




Test Monitoring Center

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

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

MEMORANDUM: 16-038
DATE: November 7, 2016
TO: Angela Trader, Chairman, L-33-1 Surveillance Panel
FROM: Scott Parke 
SUBJECT: L-33-1 Testing from April 1, 2016 through September 30, 2016

Attached is a summary of testing activity this period.

SDP/sdp/mem16-038.sdp.doc

cc: Frank Farber
Jeff Clark

L-33-1 Surveillance Panel

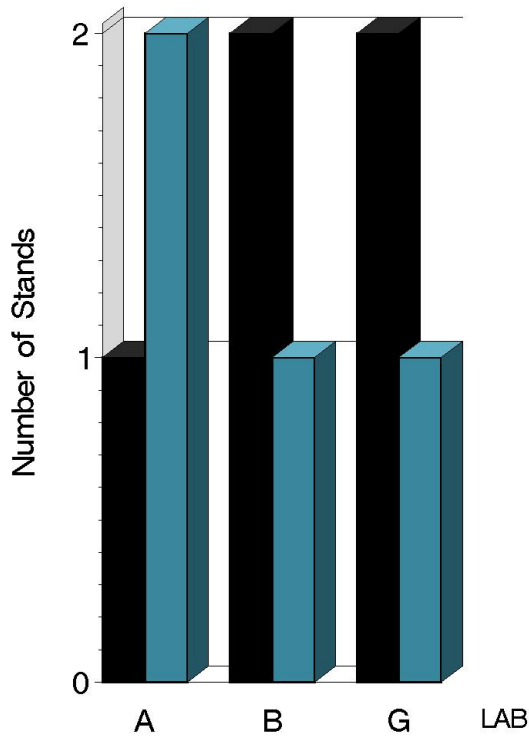
<ftp://ftp.astmtmc.cmu.edu/docs/gear/l331/semiannualreports/l331-10-2016.pdf>

Distribution: email

L-33-1 (D7038)

	Reporting Data	Calibrated on 9-30-16
Number of Labs	3	3
Number of Stands	4	4

BY-LAB STAND
DISTRIBUTION



Report Period: ■ Current ■ Previous

10:41:44 04NOV2016

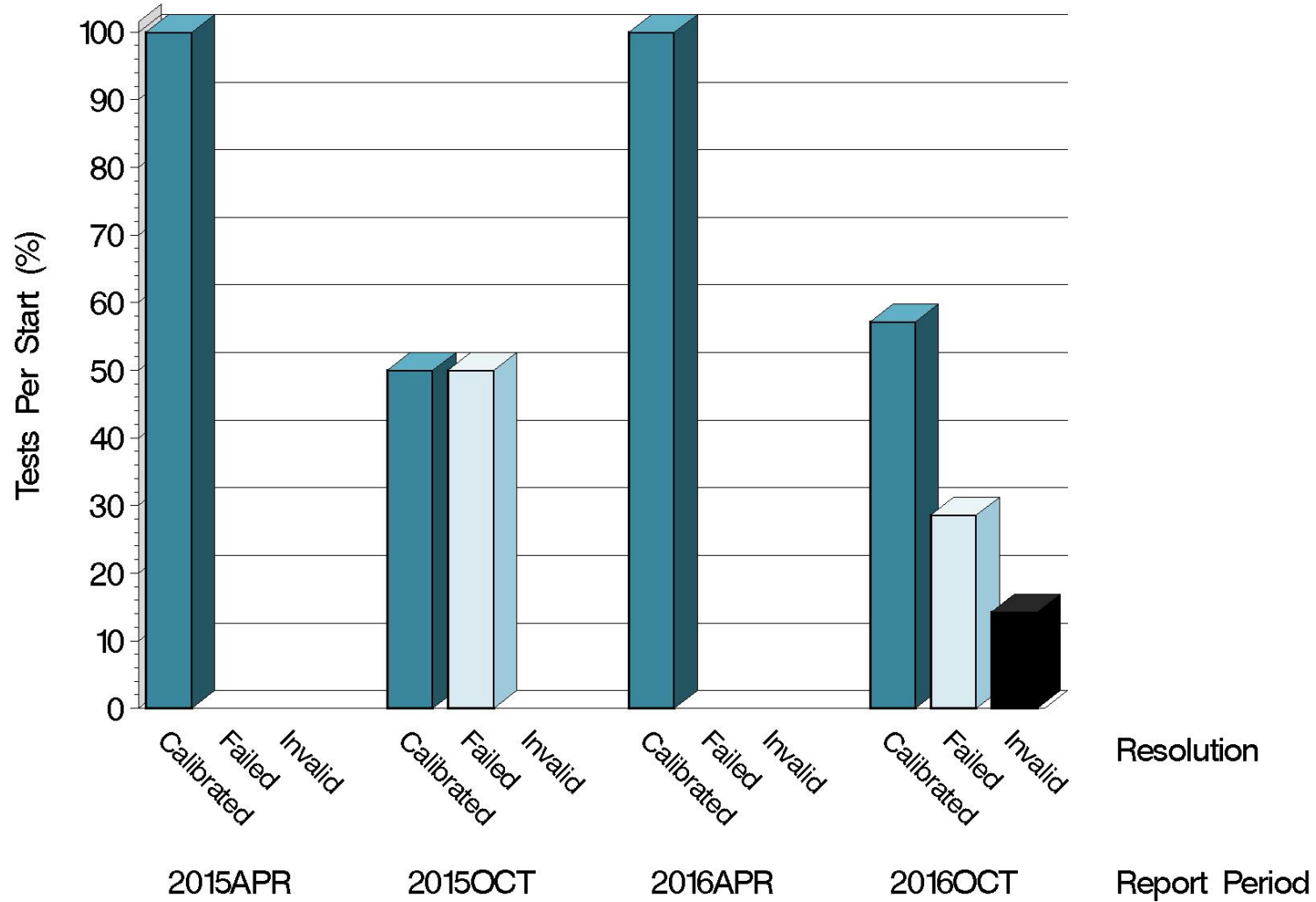
L-33-1 (D7038)

