




Test Monitoring Center

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

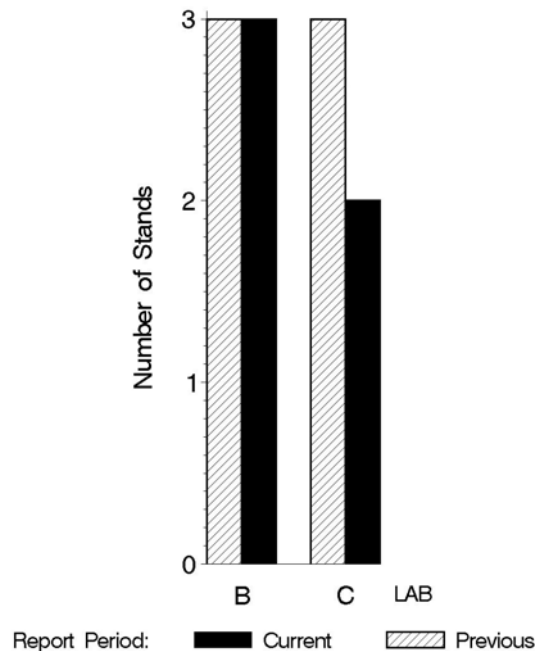
<http://astmtmc.cmu.edu>
412-365-1000

MEMORANDUM: 11-061
DATE: December 5, 2011
TO: Don Bell, Chairman, OSCT Surveillance Panel
FROM: Scott Parke 
SUBJECT: OSCT Testing from April 1, 2011 through September 30, 2011

A total of 95 OSCT tests were reported to the Test Monitoring Center during the period from April 1, 2011 through September 30, 2011. Following is a summary of testing activity this period.

| | Reporting Data |
|------------------|----------------|
| Number of Labs | 2 |
| Number of Stands | 5 |

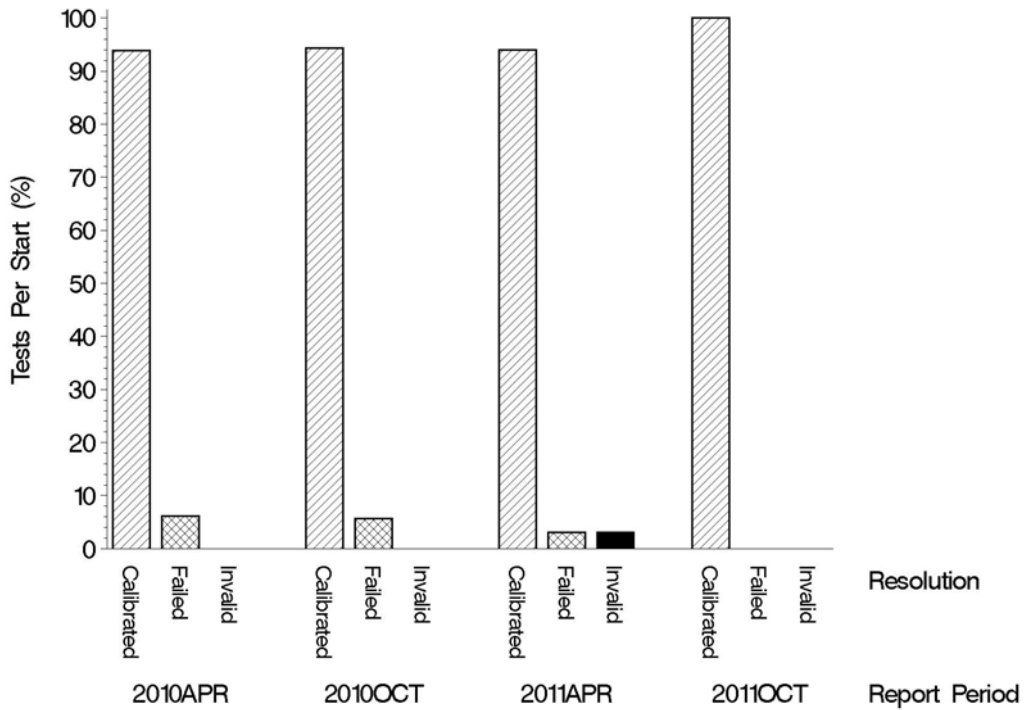
BY-LAB STAND DISTRIBUTION



Test Distribution by Oil and Validity

| | | | | | Totals | |
|-------------------------------------|----|-----------|-----------|-----------|-------------|-------------|
| | | FL | NI | PA | Last Period | This Period |
| Accepted for calibration | AC | 12 | 16 | 14 | 31 | 42 |
| Rejected (low result) | OC | 0 | 0 | 0 | 1 | 0 |
| Rejected (high result) | OC | 0 | 0 | 0 | 0 | 0 |
| Invalidated information run | LI | 0 | 0 | 0 | 1 | 0 |
| Elastomer or oil approval run | NI | 19 | 18 | 16 | 31 | 53 |
| Aborted | XC | 0 | 0 | 0 | 1 | 0 |
| Unacceptable elastomer approval run | MI | 0 | 0 | 0 | 0 | 0 |
| Aborted elastomer approval run | XI | 0 | 0 | 0 | 2 | 0 |
| Total | | 31 | 34 | 30 | 67 | 95 |

CALIBRATION ATTEMPT SUMMARY



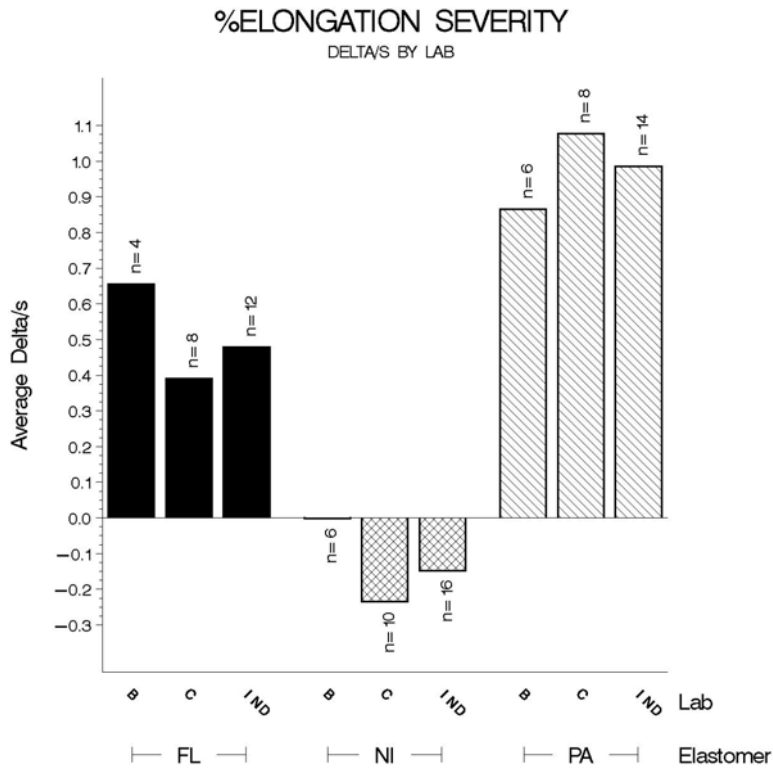
CAUSES FOR LOST TESTS:

| Lab | Cause | Elastomer | | | Validity | | | Loss Rate | | |
|-----|--------|-----------|----|----|----------|----|----|-----------|--------|----|
| | | FL | NI | PA | LI | XC | XI | Lost | Starts | % |
| | None. | | | | | | | 0 | 95 | 0% |
| | Lost | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | Starts | 31 | 34 | 30 | 95 | 95 | 95 | | | |
| | % | 0% | 0% | 0% | 0% | 0% | 0% | | | |

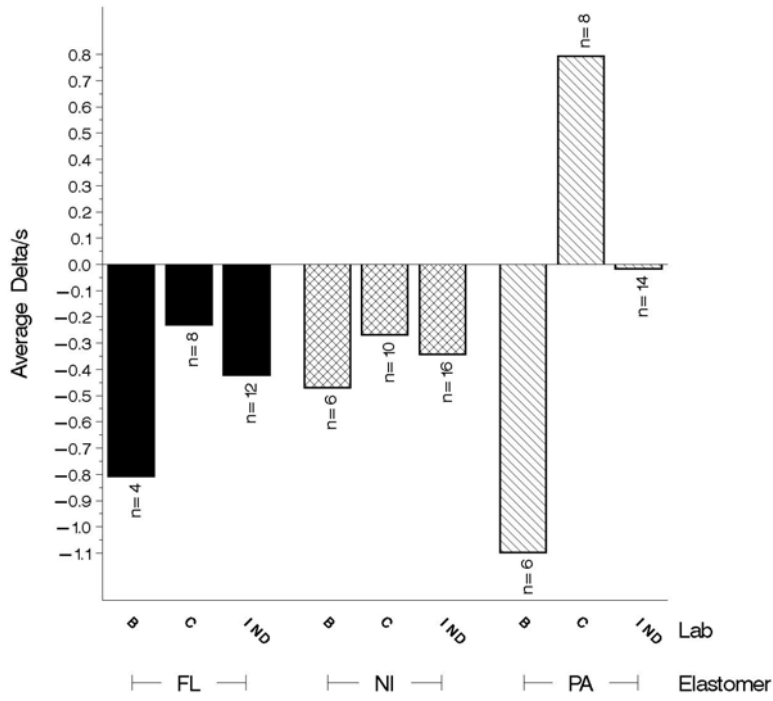
Lost tests are calibration attempts that were either aborted or operationally invalid.

