



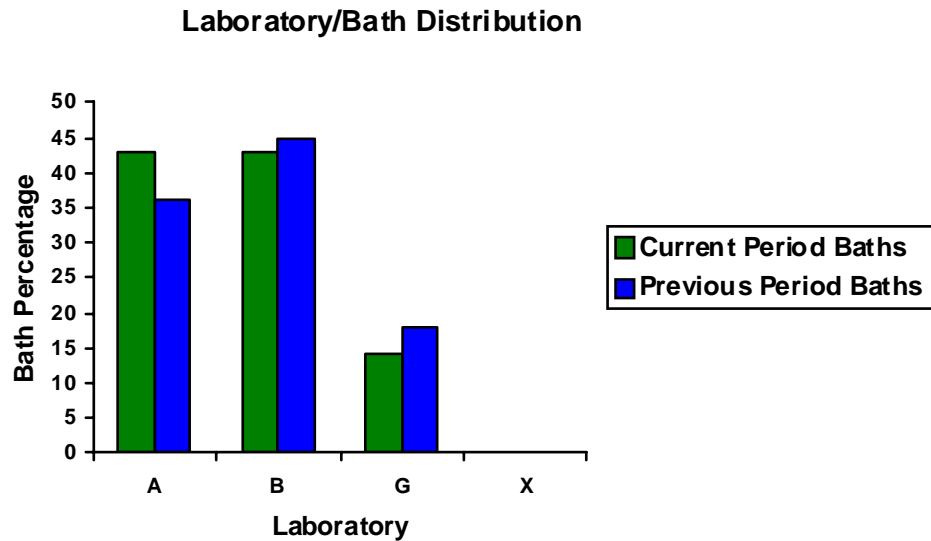
Test Monitoring Center

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MEMORANDUM: 08-030
DATE: April 21, 2008
TO: Gil Reinhard, Chairman, CBT Surveillance Panel
FROM: Jeff Clark
SUBJECT: High Temperature Corrosion Bench Testing for the April 2008 Report Period

A total of 204 High Temperature Corrosion Bench Test results from fourteen baths in three labs were reported to the TMC during the April 2008 ASTM report period, which began on October 1, 2007 and ended on March 31, 2008.

The following chart shows the distribution by laboratory.



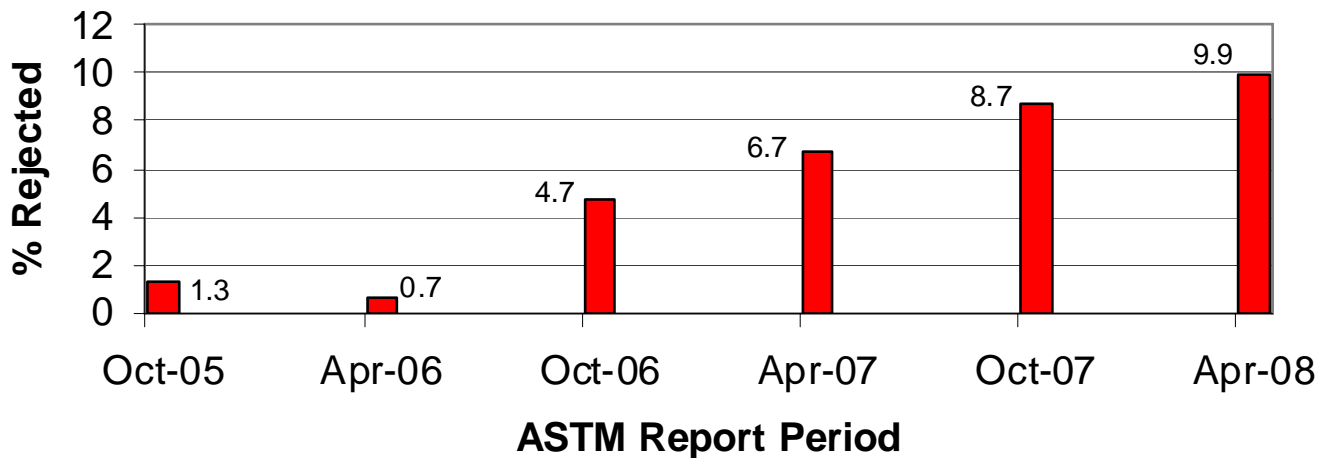
The following summarizes the status of the reference oil tests reported to the TMC:

| | TMC Validity Codes | No. of Tests |
|--------------------------------------------|--------------------|--------------|
| Operationally and Statistically Acceptable | AC | 155 |
| Failed Acceptance Criteria | OC | 17 |
| Declared Invalid by Laboratory | LC | 4 |
| Aborted | XC | 1 |
| Acceptable Donated Tests | AG | 23 |
| Unacceptable Donated Tests | OG | 4 |
| Total | | 204 |

The donated tests were run as part of the process for approving a new batch of test coupons. The unacceptable donated tests were due to running with a failed reference test. Tables 1, 2, and 3 (attached) summarize any failed, invalid and aborted tests.

The following presents the fail rate for this period with the fail rates of previous periods. The recent rise in rejection rate is due primarily to a rise in rejections at one lab. For this period, 11 of the 15 failed tests were from Lab A.

Comparison of Rejection Rates for This Period Versus Previous Periods



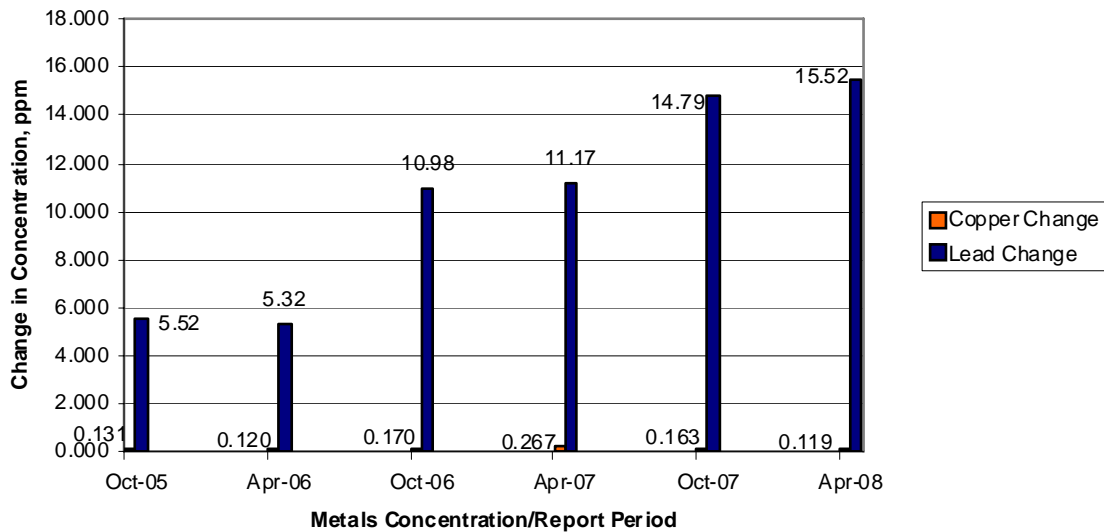
Industry Severity and Precision

The current severity for the change in metals concentration parameters on all operationally valid tests, for the current and previous periods, is tabulated below.

| Period | n | Δ Cu Mean Δ/s | Δ Pb Mean Δ/s |
|-------------------------|-----|--------------------------------|--------------------------------|
| 10/1/07 through 3/31/08 | 172 | 1.27 | 0.68 |
| 4/1/07 through 9/30/07 | 173 | 0.84 | 0.36 |
| 10/1/06 through 3/31/07 | 176 | 0.58 | 0.15 |
| 4/1/06 through 9/30/06 | 172 | 0.90 | 0.11 |
| 10/1/05 through 3/31/06 | 137 | 0.50 | -0.21 |

