

US EPA ARCHIVE DOCUMENT

5. Lead Pigtail Removal Program

- **Program Background**

Appendix 5-1, Lead Pigtail Removal Program Correspondence

- **Program Progress**

Figure 5-1, Portland Water Bureau's Progress in Removing Lead Pigtails

- **References**

■ Program Background

Lead pigtails are 1½ to 2 foot long sections of lead pipe about ¾ inch in diameter. Pigtails are used to connect the service line to the water main. Pigtails were typically installed in the 1920s and 1930s. Since the end of World War II, the Water Bureau has removed lead pigtails as part of main repair projects and service line replacements.

In 1983 the Water Bureau conducted a study of lead pigtails that included intensive sampling in 12 homes with lead pigtails⁽¹⁾. Key findings of that study included:

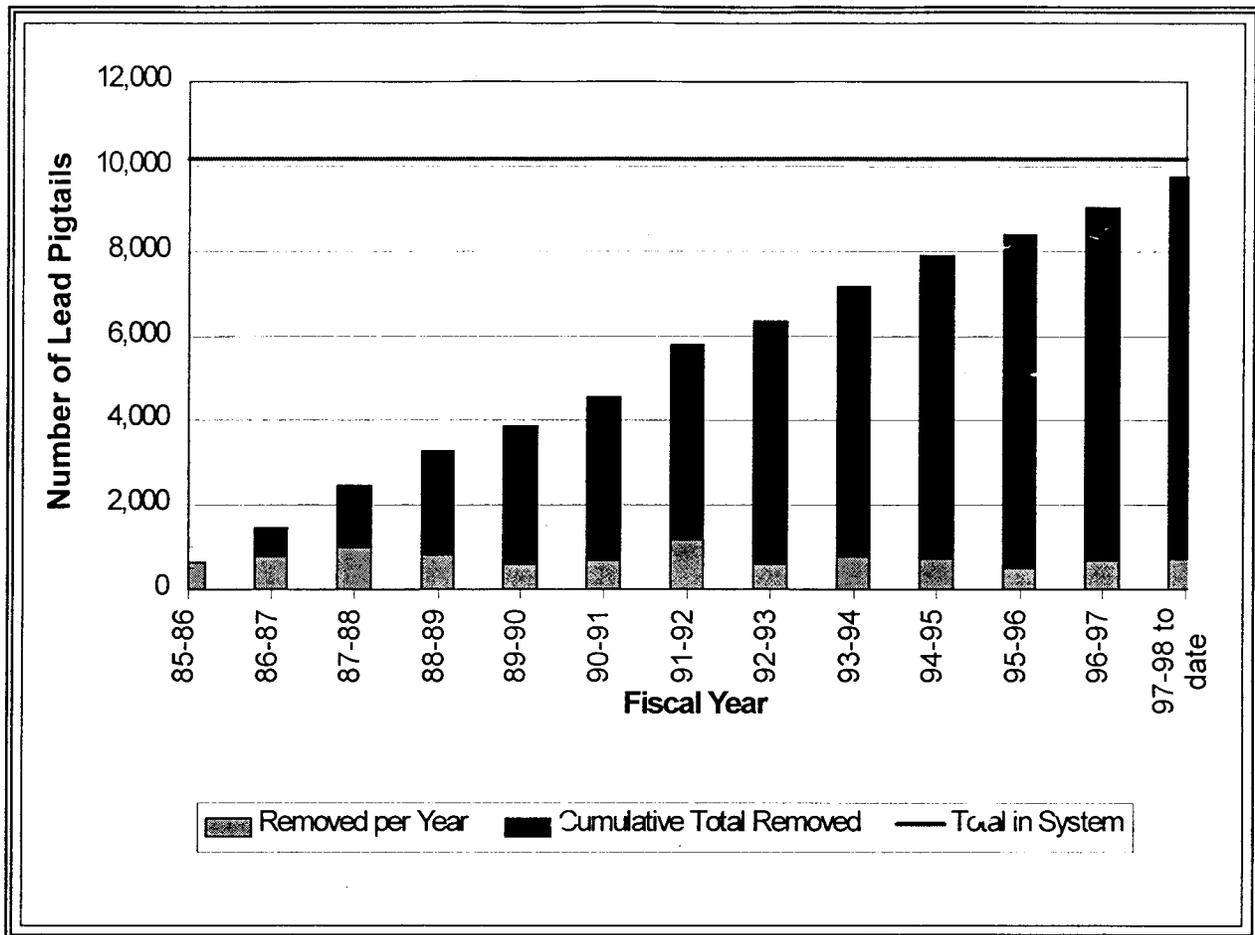
- When water stands overnight, the pigtail causes elevated lead levels in the small volume of water that sits in the pigtail (typically less than about 6 ounces).
- As water is used in the morning after standing overnight, this small volume of water passes through the home plumbing as a “slug” of water, with little mixing.
- Lead levels in the contaminated slug can exceed the lead action level; however, the overall lead contribution is relatively small due to the small volume of water contaminated by the pigtail.
- Lead concentrations quickly return to non-detectable or very low levels once water from the contaminated slug passes through the home plumbing.
- Allowing the water to run after a standing period of a few hours is an effective way to reduce the risk of consuming the contaminated slug of water. The 1983 report suggests “Wasting 10 to 15 liters (2.6 to 4 gallons) of standing water from the faucet should be adequate to dispose of water contaminated by lead pigtails.” Since 1984, the Bureau has consistently advised customers to “let your water run before using it for cooking or drinking.”

■ Program Progress

When Oregon banned the use of lead in plumbing in 1984, the Water Bureau began a systematic program for removing lead pigtails from all water services. This program was originally scheduled to be completed in 10 years. Unfortunately, due to higher than anticipated costs and resources limitations, it became necessary to extend the schedule for this work until 1998. Appendix 5-1 includes correspondence related to this program, including the Oregon Health Division’s approval of this schedule extension.

Figure 5-1 shows the Water Bureau’s progress in removing lead pigtails. Currently, there are 410 lead pigtails remaining in the system. All remaining pigtails are scheduled to be removed by no later than June 30, 1998.

**Figure 5-1
Portland Water Bureau's Progress in Removing Lead Pigtails**



■ **References**

1. Internal Corrosion Mitigation Study, Addendum Report", James. M. Montgomery Consulting Engineers, Inc., Portland Bureau of Water Works, October 1983.