

Meeting Minutes
Corrosion SP Meeting
Nov 3, 2023 – 10:00-10:30 am CDT

Attendees (18):

Jared Cavaliere (chair)
John Loop
Adam Ramos
Yong-Li McFarland
Dennis Gaal
Greg Miiller
Jason Bowden
Joe Franklin
Kim Gutierrez

Maggie Smerdon
Maddie Dellinger
Peter Kaiser
Clayton Knight
Robinson Jones
James Jin
Pinal Shah
Kafayat Amusa
Emilia Jarecko

Jared Cavaliere called the meeting to order at 10:05 am CDT by welcoming the attendees and reviewing the agenda, ASTM antitrust guidelines and recording policy, as shown in the meeting presentation.

The SP membership, as listed by member company and current individuals.

Old Business:

The prior SP meeting was held on July 17, 2023 with minutes and presentation having been emailed and posted on the TMC website.

TMC confirmed that reference oil 44-5 had completed collection of an additional 33 data points. This additional data was presented with proposal to change the limits from the original 16 data points. A new limit set based on all 49 data points and to take effect immediately was motioned by Kim Gutierrez and seconded by Dennis Gaal. All were in favor with one vote being waved.

No other old business was raised.

New Business:

Confirmation of the remaining batch “O” coupons was presented, approximately 1000.

Batch “P” coupons are ready as notified by TEI. 6 labs have been identified to conduct round robin testing. 4 labs currently have coupons with the additional 2 labs to be receiving them. TMC, John Loop, will send the participating labs the test matrix and reference oil assignments.

The Semi annual TMC report was reviewed and will also be presented at the December 2023 D02 Meeting in New Orleans.

A motion for adjournment was made by Dennis Gaal and seconded by Adam Ramos

The meeting was adjourned at 10:28 am.

Submitted
Jared Cavaliere

HTCBT SP Meeting

November 3, 2023

Jared Cavaliere, Chair



Agenda

1. Welcome
2. ASTM Antitrust Guidelines and Recording Policy
3. Membership Review
4. Old Business
 - a. Topics from July 17, 2023 meeting
 - i. Oil 44-5 data point collection and limits
 - b. Other topics
5. New Business
 - a. Batch P Coupon RR
 - b. Other topics
6. Adjournment



ASTM Anti-Trust Statement and Recording Policy

ASTM International is a not-for-profit organization and developer of voluntary consensus standards. ASTM's leadership in international standards development is driven by the contributions of its members: more than 30,000 technical experts and business professionals representing 135 countries.

The purpose of antitrust laws is to preserve economic competition in the marketplace by prohibiting, among other things, unreasonable restraints of trade. In ASTM activities, it is important to recognize that participants often represent competitive interests. Antitrust laws require that all competition be open and unrestricted.

It is ASTM's policy, and the policy of each of its committees and subcommittees, to conduct all business and activity in full compliance with international, federal and state antitrust and competition laws. The ASTM Board of Directors has adopted an antitrust policy which is found in Section 19 of ASTM Regulations Governing Technical Committees. All members need to be aware of and compliant with this policy. The Regulations are accessible on the ASTM website (<http://www.astm.org/COMMIT/Regs.pdf>) and copies of the antitrust policy are available at the registration desk.

Electronic recording of ASTM meetings is prohibited.



Members

Company	
Afton	Lubrizol
BG Products	OH Tech
Chevron	PetroChina Lanzhou
ExxonMobil	Savant
Infineum	SWRI
Intertek	TEI
ISP	TMC
SGS	Valvoline
APL	BP

Lisa Boley - Lubrizol	Jason Bowden – OHT
Peter Kaiser - ISP	Mark Sutherland – TEI
Matthew Lebeda – BG Prod	Damian Beardmore – BP
Clayton Knight - TEI	Amusa Kafayat - BP
Joe Franklin - Intertek	Gunther Mueller – APL
Sean Alston – SGS	Michael Johnscher – ISP
James Jin – Intertek	Shelia Thompson – Afton
Kimberly Gutierrez - Intertek	Becky Grinfield – SWRI
Greg Miller – Savant	Adam Ramos – SWRI
Maggie Smerdon – Savant	Yongli McFarland – SWRI
Amy Ross – Valvoline	Robinson Jones - SGS
Bruce Tonkel - Valvoline	Genvin Zhang - Lubrizol
Maddie Dellinger – BG Prod	Dennis Gaal - ExxonMobil
John Loop - ASTM	



Old Business

- Previous July 17 2023 minutes emailed and posted online.
- Oil 44-5 Data collection – 33 points have been collected in addition to original 16.



Old Business

- Oil 44-5 Limits

Parameter	Target (Mean)	STDEV	Maximum	Minimum
Copper Change	4.7446*	0.2071*	172 ppm	77 ppm
Lead Change	33 ppm	6.367	45 ppm	20 ppm

- 16 Initial Runs

- 33 Reference Oil Runs

Parameter	Target (Mean)	STDEV	Maximum Proposed	Minimum Proposed
Copper Change	4.8666*	0.4124*	203 ppm	56 ppm
Lead Change	32.52 ppm	8.292	48 ppm	17 ppm

- All 49 Valid Results

Parameter	Target (Mean)	STDEV	Maximum Proposed	Minimum Proposed
Copper Change	4.8268*	0.3608*	193 ppm	56 ppm
Lead Change	32.67 ppm	7.652	47 ppm	18 ppm



Old Business

- Any other Old Business?



New Business

- Approx. 1000 coupons remaining of batch O
- Coupon Batch P Ready
 - Labs A, B, G, 4th lab?
 - Ref Oils 1005-5 and 44-5
 - Run Both Oils on 2 baths



TESTS	BATCH P	LAB1		LAB2		LAB3		LAB4		TOTALS
		BATH 1	BATH 2	BATH 1	BATH 2	BATH 1	BATH 2	BATH 1	BATH 2	
CORE 16	RUNs 1 & 2	1005-5	44-5	1005-5	44-5	1005-5	44-5	1005-5	44-5	16
	RUNs 3 & 4	44-5	1005-5	44-5	1005-5	44-5	1005-5	44-5	1005-5	
Option 1 = +4	Single Repeats	Repeat 1005-5			Repeat 44-5	Repeat 1005-5			Repeat 44-5	20



Additional



Calibrated Labs and Stands*

(change since last Semi-Annual report in parentheses)

Test	Labs	Stands
D6594	10 (+0)	30 (+0)
*As of 9/30/2023		



HTCBT Test Activity*

Test Status	Validity Code	Number of Tests
Acceptable Calibration Test	AC	279
Failed Calibration Test	OC	17**
Operationally Invalid, by lab	LC	6
Aborted Calibration Test	XC	1
Acceptable Shakedown Run	NN	2
Unacceptable Shakedown Run	MN	0
Total		305

10 labs reported data
**down 6 from previous semester

*April 1, 2023 – September 30, 2023



HTCBT Failed Tests

Failed Parameter	Number of Tests
Lead Concentration Severe	6
Lead Concentration Mild	1
Copper Concentration Severe	9
Copper Concentration Mild	1
Lead and Copper Concentrations (both) Severe	0
Lead and Copper Concentrations (both) Mild	0
Total	17

NOTE: Of the 17 failing tests, 5 (29%) were on runs with 44-5 Reference Oil



April 1, 2023 – September 30, 2023

FUELS & LUBRICANTS RESEARCH

HTCBT Failed Tests by Lab

Failed Parameter	LTMS Lab										#
	A	L	G	I	V	BB	BC	B	P	BE	
Lead Concentration Severe	0	0	0	4	1	0	1	0	0	0	6
Lead Concentration Mild	0	0	1	0	0	0	0	0	0	0	1
Copper Concentration Severe	2	0	1	4	1	0	0	0	0	1	9
Copper Concentration Mild	0	0	0	0	1	0	0	0	0	0	1
Lead & Copper Concentrations Severe	0	0	0	0	0	0	0	0	0	0	0
Lead & Copper Concentrations Mild	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	8	3	0	1	0	0	1	17

NOTE: Of the 17 failing tests, 5 (29%) were on runs with 44-5 Reference Oil



April 1, 2023 – September 30, 2023

FUELS & LUBRICANTS RESEARCH

HTCBT Lost Tests*

Status (LC, XC)	Cause	#
Invalid	Temperature Bath / Heater Malfunction	2
Invalid	Air Flow Malfunction	4
Aborted	Temperature Bath / Heater Malfunction	1
Total	*Invalid or Aborted calibration tests	7



April 1, 2023 – September 30, 2023

FUELS & LUBRICANTS RESEARCH

HTCBT Lost Tests by Lab

Failed Parameter (LC, XC)	LTMS Lab										#
	A	L	G	I	V	BB	BC	B	P	BE	
Temperature Bath / Heater Malfunction	2	0	0	1	0	0	0	0	0	0	3
Air Flow Malfunction	4	0	0	0	0	0	0	0	0	0	4
Total	6	0	0	1	0	0	0	0	0	0	7



