



## Test Monitoring Center

@ Carnegie Mellon University  
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<http://astmtmc.cmu.edu>  
412-365-1000

MEMORANDUM: 14-030  
DATE: November 12, 2014  
TO: Gil Reinhard, Chairman, CBT Surveillance Panel  
FROM: Michael T. Kasimirsky *Michael T. Kasimirsky*  
SUBJECT: HTCBT Testing from April 1, 2014 through September 30, 2014

A total of 272 HTCBT 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/astm0414.doc/mem14-030.mtk.doc

cc: F. M. Farber

J. A. Clark

CBT Surveillance Panel

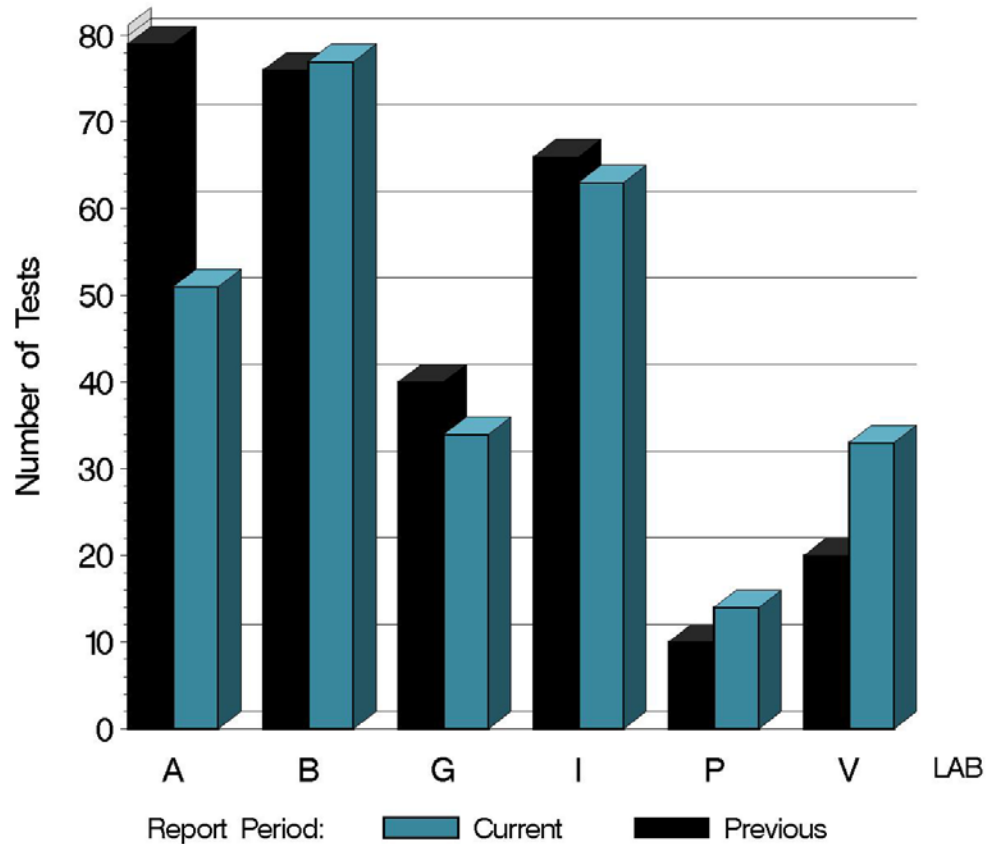
<ftp://ftp.astmtmc.cmu.edu/docs/bench/htcibt/semiannualreports/htcibt-10-2014.pdf>

