



## Test Monitoring Center

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

MEMORANDUM: 17-039  
DATE: November 8, 2017  
TO: Gil Reinhard, Chairman, CBT Surveillance Panel  
FROM: Michael T. Kasimirsky *Michael T. Kasimirsky*  
SUBJECT: HTCBT Testing from April 1, 2017 through September 30, 2017

A total of 354 HTCBT tests were reported to the Test Monitoring Center during the report period from April 1, 2017 through September 30, 2017.

Please find attached a summary of testing activity this period.

MTK/mtk/astm1017.doc/mem17-039.mtk.doc

cc: F. M. Farber

J. A. Clark

CBT Surveillance Panel

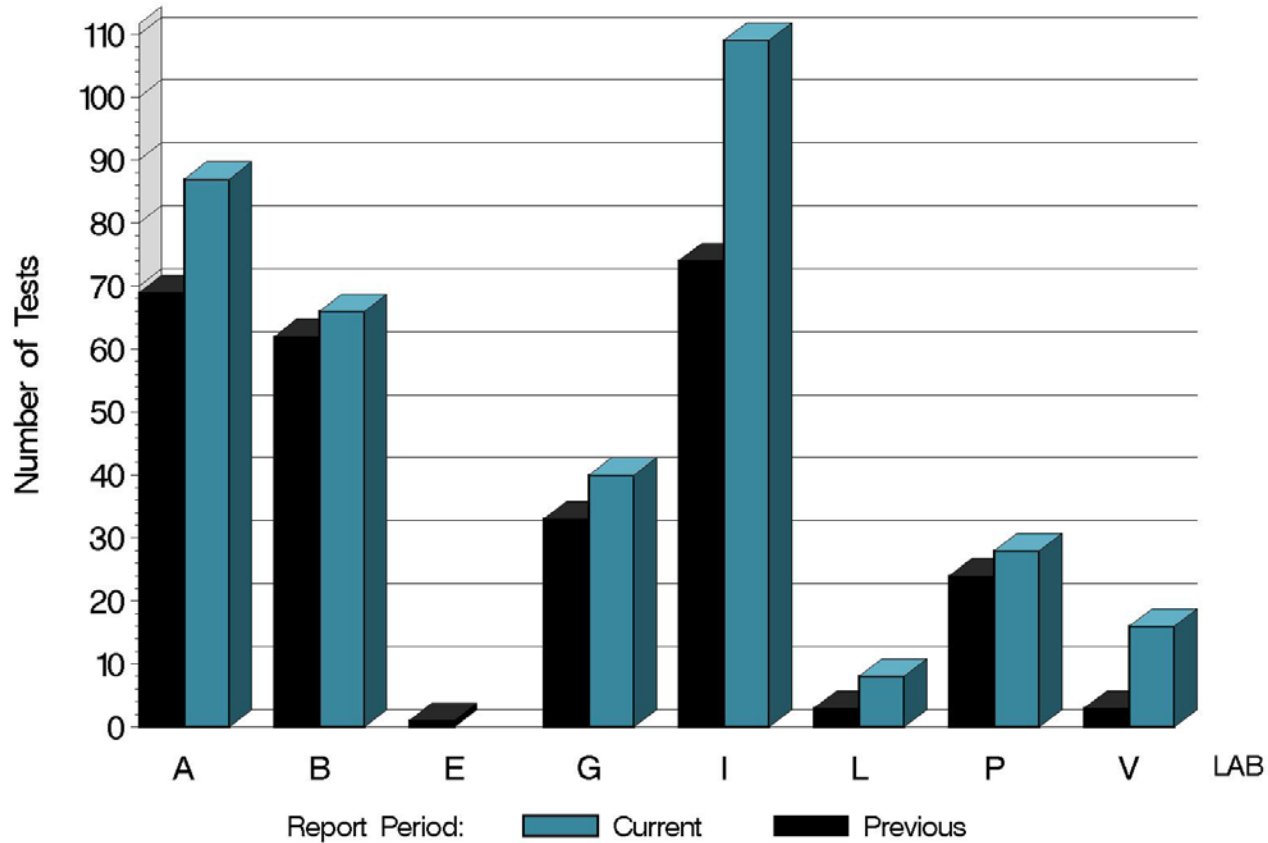
<ftp://ftp.astmtmc.cmu.edu/docs/bench/htcibt/semiannualreports/htcibt-10-2017.pdf>

