



## Test Monitoring Center

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

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

MEMORANDUM: 14-034  
DATE: November 18, 2014  
TO: Leonard Orzech,  
Chairman, Ball Rust Test Surveillance Panel  
FROM: Michael T. Kasimirsky *Michael T. Kasimirsky*  
SUBJECT: BRT Testing from April 1, 2014 through September 30, 2014

A total of 187 BRT tests were reported to the Test Monitoring Center during the report period from April 1, 2014 through September 30, 2014.

Please find attached a summary of testing activity this period.

MTK/mtk/astm1014.doc/mem14-034.mtk.doc

cc: F. M. Farber

J. A. Clark

BRT Surveillance Panel

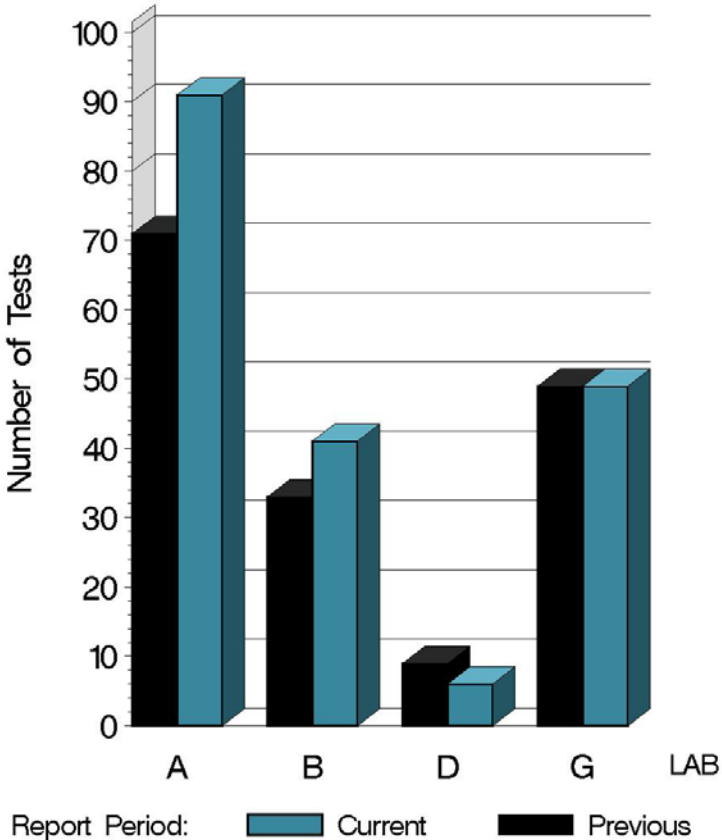
<ftp://ftp.astmtmc.cmu.edu/docs/bench/brt/semiannualreports/brt-10-2014.pdf>