Distribution: email

# HTCBT (D 6594)

Reporting Data	
Number of Labs	6

NUMBER OF TESTS REPORTED  
BY LAB AND REPORT PERIOD



10:11:25 12NOV2014

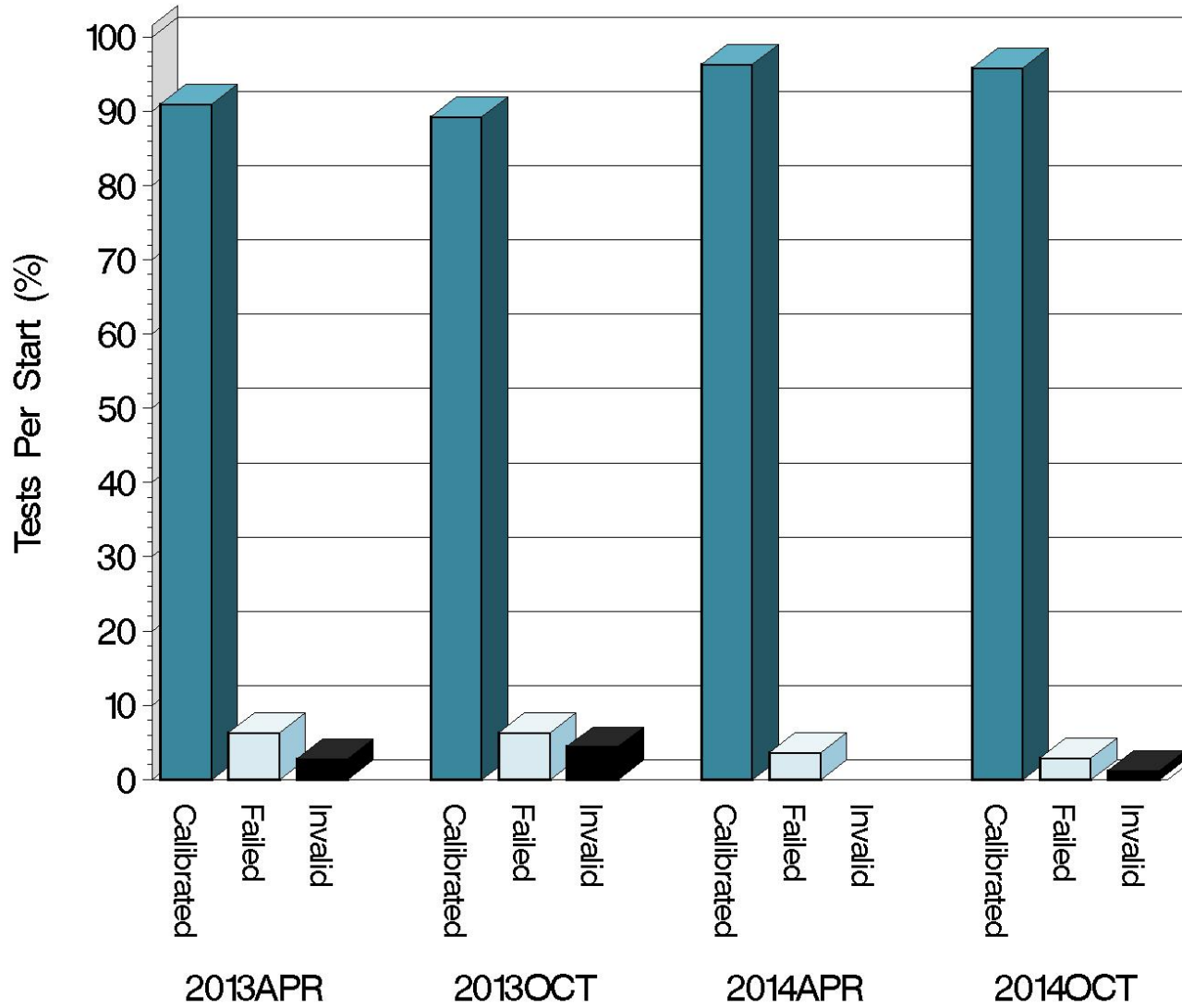
# HTCBT (D 6594)

## Test Distribution by Validity

		Number of Tests
Accepted for calibration	AC	229
Rejected	OC	7
Invalidated	LC	2
Aborted	XC	1
Acceptable Shakedown Run	AG	5
Unacceptable Shakedown Run	OG	28
Aborted Shakedown Run	XG	0
Total		272