Distribution: email

# HTCBT (D 6594)

	Reporting Data
Number of Labs	7

NUMBER OF TESTS REPORTED  
BY LAB AND REPORT PERIOD



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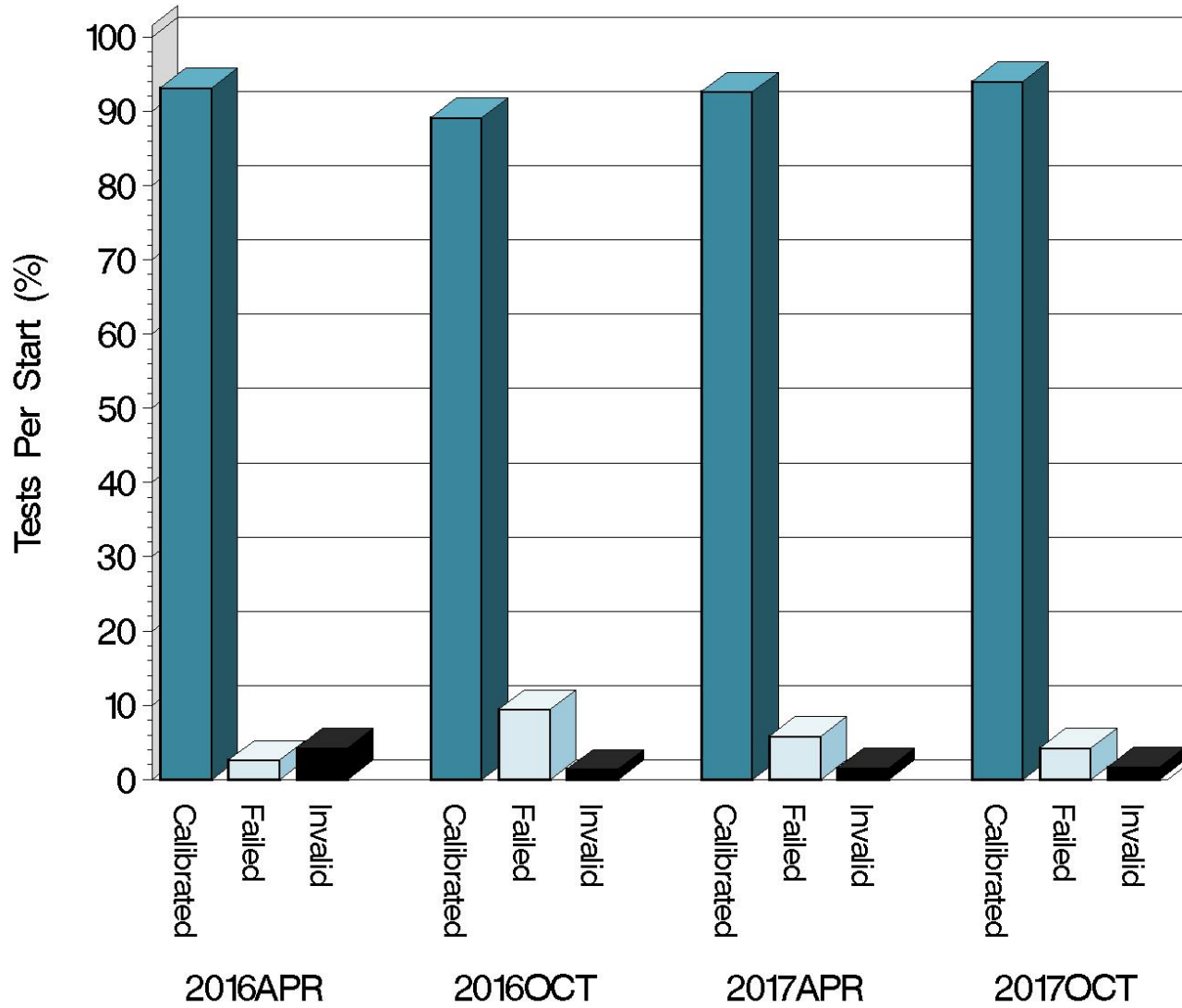
# HTCBT (D 6594)

## Test Distribution by Validity

		Number of Tests
Acceptable Calibration Test	AC	284
Unacceptable Calibration Test	OC	13
Invalid Calibration Test	LC	1
Aborted Calibration Test	XC	4
Acceptable Donated Test	NI	22
Unacceptable Donated Test	MI	4
Invalid Donated Test - Lab	LI	8
Invalid Donated Test – TMC	RI	8
Acceptable Shakedown Run	AS	10
Unacceptable Shakedown Run	OS	0
Invalid Shakedown Run	LS	0
Total		354