| Elastomer | Lab | n | Average Δ/s by Lab | | |
|-----------|----------|----|---------------------------|--------|--------|
| | | | PELA | PVCA | SAHA |
| FL | B | 4 | 0.655 | -0.807 | -0.630 |
| | C | 8 | 0.391 | -0.230 | -0.162 |
| | Industry | 12 | 0.479 | -0.422 | -0.318 |
| | Shift* | 12 | 3.694 | -0.237 | -0.449 |
| NI | B | 6 | -0.002 | -0.470 | 0.353 |
| | C | 10 | -0.235 | -0.268 | 0.637 |
| | Industry | 16 | -0.147 | -0.344 | 0.530 |
| | Shift* | 16 | -0.871 | -0.224 | 0.727 |
| PA | B | 6 | 0.866 | -1.098 | 0.915 |
| | C | 8 | 1.077 | 0.793 | -0.452 |
| | Industry | 14 | 0.986 | -0.017 | 0.134 |
| | Shift* | 14 | 22.044 | -0.027 | 0.354 |

*as computed using historic pooled s

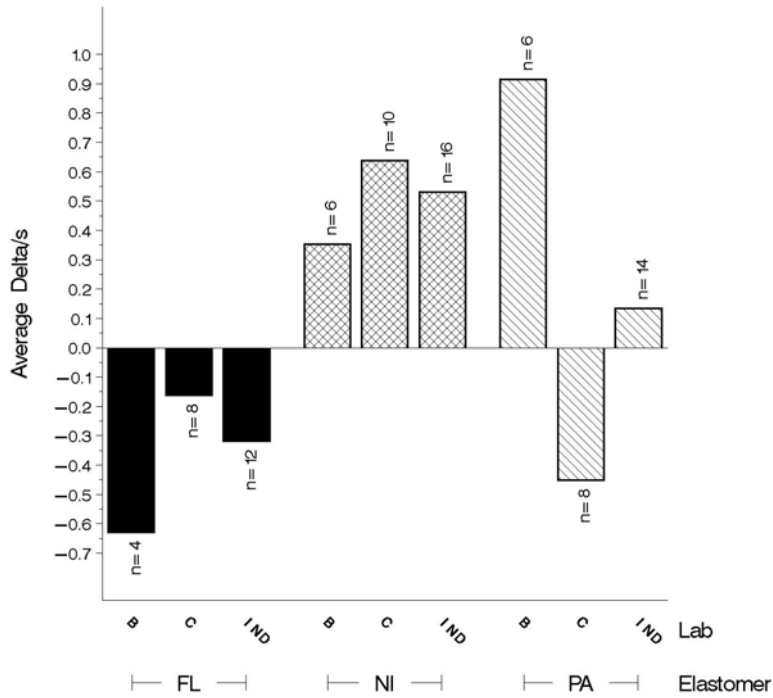


%VOLUME CHANGE SEVERITY DELTA/S BY LAB



14-22-21 02DEC2011

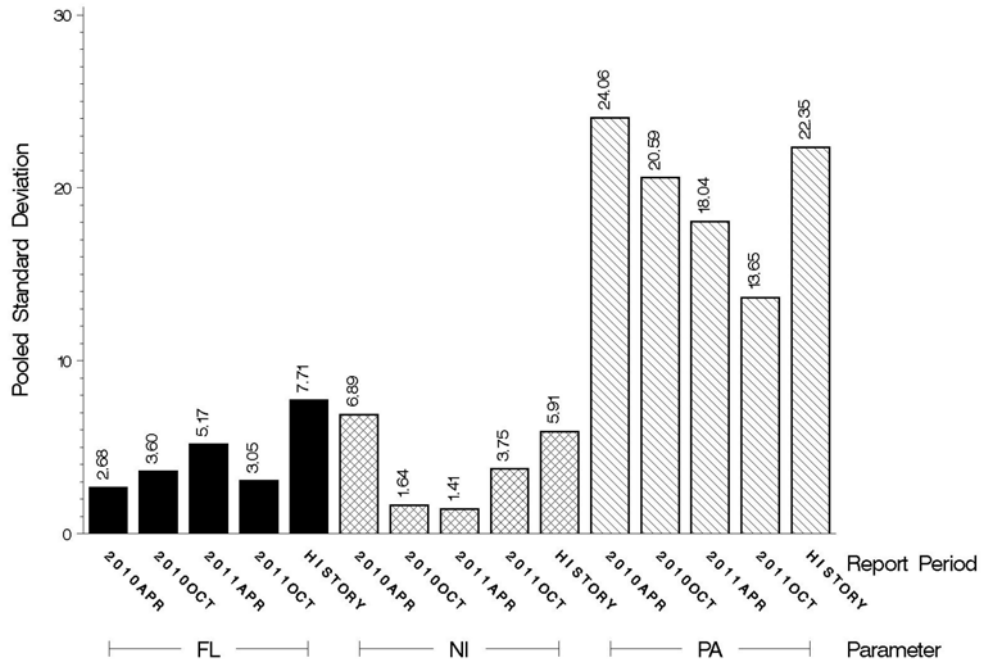
S.A. HARDNESS SEVERITY DELTA/S BY LAB



14-22-21 02DEC2011

%ELONGATION PRECISION

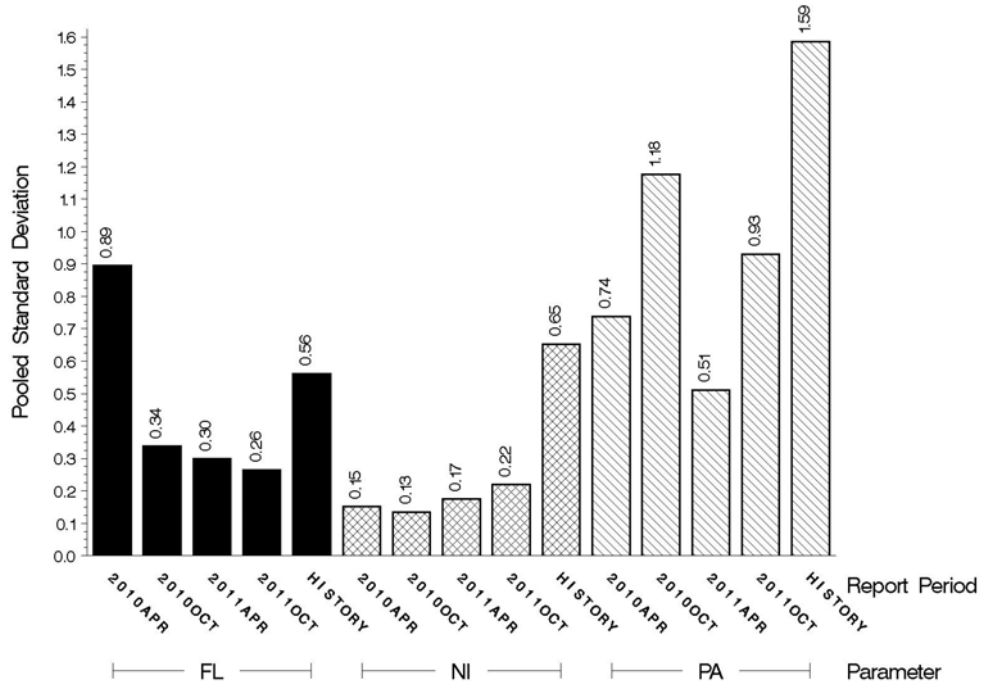
POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD



14-22-21 02DEC2011

%VOLUME CHANGE PRECISION

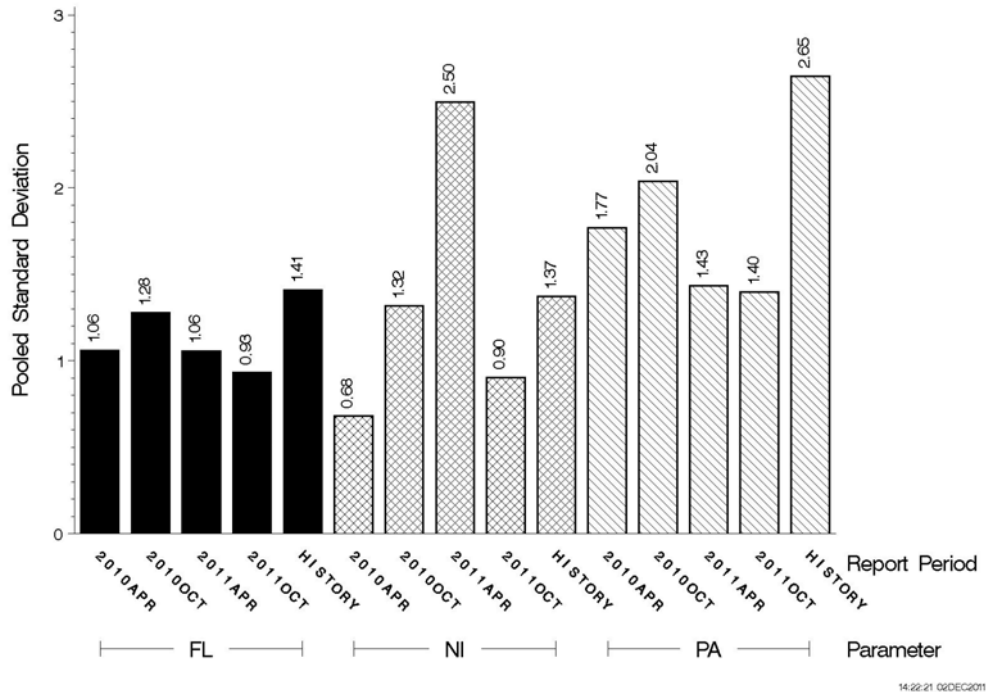
POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD



14-22-21 02DEC2011

S.A. HARDNESS PRECISION

POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD



INDUSTRY CONTROL CHARTS:

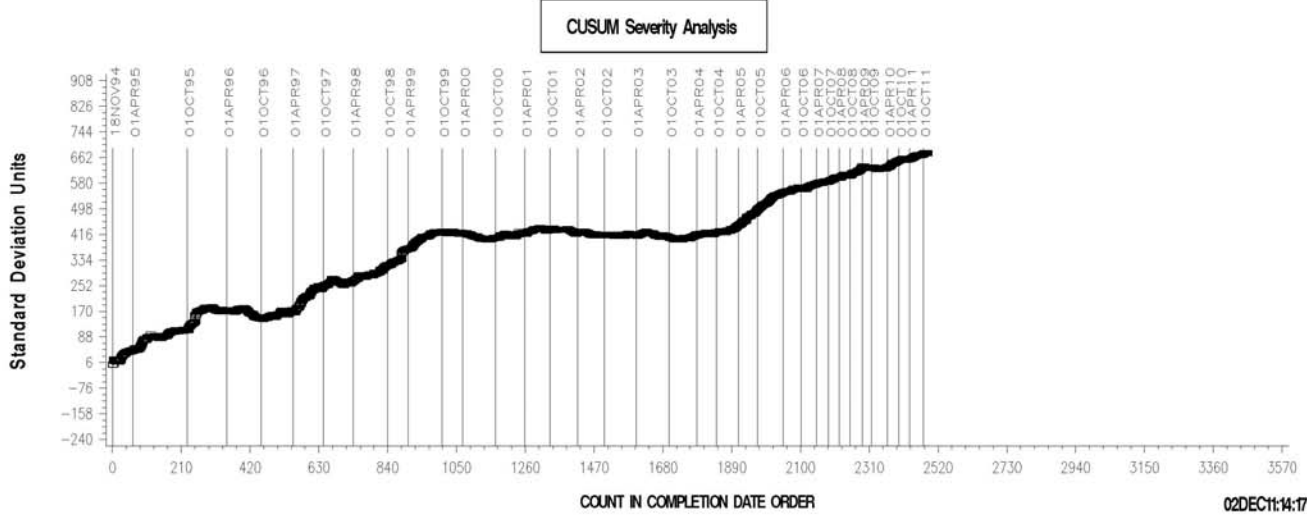
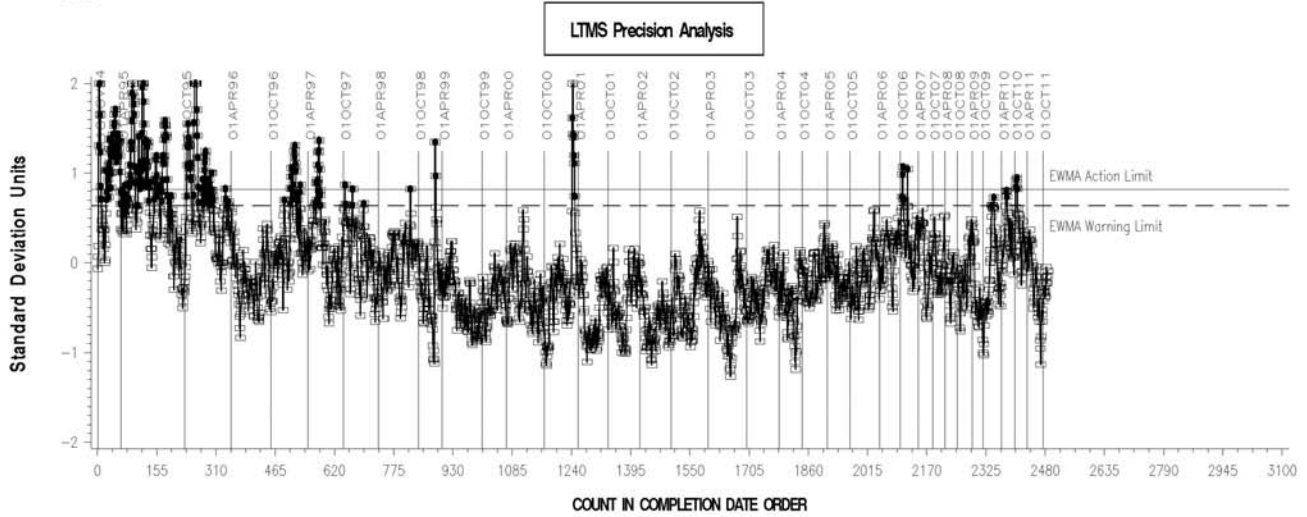
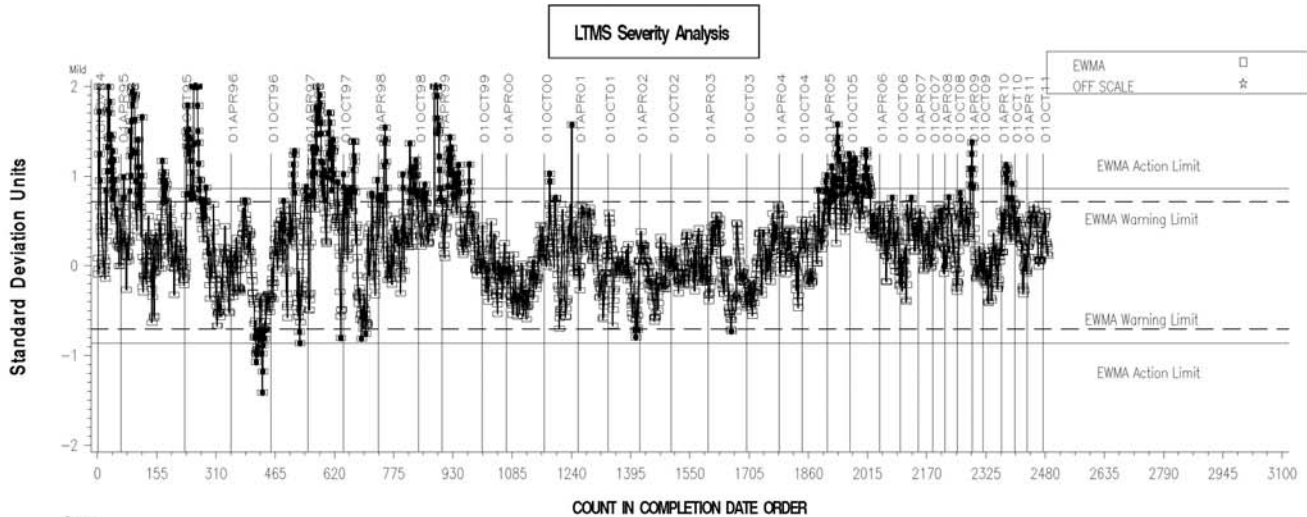
The industry control charts are shown beginning on the following page. Following the standard industry charts are charts showing only the most recent 200 tests (so as to better show detail).

