



## Test Monitoring Center

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

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

MEMORANDUM: 18-037

DATE: November 6, 2018

TO: Jessica Villarreal,  
Chairwoman, Ball Rust Test Surveillance Panel

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

SUBJECT: BRT Testing from April 1, 2018 through September 30, 2018

A total of 156 BRT tests were reported to the Test Monitoring Center during the report period from April 1, 2018 through September 30, 2018.

Please find attached a summary of testing activity this period.

MTK/mtk/ast1018.doc/mem18-037.mtk.doc

cc: F. M. Farber

J. A. Clark

BRT Surveillance Panel

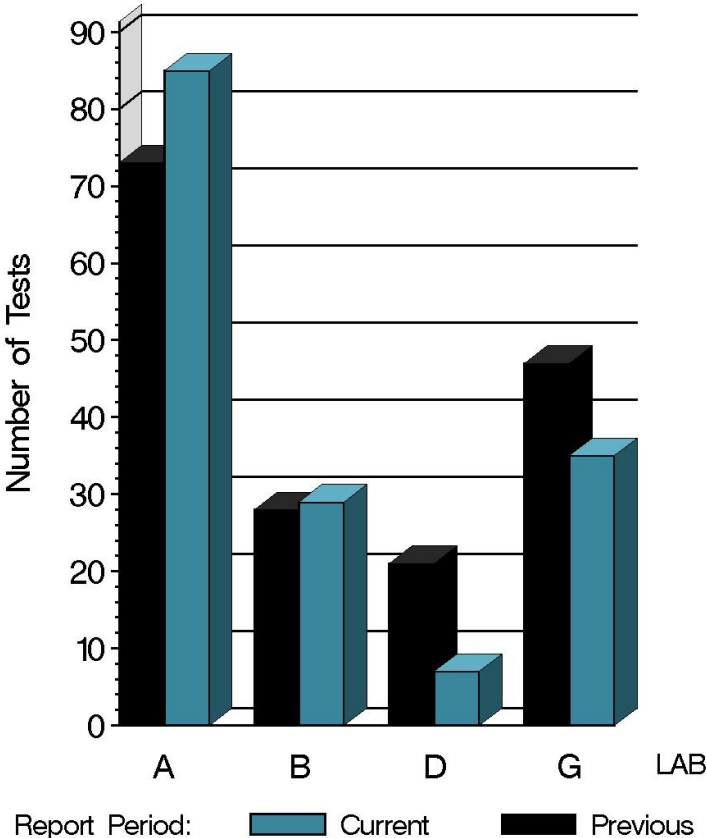
<http://www.astmtmc.cmu.edu/ftp/docs/bench/brt/semiannualreports/brt-10-2018.pdf>

