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# **Test Monitoring Center**

<http://astmtmc.cmu.edu>

## **ASTM Reference Testing Semi-Annual Report D7216 LDEOC**

**Fall 2019**

# LDEOC Test Activity\*

Test Status		Ethylene Acrylate	Fluoroelast.	Nitrile	Polyacrylate	Silicone	Total
Acceptable Calibration Test	AC	68	72	77	75	78	370
Failed Calibration Test	OC	0	0	0	1	4	5
Operationally Invalid, by lab	LC	0	0	0	0	0	0
Operationally Invalid, by TMC	RC	0	0	0	0	0	0
Aborted	XC	1	1	1	1	1	5
Donated – SL107	AG, OG, XG	41	41	43	39	41	205
<b>Total</b>		<b>110</b>	<b>114</b>	<b>121</b>	<b>116</b>	<b>124</b>	<b>585</b>

\*April 1, 2019 – September 30, 2019

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# LDEOC Lost Tests\*

Status	Cause	#
XC	Aborted Calibration, power failure	5
<b>Total</b>		<b>5</b>

\*Invalid and aborted calibration tests

# LDEOC Test Severity

## ▶ Ethylene Acrylate (AEM1)

Parameter	Period Mean $\Delta/s$	Status
Volume Change	-0.31	Mild
Points Hardness Change	-1.03	Mild
Tensile Strength Change	-0.45	Mild

# LDEOC Test Severity

## ▶ Fluoroelastomer (FKM1)

Parameter	Period Mean $\Delta/s$	Status
Volume Change	-0.53	Mild
Points Hardness Change	0.14	Severe
Tensile Strength Change	0.22	Severe

# LDEOC Test Severity

## ▶ Nitrile (NBR1)

Parameter	Period Mean $\Delta/s$	Status
Volume Change	1.66	Severe
Points Hardness Change	-0.54	Mild
Tensile Strength Change	-0.83	Mild

# LDEOC Test Severity

## ▶ Polyacrylate (ACM1)

Parameter	Period Mean $\Delta/s$	Status
Volume Change	-0.52	Mild
Points Hardness Change	-0.72	Mild
Tensile Strength Change	-0.53	Mild

# LDEOC Test Severity

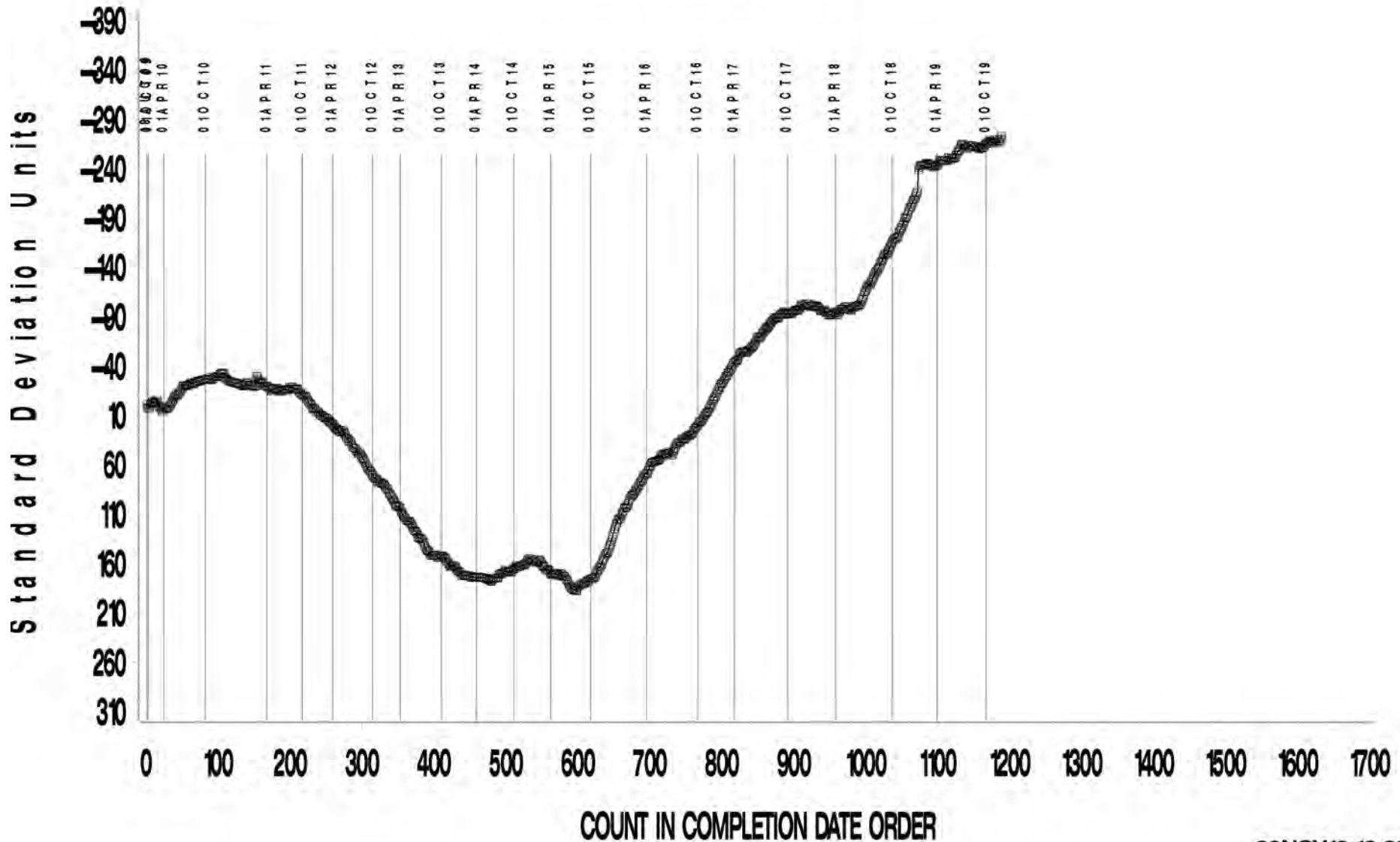
## ▶ Silicone (VMQ1)

Parameter	Period Mean $\Delta/s$	Status
Volume Change	0.45	Severe
Points Hardness Change	-0.69	Mild
Tensile Strength Change	1.45	Severe



