

Lead Corrosion from Brass Plumbing Fixtures

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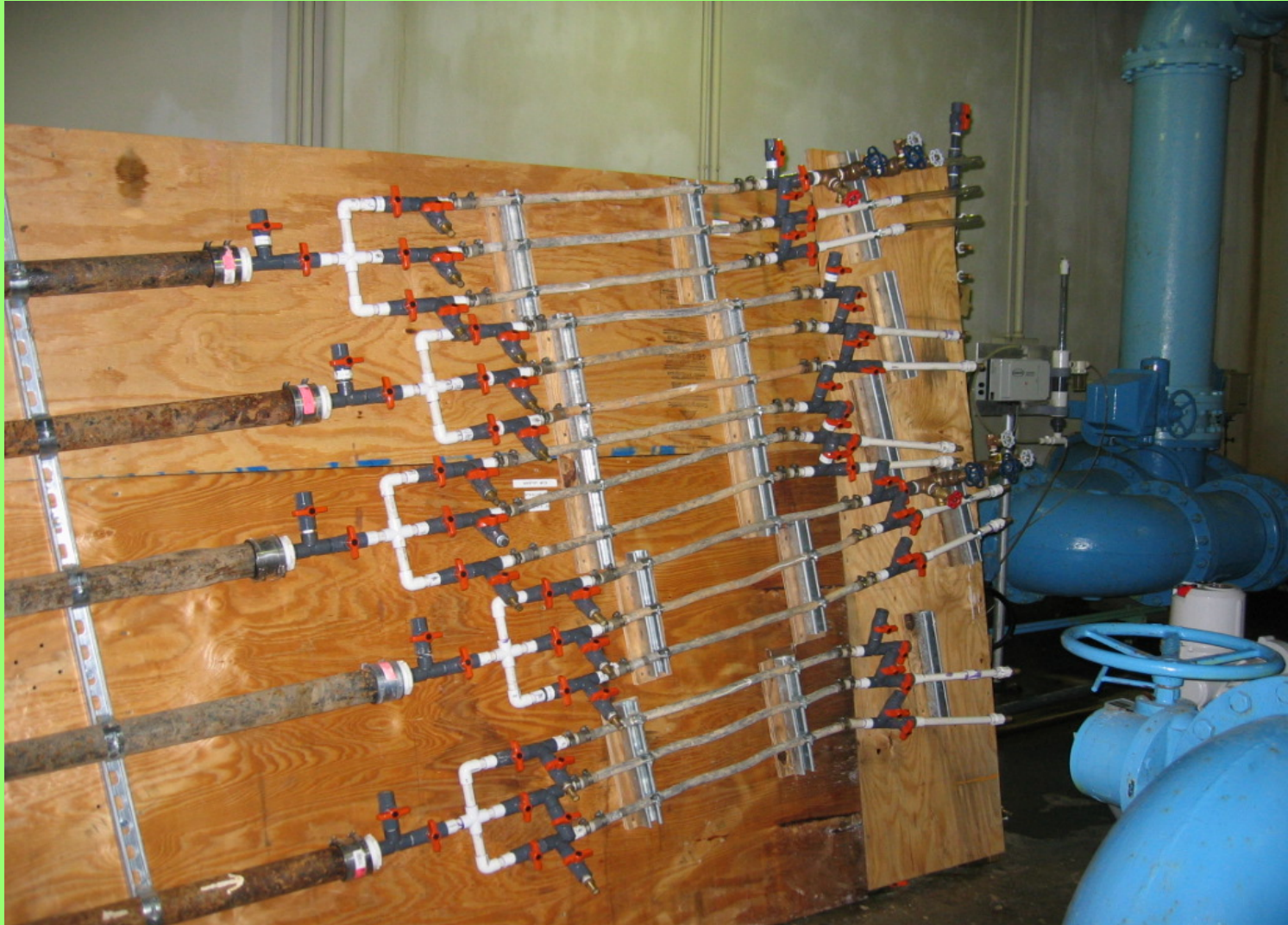
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Lead Contamination in Drinking Water

- Brought to national forefront with Flint, MI disaster.
- Inexpensive and effective solutions are widely available.
- Pilot testing critical.

Pipe Flow-Through Set-up



Flow-Through Project



Polyphosphate Blends

A 70/30 blend was initially used. After lead levels increased, a 30/70 blend was introduced.

Lead residuals continued to increase after introduction of the 30/70 blend.

(M)any studies have shown that polyphosphate is not effective at reducing lead concentration levels and that it could increase them in many cases. *JAWWA*
March 2005 pg. 92

(P)olyphosphate was shown to increase soluble lead and copper concentrations.

