



A Program of ASTM International

Test Monitoring Center

<https://www.astmtmc.org>

ASTM Reference Testing Semi-Annual Report D7216 EOEC

Spring 2022

EOEC Test Activity*

Test Status		Fluoroelast.	Nitrile	Polyacrylate	Silicone	VAMAC	Total
Acceptable Calibration Test	AC	54	64	54	50	52	274
Failed Calibration Test	OC	1	1	2	0	0	4
Operationally Invalid, by lab	LC	0	0	0	0	0	0
Operationally Invalid, by TMC	RC	0	0	0	0	0	0
Aborted	XC	0	0	0	0	0	0
Total		55	65	56	50	52	278

*October 1, 2021 – March 31, 2022

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



EOEC Lost Tests*

Validity	Cause	#
	No lost test this period.	0
	Total	0

*Invalid and aborted calibration tests

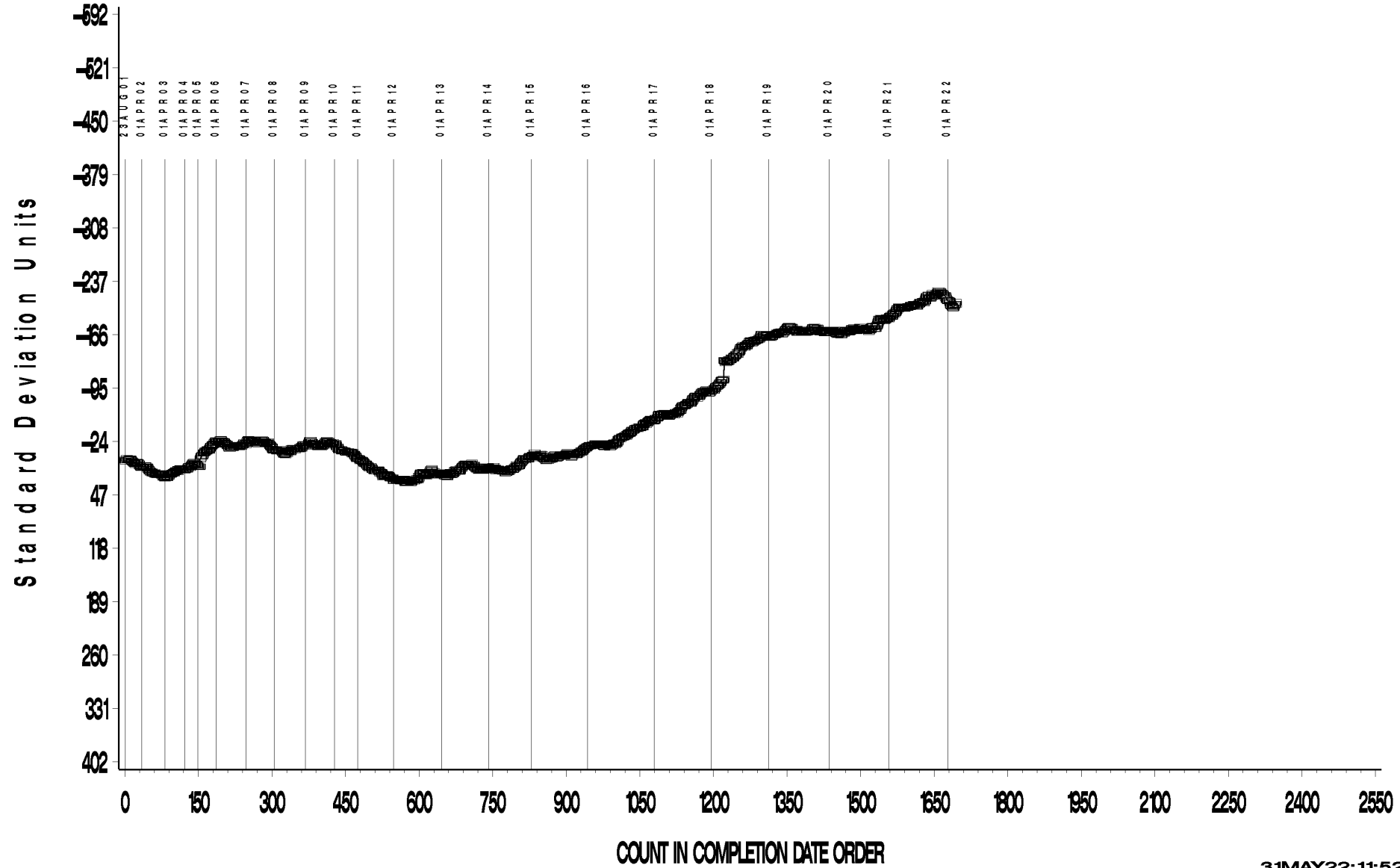
EOEC Test Severity

▶ Fluoroelastomer (FKM)

Parameter	Period Mean Δ/s	Status
Volume Change	-0.07	On-target
Points Hardness Change	-0.12	Mild
Tensile Strength Change	0.52	Severe
Elongation Change	-0.54	Mild

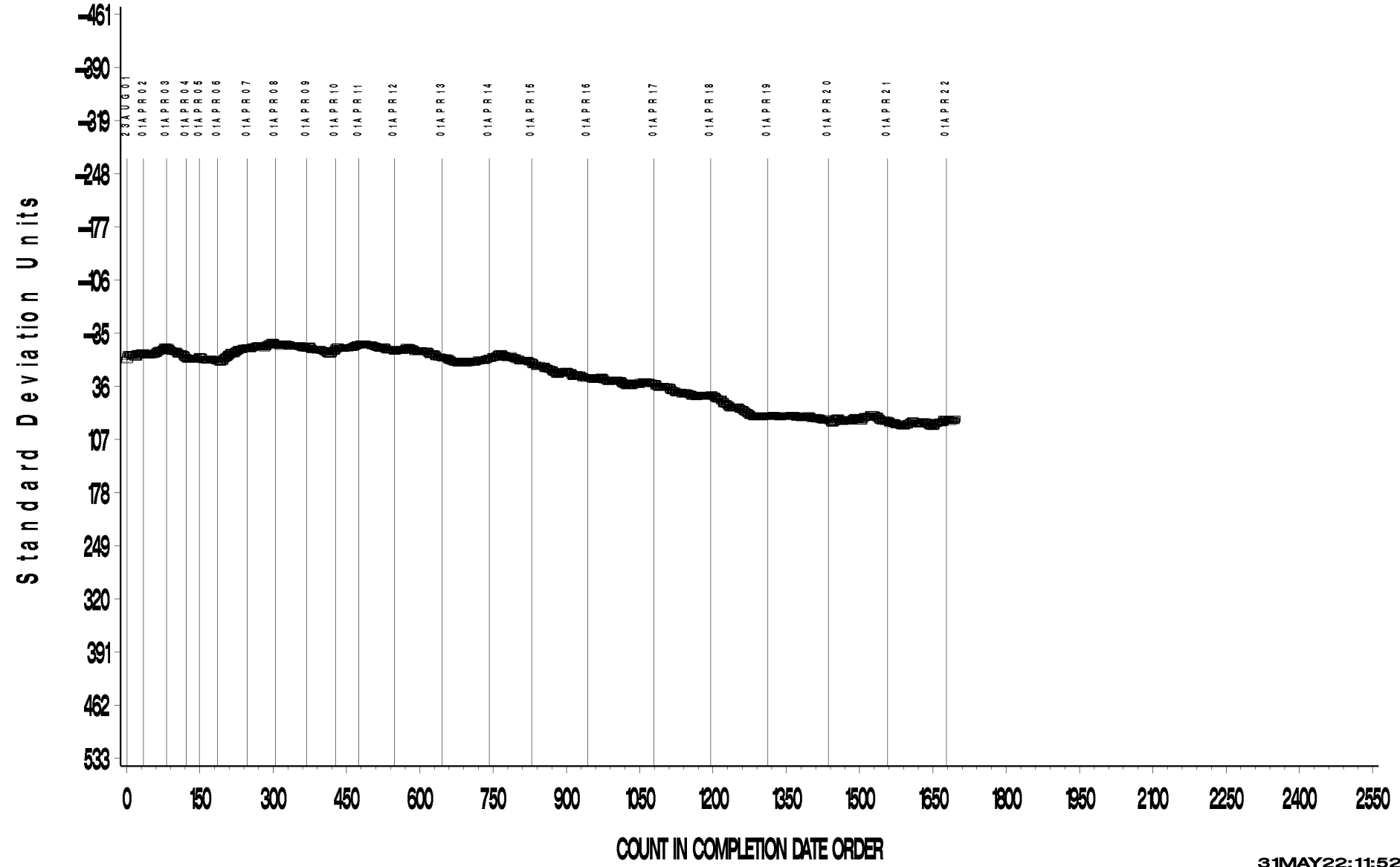
FLUOROELASTOMER VOLUME CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



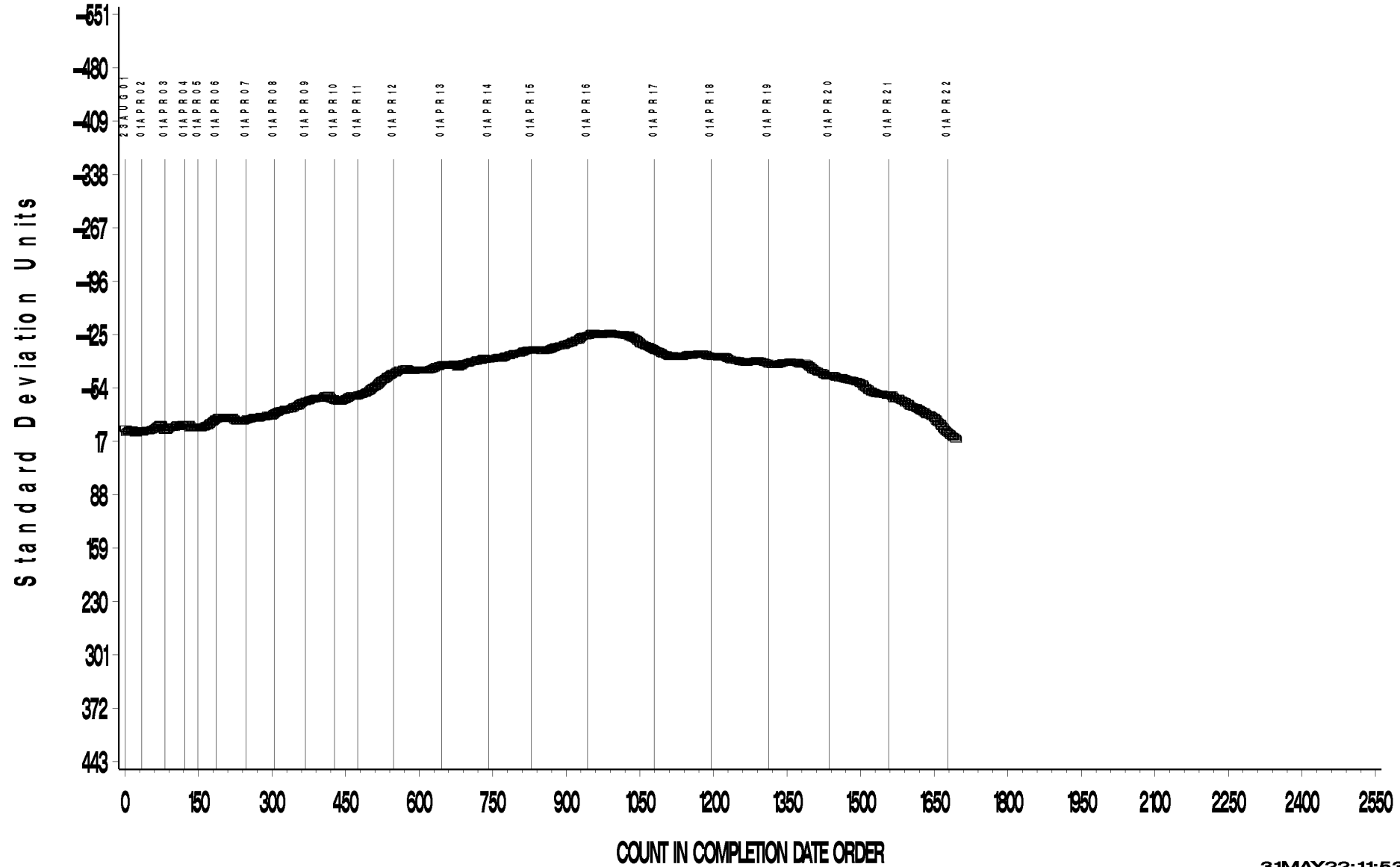
FLUROELASTOMER PTS HARDNESS CHANGE CORRECTED AVG