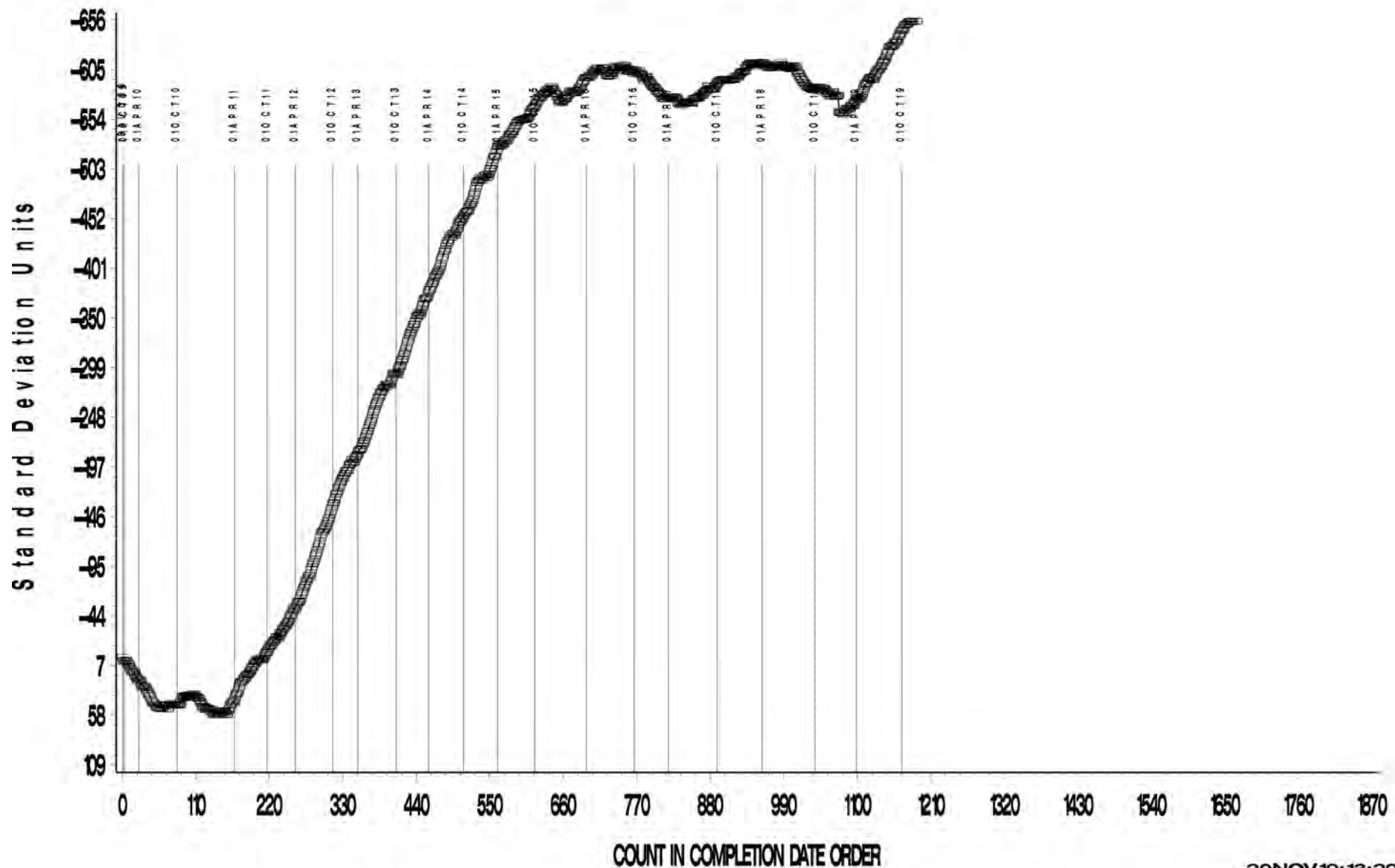
REF ETH ACRYLATE VOLUME CHANGE AVERAGE

CUSUM Severity Analysis



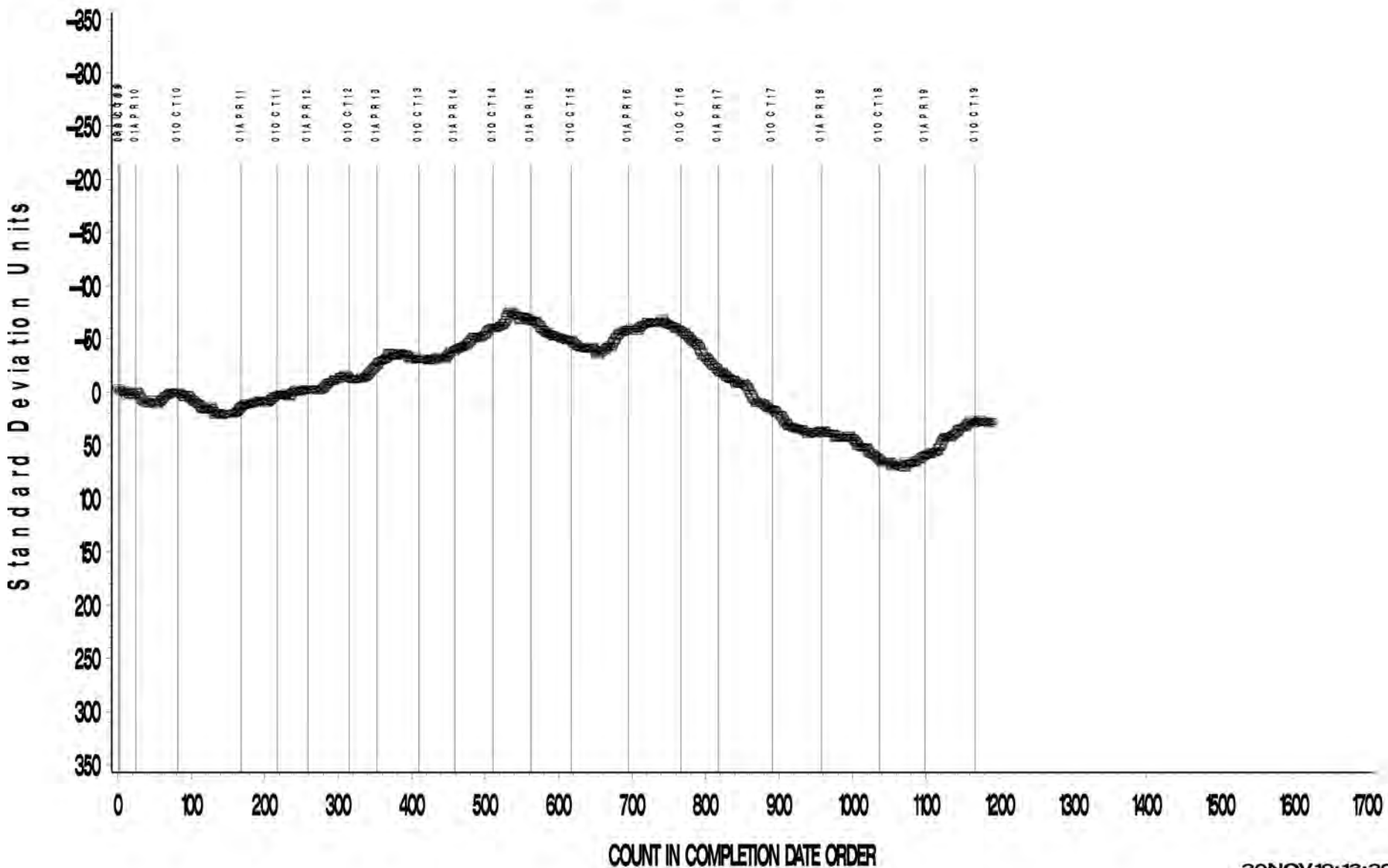
REF ETH ACRYLATE POINTS HARDNESS CHANGE AVG

CUSUM Severity Analysis



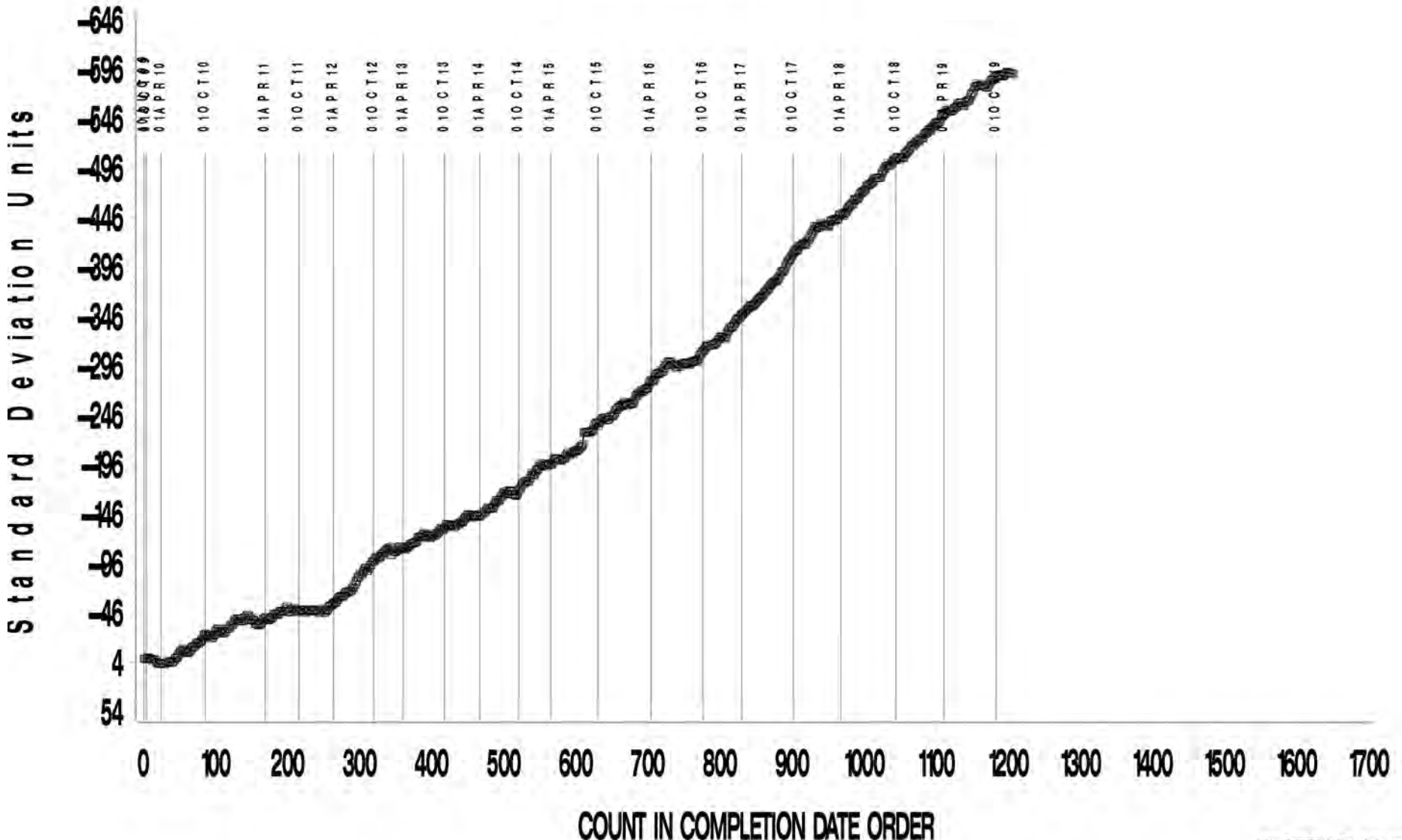
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CUSUM Severity Analysis



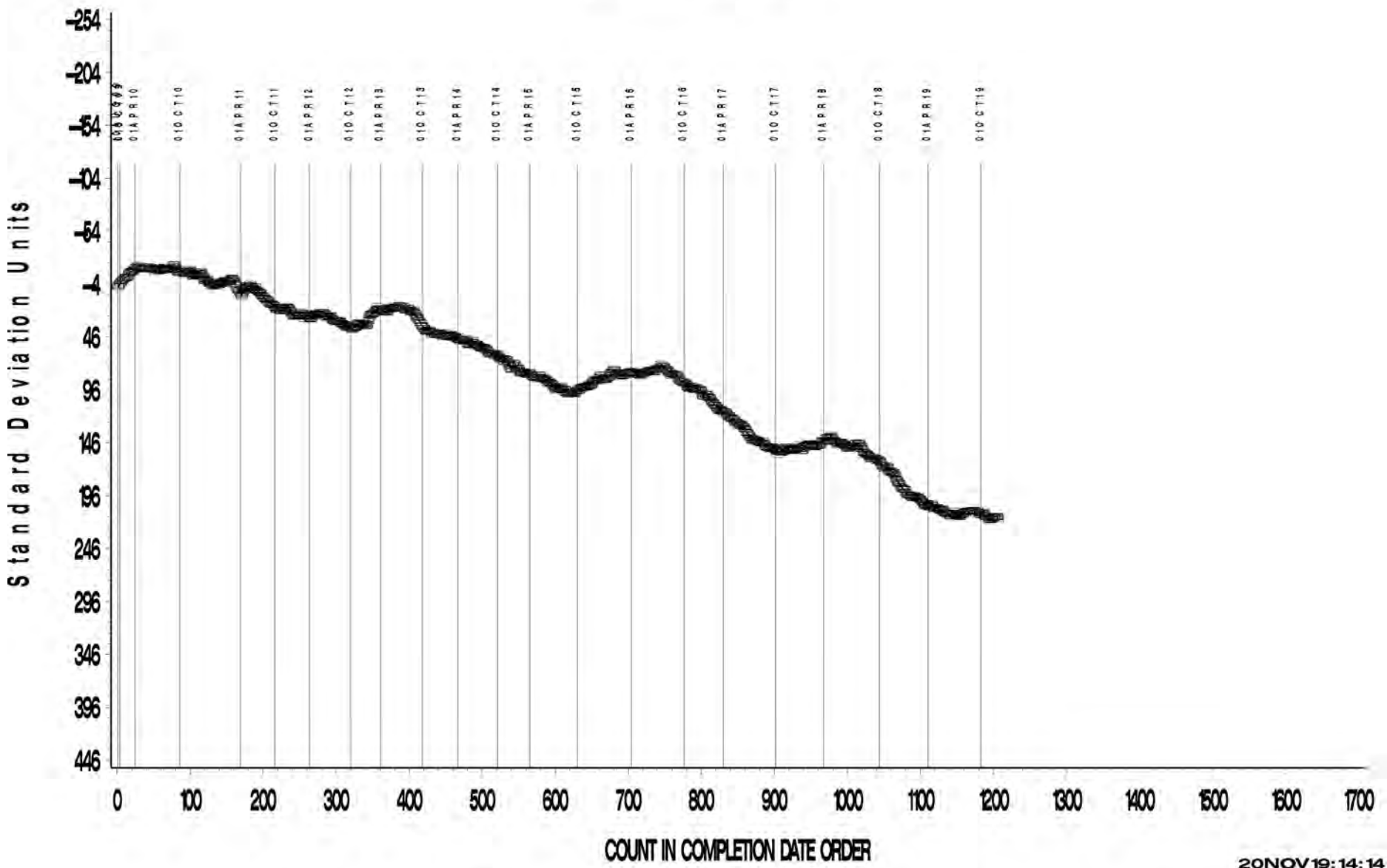
REF FLUOROELASTOMER VOLUME CHANGE AVERAGE