During this period, PELA, PVCA, and SAHA all remained within severity and precision limits.

Following the standard industry control charts is a page showing by-elastomer control charts for all three test parameters. Showing all the charts on the same page 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. The surveillance panel has briefly discussed the appropriateness of industry correction factors for these two elastomer/parameter combinations but has no current plans to change anything.

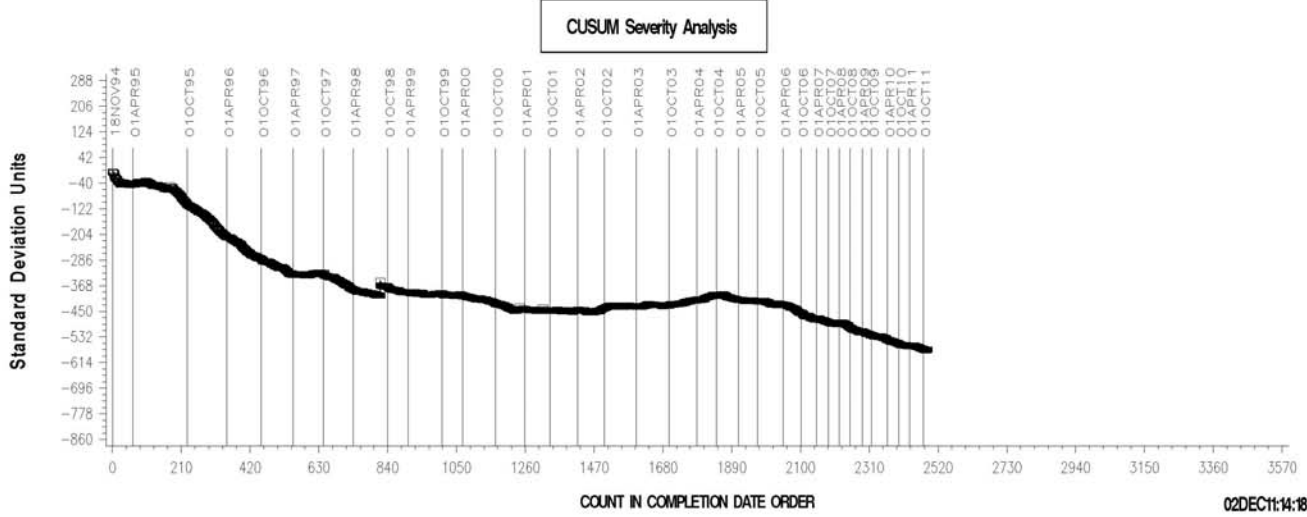
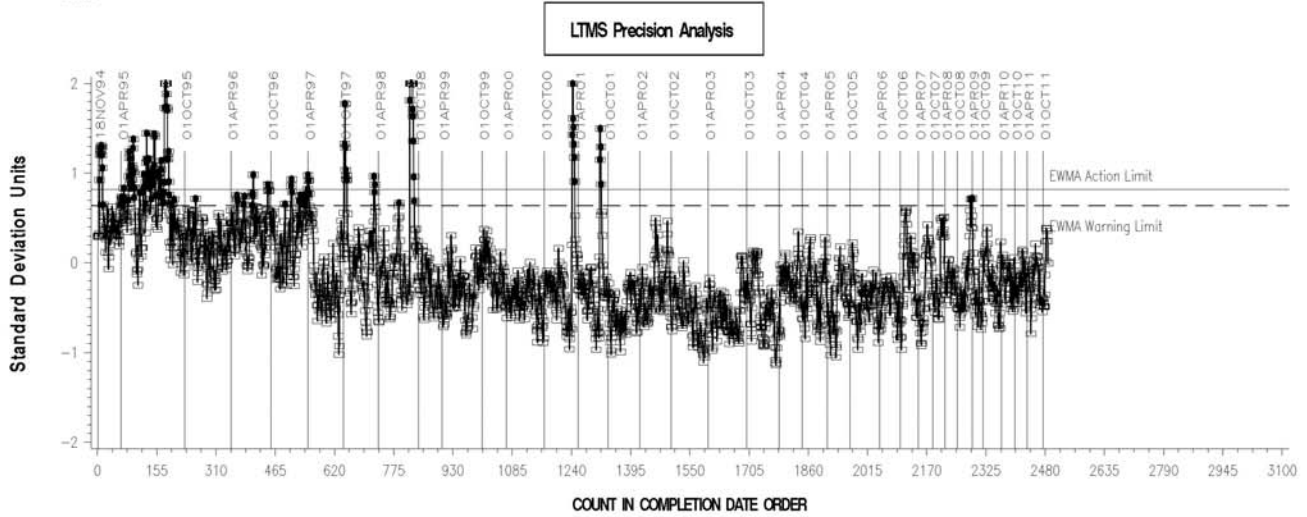
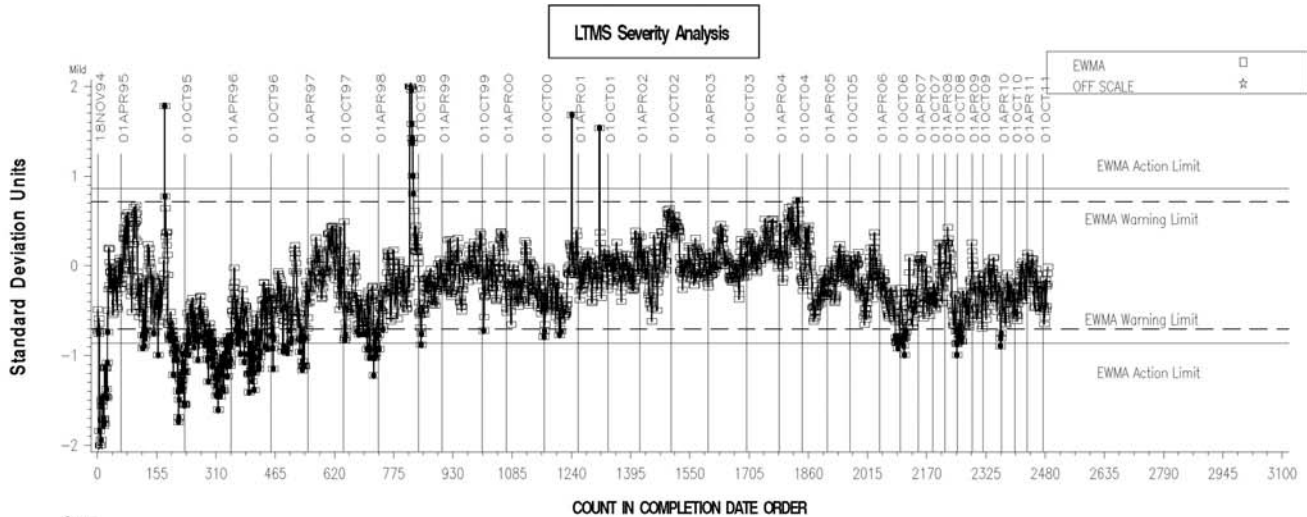
OSCT INDUSTRY OPERATIONALLY VALID DATA

REF. ELONGATION CHANGE AVG.



