



## Test Monitoring Center

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

MEMORANDUM: 18-012  
DATE: May 23, 2018  
TO: Mike Lopez, Chairman, CBT Surveillance Panel  
FROM: Michael T. Kasimirsky *Michael T. Kasimirsky*  
SUBJECT: HTCBT Testing from October 1, 2017 through March 31, 2018

A total of 328 HTCBT tests were reported to the Test Monitoring Center during the report period from October 1, 2017 through March 31, 2018.

Please find attached a summary of testing activity this period.

MTK/mtk/astm1017.doc/mem18-012.mtk.doc

cc: F. M. Farber

J. A. Clark

CBT Surveillance Panel

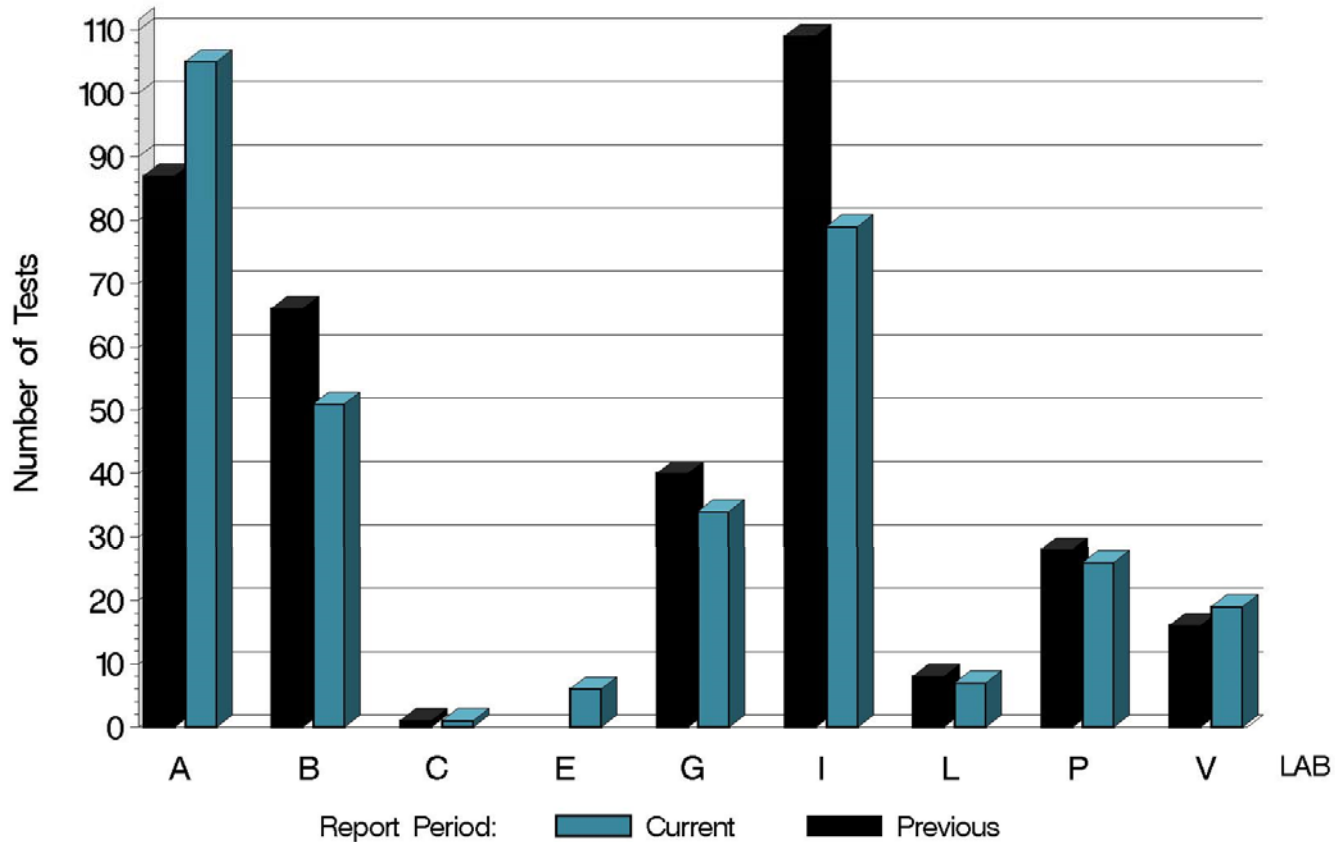
<http://www.astmtmc.cmu.edu/ftp/docs/bench/htcvt/semiannualreports//htcvt-04-2018.pdf>