CUSUM Severity Analysis



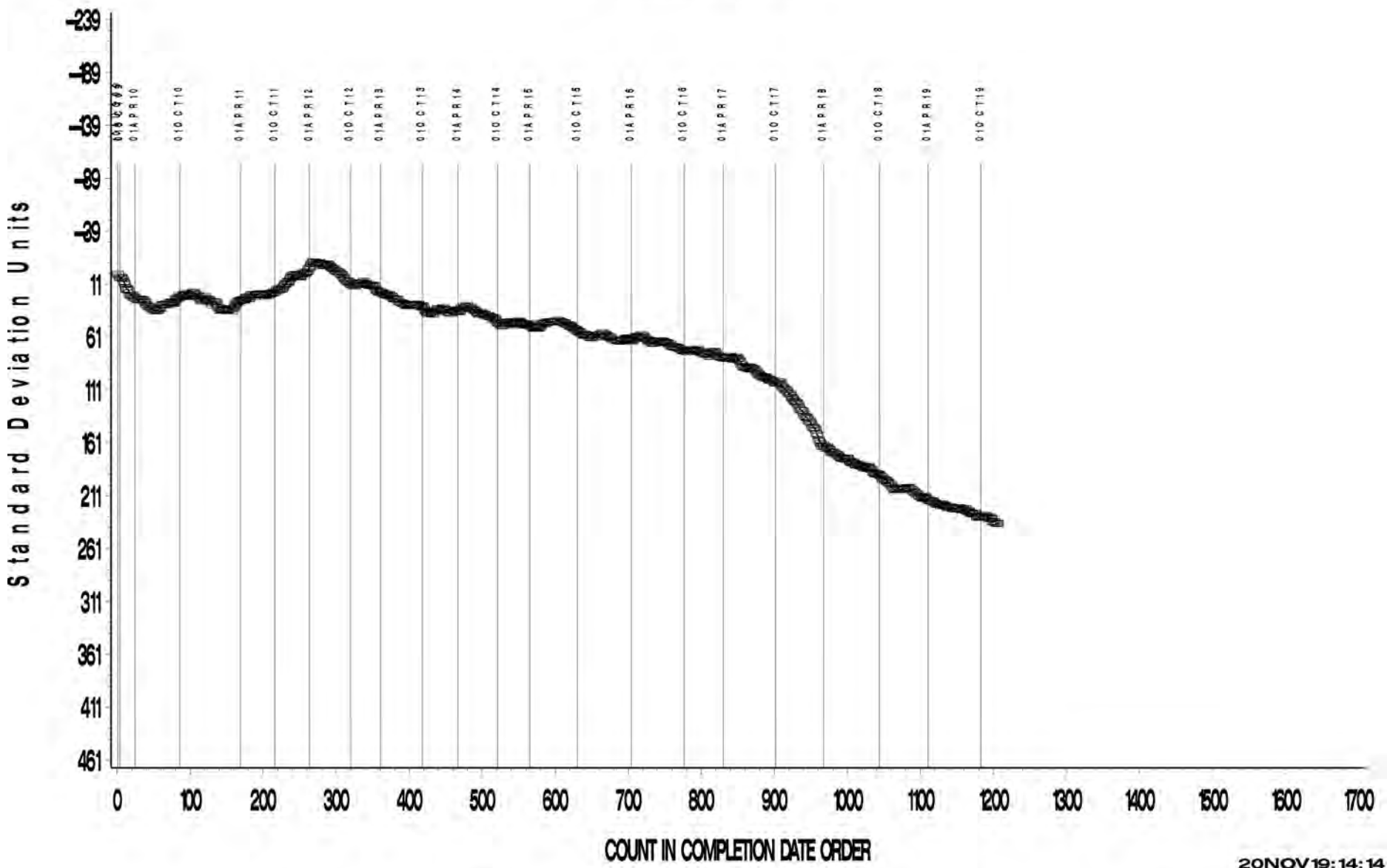
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CUSUM Severity Analysis



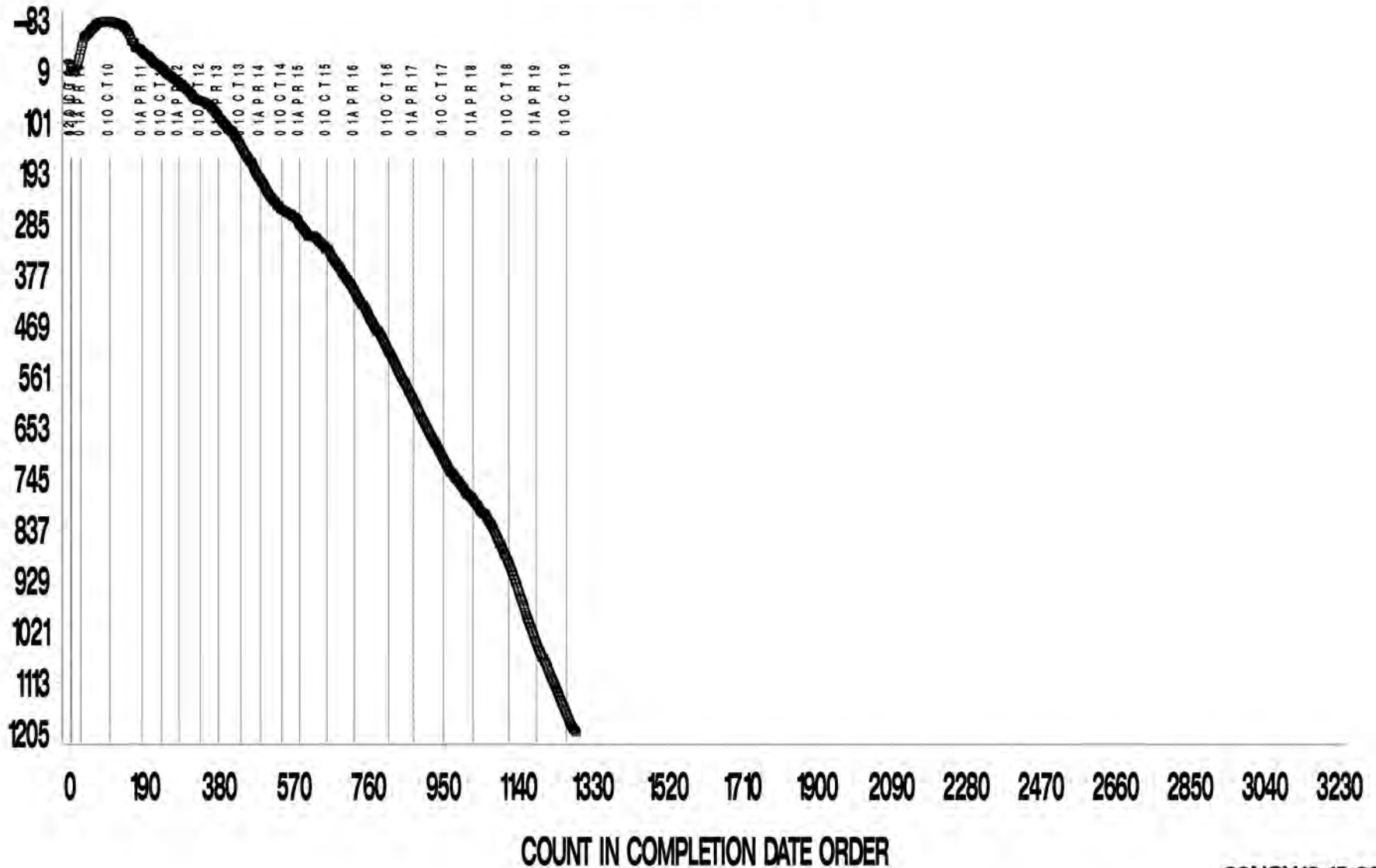
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CUSUM Severity Analysis