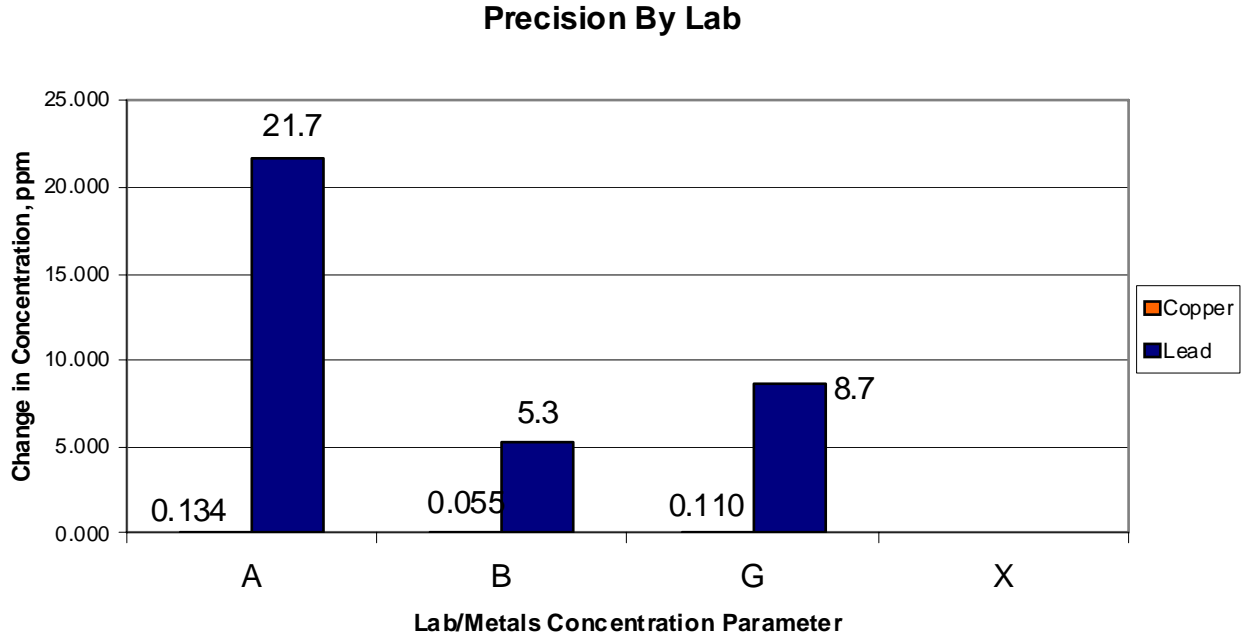
Figures 1 and 2 plot the Summation delta/s from target for change in copper and change in lead, respectively. Figure 1 shows copper change to be severe for the period. Figure 2 shows lead change to be severe for the period. Precision estimates, by report period are depicted below. Compared to past periods, precision for Cu change show improvement while precision for Pb shows degradation.