Distribution: email

# BRT (D 6557)

	Reporting Data
Number of Labs	4

NUMBER OF TESTS REPORTED BY LAB AND REPORT PERIOD



9:13:40 18NOV2014

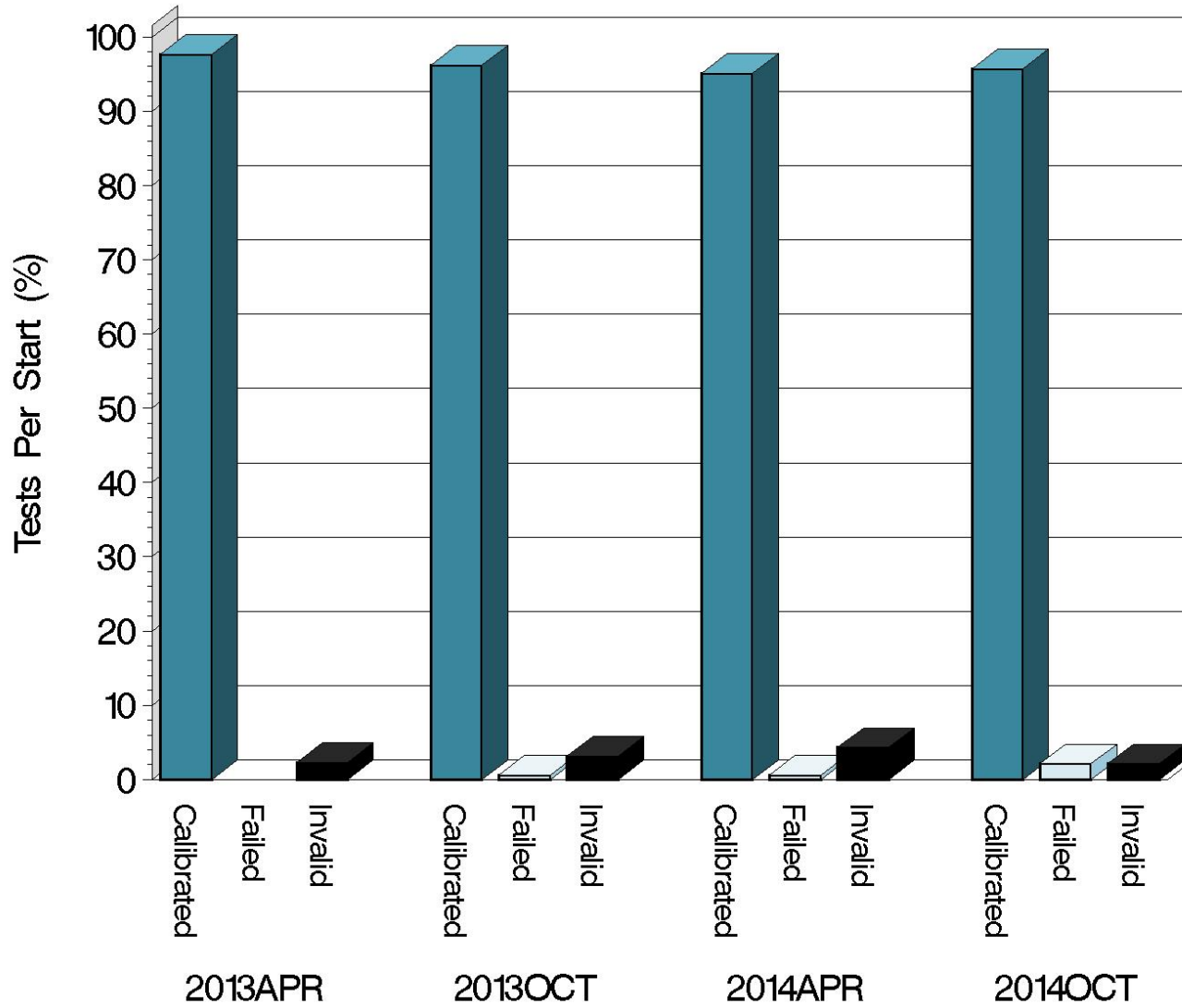
# BRT (D 6557)

## Test Distribution by Oil and Validity

		1006	81	82	Totals	
					This Period	Last Period
Accepted for calibration	AC	47	87	45	179	154
Rejected	OC	3	0	1	4	1
Invalidated by Lab	LC	1	0	2	3	0
Invalidated by TMC	RC	0	0	0	0	1
Aborted	XC	0	1	0	1	6
Hardware Approval run	NI	0	0	0	0	0
Unacceptable Approval run	MI	0	0	0	0	0
<b>Total</b>		<b>51</b>	<b>88</b>	<b>48</b>	<b>187</b>	<b>162</b>