April 1, 2023 – September 30, 2023

FUELS & LUBRICANTS RESEARCH

HTCBT Test Status

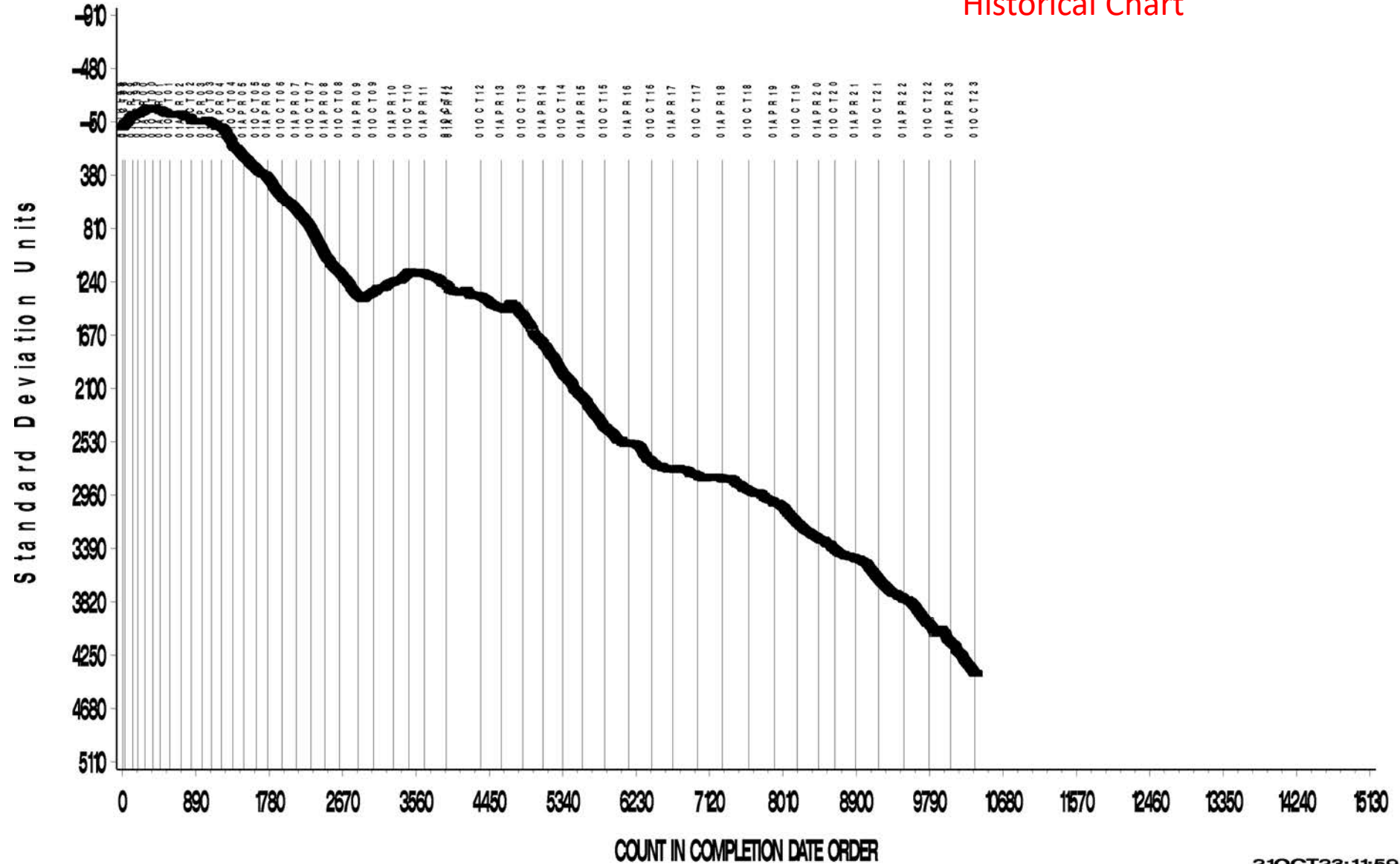
- New Chairperson for HTCBT Surveillance Panel has been identified: Jared Cavaliere
- New Reference Oil 44-5 has completed over 30 Valid tests since its initial introduction and is now ready for target and Pass/Fail analyses
- Only 2.6 gallons of Reference Oil 44-4 remain
- Test severity issues have abated and a significantly fewer number of Calibration Run fails occurred this semester.



COPPER CHANGE (ppm)

CUSUM Severity Analysis

Historical Chart



HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA
LAST 600 DATA POINTS
COPPER CHANGE (ppm)



