




Test Monitoring Center

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

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

MEMORANDUM: 13-019
DATE: April 12, 2013
TO: Don Bell, Chairman, OSCT Surveillance Panel
FROM: Scott Parke 
SUBJECT: OSCT Testing from October 1, 2012 through March 31, 2013

Please find attached a summary of testing activity this period.

SDP/sdp/mem13-019.sdp.doc

cc: Frank Farber
Jeff Clark

OSCT Surveillance Panel

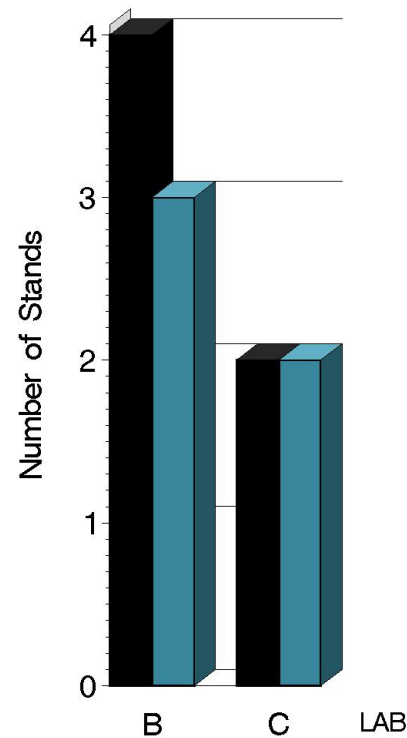
<ftp://ftp.astmtmc.cmu.edu/docs/gear/osct/semiannualreports/osct-04-2013.pdf>



Distribution: email

OSCT (D5662)

| | Reporting Data | Calibrated on 3-31-13 |
|------------------|----------------|-----------------------|
| Number of Labs | 2 | 2 |
| Number of Stands | 6 | 5 |

BY-LAB STAND DISTRIBUTION



Report Period:  Current  Previous

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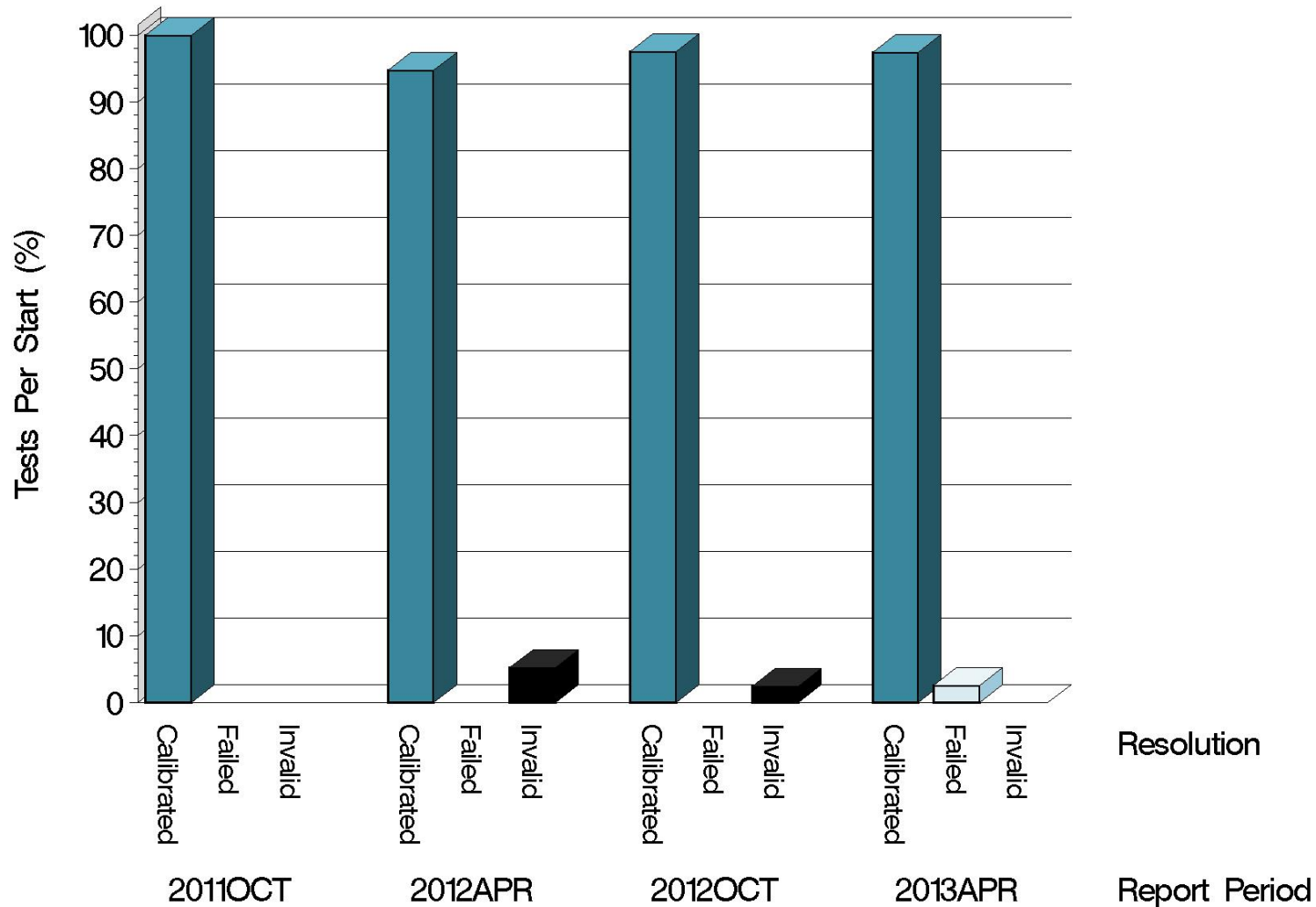
OSCT (D5662)

Test Distribution by Oil and Validity

| | | FL | NI | PA | Totals | |
|---------------------------|----|-----------|-----------|-----------|-------------|-------------|
| | | | | | Last Period | This Period |
| Accepted for calibration | AC | 14 | 10 | 14 | 40 | 38 |
| Rejected (low result) | OC | 0 | 0 | 0 | 0 | 0 |
| Rejected (high result) | OC | 0 | 0 | 1 | 0 | 1 |
| Invalidated | LC | 0 | 0 | 0 | 1 | 0 |
| Aborted | XC | 0 | 0 | 0 | 0 | 0 |
| Elastomer approval run | NI | 12 | 0 | 11 | 15 | 23 |
| Unacceptable approval run | MI | 0 | 0 | 2 | 0 | 2 |
| Total | | 26 | 10 | 28 | 56 | 64 |

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CALIBRATION ATTEMPT SUMMARY



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CAUSES FOR LOST TESTS

| Lab | Cause | Oil | | | Validity | | | Loss Rate | | |
|-----|---------------------|-----|----|----|----------|----|----|-----------|--------|----|
| | | FL | NI | PA | LC | RC | XC | Lost | Starts | % |
| | No tests were lost. | | | | | | | 0 | 64 | 0% |
| | Lost | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | Starts | 26 | 10 | 28 | 64 | 64 | 64 | | | |
| | % | 0% | 0% | 0% | 0% | 0% | 0% | | | |

Lost tests are calibration attempts that were either aborted or operationally invalid

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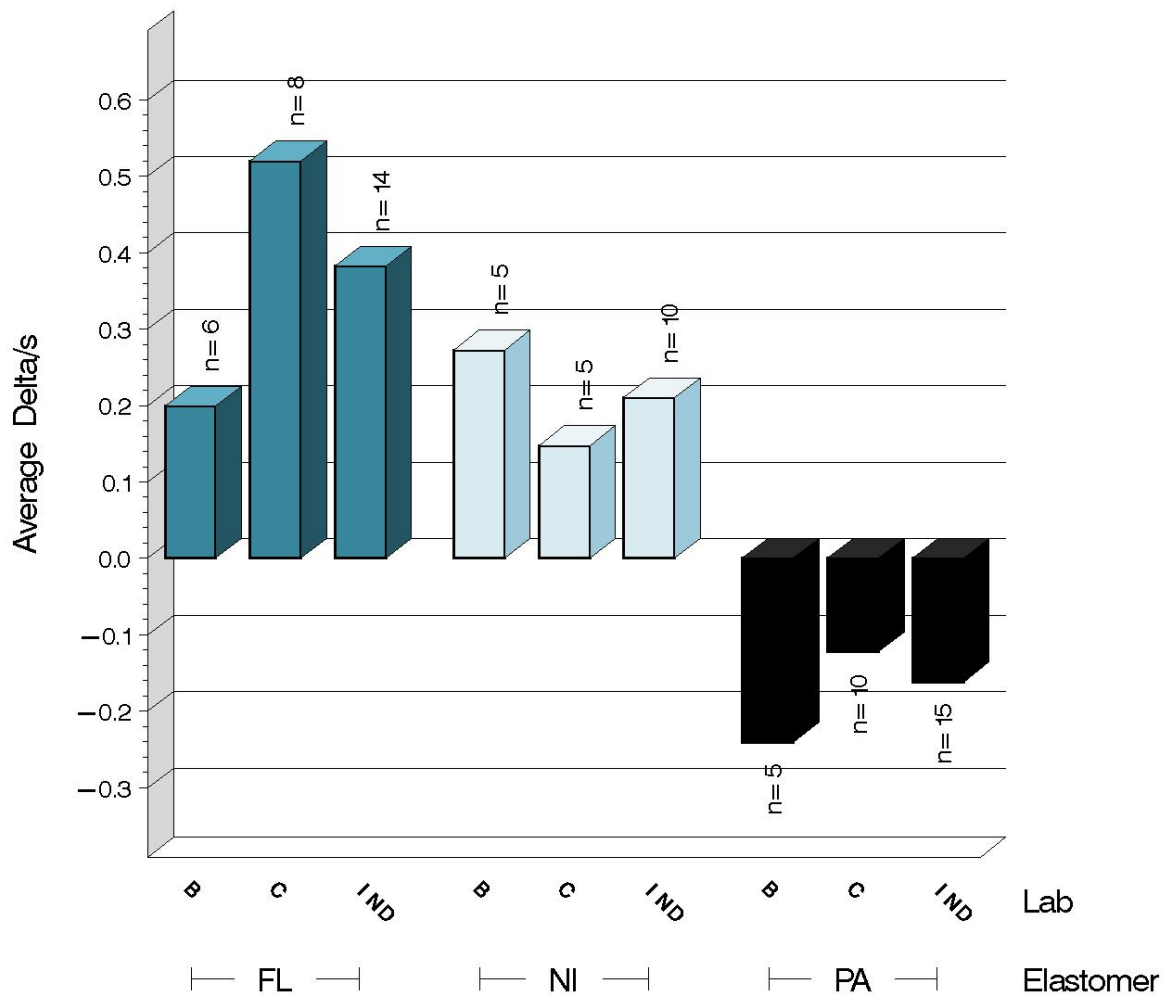
| Average Δ/s by Lab | | | | | |
|---------------------------|----------|----|--------|--------|--------|
| Elastomer | Lab | n | PELA | PVCA | SAHA |
| FL | B | 6 | 0.200 | -1.136 | -0.137 |
| | C | 8 | 0.520 | -0.277 | 0.018 |
| | Industry | 14 | 0.383 | -0.645 | -0.048 |
| | Shift* | 14 | 2.913 | -0.357 | -0.068 |
| NI | B | 5 | 0.273 | -0.024 | -0.248 |
| | C | 5 | 0.148 | -0.157 | 0.189 |
| | Industry | 10 | 0.210 | -0.090 | -0.030 |
| | Shift* | 10 | 1.189 | -0.055 | -0.039 |
| PA | B | 5 | -0.240 | -0.204 | 0.488 |
| | C | 10 | -0.122 | 0.473 | 0.014 |
| | Industry | 15 | -0.162 | 0.248 | 0.172 |
| | Shift* | 15 | -3.577 | 0.387 | 0.447 |