Distribution: email

# BRT (D 6557)

	Reporting Data
Number of Labs	4

NUMBER OF TESTS REPORTED BY LAB AND REPORT PERIOD



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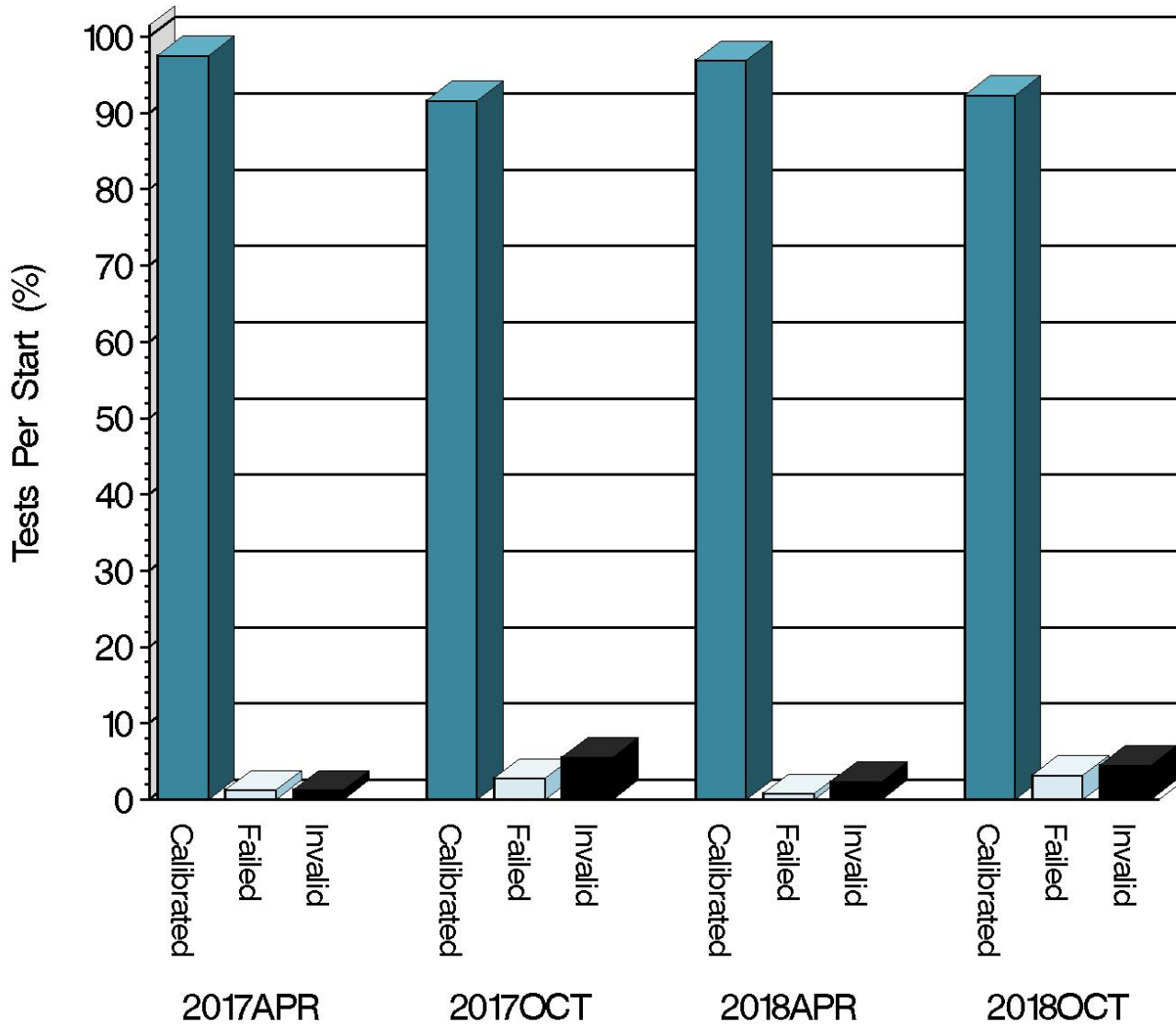
# BRT (D 6557)

## Test Distribution by Oil and Validity

							Totals	
		1006	81	82-1	86	87	This Period	Last Period
Accepted for calibration	AC	73	12	46	6	7	144	125
Rejected	OC	2	0	1	2	0	5	1
Invalidated by Lab	LC	1	0	0	1	0	2	2
Aborted	XC	1	0	2	0	0	3	1
Invalidated by TMC	RC	1	0	1	0	0	2	0
Donated Test	NI	0	0	0	0	0	0	26
Invalid Donated Test	LI	0	0	0	0	0	0	2
Acceptable Shakedown	AS	0	0	0	0	0	0	11
Failed Shakedown	OS	0	0	0	0	0	0	1
<b>Total</b>		<b>78</b>	<b>12</b>	<b>50</b>	<b>9</b>	<b>7</b>	<b>156</b>	<b>169</b>