CUSUM Severity Analysis

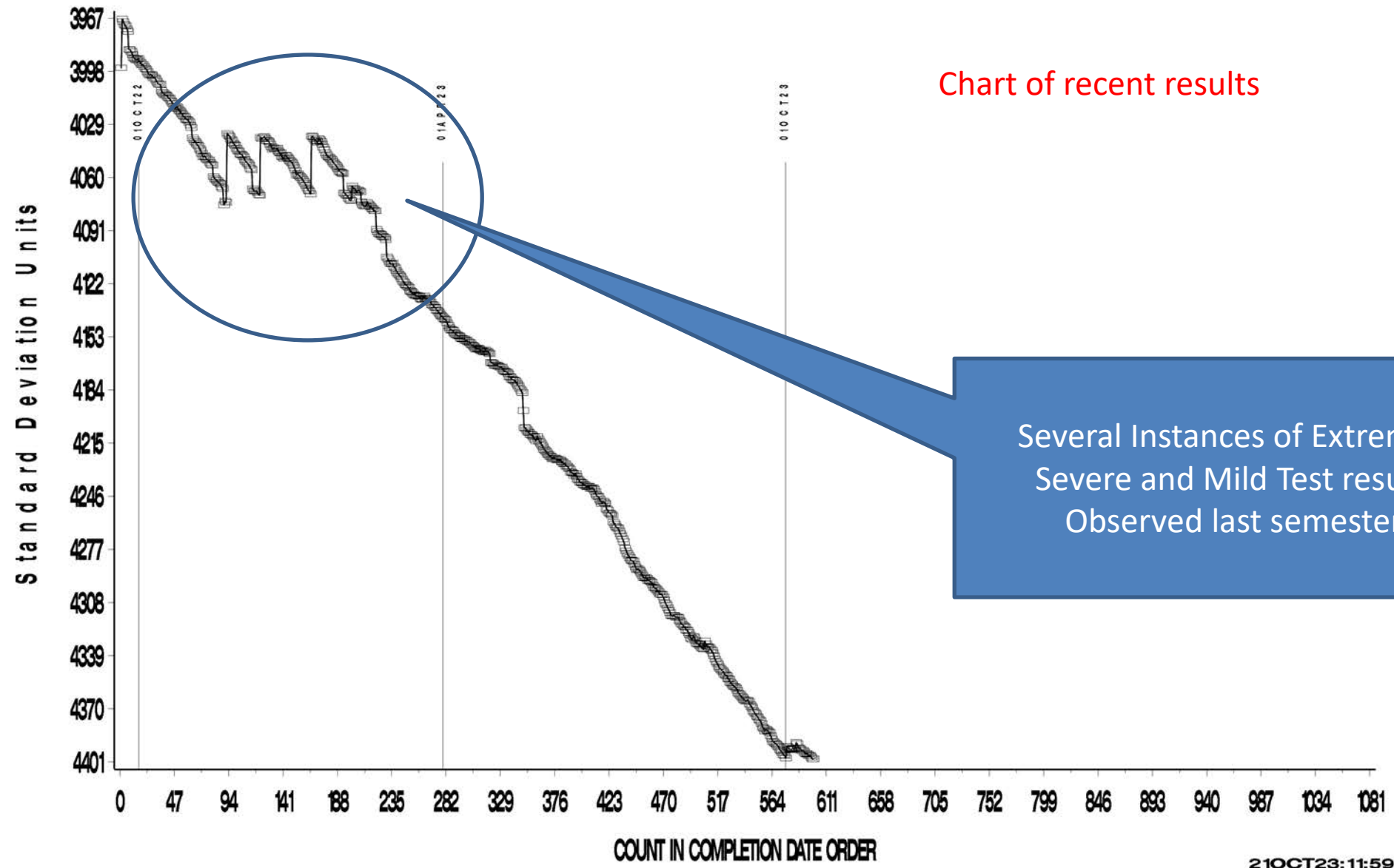


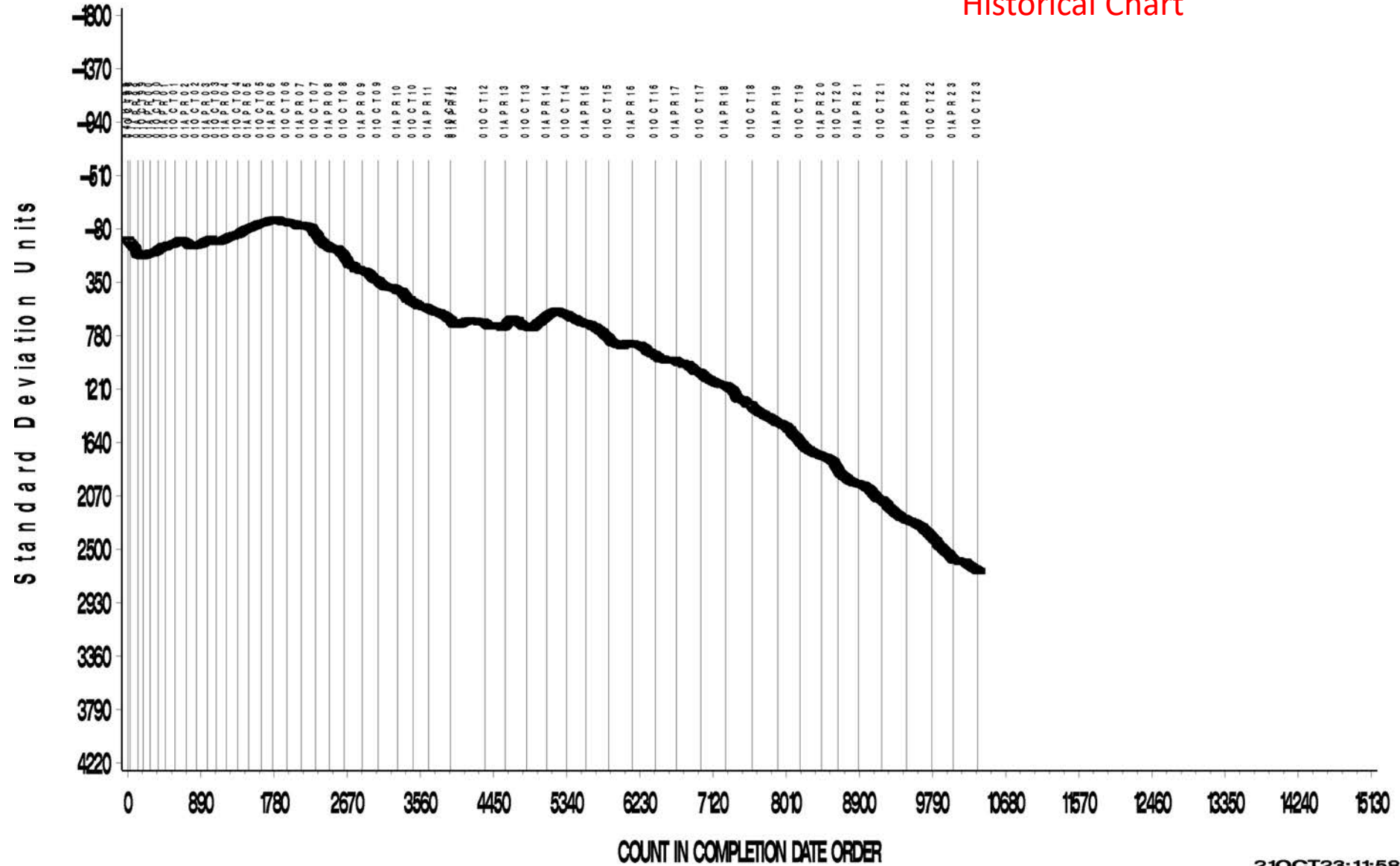
Chart of recent results

Several Instances of Extremely Severe and Mild Test results Observed last semester.

LEAD CHANGE (ppm)

CUSUM Severity Analysis

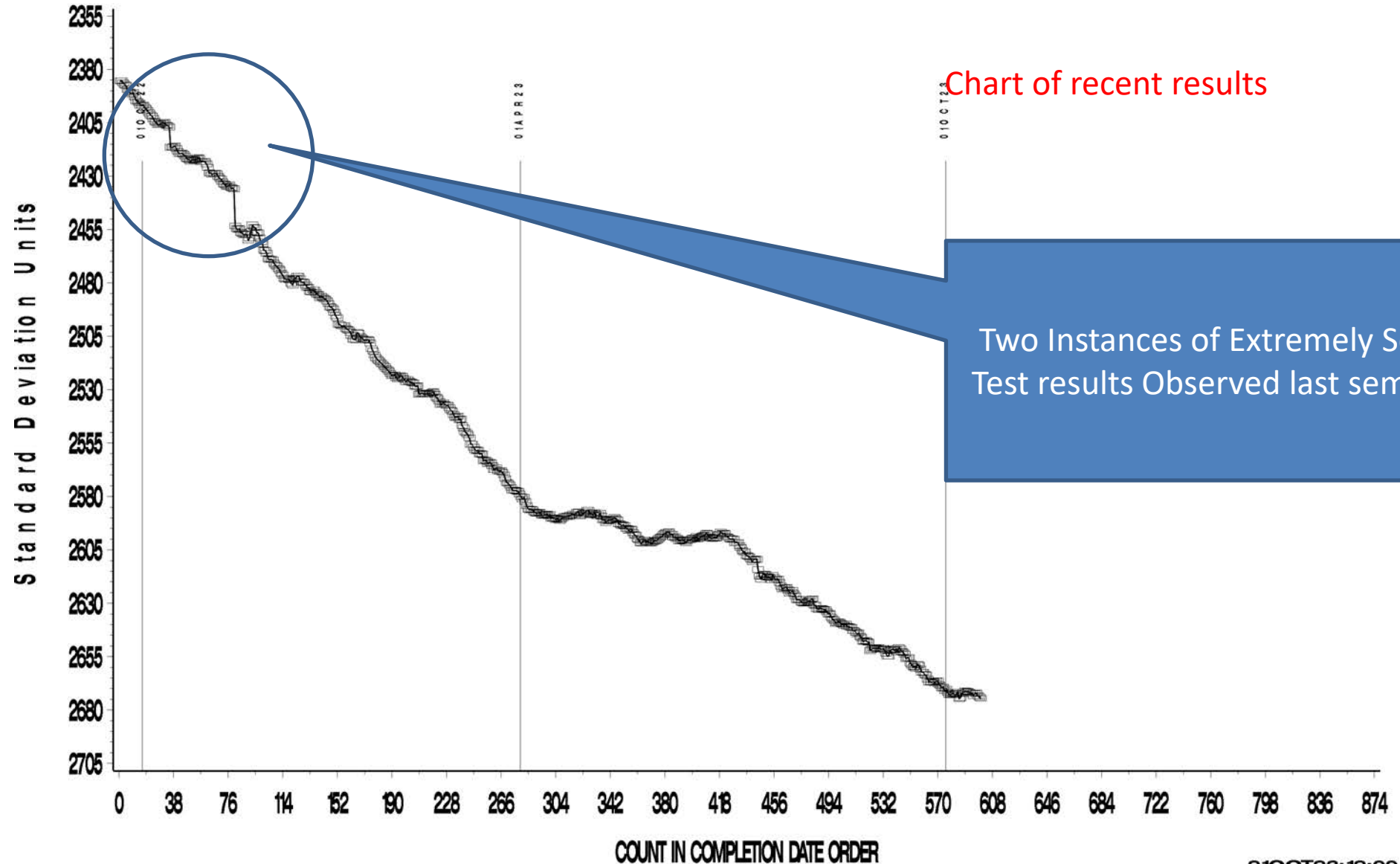
Historical Chart



HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA
LAST 600 DATA POINTS
LEAD CHANGE (ppm)