*computed using historic pooled s

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%ELONGATION SEVERITY

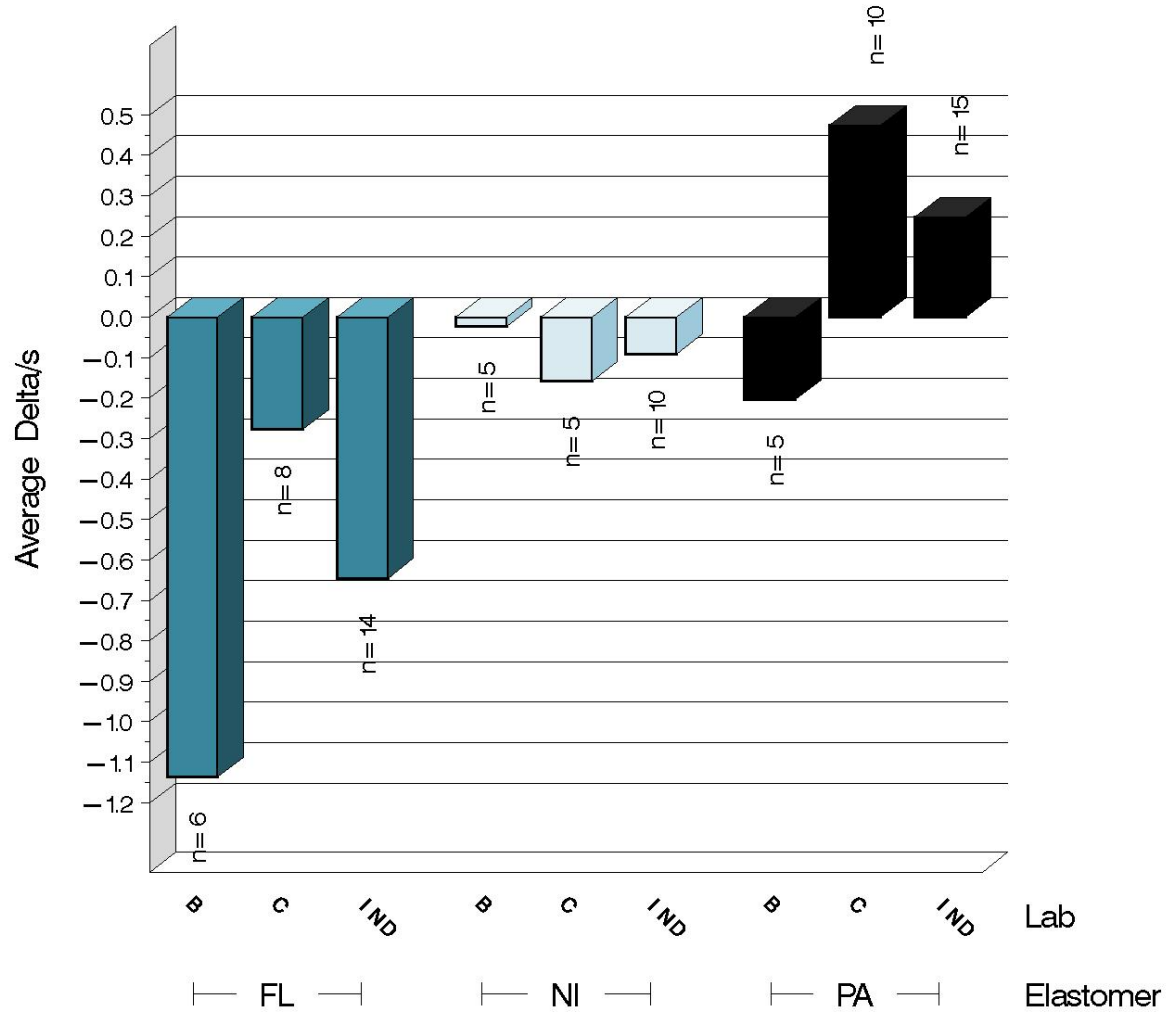
DELTA/S BY LAB



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%VOLUME CHANGE SEVERITY DELTA/S BY LAB

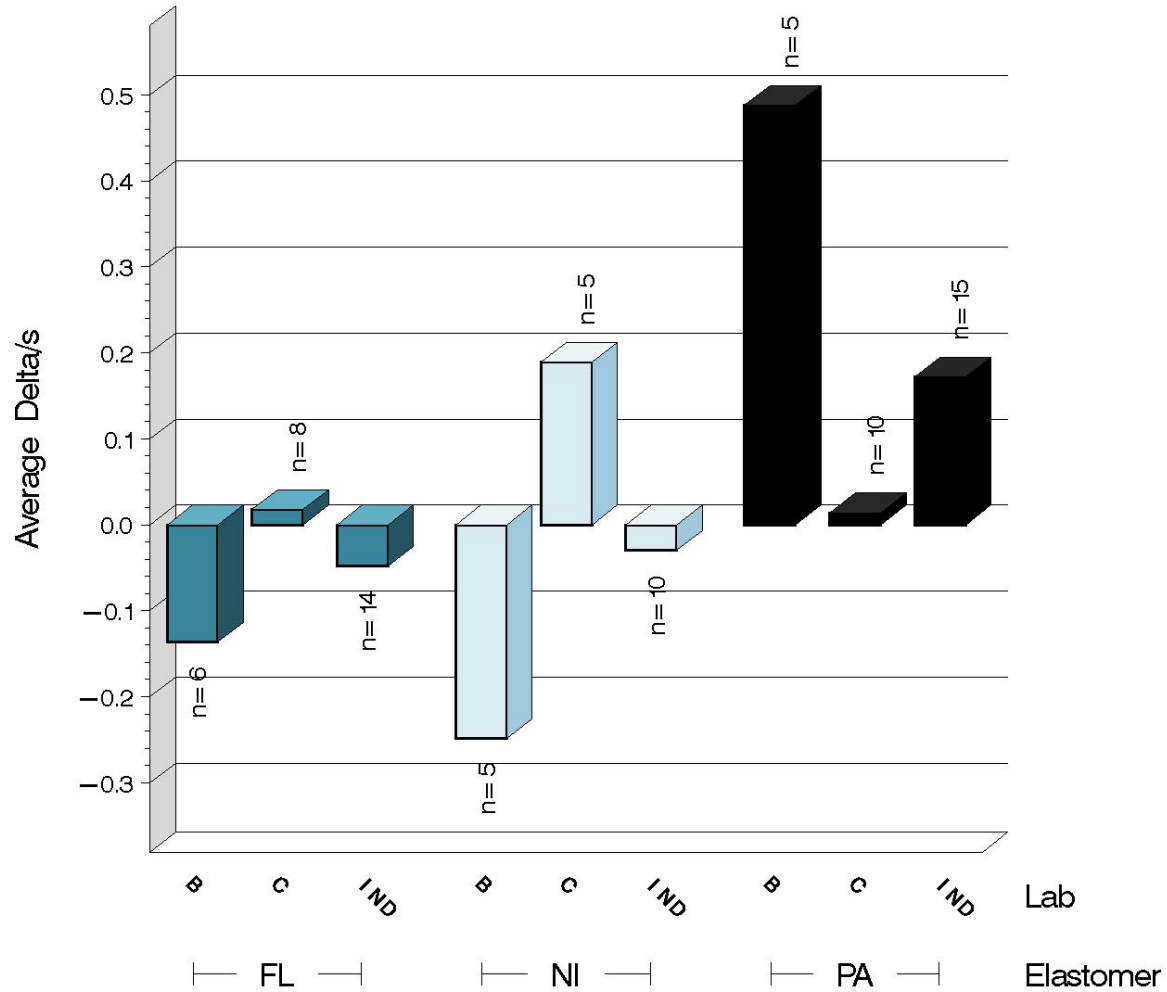


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OSCT (D5662)

S.A. HARDNESS SEVERITY

DELTA/S BY LAB

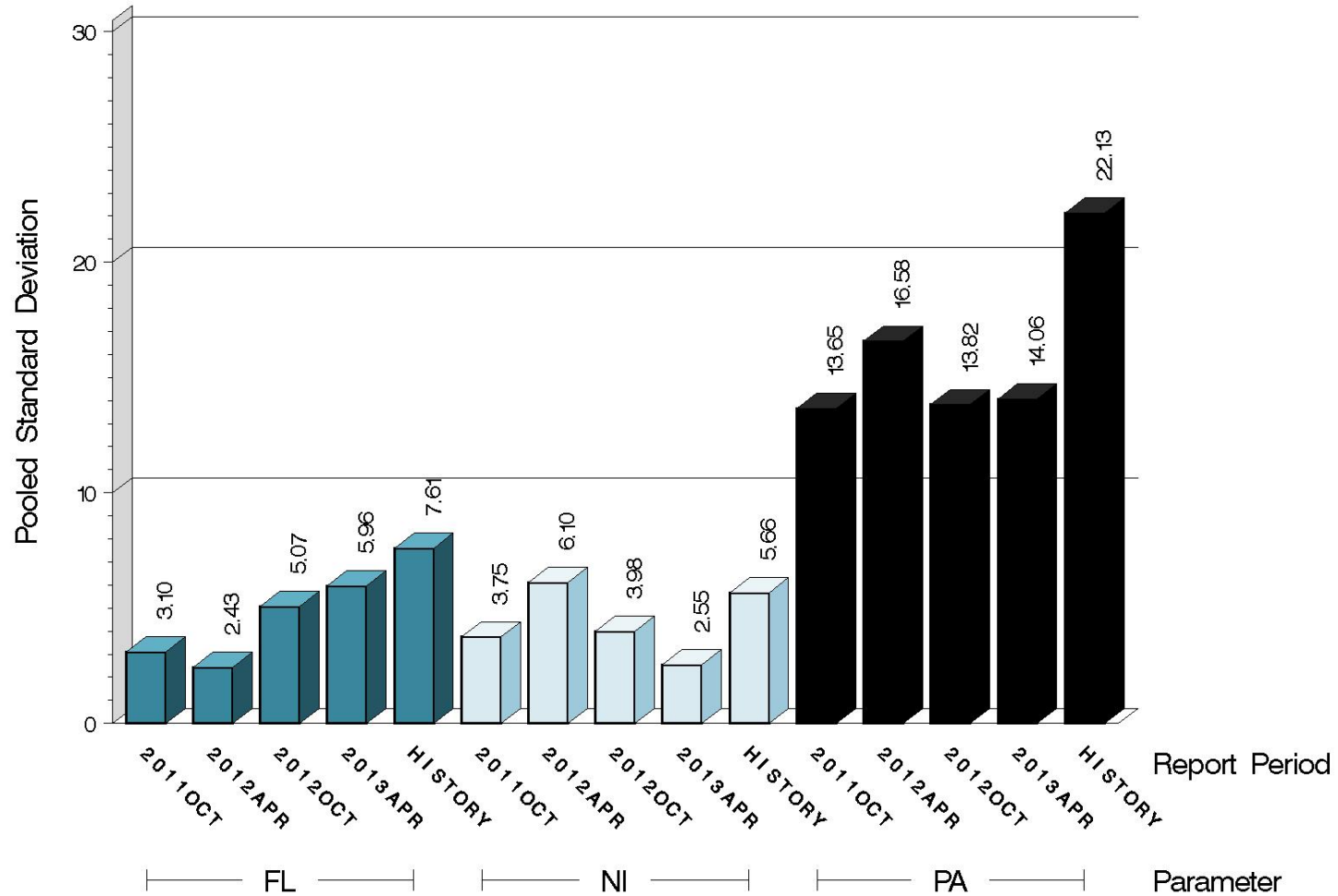


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OSCT (D5662)

%ELONGATION PRECISION

POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD

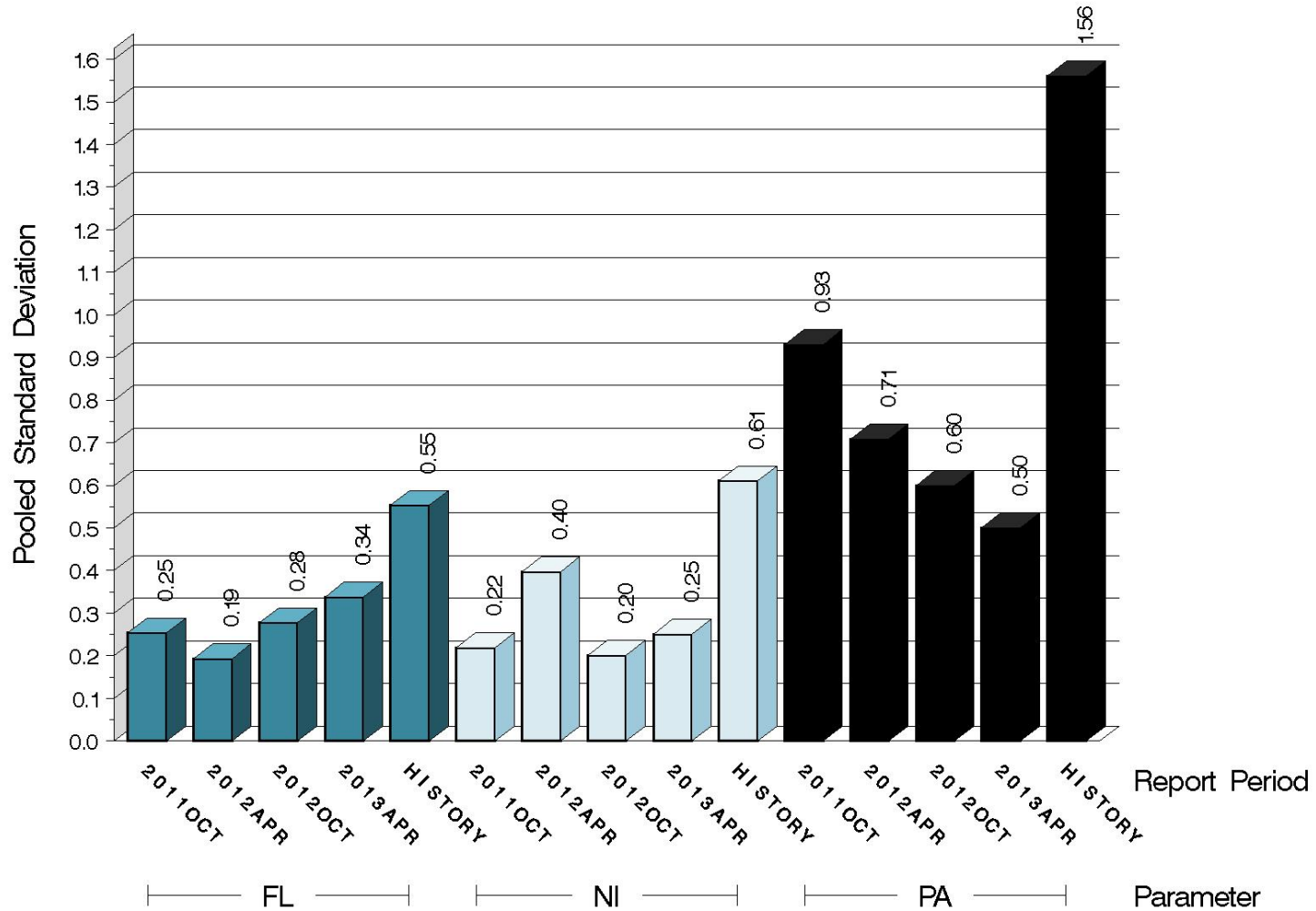


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OSCT (D5662)

