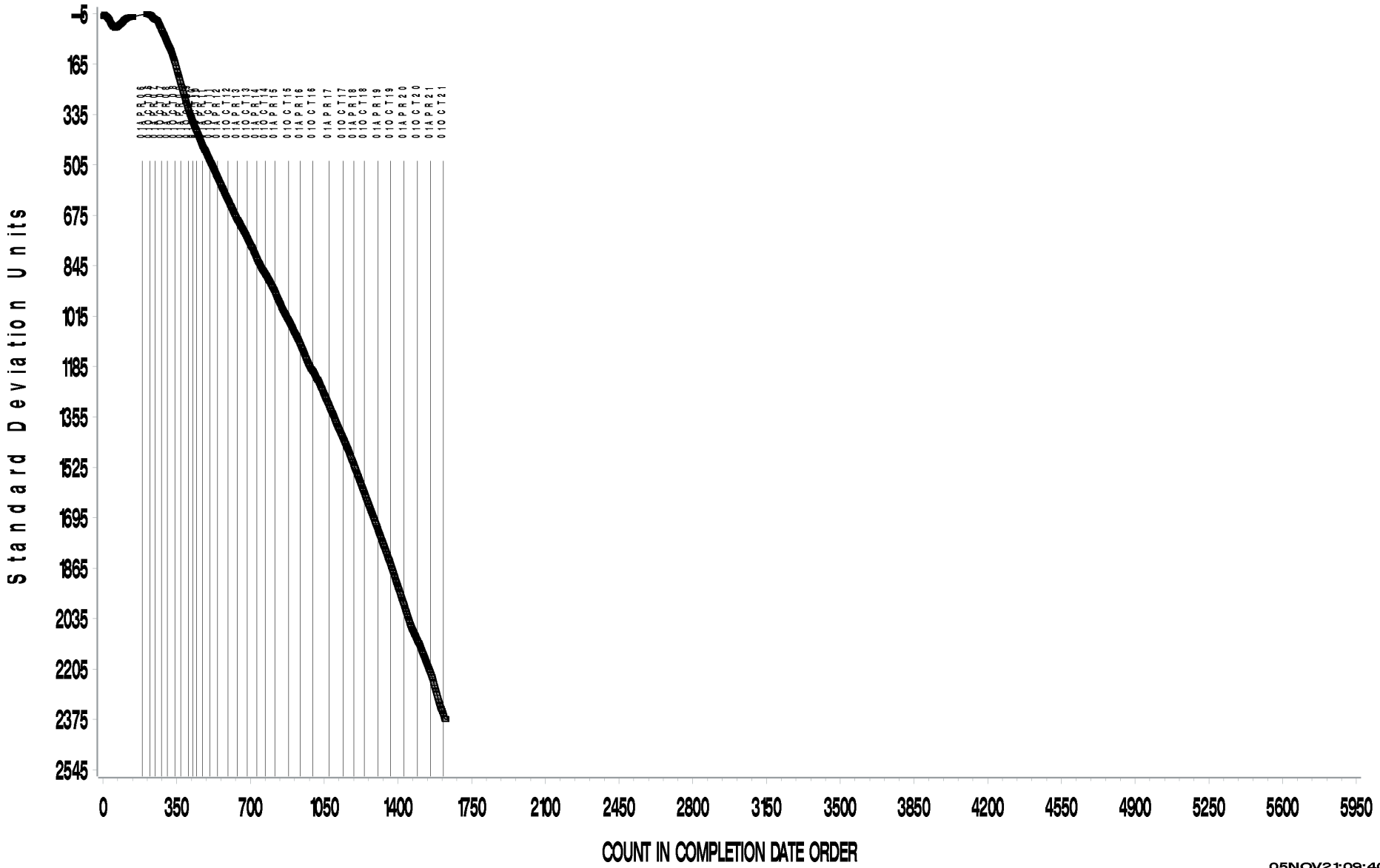
EOEC Test Severity

▶ Nitrile (NBR)

Parameter	Period Mean Δ /s	Status
Volume Change	2.30	Severe
Points Hardness Change	0.21	Severe
Tensile Strength Change	-0.71	Mild
Elongation Change	0.28	Severe

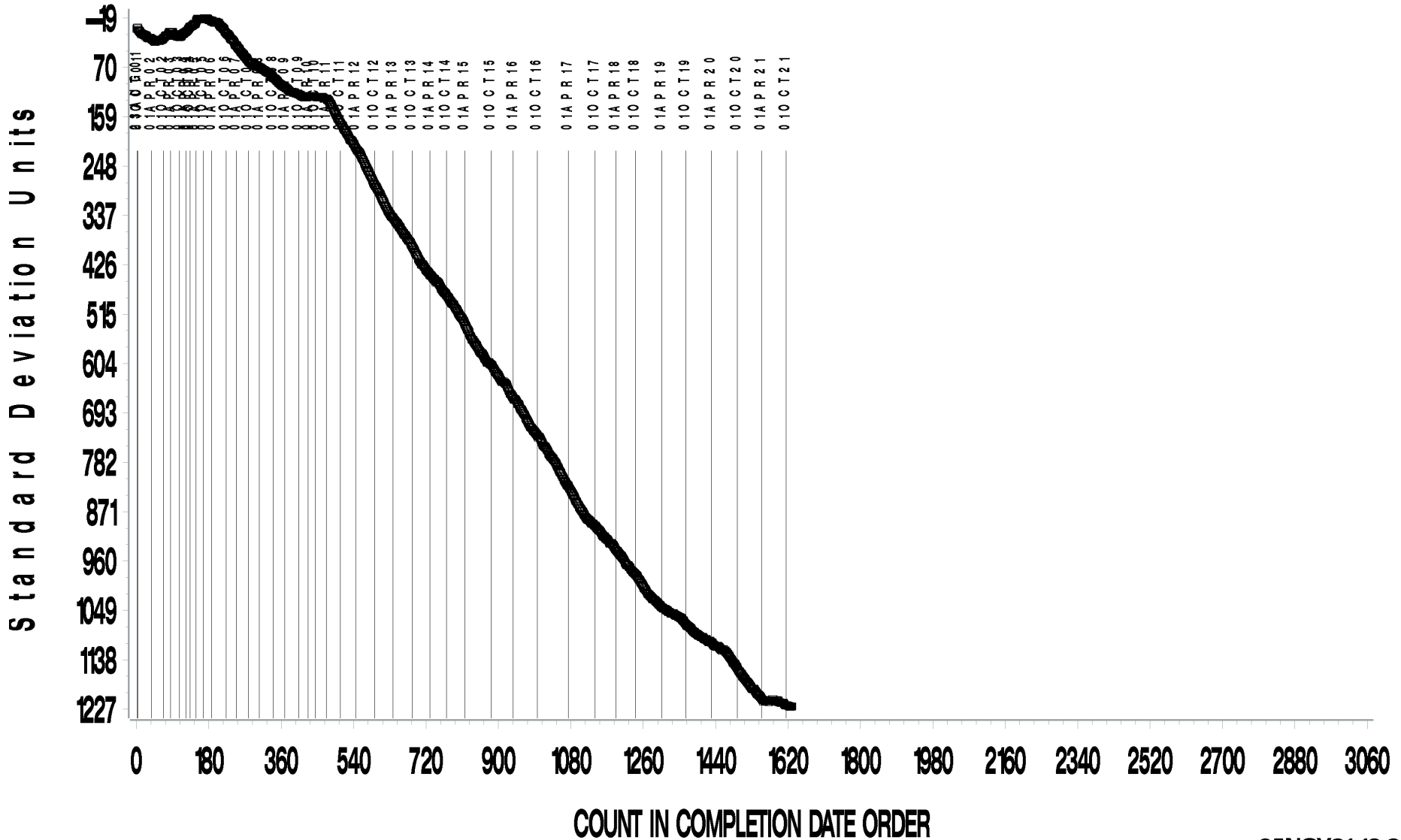
REFERENCE NITRILE VOLUME CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