# BRT (D 6557)

## CALIBRATION ATTEMPT SUMMARY



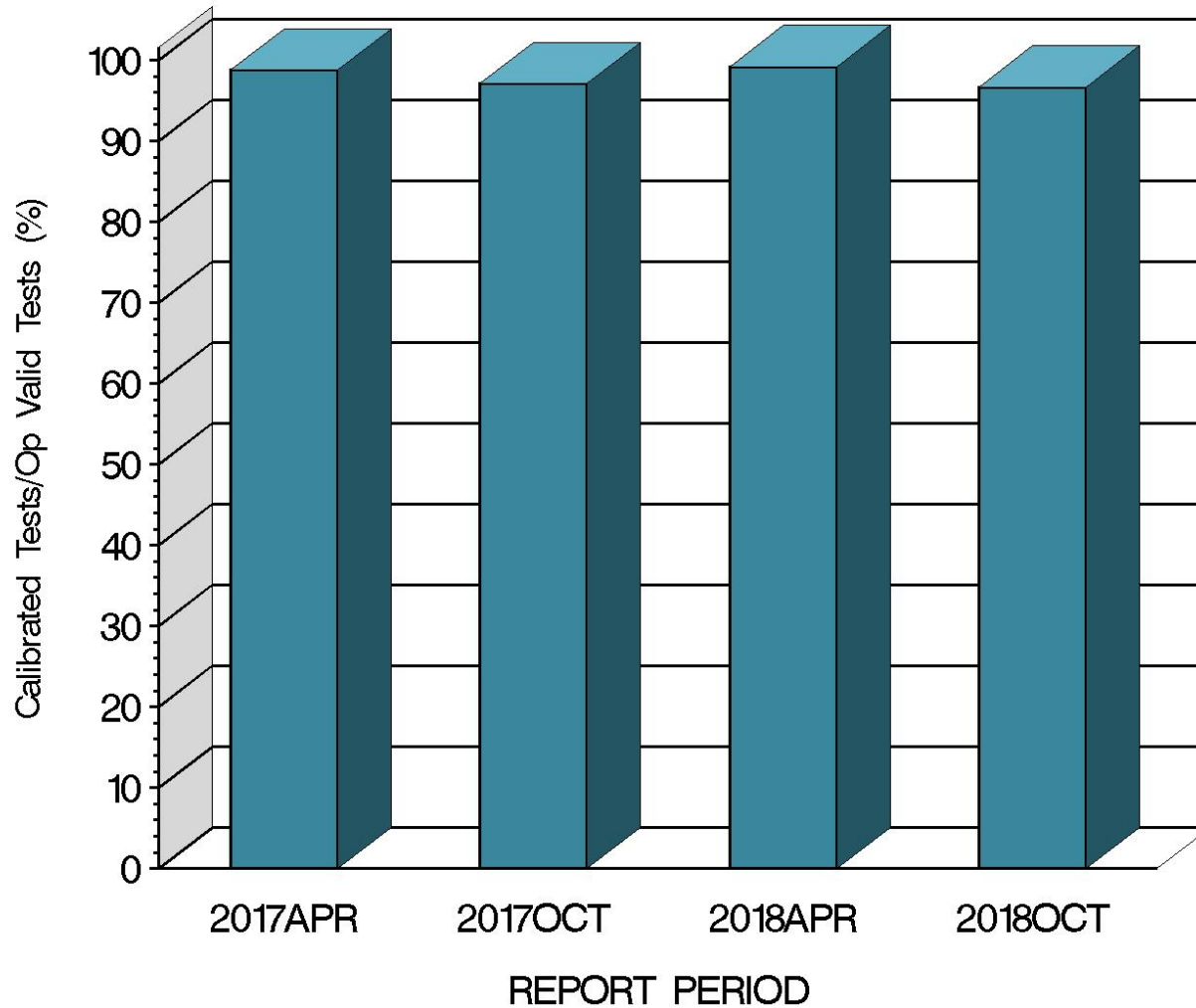
Resolution

Report Period

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# BRT (D 6557)

OPERATIONALLY VALID TESTS  
MEETING ACCEPTANCE CRITERIA



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# BRT (D 6557)

## CAUSES FOR LOST TESTS

		Oil					Validity			Loss Rate		
Lab	Cause	1006	81	82-1	86	87	LC	RC	XC	Lost	Starts	%
A	Acid Valve Problem	1	0	0	0	0	0	0	1	1	85	1.2
	Operator Error	0	0	1	0	0	0	0	1	1	85	1.2
B	Airflow Problem	0	0	0	1	0	1	0	0	1	29	3.4
G	Bath Failure	1	0	0	0	0	1	0	0	1	35	2.9
	Improper Test Length	1	0	1	0	0	0	1	1	2	35	5.7
	Heater Control Failure	0	0	1	0	0	0	1	0	1	35	2.9
Lost		3	0	3	1	0	2	2	3			
Starts		78	12	80	9	7	156	156	156			
%		3.8	0	3.8	11.1	0	1.3	1.3	1.9			

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

# BRT (D 6557)

Average $\Delta/s$ By Laboratory		
Lab	n	AGVYI
A	83	0.357
B	28	-0.855
D	7	-0.781
G	31	-0.200
Industry	149	-0.040