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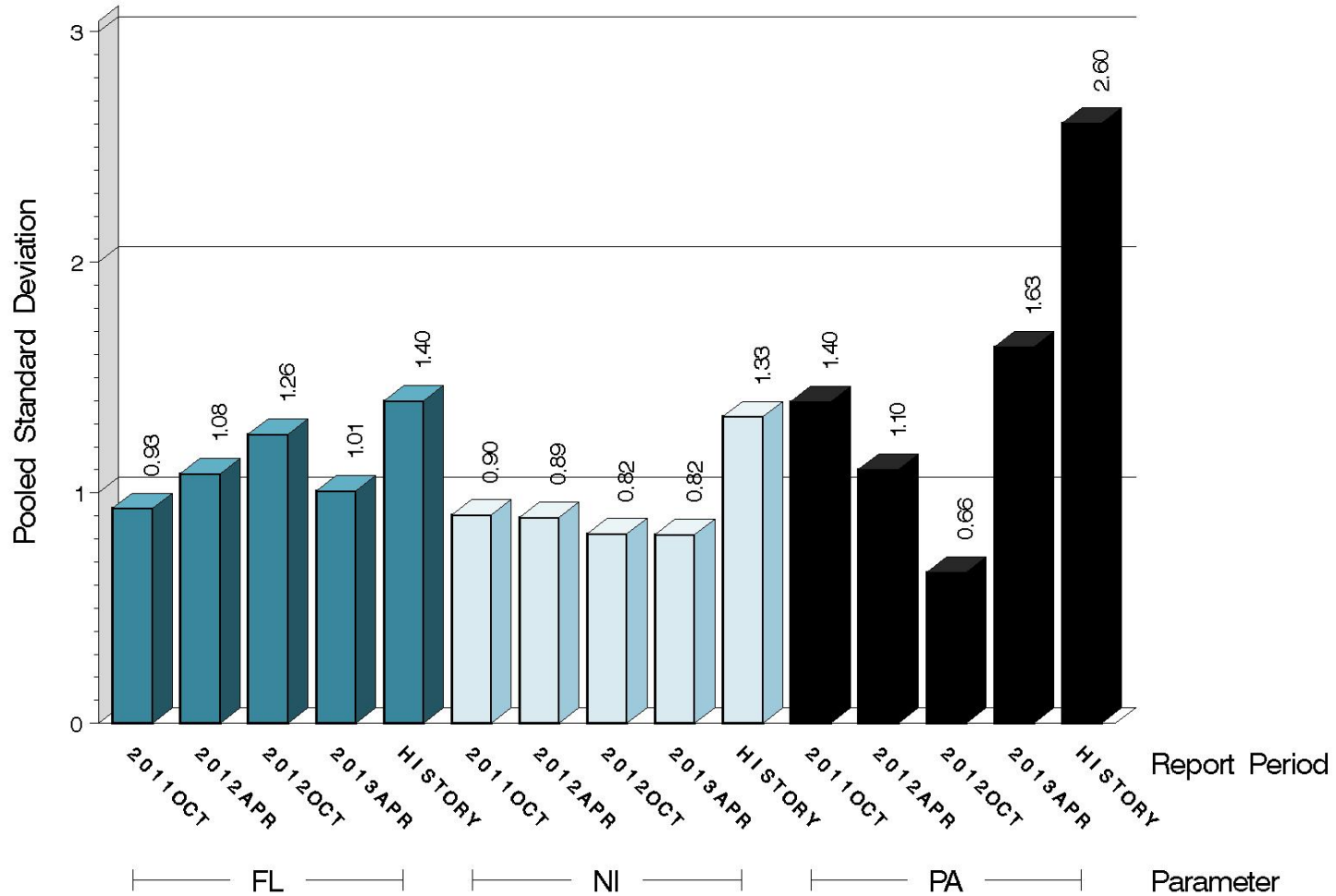


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OSCT (D5662)

S.A. HARDNESS PRECISION

POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD



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OSCT (D5662)

SUMMARY OF SEVERITY & PRECISION

Severity

After an 8 test stretch at the end of last period/beginning of this period where PELA produced higher-than-limits results, all parameters (PVCA, SAHA, and PELA) produced within-limits performance.

Following the standard industry control charts is a page showing by-elastomer severity charts for all three test parameters. Showing all the charts together allows comparing the various parameter/elastomer combinations. The charts are small but are readable for the purpose of discerning overall performance trends. Two of the charts thus presented, polyacrylate PELA and fluoroelastomer PVCA, indicate long-standing off target performance. Polyacrylate PELA results are generally higher than target; fluoroelastomer PVCA results are generally lower. In 2011, the surveillance panel briefly discussed the appropriateness of industry correction factors or revised targets for these two elastomer/parameter combinations but made no changes

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SUMMARY OF SEVERITY & PRECISION (continued)

Precision

Precision for all parameters continues to be good.

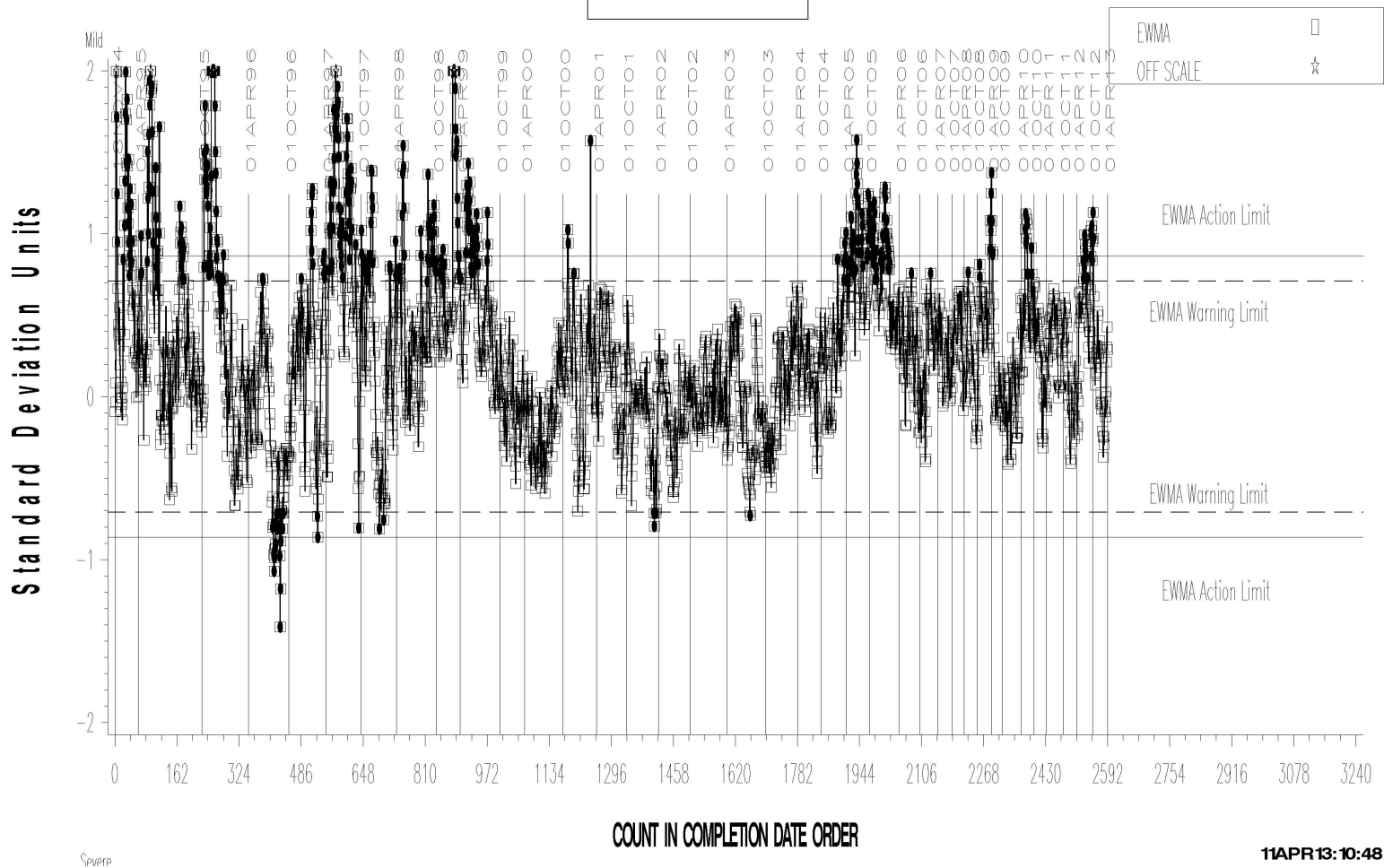
Industry control charts follow.

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OSCT INDUSTRY OPERATIONALLY VALID DATA

REF. ELONGATION CHANGE AVG.

