



A Program of ASTM International

Test Monitoring Center

<https://www.astmtmc.org>

ASTM Reference Testing Semi-Annual Report ASTM D6594 – HTCBT

October 2021

HTCBT Test Activity*

| Test Status | Validity Code | Number of Tests |
|-------------------------------|---------------|-----------------|
| Acceptable Calibration Test | AC | 266 |
| Failed Calibration Test | OC | 15 |
| Operationally Invalid, by lab | LC | 4 |
| Aborted Calibration Test | XC | 6 |
| Acceptable Shakedown Run | NN | 3 |
| Unacceptable Shakedown Run | MN | 0 |
| Total | | 294 |

- 10 labs reported data
- Unable to coordinate with SP chair to add HTCBT to the LTMS

*April 1, 2021 – September 30, 2021

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HTCBT Failed Tests

| Failed Parameter | Number of Tests |
|---|-----------------|
| Severe Lead Concentration | 6 |
| Severe Copper Concentration | 6 |
| Severe Copper & Lead Concentration | 2 |
| Mild Copper Concentration & Severe Lead Concentration | 1 |
| Total | 15 |

HTCBBT Failed Tests by Lab

| Failed Parameter | LTMS Lab | | | | | | | # |
|---|----------|----------|----------|----------|----------|----------|----------|-----------|
| | A | E | G | I | V | BB | BC | |
| Severe Lead Concentration | 4 | 0 | 1 | 0 | 1 | 1 | 0 | 7 |
| Severe Copper Concentration | 0 | 1 | 0 | 2 | 0 | 2 | 1 | 6 |
| Severe Copper & Lead Concentration | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Mild Copper Concentration & Severe Lead Concentration | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Total | 5 | 1 | 1 | 3 | 1 | 3 | 1 | 15 |

HTCBT Lost Tests*

| Status | Cause | # |
|--------------|------------------------------------|-----------|
| Invalid | Temperature Controller Malfunction | 3 |
| Invalid | Airflow Control Problems | 3 |
| Invalid | Improper Coupon | 1 |
| Invalid | Power Outage | 2 |
| Invalid | Sample Contamination | 1 |
| Total | | 10 |

*Invalid and aborted calibration tests

HTCBBT Lost Tests by Lab

| Cause | LTMS Lab | | | | | | # |
|------------------------------------|----------|----------|----------|----------|----------|----------|-----------|
| | A | B | G | I | L | V | |
| Temperature Controller Malfunction | 2 | 0 | 1 | 0 | 0 | 0 | 3 |
| Airflow Control Problems | 0 | 0 | 2 | 0 | 0 | 1 | 3 |
| Improper Coupon | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Power Outage | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| Sample Contamination | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Total | 2 | 0 | 3 | 2 | 0 | 3 | 10 |