CUSUM Severity Analysis



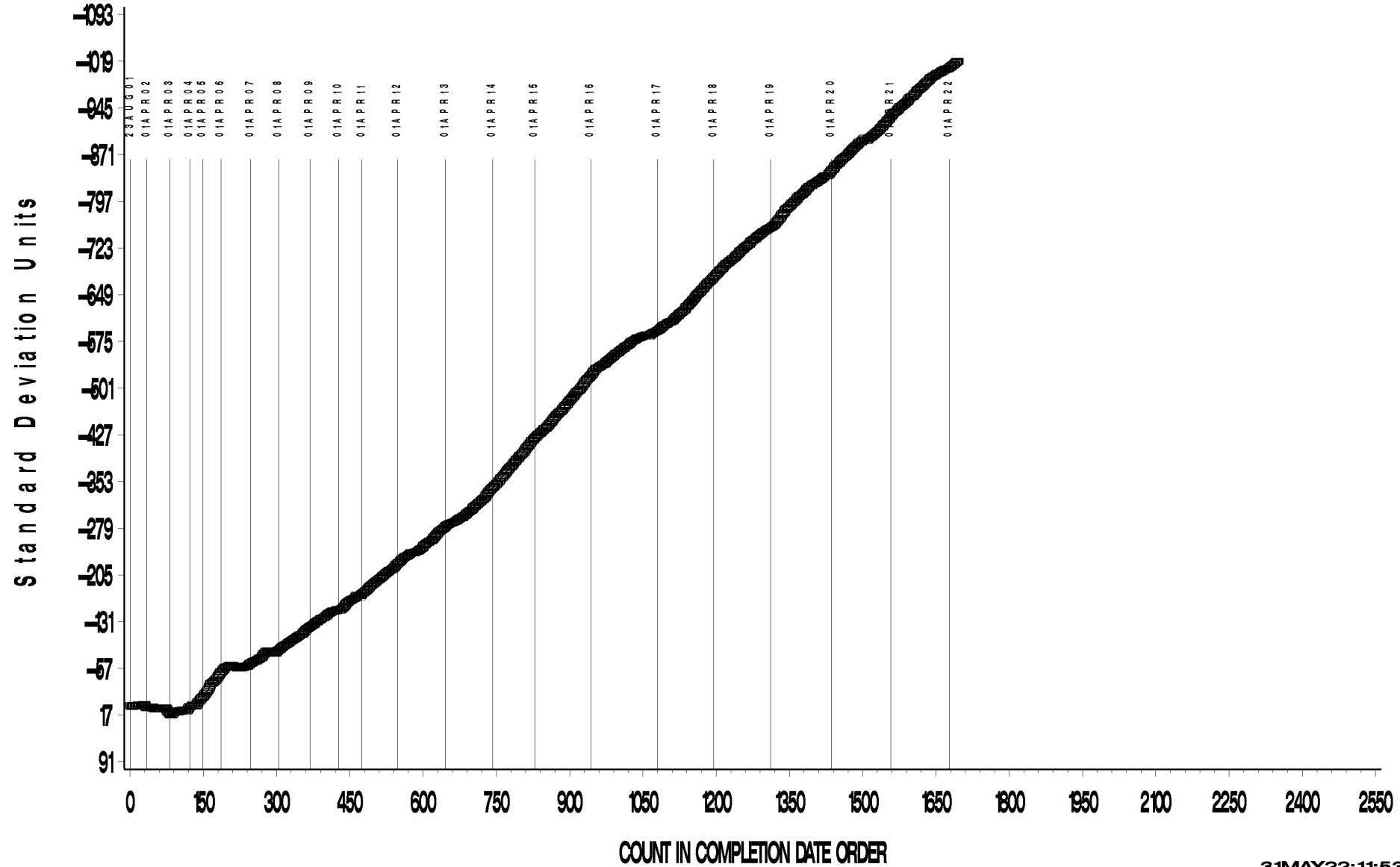
FLUOROELASTOMER TENS STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



FLUOROELASTOMER ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis



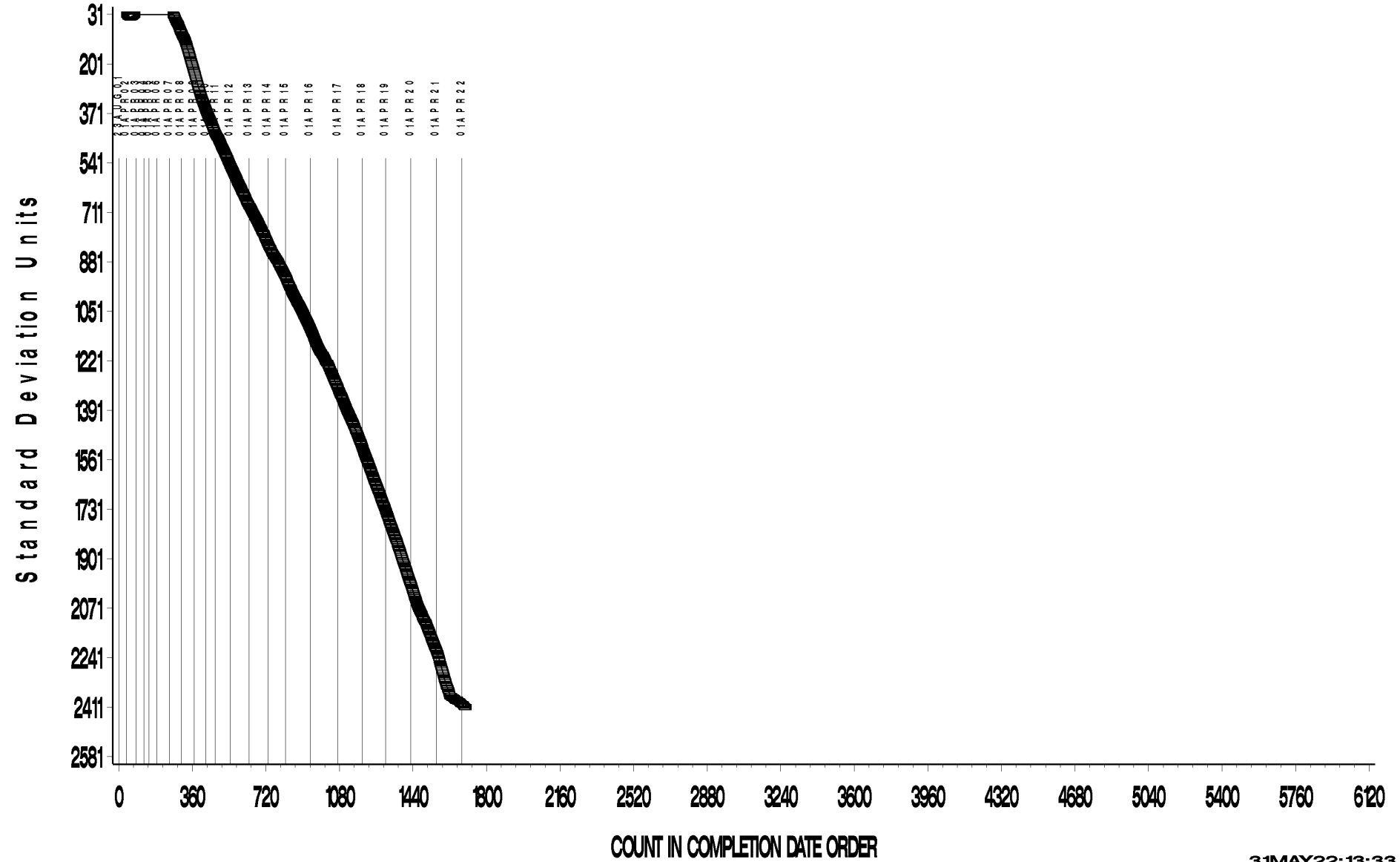
EOEC Test Severity

▶ Nitrile (NBR)

Parameter	Period Mean Δ/s	Status
Volume Change	0.74	Severe
Points Hardness Change	0.38	Severe
Tensile Strength Change	-0.95	Mild
Elongation Change	0.07	On-Target

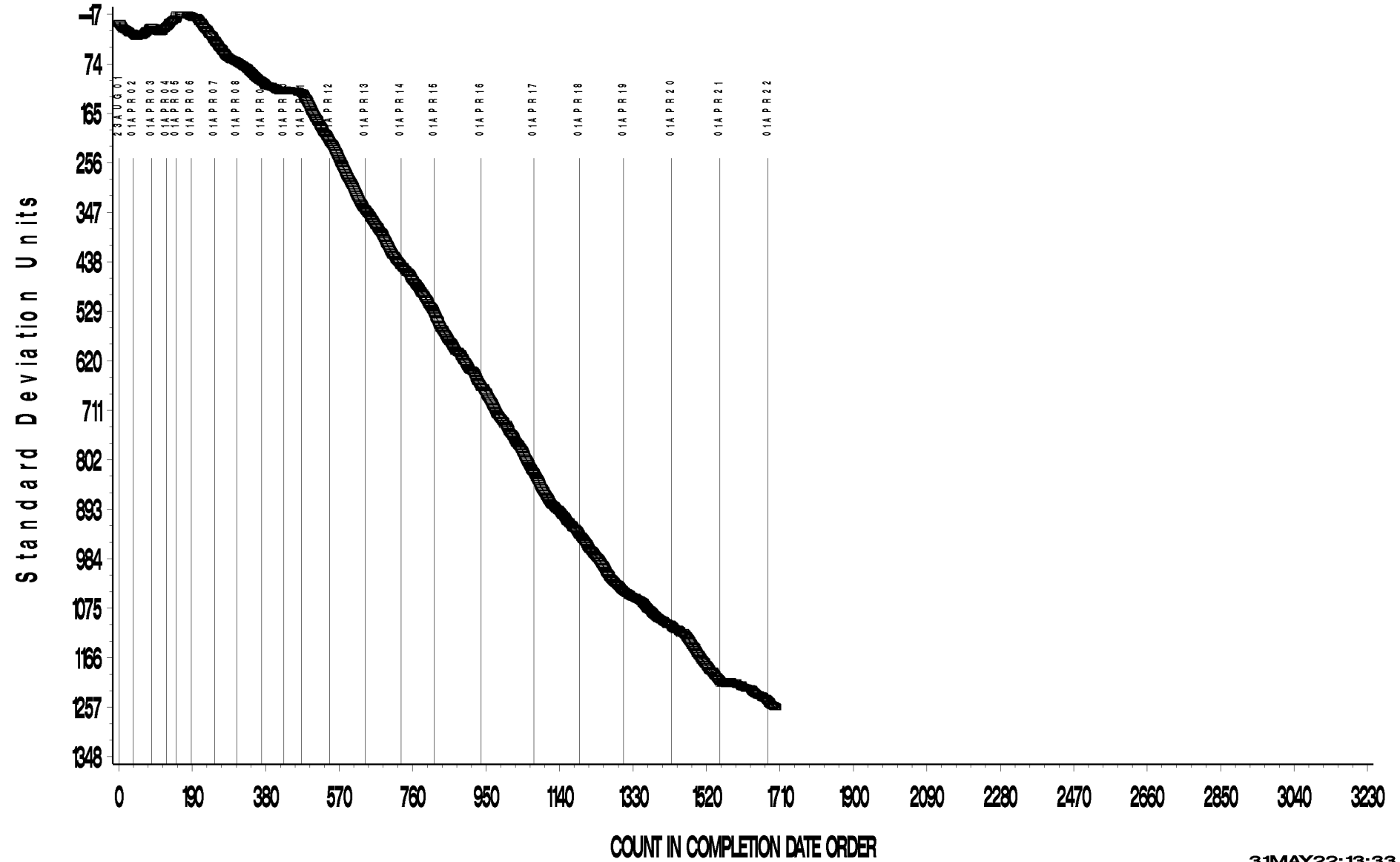
REFERENCE NITRILE VOLUME CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