LTMS Severity Analysis

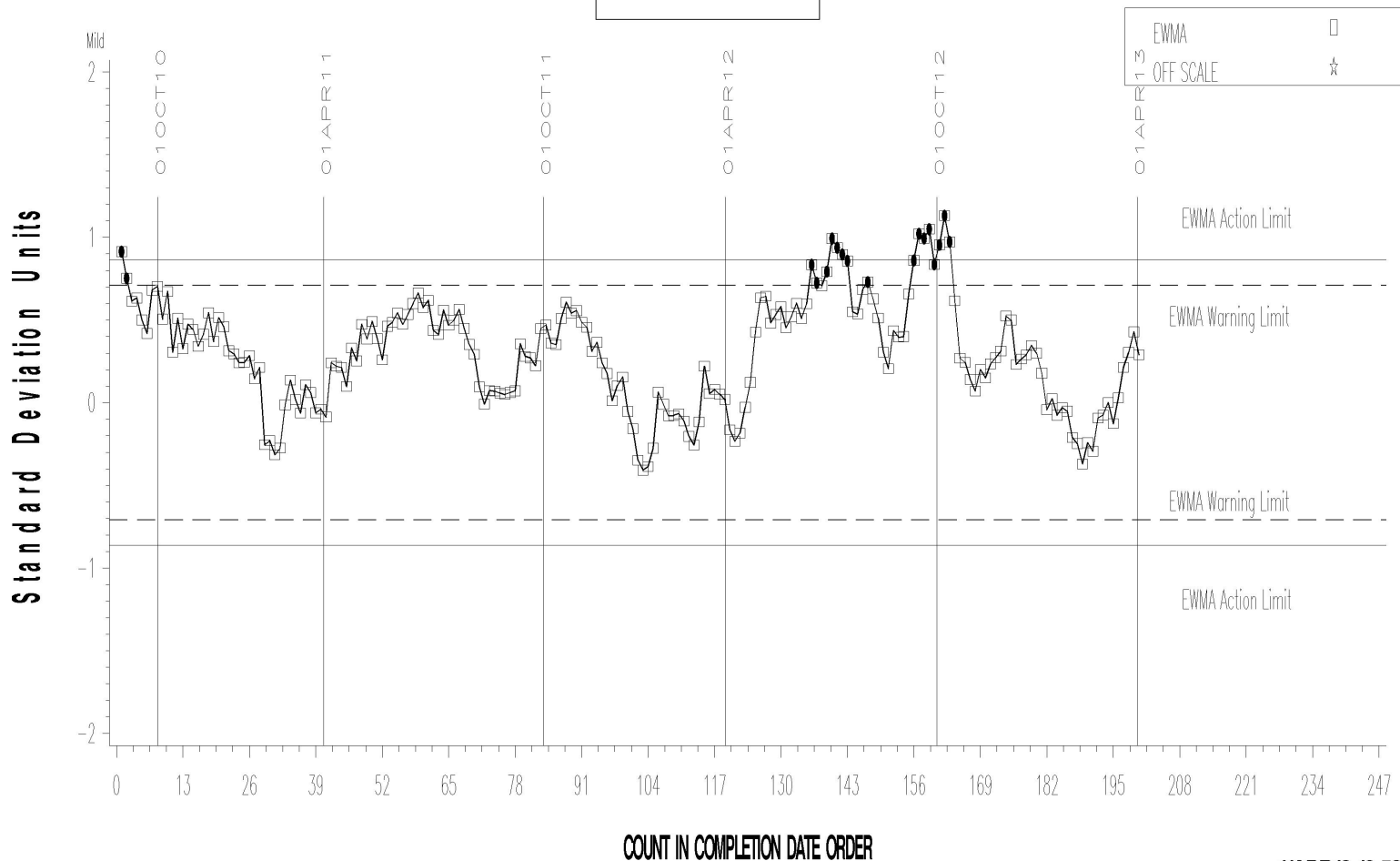


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Severp

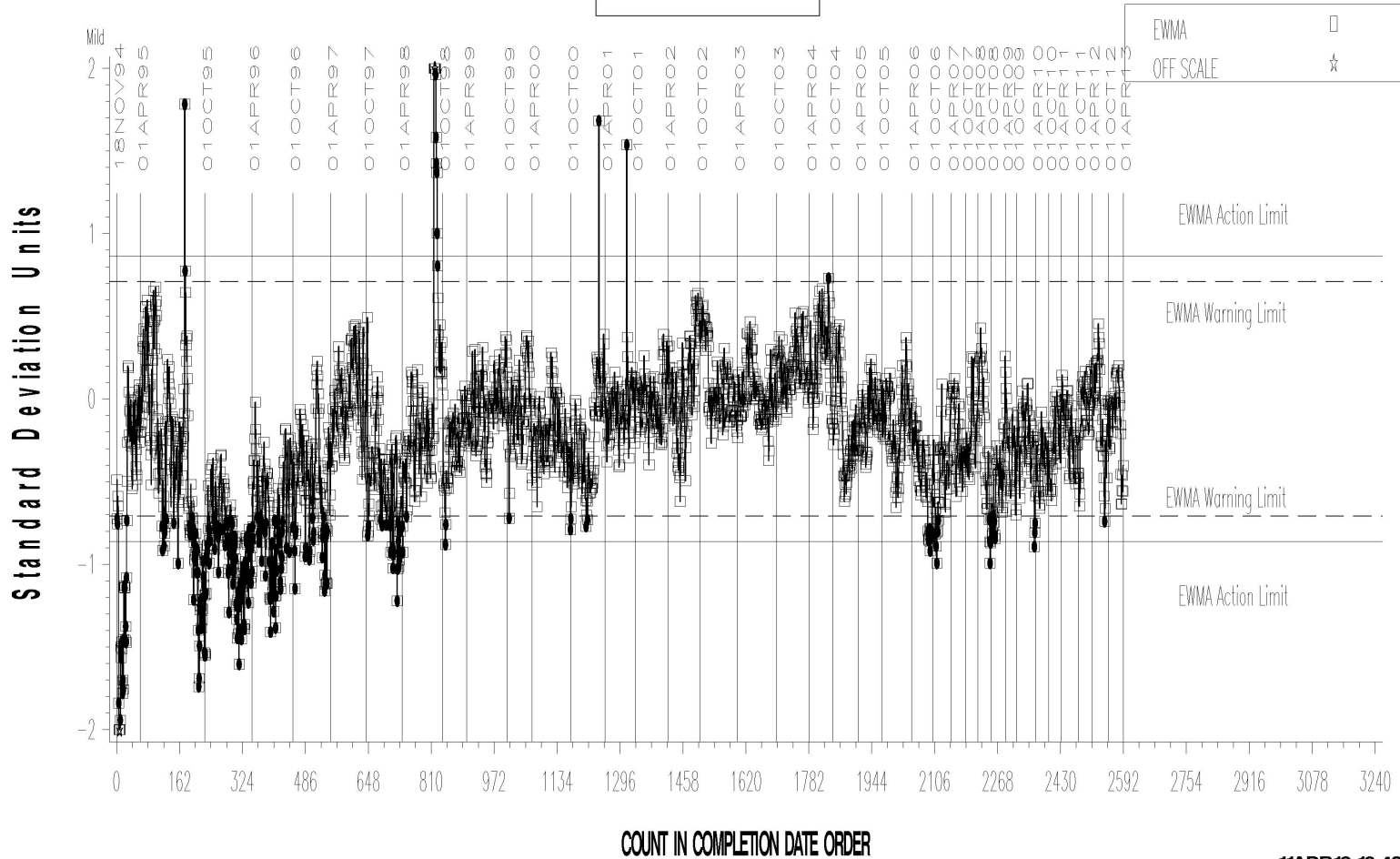
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LTMS Severity Analysis



Severp

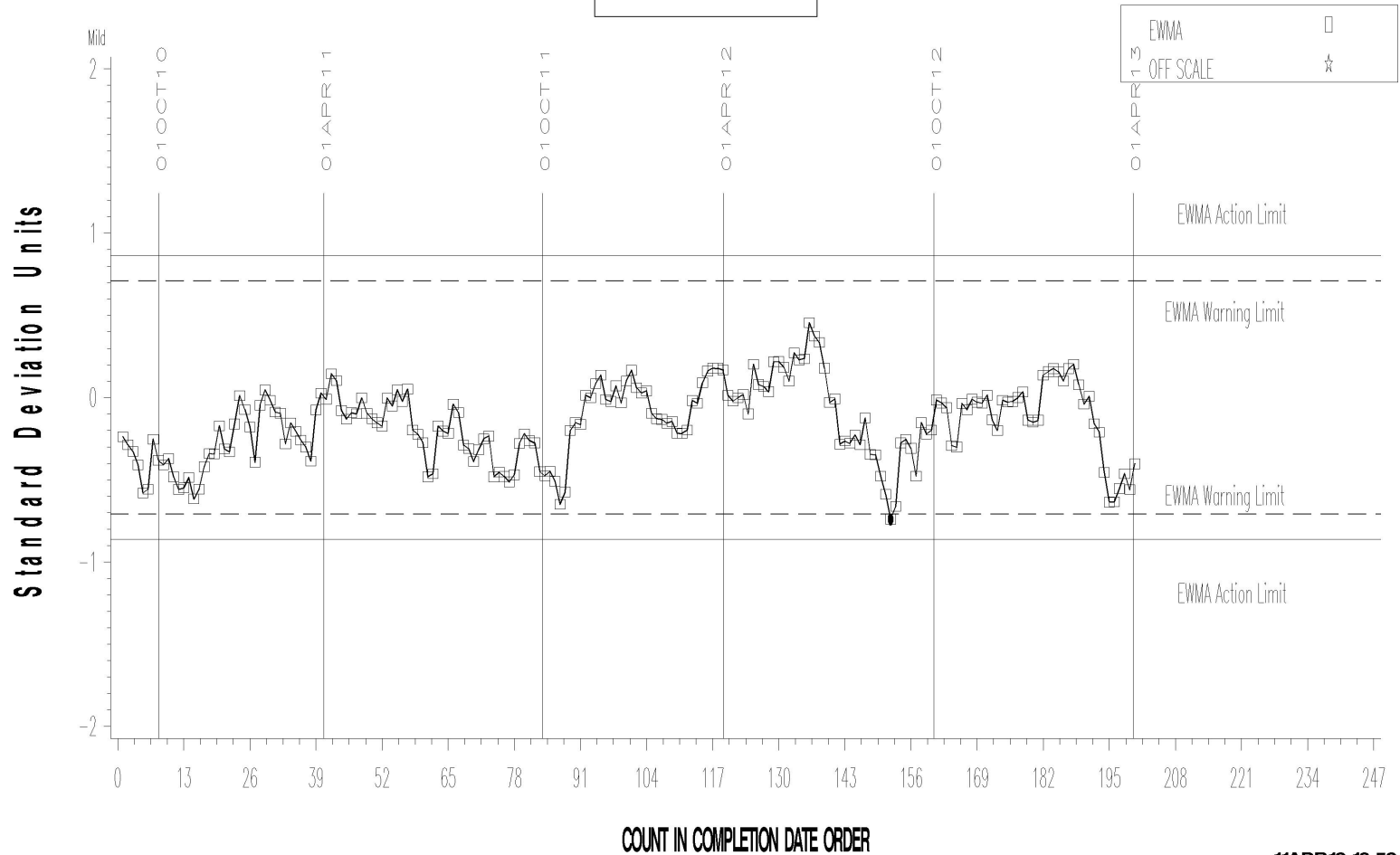
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LTMS Severity Analysis



Severp

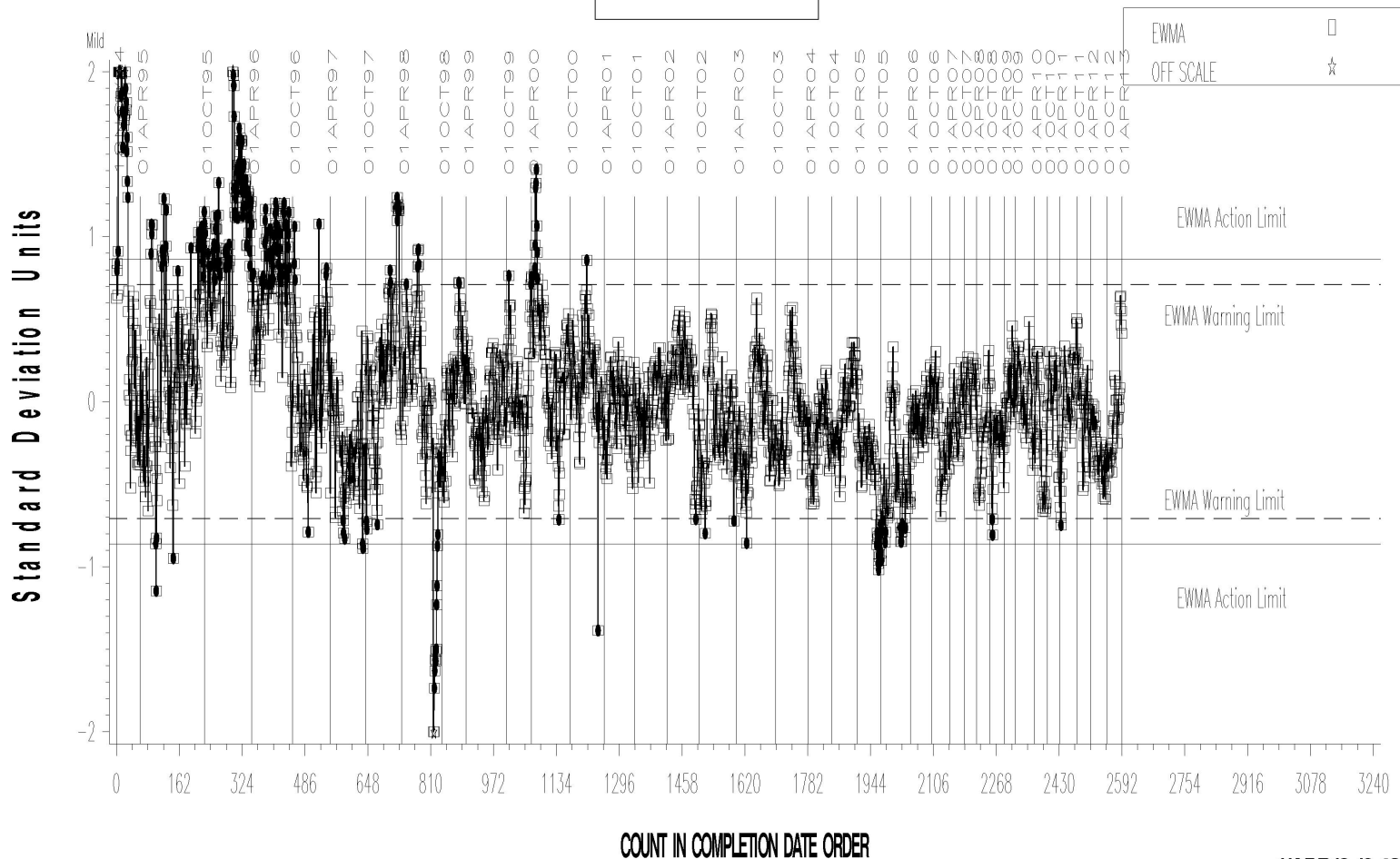
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LTMS Severity Analysis



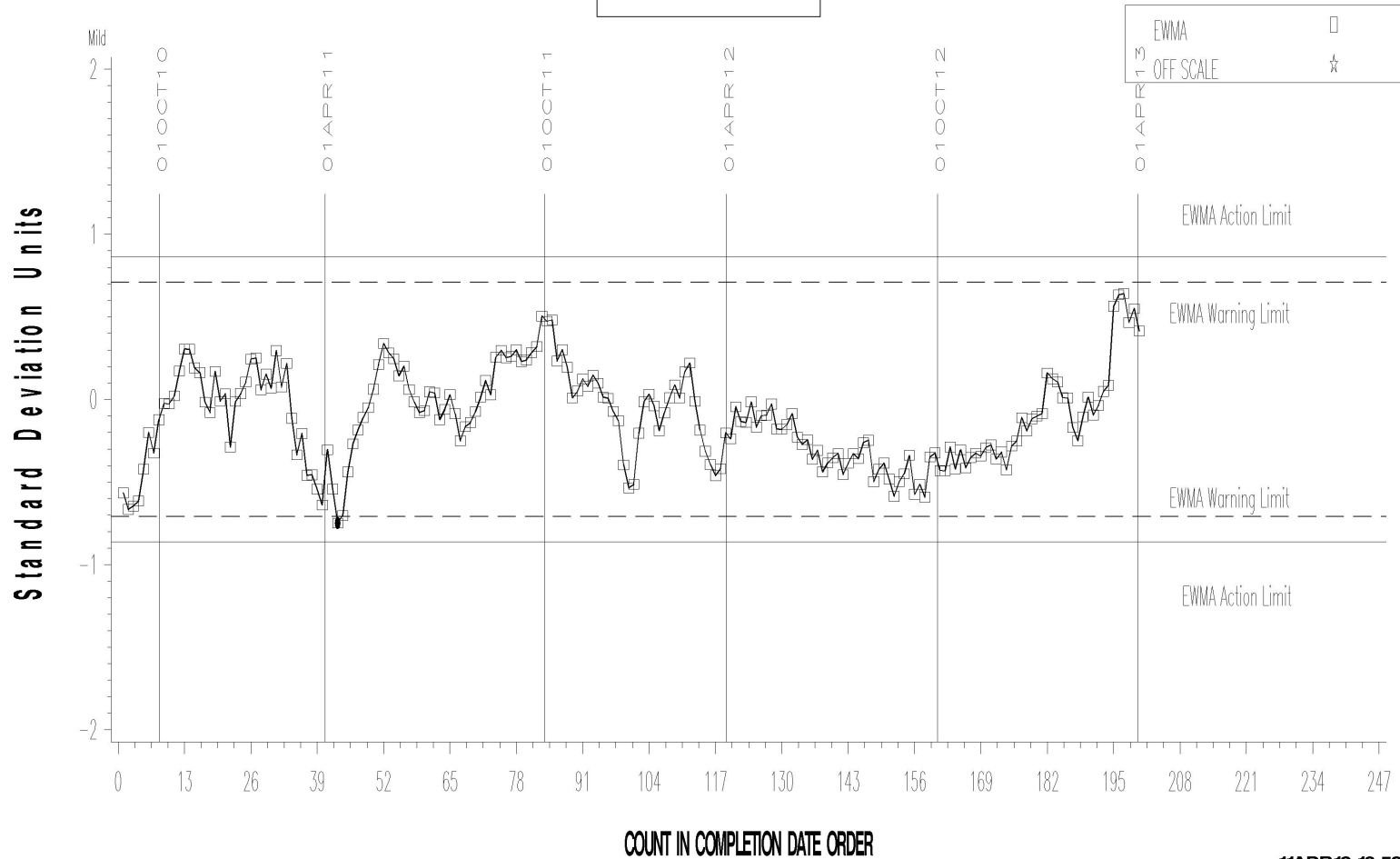
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Severp