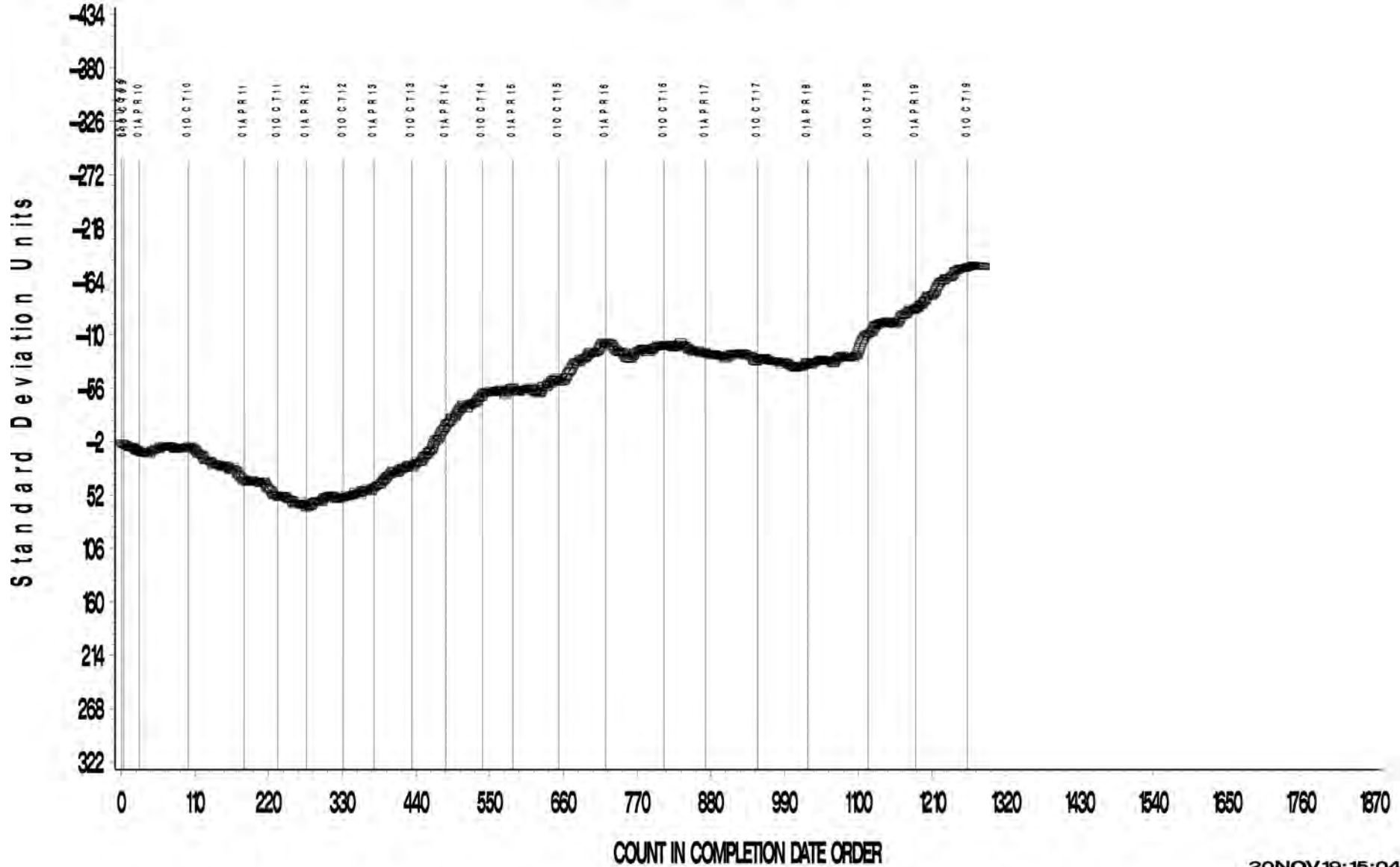
REFERENCE NITRILE VOLUME CHANGE AVERAGE

CUSUM Severity Analysis



REF NITRILE POINTS HARDNESS CHANGE AVERAGE

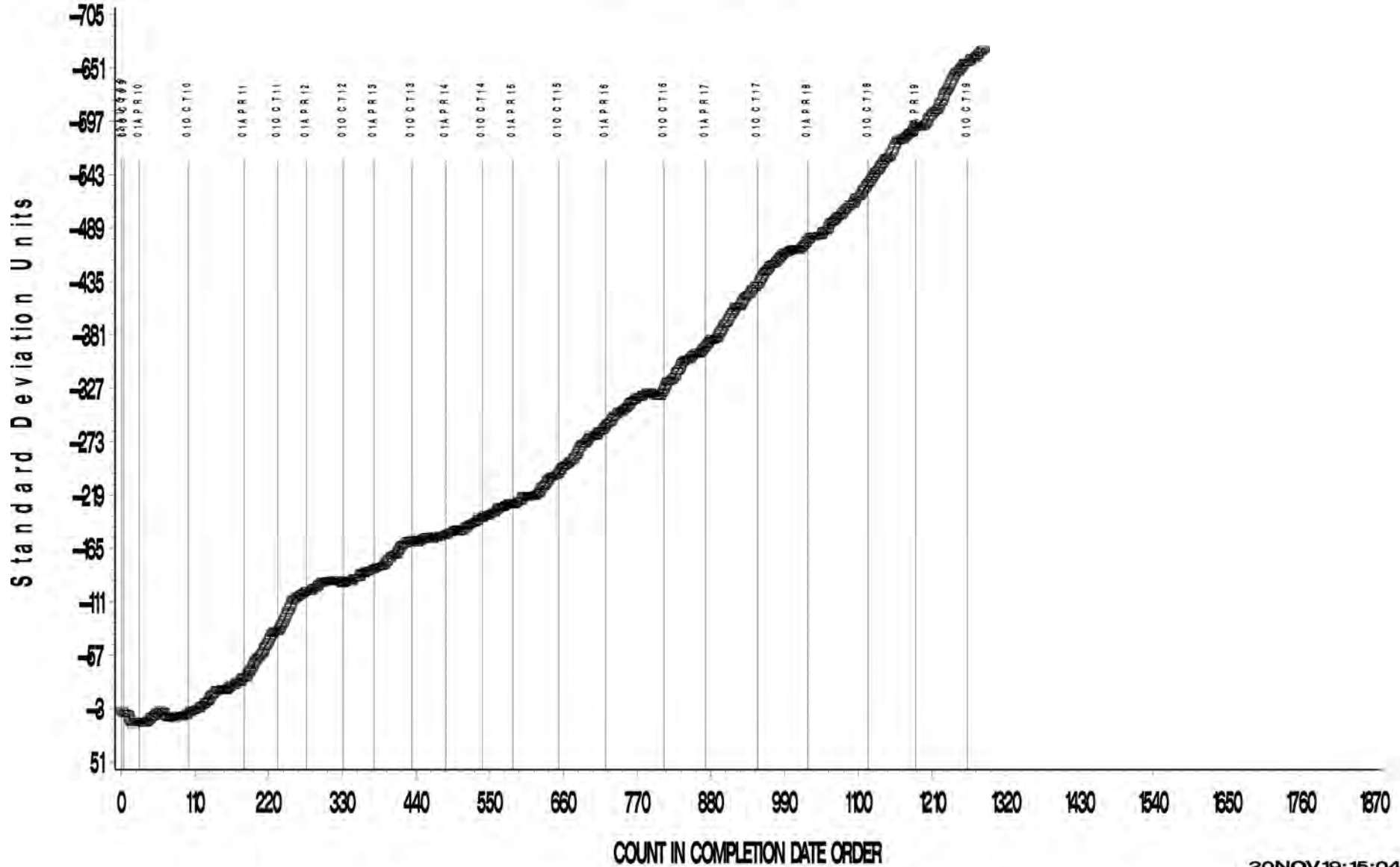
CUSUM Severity Analysis





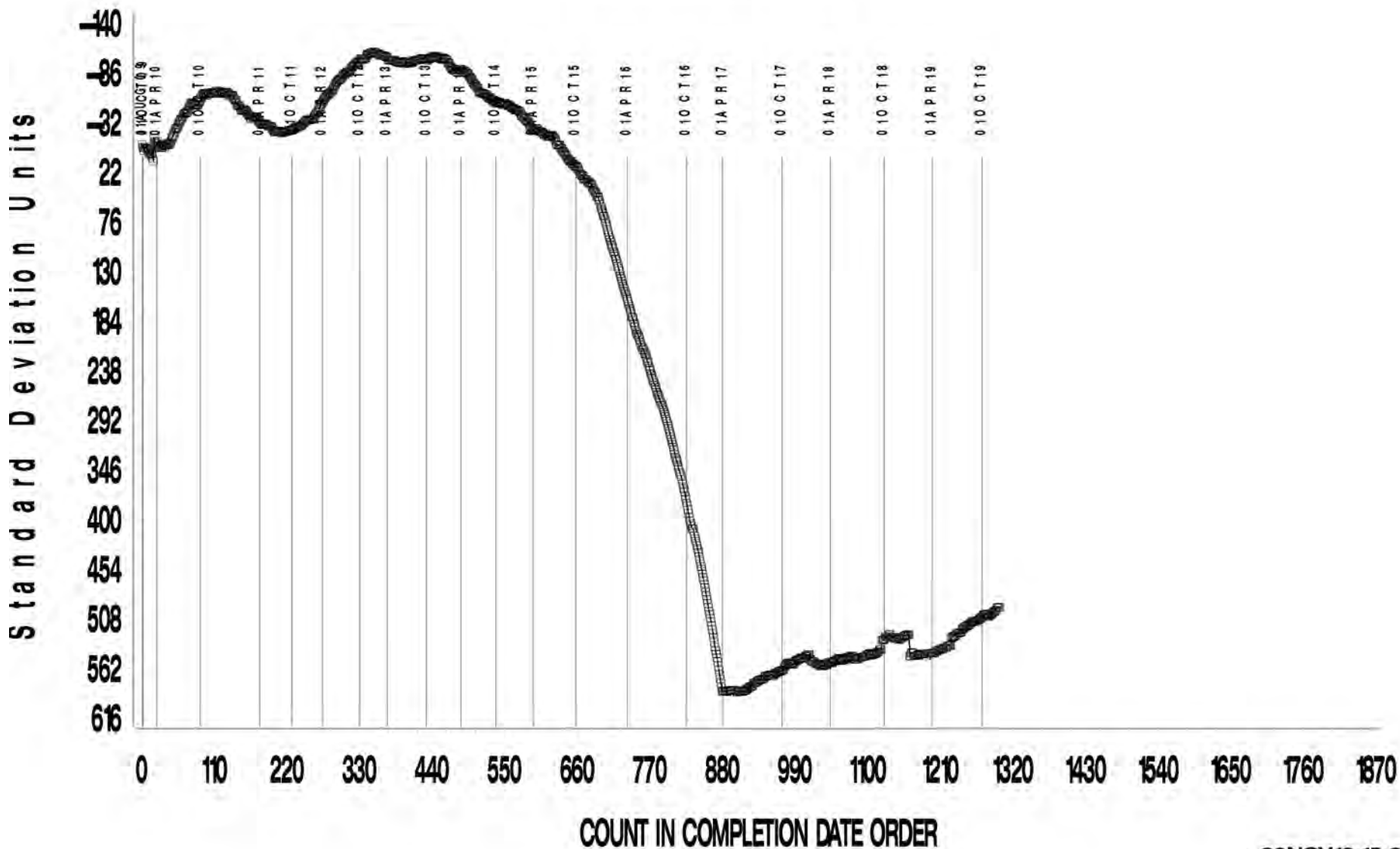
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CUSUM Severity Analysis



