



A Program of ASTM International

Test Monitoring Center

<https://www.astmtmc.org>

ASTM Reference Testing Semi-Annual Report D7216 EOEC

Fall 2022

EOEC Test Activity*

Test Status		Fluoroelast.	Nitrile	Polyacrylate	Silicone	VAMAC	Total
Acceptable Calibration Test	AC	68	80	73	70	62	353
Failed Calibration Test	OC	0	0	0	3	7	10
Operationally Invalid, by lab	LC	0	0	1	0	0	1
Operationally Invalid, by TMC	RC	0	0	0	0	0	0
Aborted	XC	2	1	2	3	2	10
Total		70	81	76	76	71	374

*April 1, 2022 – September 30, 2022

Test Monitoring Center
<https://www.astmtmc.org>



EOEC Lost Tests*

Validity	Cause	#
XC	Power Outage	9
XC	Temperature Control	1
LC	Failed to measure HARDNESS	1
	Total	11

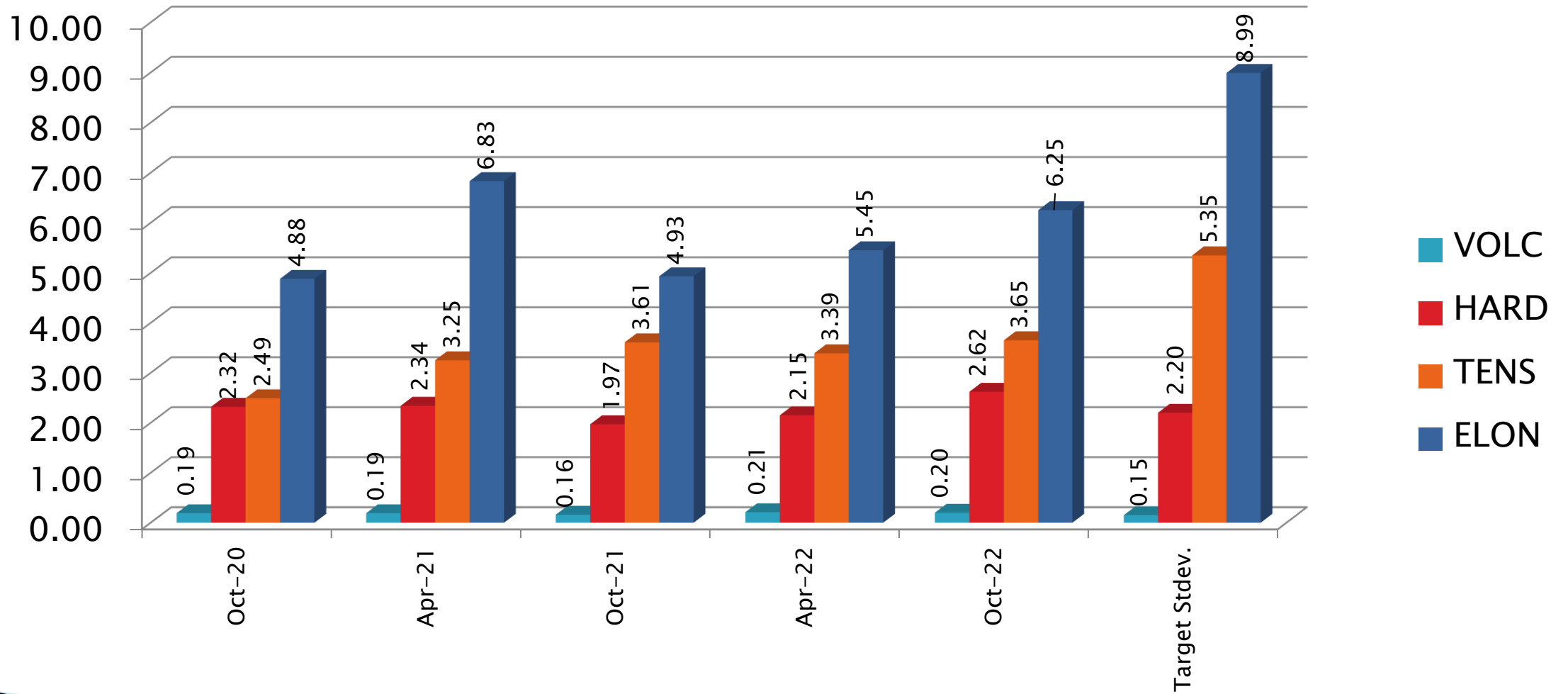
*Invalid and aborted calibration tests

EOEC Test Severity

▶ Fluoroelastomer (FKM)

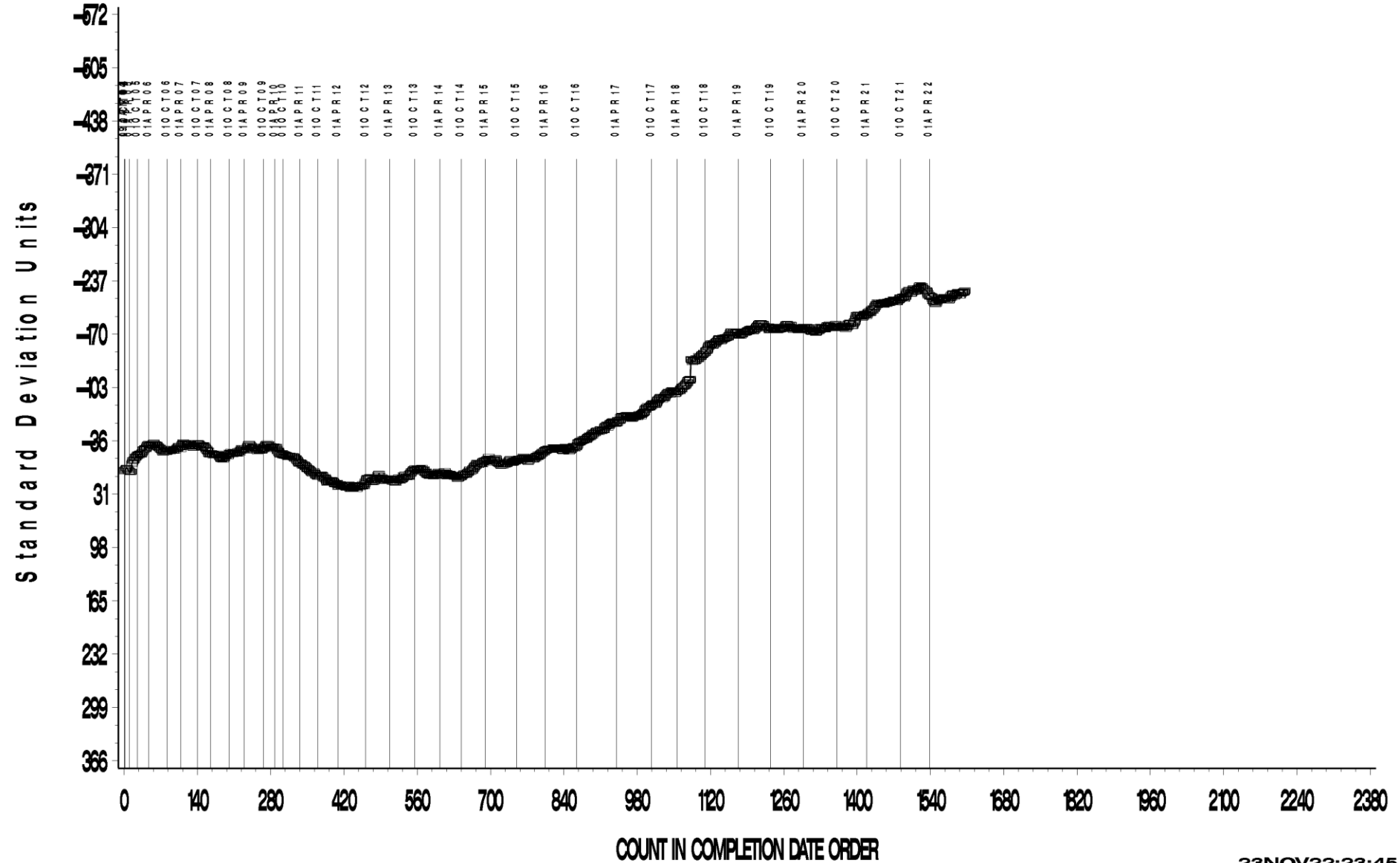
Parameter	Period Mean Δ/s	Status
Volume Change	-0.08	On-target
Points Hardness Change	-0.06	On-target
Tensile Strength Change	0.49	Severe
Elongation Change	-0.63	Mild

EOEC Precision Estimates - Fluoroelastomer



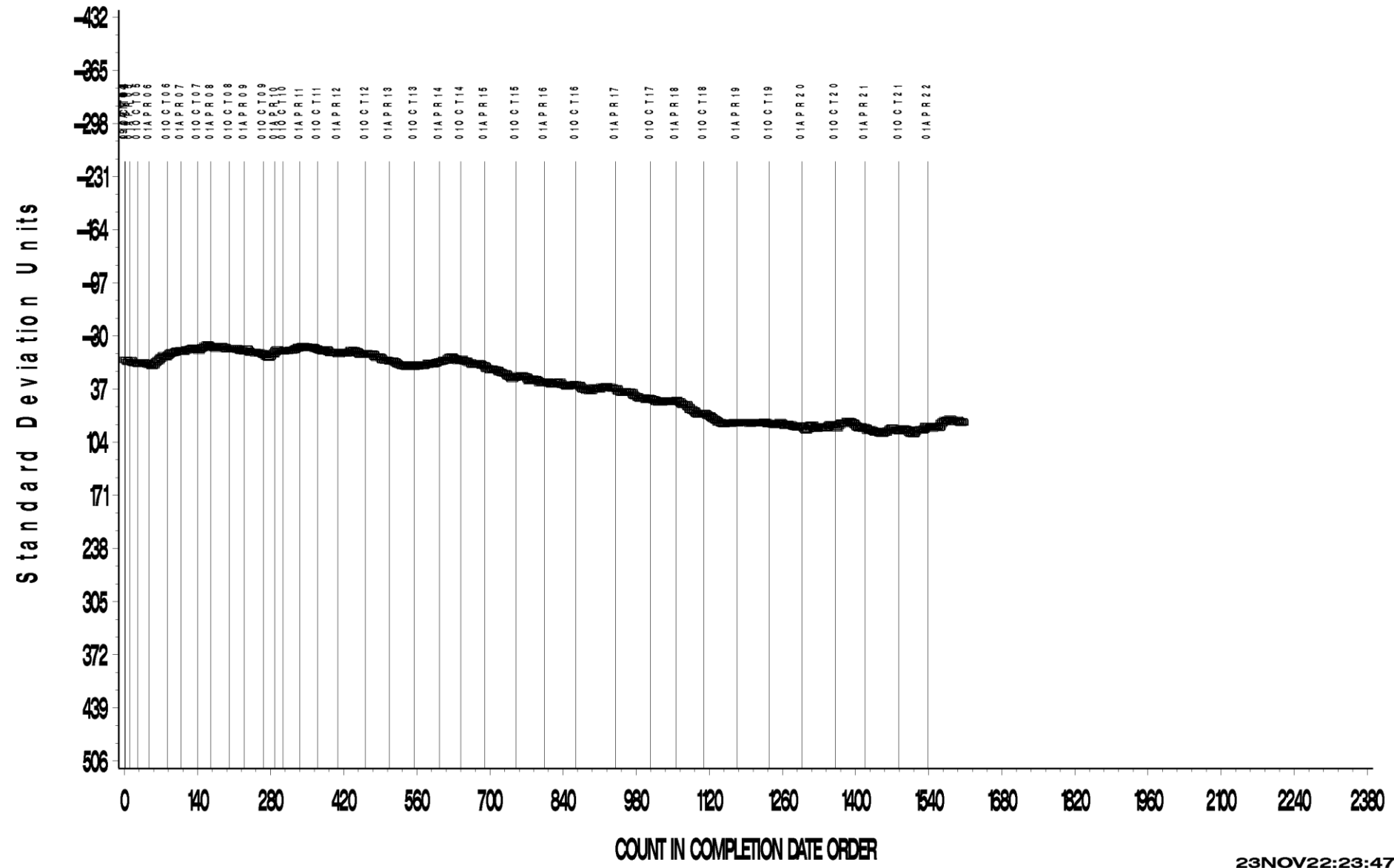
FLUOROELASTOMER VOLUME CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