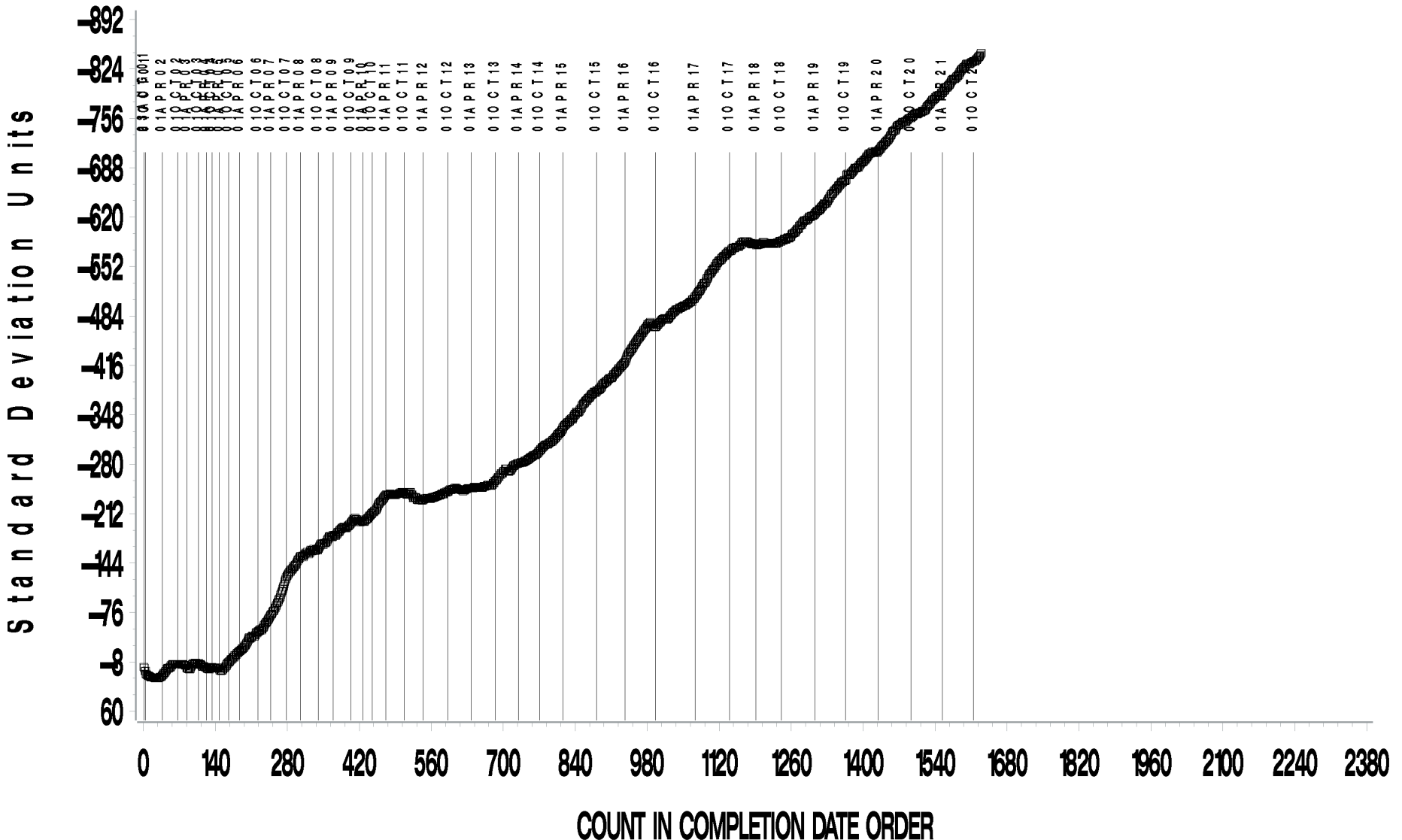
REFERENCE NITRILE PTS HARD CHANGE CORRECTED AVG

CUSUM Severity Analysis



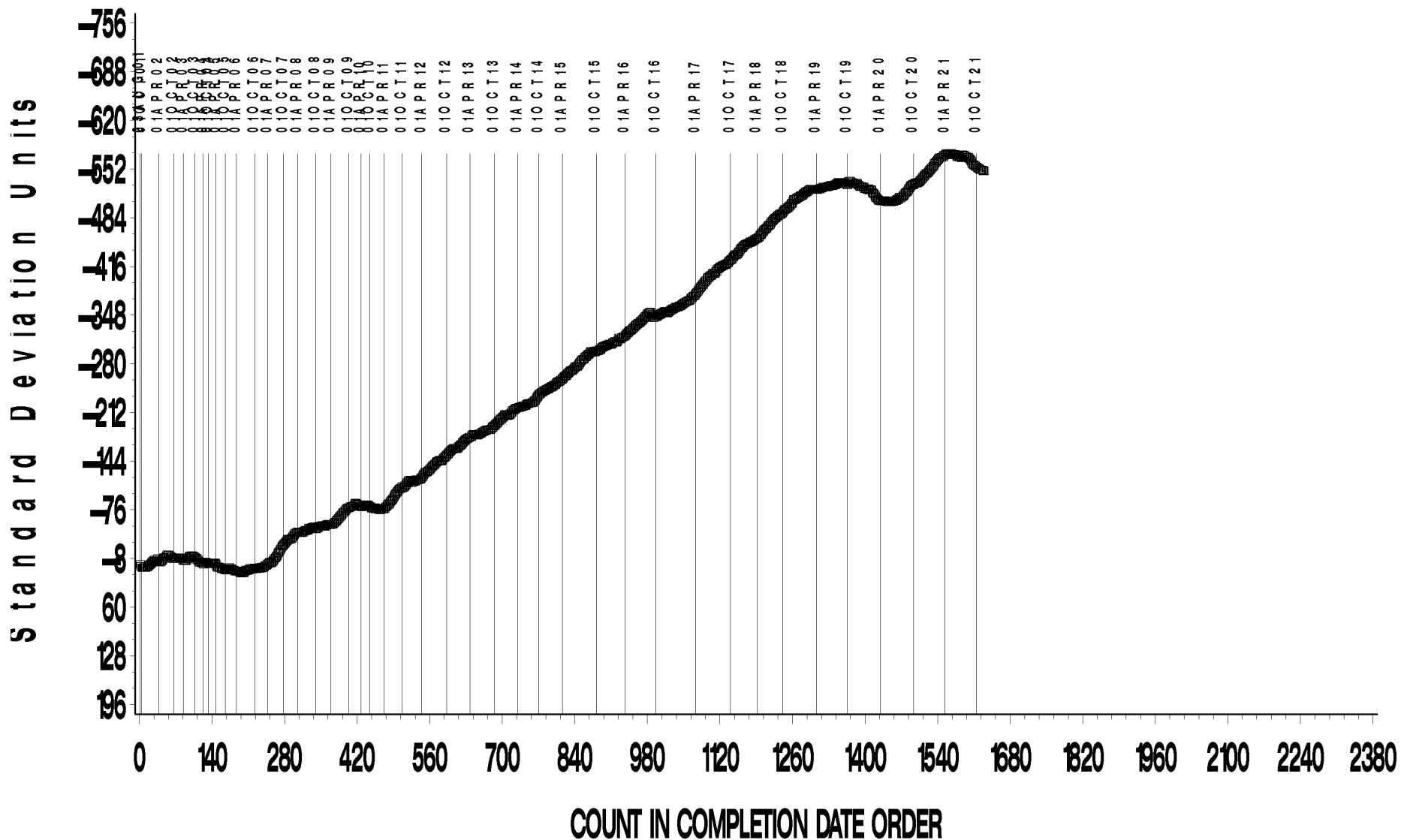
REF NITRILE TENS STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF NITRILE ELONGATION CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis

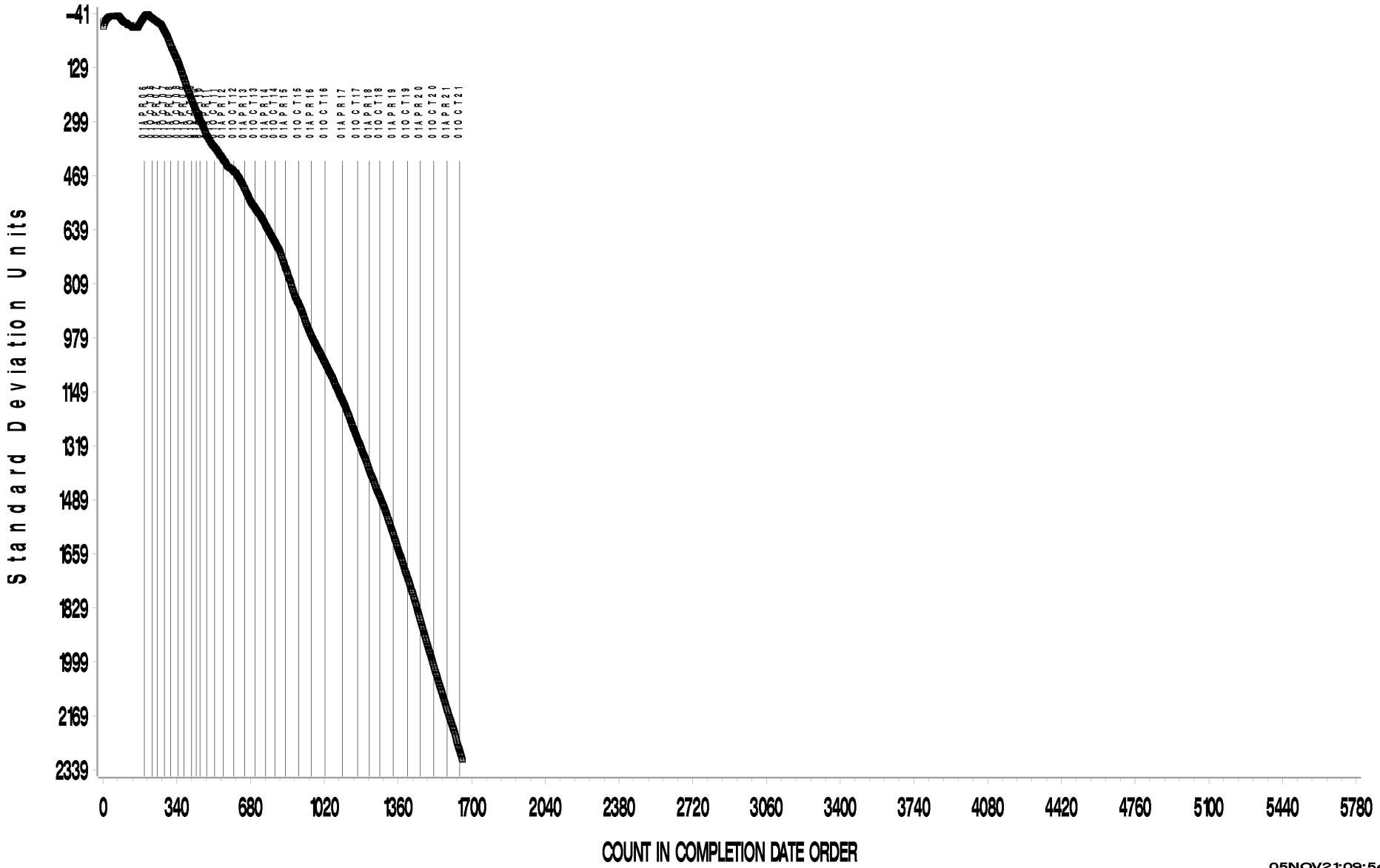


EOEC Test Severity

▶ Polyacrylate (ACM)

