



## Test Monitoring Center

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

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

MEMORANDUM: 16-011

DATE: May 4, 2016

TO: Leonard Orzech,  
Chairman, Ball Rust Test Surveillance Panel

FROM: Michael T. Kasimirsky *Michael T. Kasimirsky*

SUBJECT: BRT Testing from October 1, 2015 through March 31, 2016

A total of 225 BRT tests were reported to the Test Monitoring Center during the report period from October 1, 2015 through March 31, 2016.

Please find attached a summary of testing activity this period.

MTK/mtk/astm0416.doc/mem16-011.mtk.doc

cc: F. M. Farber

J. A. Clark

BRT Surveillance Panel

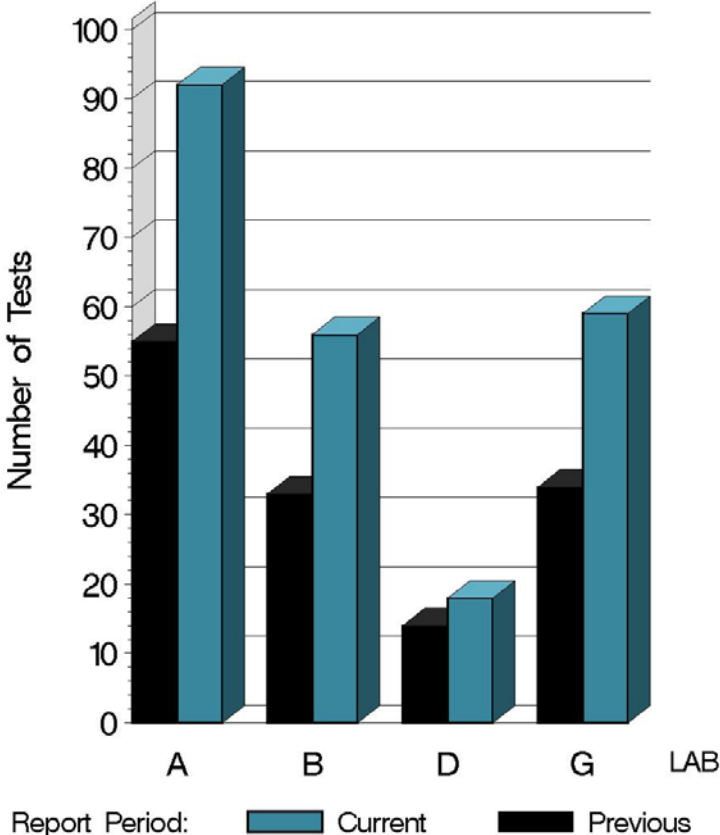
<ftp://ftp.astmtmc.cmu.edu/docs/bench/brt/semiannualreports/brt-04-2016.pdf>