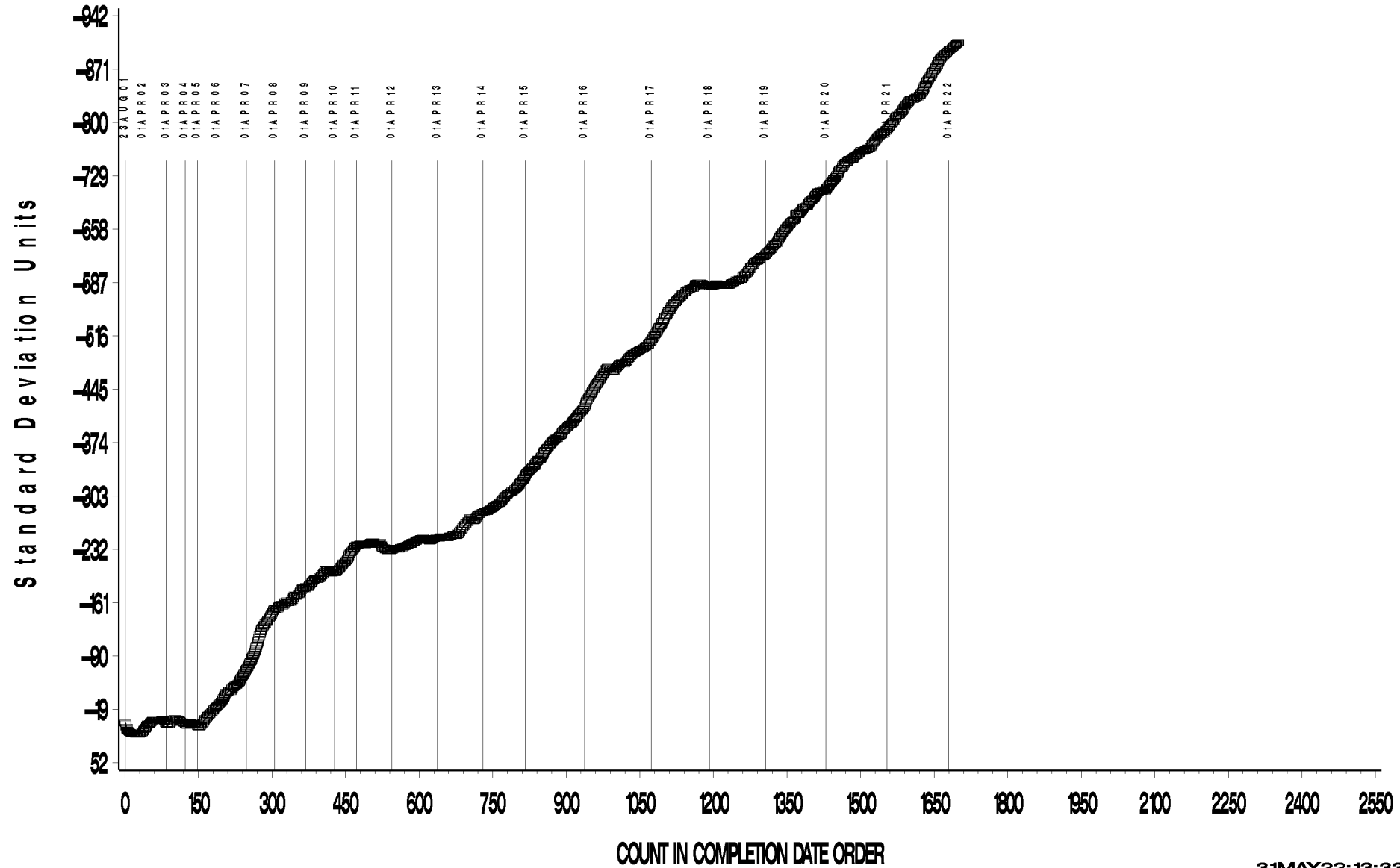
REFERENCE NITRILE PTS HARD CHANGE CORRECTED AVG

CUSUM Severity Analysis



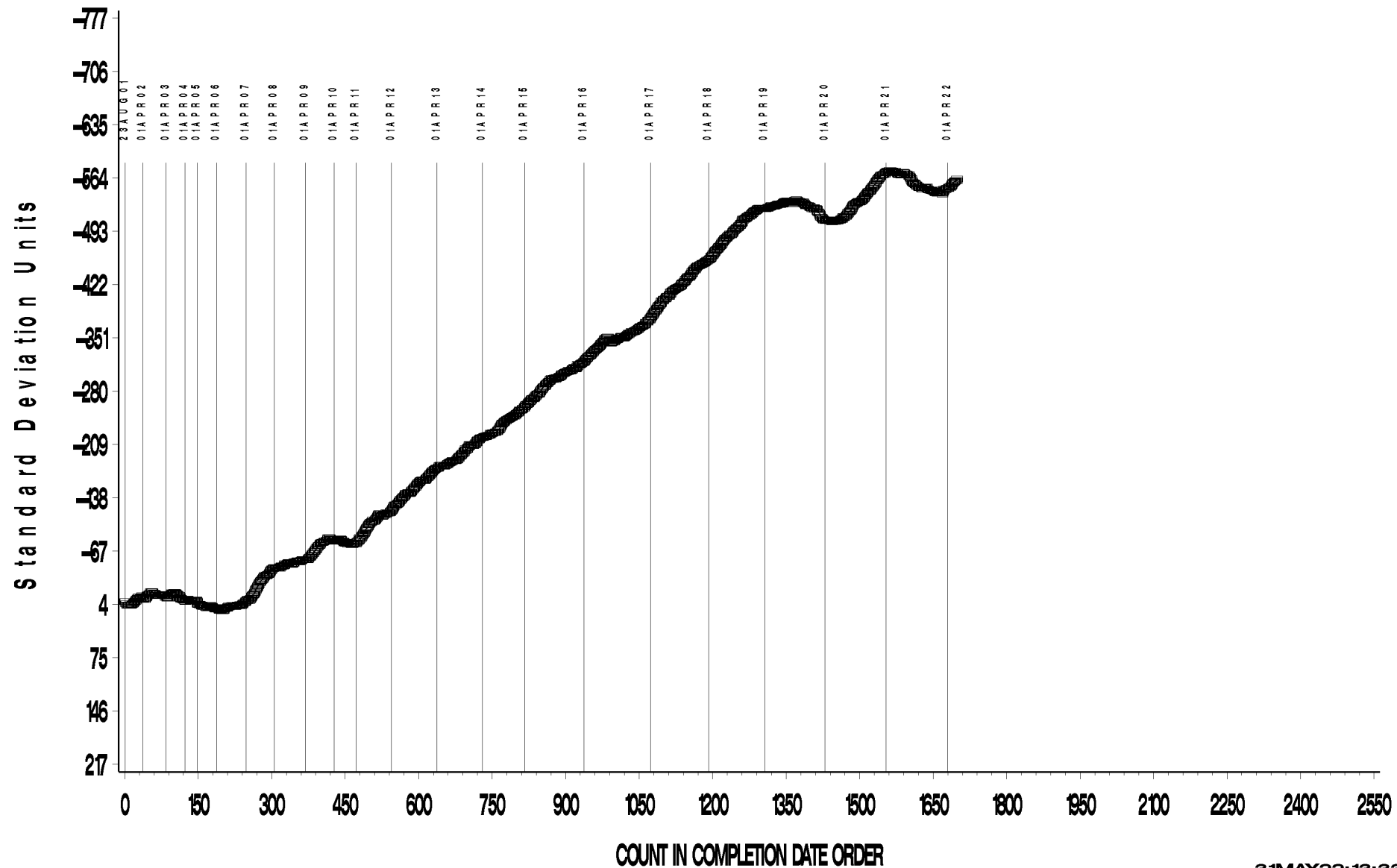
REF NITRILE TENS STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF NITRILE ELONGATION CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