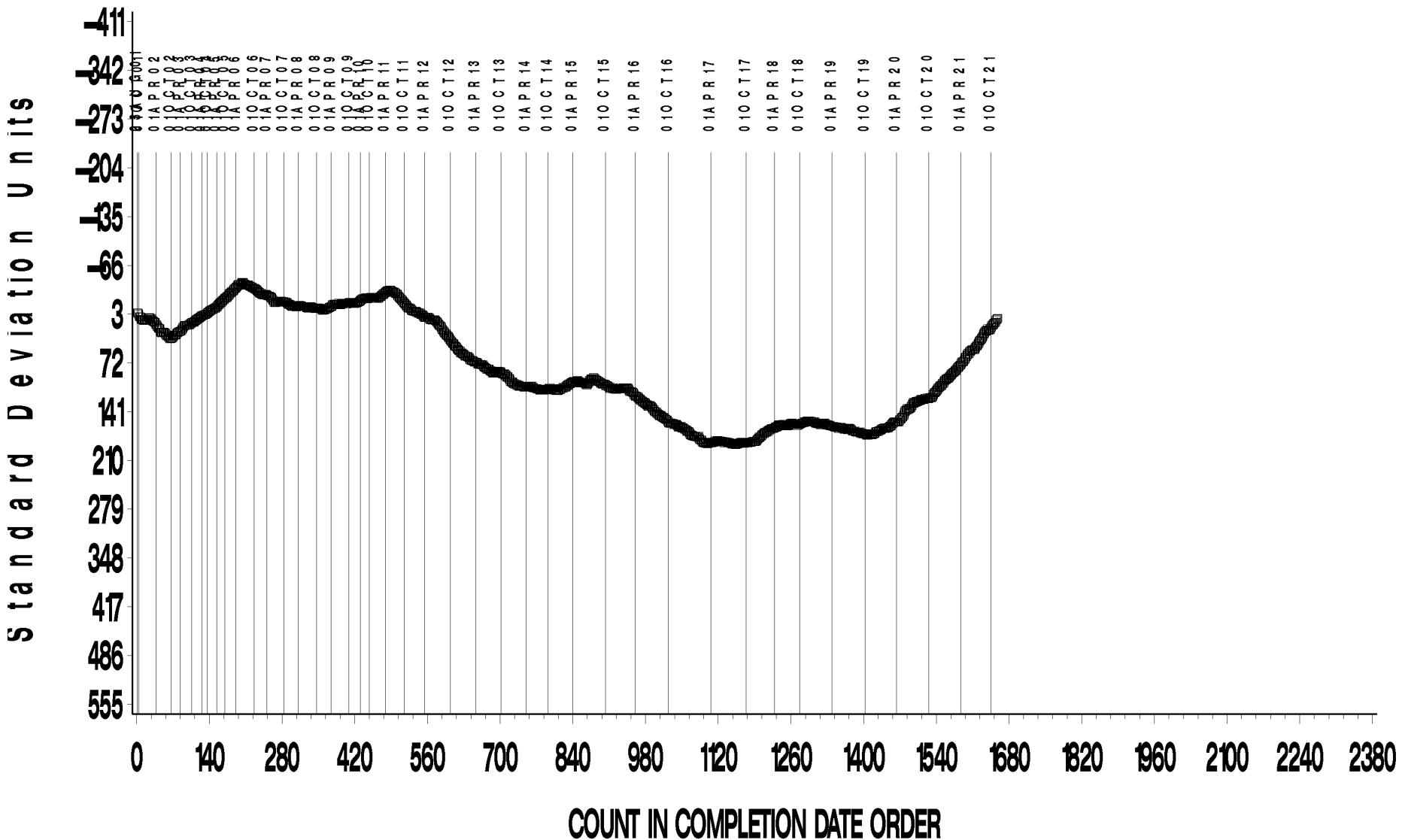
Parameter	Period Mean Δ/s	Status
Volume Change	2.22	Severe
Points Hardness Change	-0.88	Mild
Tensile Strength Change	-0.30	Mild
Elongation Change	0.53	Severe