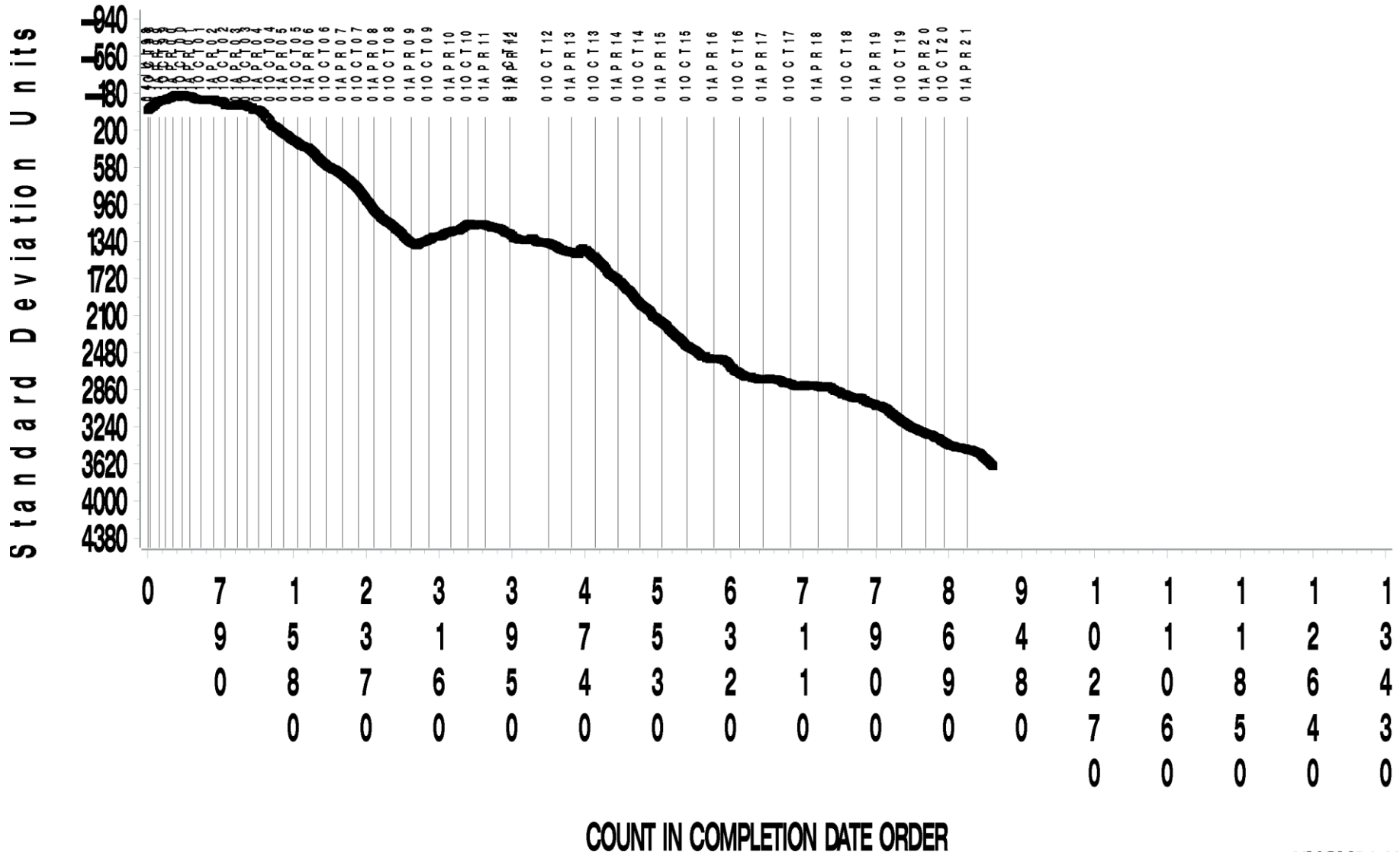
HTCBT Test Severity

- ▶ Copper concentration trending severe
- ▶ Lead concentration trending severe

COPPER CHANGE (ppm)