Distribution: email

# HTCBT (D 6594)

Reporting Data	
Number of Labs	9

NUMBER OF TESTS REPORTED  
BY LAB AND REPORT PERIOD



10:24:26 23MAY2018

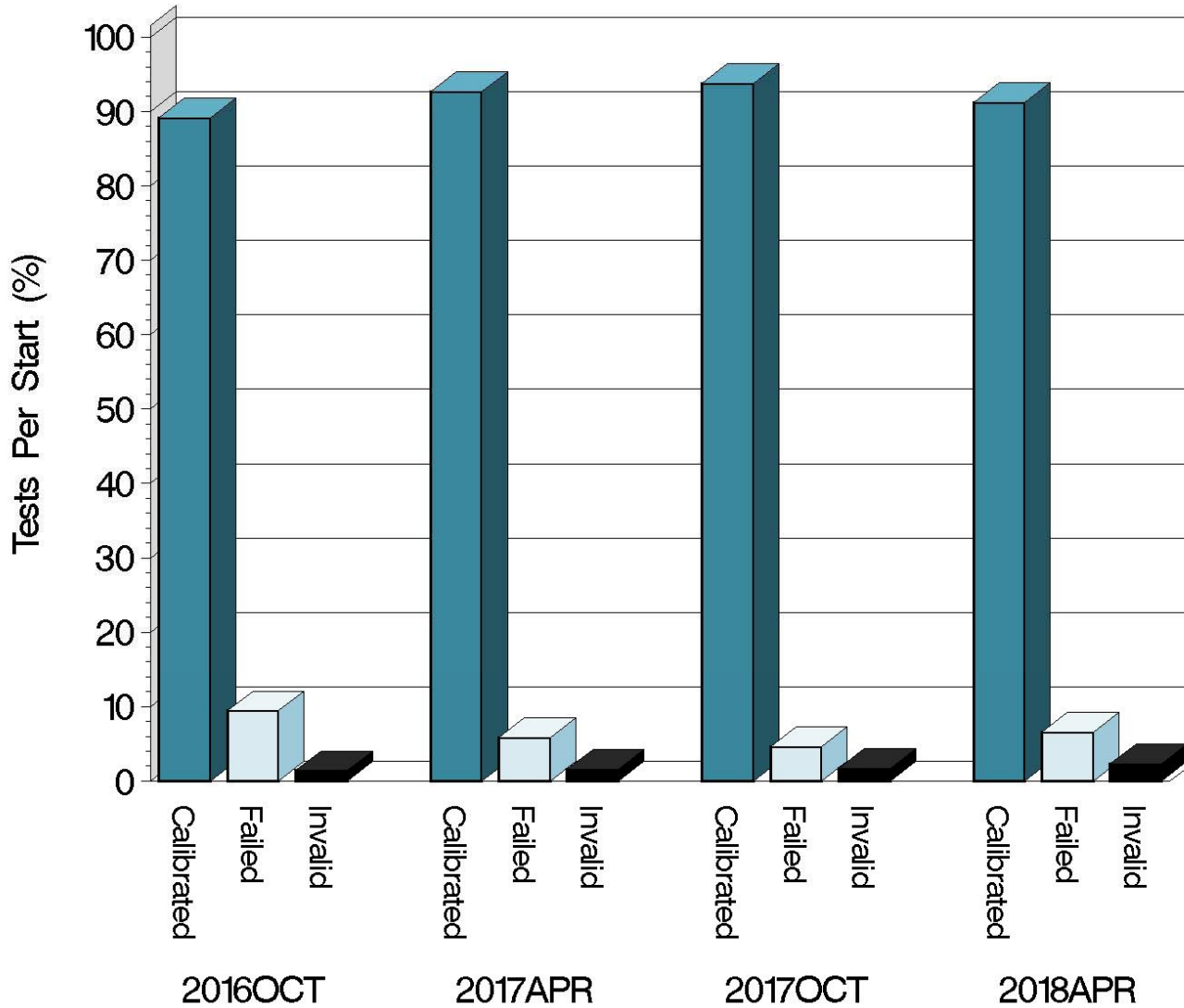
# HTCBT (D 6594)