CUSUM Severity Analysis

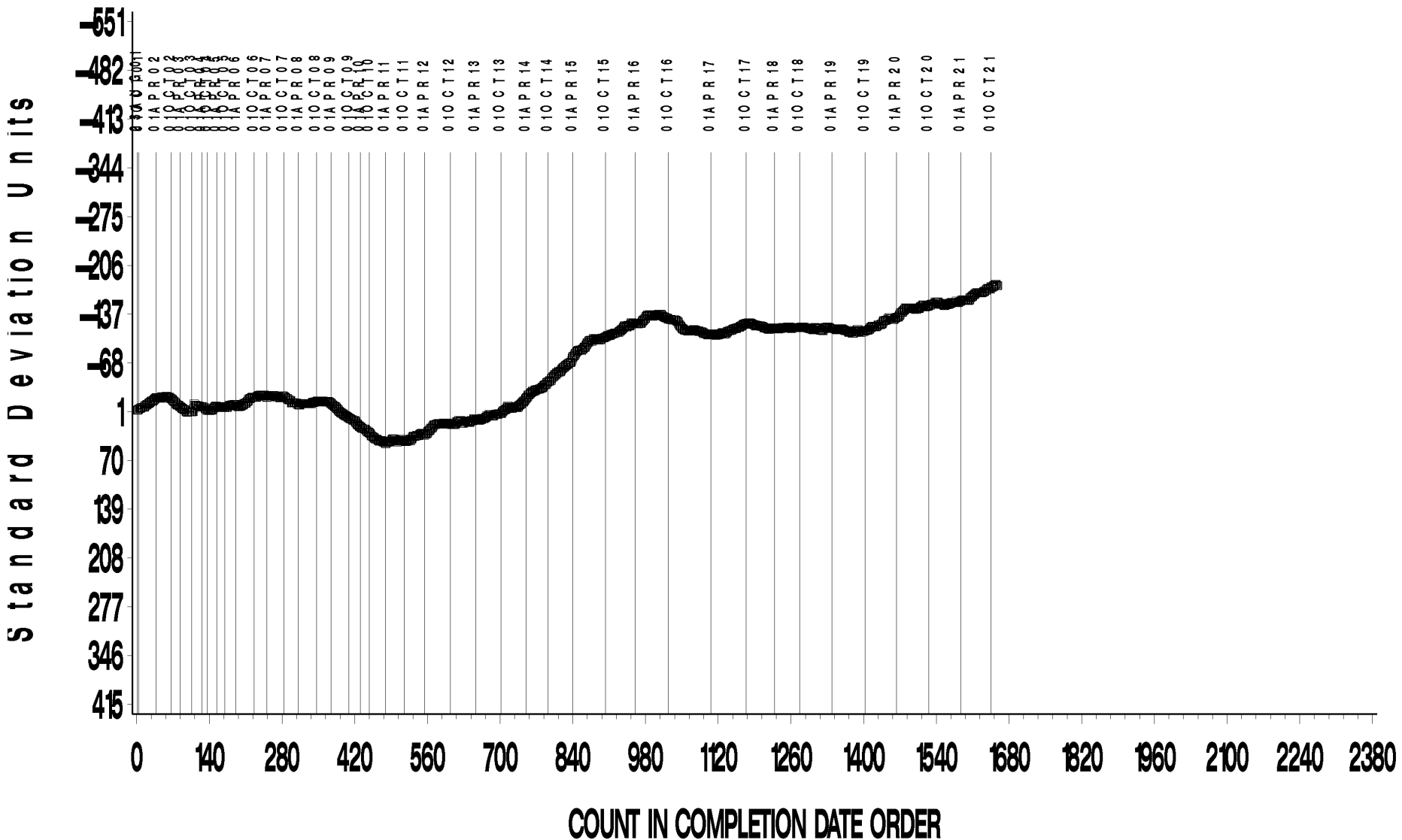


REF POLYACRYLATE PTS HARD CHANGE CORRECTED AVG

CUSUM Severity Analysis

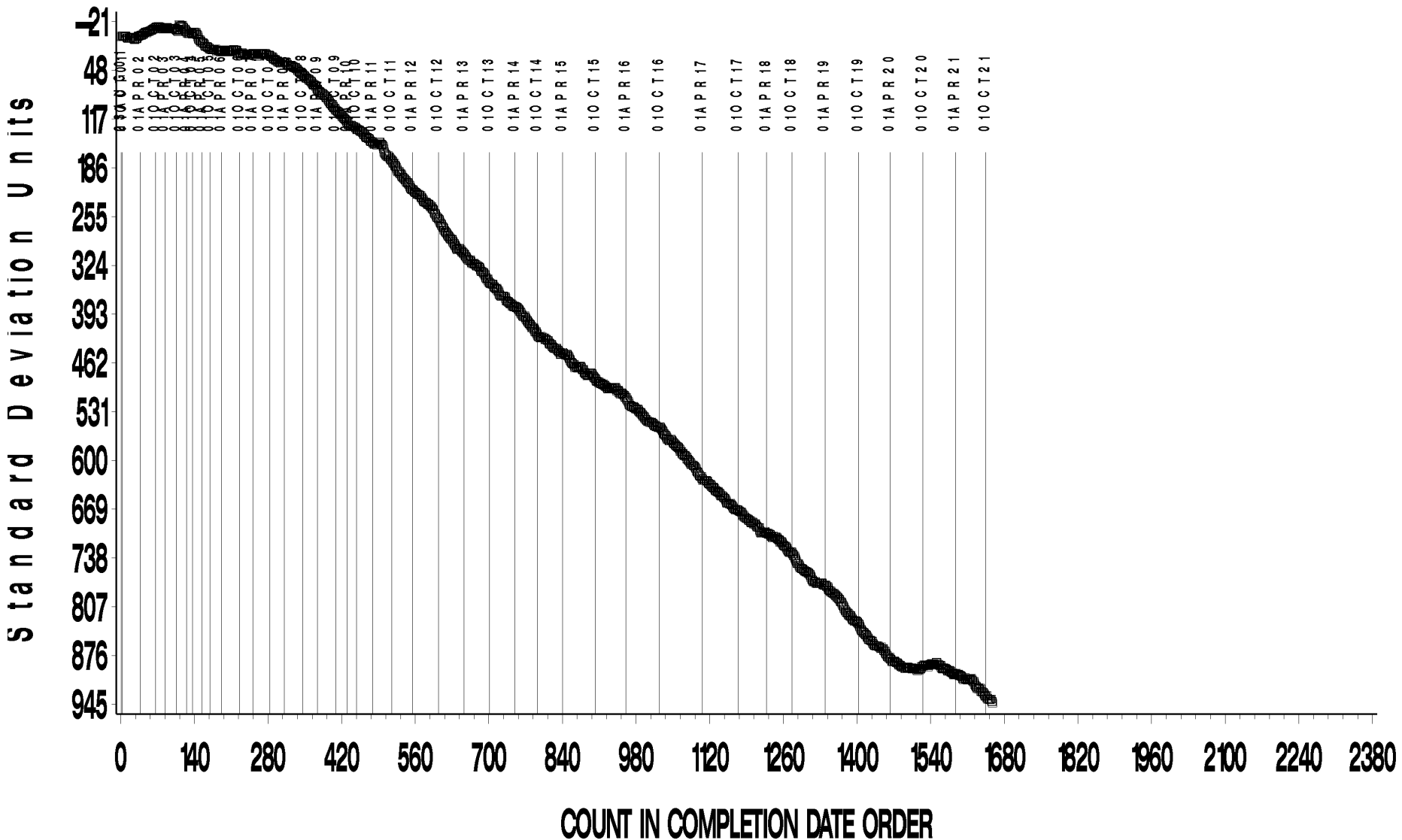


CUSUM Severity Analysis



REF POLYACRYLATE ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis



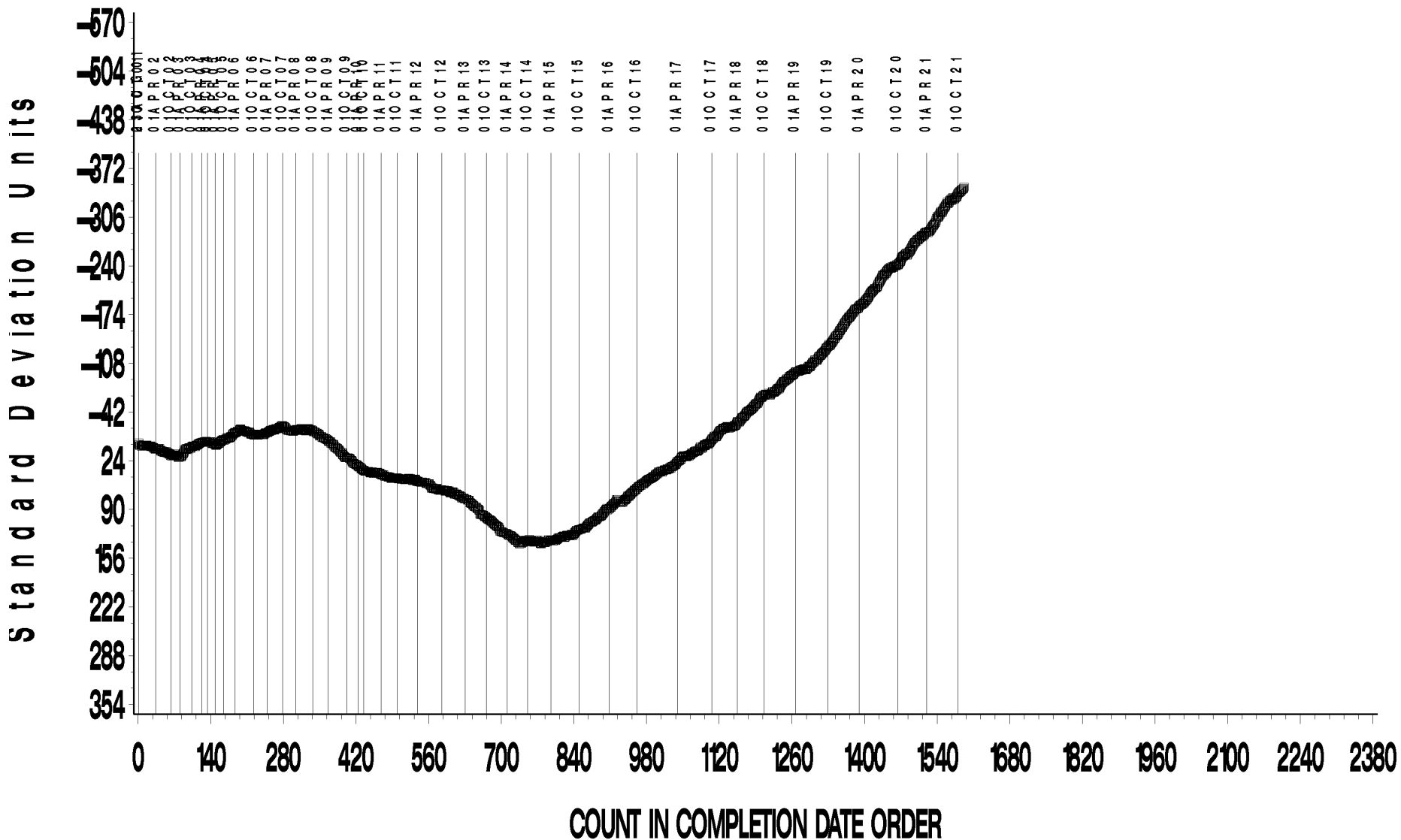
EOEC Test Severity

▶ Silicone (VMQ)

Parameter	Period Mean Δ /s	Status
Volume Change	0.52	Severe
Points Hardness Change	-0.85	Mild
Tensile Strength Change	0.50	Severe
Elongation Change	0.10	Severe