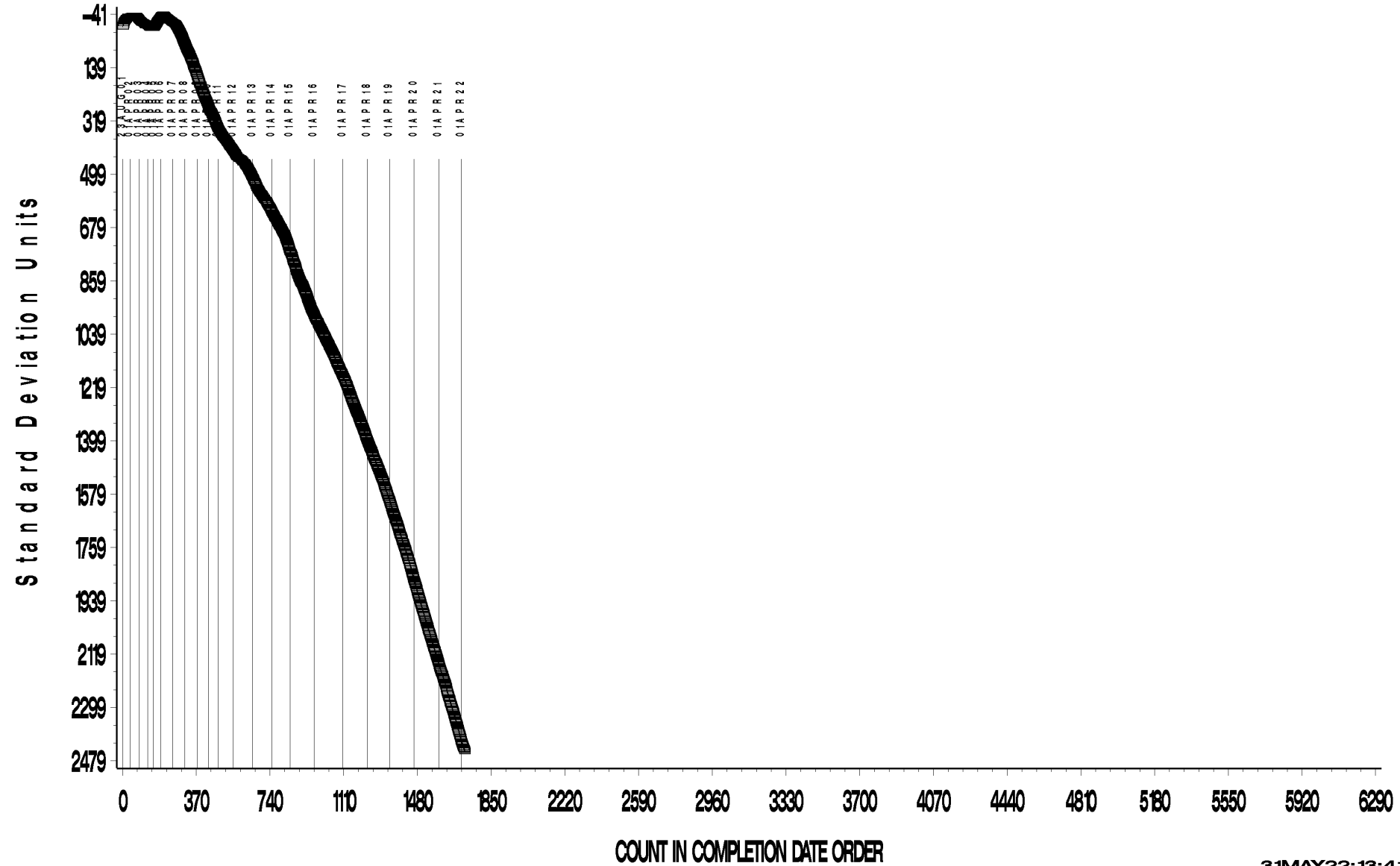
EOEC Test Severity

▶ Polyacrylate (ACM)

Parameter	Period Mean Δ/s	Status
Volume Change	2.36	Severe
Points Hardness Change	-1.07	Mild
Tensile Strength Change	-0.42	Mild
Elongation Change	0.59	Severe

REFERENCE POLYACRYLATE VOLUME CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF POLYACRYLATE PTS HARD CHANGE CORRECTED AVG

CUSUM Severity Analysis



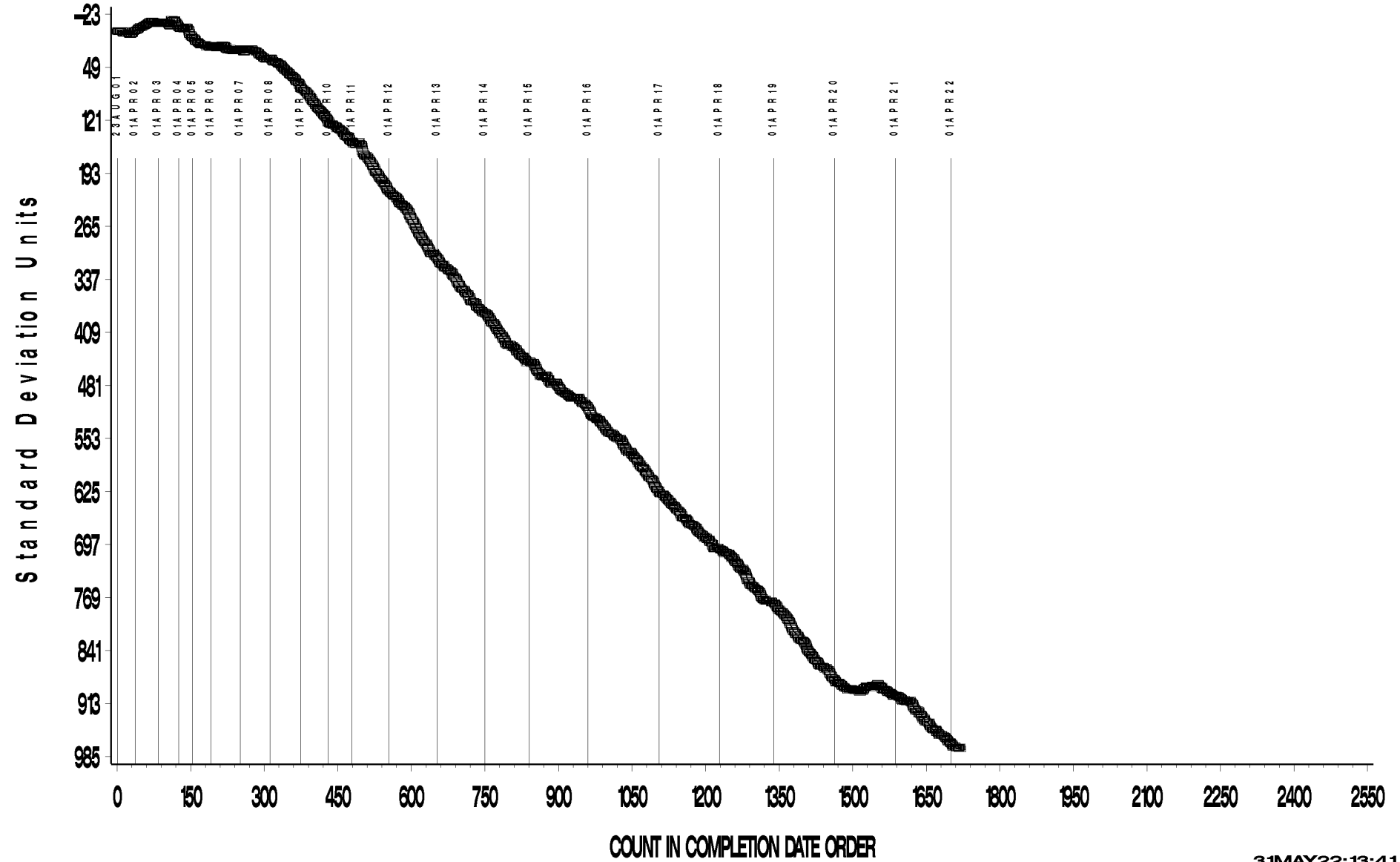
REF POLYACRYLATE TENS STRNGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF POLYACRYLATE ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis



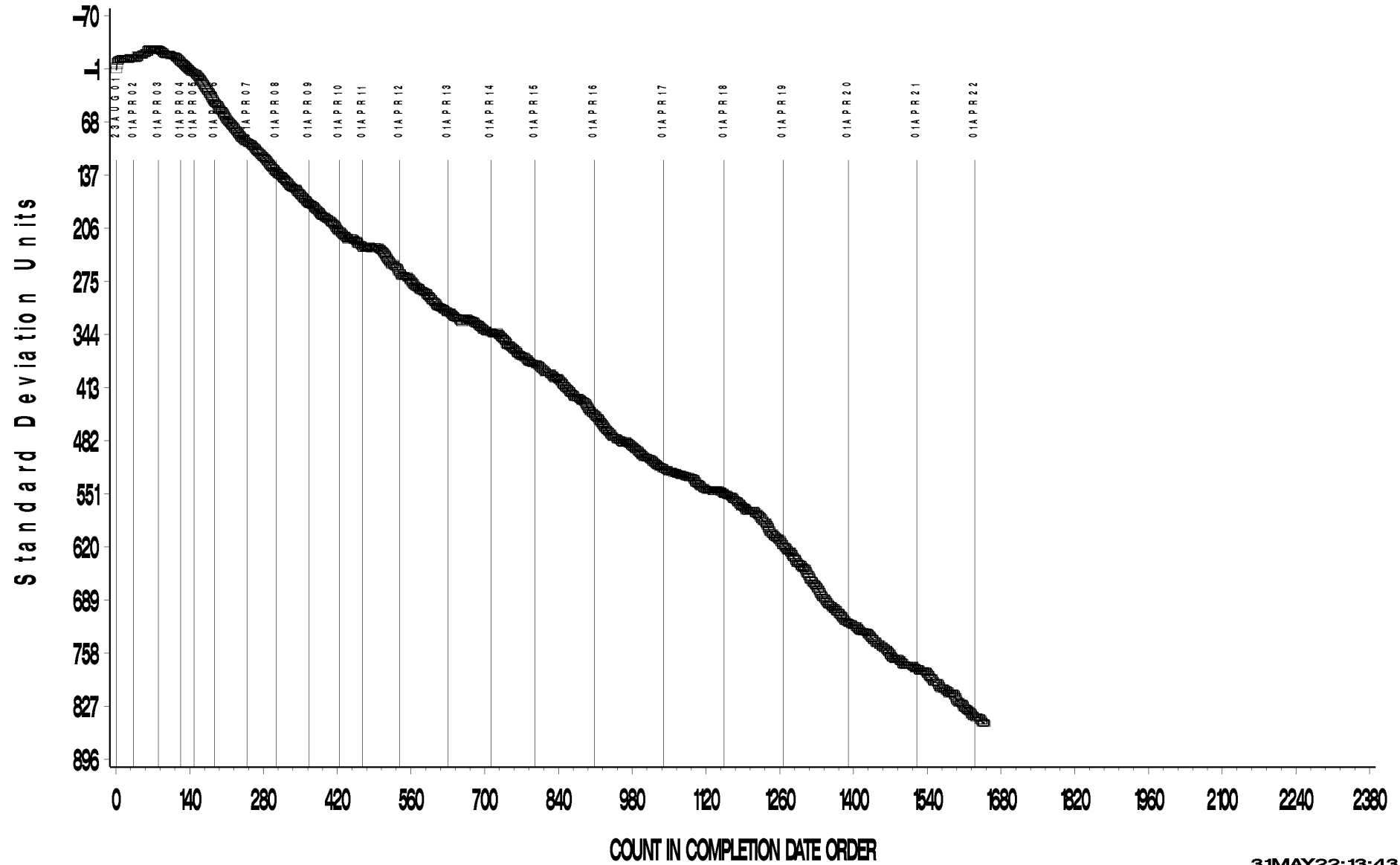
EOEC Test Severity

- ▶ Silicone (VMQ)

Parameter	Period Mean Δ /s	Status
Volume Change	0.64	Severe
Points Hardness Change	-1.02	Mild
Tensile Strength Change	-0.10	On-Target
Elongation Change	-0.52	Mild