FLUOROELASTOMER PTS HARDNESS CHANGE CORRECTED AVG

CUSUM Severity Analysis



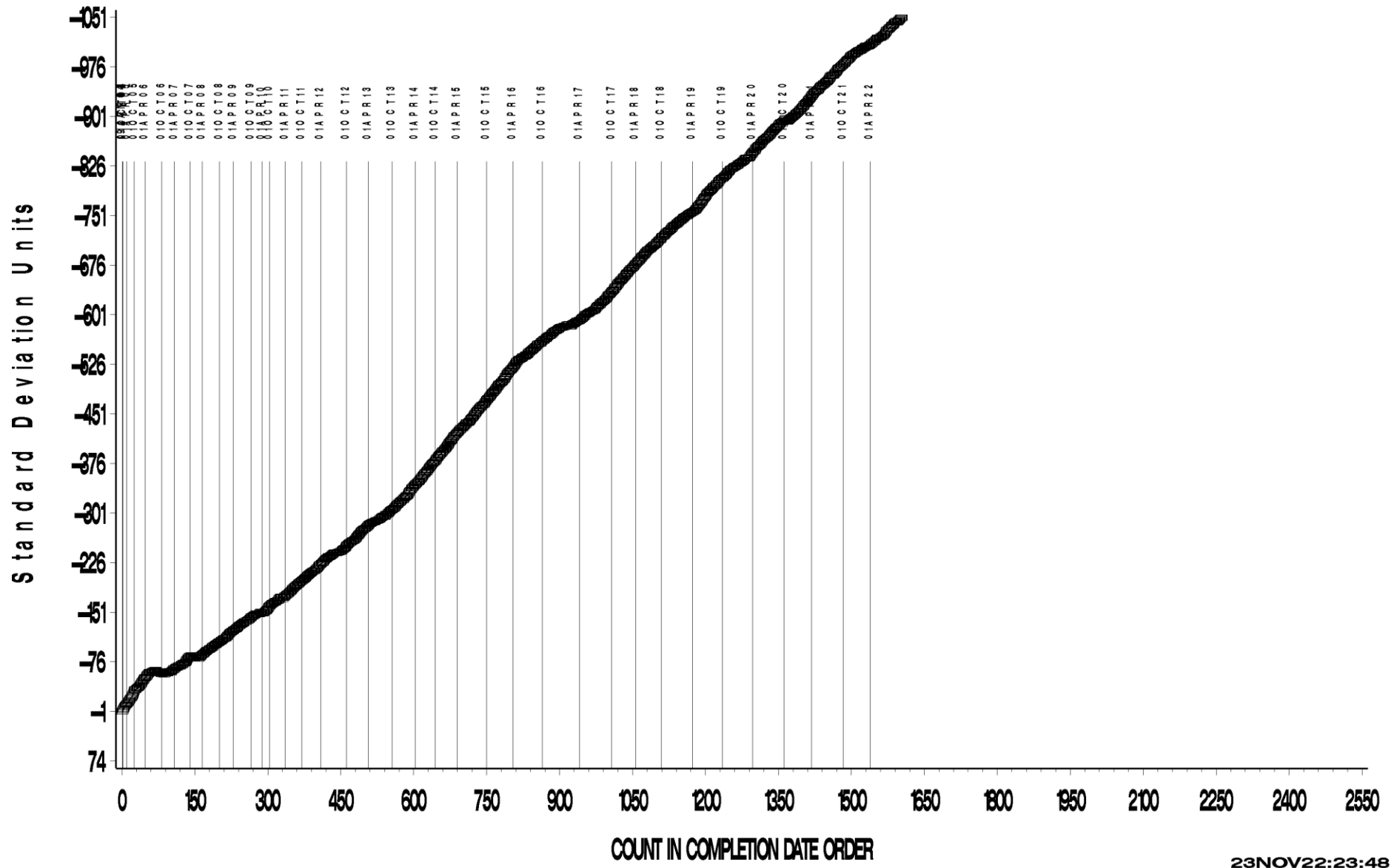
FLUROELASTOMER TENS STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



FLUROELASTOMER ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis

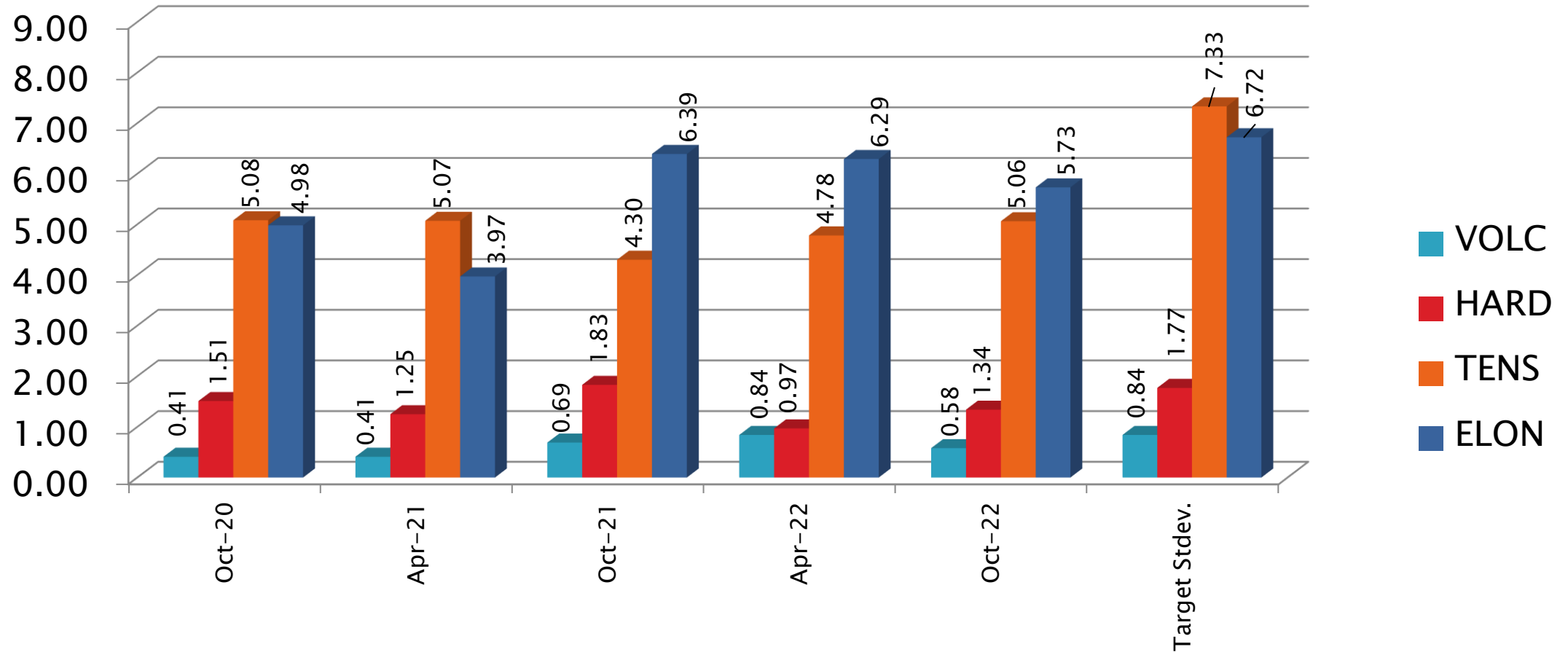


EOEC Test Severity

▶ Nitrile (NBR)

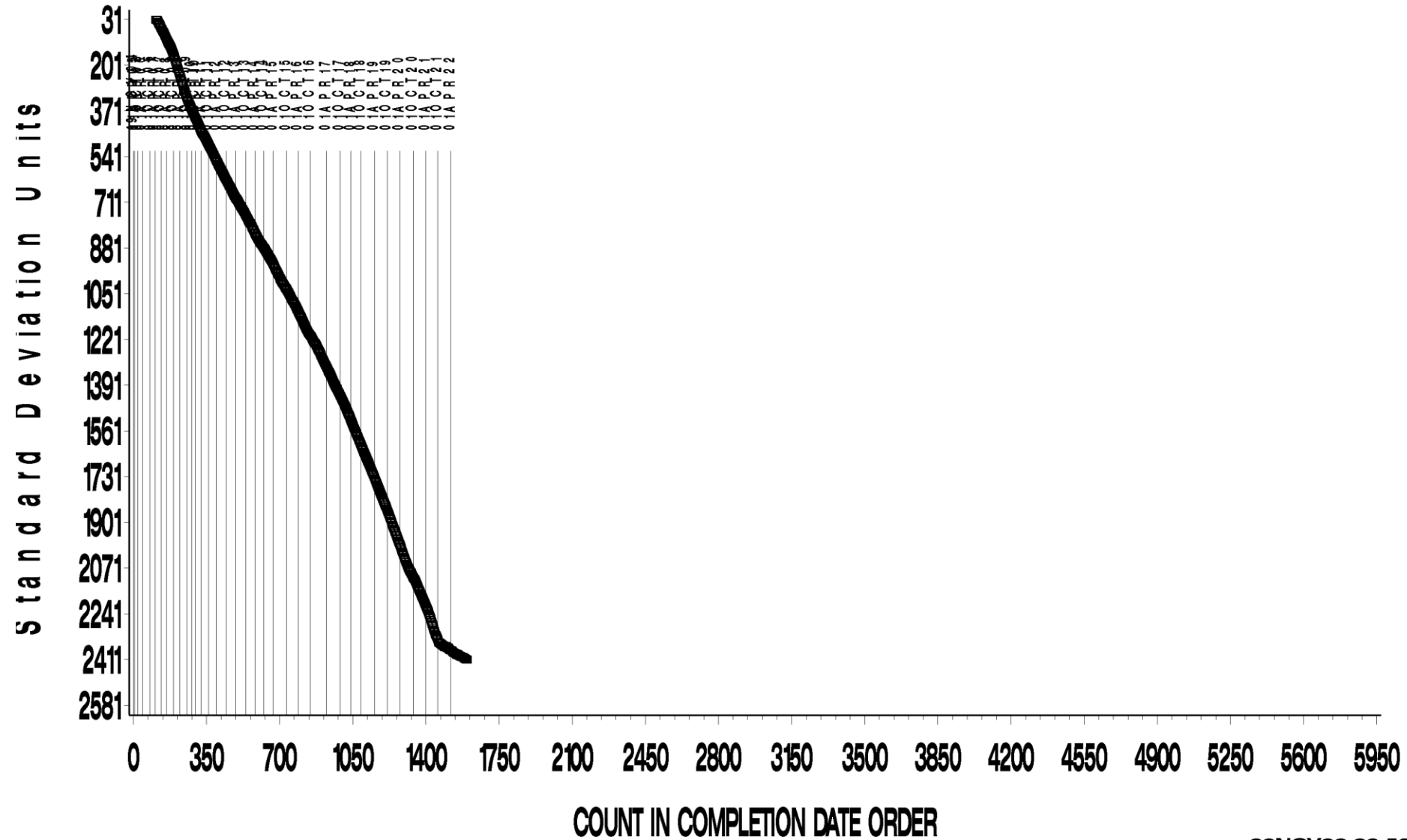
Parameter	Period Mean Δ/s	Status
Volume Change	0.44	Severe
Points Hardness Change	0.57	Severe
Tensile Strength Change	-0.81	Mild
Elongation Change	-0.44	Mild