# HTCBT (D 6594)

## CALIBRATION ATTEMPT SUMMARY



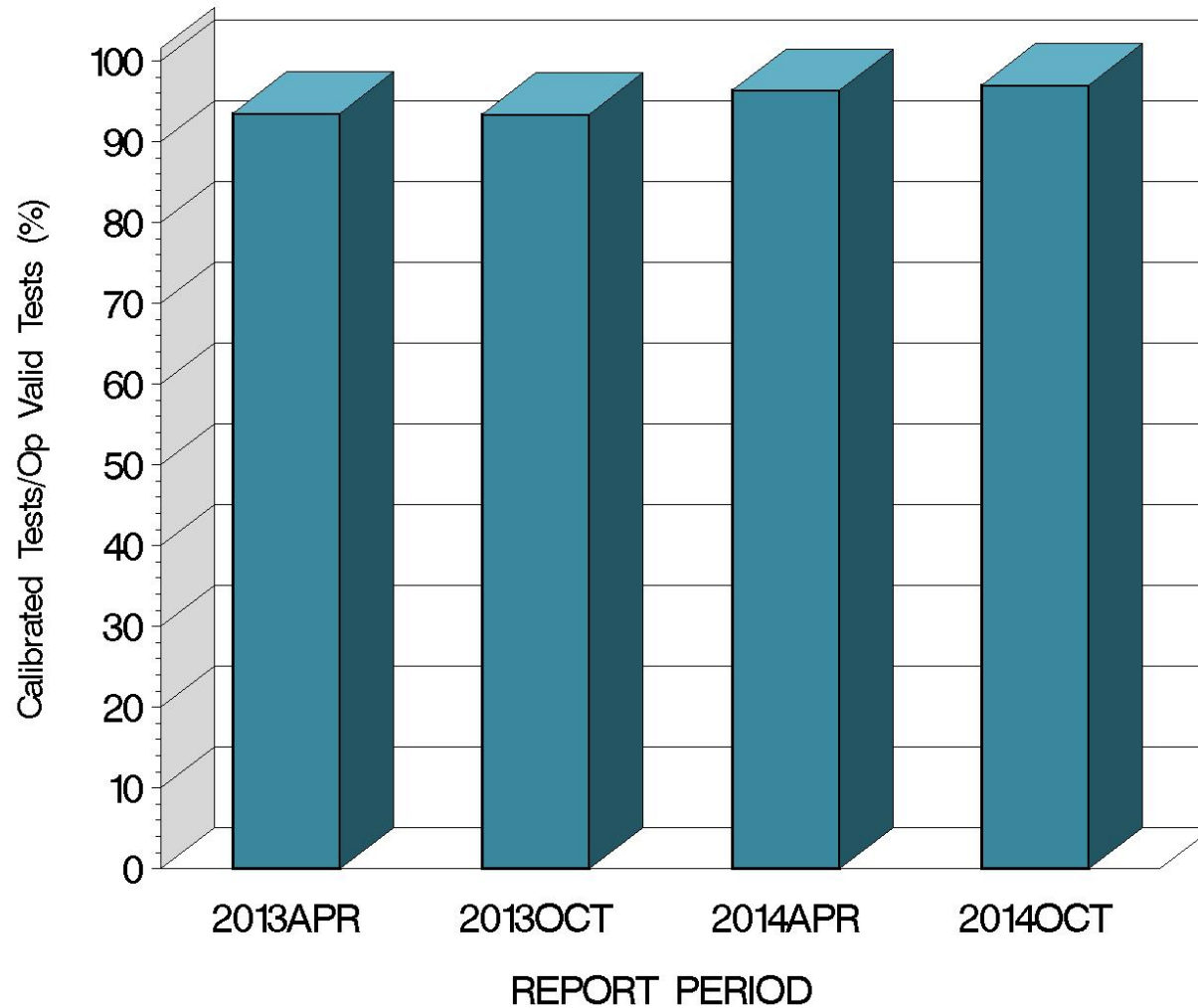
Resolution

Report Period

10:41:58 12NOV2014

# HTCBT (D 6594)

OPERATIONALLY VALID TESTS  
MEETING ACCEPTANCE CRITERIA



10:41:58 12NOV2014

# HTCBT (D 6594)

## CAUSES FOR LOST TESTS

Summary of Reasons for Failed Tests	No. of Tests
Copper, severe	2
Copper, mild	1
Lead, severe	1
Lead, mild	1
Copper & Lead, severe	2

# HTCBT (D 6594)

## CAUSES FOR LOST TESTS (CONTINUED)

Summary of Reasons for Invalid Tests	No. of Tests
Temperature Controller failed	1
Lead Coupon not run	1

# HTCBT (D 6594)

## CAUSES FOR LOST TESTS (CONTINUED)

Summary of Reasons for Aborted Tests	No. of Tests
Power Failure	1



# HTCBT (D 6594)

Average $\Delta$ /s By Laboratory			
Lab	n	CUC	PBC
A	51	1.149	0.164
B	75	0.798	-0.629
G	34	1.084	0.538
I	62	0.848	0.242
P	14	2.330	-0.750
V	0	-	-
Industry	236	1.019	-0.068