Test Distribution by Oil and Validity

					Totals	
		123-2	155	155-1	Last Period	This Period
Accepted for calibration	AC	2	0	2	1	4
Rejected (Mild)	OC	0	0	0	0	0
Rejected (Severe)	OC	0	0	0	0	0
Rejected (Precision)	OC	0	0	2	0	2
Invalidated calibration	LC	0	0	1	0	1
Aborted	XC	0	0	0	0	0
Unacceptable info run	MI	0	0	0	1	0
Accepted information run	NI	0	0	0	12	0
Total		2	0	5	14	7

L-33-1 (D7038)

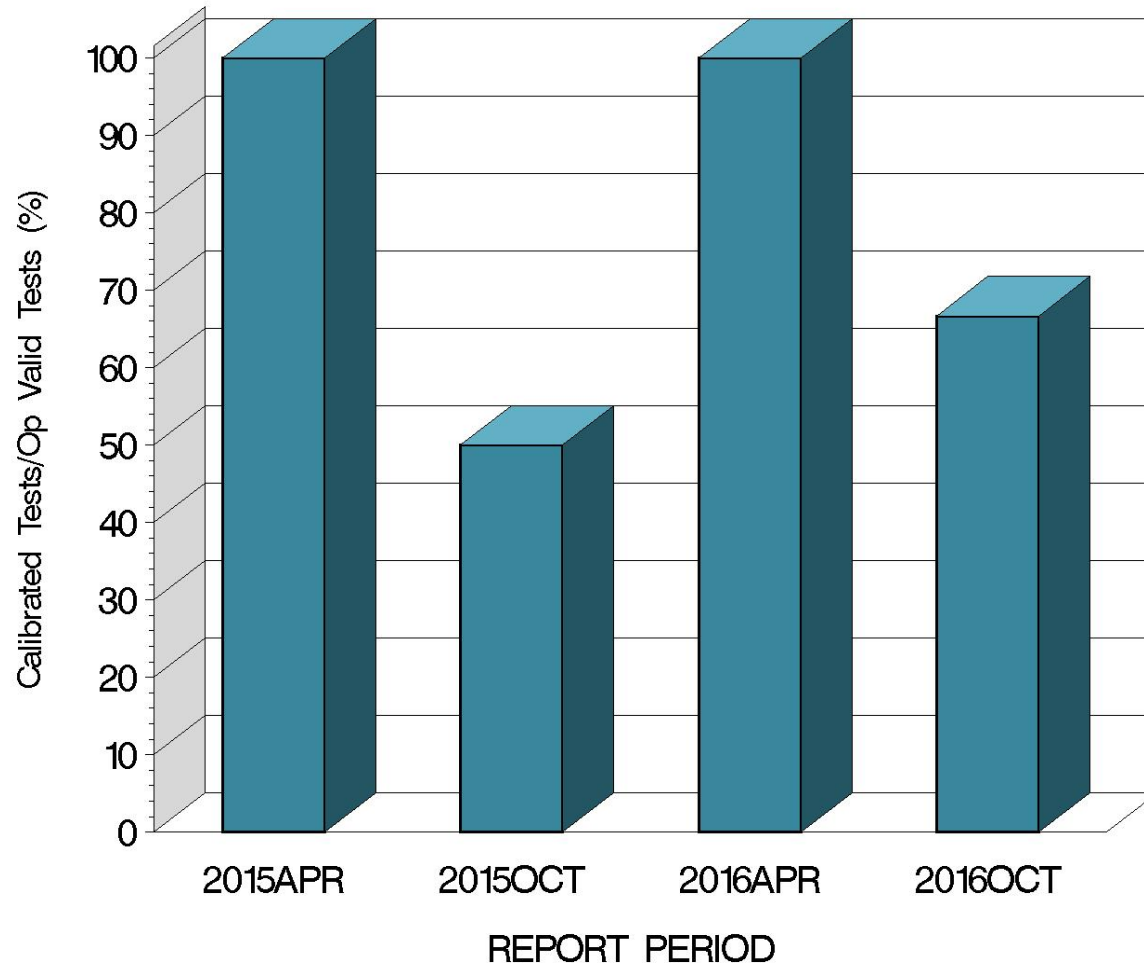
CALIBRATION ATTEMPT SUMMARY



10:41:44 04NOV2016

L-33-1 (D7038)

OPERATIONALLY VALID TESTS
MEETING ACCEPTANCE CRITERIA

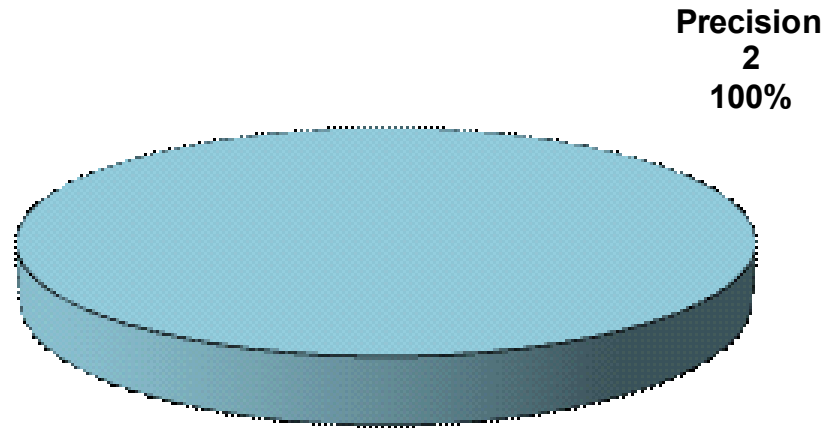


10:41:44 04NOV2016

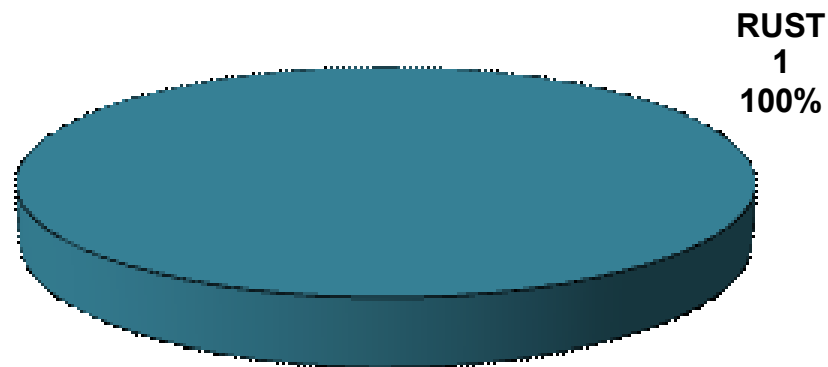
L-33-1 (D7038)