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

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

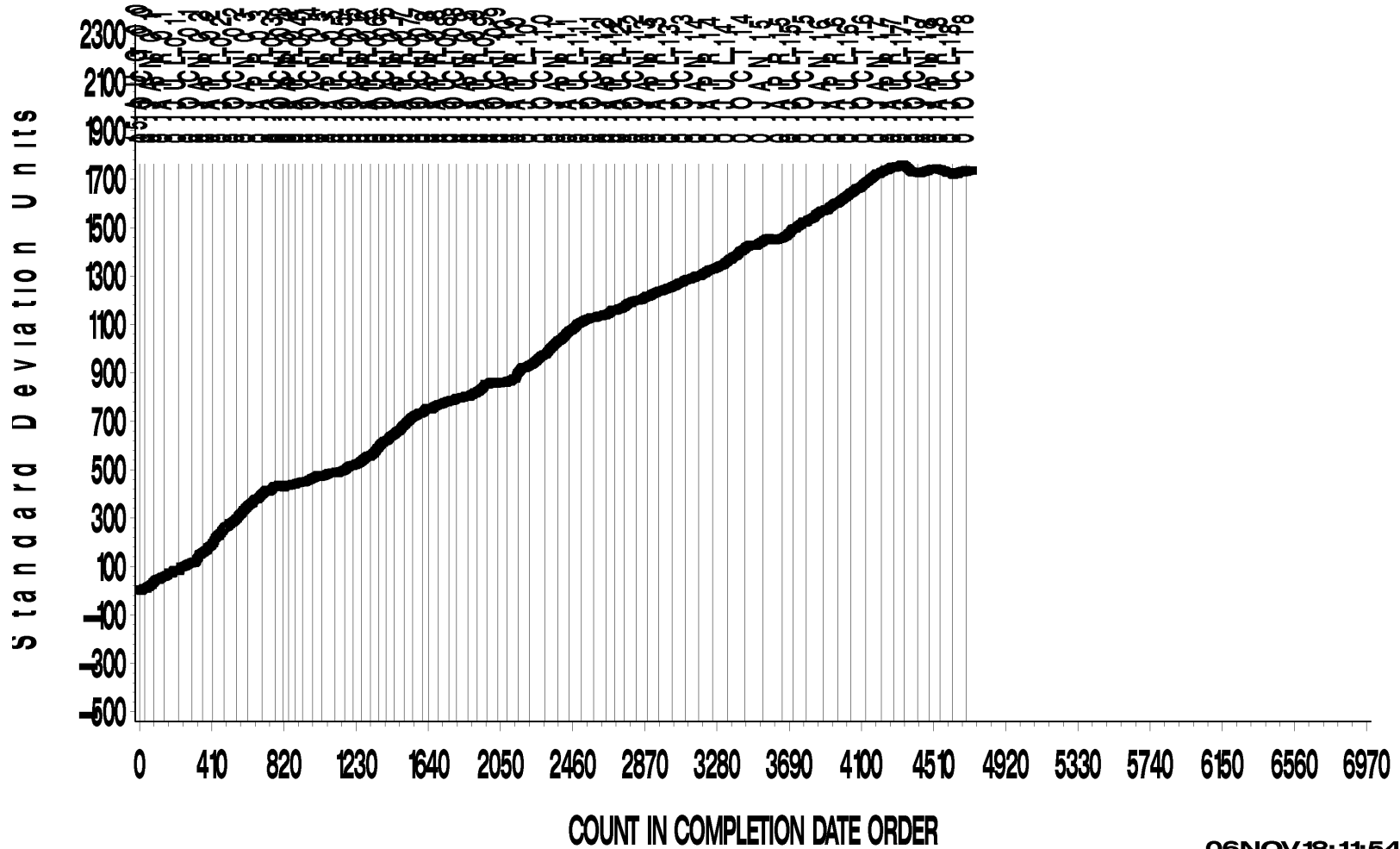
# BRT (D 6557)