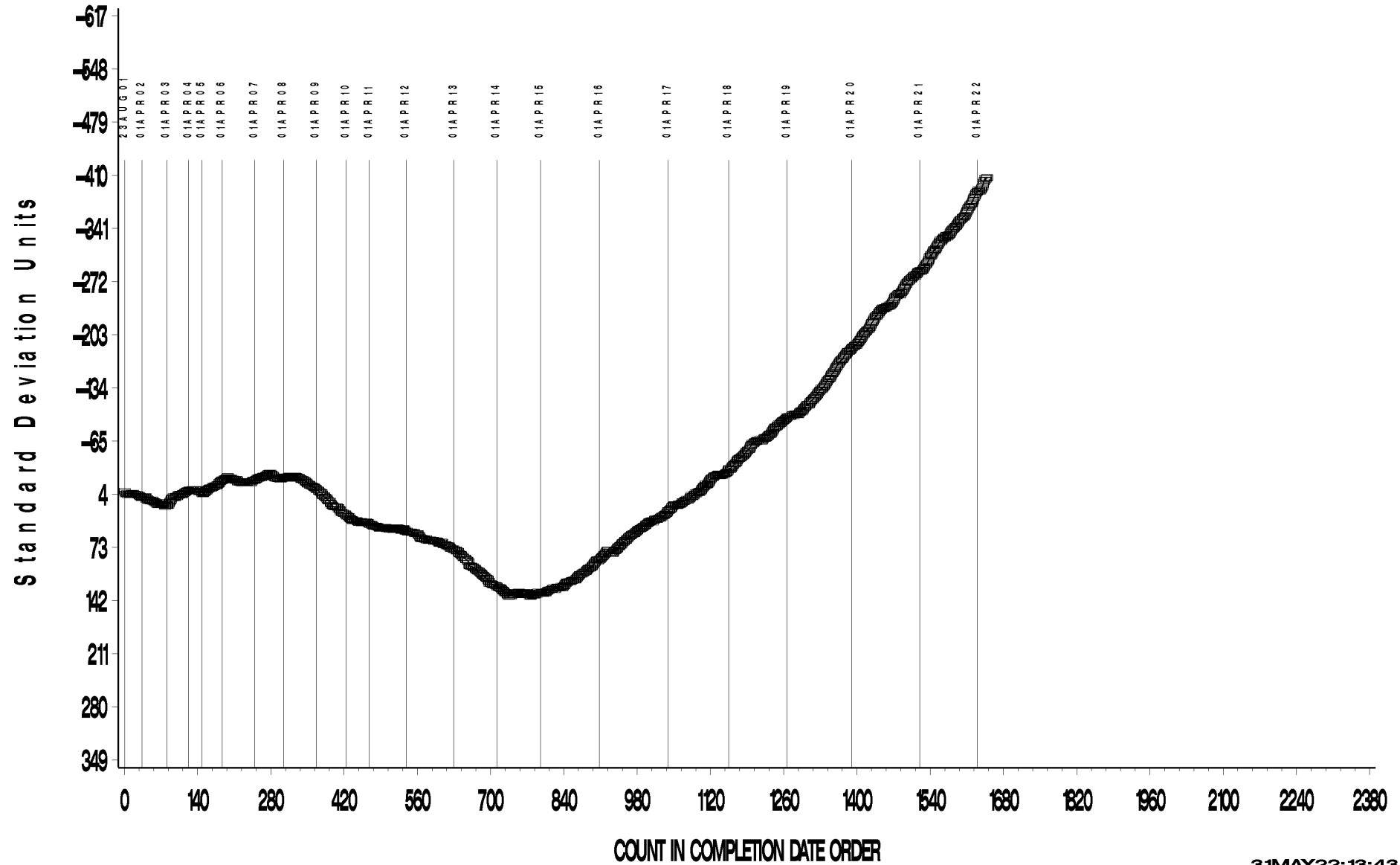
REFERENCE SILICON VOLUME CHANGE CORRECTED AVG

CUSUM Severity Analysis



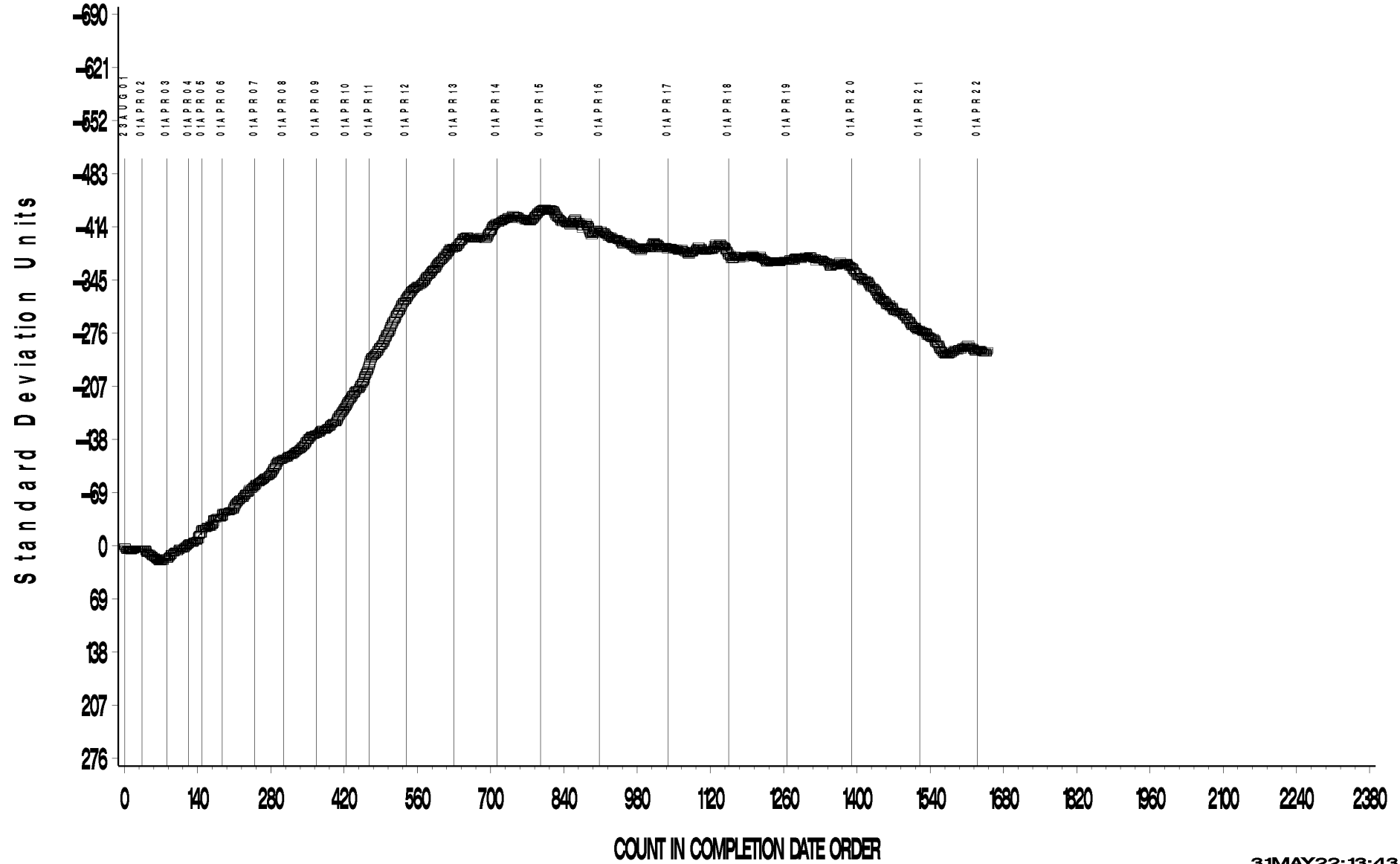
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CUSUM Severity Analysis