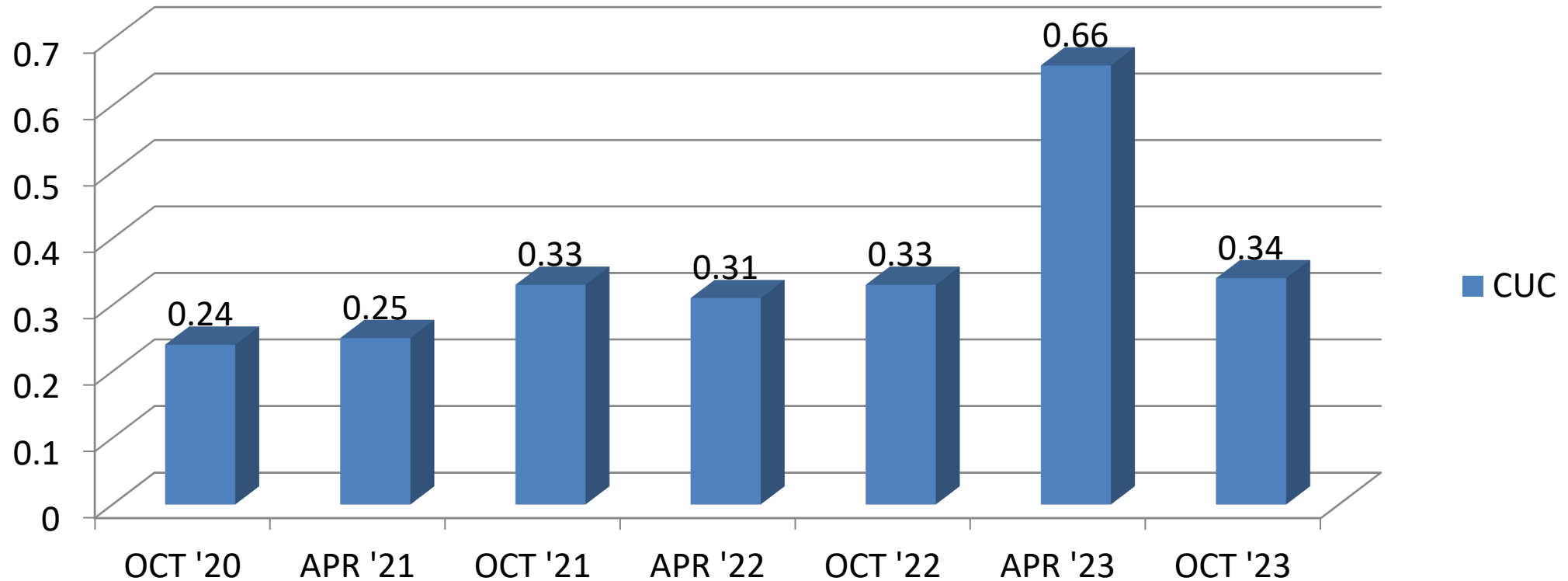


CUSUM Severity Analysis



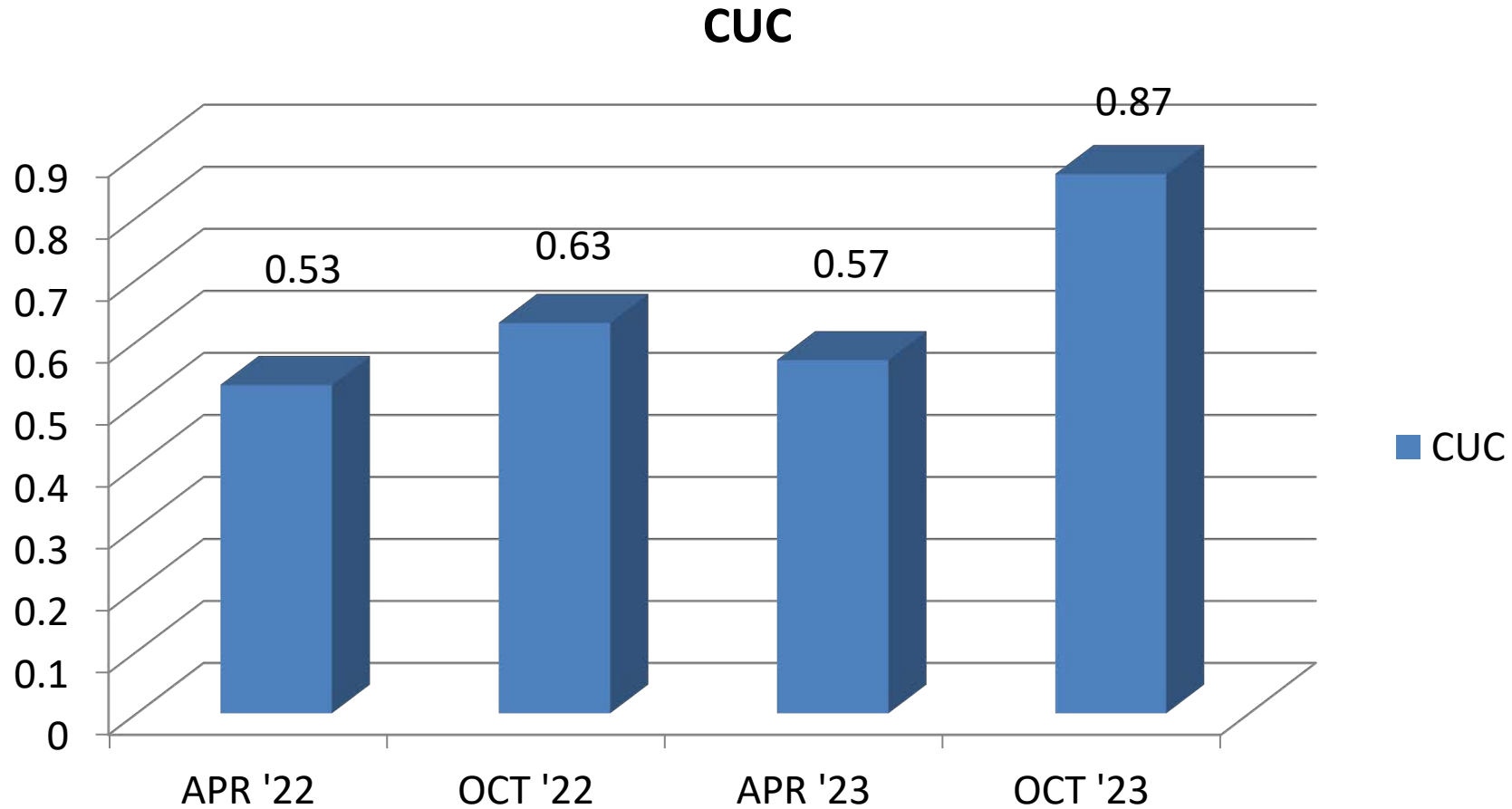
HTCBT Precision (Pooled s) Estimates

CUC



CUC Standard Deviation results closer to target this semester.