# HTCBT (D 6594)

## CALIBRATION ATTEMPT SUMMARY



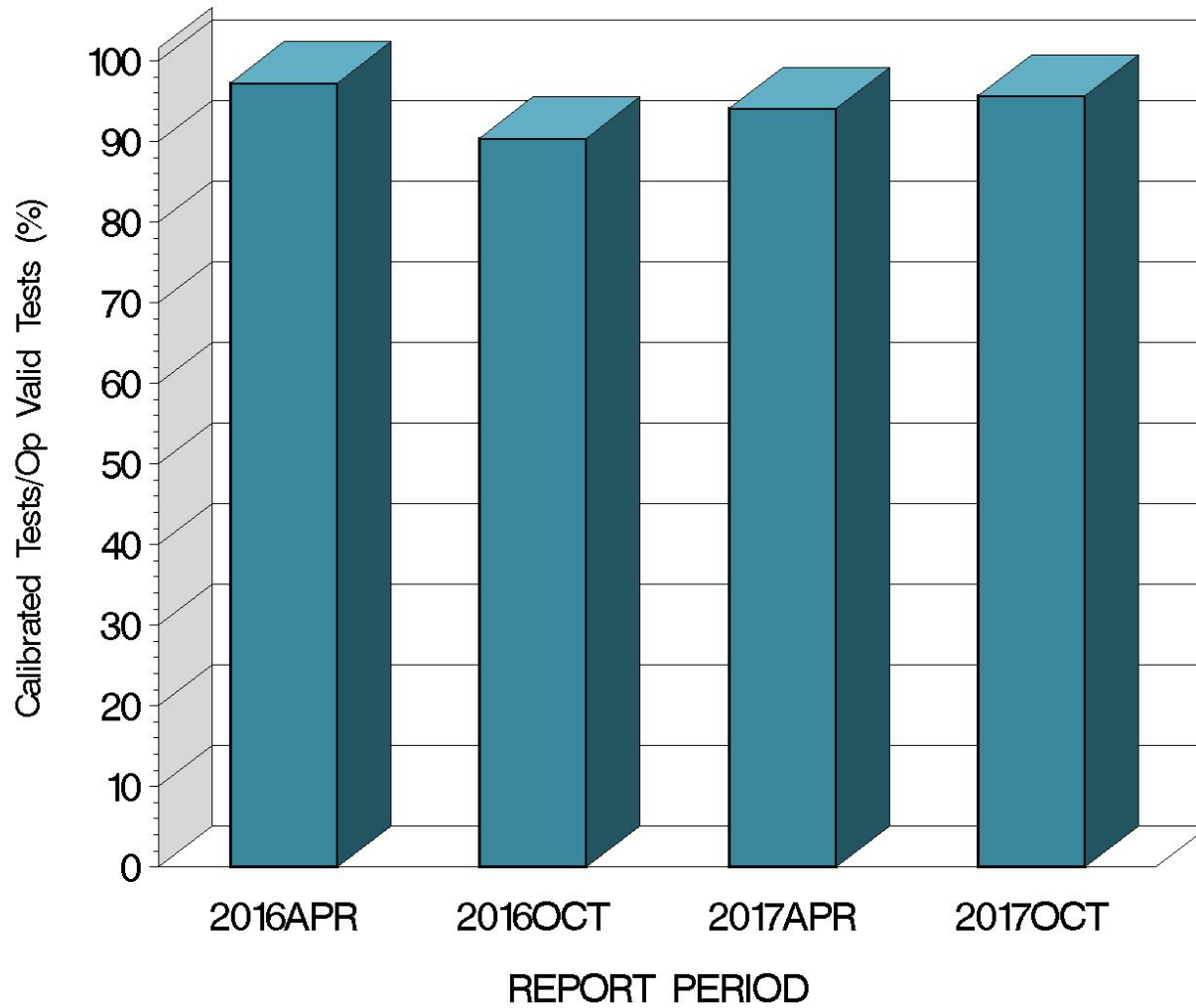
Resolution

Report Period

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# HTCBT (D 6594)

OPERATIONALLY VALID TESTS  
MEETING ACCEPTANCE CRITERIA



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# HTCBT (D 6594)

## CAUSES FOR LOST TESTS

Summary of Reasons for Failed Tests	No. of Tests
Copper, severe	7
Copper, mild	5
Lead, severe	1