CUSUM Severity Analysis

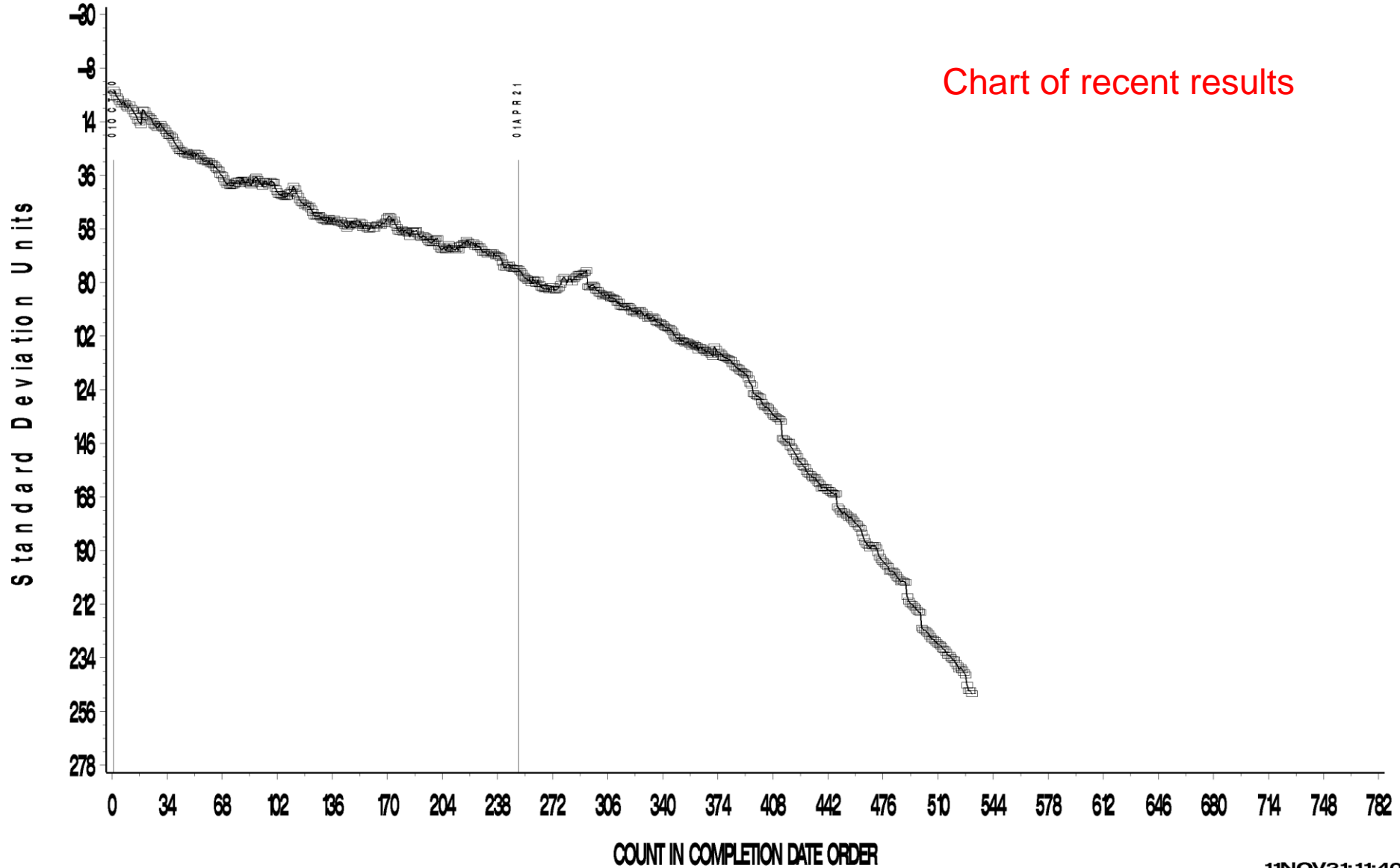
Historical Chart



COPPER CHANGE (ppm)