EOEC Precision Estimates - Nitrile



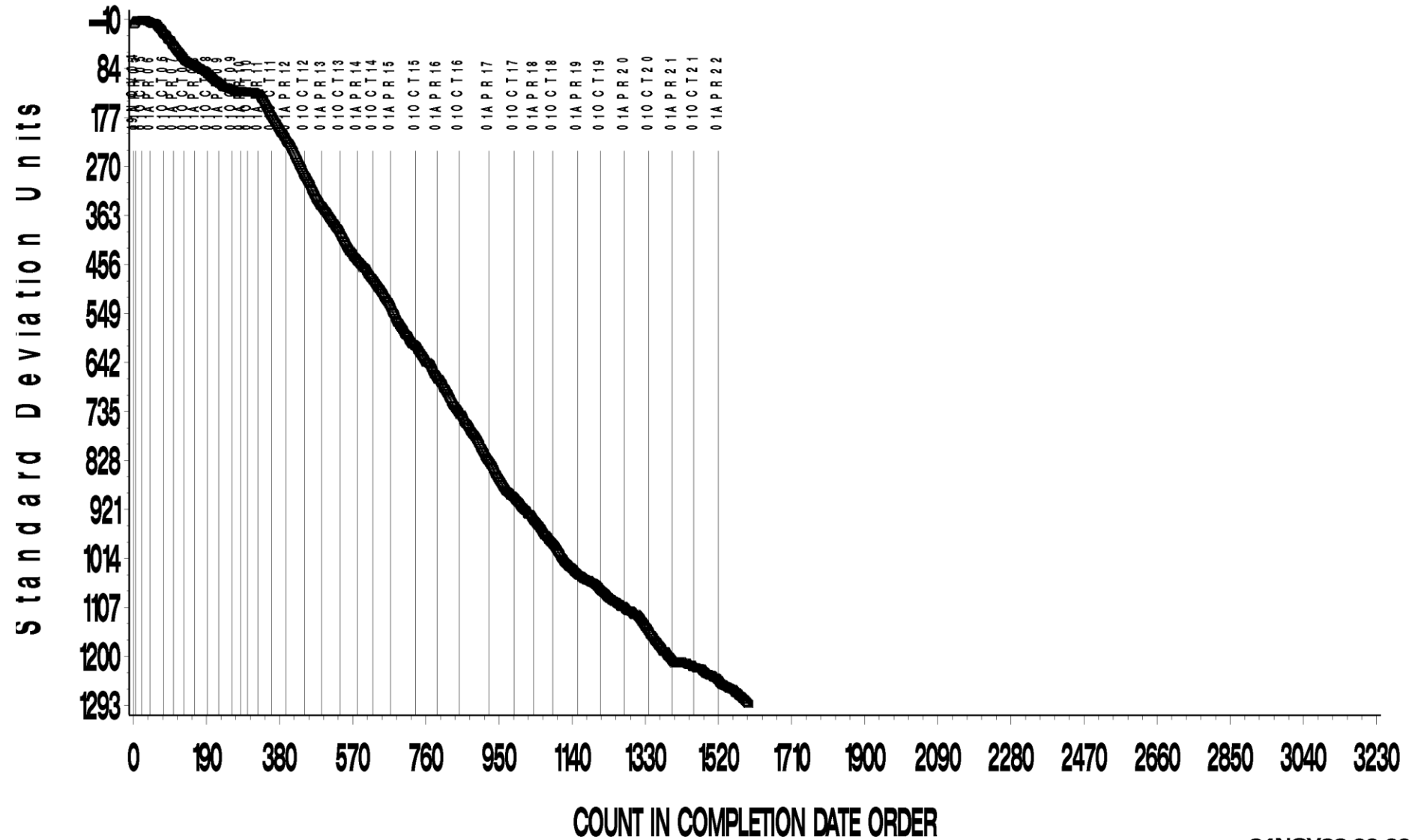
REFERENCE NITRILE VOLUME CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



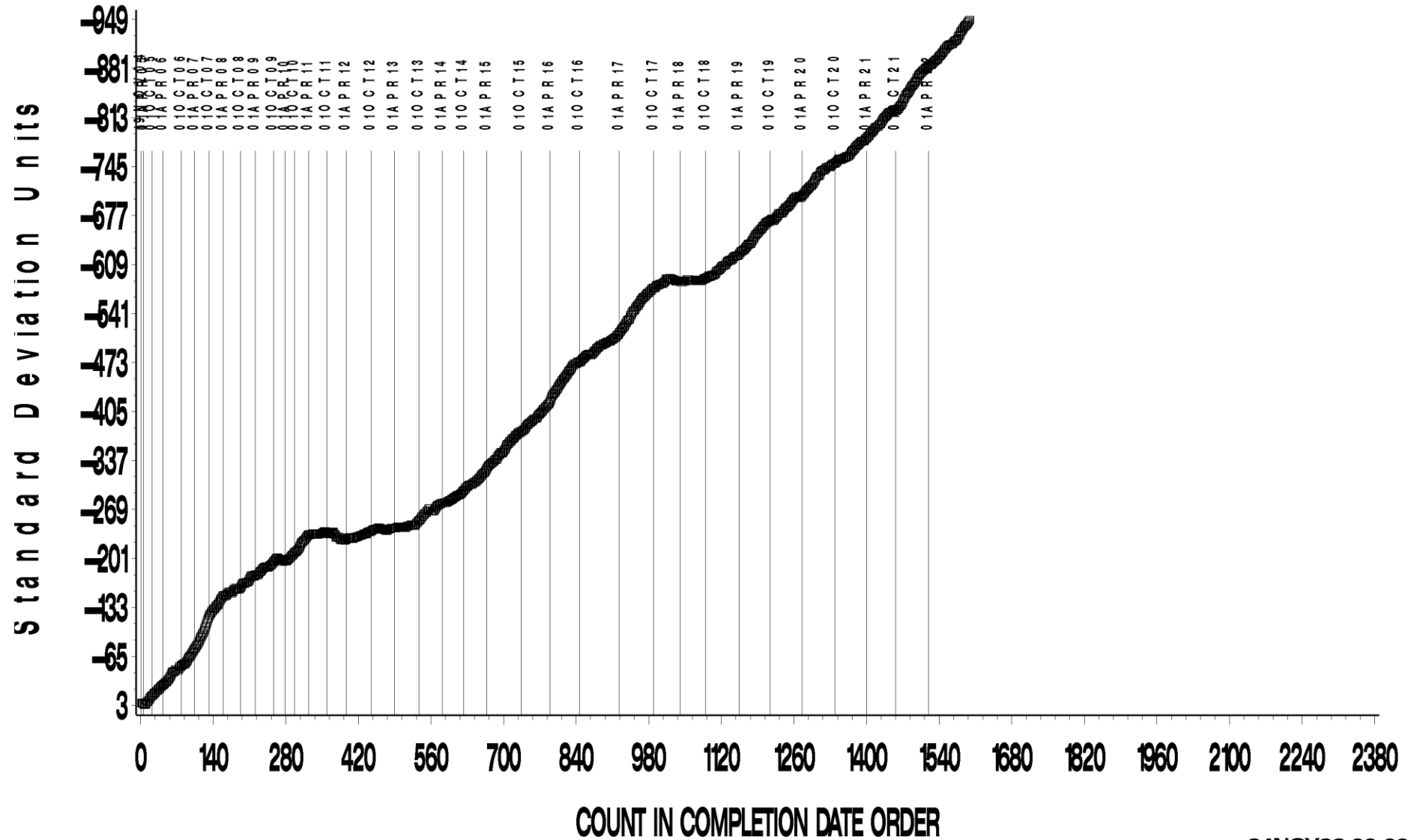
REFERENCE NITRILE PTS HARD CHANGE CORRECTED AVG

CUSUM Severity Analysis



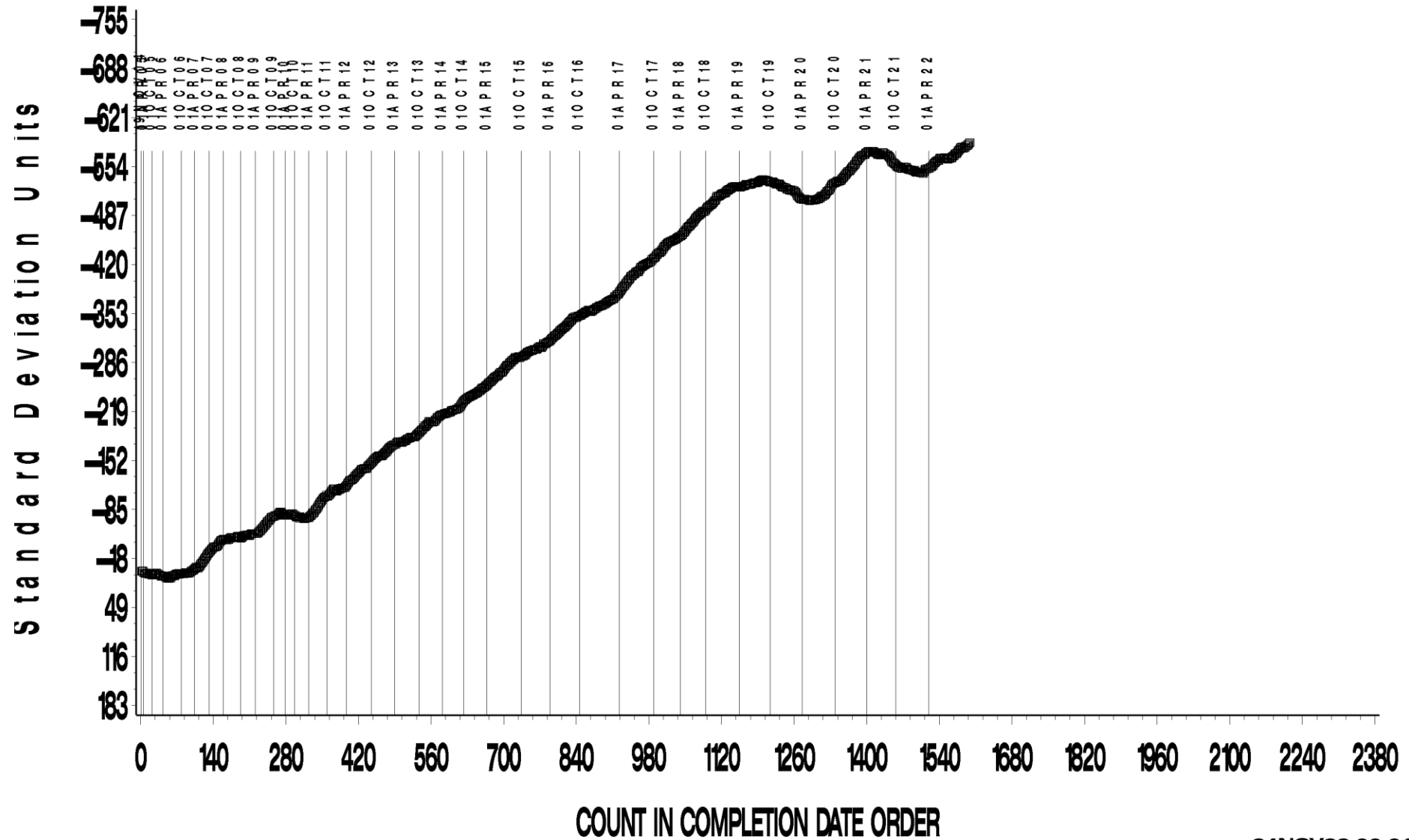
REF NITRILE TENS STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF NITRILE ELONGATION CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis

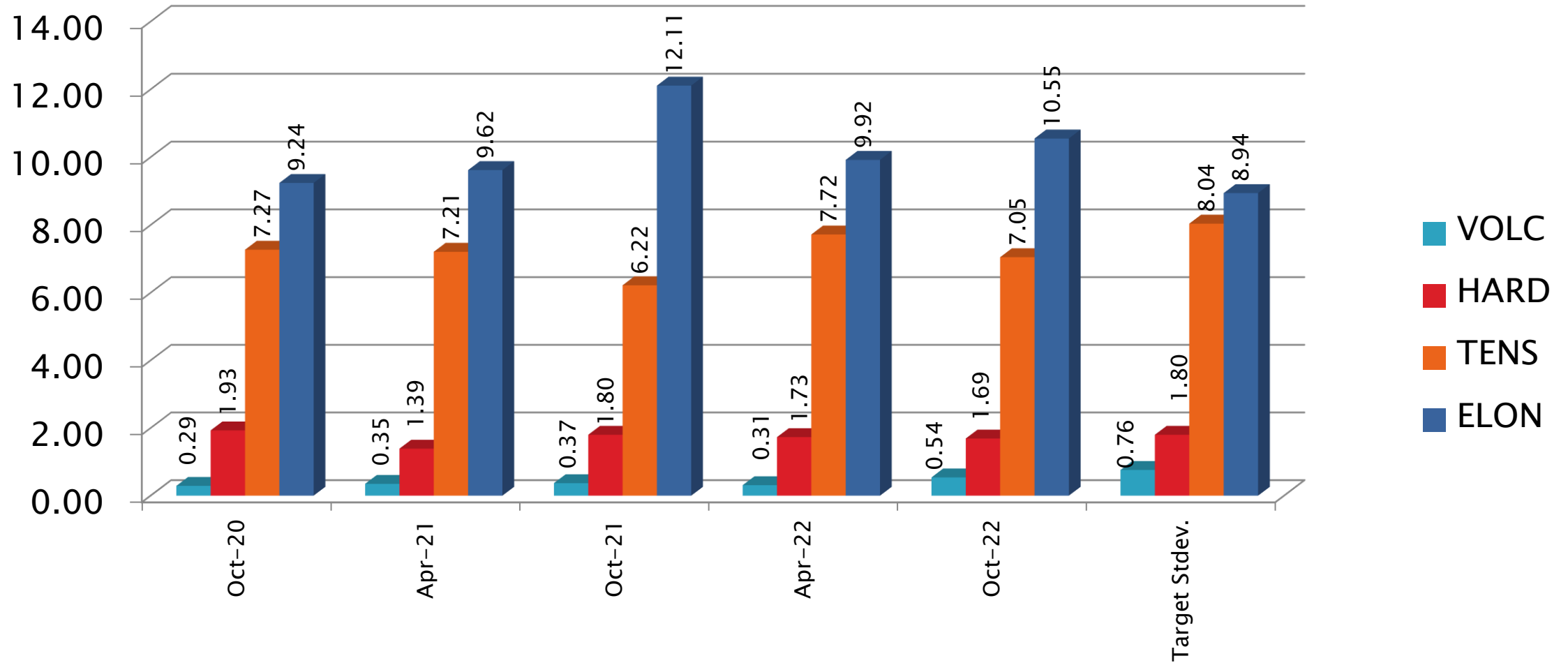


EOEC Test Severity

▶ Polyacrylate (ACM)

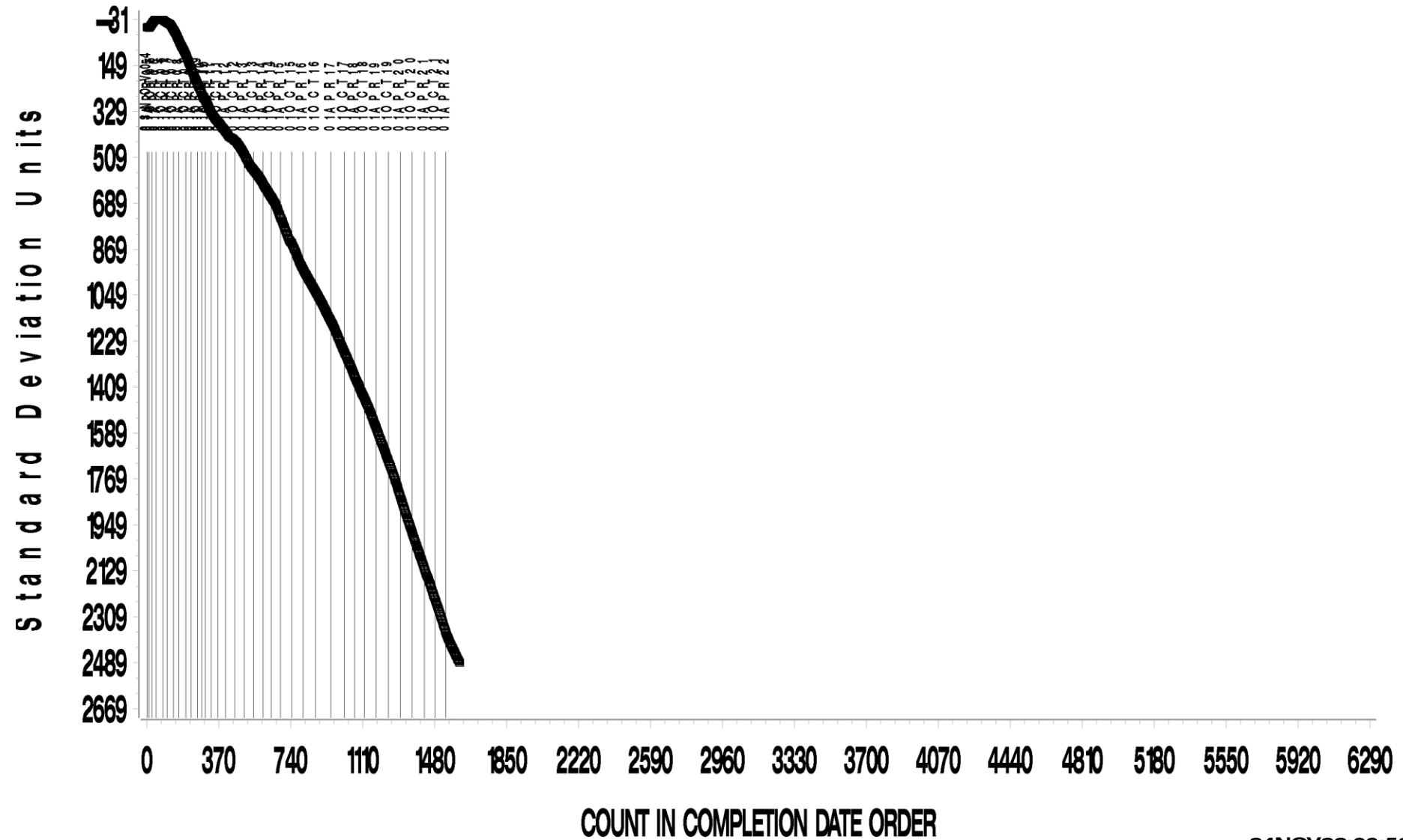
Parameter	Period Mean Δ/s	Status
Volume Change	1.69	Severe
Points Hardness Change	-0.31	Mild
Tensile Strength Change	-0.37	Mild
Elongation Change	0.62	Severe