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

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

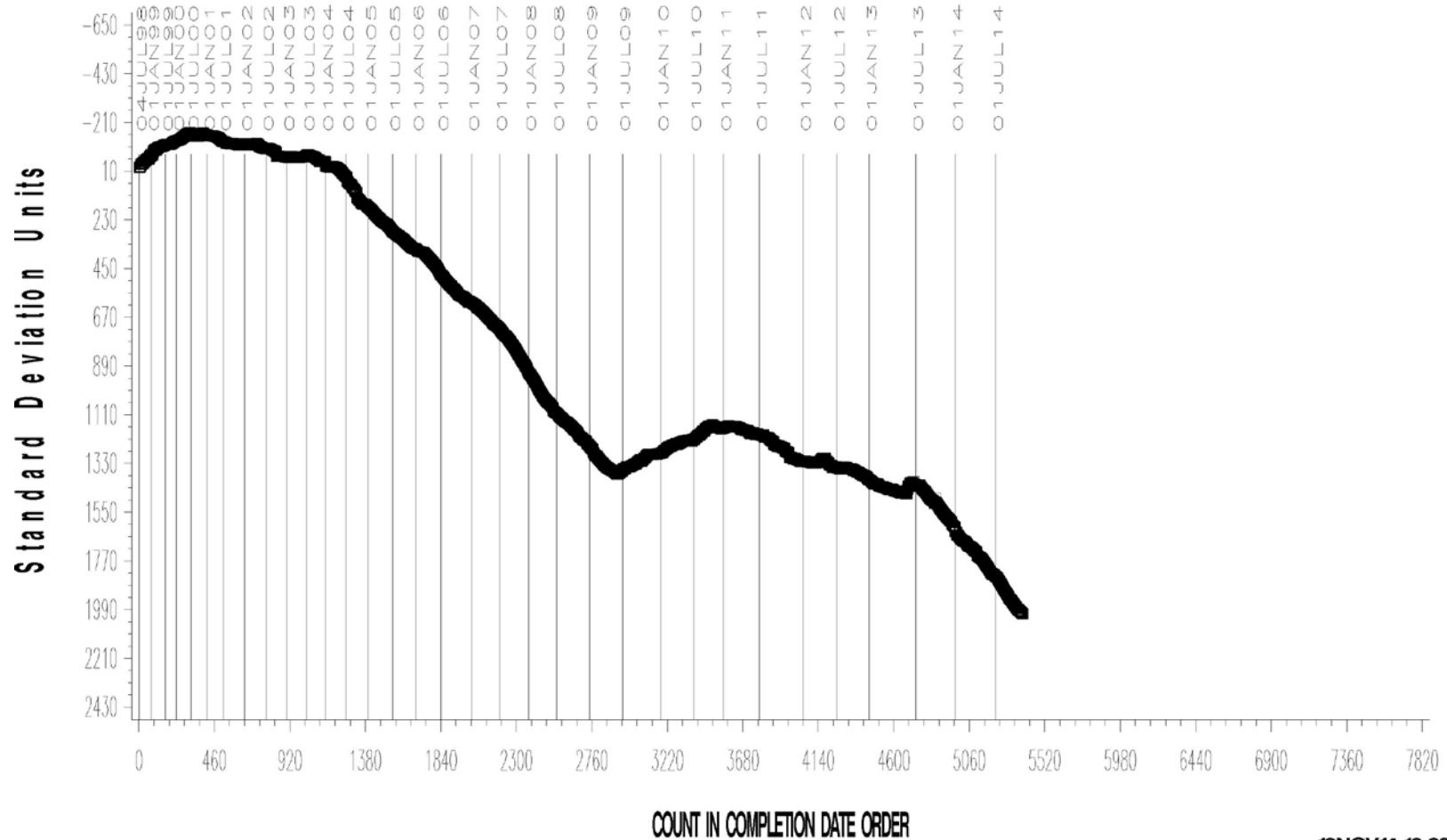
# HTCBT (D 6594)

HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA



COPPER CHANGE (ppm)