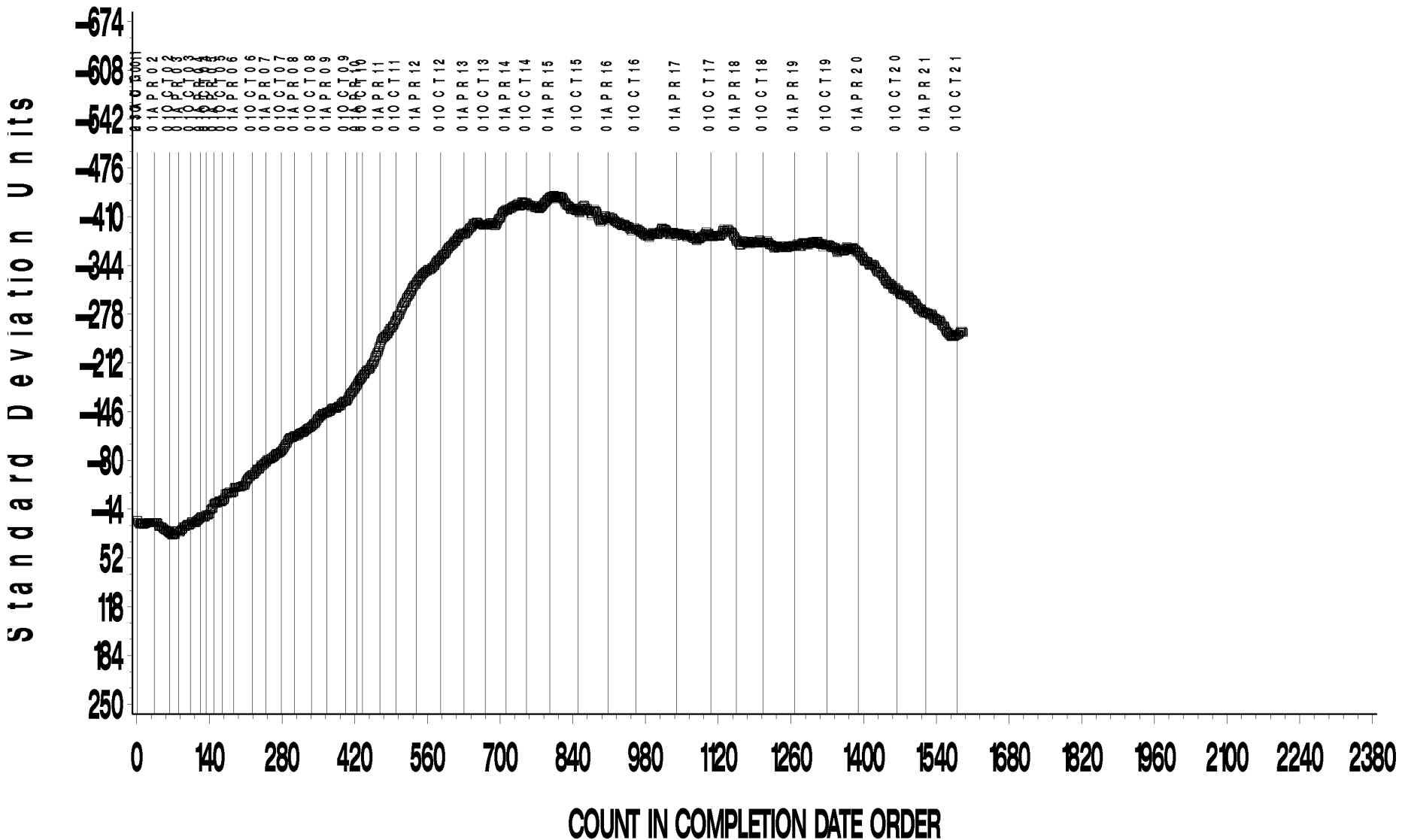
REFERENCE SILICON PTS HARD CHANGE CORRECTED AVG

CUSUM Severity Analysis



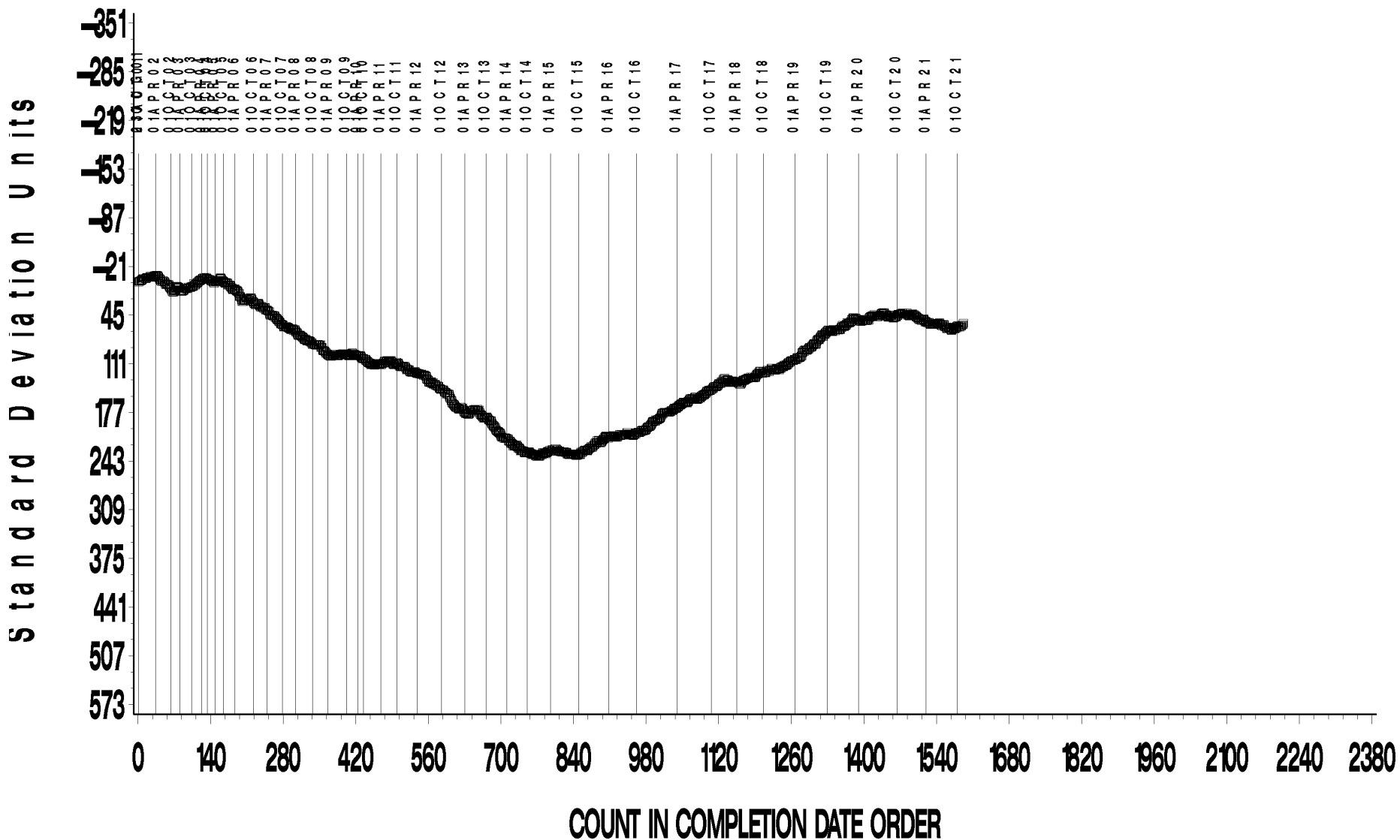
REF SILICON TENSILE STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF SILICON ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis



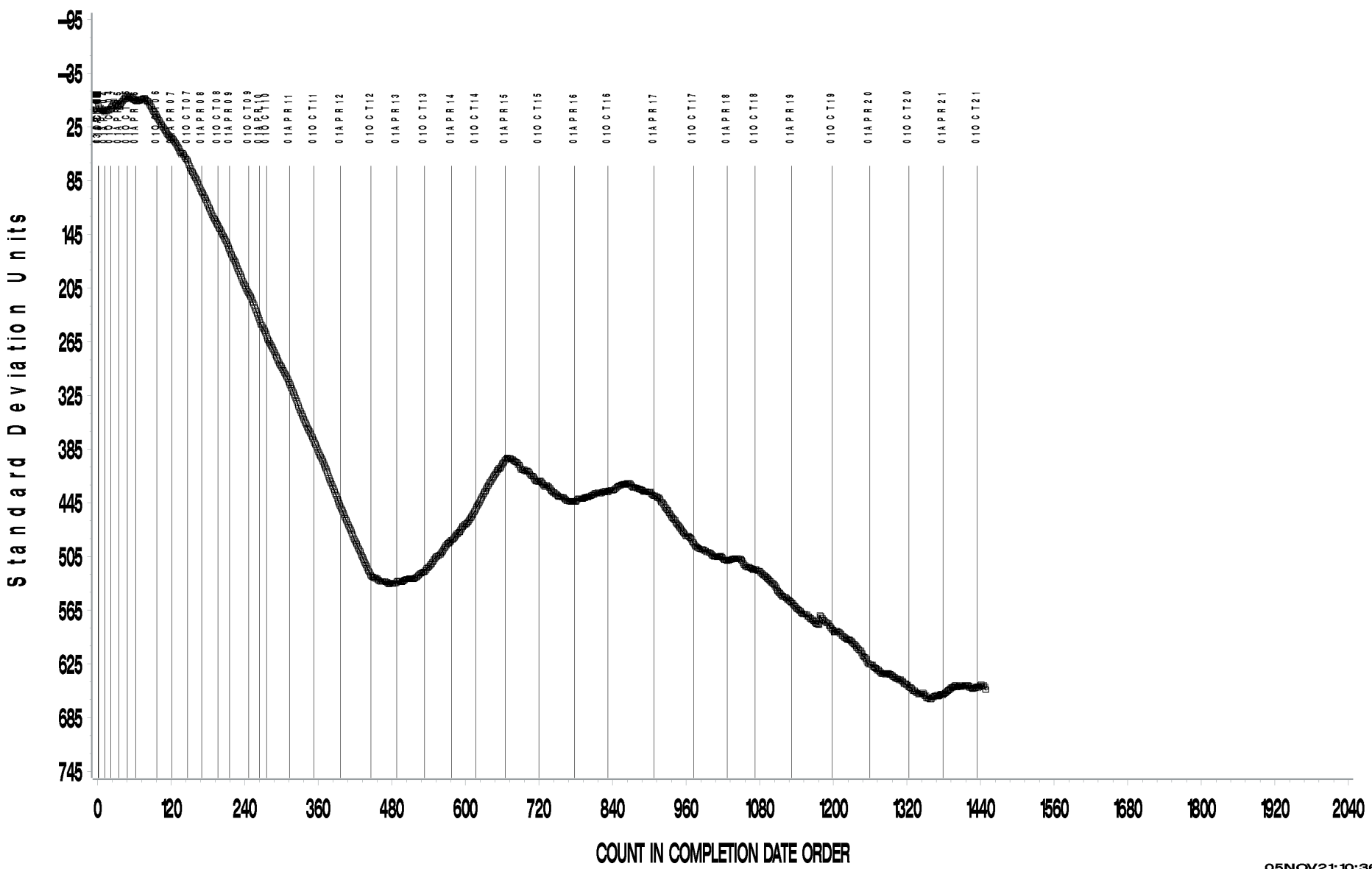
EOEC Test Severity

▶ VAMAC (MAC)

Parameter	Period Mean Δ/s	Status
Volume Change	-0.17	Mild
Points Hardness Change	-1.21	Mild
Tensile Strength Change	0.14	Severe
Elongation Change	-0.07	On-target

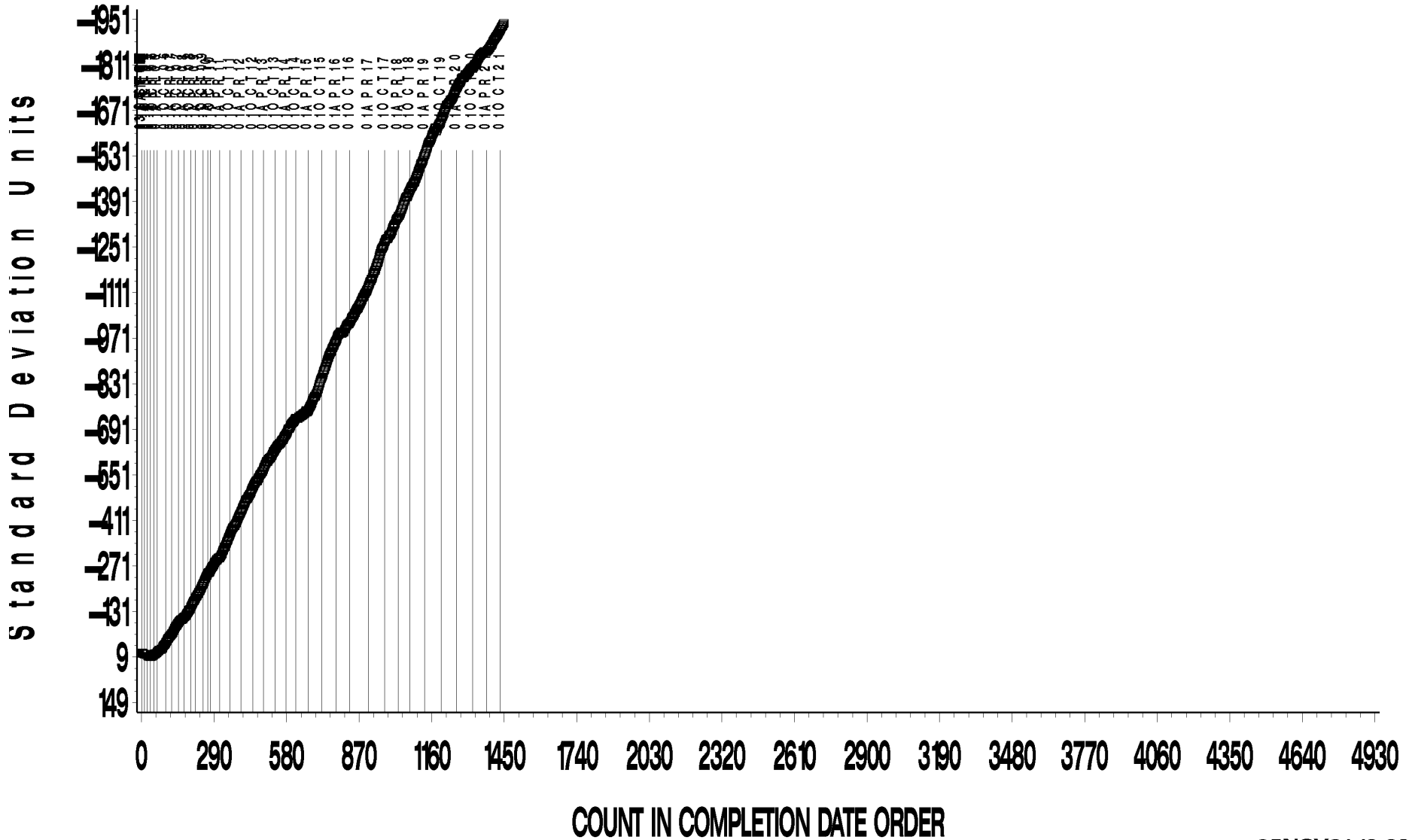
REFERENCE VAMAC G VOLUME CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