CUSUM Severity Analysis

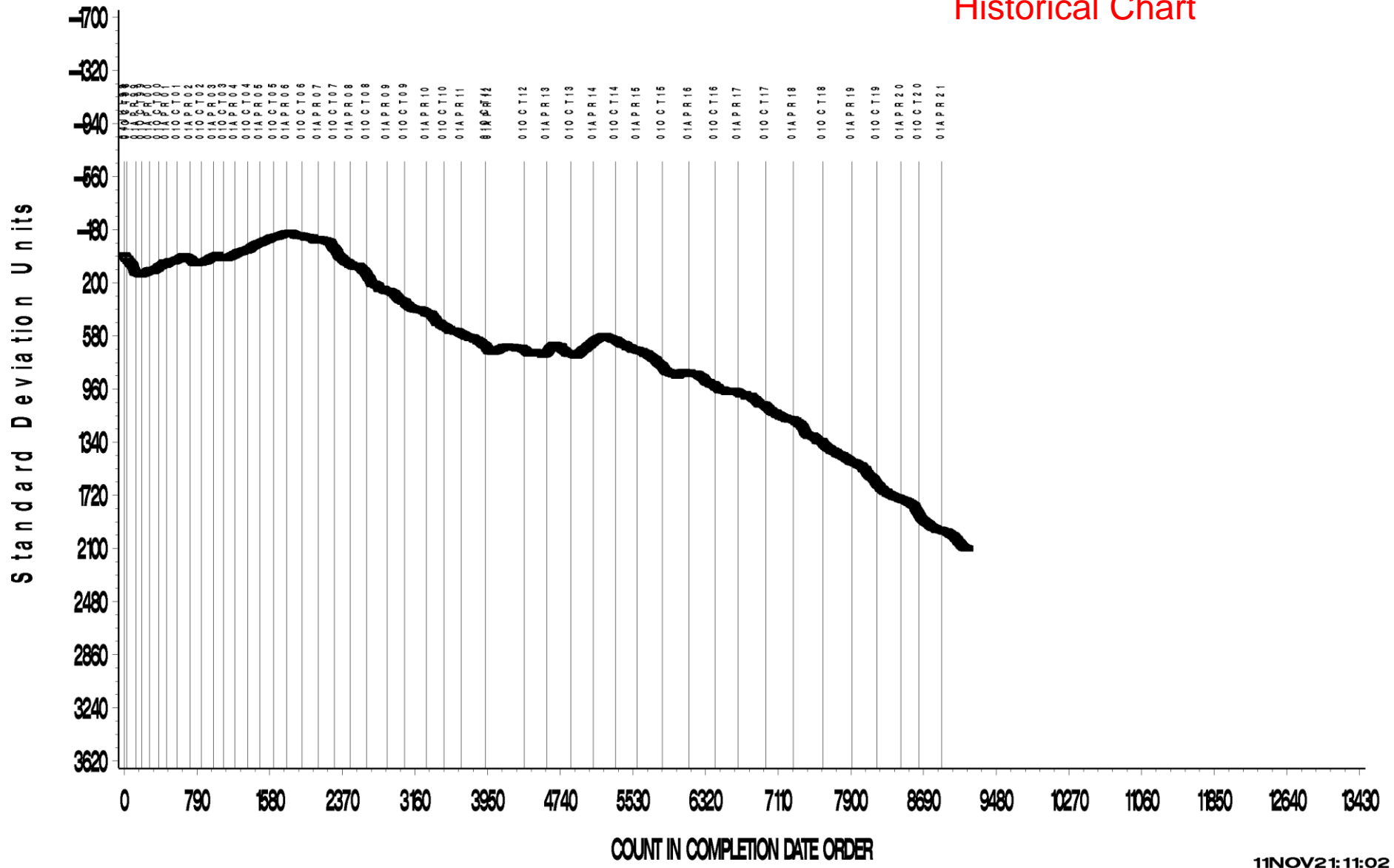
Chart of recent results



LEAD CHANGE (ppm)