EOEC Precision Estimates – Polyacrylate



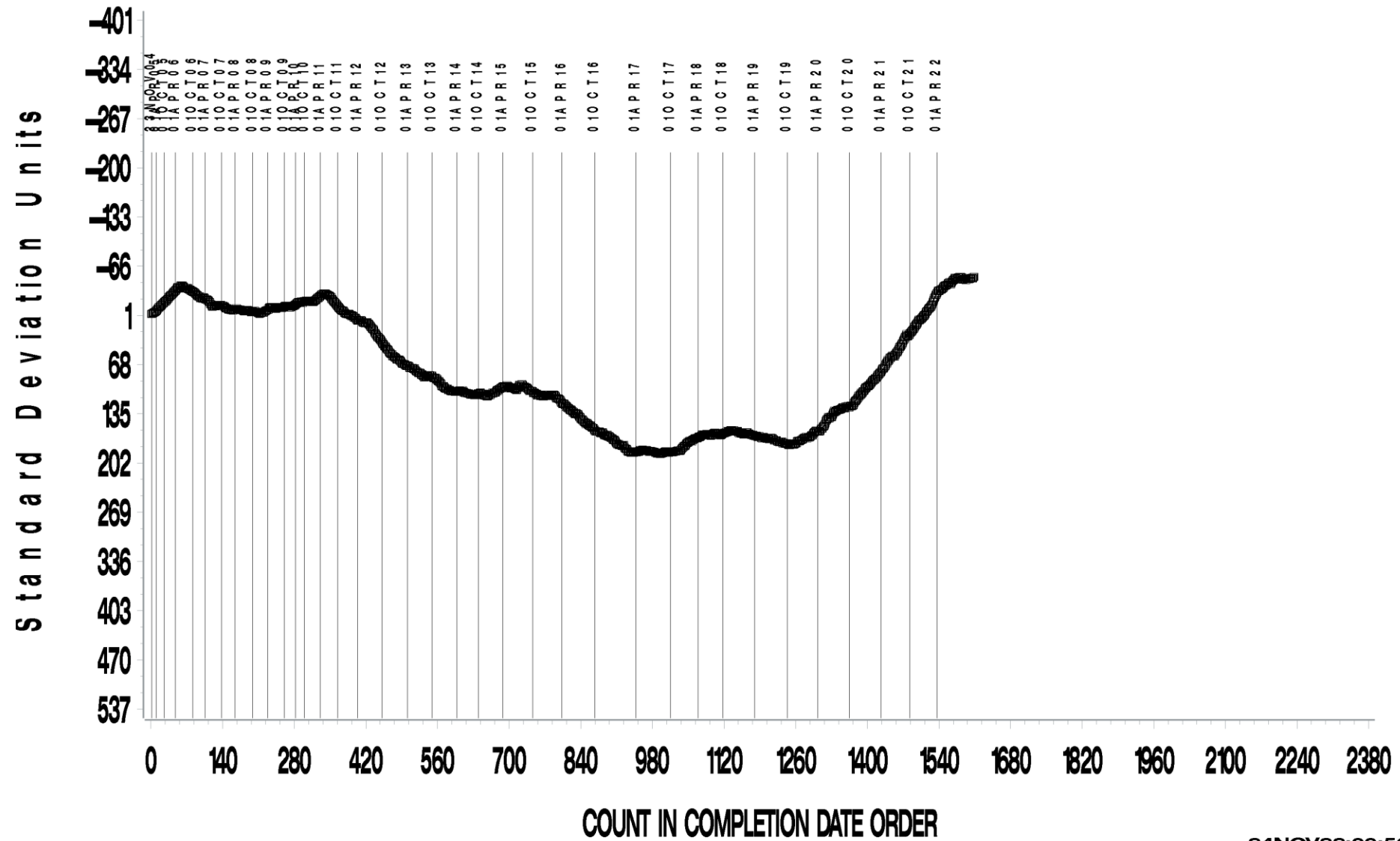
REFERENCE POLYACRYLATE VOLUME CHANGE CORRECTED AVG

CUSUM Severity Analysis



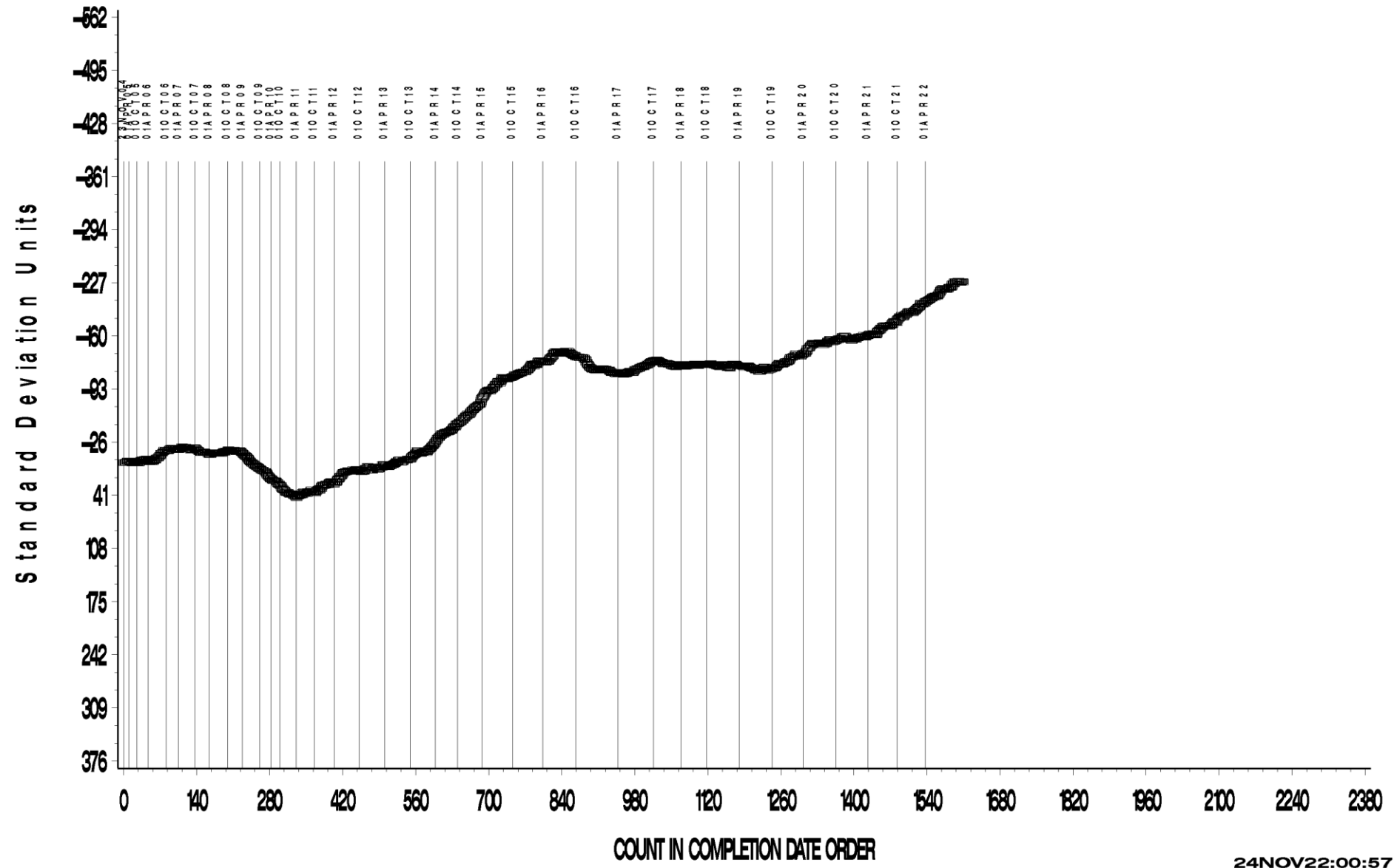
REF POLYACRYLATE PTS HARD CHANGE CORRECTED AVG

CUSUM Severity Analysis



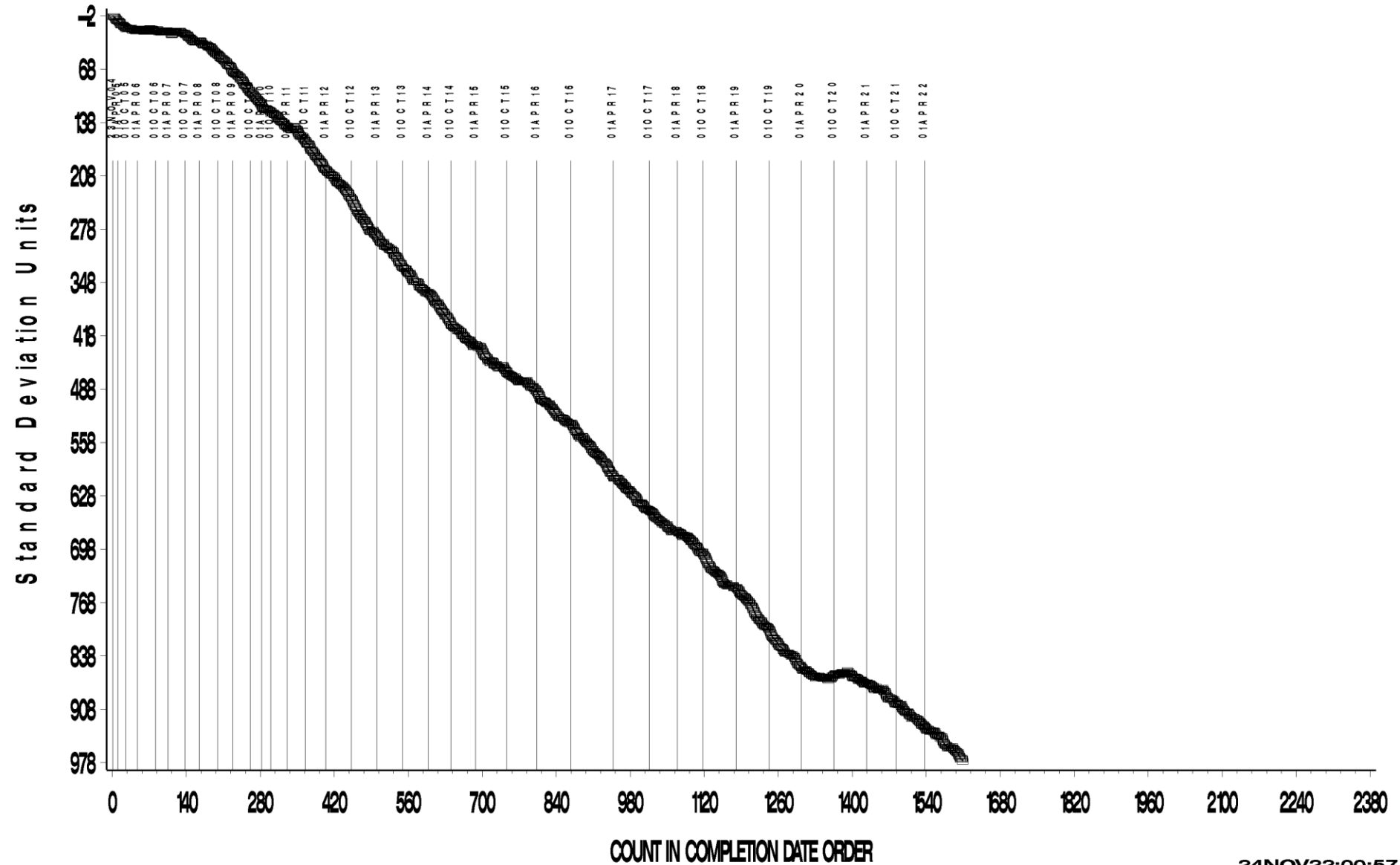
REF POLYACRYLATE TENS STRNGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF POLYACRYLATE ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis

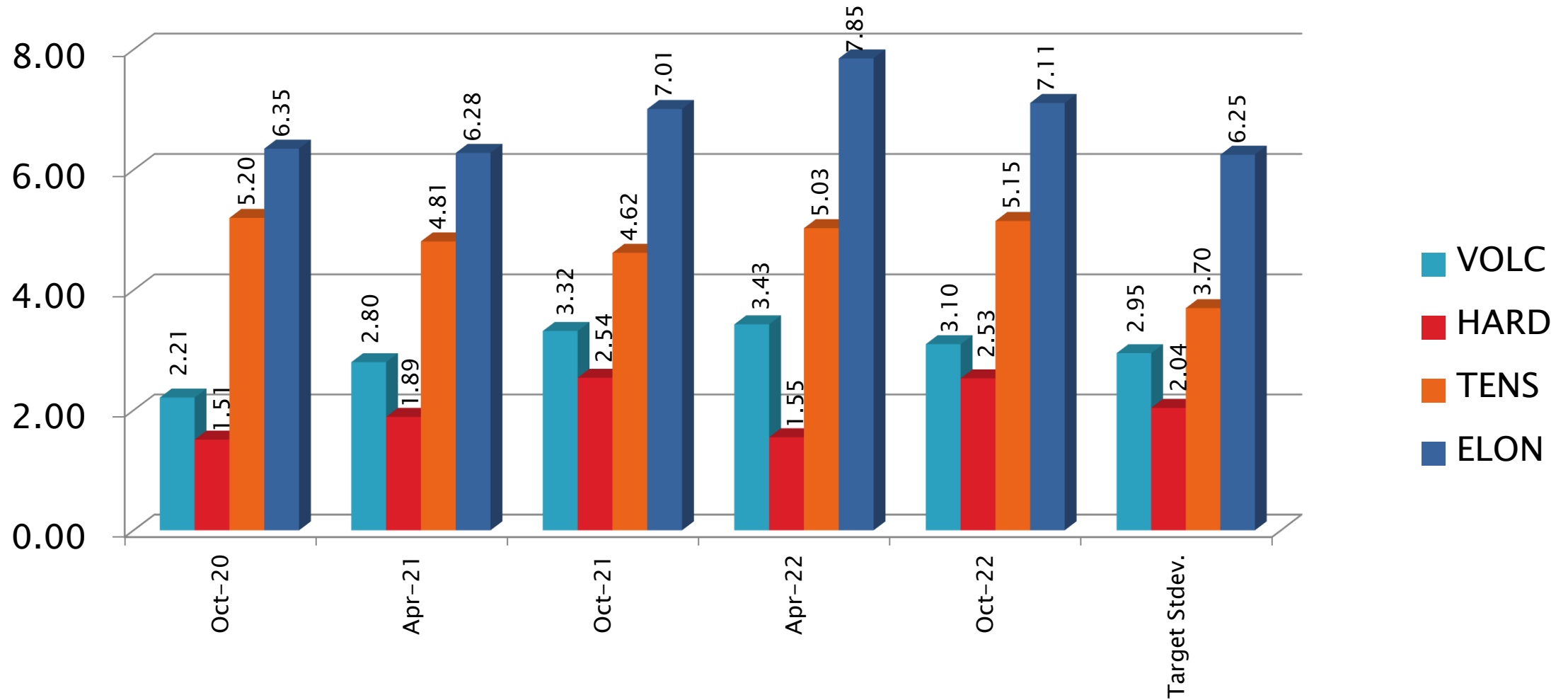


EOEC Test Severity

- ▶ Silicone (VMQ)