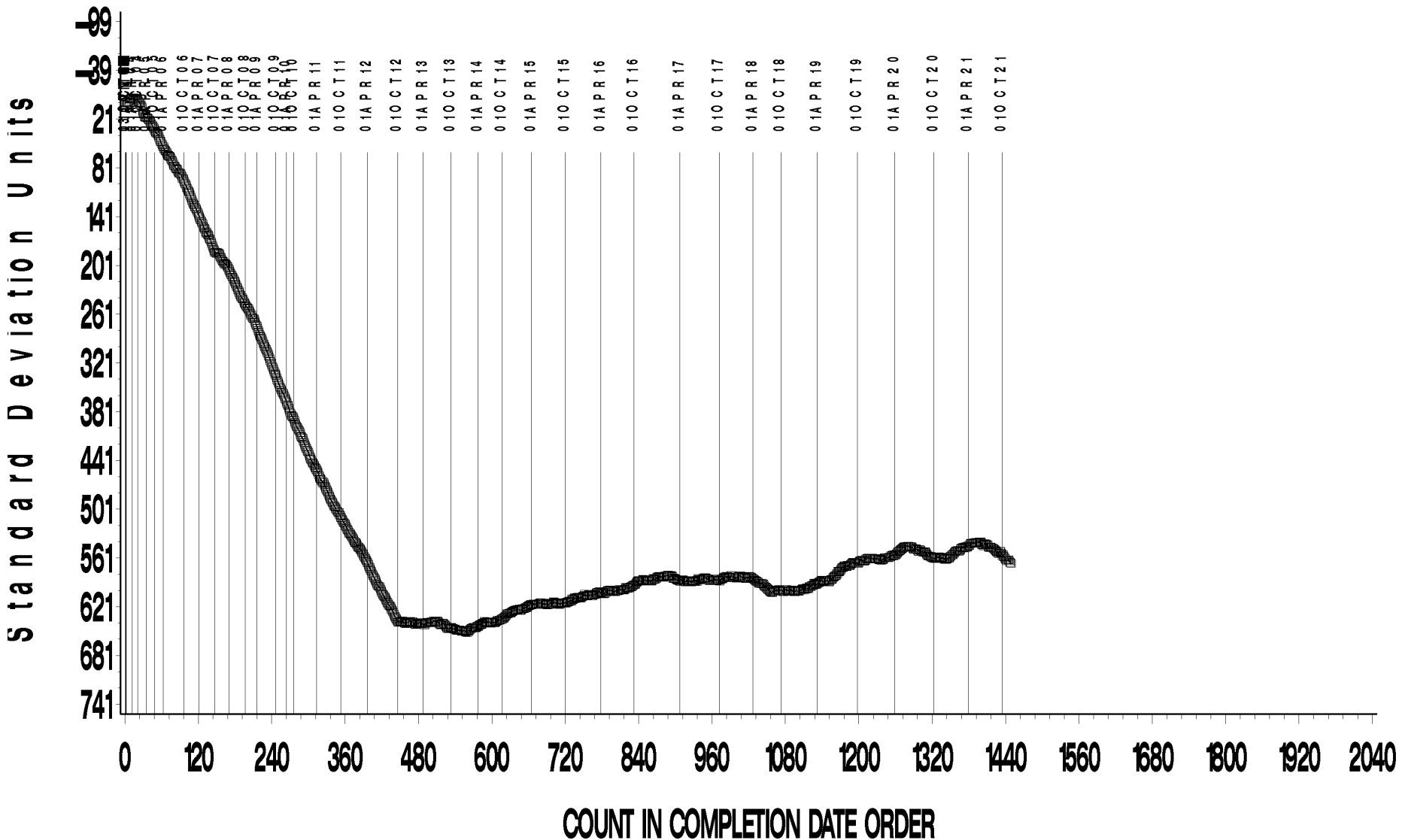
REF VAMAC G POINTS HARDNESS CHANGE CORRECTED AVG

CUSUM Severity Analysis



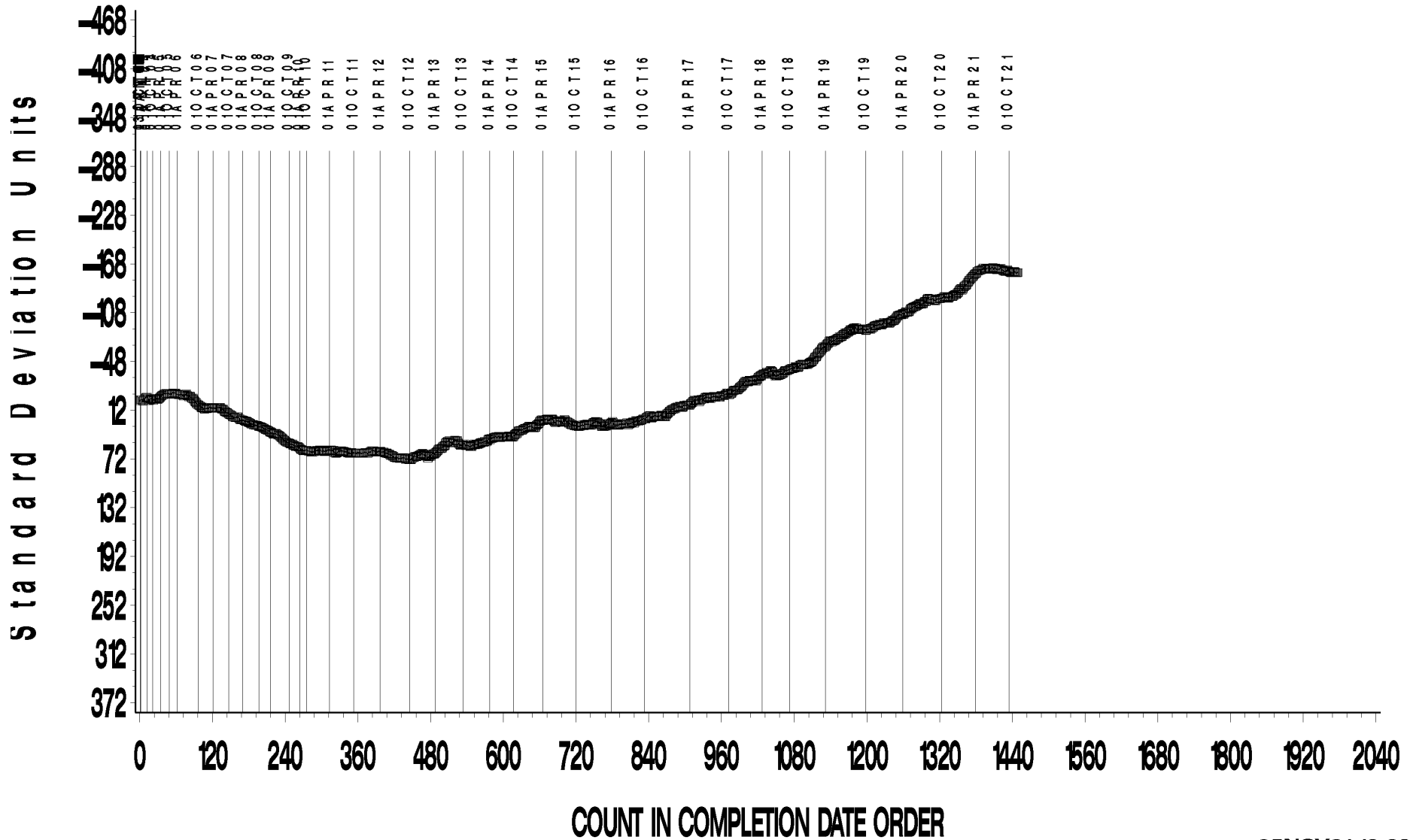
REF VAMAC G TENSILE STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis

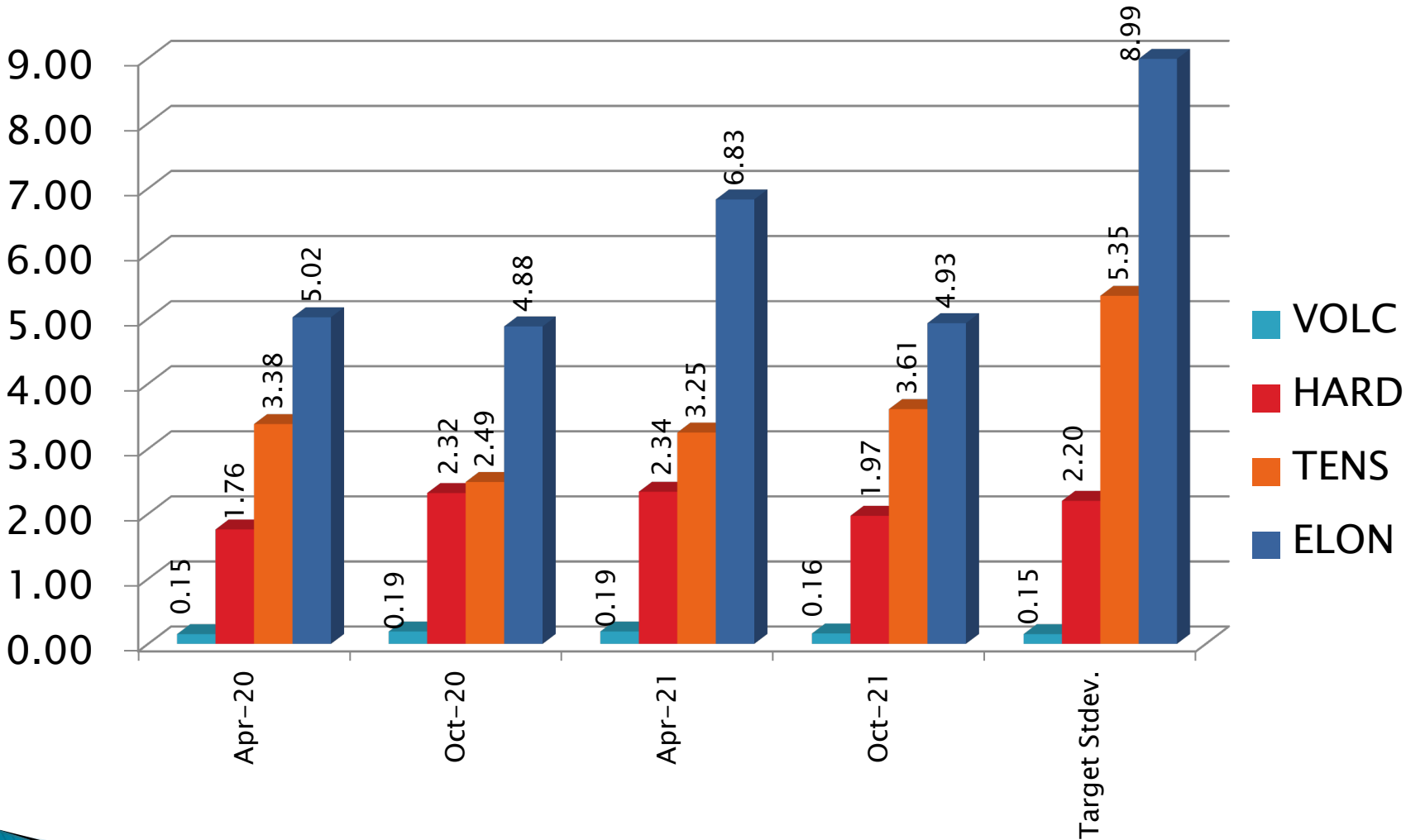


REF VAMAC G ELONGATION CHANGE CORRECTED AVG

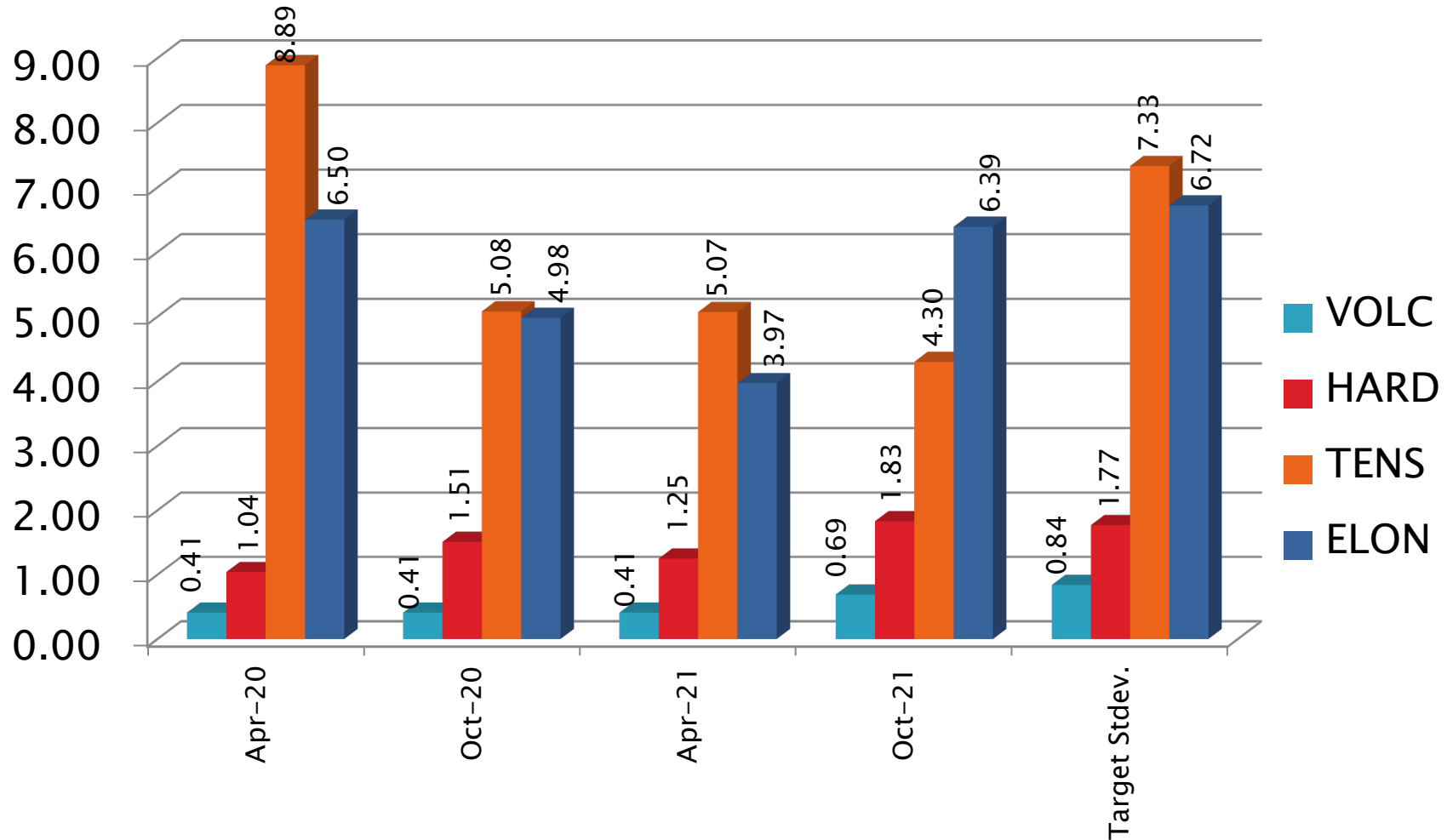
CUSUM Severity Analysis



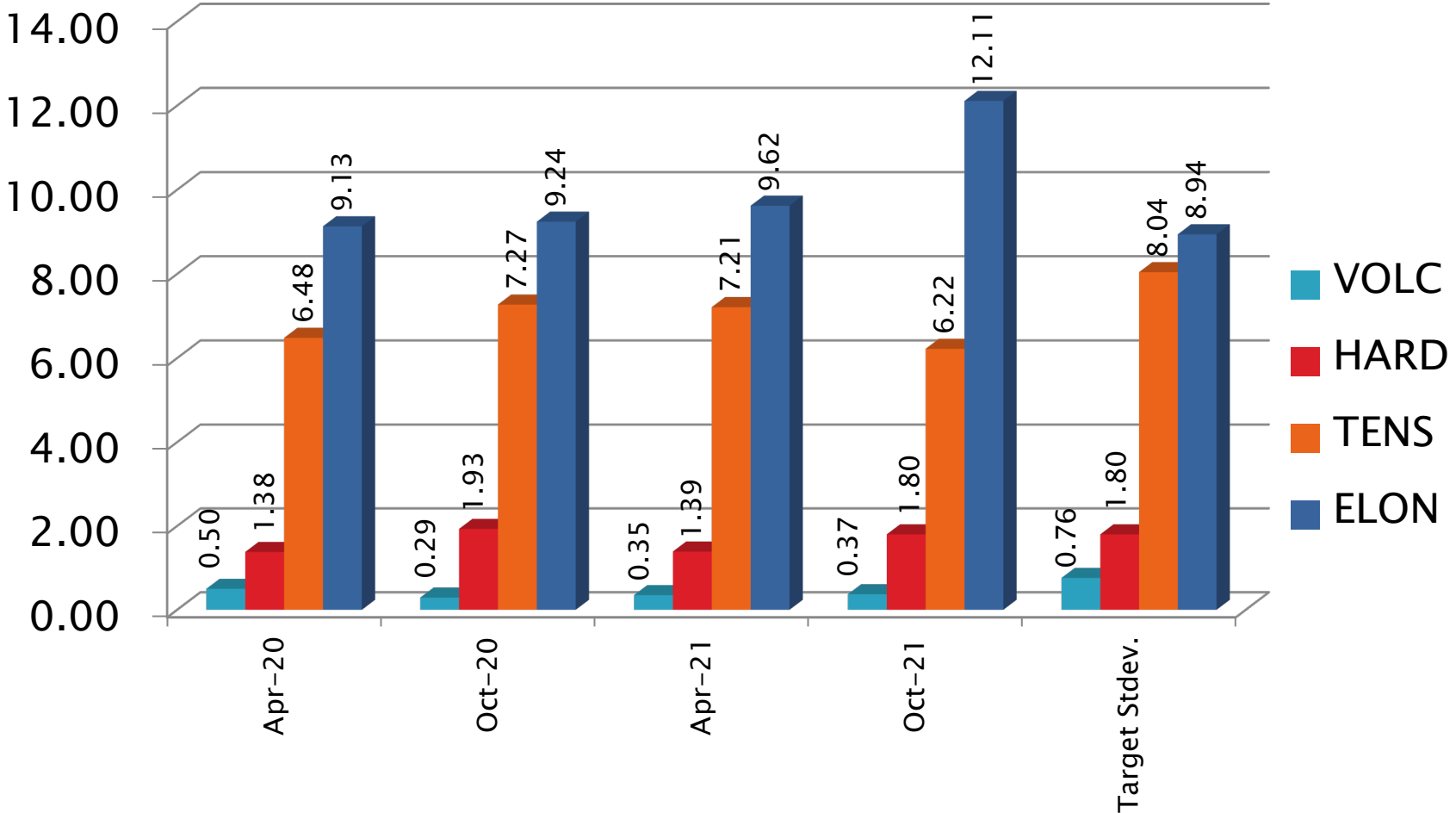
EOEC Precision Estimates - Fluoroelastomer