CUSUM Severity Analysis

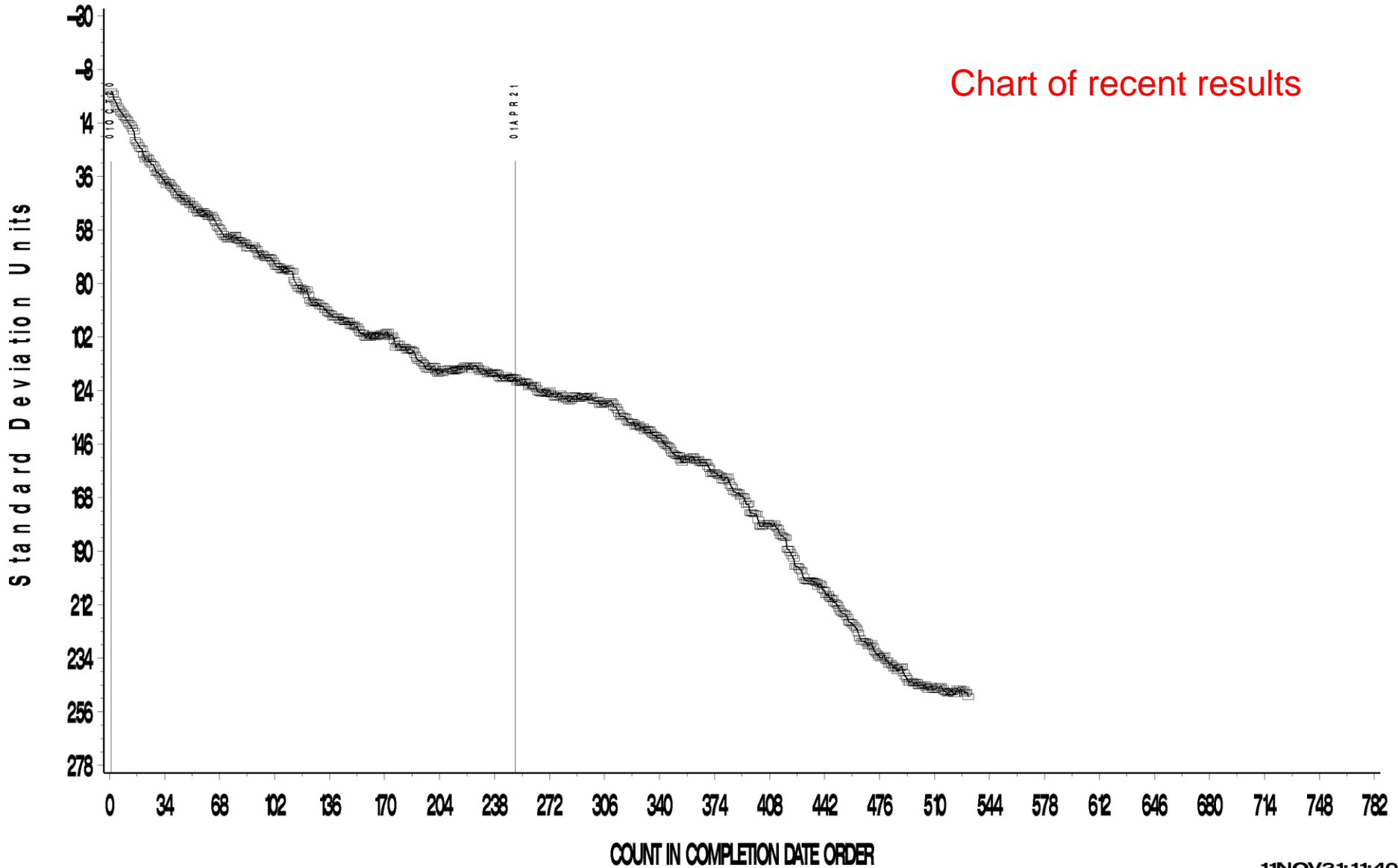
Historical Chart



LEAD CHANGE (ppm)