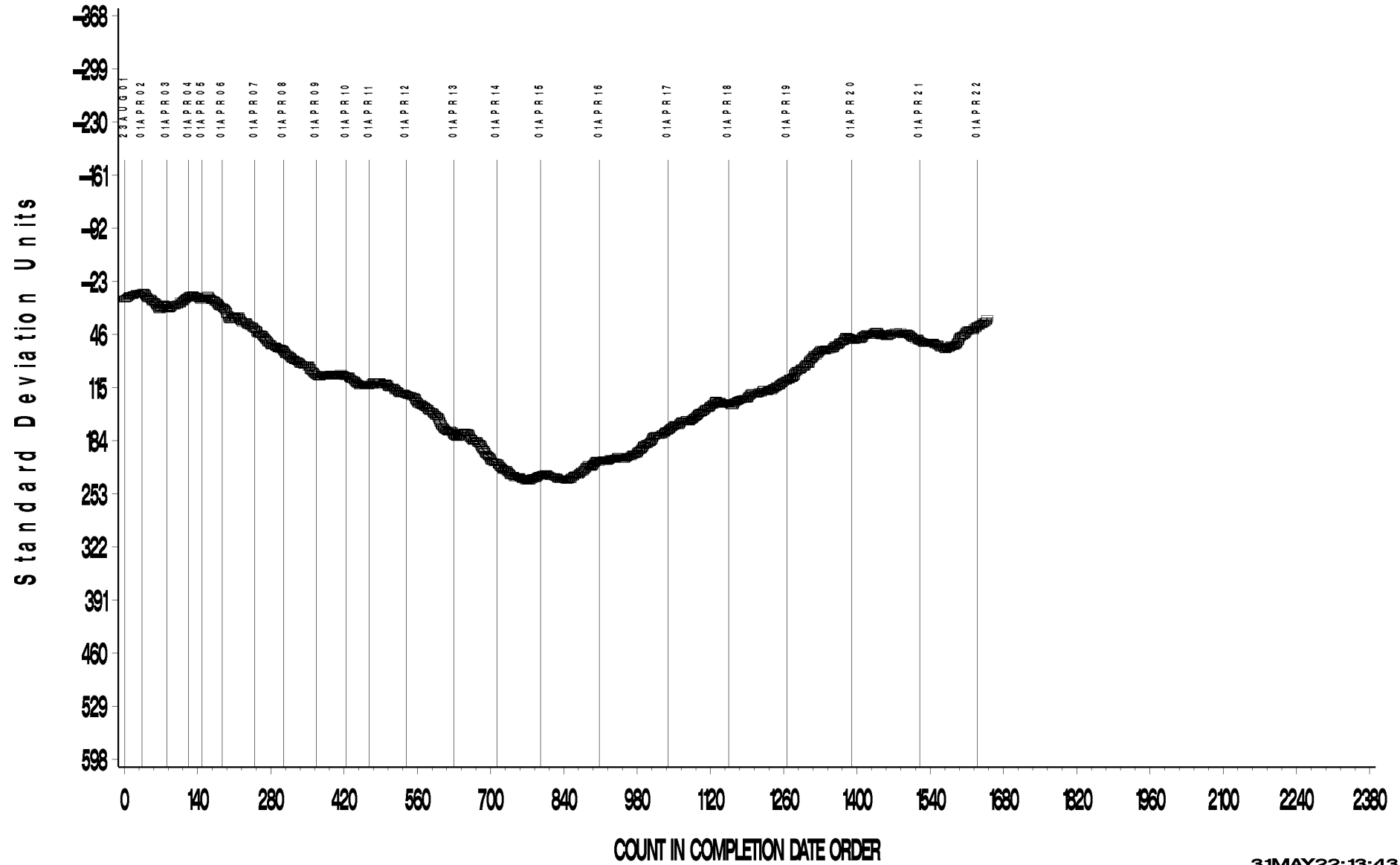
REF SILICON TENSILE STRENGTH CHANGE CORRECTED AVG

CUSUM Severity Analysis



REF SILICON ELONGATION CHANGE CORRECTED AVG

CUSUM Severity Analysis



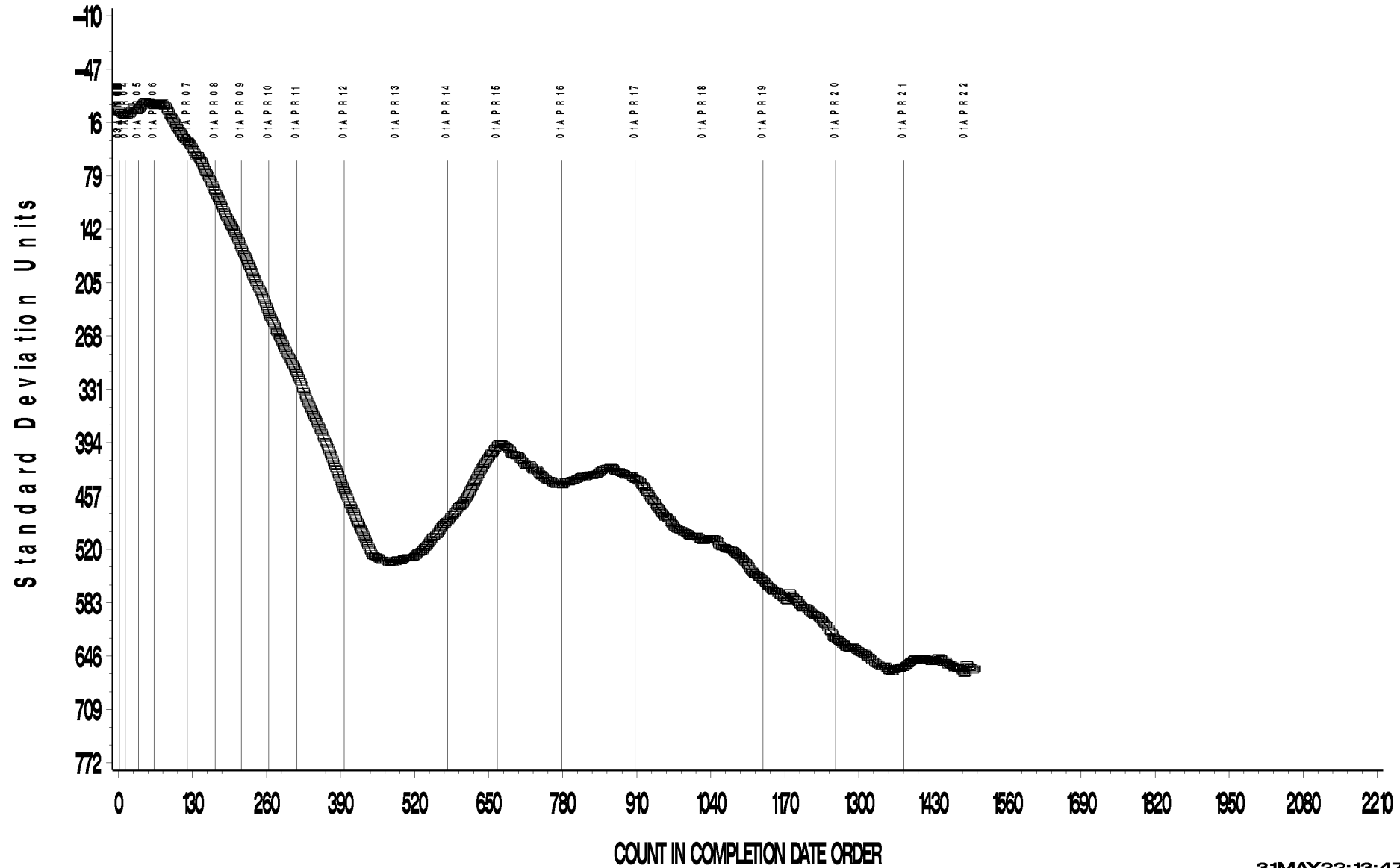
EOEC Test Severity

▶ VAMAC (MAC)

Parameter	Period Mean Δ/s	Status
Volume Change	0.31	Severe
Points Hardness Change	-1.05	Mild
Tensile Strength Change	0.29	Severe
Elongation Change	-0.10	Mild

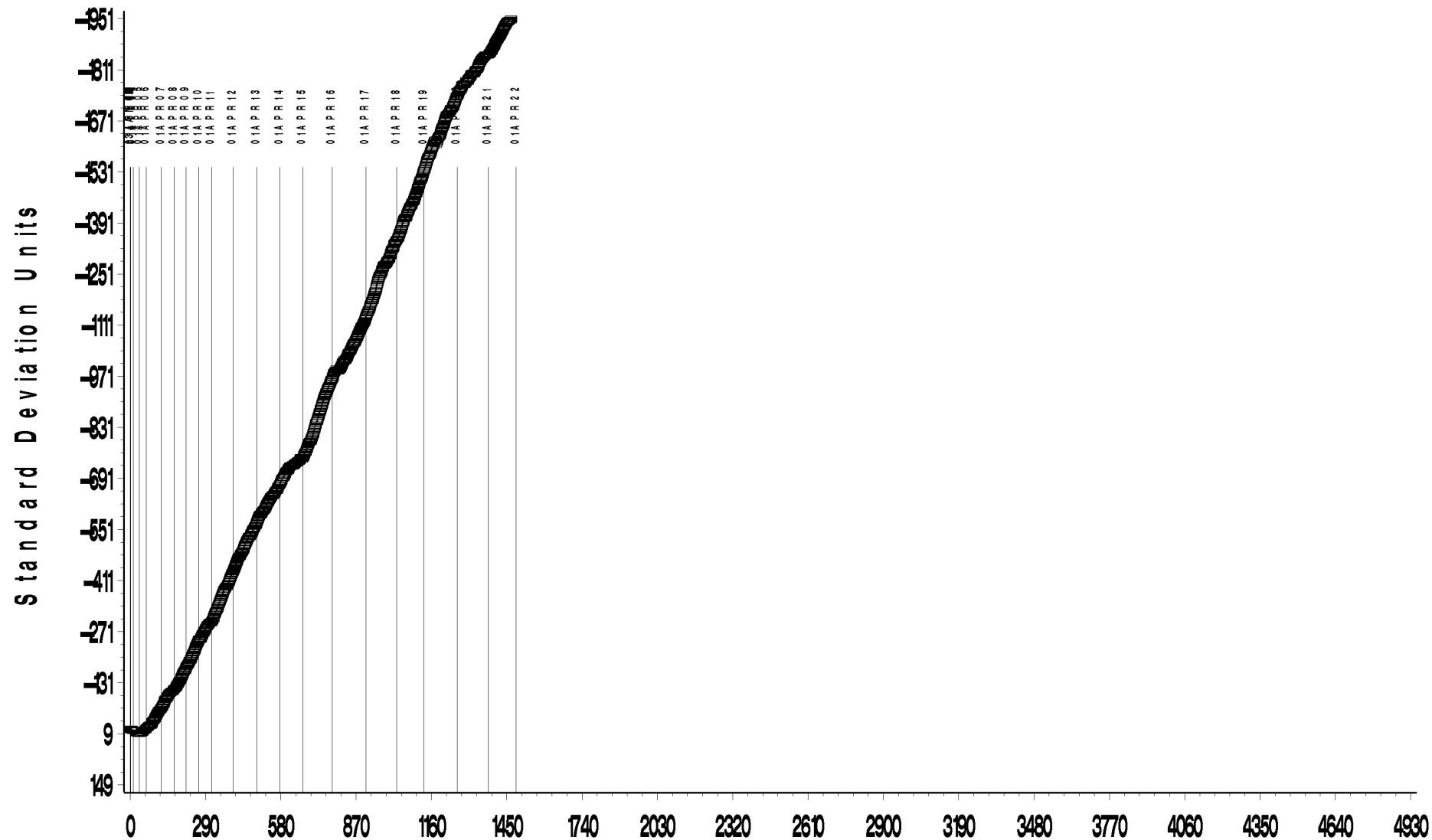
REFERENCE VAMAC G VOLUME CHANGE CORRECTED AVERAGE

CUSUM Severity Analysis



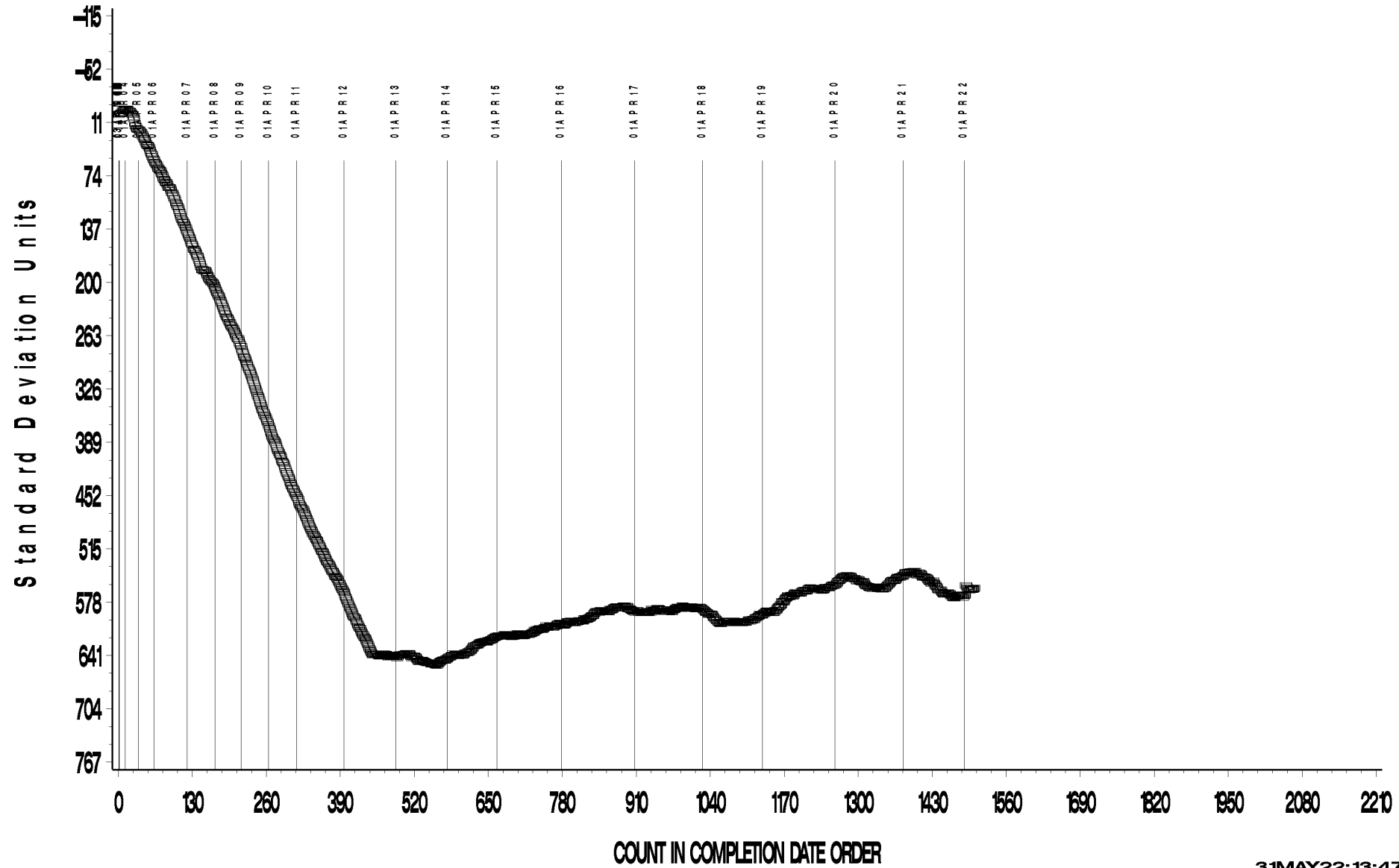
REF VAMAC G POINTS HARDNESS CHANGE CORRECTED AVG