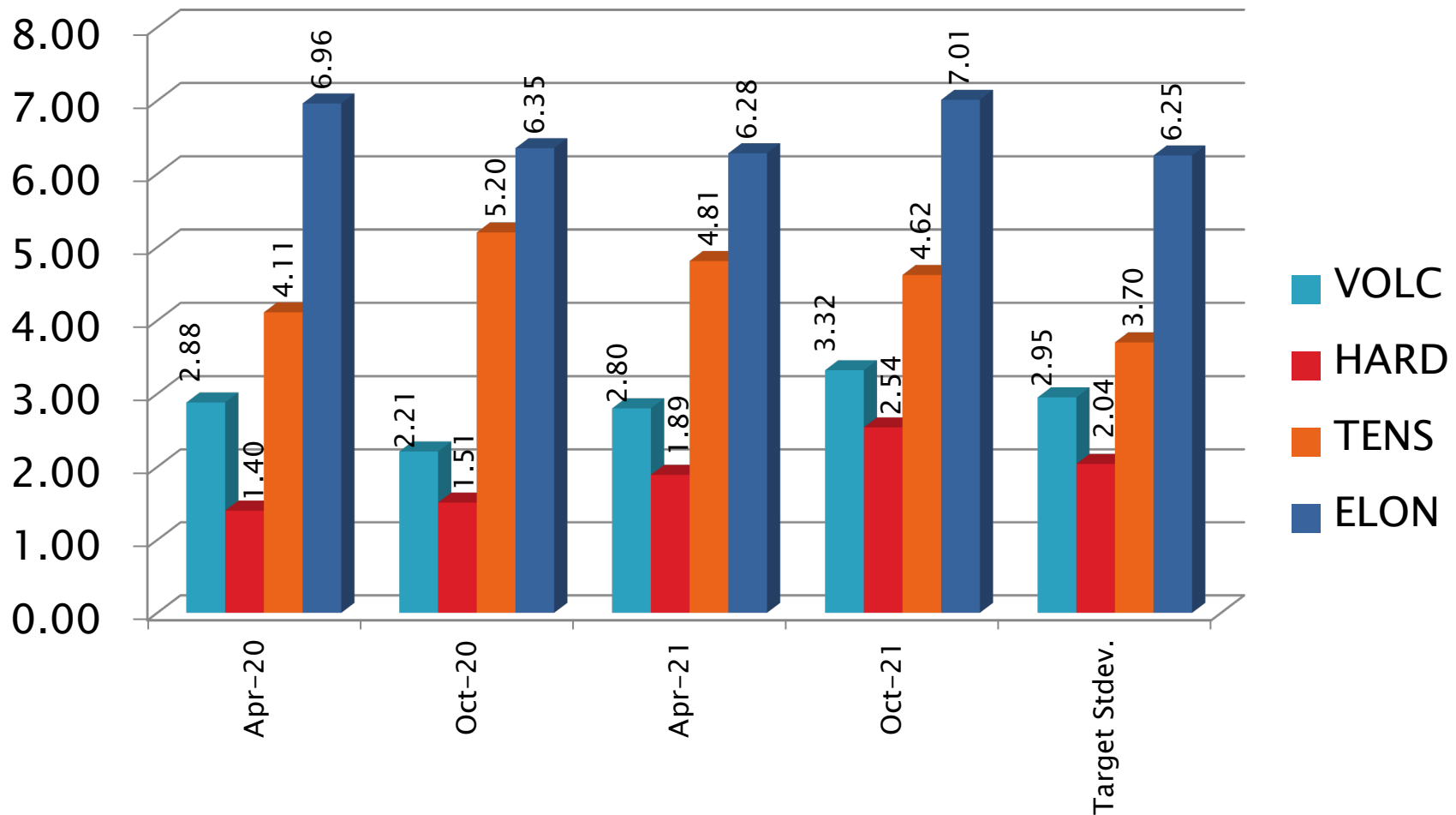
EOEC Precision Estimates - Nitrile



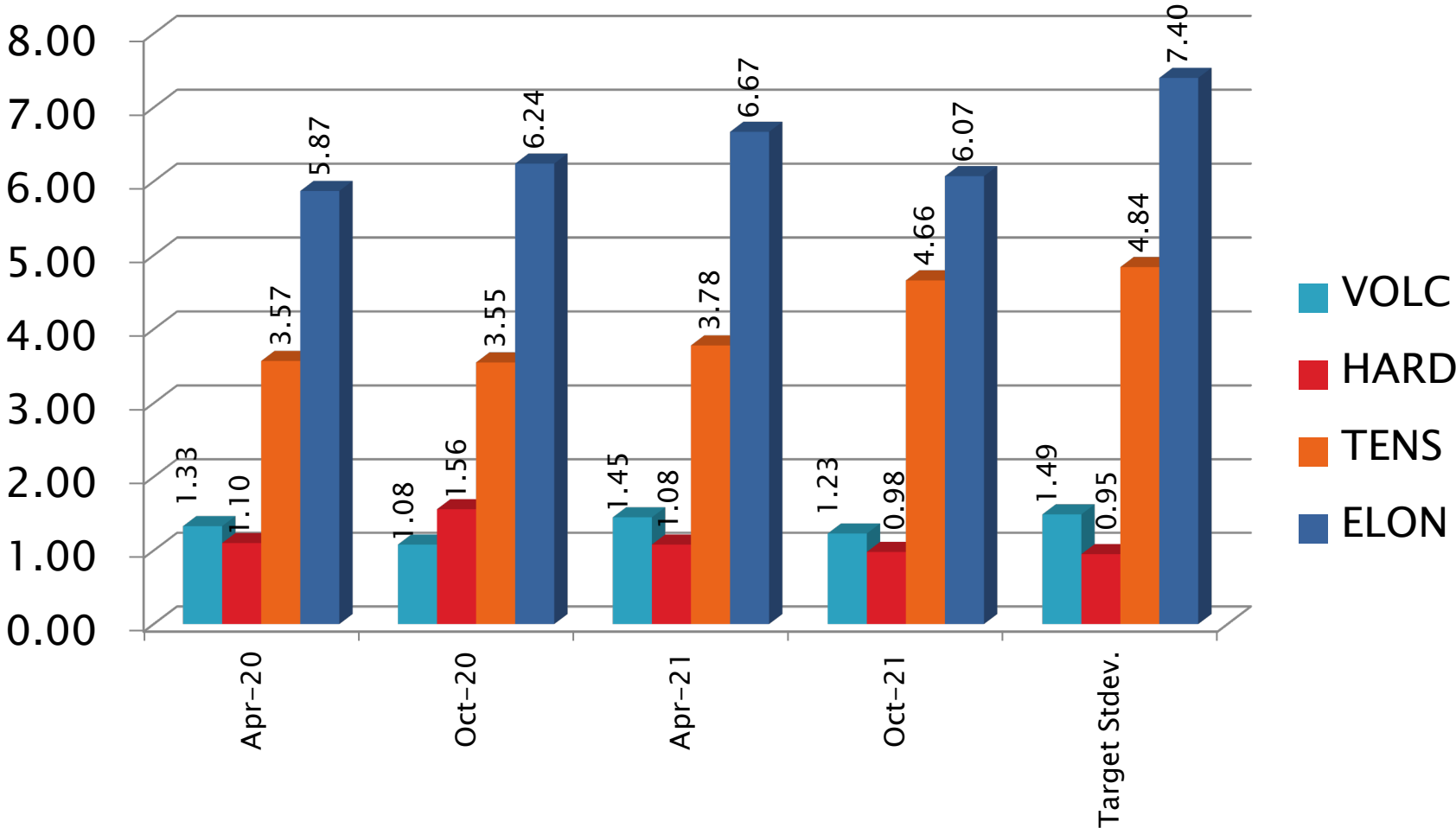
EOEC Precision Estimates – Polyacrylate



EOEC Precision Estimates - Silicone



EOEC Precision Estimates - VAMAC



Information Letters & Technical Updates*

Test	Date	IL or Memo Number	Topic
EOEC	20211019	Memo 21-032**	D7216 Information Letter 21-1 Rescinded EOECN Volume Change Targets Updated Effective October 14, 2021

*Available from TMC Website

**Issued after report period end

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Reference Oil Inventory Estimated Life

Oil	TMC Inventory Gallons	Gallons Shipped Past 12 Months	Estimated Life
SL107 ^{A, B}	2845	538	5 years

^ATMC Inventory is used across several test methods

^BSL107 replaces oil 1006; still assigning existing lab inventories of 1006 batches where available.

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Miscellaneous Information

- ▶ Available on TMC Website:
 - Oil Assignment Request and Test File Upload
 - Live Reference Test Data Bases
 - Surveillance Panel Meeting Minutes
- ▶ <https://www.astmtmc.org/>



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