# BRT (D 6557)

## CALIBRATION ATTEMPT SUMMARY



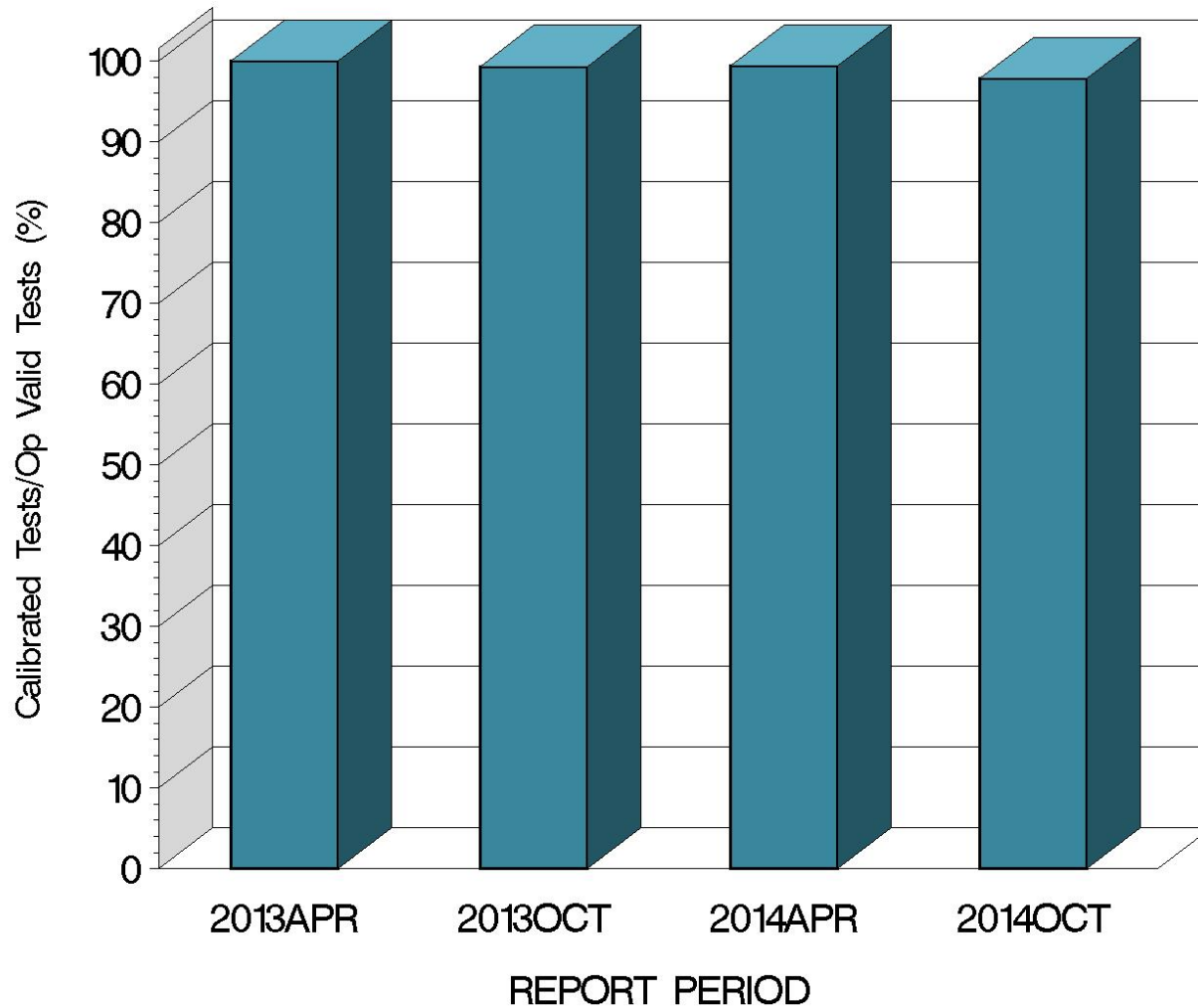
Resolution

Report Period

9:13:40 18NOV2014

# BRT (D 6557)

OPERATIONALLY VALID TESTS  
MEETING ACCEPTANCE CRITERIA



9:13:40 18NOV2014

# BRT (D 6557)

## CAUSES FOR LOST TESTS

		Oil			Validity			Loss Rate		
Lab	Cause	1006	81	82	LC	RC	XC	Lost	Starts	%
B	Valve Leak	1	0	0	1	0	0	2	41	5%
	Acid Pump Failure	0	0	1	1	0	0			
G	Sample Spilled	0	1	0	0	0	1	2	49	4%
	Airflow Malfunction	0	0	1	1	0	0			
Lost		1	1	2	3	0	1			
Starts		51	88	48	187	187	187			
%		2%	1%	4%	2%	0%	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	91	0.492
B	39	0.263
D	6	1.827
G	47	0.355
Industry	183	0.452