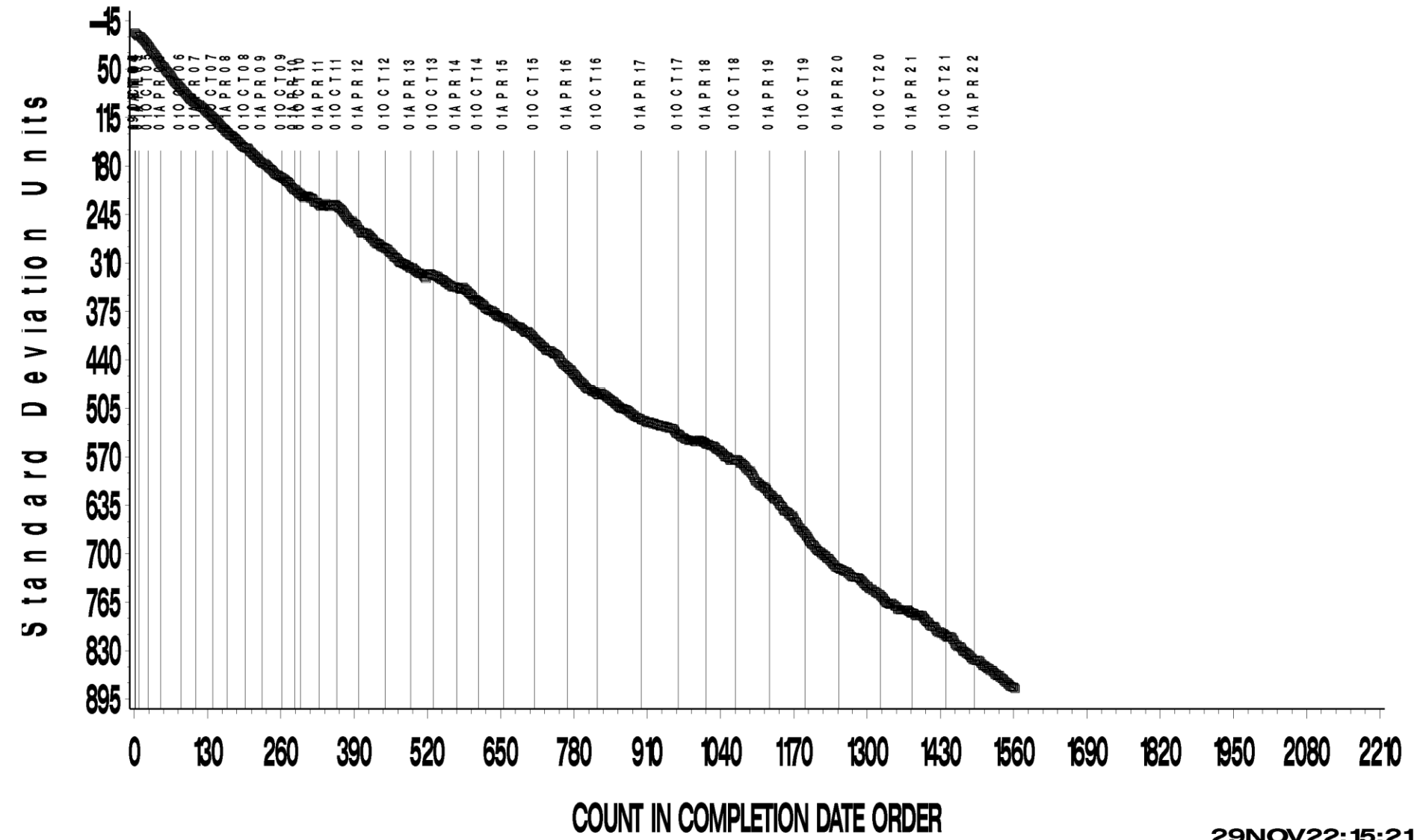
Parameter	Period Mean Δ /s	Status
Volume Change	0.54	Severe
Points Hardness Change	-1.11	Mild
Tensile Strength Change	0.37	Severe
Elongation Change	-0.30	Mild