CAUSES FOR FAILED TESTS

By Alarm Type



By Parameter



L-33-1 (D7038)

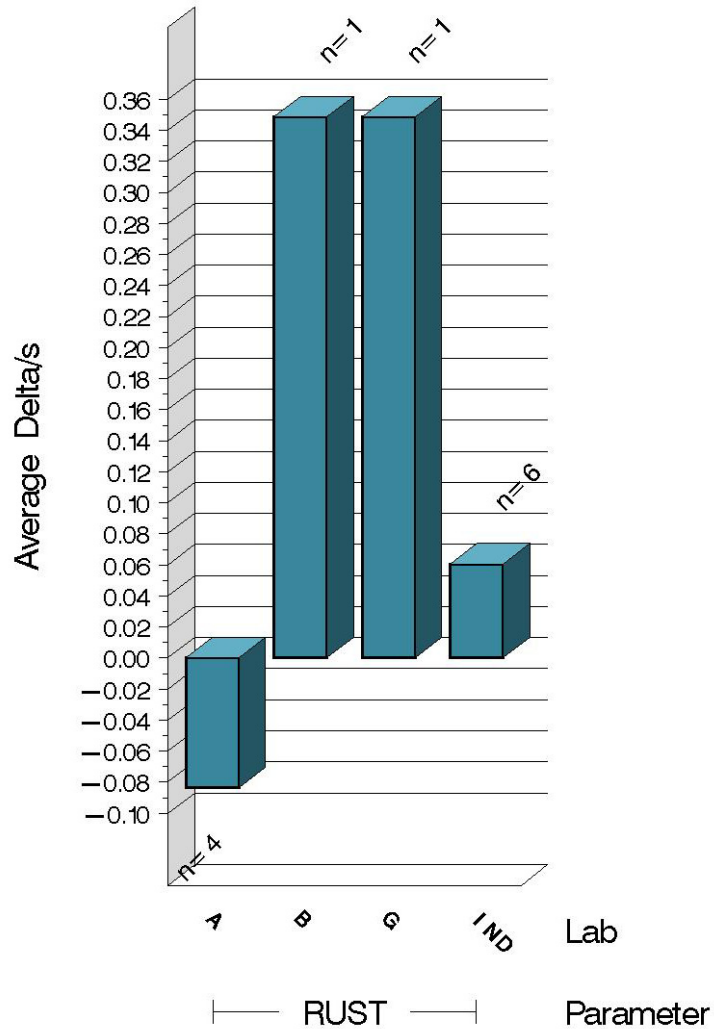
CAUSES FOR LOST TESTS

Lab	Cause	Oil			Validity			Loss Rate		
		123-2	155	155-1	RC	LC	XC	Lost	Starts	%
A	Excessively long warmup and thermocouple issues.			●		●		1	5	20%
	Lost	0	0	1	0	1	0			
	Starts	2	0	5	7	7	7			
	%	0%	0%	20%	0%	14%	0%			

L-33-1 (D7038)