CUSUM Severity Analysis



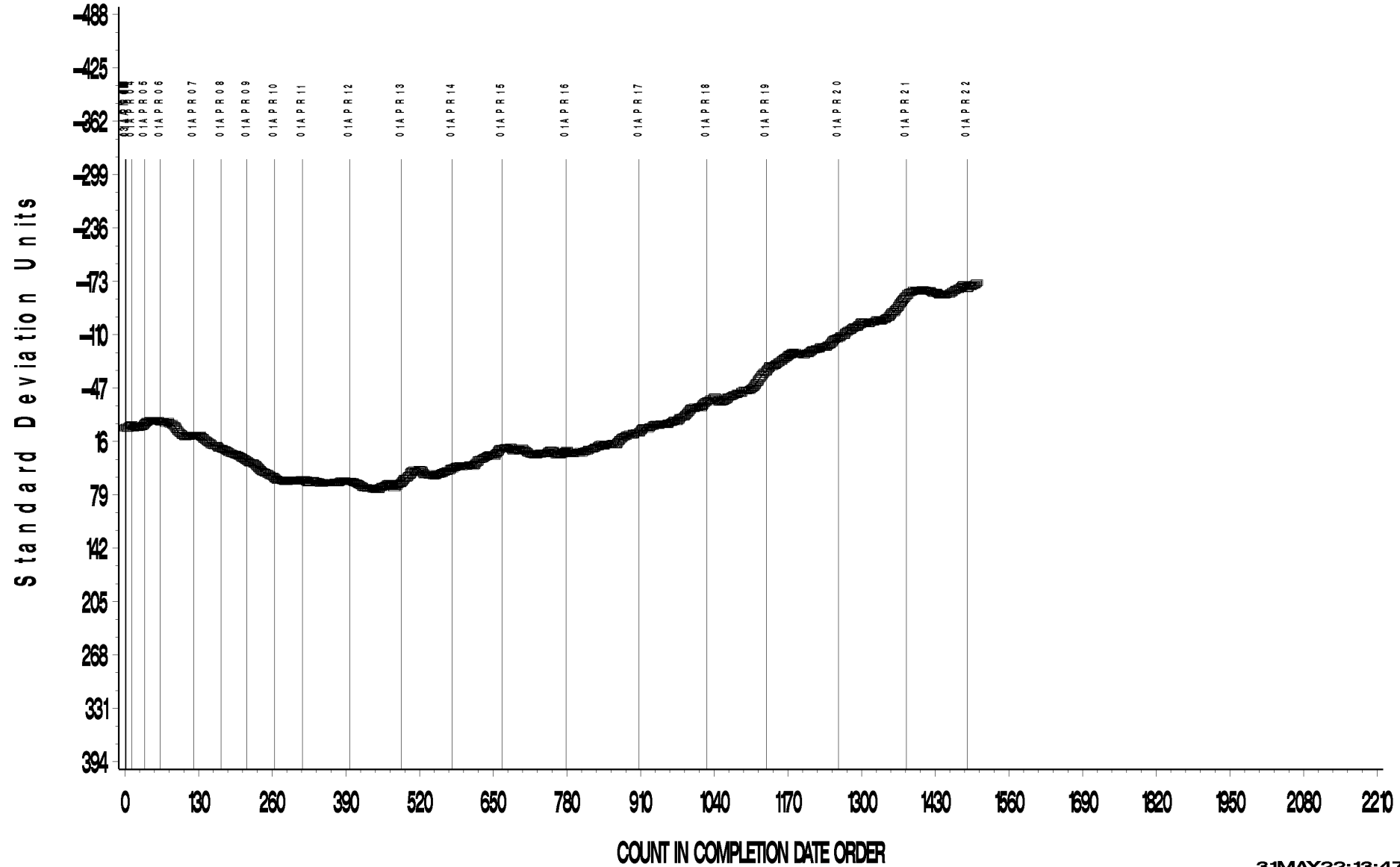
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CUSUM Severity Analysis