EOEC Precision Estimates - Silicone



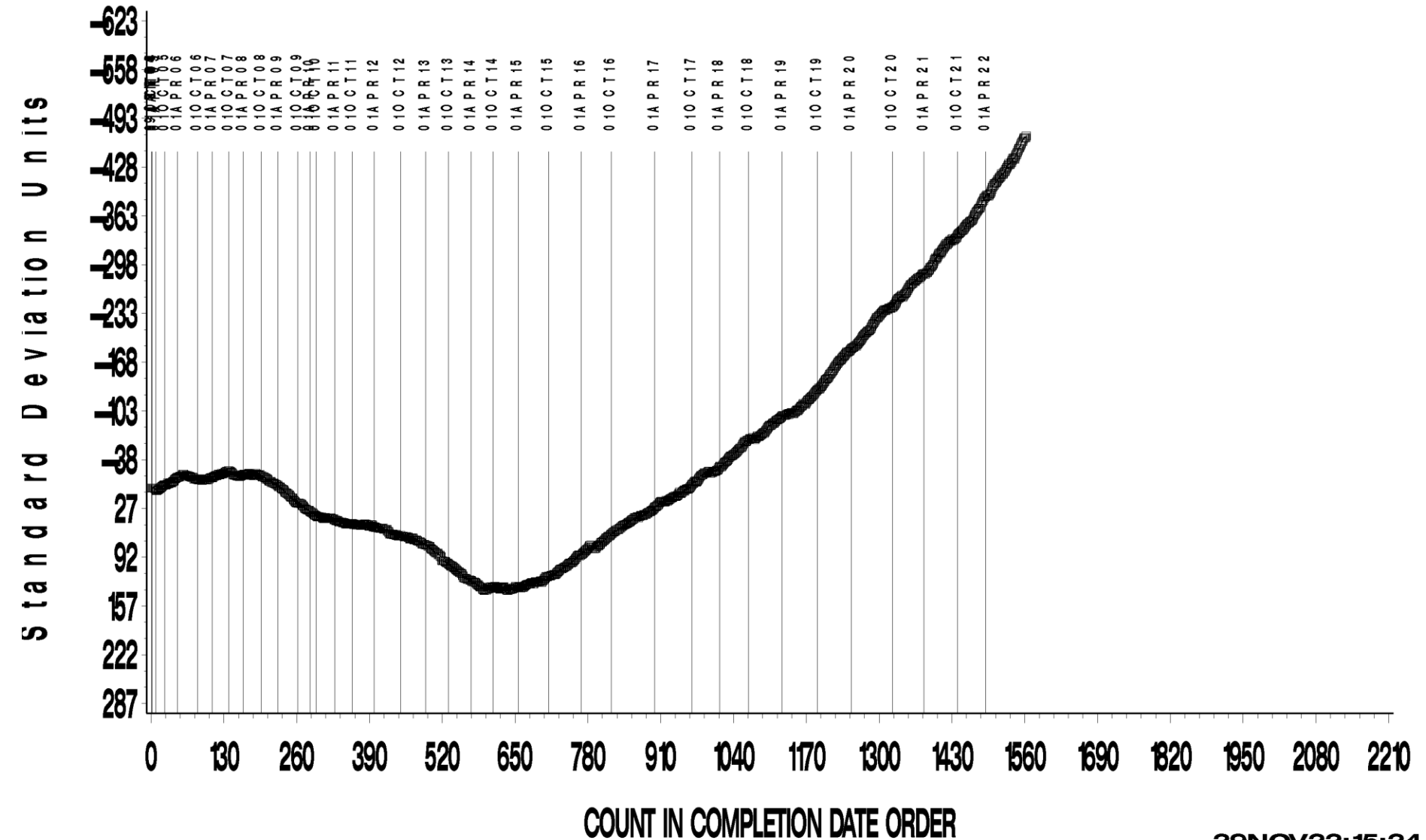
REFERENCE SILICON VOLUME CHANGE CORRECTED AVG

CUSUM Severity Analysis



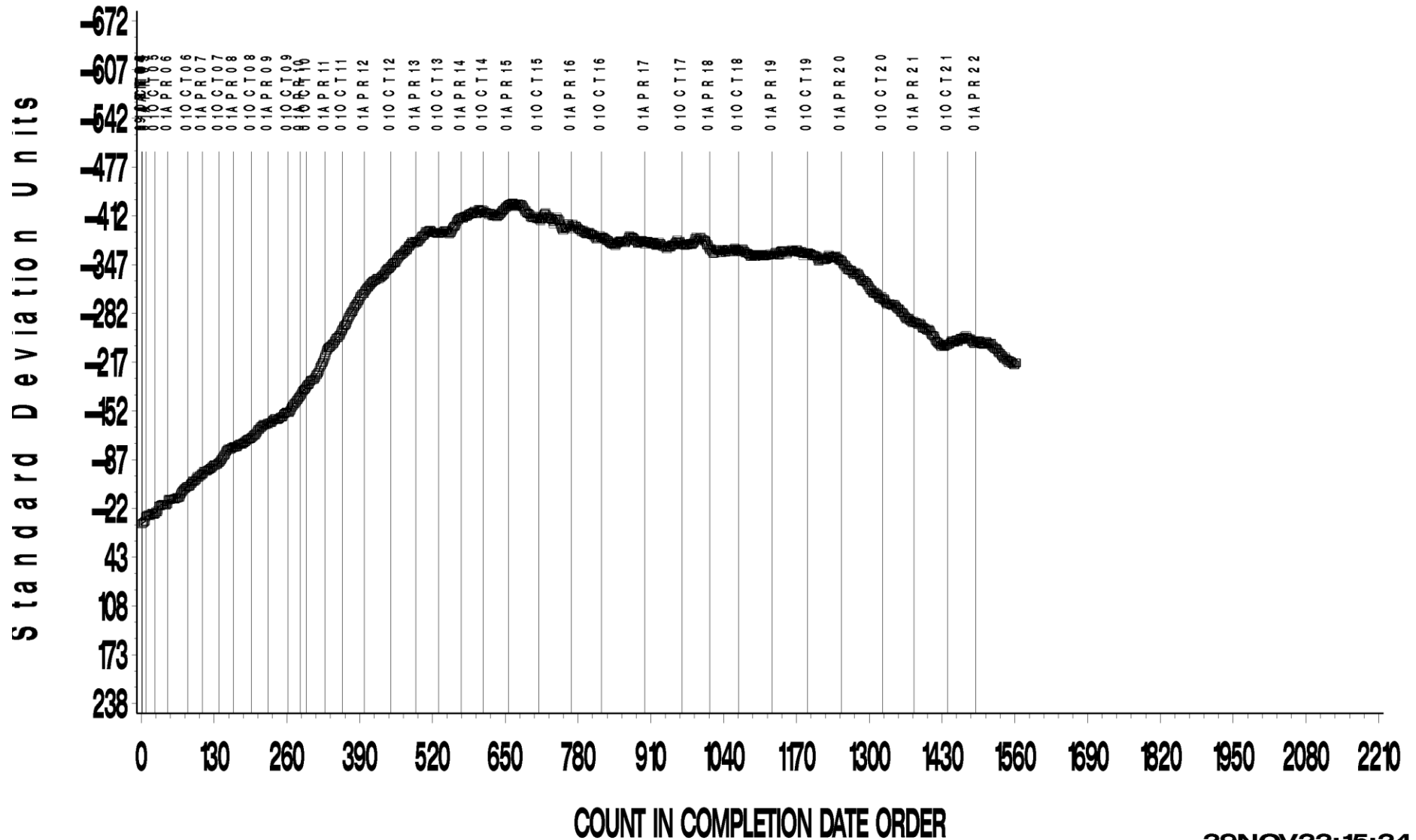
REFERENCE SILICON PTS HARD CHANGE CORRECTED AVG

CUSUM Severity Analysis



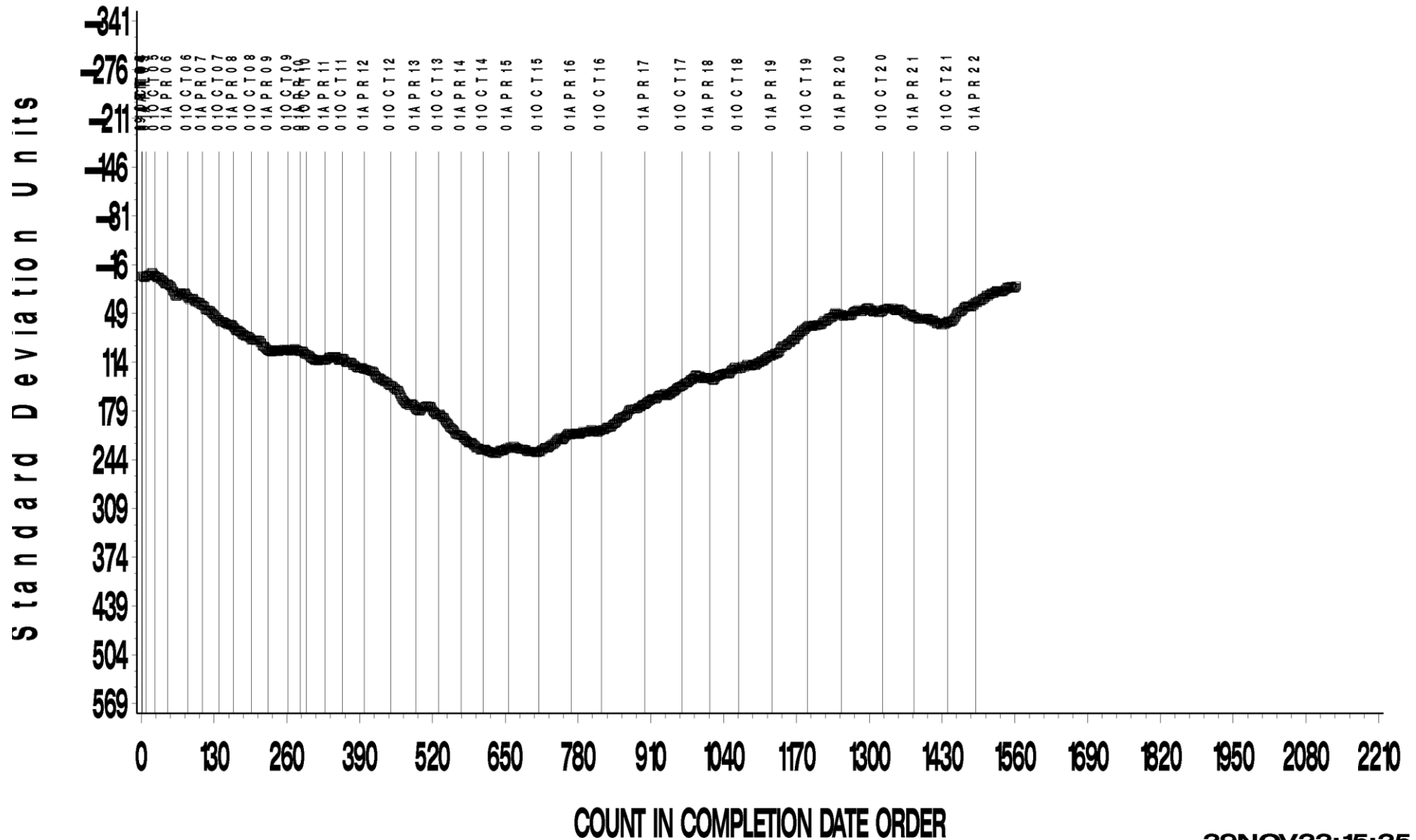
REF SILICON TENSILE STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF SILICON ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis

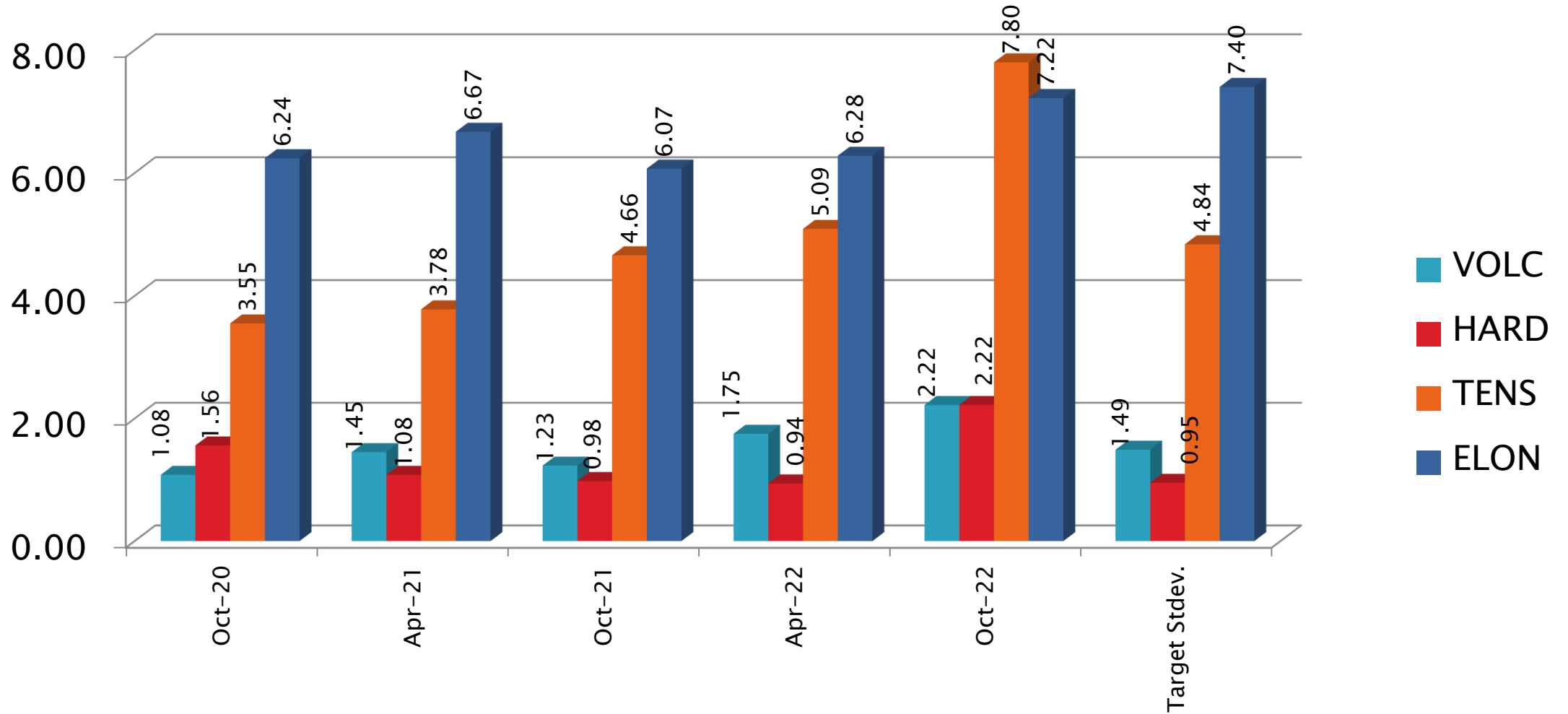


EOEC Test Severity

▶ VAMAC (MAC)

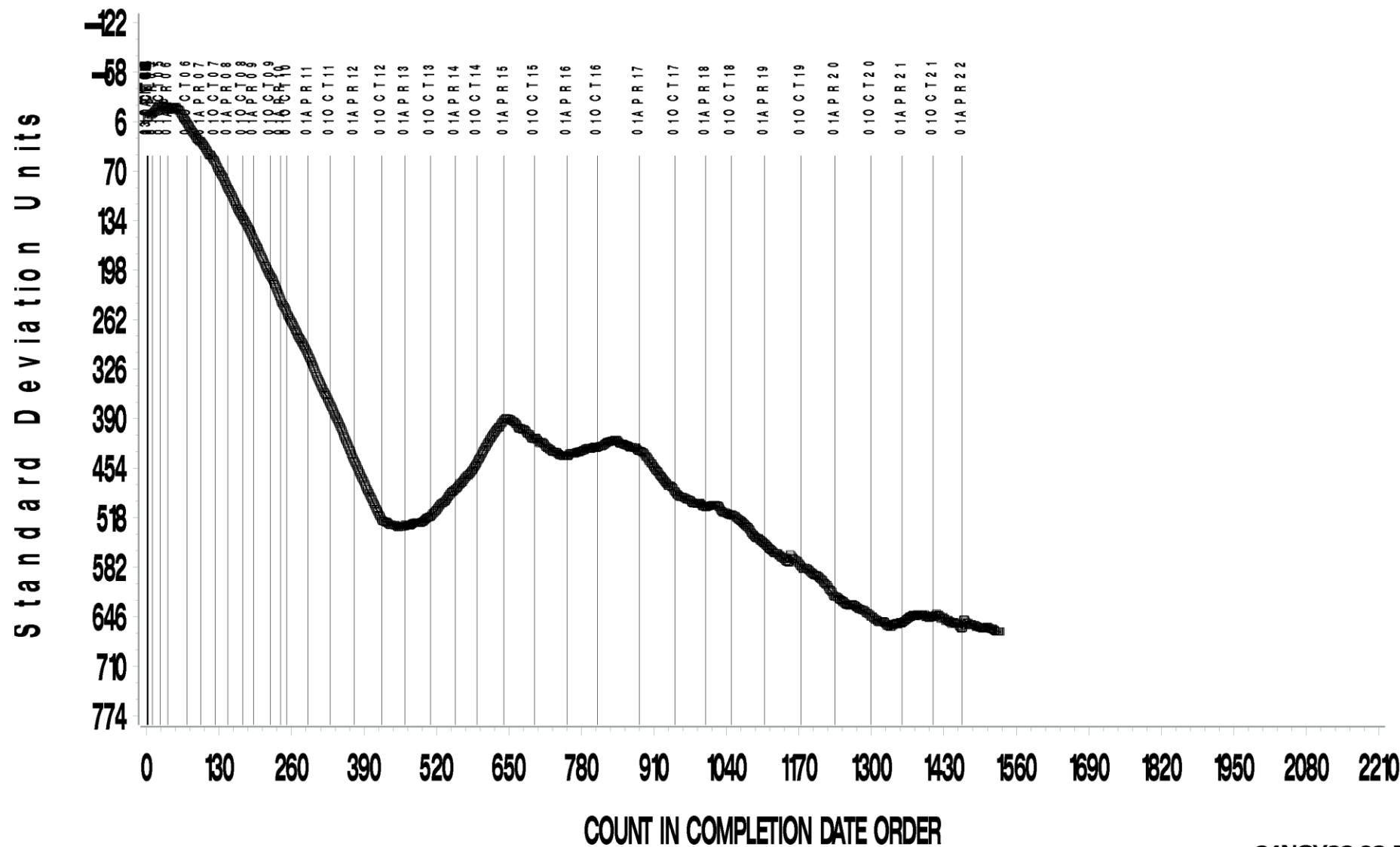
Parameter	Period Mean Δ/s	Status
Volume Change	0.06	on-target
Points Hardness Change	-0.84	Mild
Tensile Strength Change	0.14	Severe
Elongation Change	-0.14	Mild