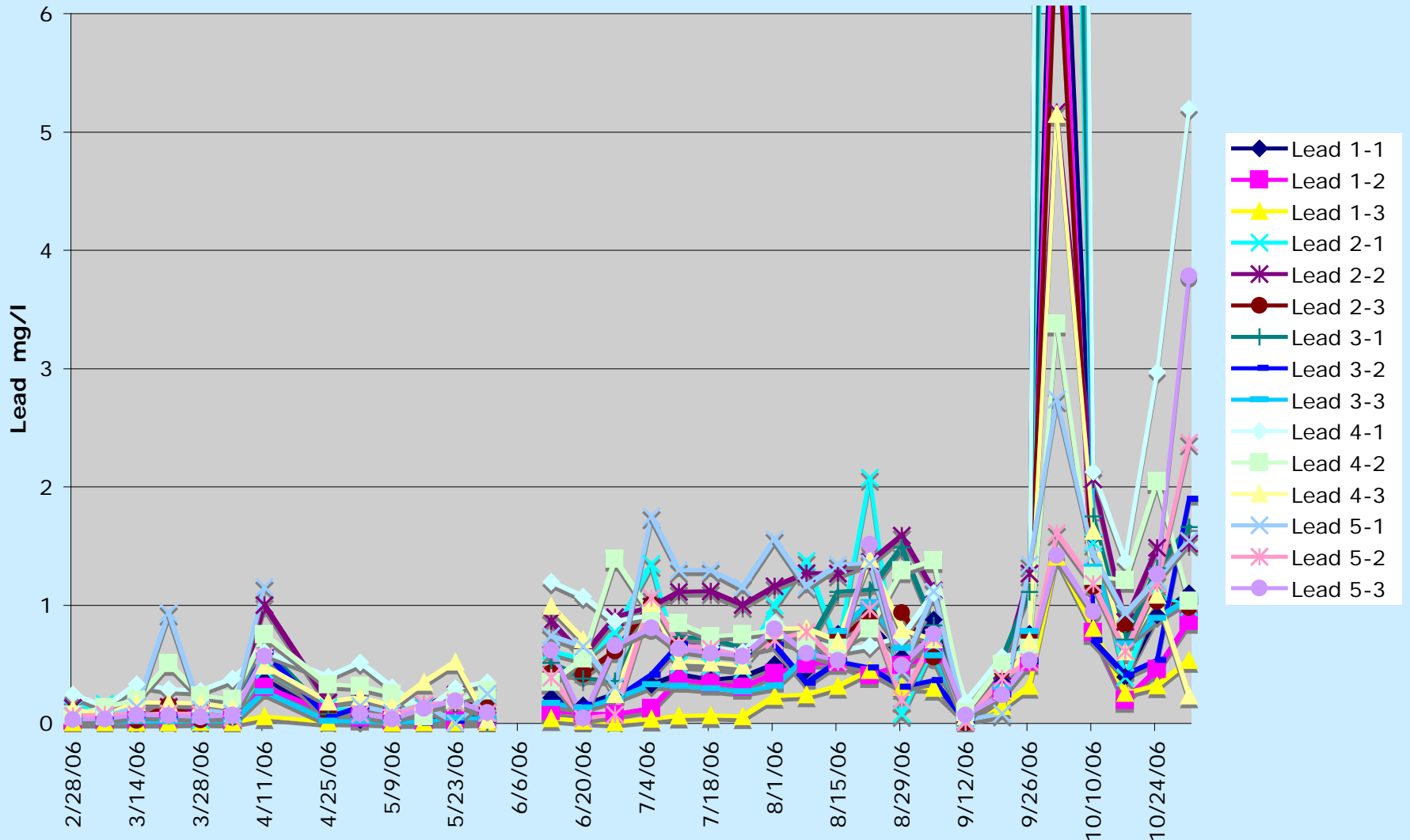
JAWWA July, 2002 pg. 57

Case studies from three Wisconsin utilities found that polyphosphate blends used for corrosion control led to increased metal concentrations in the water