BALL RUST TEST INDUSTRY OPERATIONALLY VALID DATA



## REFERENCE AVERAGE GRAY VALUE

CUSUM Severity Analysis



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**Test Monitoring Center**

<http://astmtmc.cmu.edu>

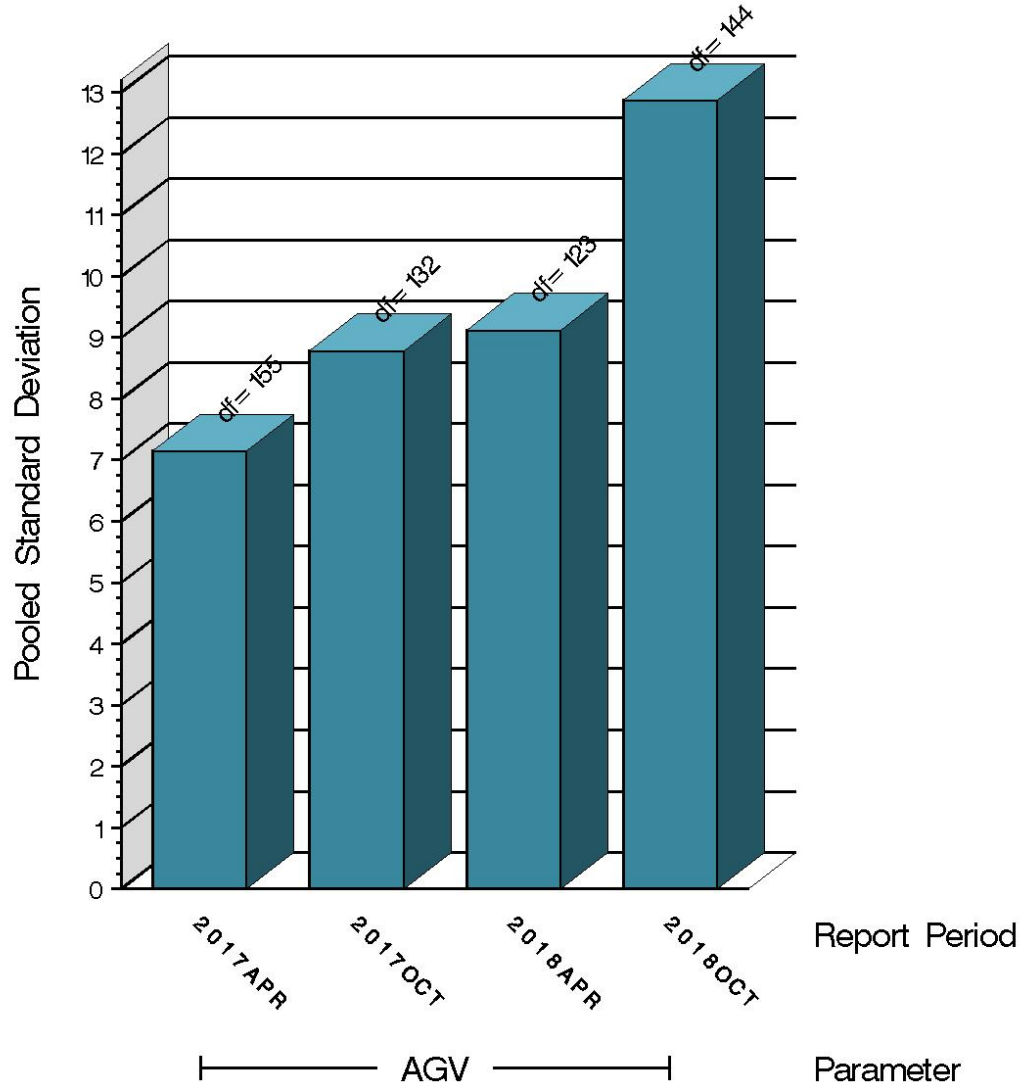


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# BRT (D 6557)

TEST PRECISION  
POOLED STANDARD DEVIATION  
BY SIX-MONTH ASTM REPORT PERIOD



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# BRT (D 6557)

## SUMMARY OF SEVERITY & PRECISION

### Severity

Over the course of this report period, AGV severity, as measured by CUSUM plotting, is on target.

### Precision

Pooled  $s$  for this period is 12.88.

Precision, as measured by pooled standard deviation, is worse than the previous period.

# BRT (D 6557)

## INFORMATION LETTERS

BRT Information Letter 18-1, Sequence No. 4, dated July 25, 2018.

- Introduction of New Image Analysis Systems

# BRT (D 6557)

## STATUS OF REFERENCE OIL SUPPLY

Oil	Samples @ Labs	@ TMC	
		Samples (30 mL)	Gallons
1006	43	3613	28.9
81	10	0	0.0
82	2	0	0.0
82-1	37	924	7.4
86	20	6700	53.6
87	20	12200	97.6
Total	132	23437	187.5

Reference Oils 86 and 87 have been approved for calibration use.