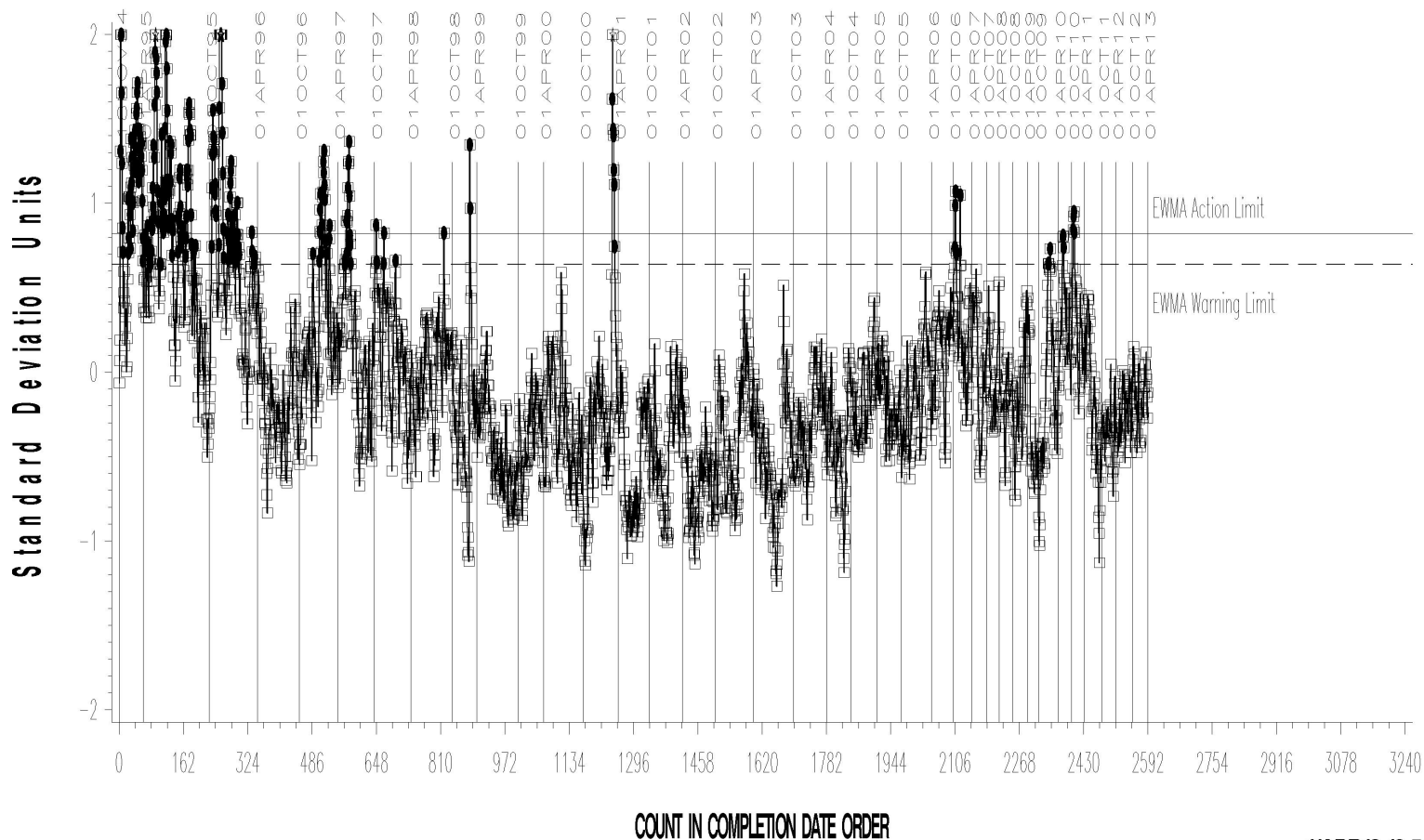
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LTMS Precision Analysis



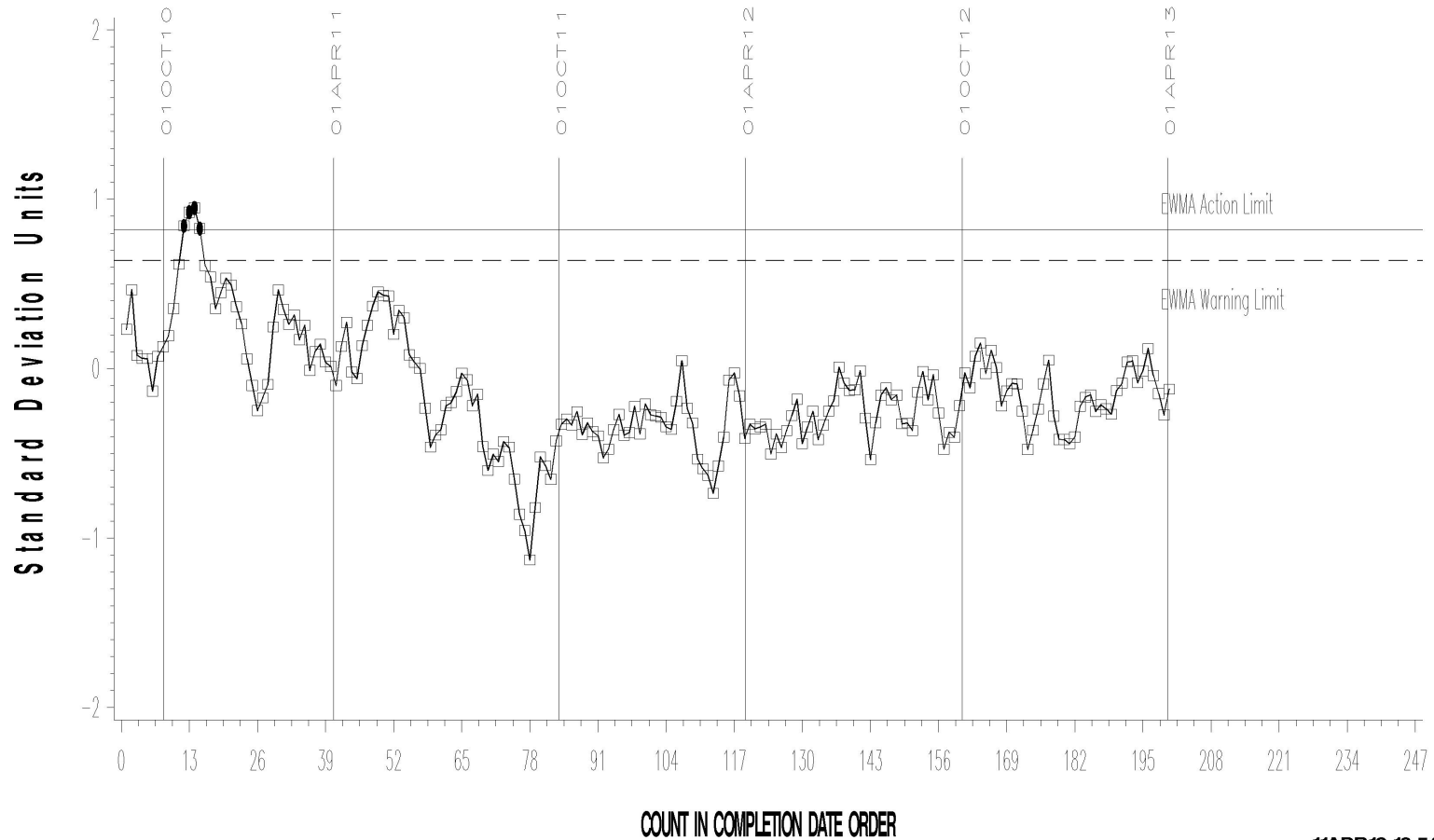
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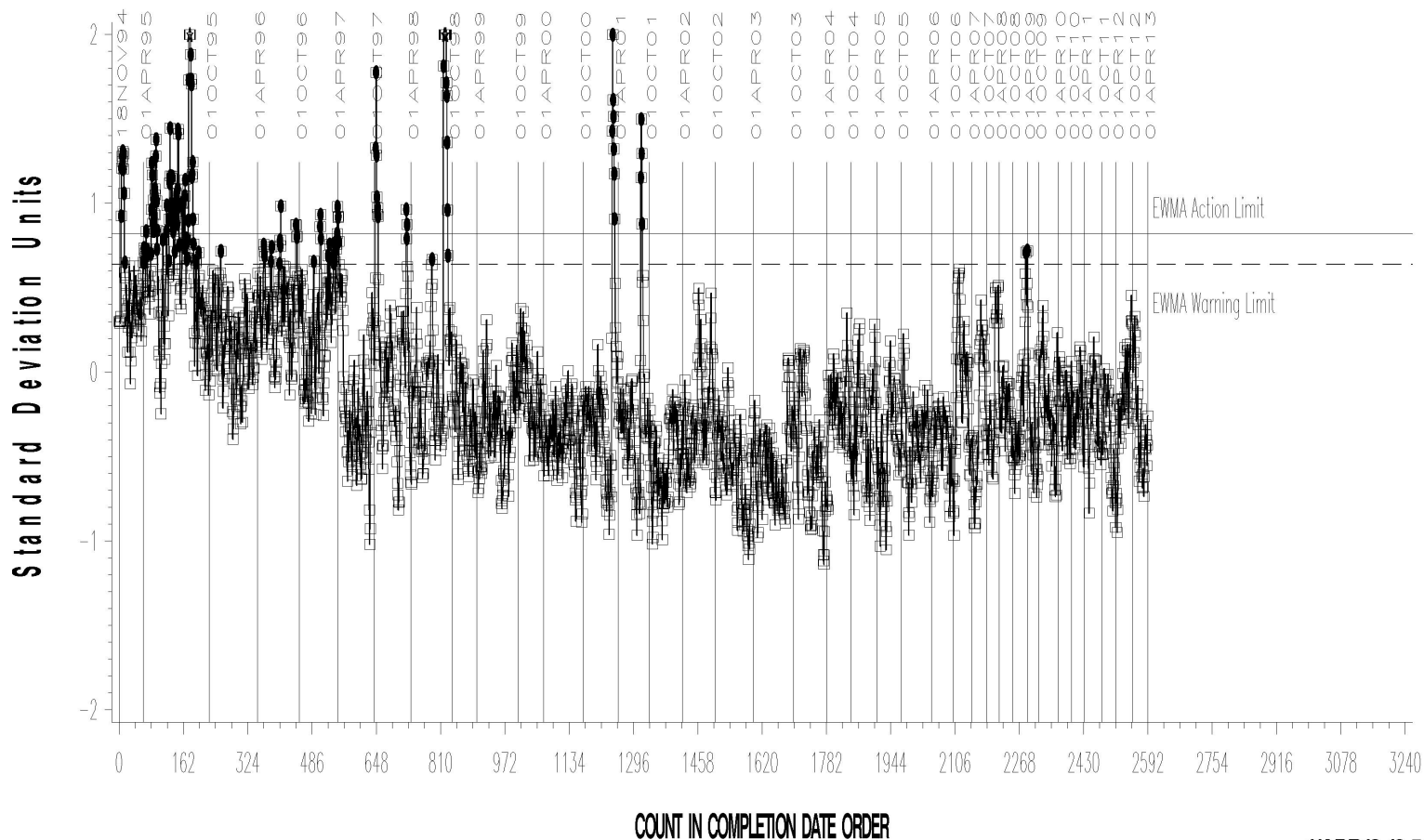
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LTMS Precision Analysis