TEST SEVERITY

DELTA/S BY LAB



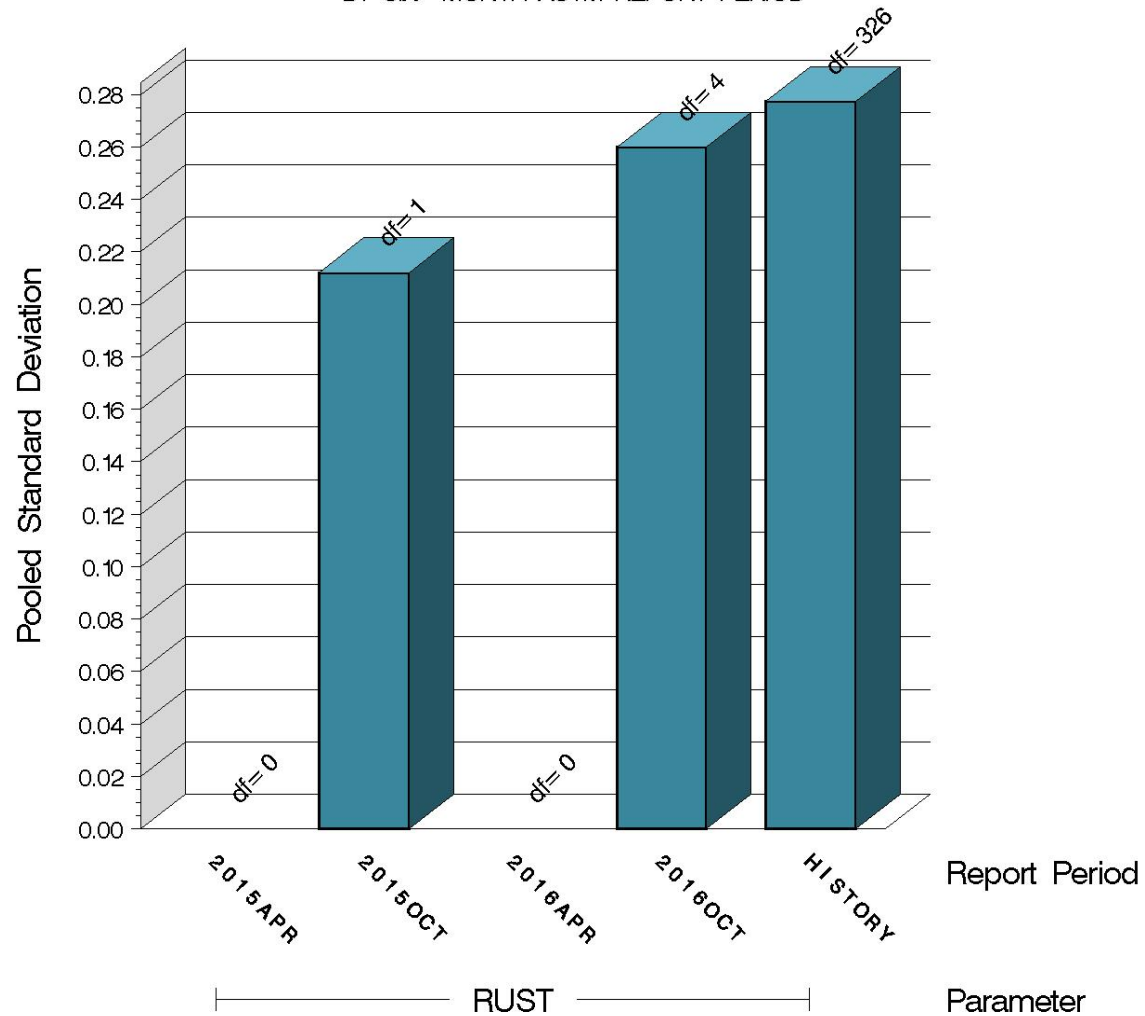
Average Δ/s by Lab

Lab	n	RUST
A	4	-0.083
B	1	0.349
G	1	0.349
Industry	6	0.061
Shift	6	0.015 merits

L-33-1 (D7038)

TEST PRECISION

POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD



10:41:44 04NOV2016

L-33-1 (D7038)

SUMMARY OF SEVERITY & PRECISION

Severity

Average RUST Δ/s this period was 0.061. Using the target standard deviation for oil 155 (0.250), this equates to 0.015 merits mild.

Precision

One particularly mild result ($Y_i = 3.667$) generated an industry precision warning in July. All alarms have since cleared.