JAWWA February, 2000 pg. 95

Lead Residual Data

Total Lead Concentration - Lead Pipes

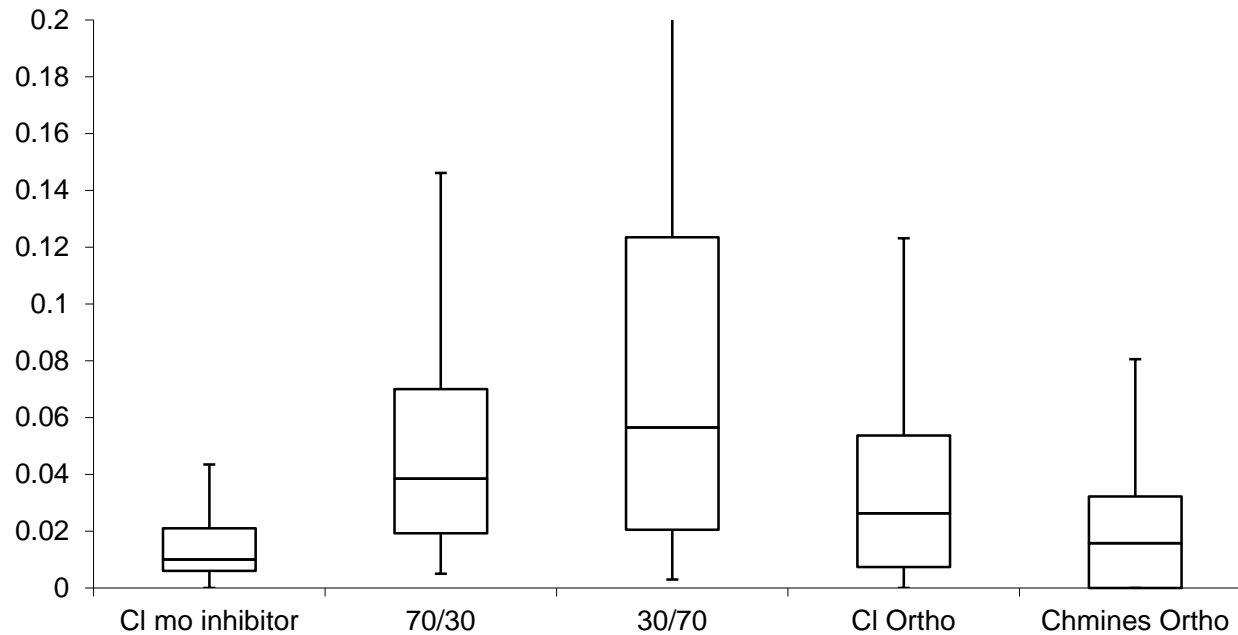


Switch made to pure Orthophosphate

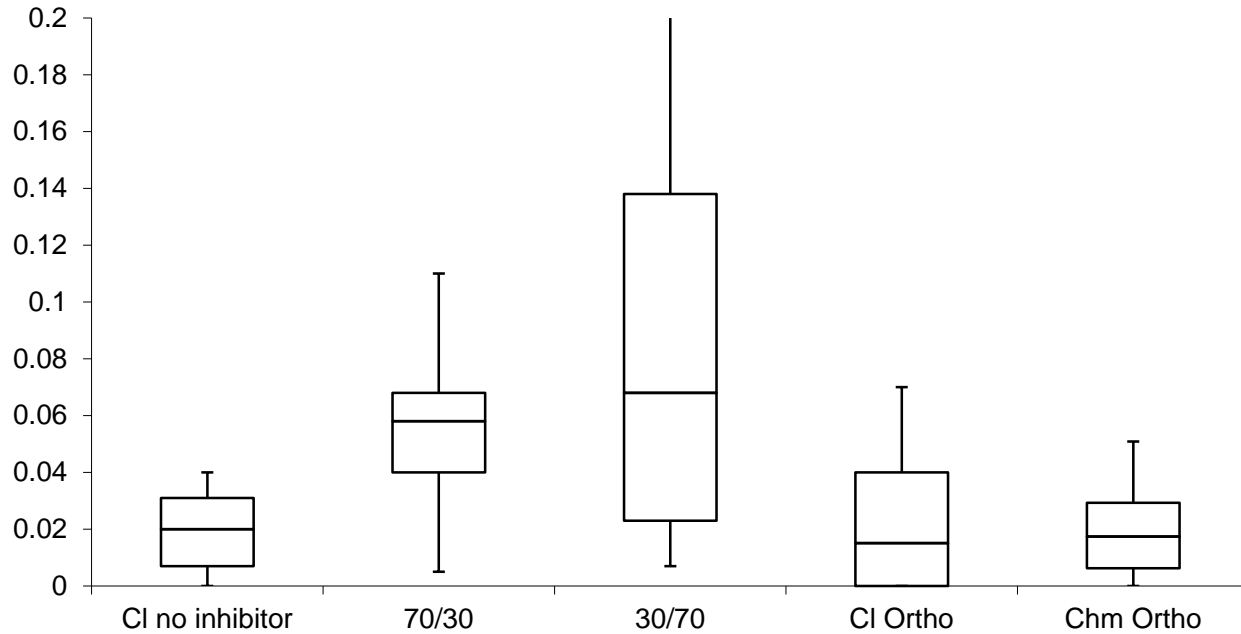
Brass Fixtures



Lead Concentration – Brass Fixtures



Brass Fixtures High Turbidity



Observations/Conclusions

- Untested products should never be used in a drinking water distribution system.
- Orthophosphate was effective in chlorinated and chloraminated water
- Polyphosphate blends should never be used in distribution systems with leaded elements (which is virtually all of them).

Questions?