Distribution: email

# BRT (D 6557)

	Reporting Data
Number of Labs	4

NUMBER OF TESTS REPORTED BY LAB AND REPORT PERIOD



1:01:15 Q2MAY2016

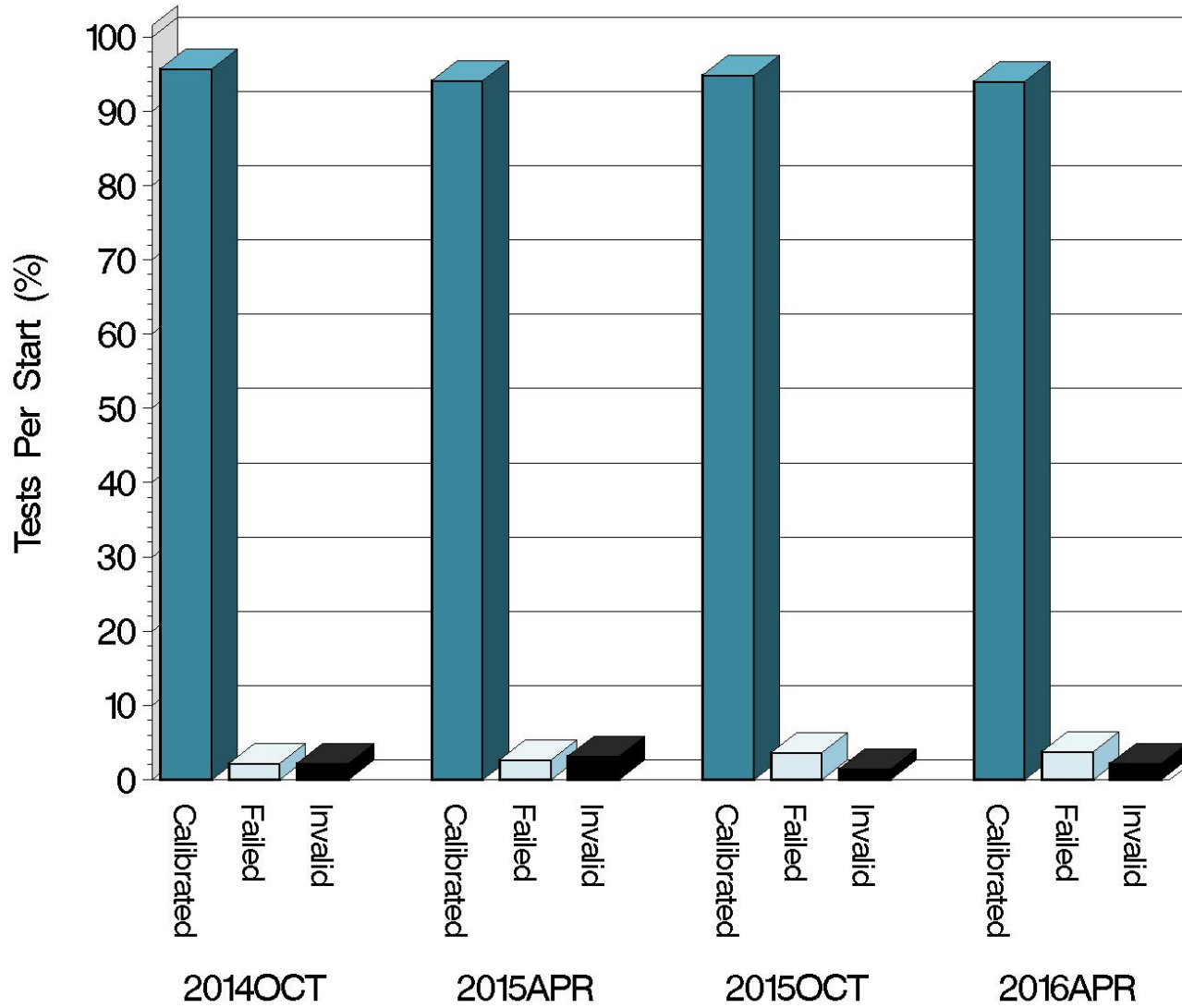
# BRT (D 6557)

## Test Distribution by Oil and Validity

						Totals	
		1006	81	82	82-1	This Period	Last Period
Accepted for calibration	AC	46	86	42	0	174	128
Rejected	OC	2	0	5	0	7	5
Invalidated by Lab	LC	0	0	1	0	1	1
Invalidated by TMC	RC	1	0	0	0	1	0
Aborted	XC	0	0	2	0	2	1
Hardware Approval run	NI	8	13	6	8	35	0
Invalid Hardware Approval run	LI	2	0	2	0	4	0
Unacceptable Approval run	MI	0	0	1	0	1	0
<b>Total</b>		<b>59</b>	<b>99</b>	<b>59</b>	<b>8</b>	<b>225</b>	<b>135</b>