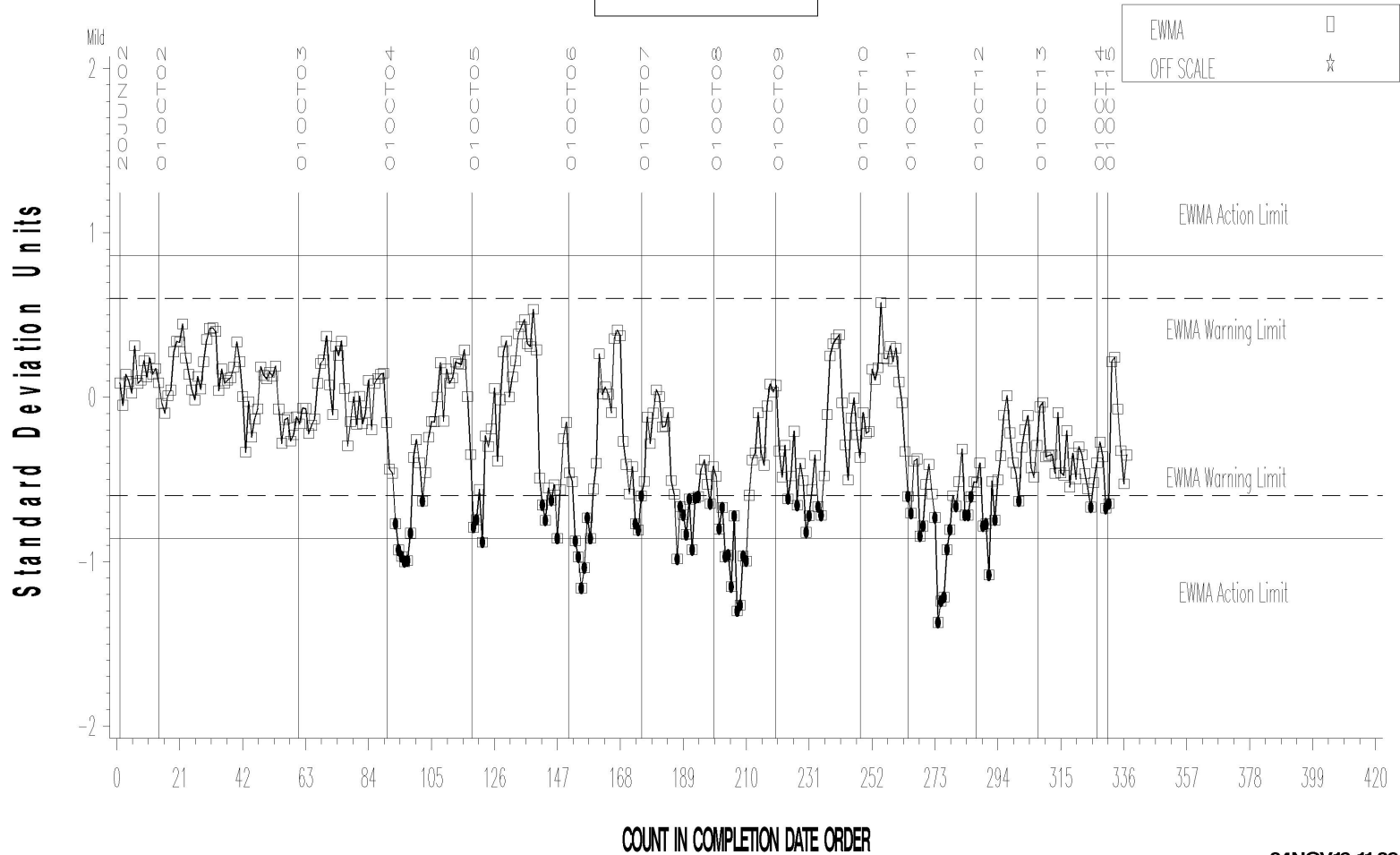
Industry control charts follow.

L-33-1 (D7038)