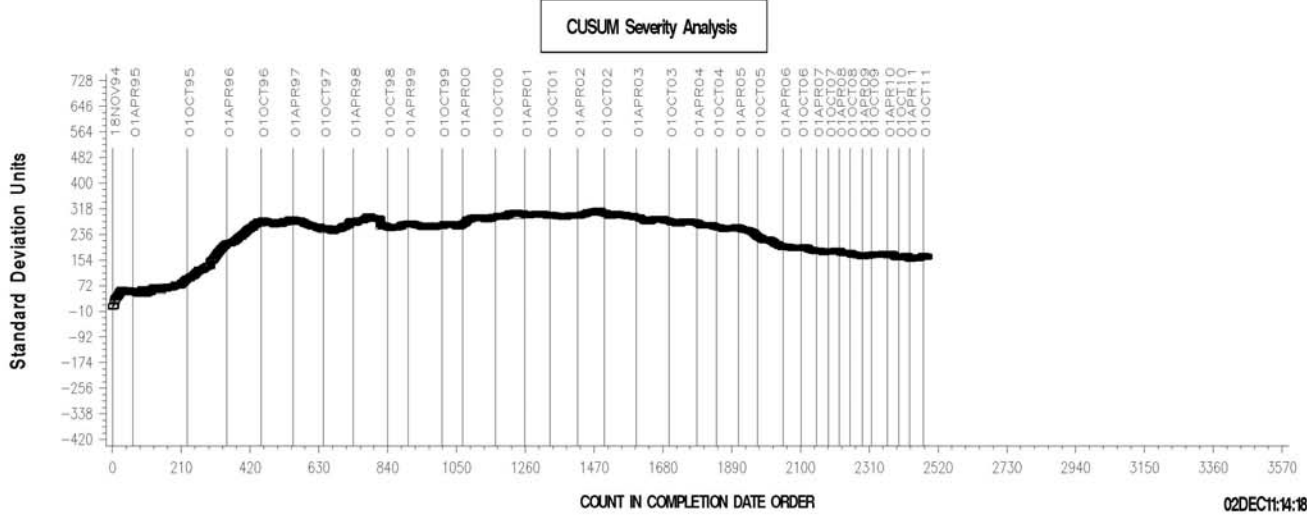
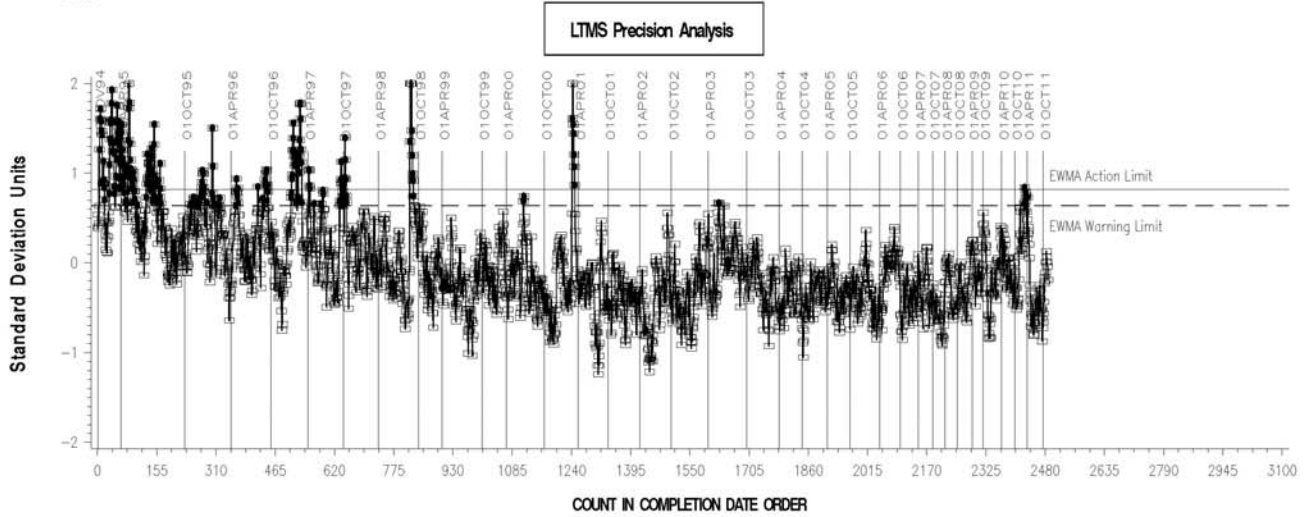
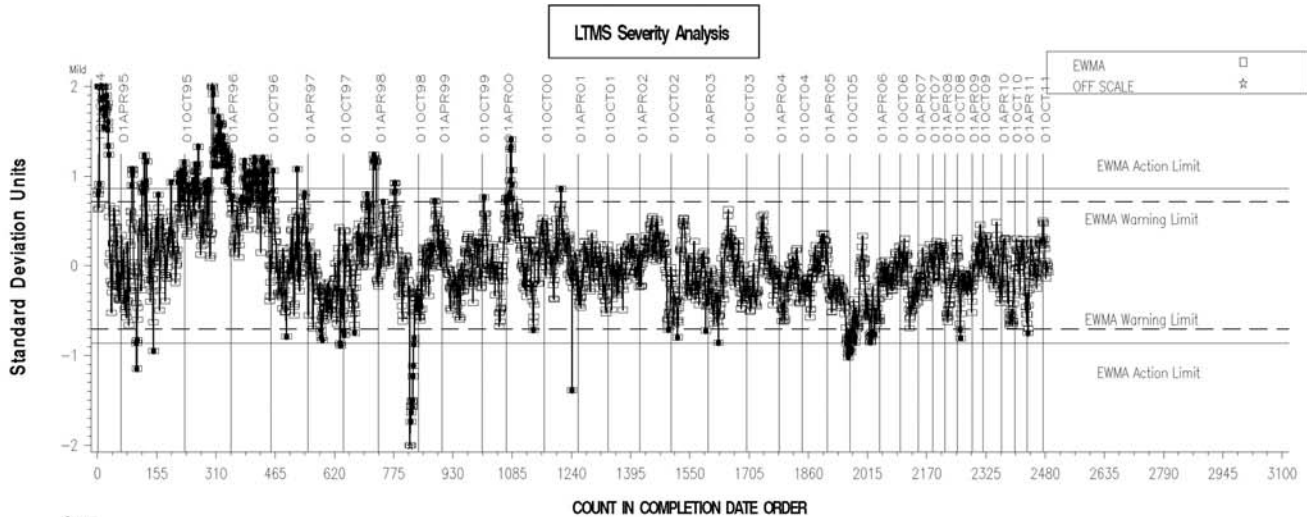
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REF. PERCENT VOLUME CHANGE AVG.



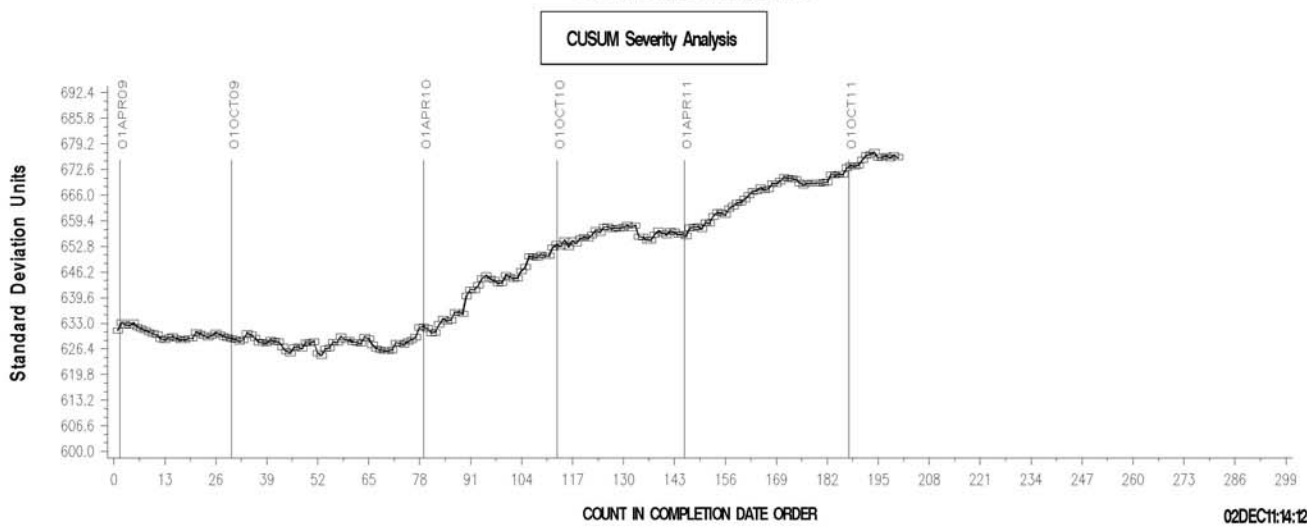
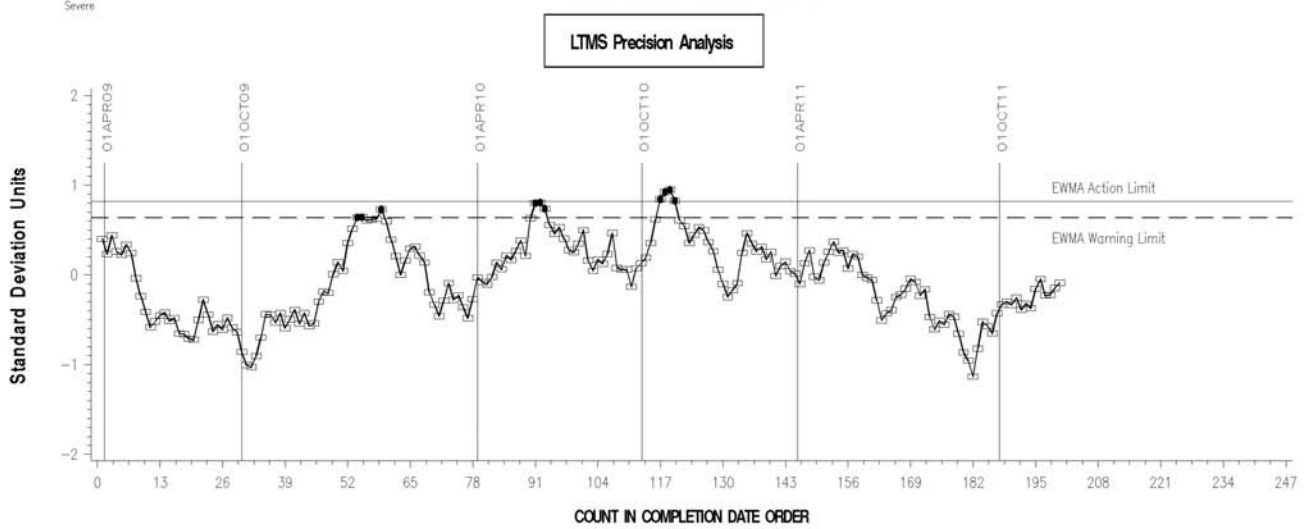
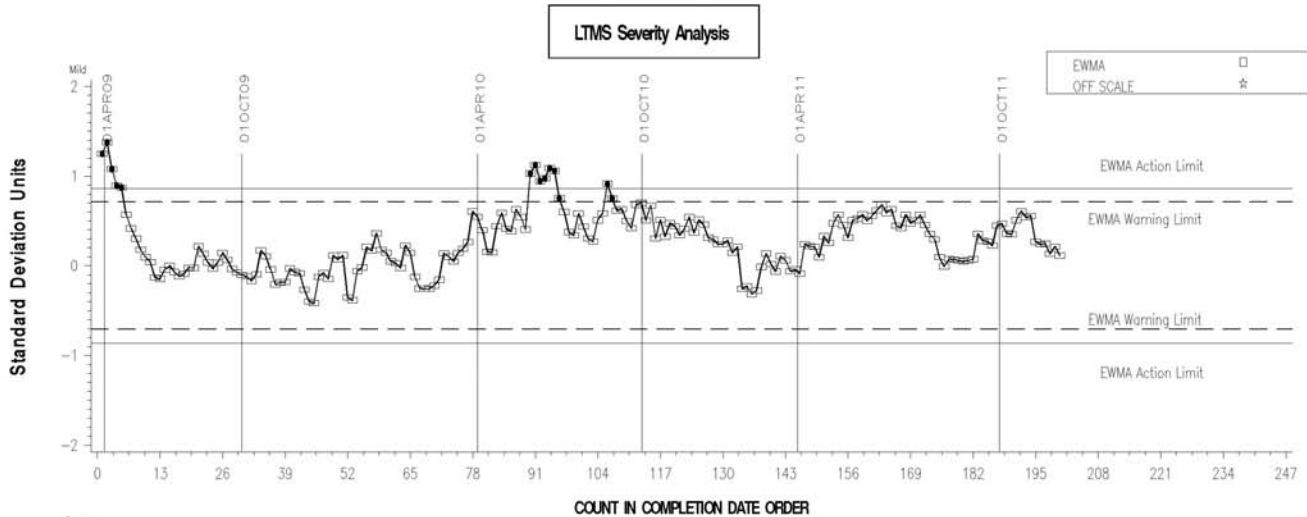
OSCT INDUSTRY OPERATIONALLY VALID DATA