# BRT (D 6557)

## CALIBRATION ATTEMPT SUMMARY



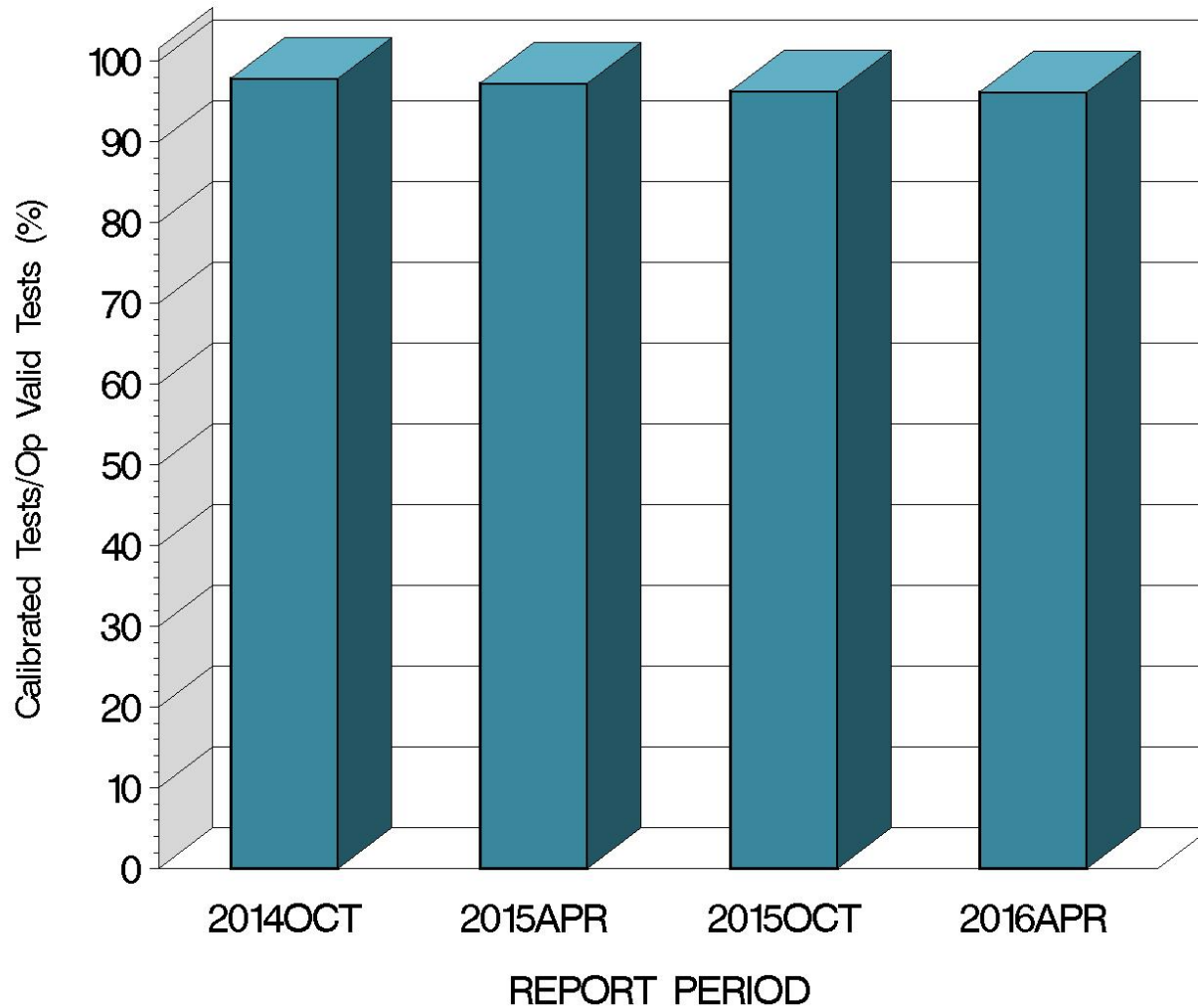
Resolution

Report Period

8:17:37 04MAY2016

# BRT (D 6557)

OPERATIONALLY VALID TESTS  
MEETING ACCEPTANCE CRITERIA



8:17:37 04MAY2016

# BRT (D 6557)

## CAUSES FOR LOST TESTS

Lab	Cause	Oil			Validity			Loss Rate		
		1006	81	82	LC	RC	XC	Lost	Starts	%
A	New Hardware Ran Early	0	0	1	1	0	0	1	79	1.3
B	Clogged Valve	1	0	0	0	1	0	2	43	4.7
	Acid Pump Failure	0	0	1	0	0	1			
G	Shaker Table Failure	0	0	1	0	0	1	1	48	2.1
	Lost	1	0	3	1	1	2			
	Starts	49	86	50	185	185	185			
	%	2.0	0	6.0	0.5	0.5	1.1			

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

# BRT (D 6557)

Average $\Delta/s$ By Laboratory		
Lab	n	AGVYI
A	78	0.642
B	41	0.080
D	15	0.220
G	47	0.467
Industry	181	0.434

Individual test results can be found on the TMC Web Page at the following link:

<ftp://ftp.astmtmc.cmu.edu/refdata/bench/brt/data/>

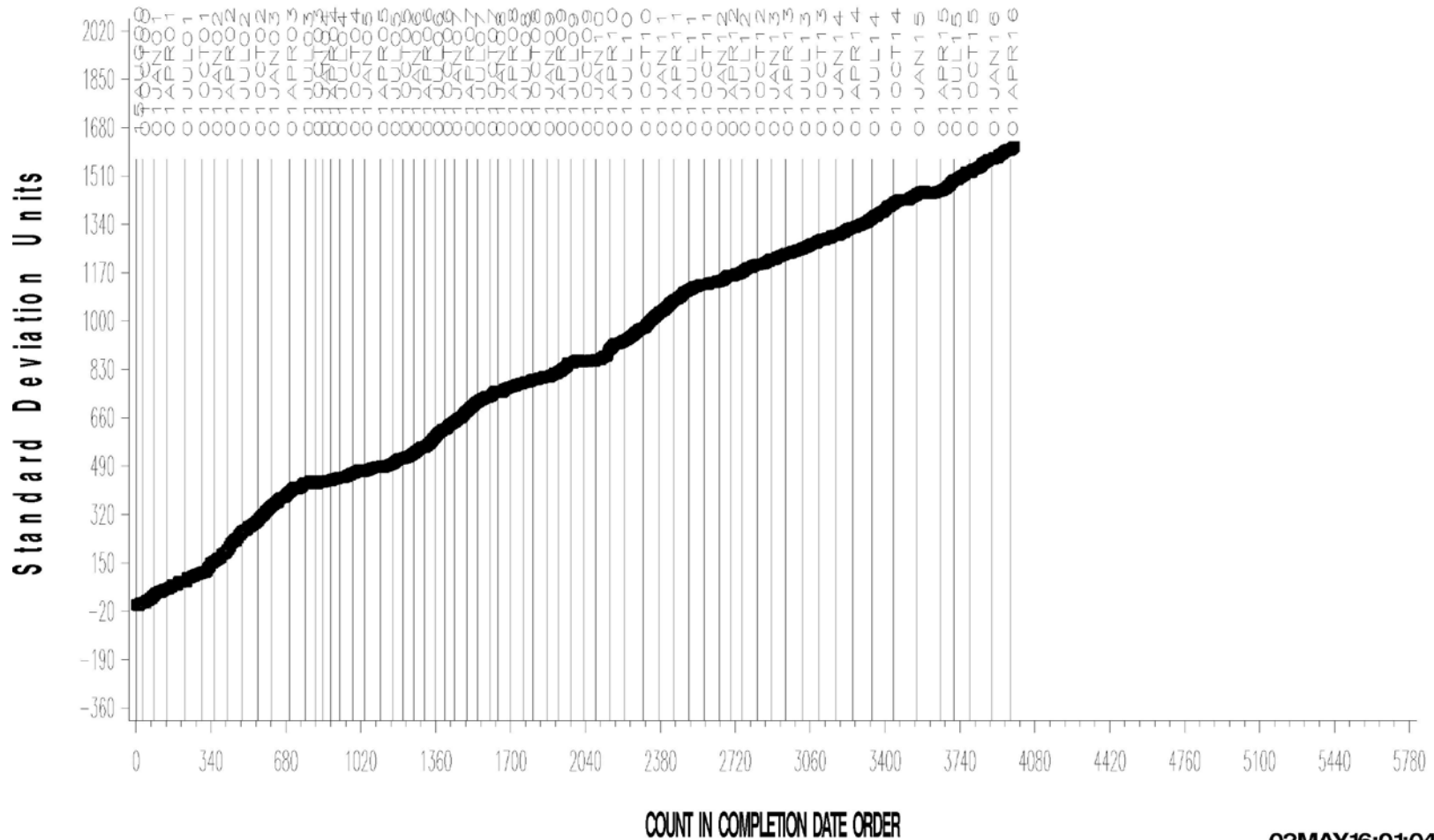
# BRT (D 6557)