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



18NOV14:09:11

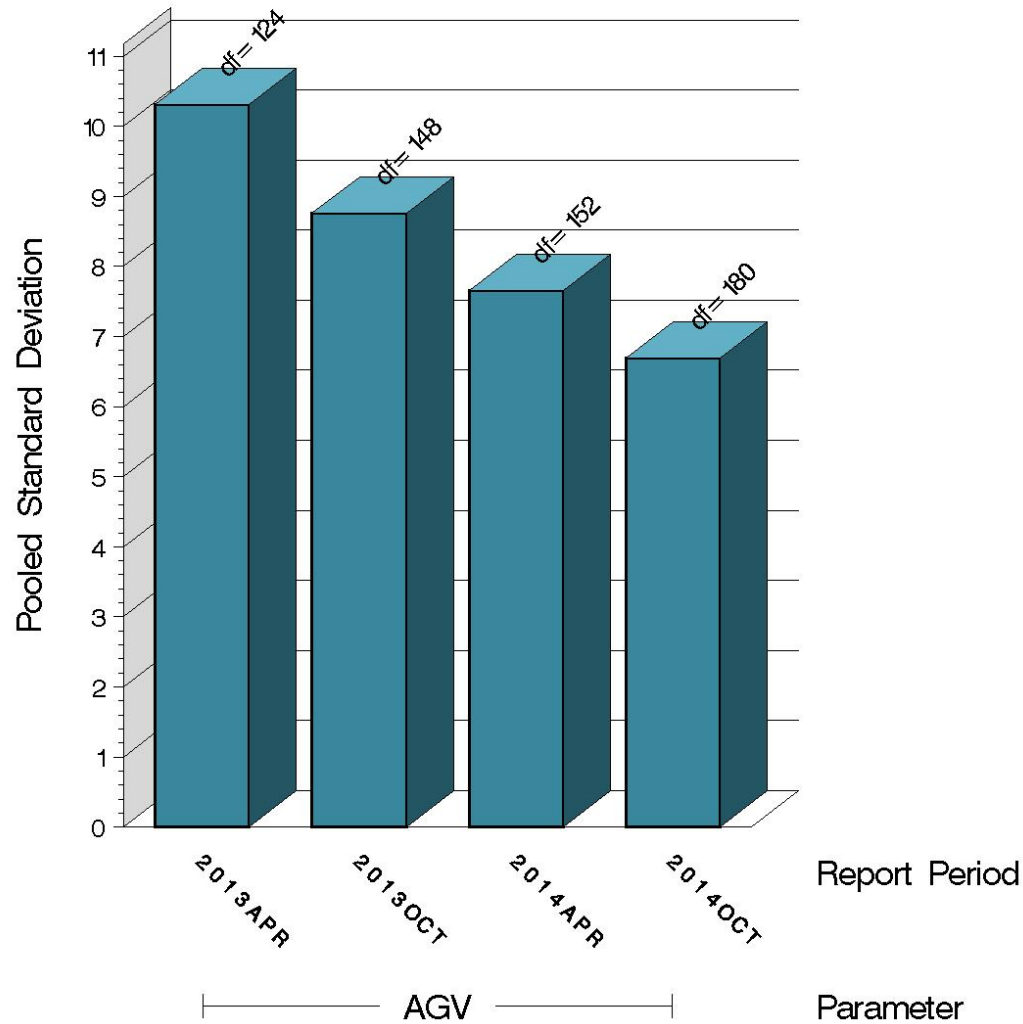




# BRT (D 6557)

## 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, continued the mild trend that has existed since the inception of the test.

### Precision

Pooled  $s$  for this period is 6.69.

Precision, as measured by pooled standard deviation, is better than previous periods but still comparable to 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	29	4150	33.2
81	38	875	7.0
82	31	425	3.4
82-1	8	1225	9.8
Total	106	6675	53.4