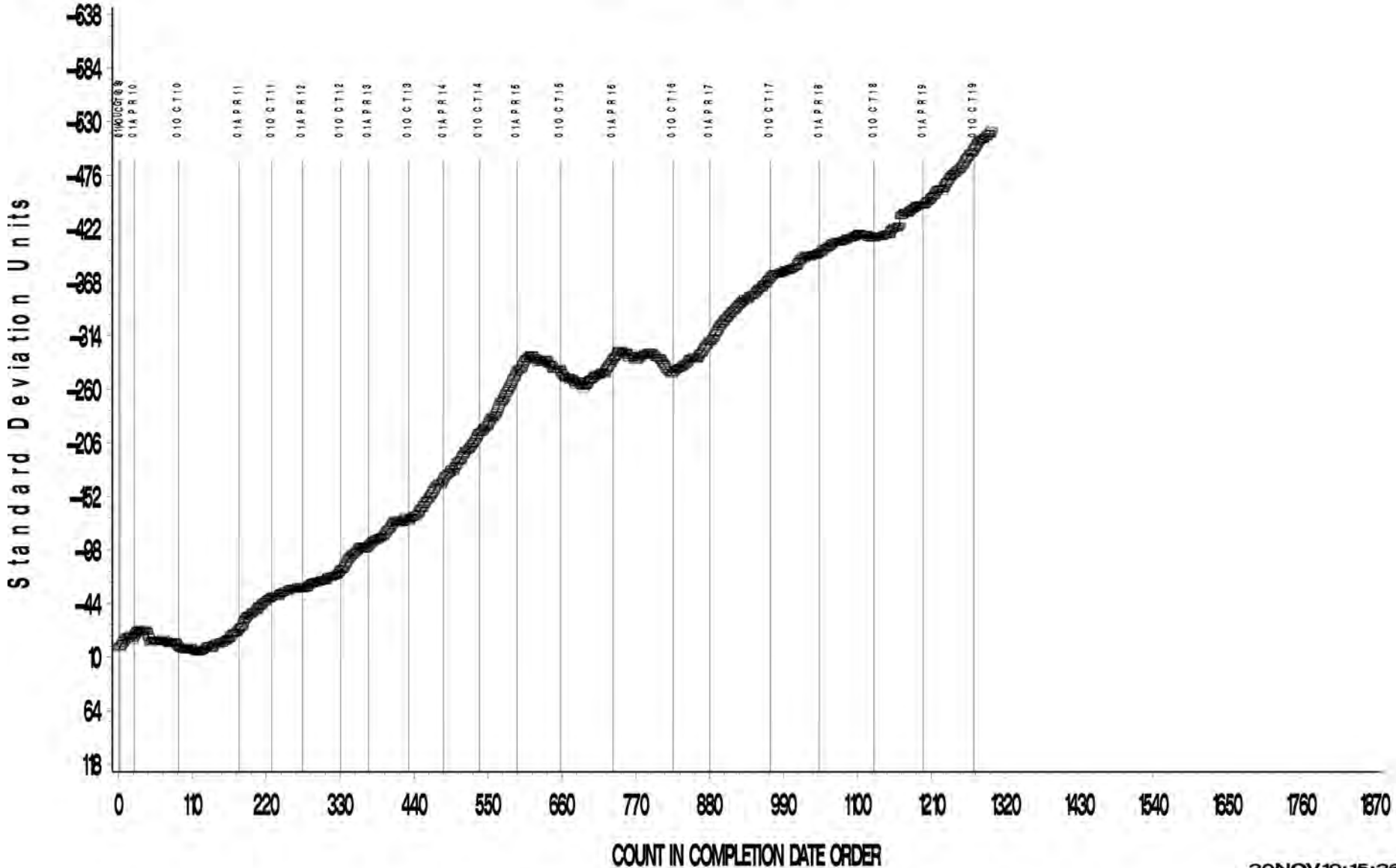
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CUSUM Severity Analysis



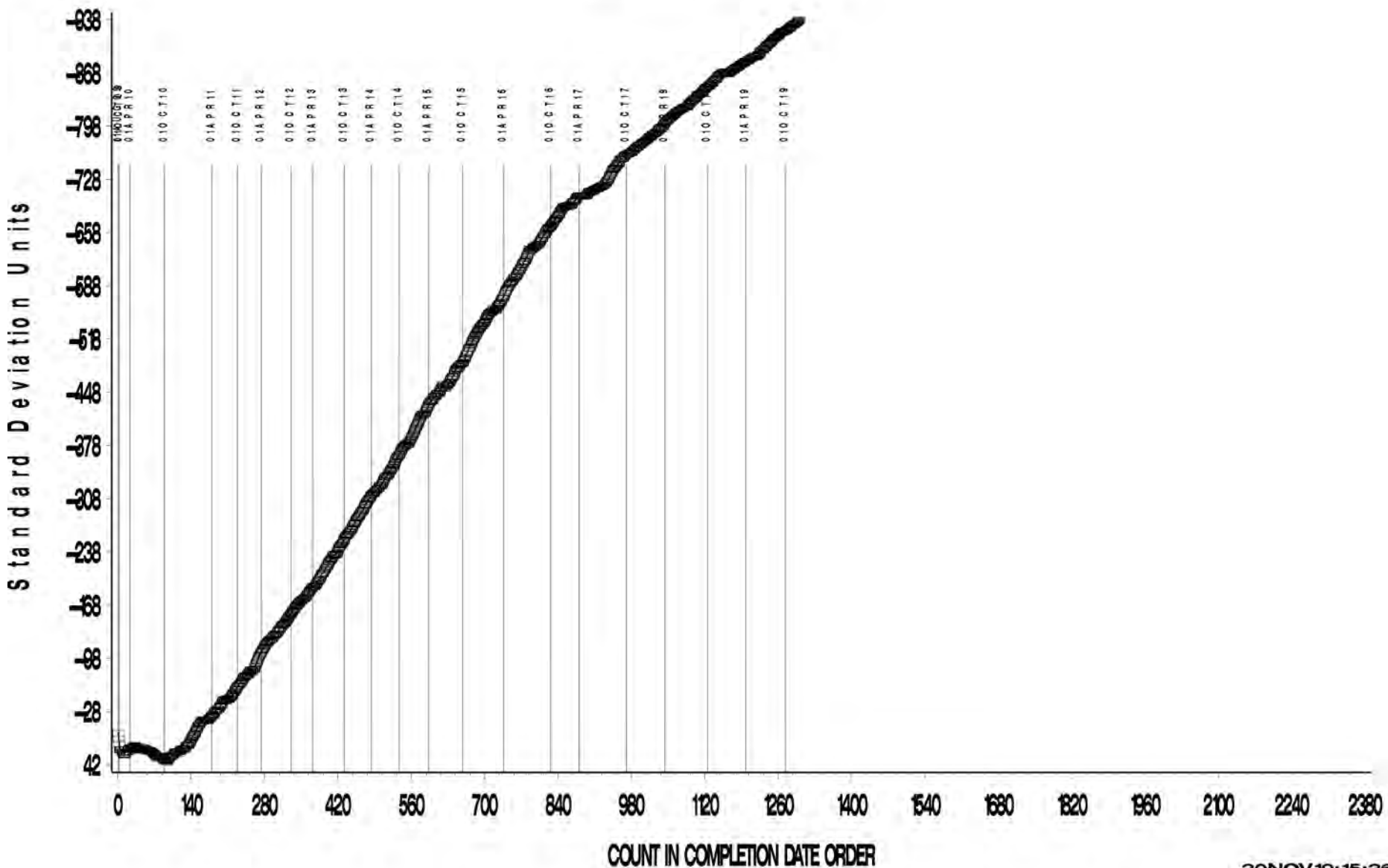
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CUSUM Severity Analysis