CUSUM Severity Analysis



12NOV14:10:38



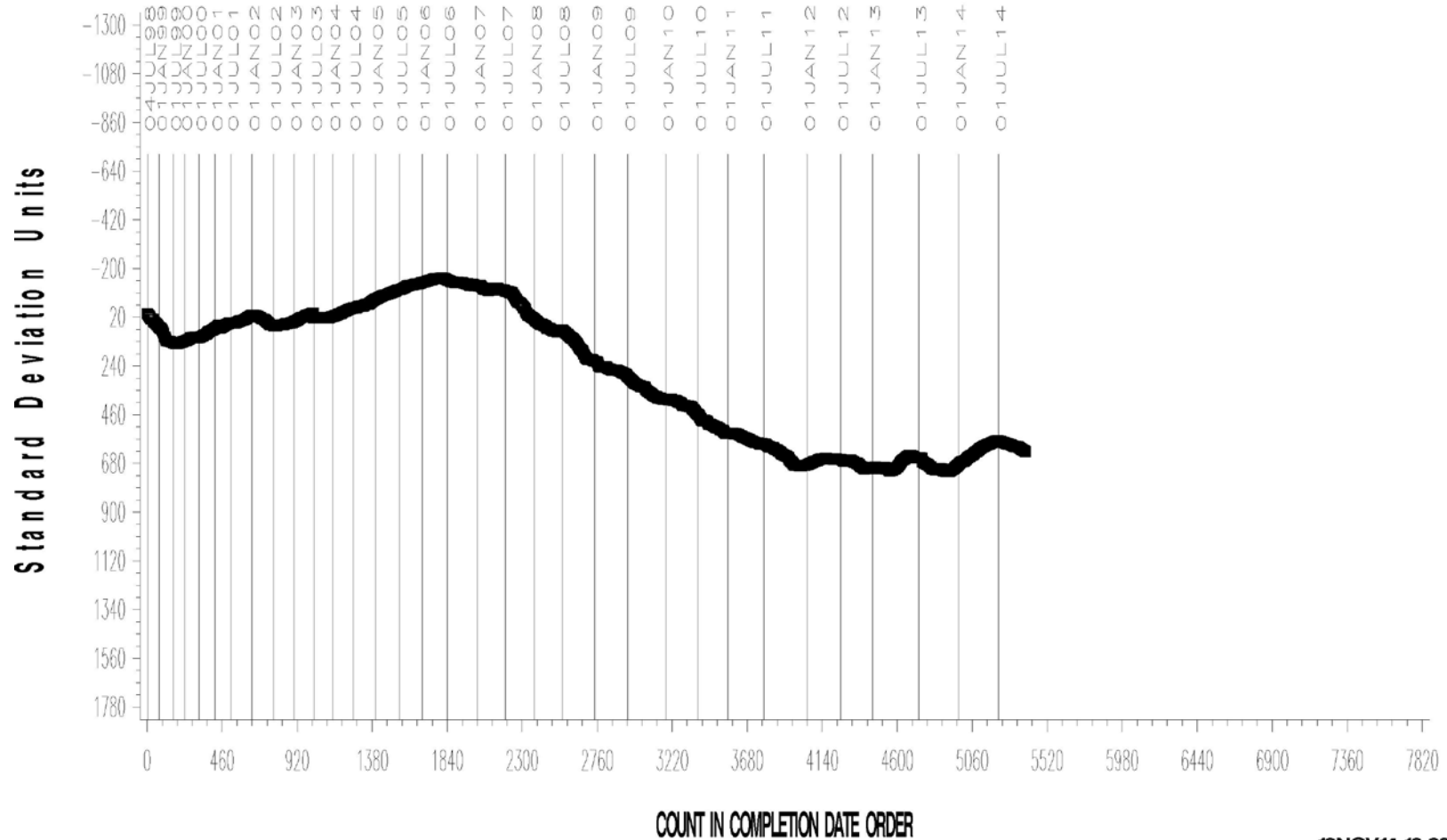
# HTCBT (D 6594)

HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA



LEAD CHANGE (ppm)