# HTCBT (D 6594)

## CAUSES FOR LOST TESTS (CONTINUED)

Summary of Reasons for Invalid Tests	No. of Tests
Non-standard Coupons	1
Donated Test – Reference Test Failed	8
Donated Test – No Reference Test Run	8

# HTCBT (D 6594)

## CAUSES FOR LOST TESTS (CONTINUED)

Summary of Reasons for Aborted Tests	No. of Tests
Power Failure	2
Sample Spilled	2



# HTCBT (D 6594)

Average $\Delta$ /s By Laboratory			
Lab	n	CUC	PBC
A	74	0.155	0.770
B	58	0.221	-0.208
E	0	-	-
G	21	0.196	1.125
I	100	-0.024	0.081
L	8	0.863	1.583
P	28	0.070	0.022
V	8	0.841	1.051
Industry	297	0.140	0.331

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

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

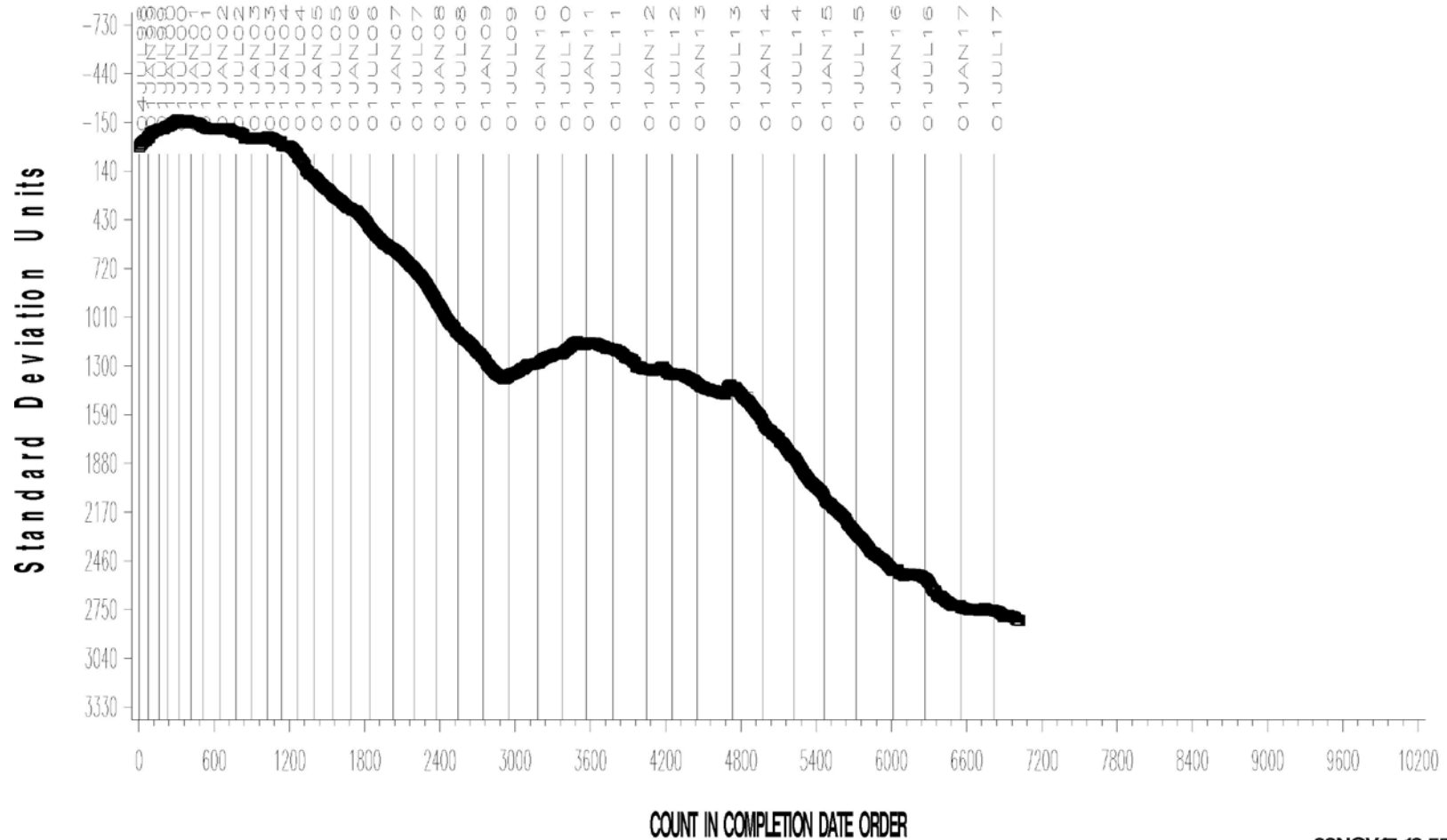
# HTCBT (D 6594)

HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA



COPPER CHANGE (ppm)

CUSUM Severity Analysis



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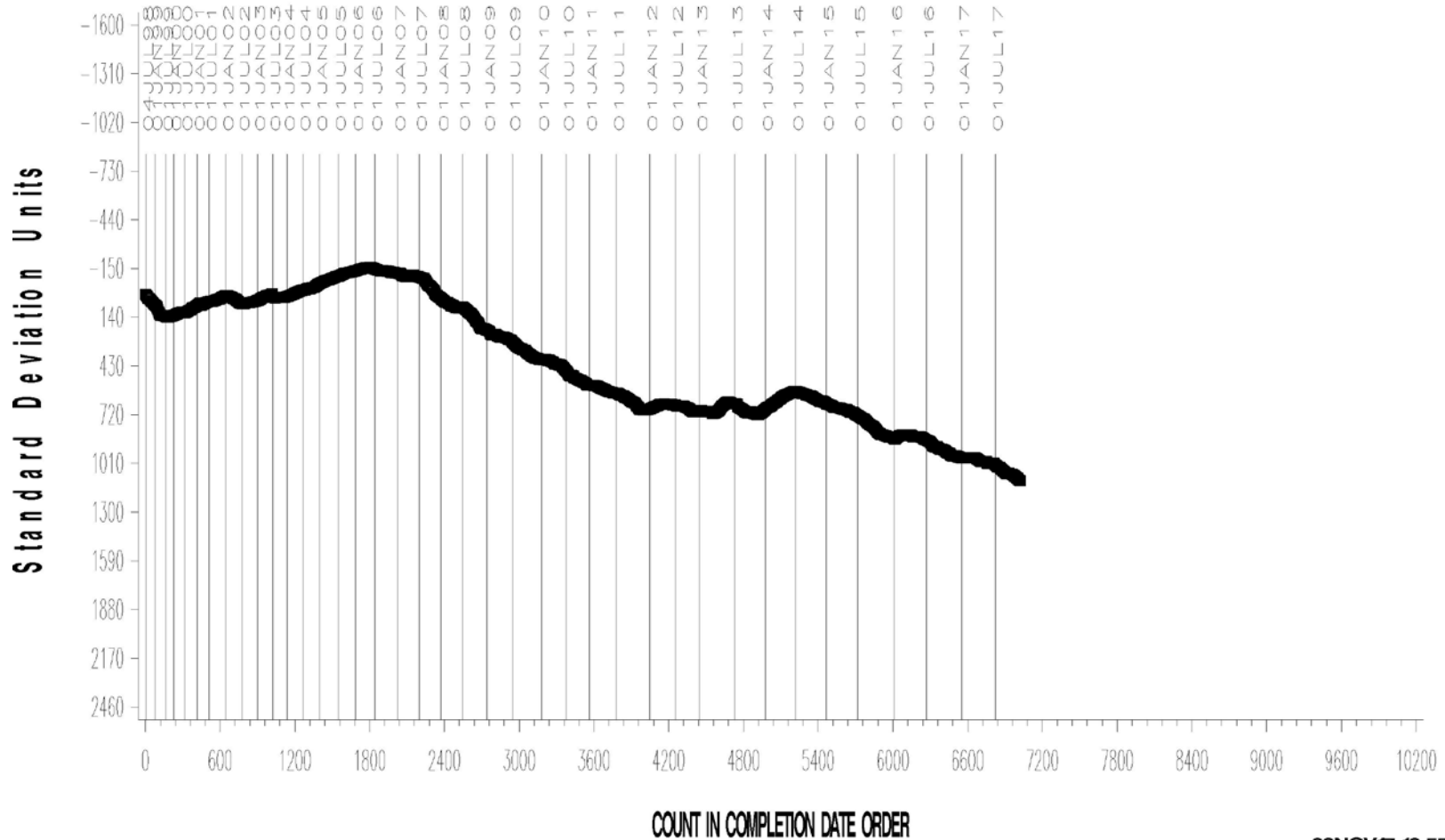
# HTCBT (D 6594)

HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA



LEAD CHANGE (ppm)