L-33-1 INDUSTRY OPERATIONALLY VALID DATA

FINAL RUST RESULT

LTMS Severity Analysis



Severa

04NOV16:11:09

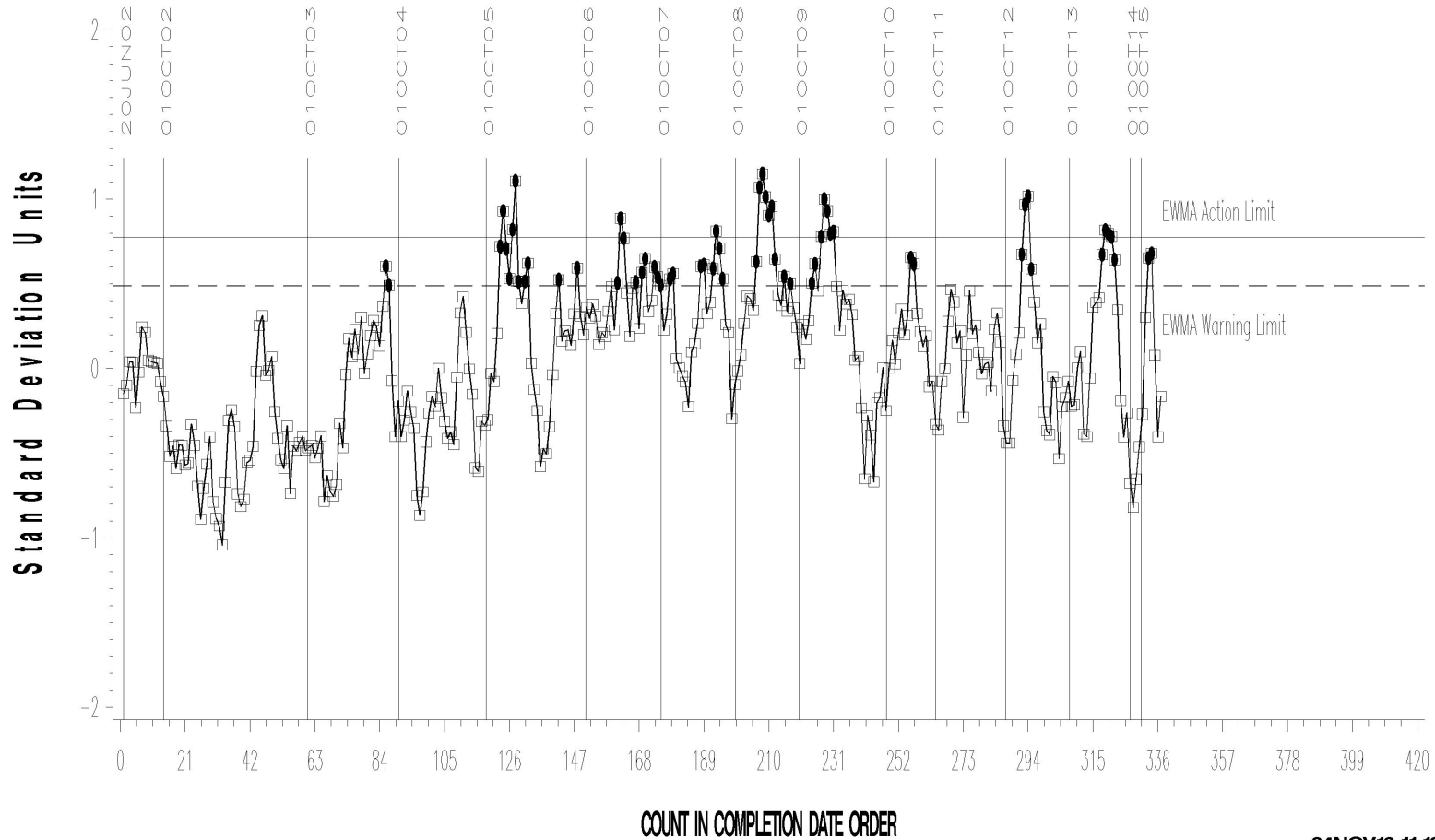
L-33-1 (D7038)