CUSUM Severity Analysis



12NOV14:10:38

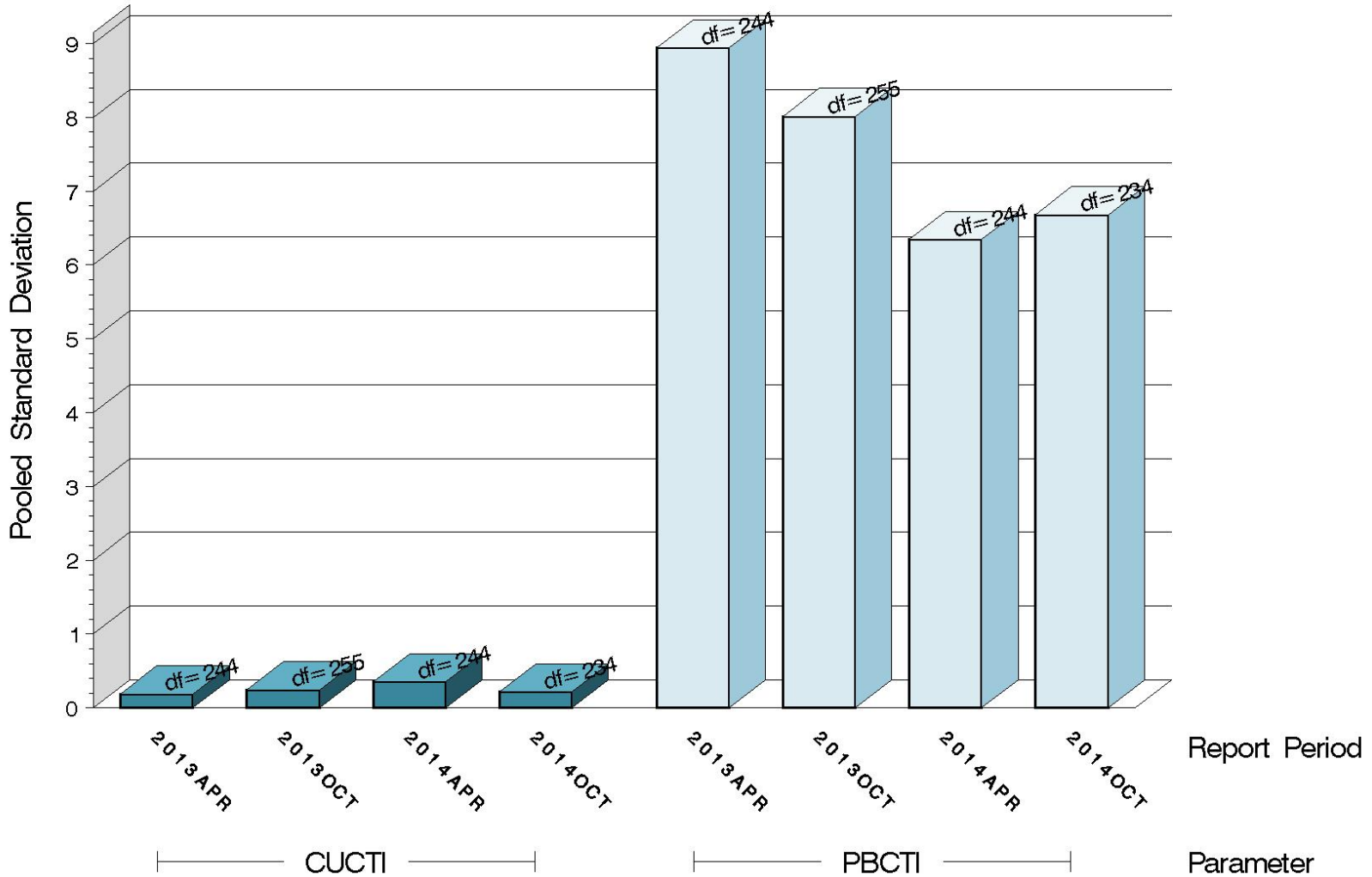
**Test Monitoring Center**  
<http://astmtmc.cmu.edu>



# HTCBT (D 6594)

## TEST PRECISION

POOLED STANDARD DEVIATION  
BY SIX-MONTH ASTM REPORT PERIOD



10:41:58 12NOV2014

# HTCBT (D 6594)

## SUMMARY OF SEVERITY & PRECISION

### Severity

Over the course of this report period, copper severity, as measured by cusum plotting, was severe.

Over the course of this report period, lead severity, as measured by cusum plotting, was very slightly mild.

### Precision

Pooled  $s$  for this period is 0.22 for copper and 6.68 for lead.

Over the course of this report period, Precision, as measured by pooled standard deviation, is slightly better than previous periods for copper and is slightly worse than the previous period for lead, but is still within historical levels.

# HTCBT (D 6594)

## INFORMATION LETTERS

No HTCBT Information Letters were issued this period.

# HTCBT (D 6594)

## STATUS OF REFERENCE OIL SUPPLY

Reference Oil	Samples @ Labs	@ TMC	
		Samples (4 oz)	Gallons
44-1	0	0	0.0
44-2	0	0	0.0
44-3	104	396	12.4
1005-1	0	0	0.0
1005-3	146	240	7.5
Total	250	636	19.9