HTCBT Performance (mean Δ/s) Estimates

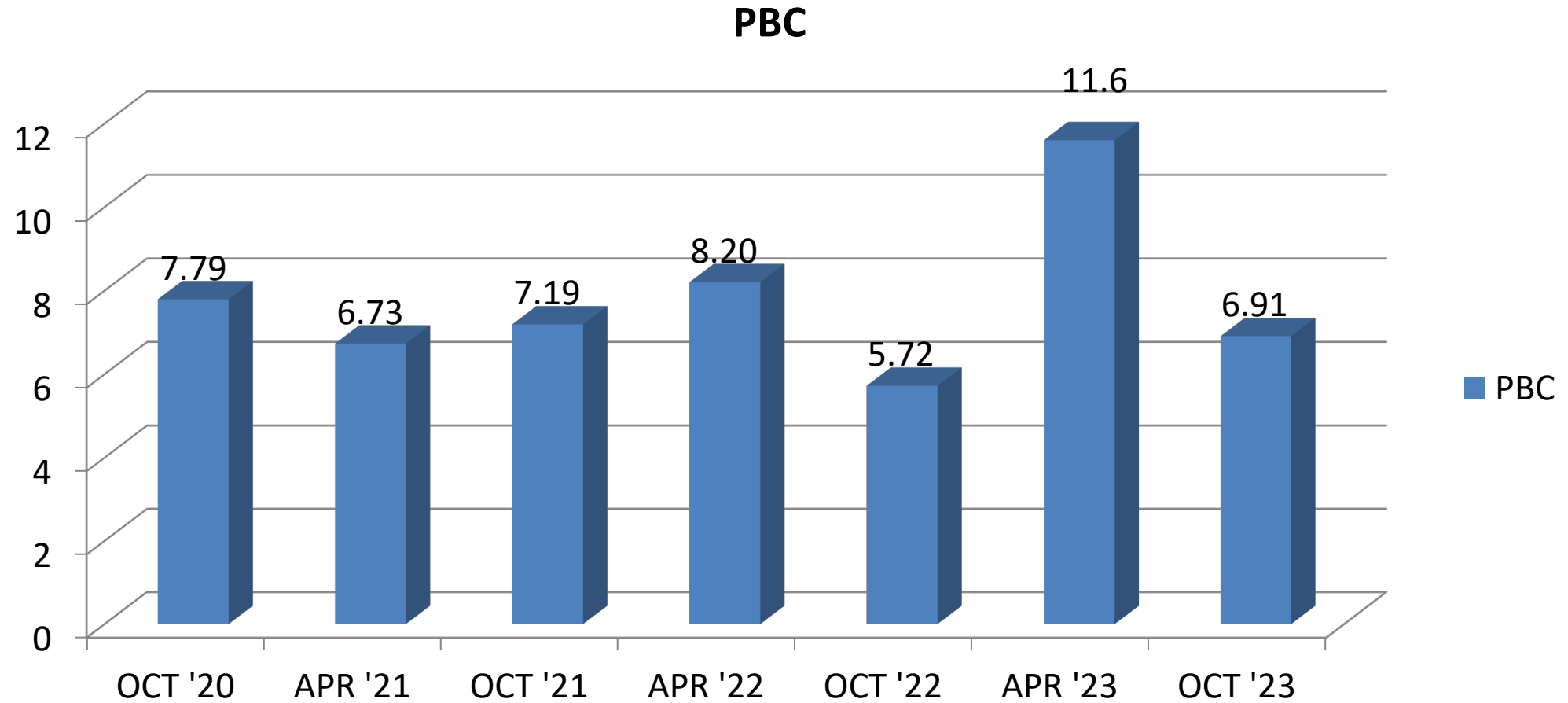


April 1, 2023 – September 30, 2023

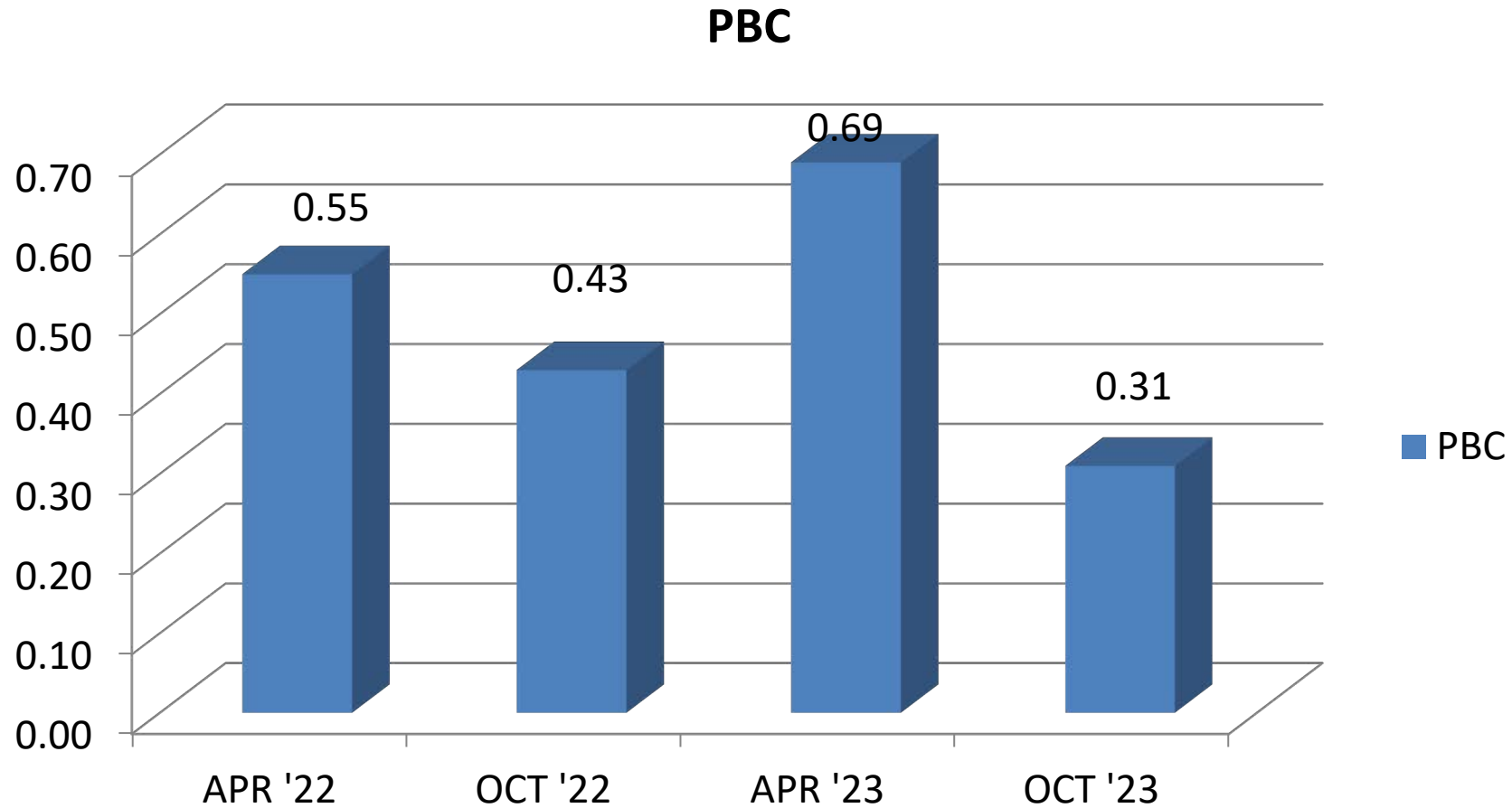
FUELS & LUBRICANTS RESEARCH



HTCBT Precision (Pooled s) Estimates



HTCBT Performance (mean Δ/s) Estimates



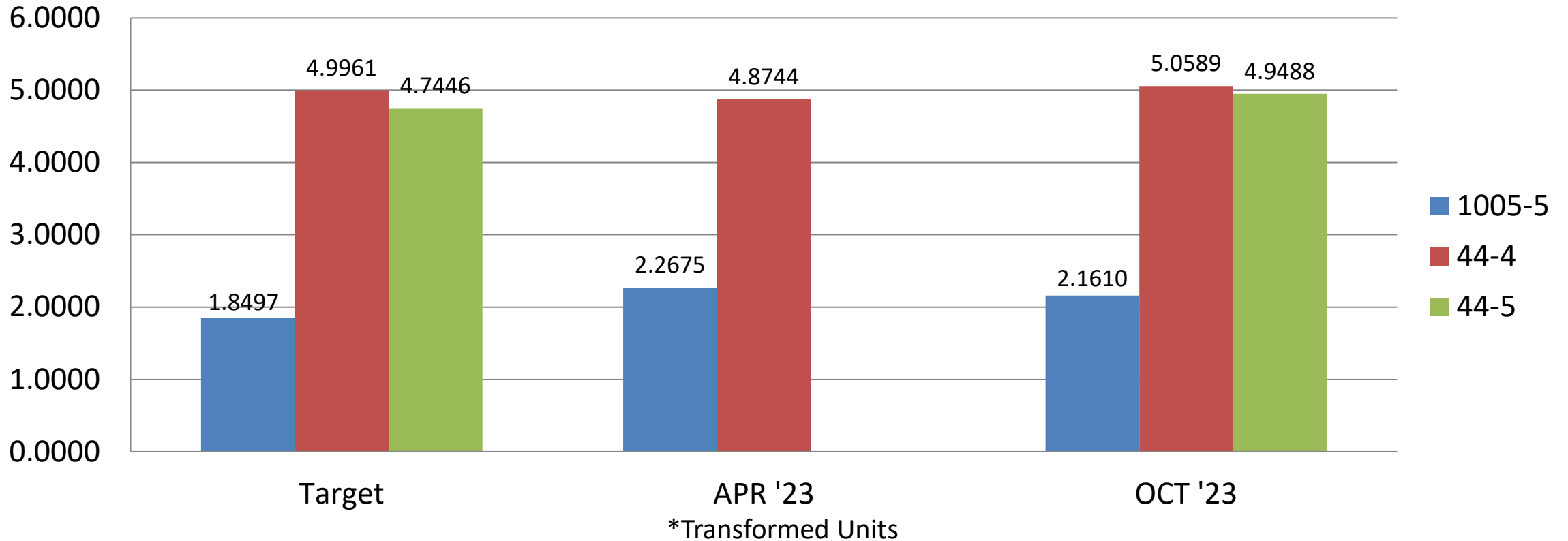
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HTCBT Performance by OIL