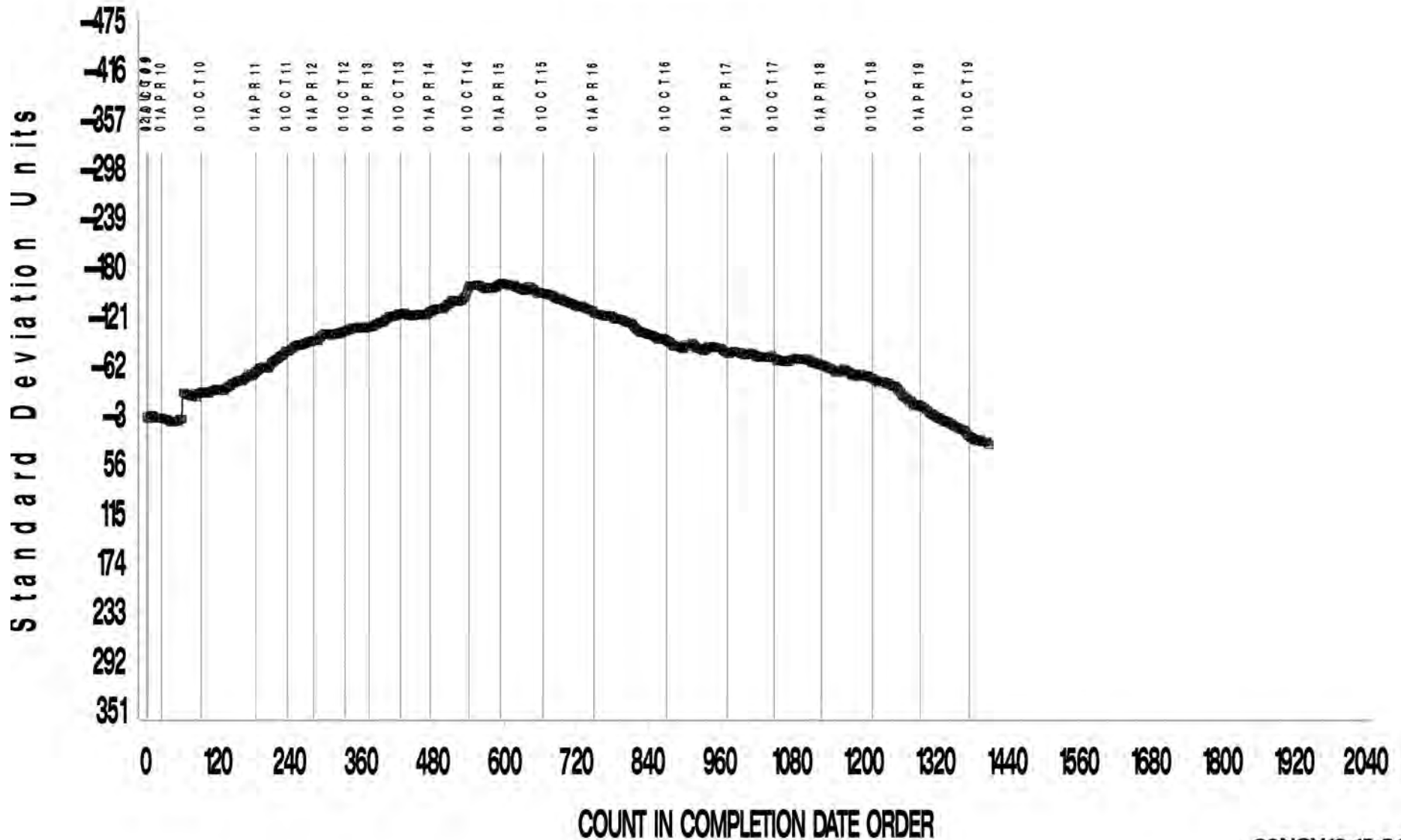
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CUSUM Severity Analysis



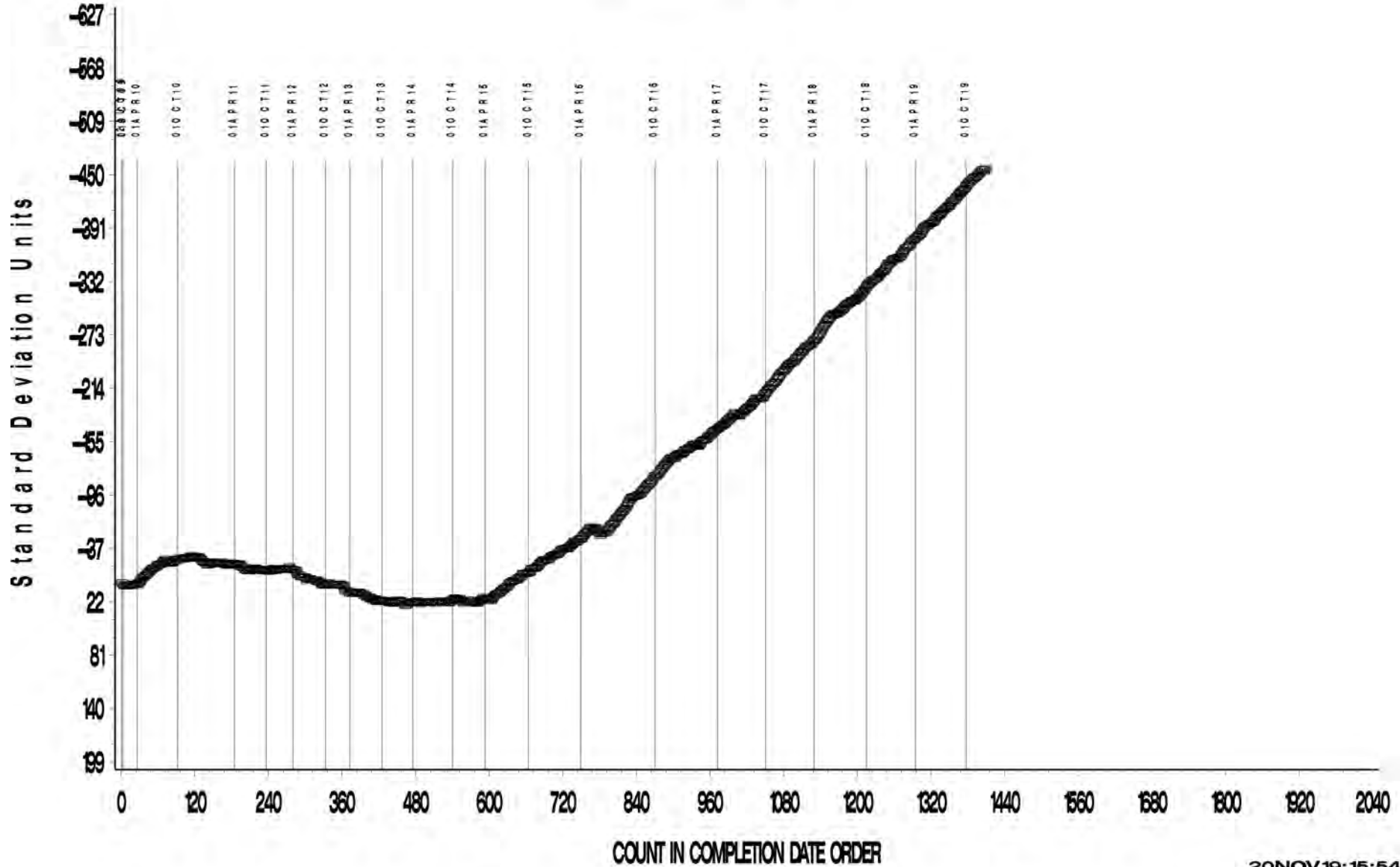
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CUSUM Severity Analysis



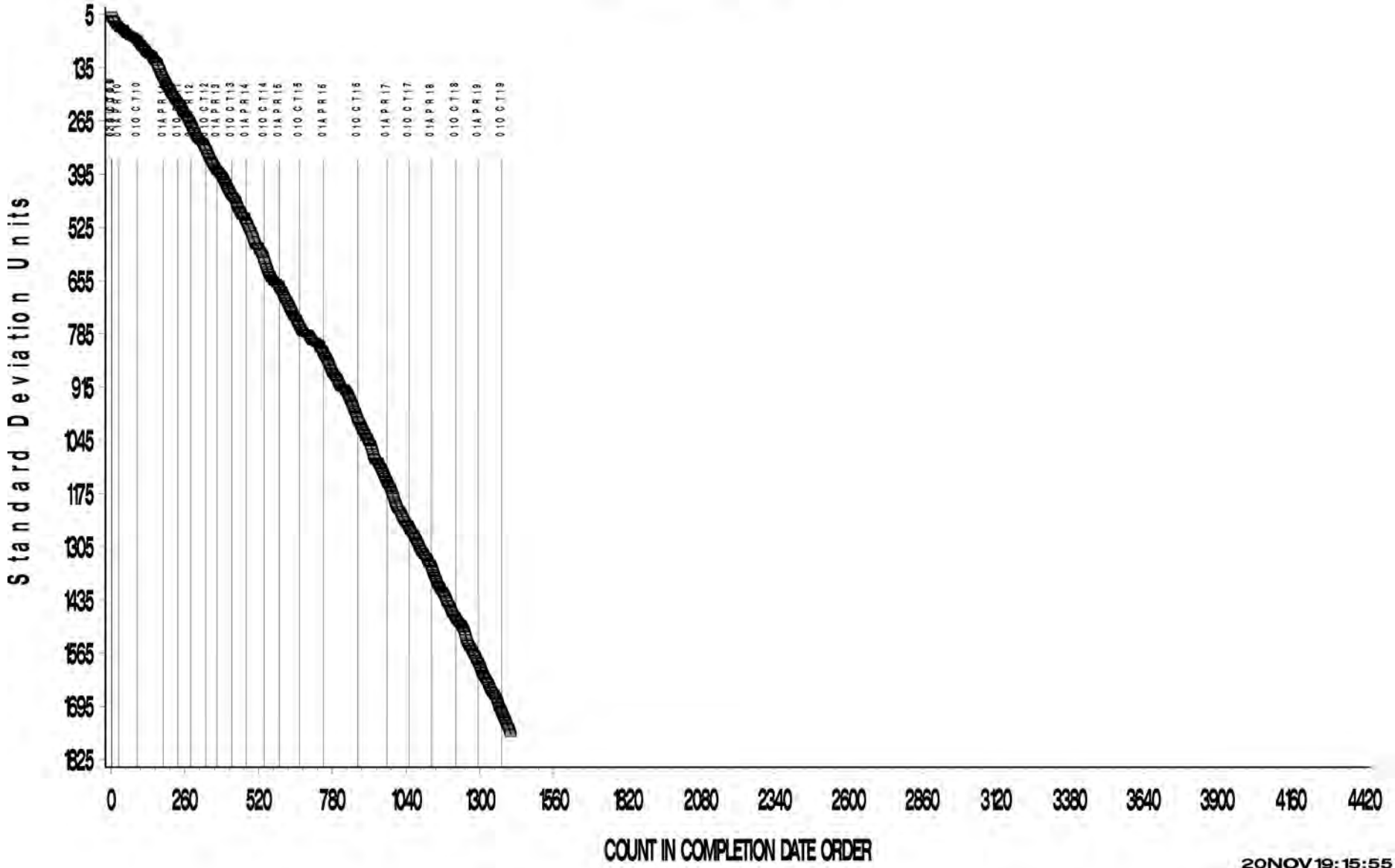
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CUSUM Severity Analysis