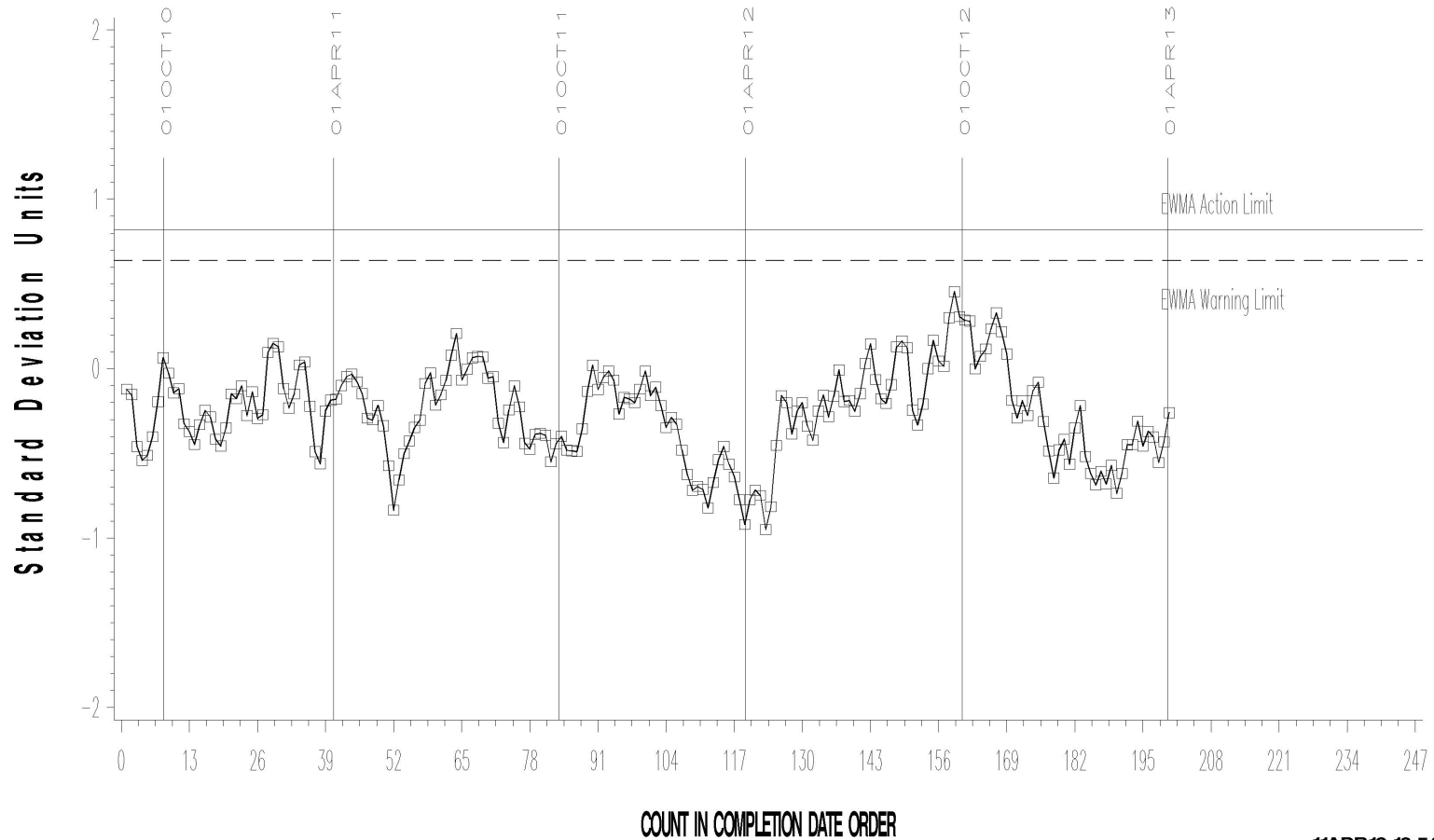
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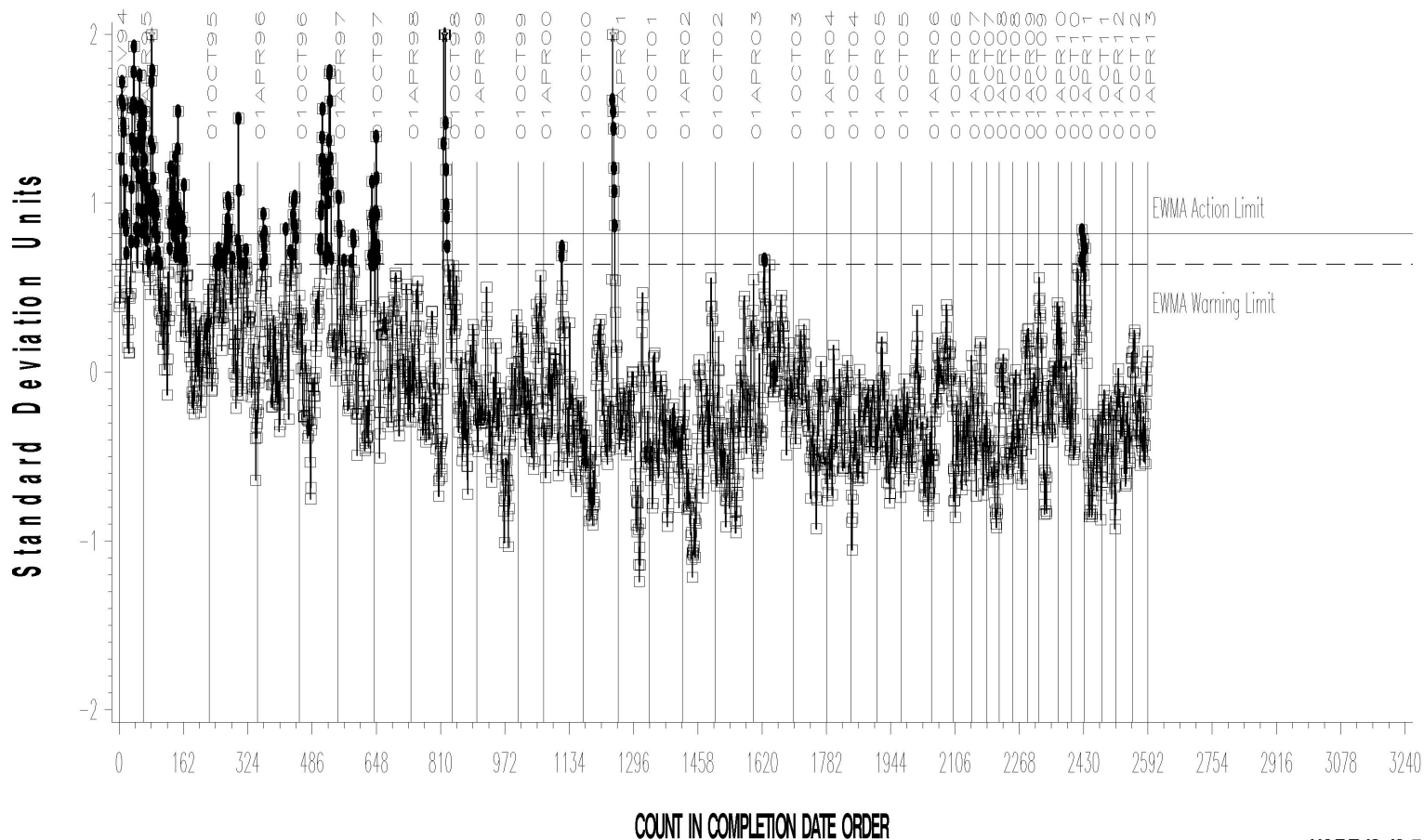
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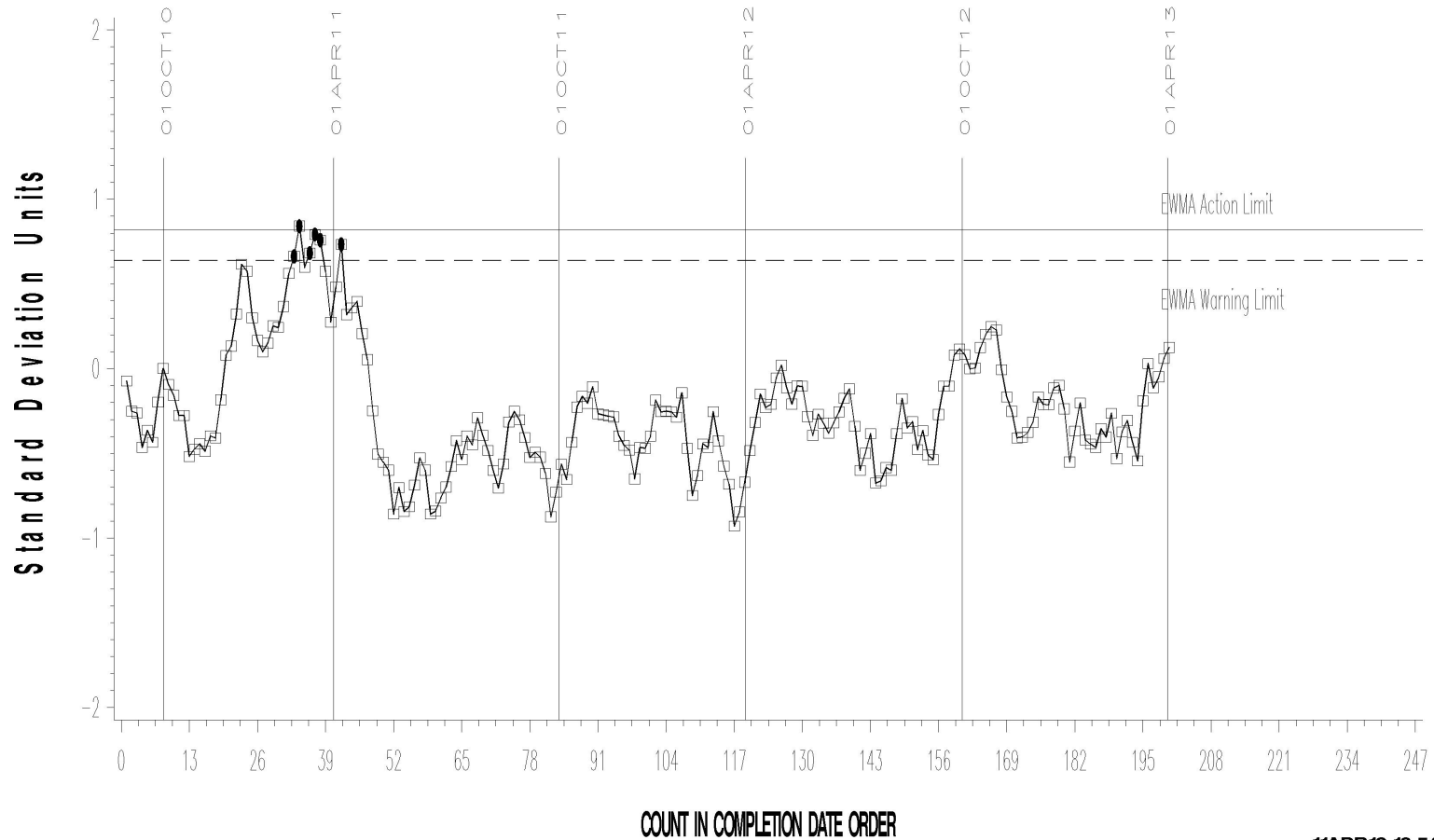
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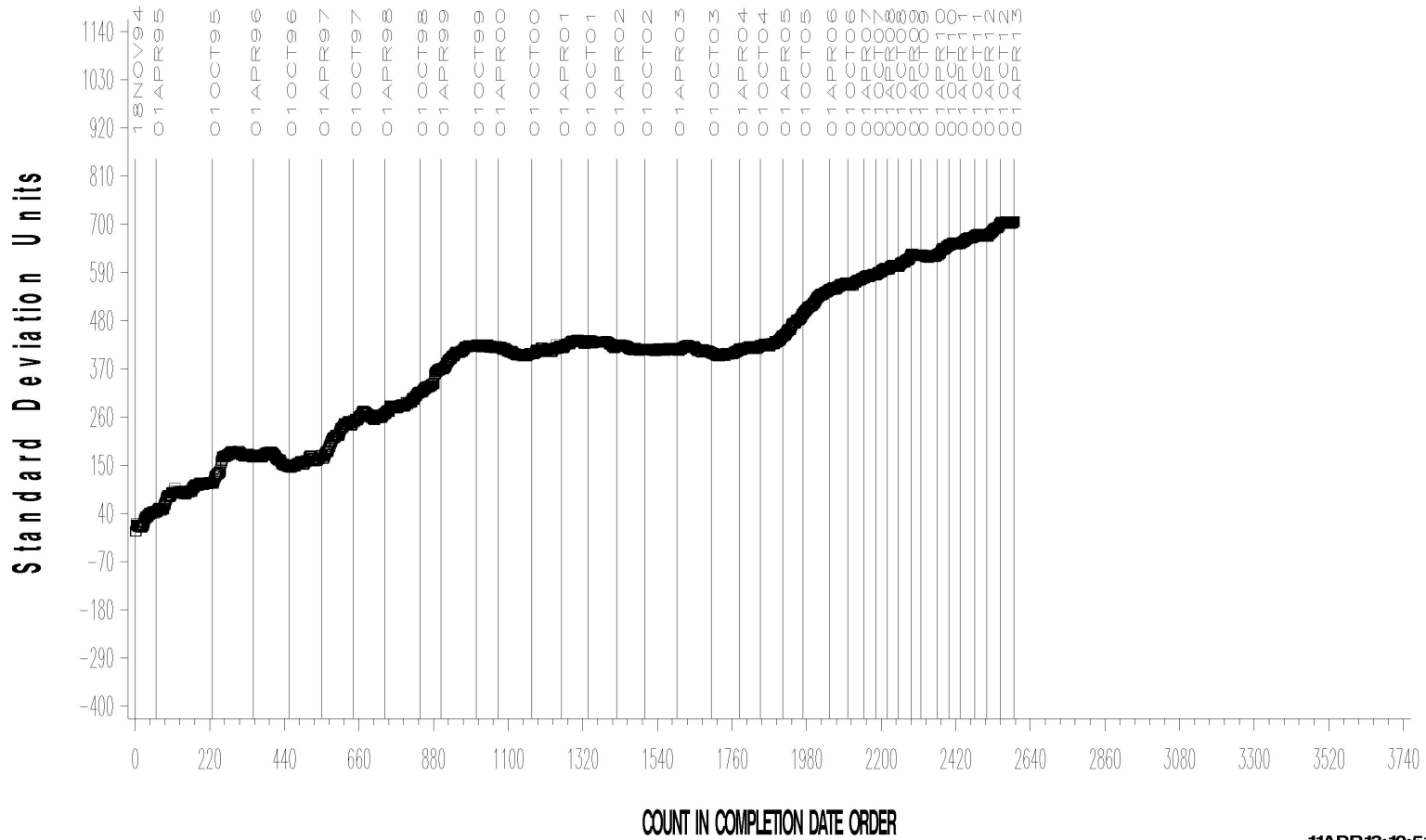
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CUSUM Severity Analysis