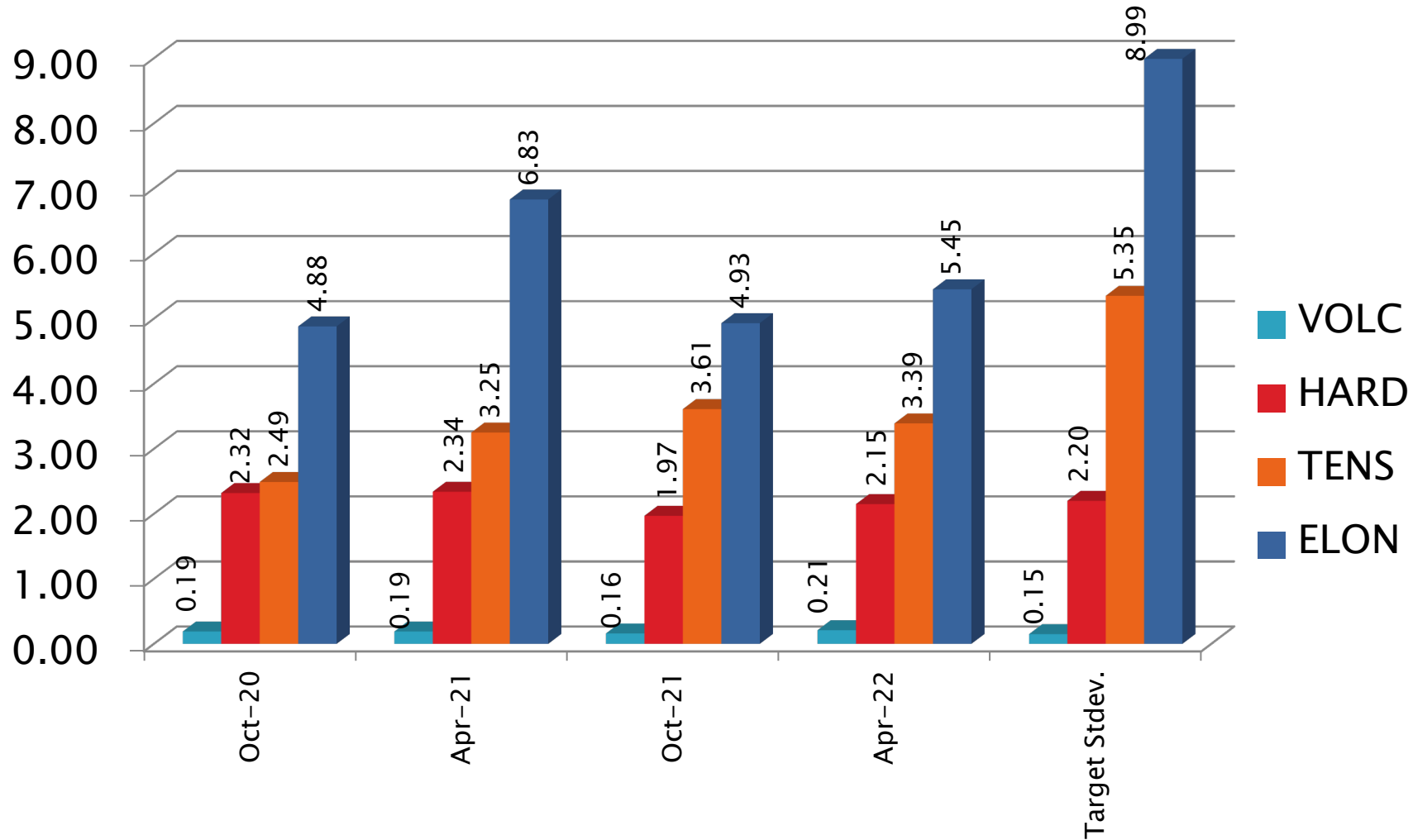


REF VAMAC G ELONGATION CHANGE CORRECTED AVG

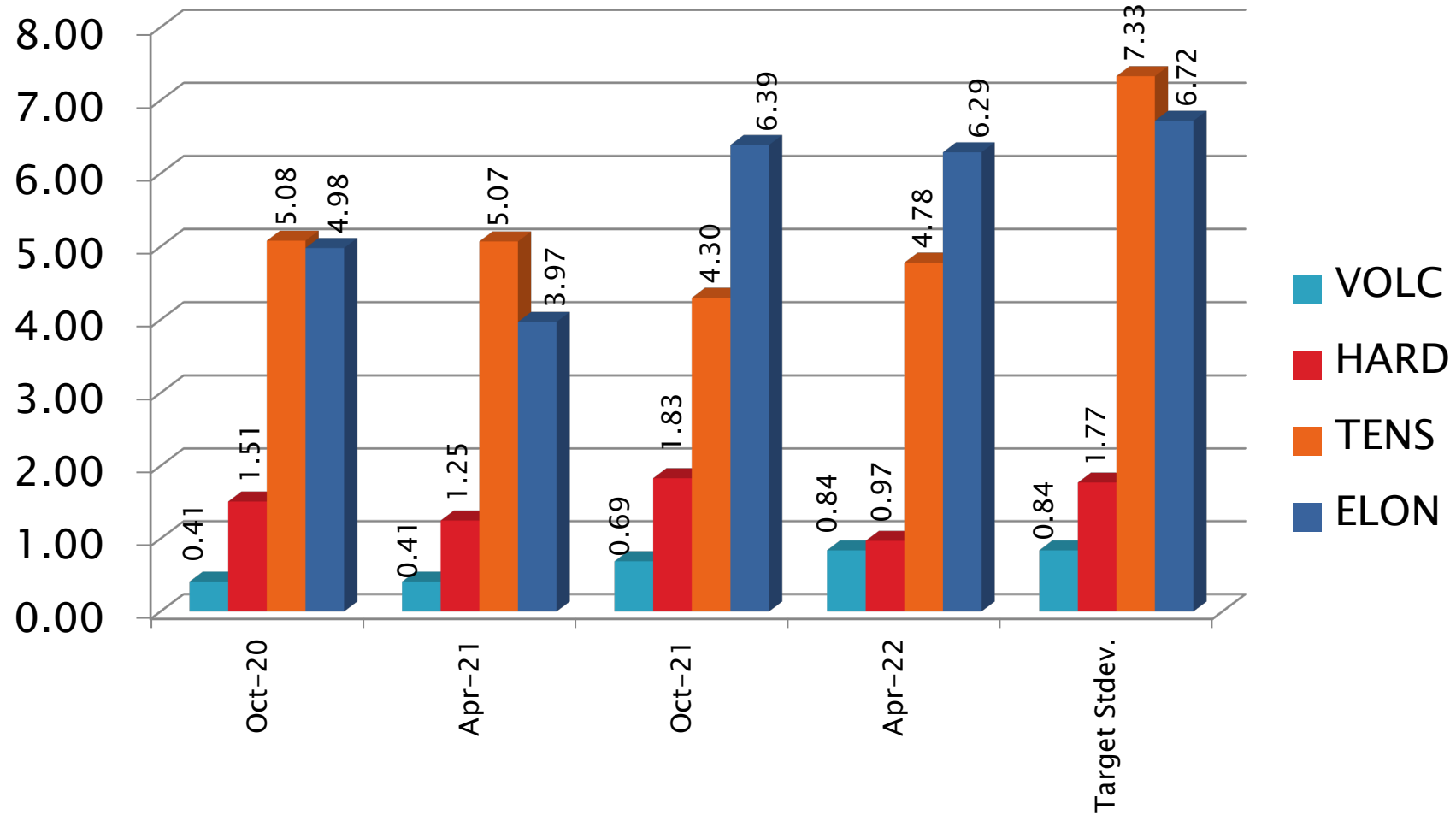
CUSUM Severity Analysis



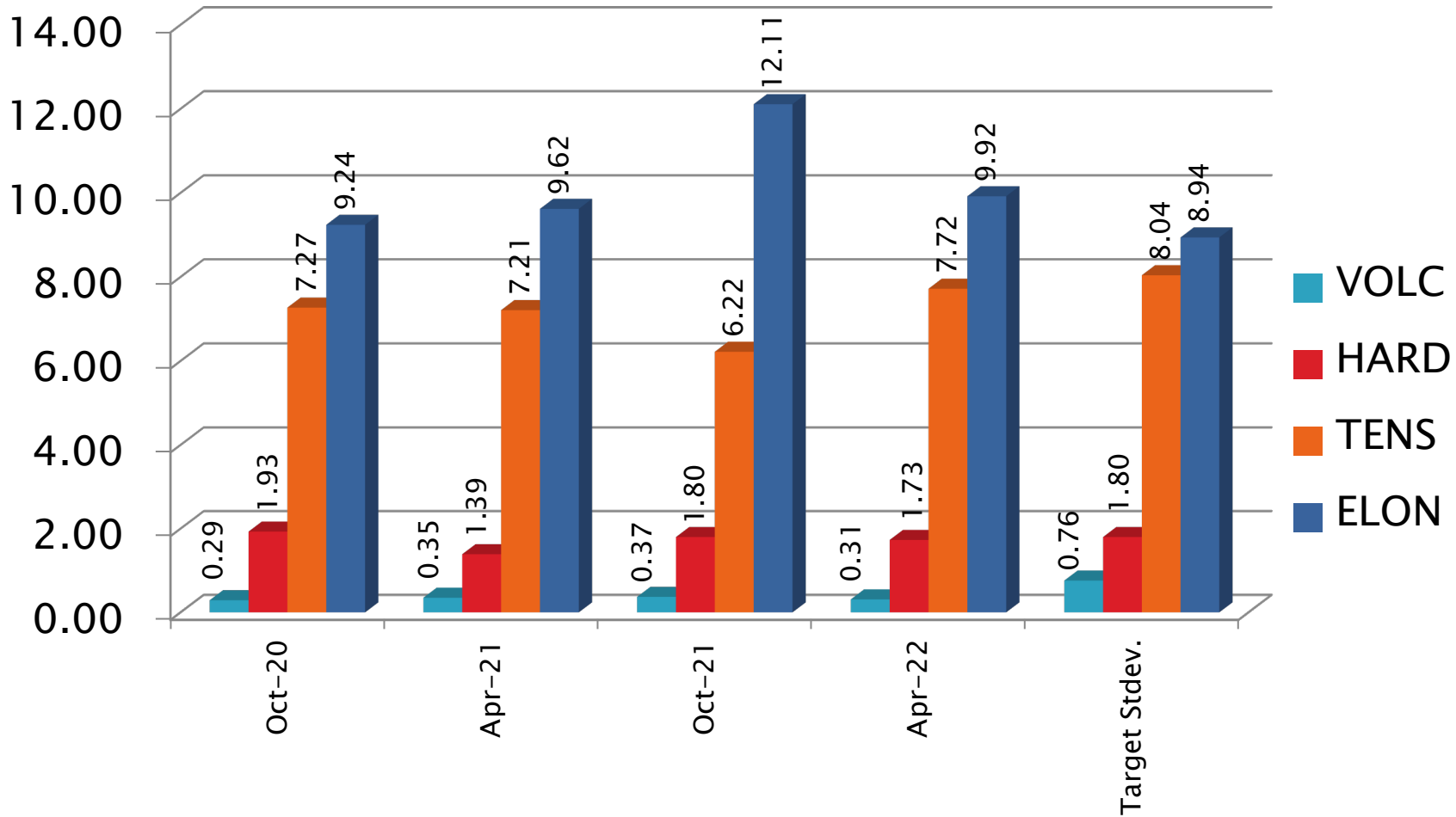
EOEC Precision Estimates - Fluoroelastomer



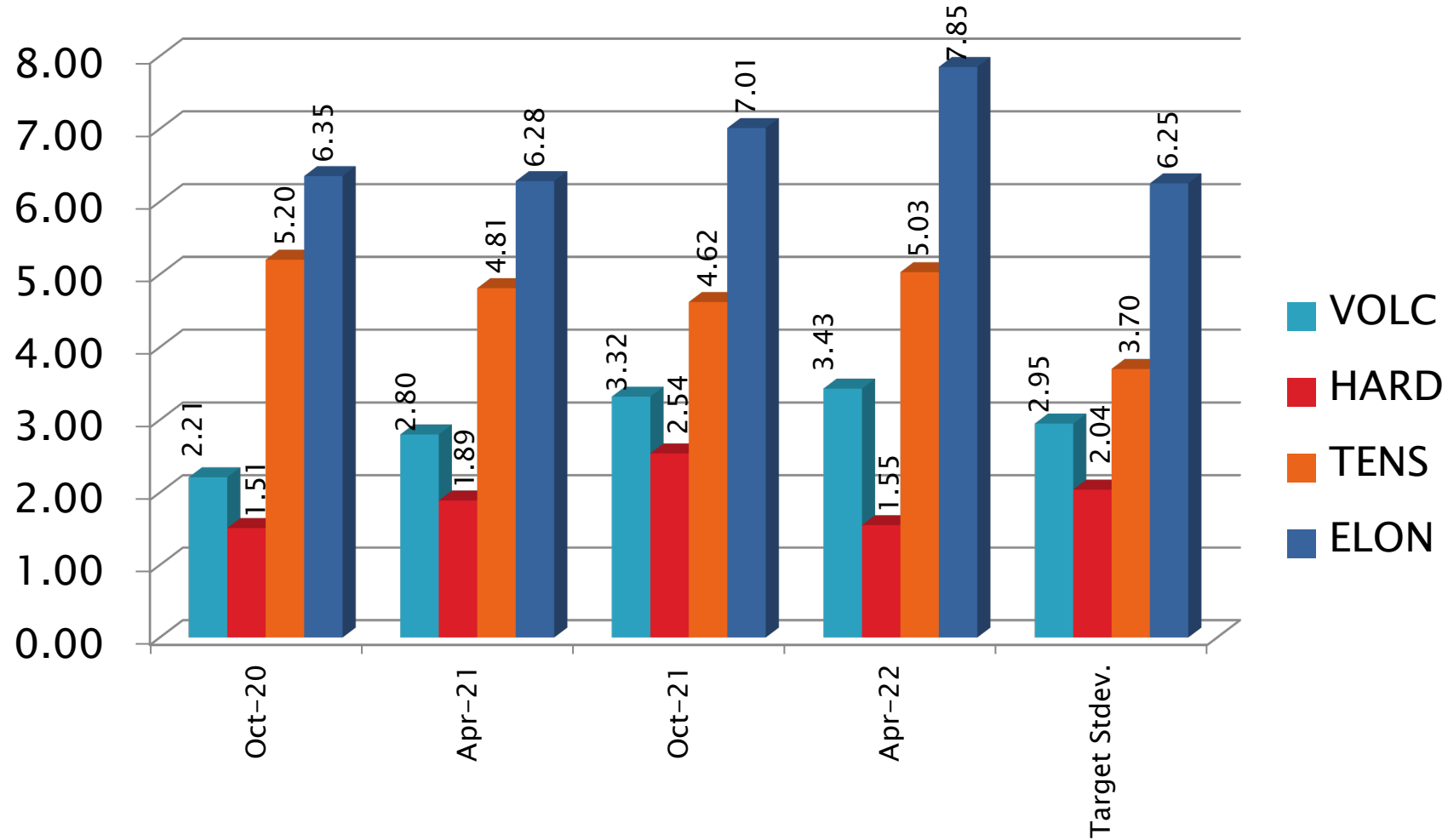
EOEC Precision Estimates - Nitrile



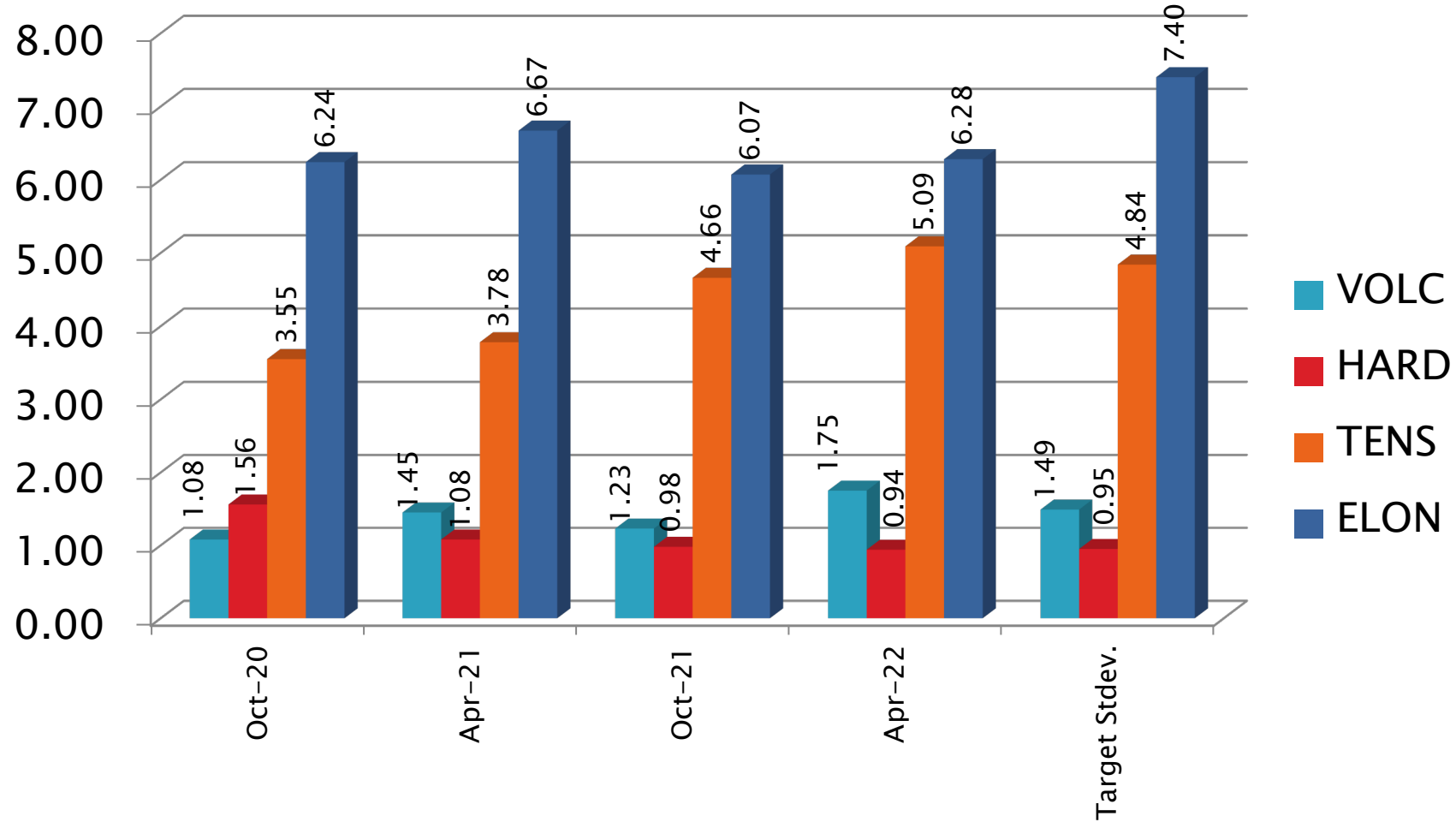
EOEC Precision Estimates – Polyacrylate



EOEC Precision Estimates - Silicone



EOEC Precision Estimates - VAMAC



Information Letters & Technical Updates*

Test	Date	IL or Memo Number	Topic
EOEC	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}	2561	284	4 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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