Copper Concentration* Mean



April 1, 2023 – September 30, 2023

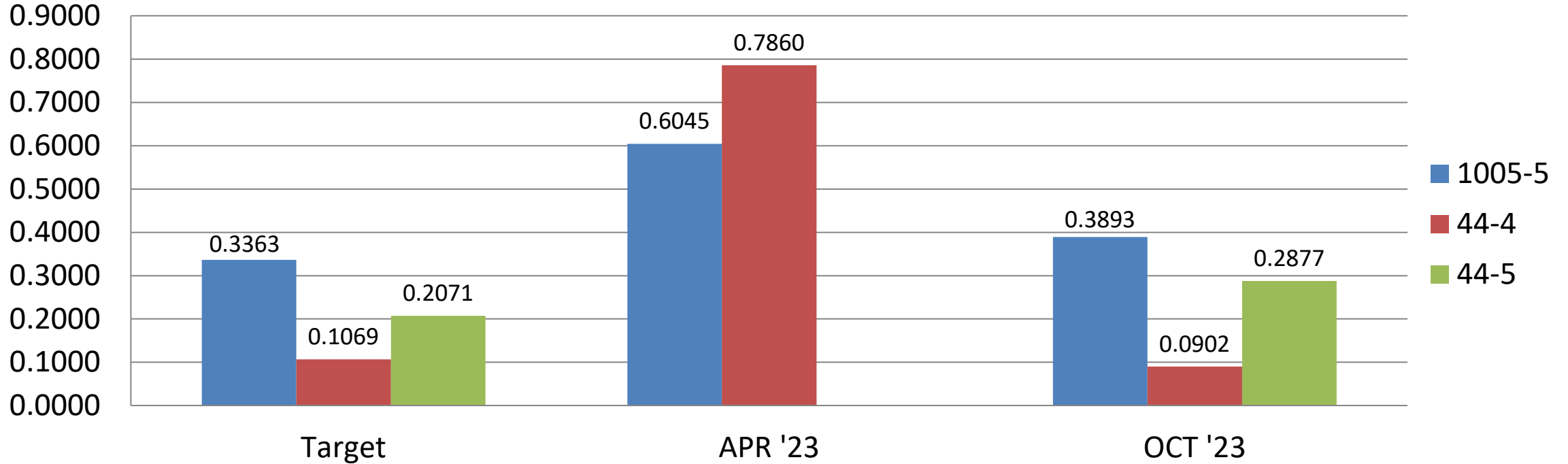


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swri.org

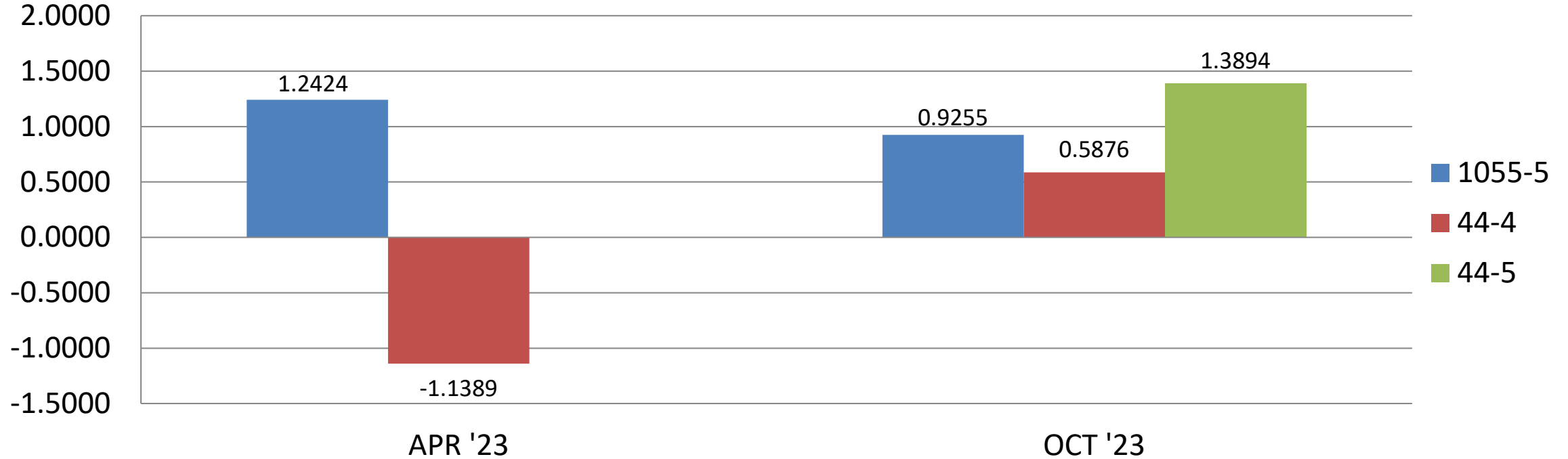
HTCBT Performance by OIL

Copper Concentration Standard Deviation



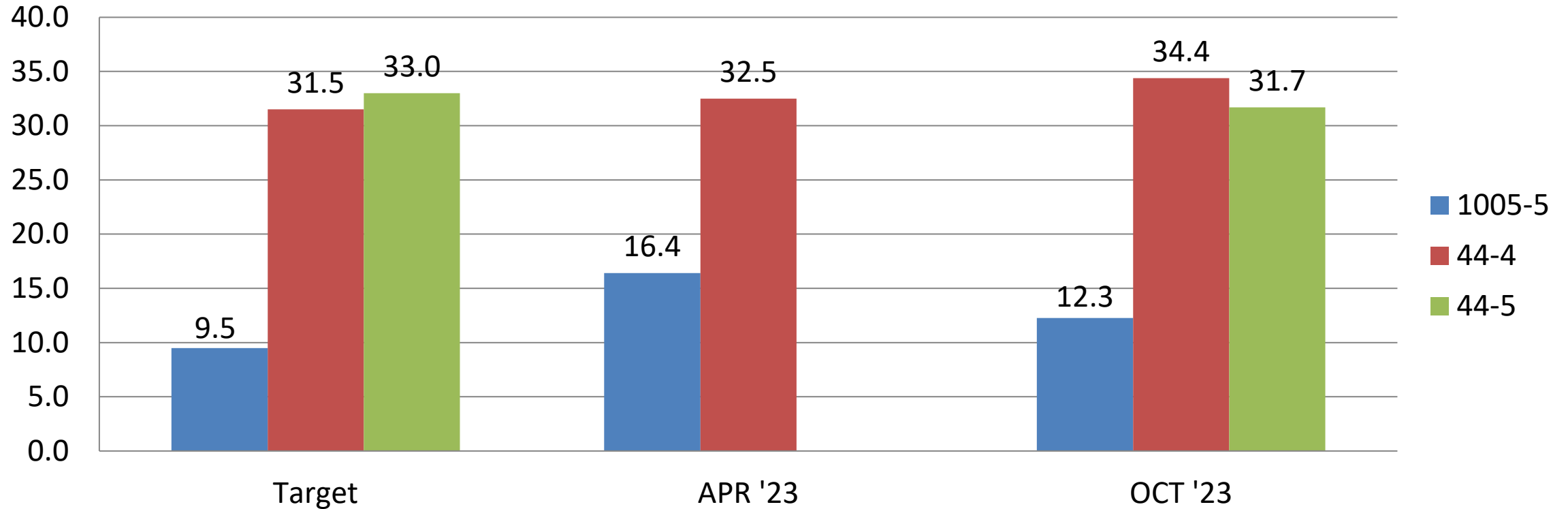
HTCBT Performance by OIL

Copper Concentration MEAN Δ/s



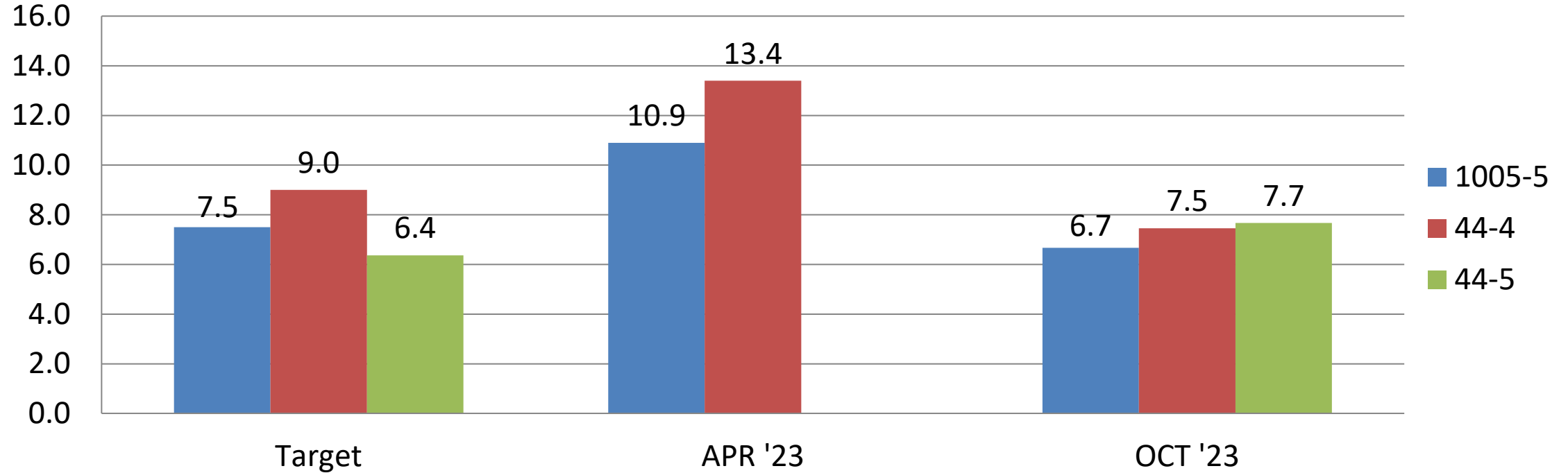
HTCBT Performance by OIL

Lead Concentration Mean