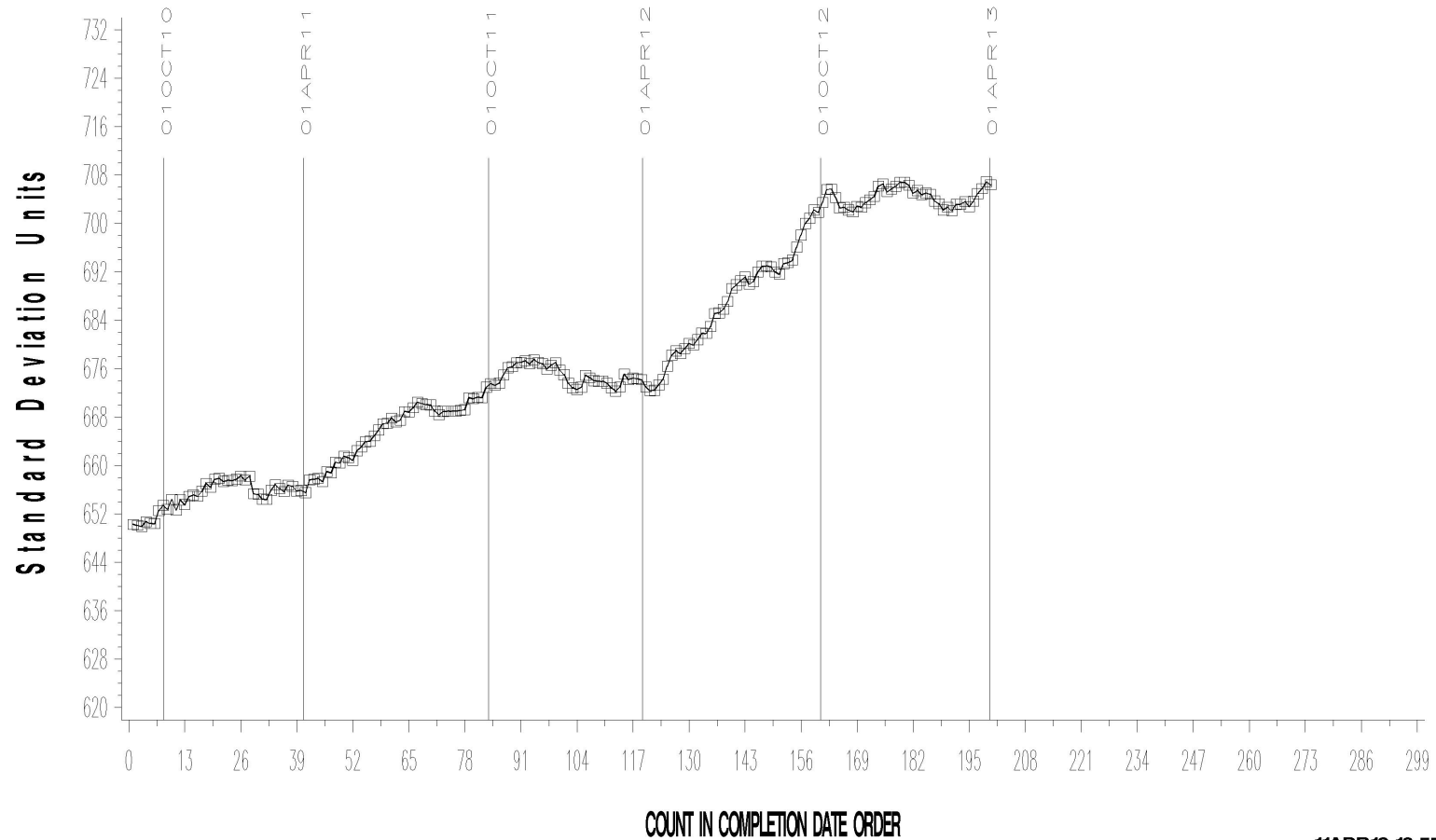
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CUSUM Severity Analysis



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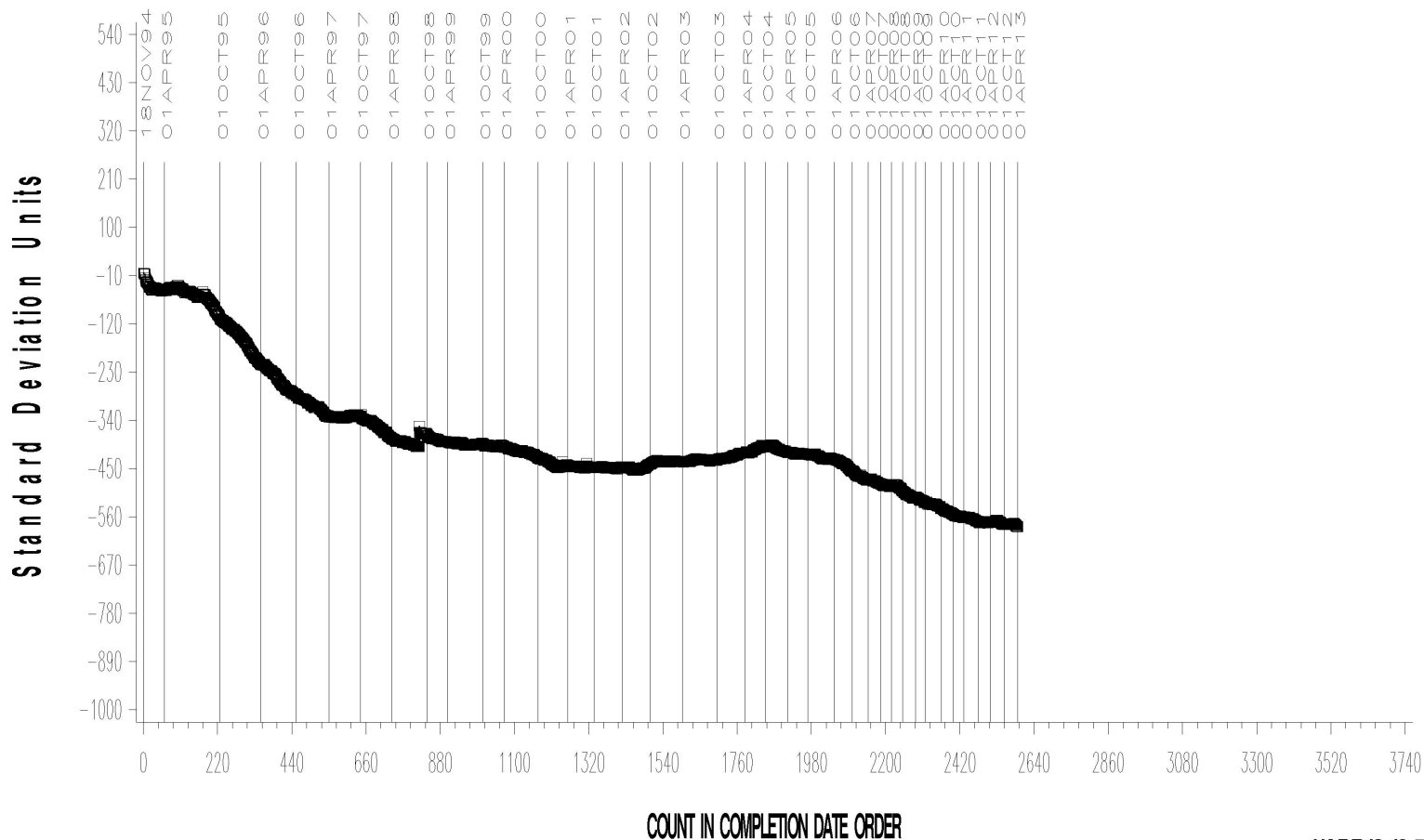
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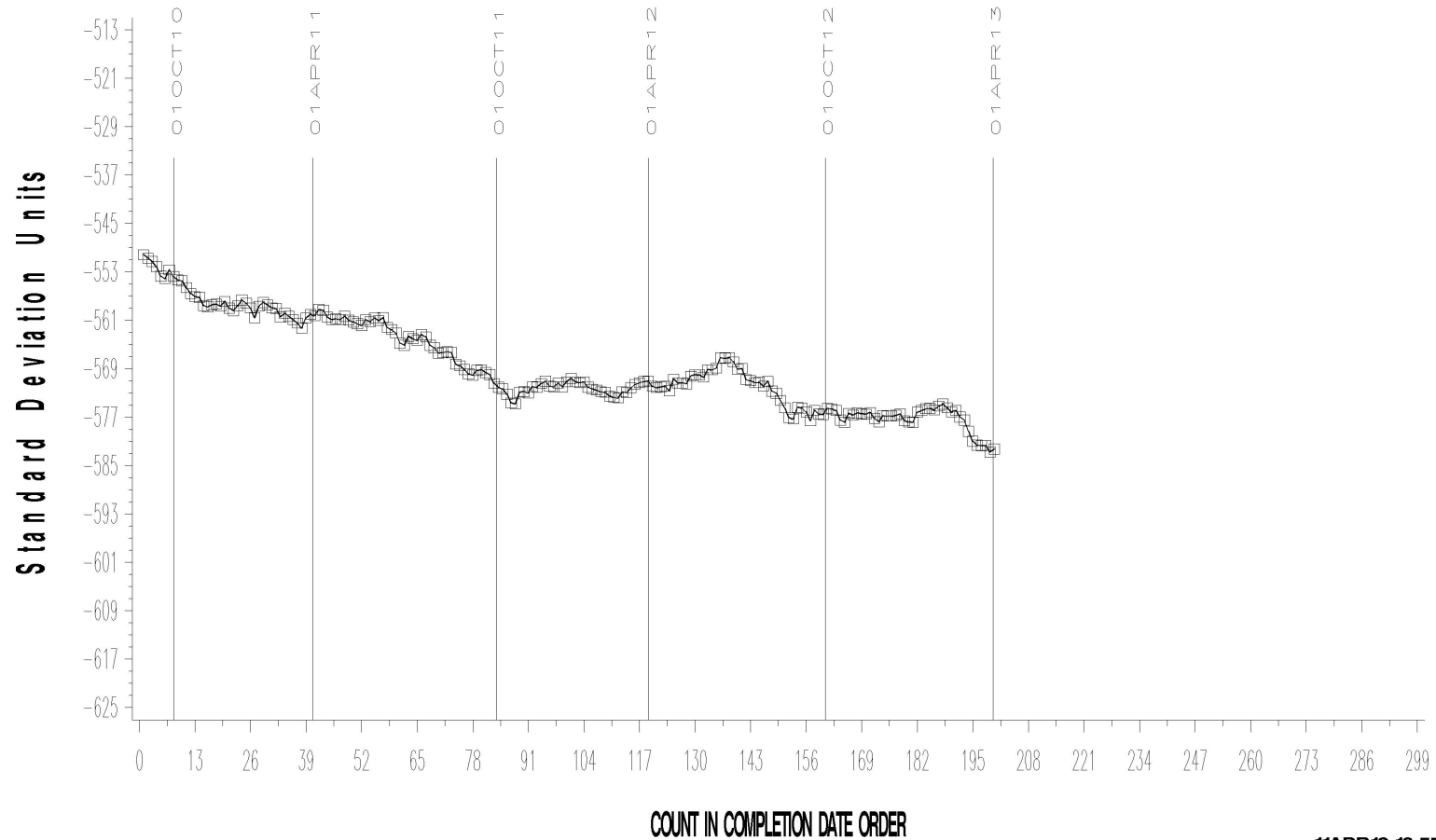
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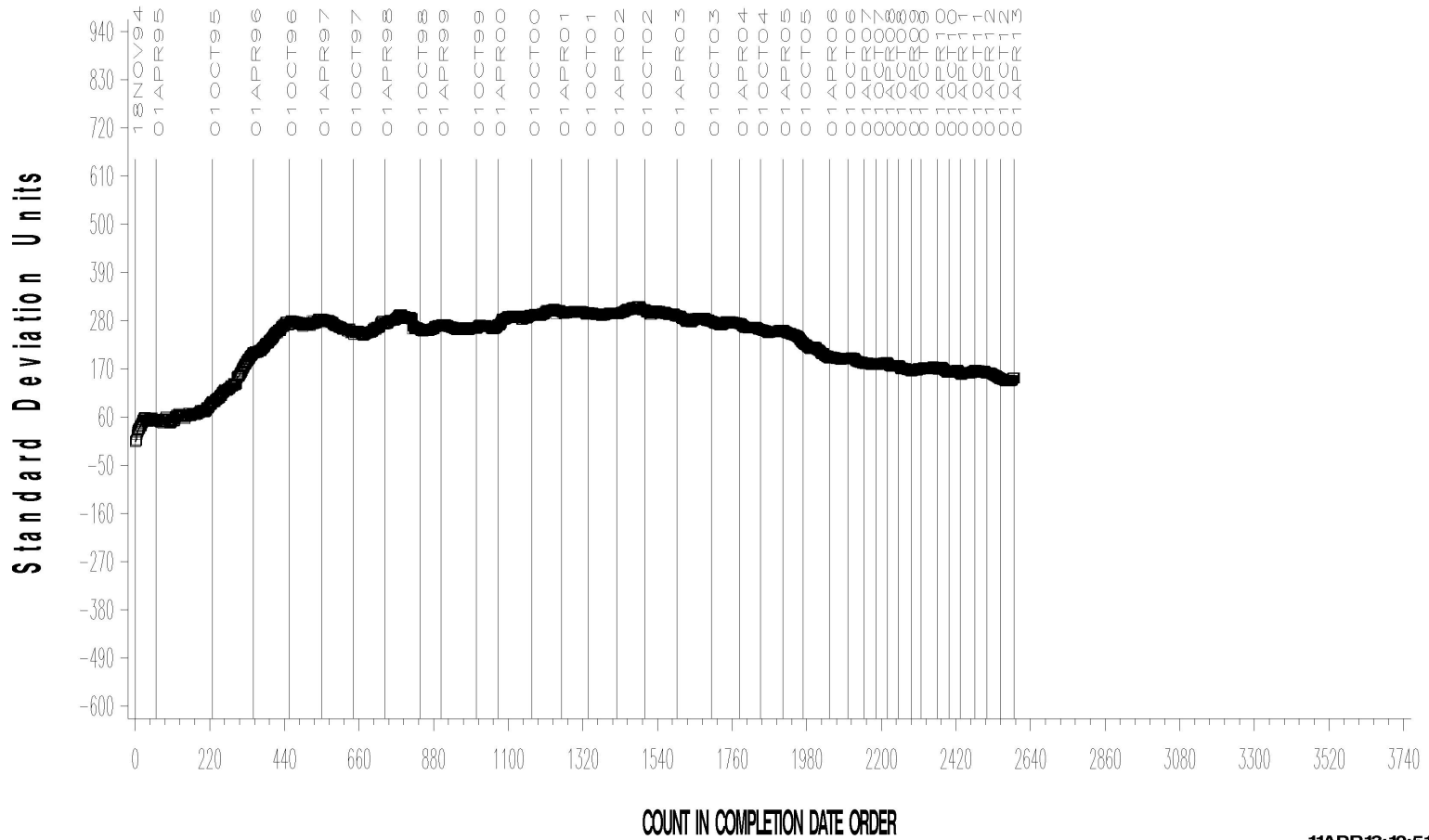
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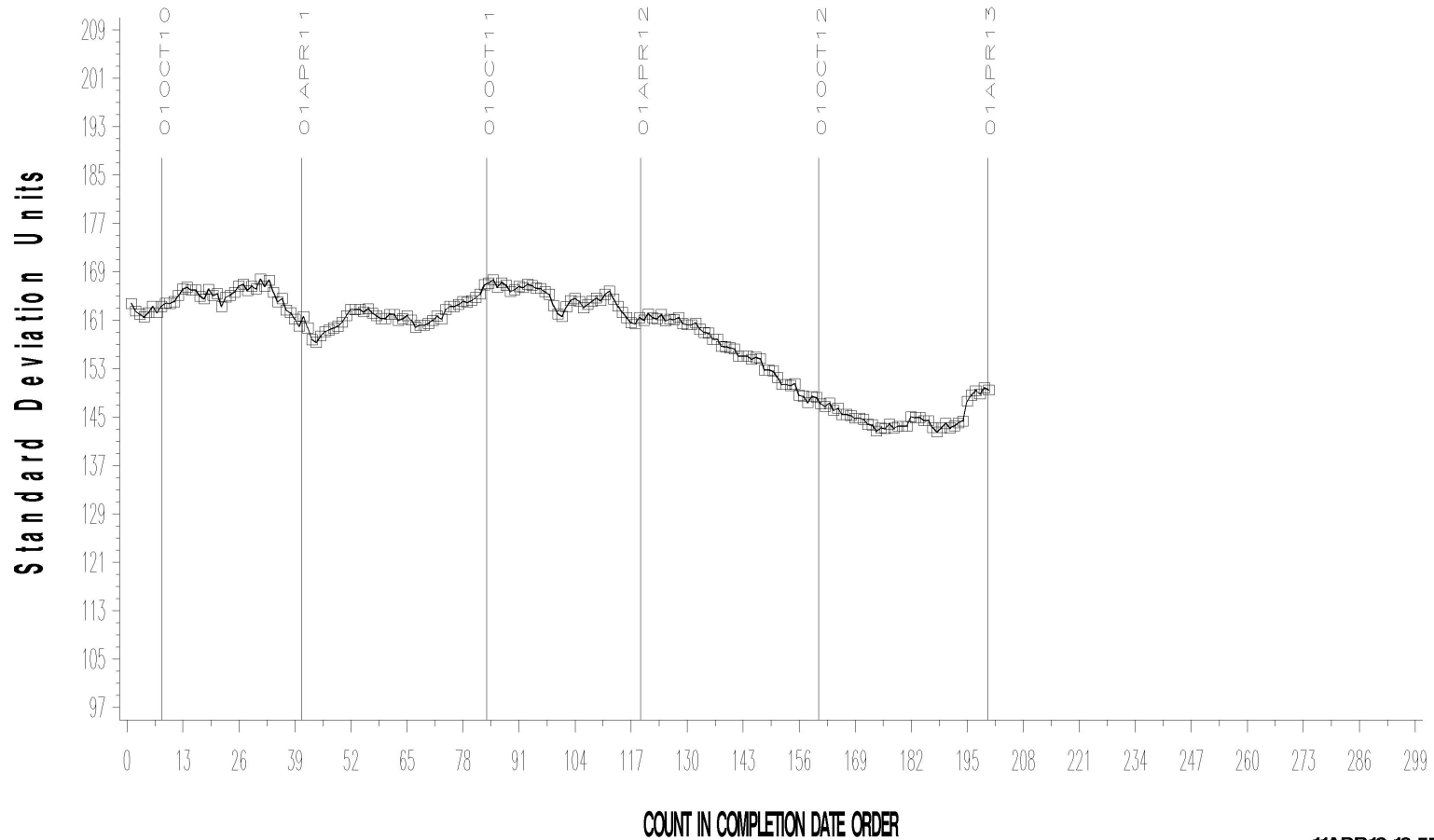