L-33-1 INDUSTRY OPERATIONALLY VALID DATA



FINAL RUST RESULT

LTMS Precision Analysis



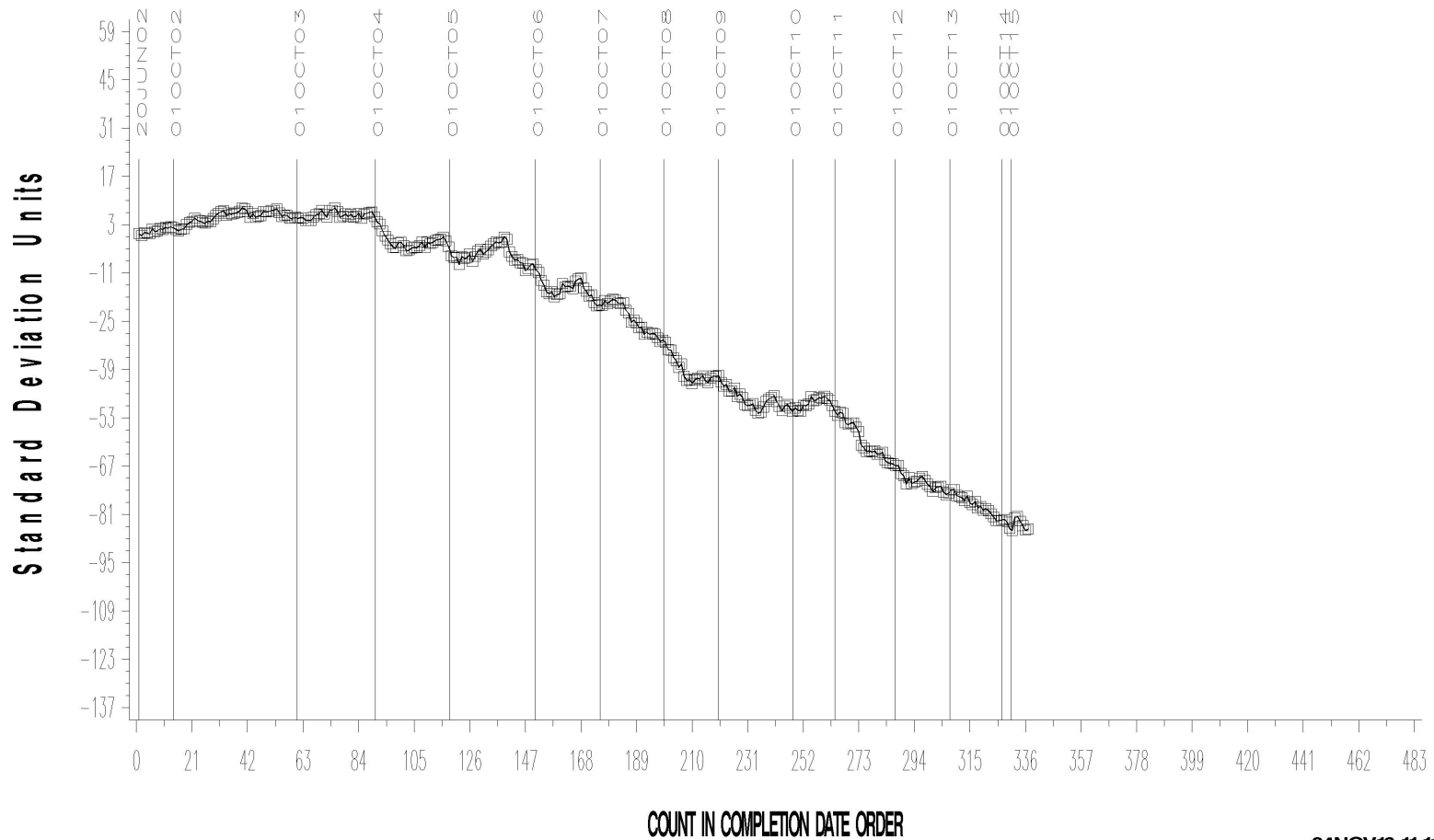
04NOV16:11:10

L-33-1 (D7038)

L-33-1 INDUSTRY OPERATIONALLY VALID DATA

FINAL RUST RESULT

CUSUM Severity Analysis



04NOV16:11:11

L-33-1 (D7038)

TIMELINE ADDITIONS

Effective Date	Information Letter	Event
20160624	16-1	Introduction of AAM K2XX hardware and accompanying 0.6 merit correction factor.
20160630	16-2	Instruction for handling corrected test results > 10 merits.

L-33-1 (D7038)

LAB VISITS

Two L-33-1 lab visits were conducted during this period. Use of differential cover bolts to attach a motoring stand mounting bracket was found in one lab. The Surveillance Panel will be consulted for guidance on the acceptability of this practice.

INFORMATION LETTERS

Two information letters were issued during this period. Information Letter 16-1 updated the procedure for the AAM K2XX hardware and Information Letter 16-2 provided instruction for handling corrected test results of > 10 merits.

L-33-1 (D7038)

STATUS OF REFERENCE OIL SUPPLY

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
123-2	10	130	130.8
155	0	15	15.0
155-1	12	197	197.0
Total	22	342	342.8

The TMC quantity remaining presumes usage only for L-33-1 testing. Oil 155/155-1 is also used in other test areas (L-37, L-37-1, L-60-1, and HTCT).