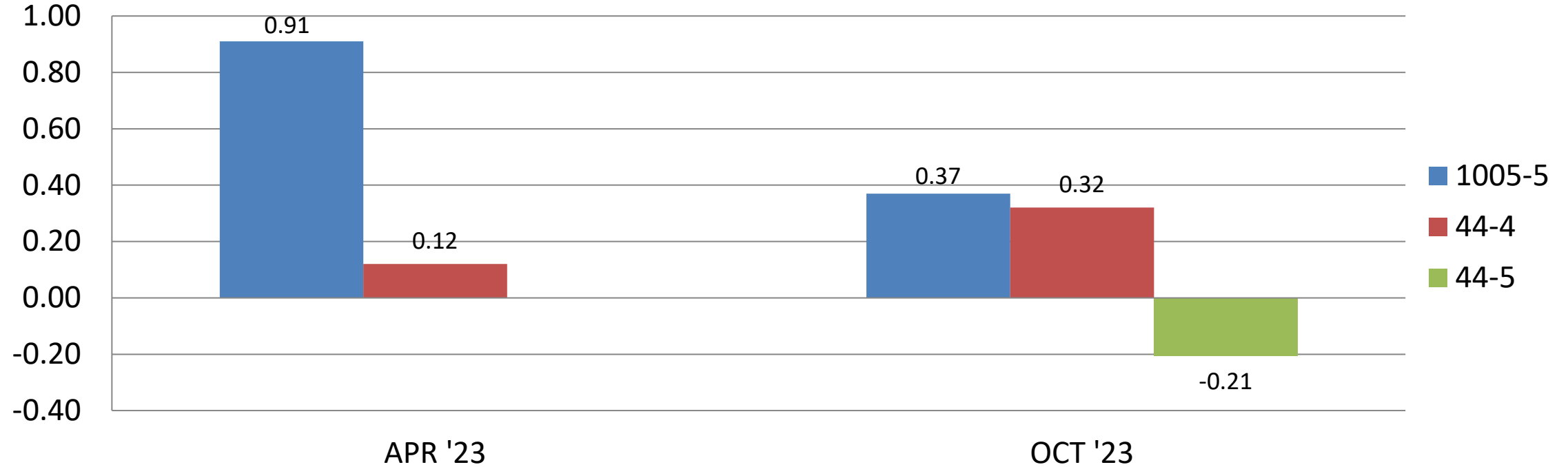
HTCBT Performance by OIL

Lead Concentration Standard Deviation



HTCBT Performance by OIL

Lead Concentration
MEAN Δ/s

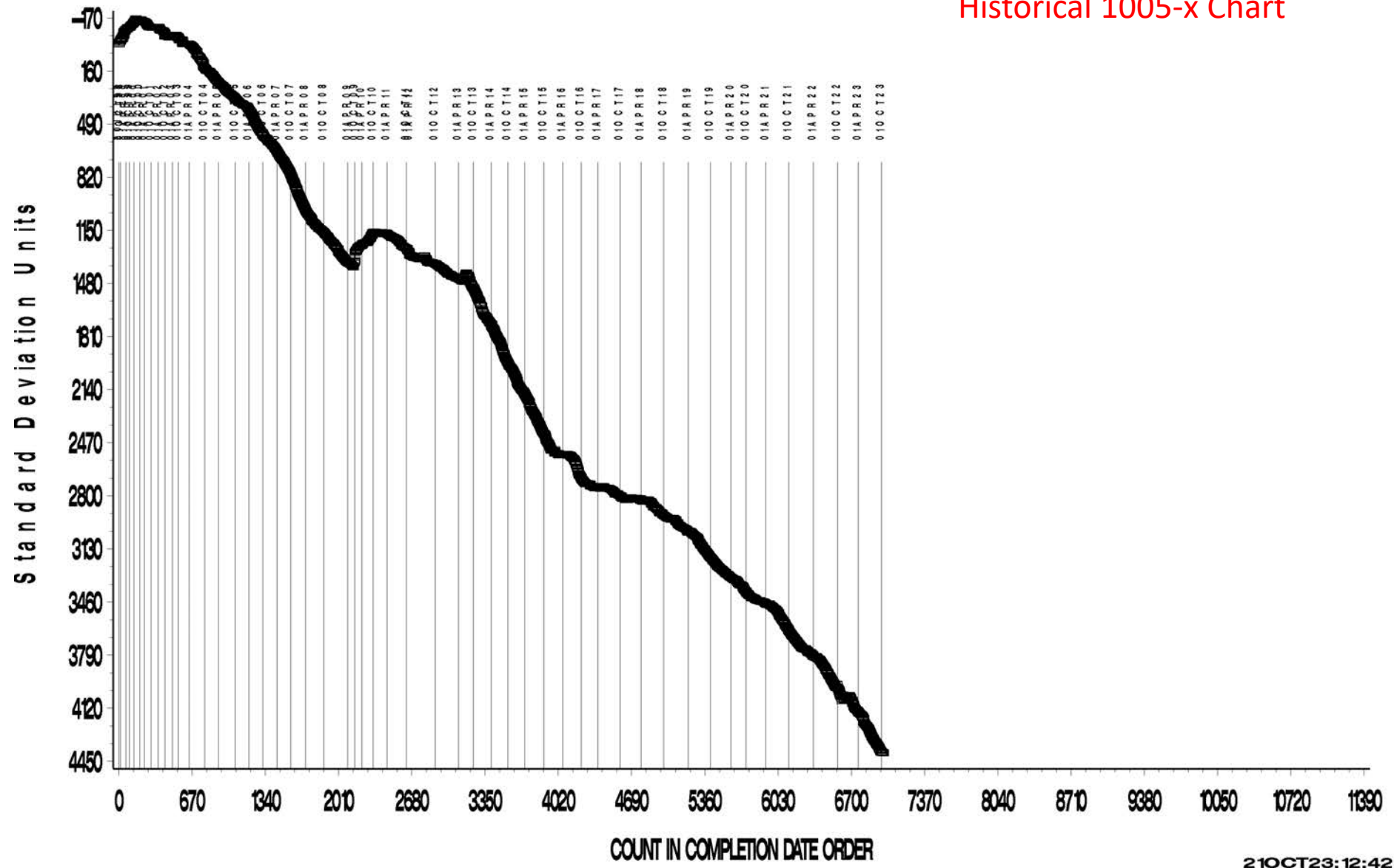


HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA
Oil 1005 → Only
COPPER CHANGE (ppm)



CUSUM Severity Analysis

Historical 1005-x Chart

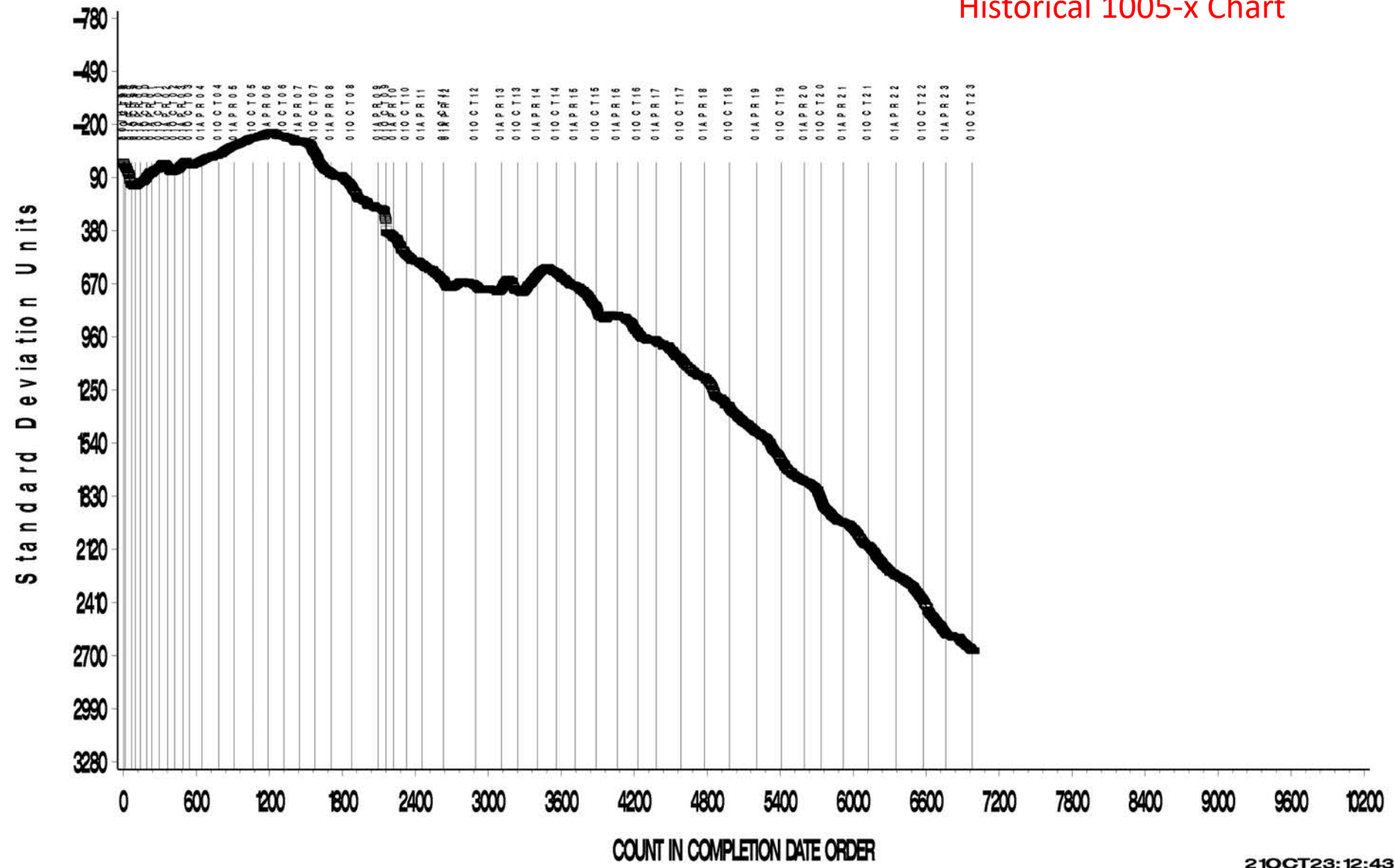


HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA
Oil 1005 → Only
LEAD CHANGE (ppm)