REF. SHORE A HARDNESS CHANGE AVG.



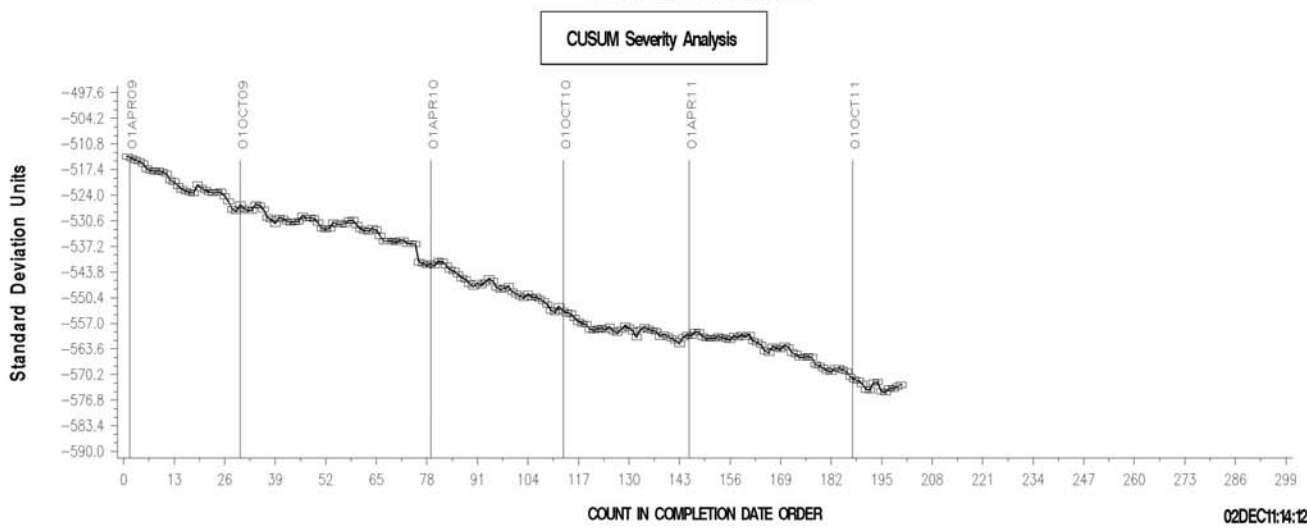
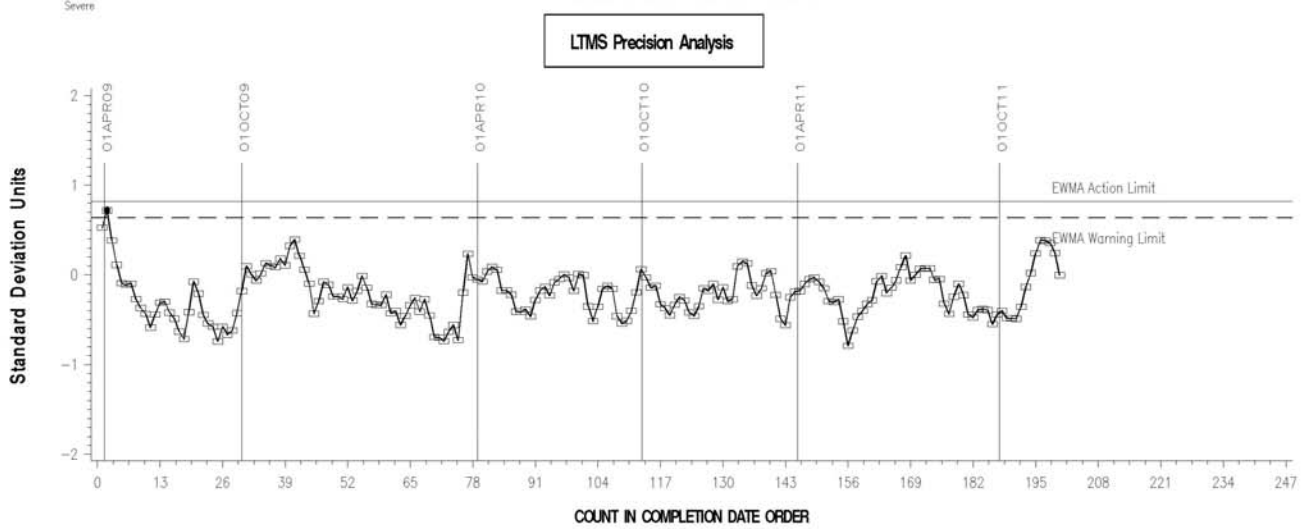
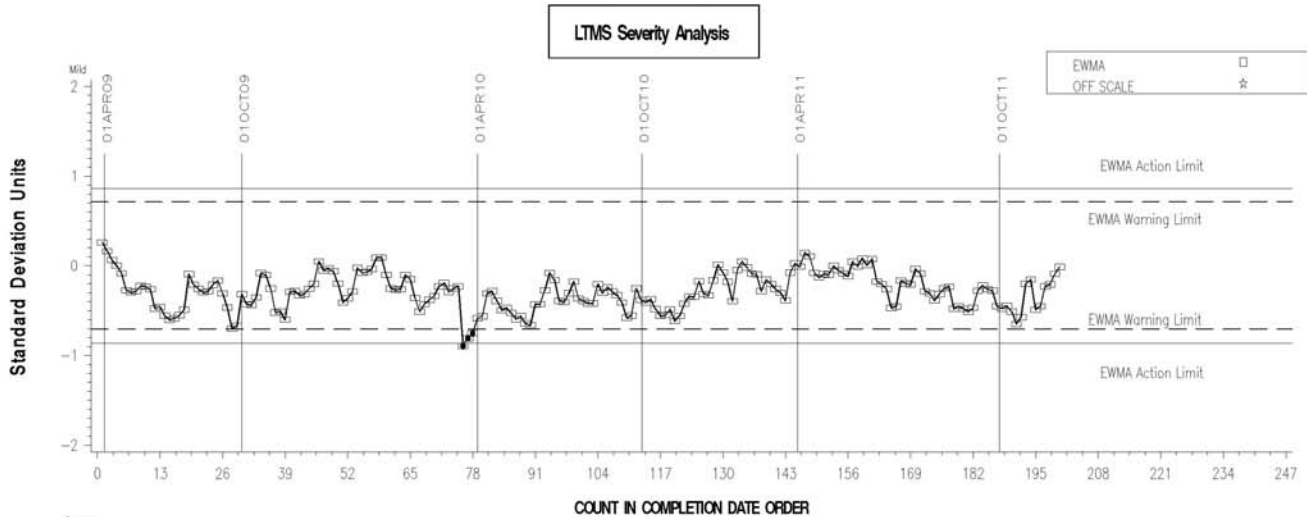
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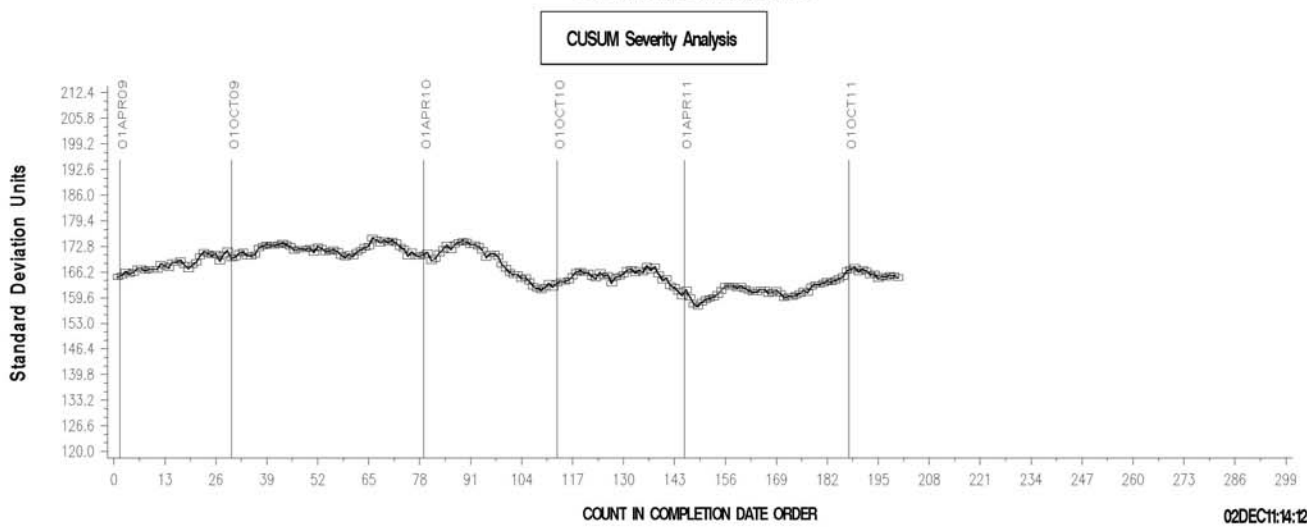
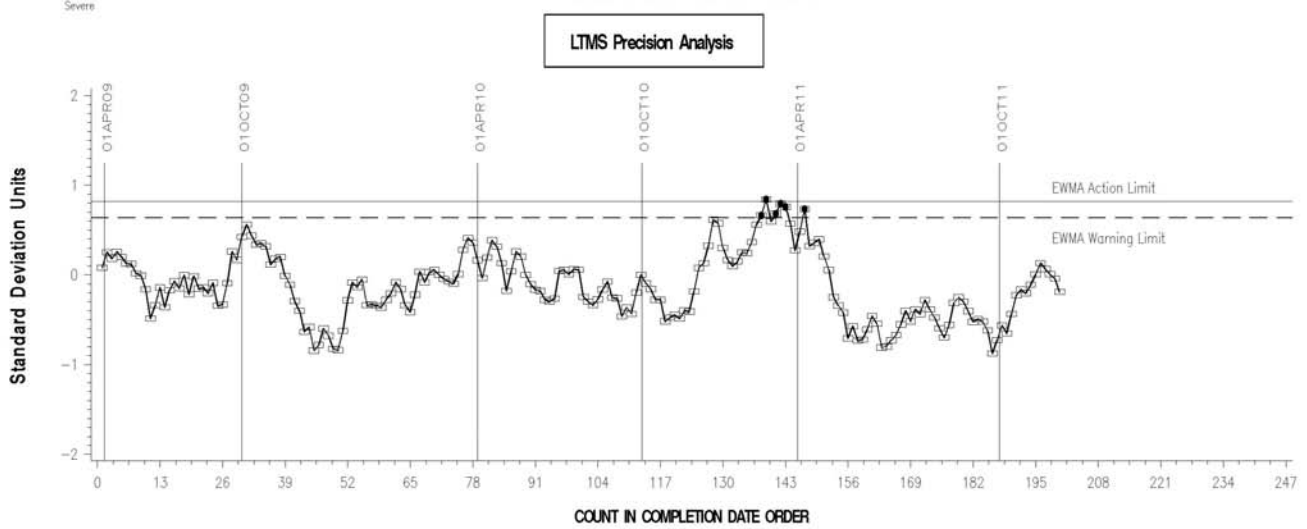
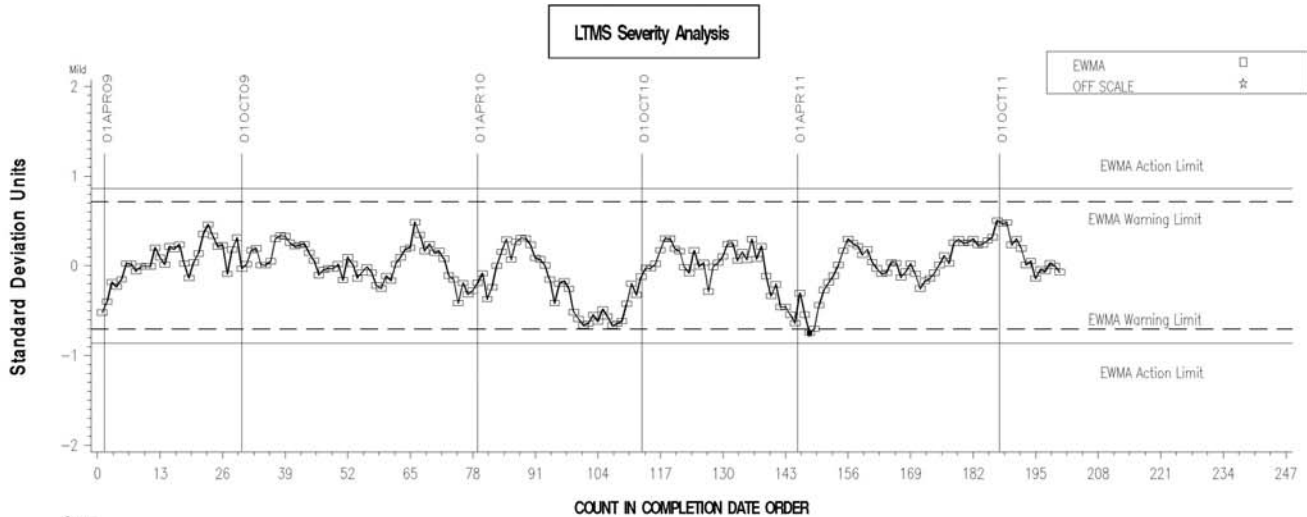