## Test Distribution by Validity

		Number of Tests
Acceptable Calibration Test	AC	279
Unacceptable Calibration Test	OC	20
Invalid Calibration Test	LC	3
Aborted Calibration Test	XC	4
Acceptable Shakedown Run	AS	12
Unacceptable Shakedown Run	OS	8
Invalid Shakedown Run	LS	1
Invalid by TMC Shakedown Run	RS	1
Total		328

# HTCBT (D 6594)

## CALIBRATION ATTEMPT SUMMARY



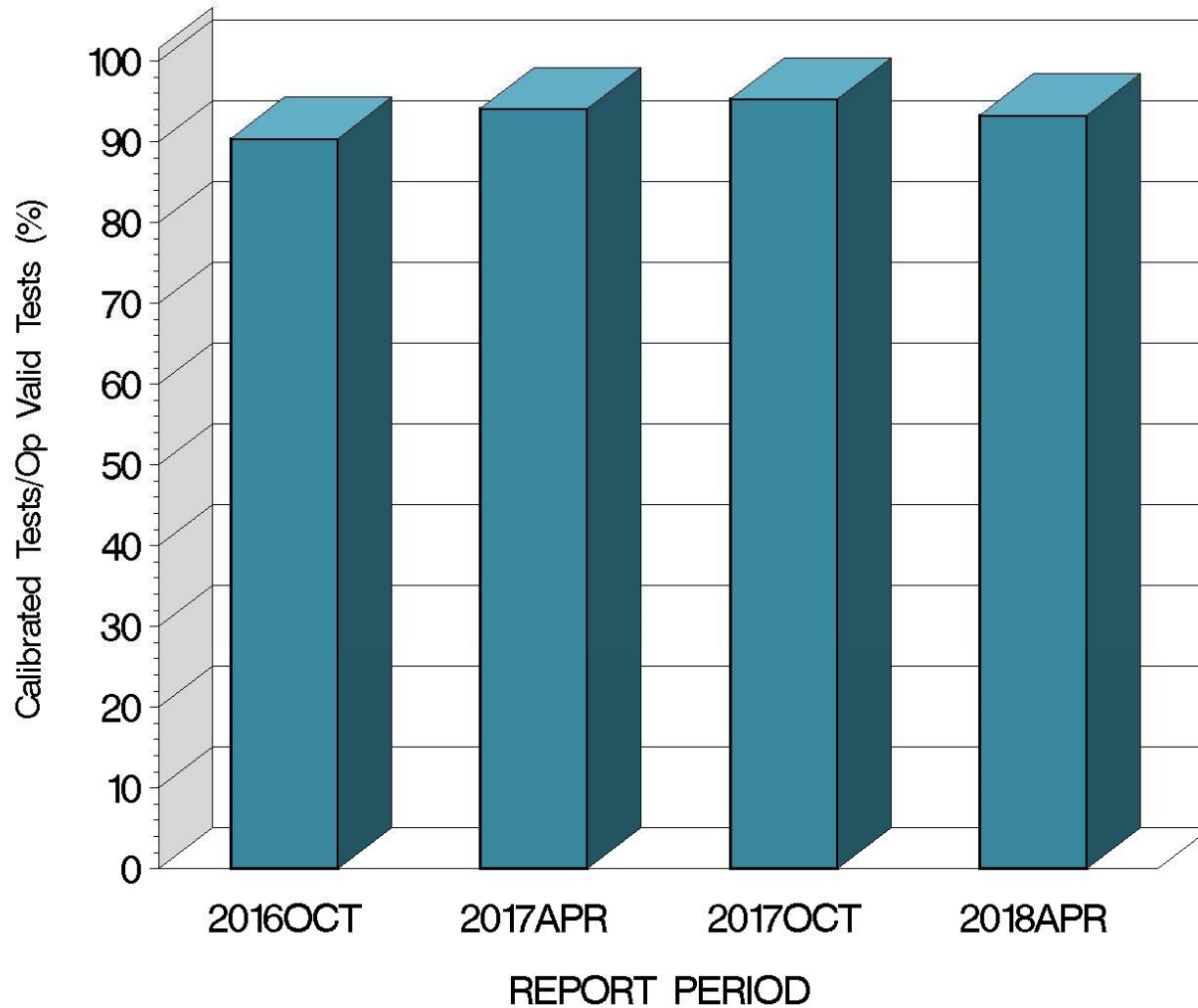
Resolution

Report Period

10:24:26 23MAY2018

# HTCBT (D 6594)

OPERATIONALLY VALID TESTS  
MEETING ACCEPTANCE CRITERIA



10:24:26 23MAY2018

# HTCBT (D 6594)

## CAUSES FOR LOST TESTS

Summary of Reasons for Failed Tests	No. of Tests
Lead, severe	10
Copper, mild	4
Copper, severe	3
Copper & Lead, severe	3

# HTCBT (D 6594)

## CAUSES FOR LOST TESTS (CONTINUED)

Summary of Reasons for Invalid Tests	No. of Tests
Airflow control problems	1
Airflow control & heater failure	1
Temperature control	1

# HTCBT (D 6594)

## CAUSES FOR LOST TESTS (CONTINUED)

Summary of Reasons for Aborted Tests	No. of Tests
Air supply failure	1
Bath failure	1
Operator error – bath control turned off	1
Low air flow	1



# HTCBT (D 6594)

Average $\Delta/s$ By Laboratory			
Lab	n	CUC	PBC
A	100	-0.095	0.183
B	51	0.208	0.117
C	1	-3.657	0.722
E	4	3.142	4.445
G	23	0.601	0.964
I	79	0.054	0.019
L	7	1.339	2.256
P	26	-0.264	-0.019
V	8	0.270	1.859
Industry	299	0.110	0.323