Precision Estimates by ASTM Report Period



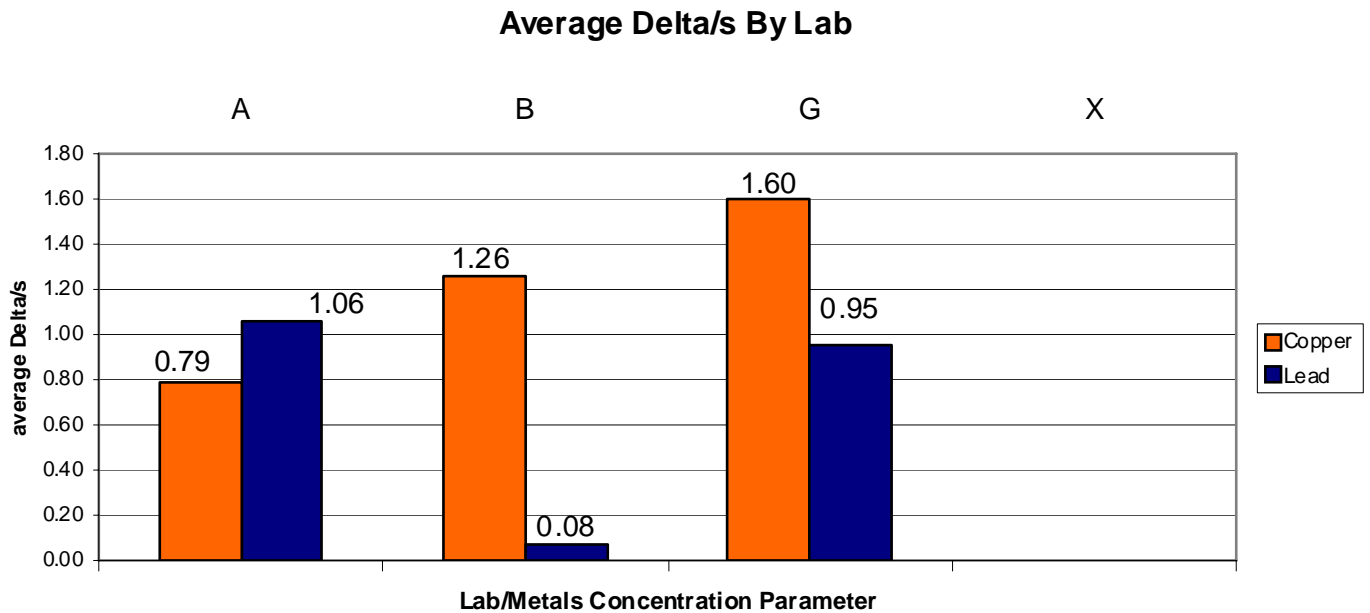
Laboratory Severity and Precision

The following plot shows the precision for this period, by lab.



Precision estimates for both Copper and Lead show better precision at Lab B than at Labs A and G.

The following plot shows the average Δ/s by laboratory and concentration parameter for this ASTM report period. For Copper, Lab A was the mildest and for Lead, Lab B was the mildest. Lab G was the most severe for Copper and Lab A was the most severe for Lead.



Reference Oil and Hardware

Reference oil quantities available at the laboratories and TMC, as well as estimated life of these oils, are tabulated below. The TMC is out of oil 44 and is checking on the availability of a reblend.

| Oil | TMC Inventory (gallons) | TMC Inventory (tests) | Lab Inventory (tests) | Usage Ratio (%) | Estimated life |
|------|----------------------------|--------------------------|--------------------------|--------------------|----------------|
| 1005 | 16.8 | ~537 | 48 | ~75 | 2.0 years |
| 44 | 0 | 0 | 7 | ~25 | >2 months |

A new batch of test coupons, Batch G, has been approved for use. Reference tests with Batch G coupons will be evaluated with the current test targets until enough tests have been run to reset the targets, if necessary. The current reference oil acceptance bands are shown in the table below.

| Oil | Copper Change (ppm) | Lead Change (ppm) |
|------|---------------------|-------------------|
| 1005 | 7.2 – 12.6 | 6.7 – 57.8 |
| 44 | 45.1 – 172.7 | 24.2 – 84.0 |

Information Letters

Information Letter 07-01 was issued on November 1, 2007. Topics included removing the evaporation loss calculation, cleaning techniques, and minor wording revisions.

Additional Information

The HTCBT database is available on the TMC's website. If you have any questions on how to access this information, contact the TMC.

JAC/jac/mem08-030.jac.doc

c: HTCBT Surveillance Panel

<ftp://ftp.astmtmc.cmu.edu/docs/bench/htcvt/semiannualreports/htcvt-04-2008.pdf>

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Distribution: Email

Table 1
Summary of Reasons for Failed Tests

| | No. of Tests |
|-------------------------|--------------|
| Lead, severe | 8 |
| Lead, mild | 2 |
| Copper, severe | 5 |
| Copper and Lead, severe | 2 |

Table 2
Summary of Reasons for Invalid Tests

| | No. of Tests |
|------------------------------------|--------------|
| Airflow out of spec | 2 |
| High bath temperature | 1 |
| Test matter accidentally discarded | 1 |

Table 3
Summary of Reasons for Aborted Tests

| | No. of Tests |
|---------------------|--------------|
| Failed bath stirrer | 1 |