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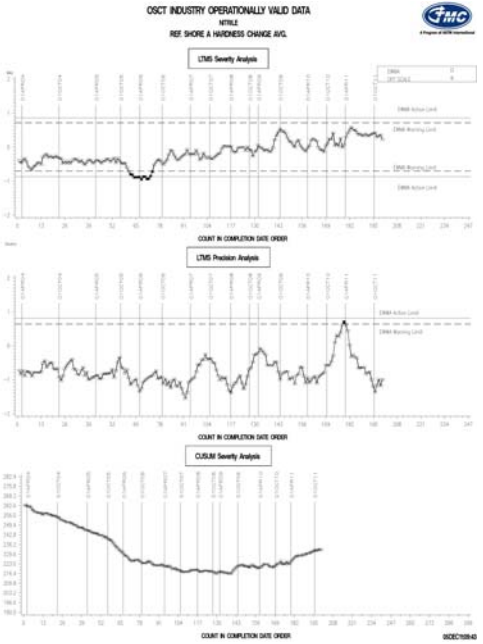
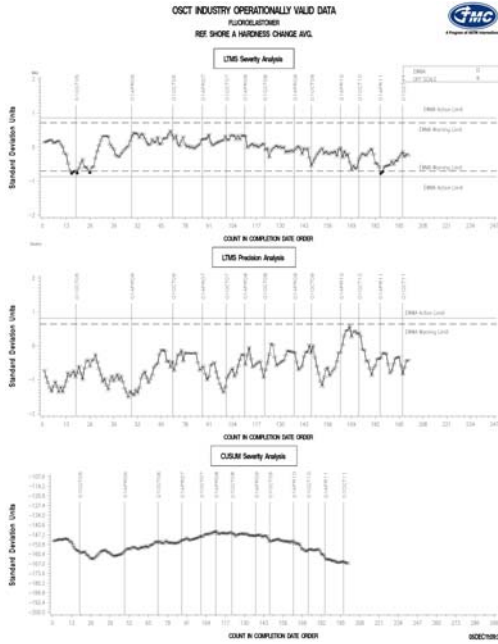
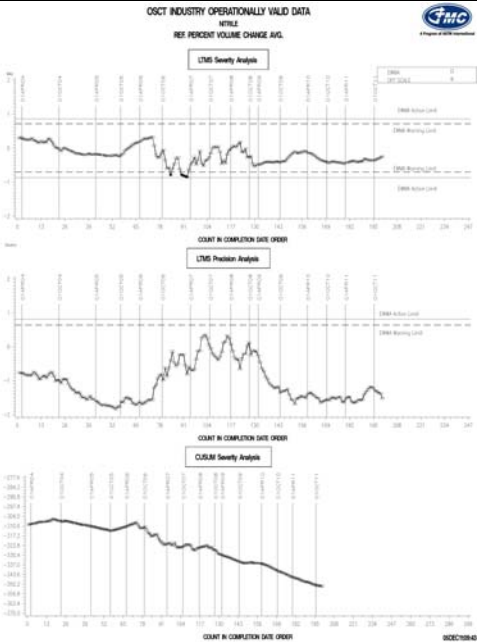
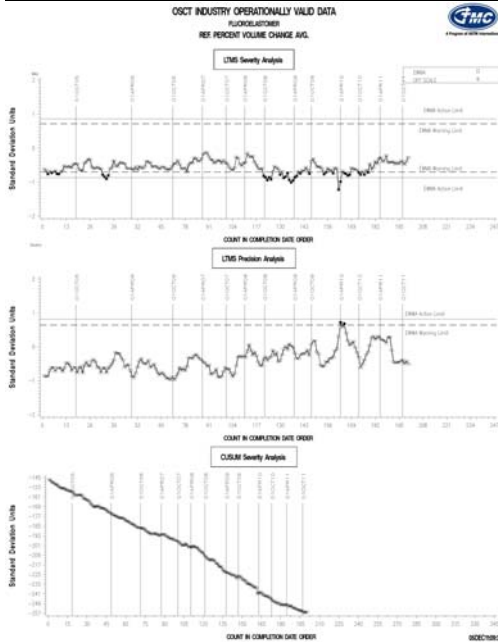
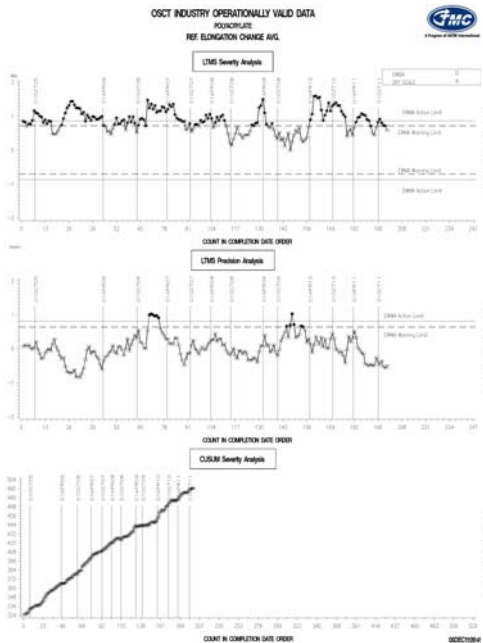
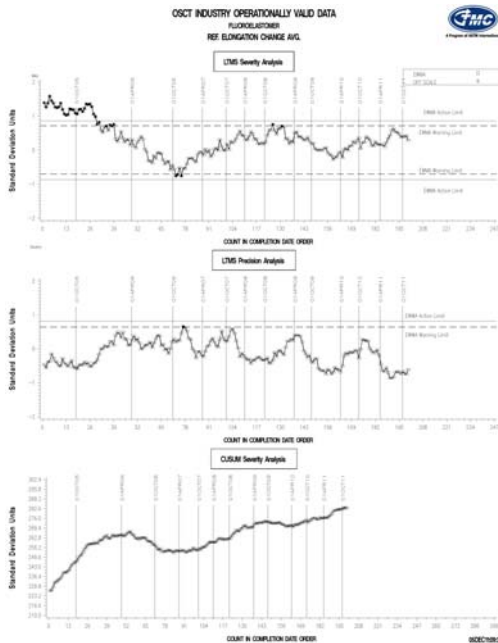
REF. PERCENT VOLUME CHANGE AVG.