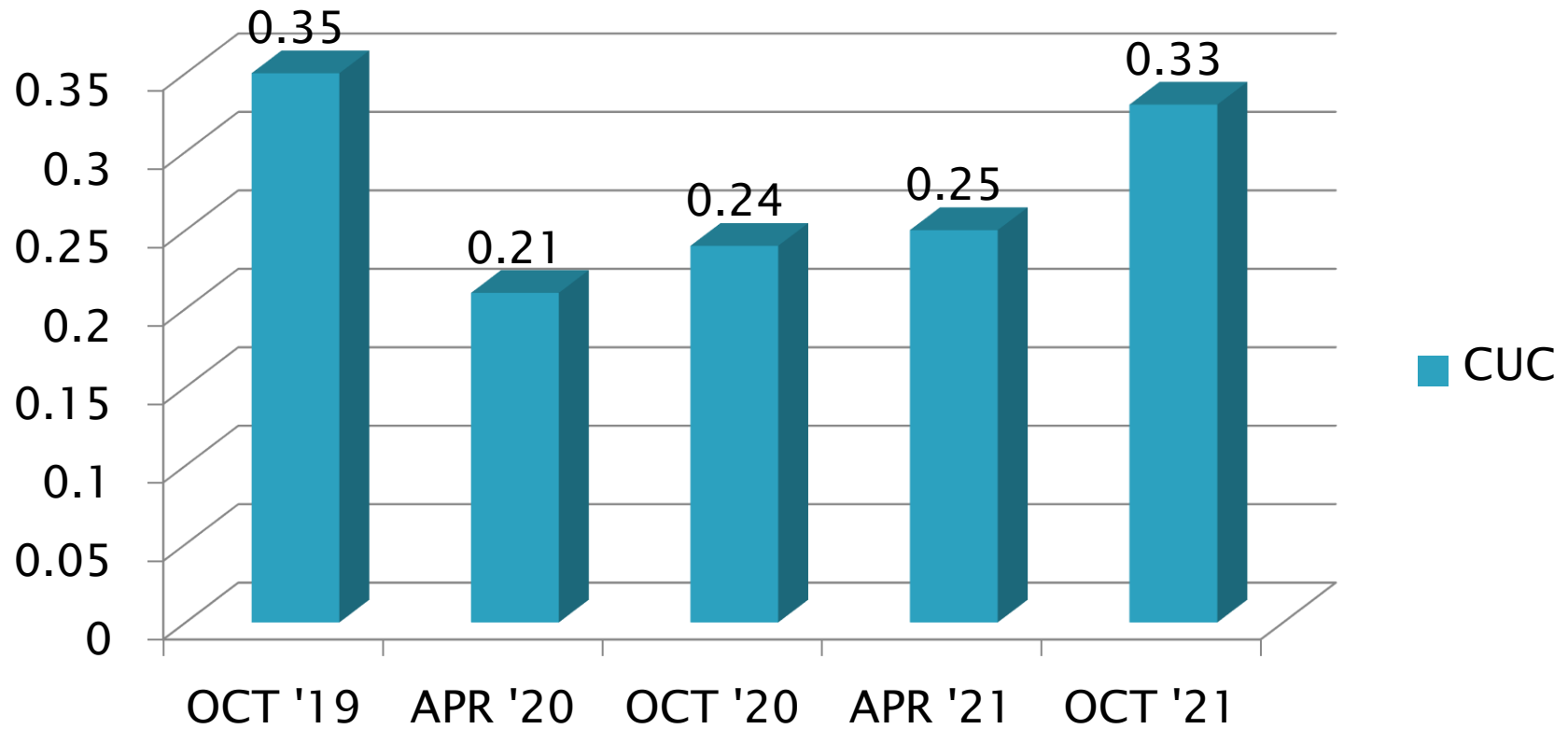
CUSUM Severity Analysis

Chart of recent results



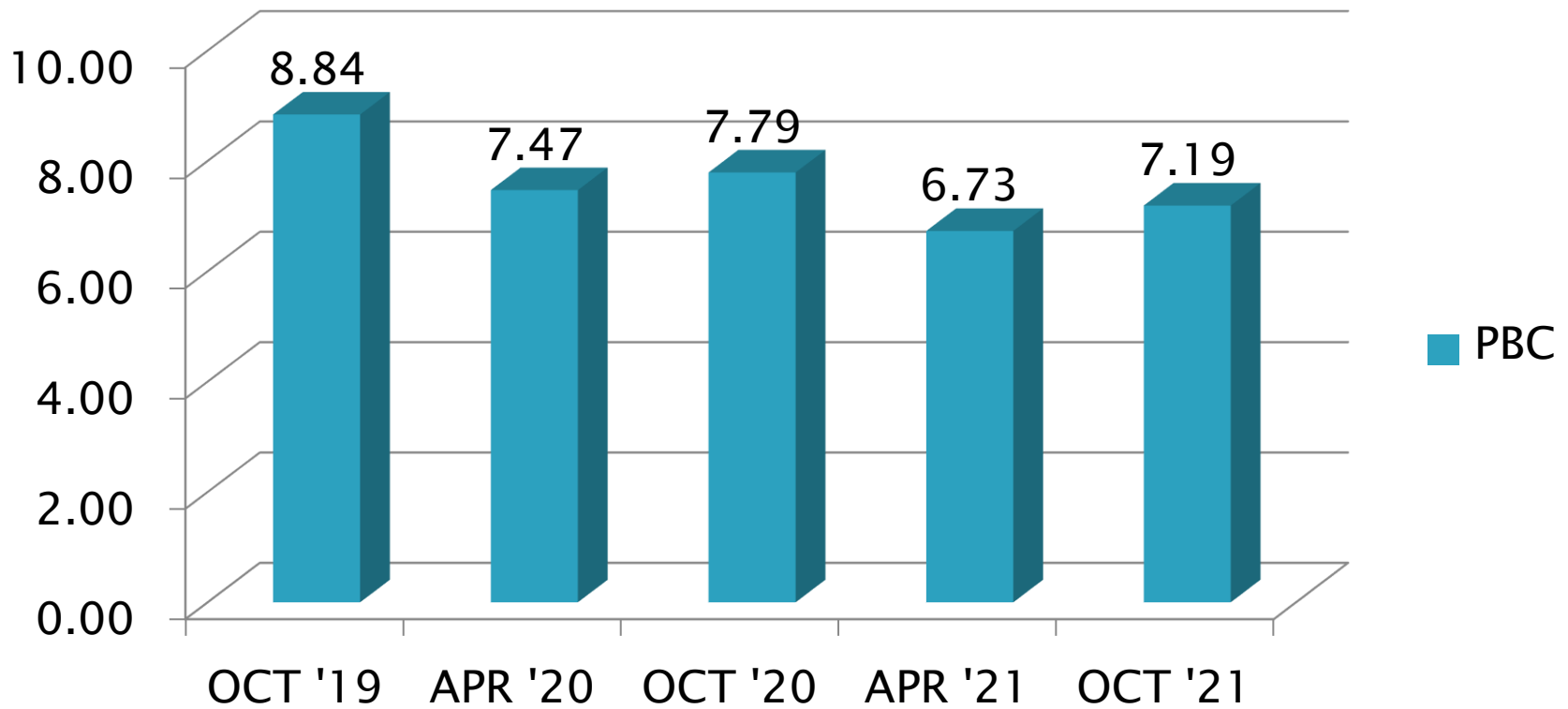
HTCBT Precision Estimates

CUC



HTCBT Precision Estimates

PBC



Information Letters*

| Test | Date | IL | Topic |
|------|------|----|-------------------------------------|
| | | | No information letters this period. |

*Available from TMC Website

Reference Oil Inventory Estimated Life

| Oil | TMC Inventory (gallons) | Quantity Shipped in last 6 months (gallons) | Lab Inventory (samples) | Estimated Life |
|--------|-------------------------|---|-------------------------|----------------|
| 44-4 | 11.4 | 3.4 | 92 | 1.5 years |
| 1005-5 | 19.4 | 5.3 | 171 | 3 years |

Miscellaneous Information

- ▶ Available on TMC Website:
 - Oil Assignment Request and Test File Upload
 - Live Reference Test Data Bases
 - Surveillance Panel Meeting Minutes
- ▶ <https://www.astmtmc.org/>



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