EOEC Precision Estimates - VAMAC



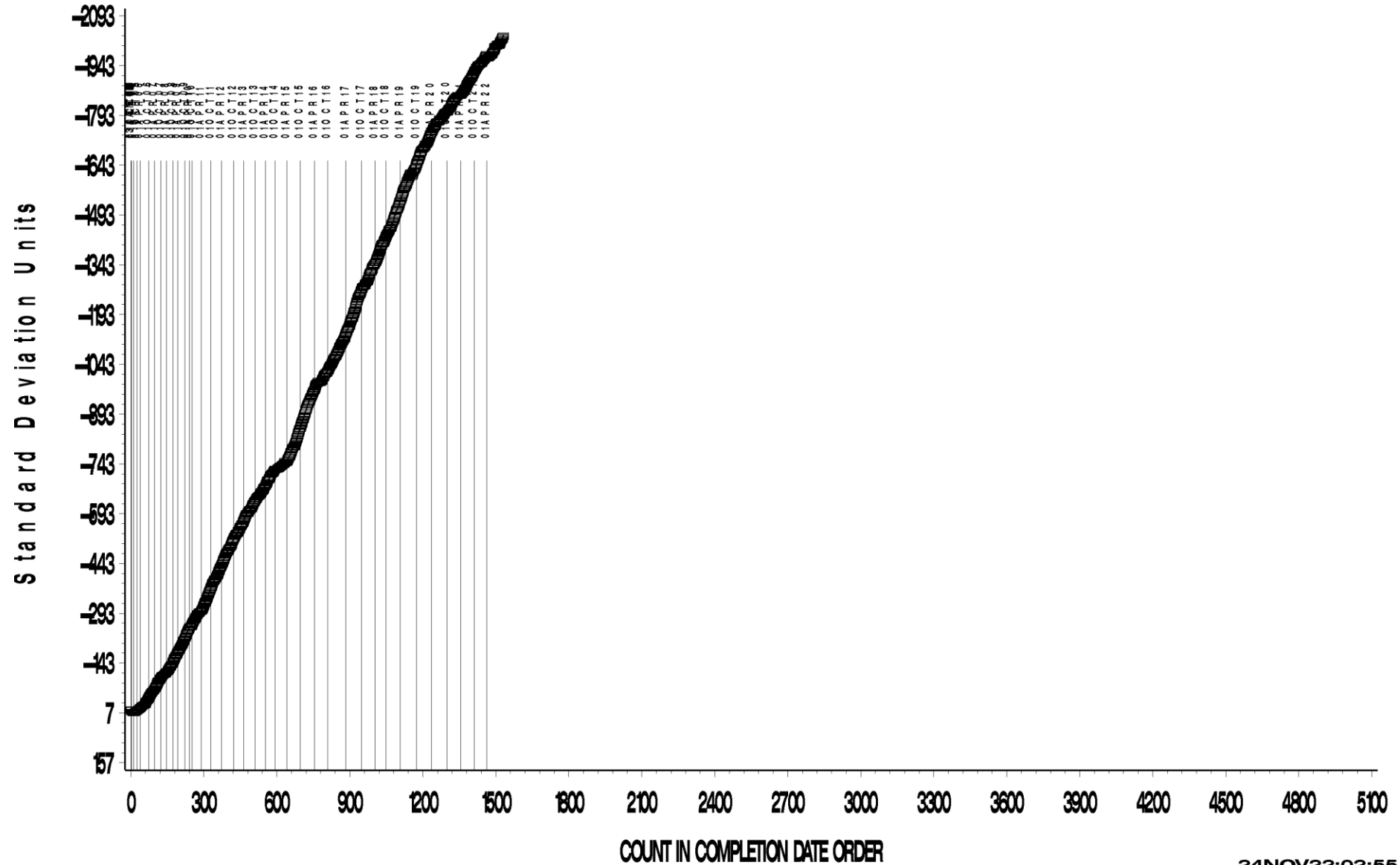
REFERENCE VAMAC G VOLUME CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



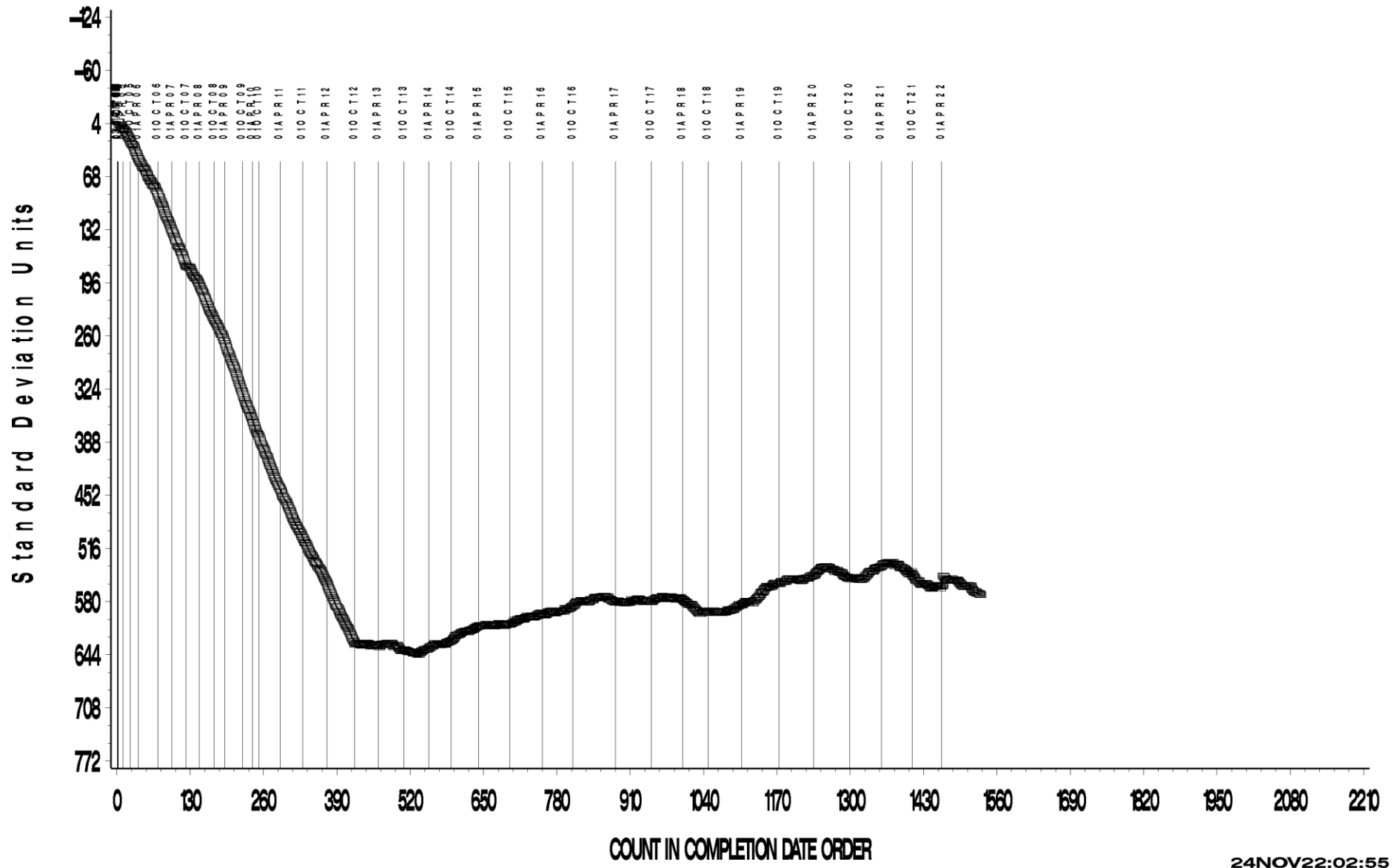
REF VAMAC G POINTS HARDNESS CHANGE CORRECTED AVG

CUSUM Severity Analysis



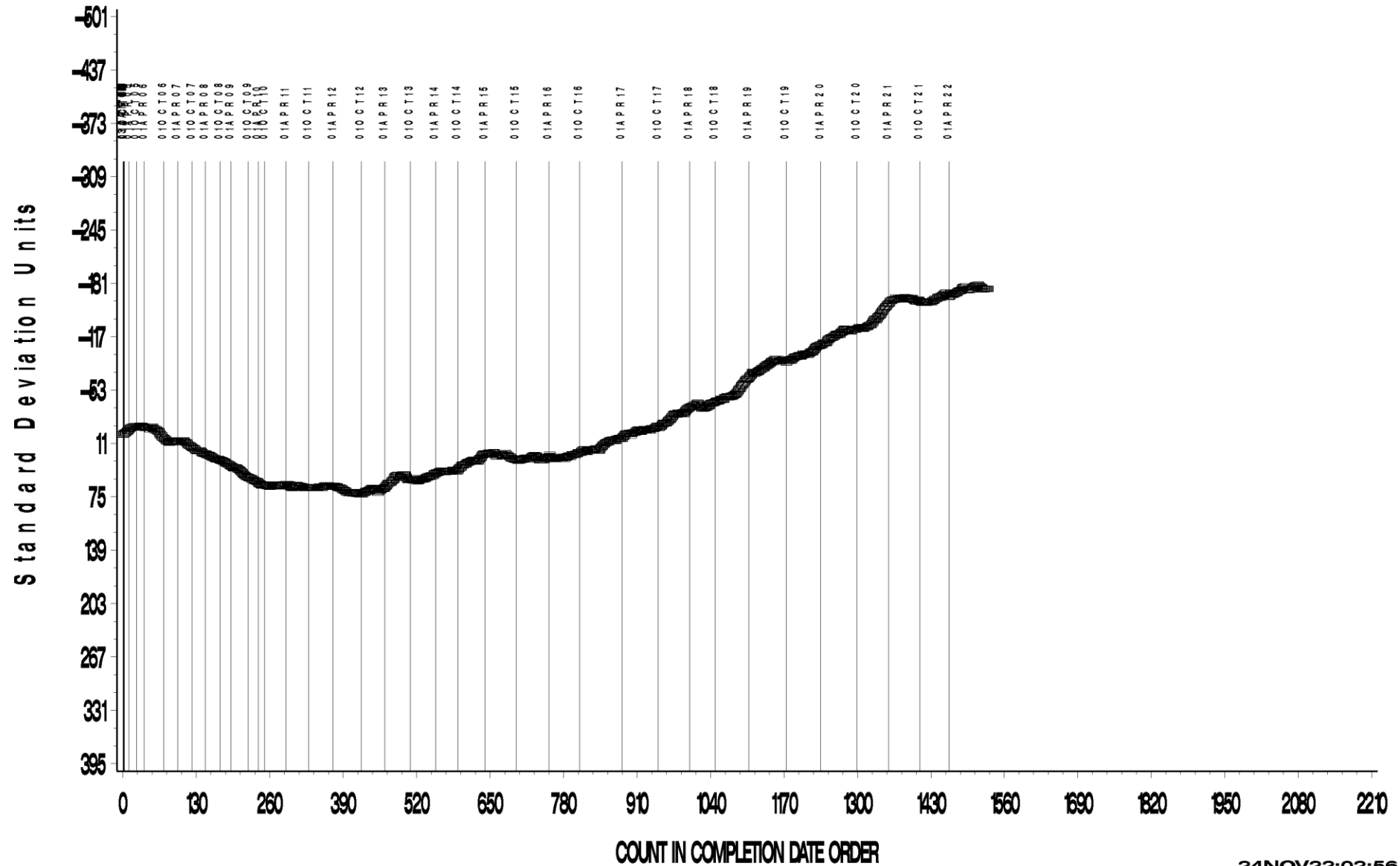
REF VAMAC G TENSILE STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF VAMAC G ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis



Information Letters & Technical Updates*

Test	Date	IL or Memo Number	Topic
EOEC	20211021	IL 21-1 *	EOECP correction factor implemented for elastomer batch ACM1-25

*Available from TMC Website

Reference Oil Inventory Estimated Life

Oil	TMC Inventory Gallons	Gallons Shipped Past 12 Months	Estimated Life
SL107 ^{A, B}	2372	189	3.7 years

^ATMC Inventory is used across several test methods

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

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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