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

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

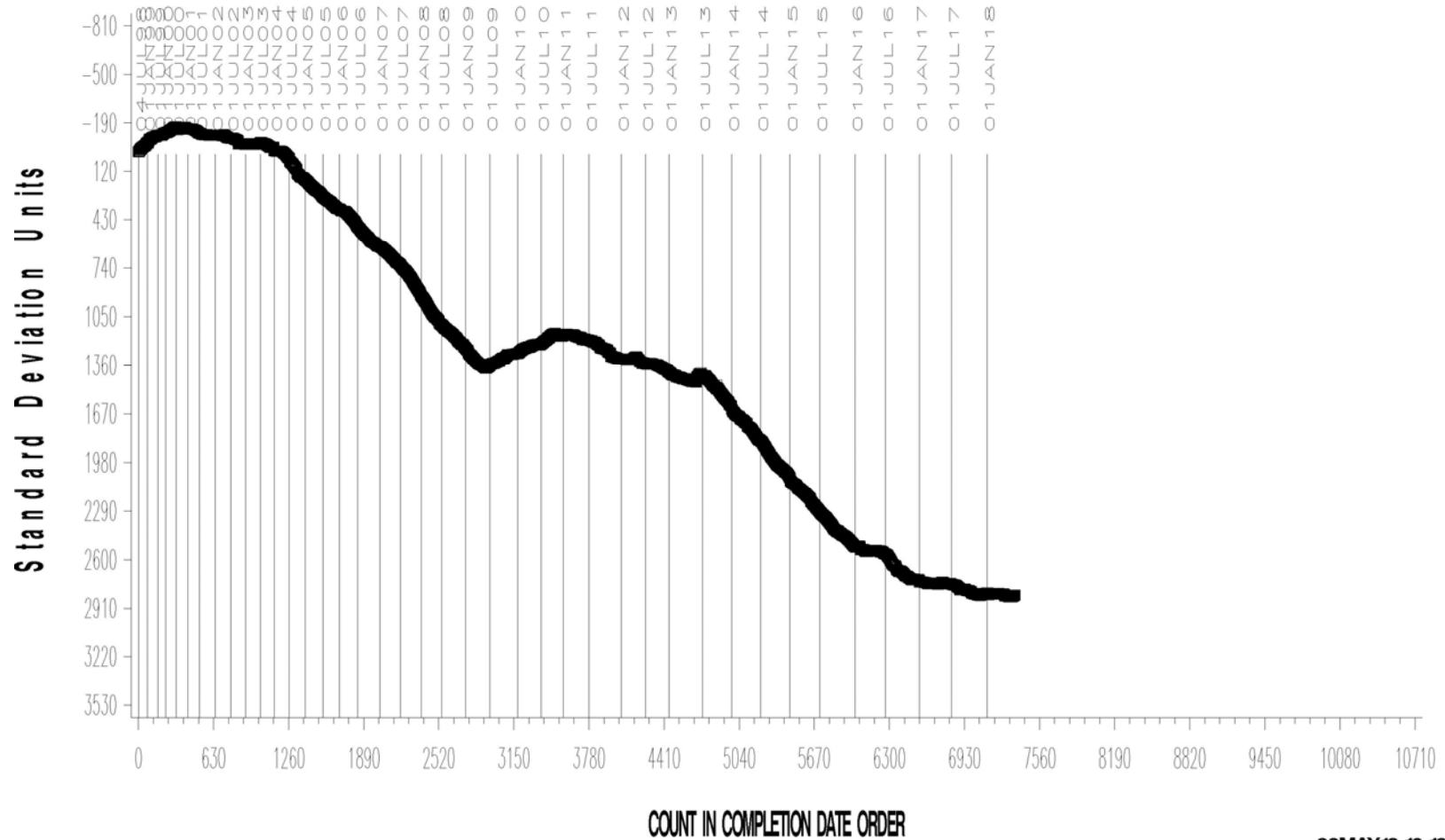
# HTCBT (D 6594)

HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA



COPPER CHANGE (ppm)