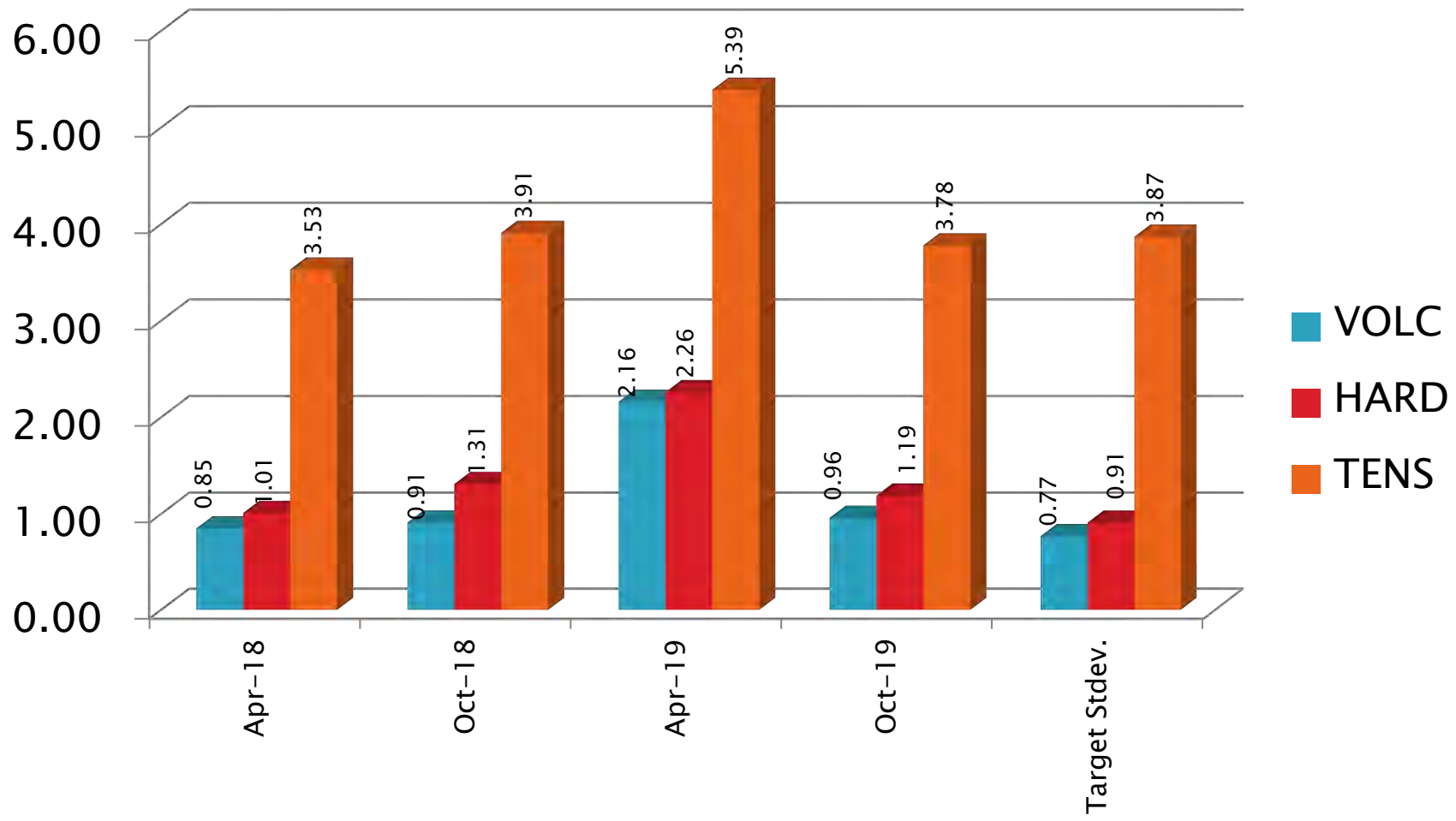


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CUSUM Severity Analysis

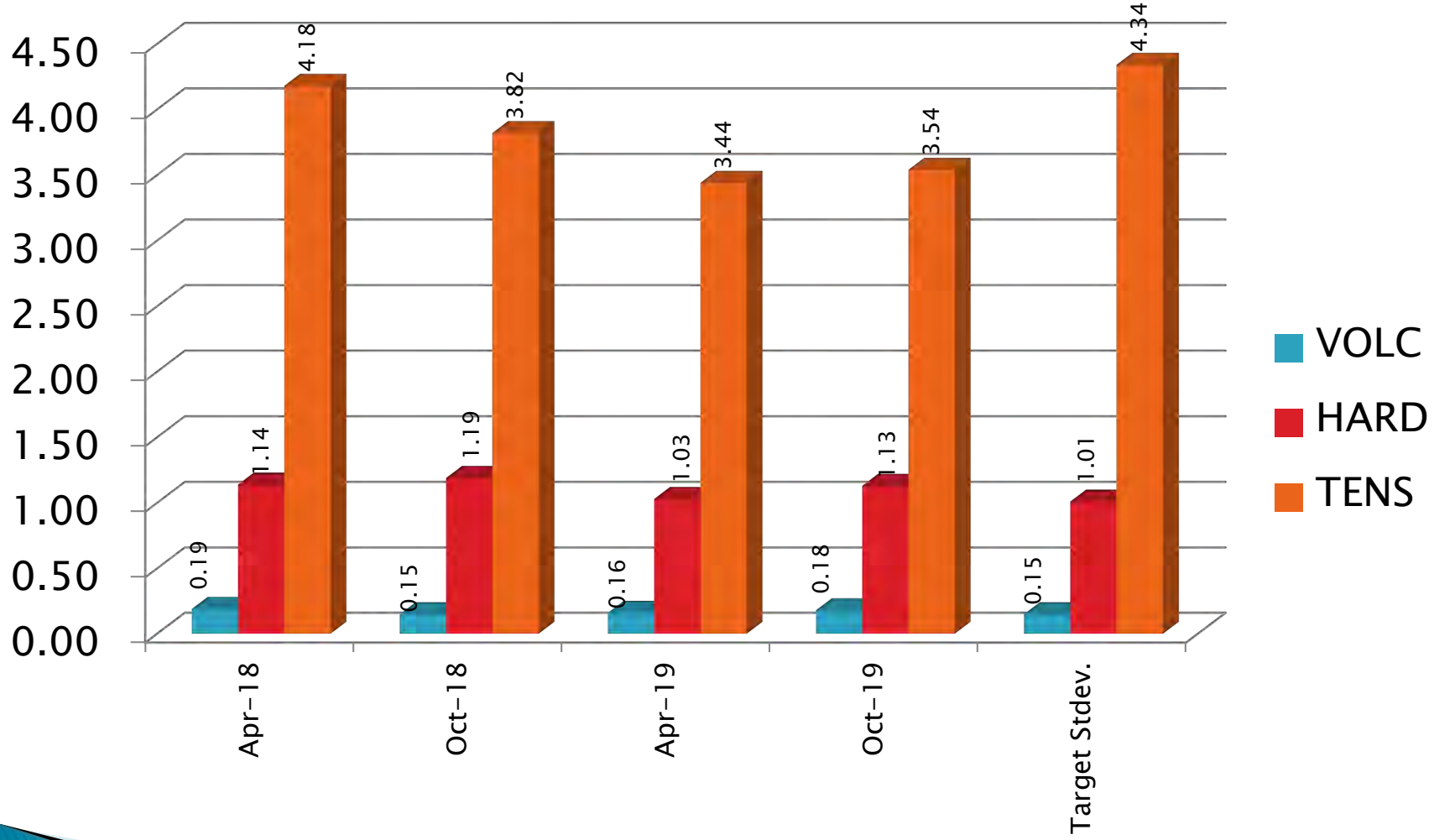


# LDEOC Precision Estimates - Ethylene Acrylate

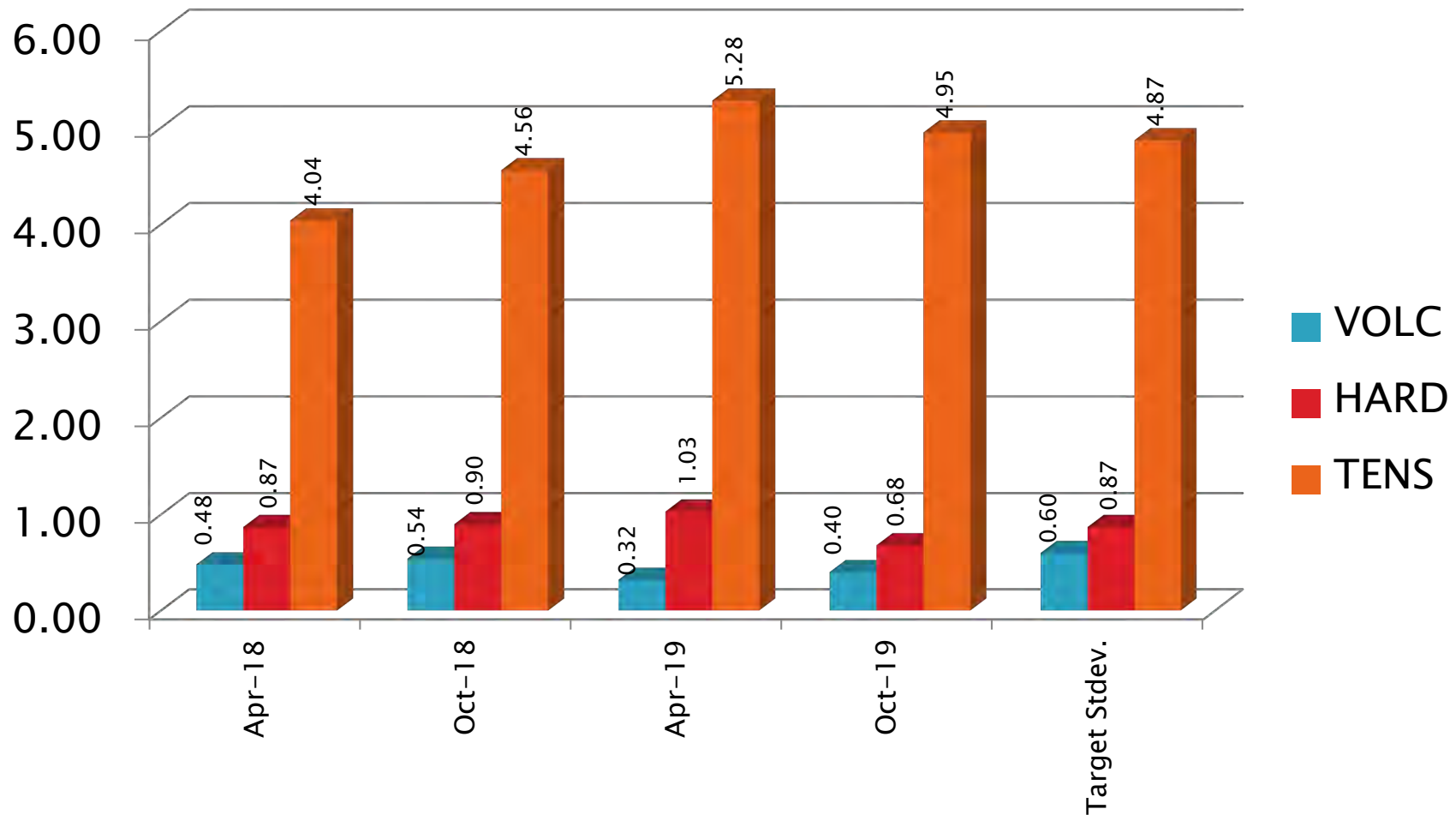




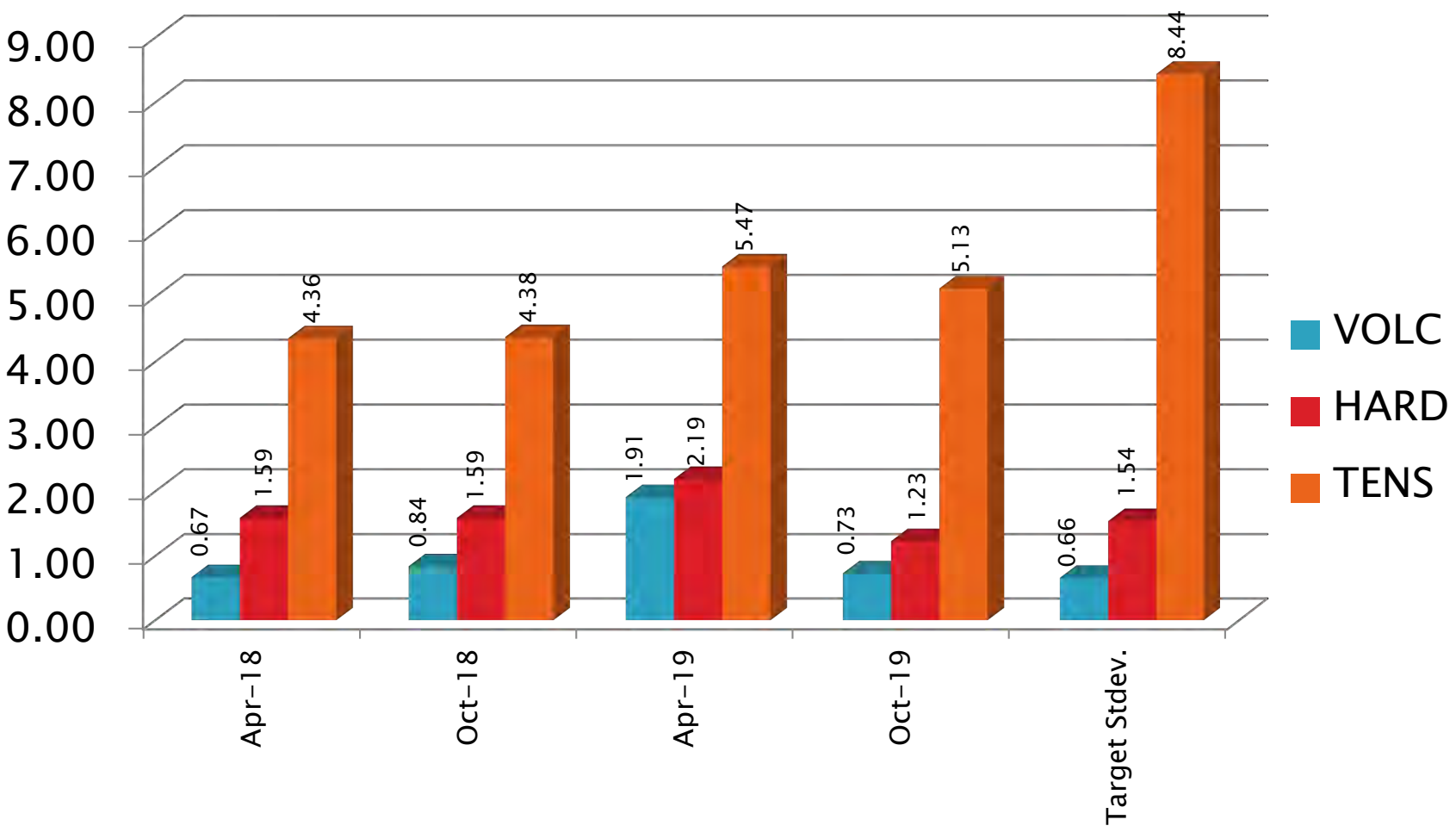
# LDEOC Precision Estimates - Fluoroelastomer



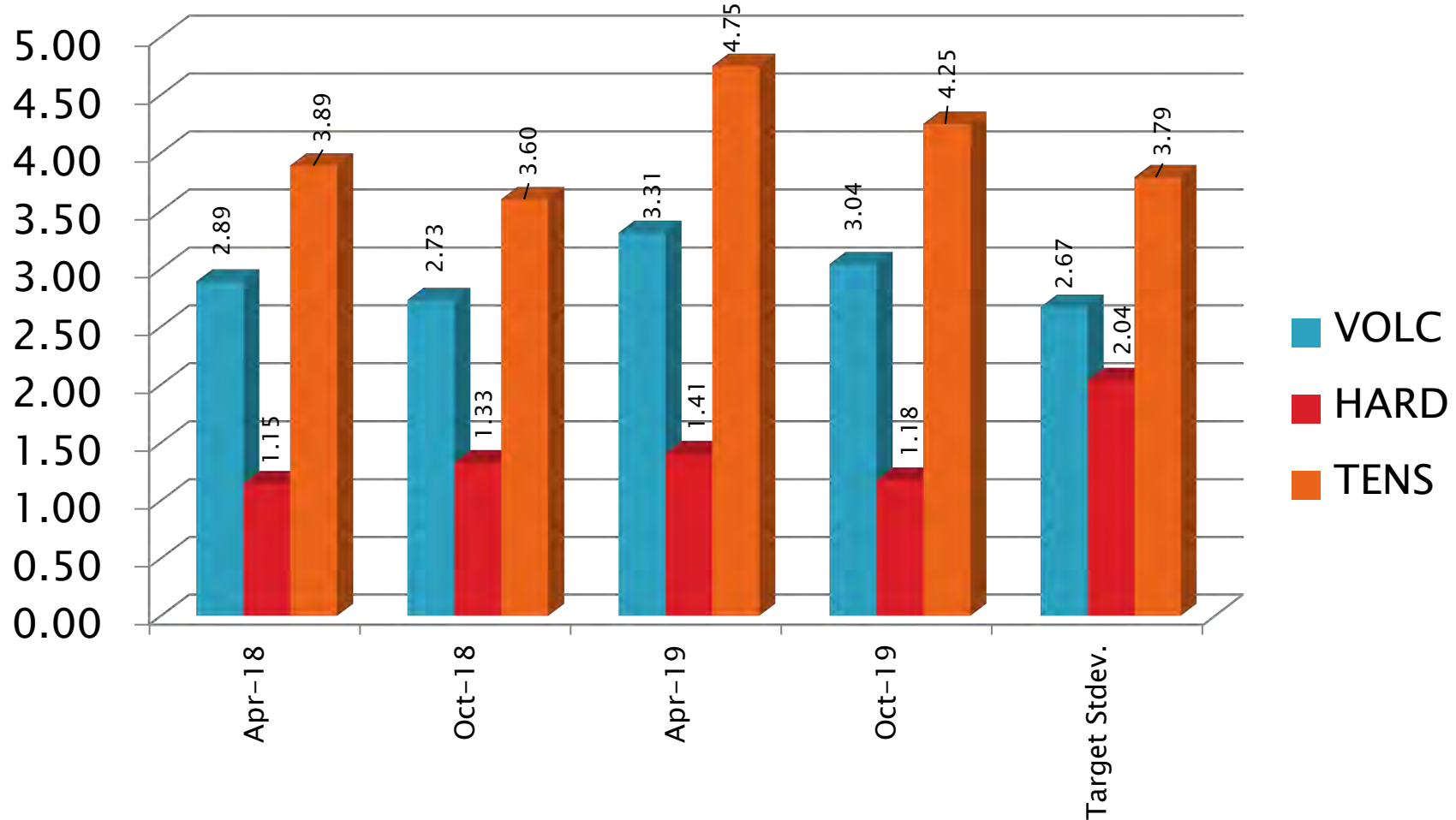
# LDEOC Precision Estimates - Nitrile



# EOEC Precision Estimates – Polyacrylate



# EOEC Precision Estimates - Silicone



# Information Letters\*

Test	Date	IL	Topic
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\*Available from TMC Website

# Reference Oil Inventory Estimated Life

Oil	TMC Inventory Gallons	Gallons Shipped Past 12 Months	Estimated Life
1006-2 <sup>A</sup>	55	456	< 3 Months
SL107 <sup>A, B</sup>	3759	108	5+ years

<sup>A</sup>TMC Inventory is used across several test methods

<sup>B</sup>1006 reblends are no longer available. SL107 is the replacement oil, targets pending approval.

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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
- ▶ [www.astmtmc.cmu.edu](http://www.astmtmc.cmu.edu)



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