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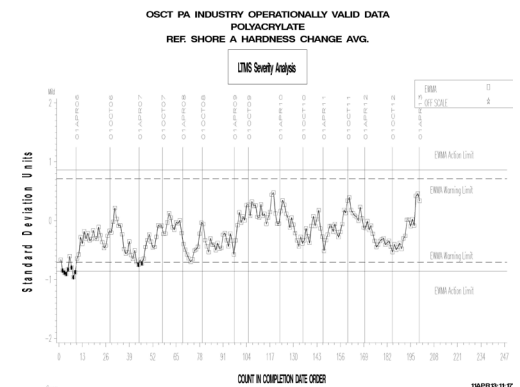
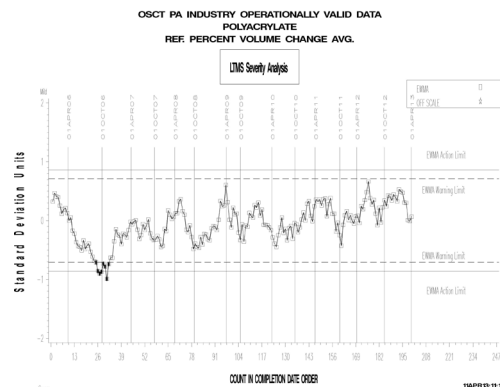
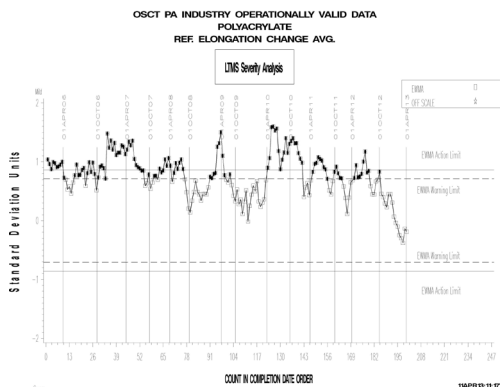
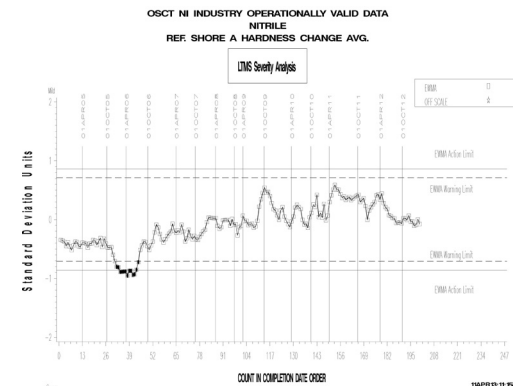
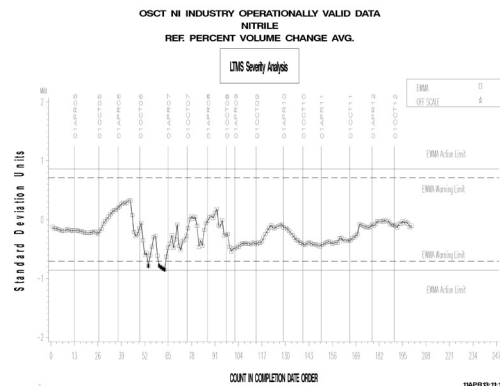
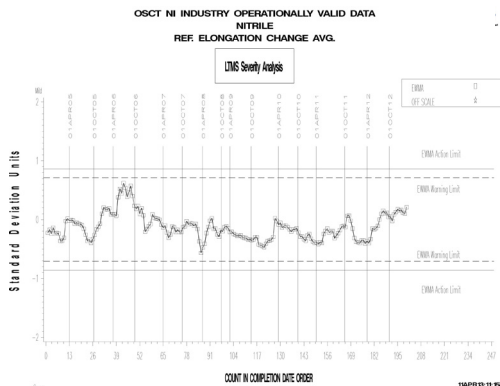
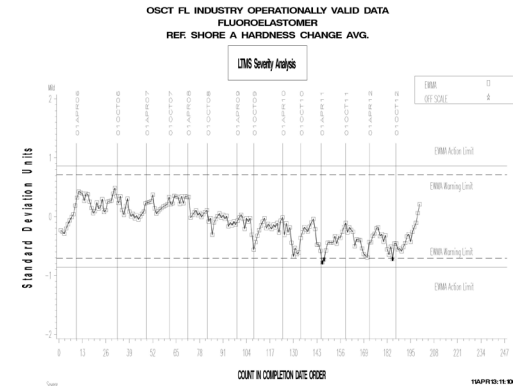
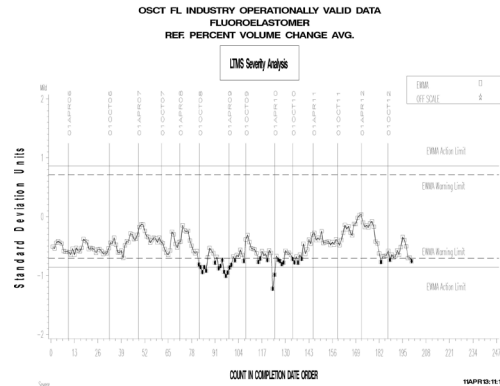
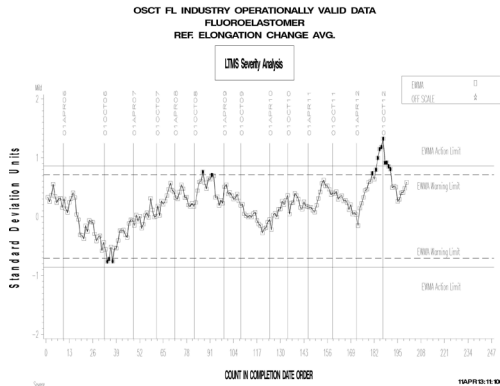
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OSCT (D5662)

BY-ELASTOMER SEVERITY



OSCT (D5662)

TIMELINE ADDITIONS

| Effective Date | Information Letter | Event |
|----------------|--------------------|---------------------------------------|
| 20130319 | 13-1 | Elastomer batch approval requirement. |

OSCT (D5662)

LAB VISITS

No OSCT lab visits were conducted during this period.

INFORMATION LETTERS

Information Letter 13-1 was issued on March 19, 2013. This information letter documented the elastomer batch approval process that has always been used for OSCT testing but was not fully documented.

OSCT (D5662)

STATUS OF REFERENCE OIL SUPPLY

| Oil | Cans @ Labs | @ TMC | |
|-------|-------------|-------|---------|
| | | Cans | Gallons |
| 160-1 | 19 | 348 | 69.0 |
| 161-1 | 4 | 0 | 0.0 |
| 168 | 14 | 93 | 18.5 |
| 169 | 33 | 1231 | 244.1 |
| Total | 70 | 1672 | 331.6 |

Oil 161-1 has been depleted from TMC inventory. A reblend is not available.
Oil 169 has been introduced as a replacement. Oil 168 is not reblendable.