CUSUM Severity Analysis



23MAY18: 10:12

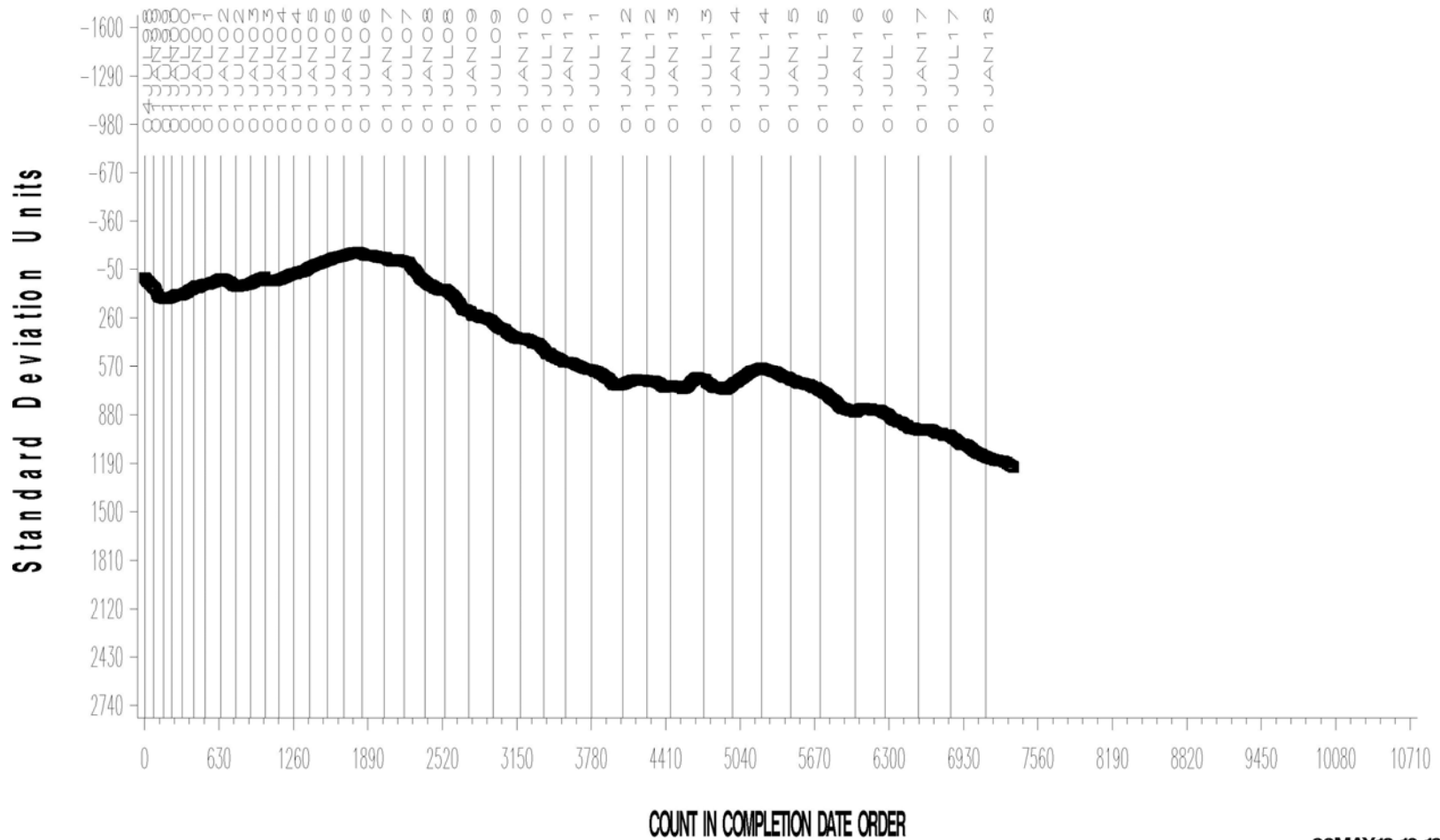
# HTCBT (D 6594)

HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA



LEAD CHANGE (ppm)