Figure 1
HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA

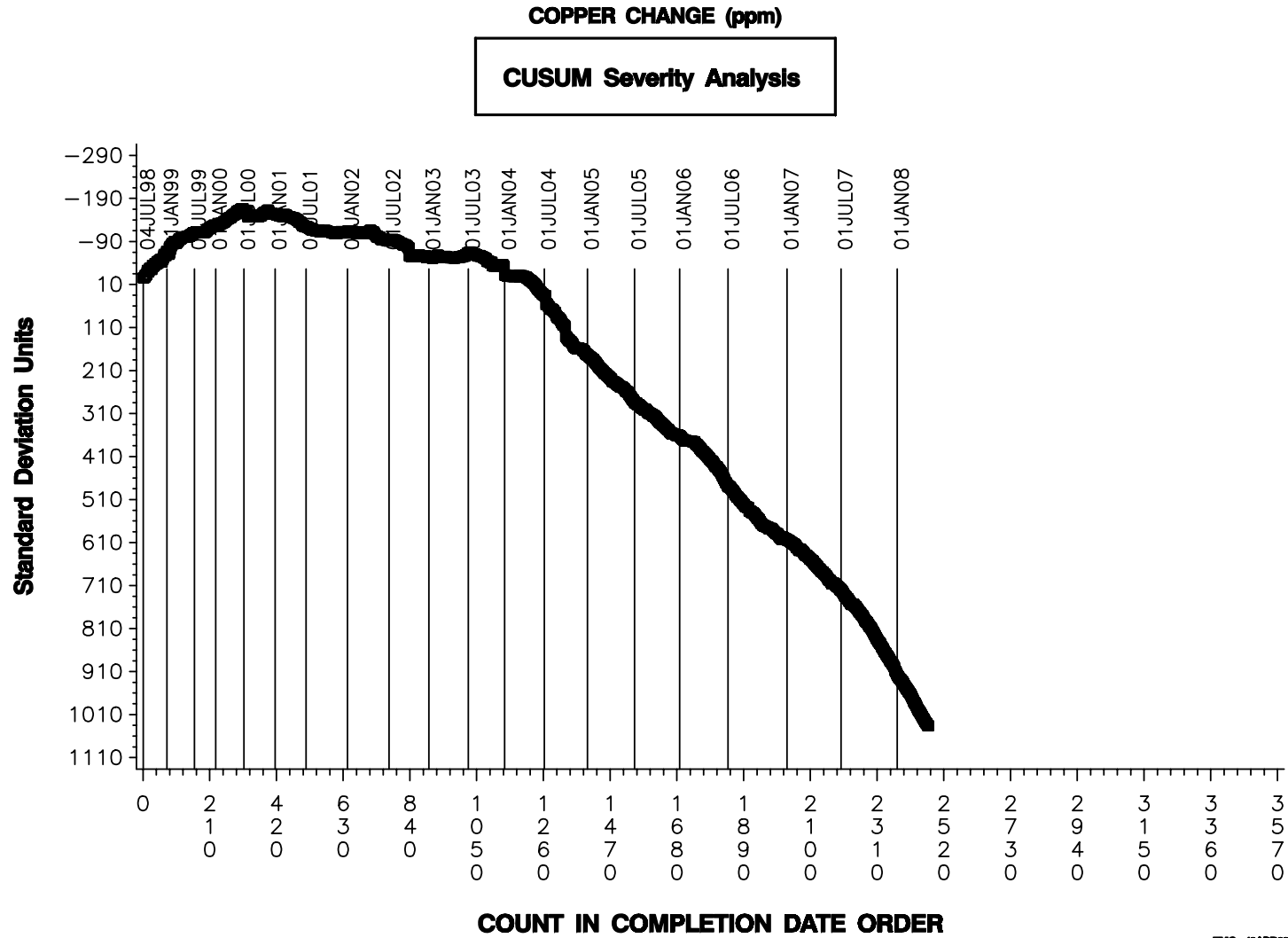


Figure 2
HIGH TEMP CBT INDUSTRY OPERATIONALLY VALID DATA

LEAD CHANGE (ppm)

CUSUM Severity Analysis