BALL RUST TEST INDUSTRY OPERATIONALLY VALID DATA



## REFERENCE AVERAGE GRAY VALUE

CUSUM Severity Analysis



02MAY16:01:04

**Test Monitoring Center**

<http://astmtmc.cmu.edu>



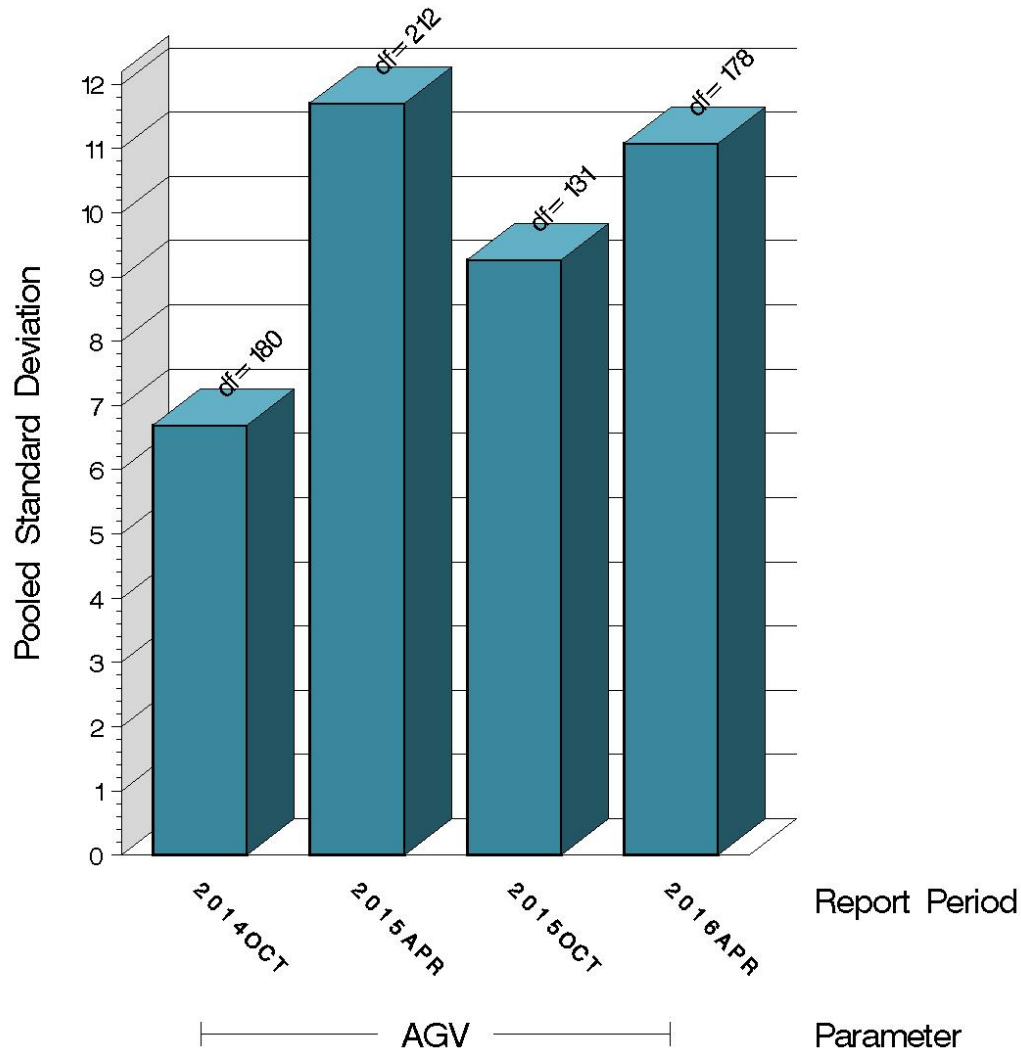
A Program of ASTM International



# BRT (D 6557)

## TEST PRECISION

POOLED STANDARD DEVIATION  
BY SIX-MONTH ASTM REPORT PERIOD



8:17:37 04MAY2016

# BRT (D 6557)

## SUMMARY OF SEVERITY & PRECISION

### Severity

Over the course of this report period, AGV severity, as measured by CUSUM plotting, continued the mild trend that has existed since the inception of the test.

### Precision

Pooled  $s$  for this period is 11.08.

Precision, as measured by pooled standard deviation, is worse than the previous period, but still in line with overall historical performance.

# BRT (D 6557)

## INFORMATION LETTERS

No Information Letters were issued this period.

# BRT (D 6557)

## STATUS OF REFERENCE OIL SUPPLY

Oil	Samples @ Labs	@ TMC	
		Samples (30 mL)	Gallons
1006	41	4000	32.0
81	61	575	4.6
82	47	0	0.0
82-1	45	1162	9.3
Total	194	5737	45.9