OSCT INDUSTRY OPERATIONALLY VALID DATA

REF. SHORE A HARDNESS CHANGE AVG.





TIMELINE OF SIGNIFICANT EVENTS IN THE HISTORY OF THE OSCT TEST:

| Effective Date | Information Letter | Event |
|-----------------------|---------------------------|---|
| | 98-3 | Section 5.2.4 Editorial Correction |
| 19970324 | 97-1 | Elastomer requirements for testing a non-reference oil. |
| 19970701 | 97-2 | Specimen cleaning procedure |
| 19971201 | 97-3 | Data dictionary and report forms revision |
| 19980122 | 98-2 | Backlash Settings Clarification |
| 19980504 | 98-1 | Seal Elastomer Shelf Life |
| 19980504 | 98-1 | Revised Reference Oil and Non-reference Oil Requirements |
| 19980504 | 98-1 | Addition of Calibration Requirements for Hardness Durometer, Balance, and Tension Testing Machine |
| 20040930 | | Implemented LTMS Reference Oil Targets |
| 20050815 | 05-1 | Updated Test Precision |
| 20050815 | 05-1 | Rounding Test Results Using ASTM E 29 |
| 20051102 | 05-2 | Initial and Final Volume Measurements |
| 20060327 | 06-1 | Addition of a Calibration Procedure for the Tension Testing Machine |
| 20060327 | 06-1 | New Reference Oil Testing Section |
| 20060327 | 06-1 | Editorial Changes |
| 20060331 | 06-2 | Specimen Spacer Width Revision |
| 20071001 | 07-1 | Test Temperature Data Logging an Tolerance |
| 20080114 | 07-2 | Percent Deviation Calculation for Test Oil Temperature Data Logging |
| 20081007 | | Extend Nitrile elastomer batch NI332 shelf life from 10/10/2008 to 12/31/2008 |
| 20081007 | 08-1 | Clarification of allowable oil temperature variations |
| 20081007 | 08-2 | Allow elastomer shelf life to extend beyond two years |
| 20090904 | 09-1 | Revised Extensometer Calibration Procedure |
| 20110901 | 11-1 | Removal of requirement to mail paper final test report to TMC. |

TMC LAB VISITS:

No OSCT lab visits were conducted during this report period.

INFORMATION LETTERS:

Information Letter 11-1 was issued this period to remove the requirement for mailing a paper copy of the final test report for calibration tests to the TMC.

STATUS OF REFERENCE OIL SUPPLY:

At the end of this report period, the testing oil supply stood as outlined in the table below:

| Oil | Cans @ Labs | @ TMC | |
|-------|-------------|-------|---------|
| | | Cans | Gallons |
| 160-1 | 20 | 420 | 83.3 |
| 161-1 | 12 | 0 | 0.0 |
| 168 | 18 | 117 | 23.2 |
| 169 | 34 | 1279 | 253.6 |
| Total | 84 | 1816 | 360.1 |

Oil 161-1 has been depleted from TMC inventory. An exact reblend is not available. Oil 169 has been proposed as a replacement. Data collection for oil 169 has been completed and the surveillance panel is formulating a plan for introducing the oil for calibration use.

SDP/sdp/mem11-061.sdp.doc

cc: Frank Farber

Jeff Clark

<ftp://ftp.astmtmc.cmu.edu/docs/gear/osct/semiannualreports/osct-10-2011.pdf>

Distribution: email