CUSUM Severity Analysis

Historical 1005-x Chart

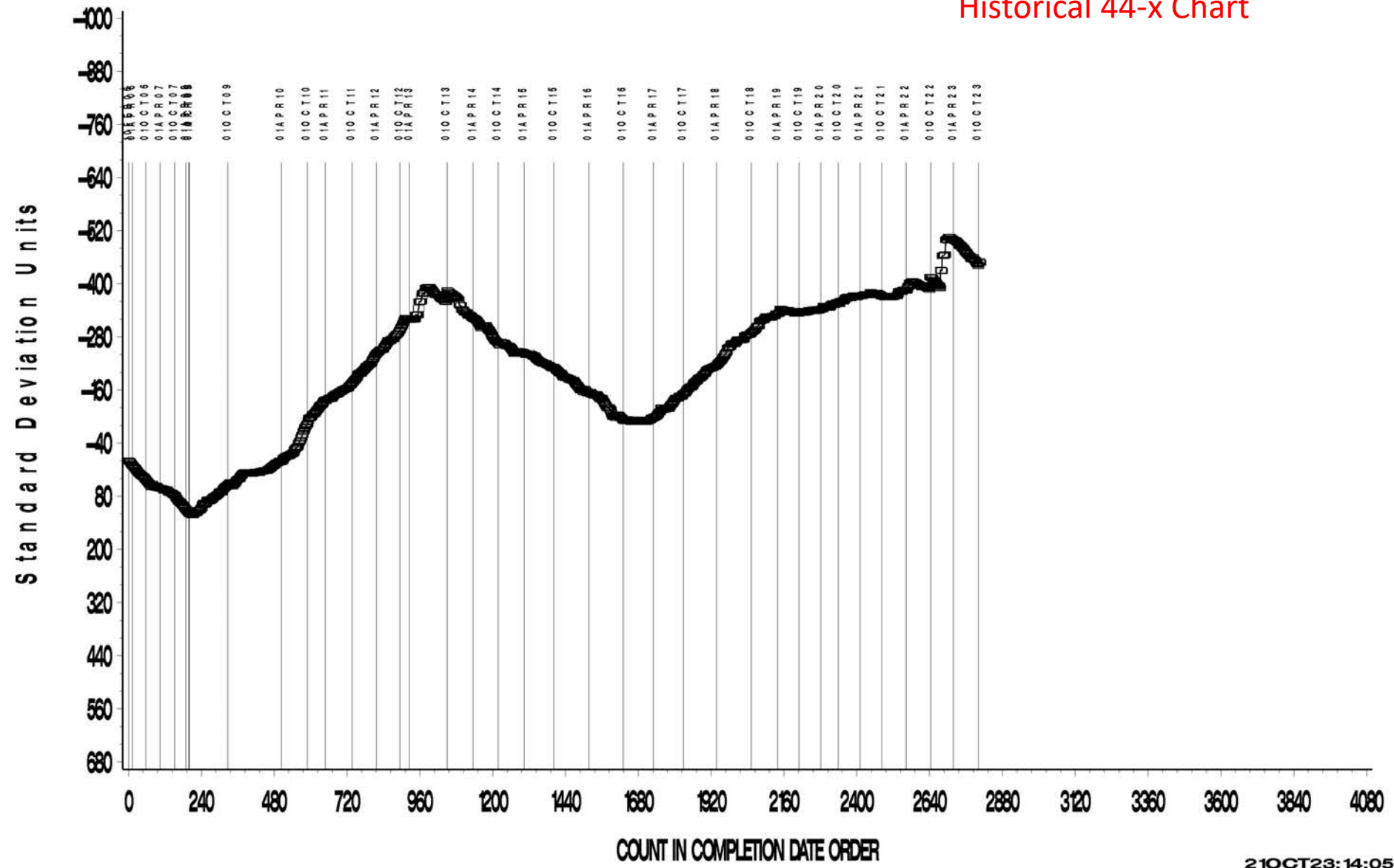


HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA
Oil 44 → Only
COPPER CHANGE (ppm)



CUSUM Severity Analysis

Historical 44-x Chart

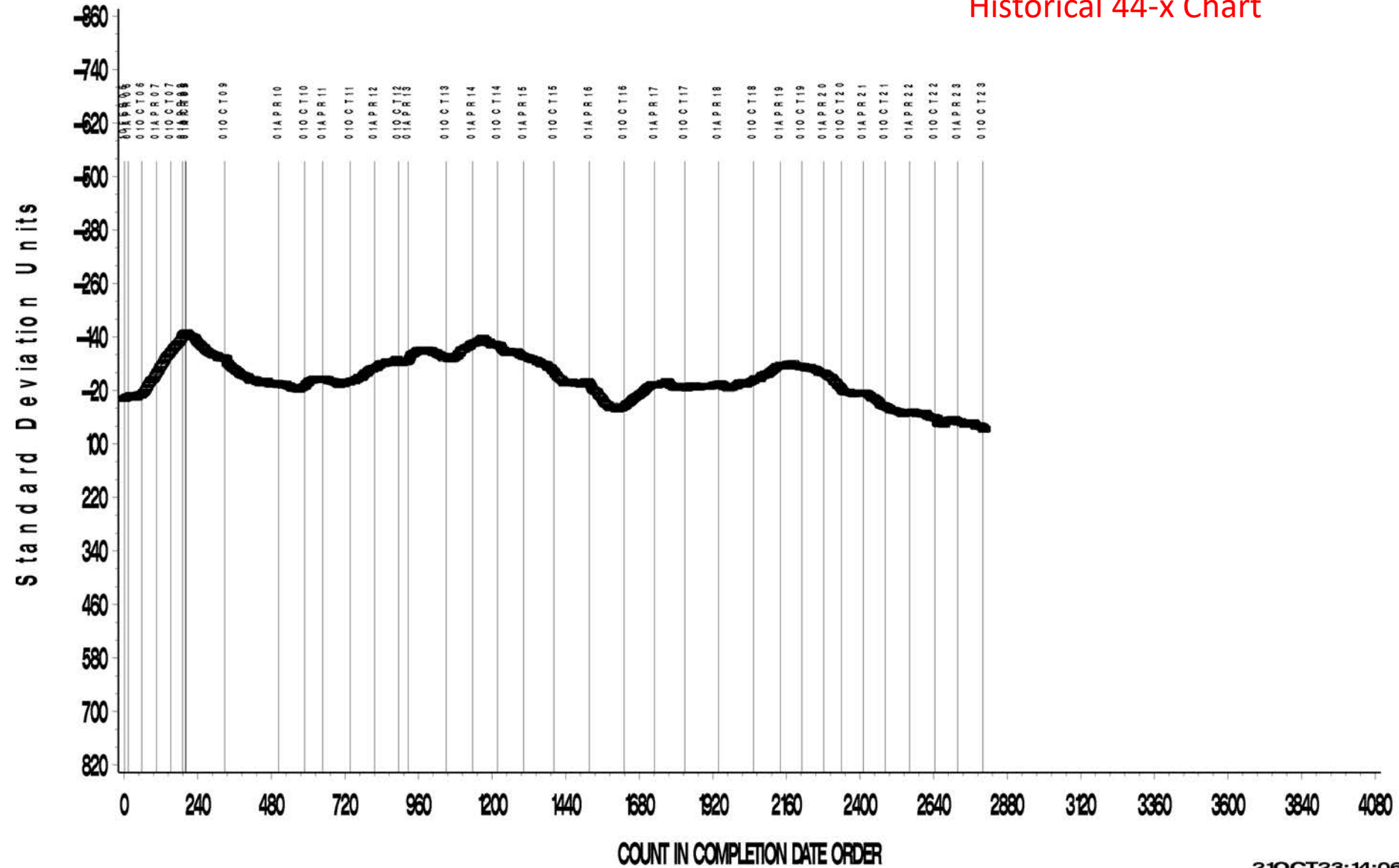


HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA
Oil 44 →x Only
LEAD CHANGE (ppm)



CUSUM Severity Analysis

Historical 44-x Chart



Information Letters*

Test	Date	IL	Topic
			No information letters this period.

*Available from TMC Website



Oil	TMC Inventory (gallons)	Quantity Shipped in last 6 months (gallons)	Lab Assignments Made	Estimated Life
44-4	2.6	1.1	53	<1 year
44-5	52	1.0	35	>5 year
1005-5	43.25 (Reserved drum – Additional oil available at the TMC)	6.65	212	>5 years