CUSUM Severity Analysis



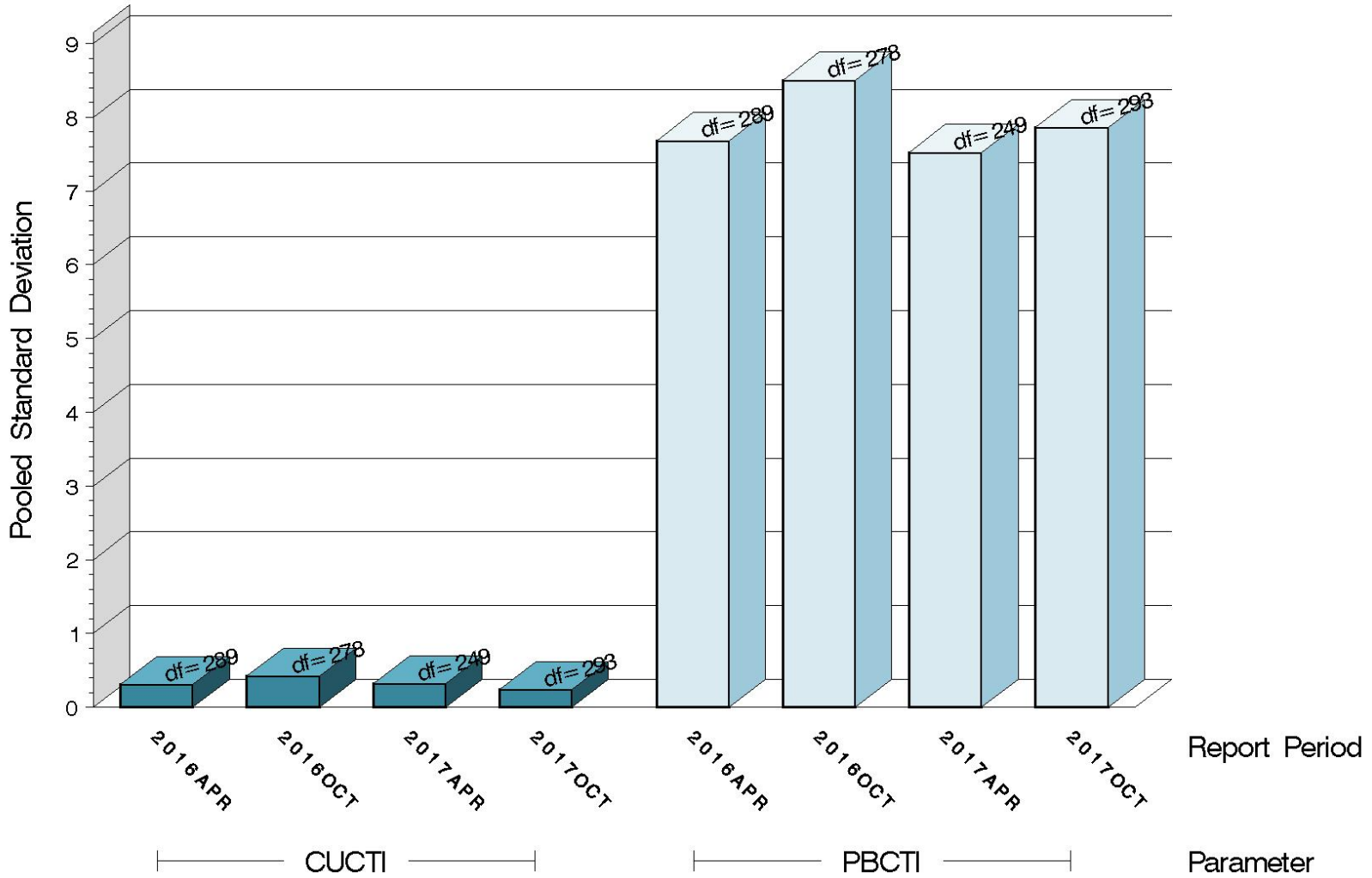
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# HTCBT (D 6594)

## TEST PRECISION

POOLED STANDARD DEVIATION  
BY SIX-MONTH ASTM REPORT PERIOD



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# 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 severe.

### Precision

Pooled  $s$  for this period is 0.24 for copper and 7.86 for lead.

Over the course of this report period, Precision, as measured by pooled standard deviation, is comparable to last period for both copper and lead concentration, 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	10	0	0.0
44-4	185	1212	37.9
1005-1	0	0	0.0
1005-3	15	0	0.0
1005-5	104	1056	33.0
Total	314	2268	70.9

TMC inventories of Reference Oils 44-3 and 1005-3 have been depleted.