CUSUM Severity Analysis

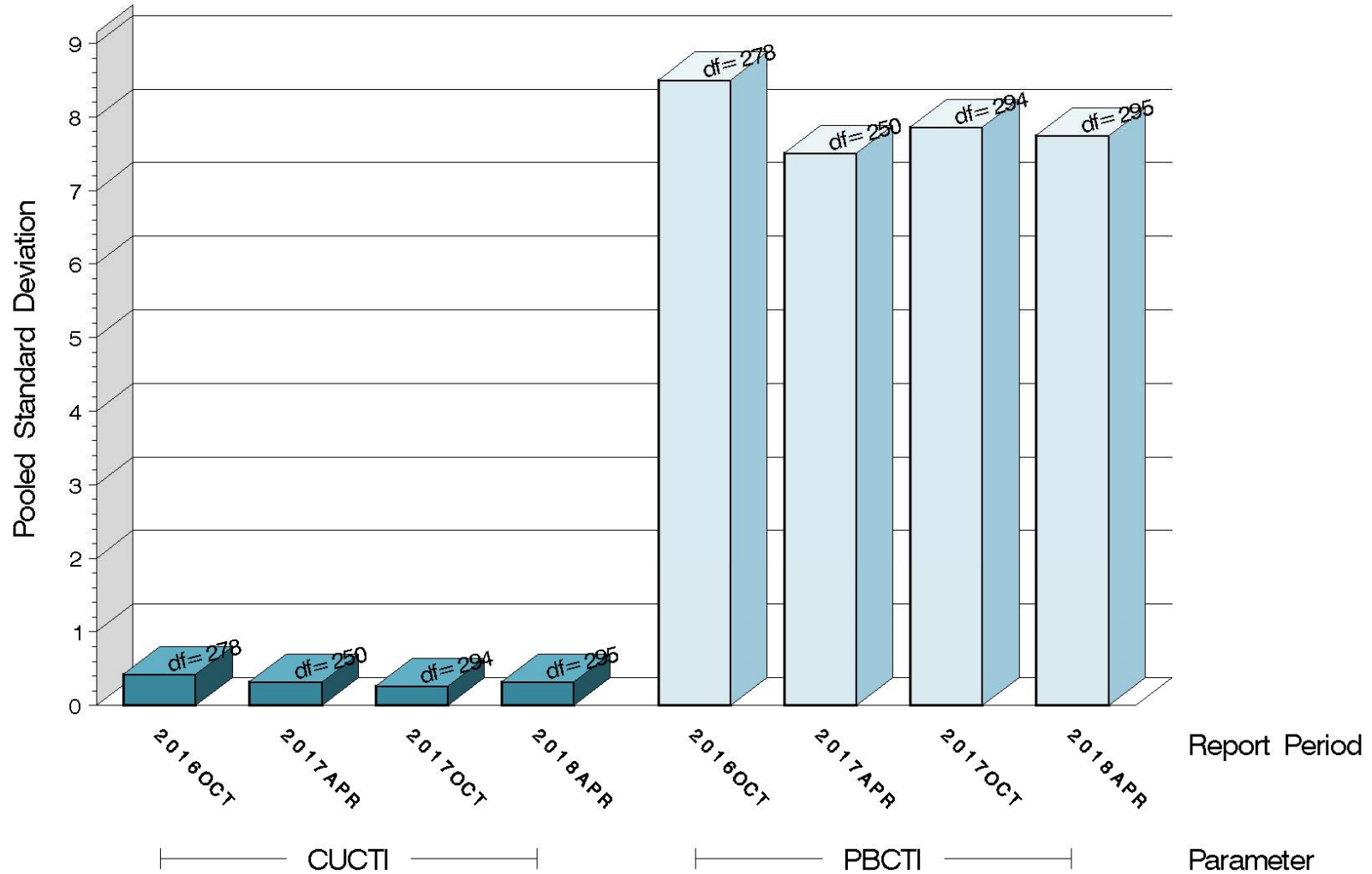


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# HTCBT (D 6594)

## TEST PRECISION

POOLED STANDARD DEVIATION  
BY SIX-MONTH ASTM REPORT PERIOD



10:24:26 23MAY2018

# HTCBT (D 6594)

## SUMMARY OF SEVERITY & PRECISION

### Severity

Over the course of this report period, copper severity, as measured by cusum plotting, was very slightly severe, reducing a long-standing trend.

Over the course of this report period, lead severity, as measured by cusum plotting, was severe, continuing a long-standing trend.

### Precision

Pooled  $s$  for this period is 0.32 for copper and 7.75 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	111	1052	32.9
1005-1	0	0	0.0
1005-3	6	0	0.0
1005-5	184	649	20.3
Total	311	1701	53.2

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