

## HARVESTING PROCEDURES FOR COPPER PIPE WITH LEAD SOLDER

The following protocol is recommended for removal and transport of harvested copper pipe (with lead solder) in preparation for pipe scale analyses and other laboratory studies. These procedures are similar to procedures used for harvesting of lead service lines (LSLs), except that copper pipe described below is a shorter section (~2 ft) collected inside the house and not in the service line.

1. Identification of pipe segment for study
  - a. Do not collect from hot water pipeline, unless requested otherwise.
  - b. Straight section of pipe preferred, but ok to include elbows if suitable straight sections not available.
  - c. Verify presence of lead on outside of joint by using lead swabs (e.g., <https://www.homedepot.com/p/3M-LeadCheck-Instant-Lead-Test-Swabs-2-Pack-LC-2SDC6/203313743>)
  - d. Identify segment for harvesting with at least 3 inches of copper pipe prior to joint with verified presence of lead solder, and 12 inches on other side of joint.
    - i. If both scale analysis and lab studies are to be completed 18 inches are needed on the long side instead of 12 inches.
  - e. Take photos prior to harvesting. Note direction of flow on pipe (use a tag, piece of tape, or other notation that does not vibrate pipe).
    - f. Note where pipe was removed from in the house such as basement, from meter, to kitchen, upstairs bathroom,
2. Procedures for harvesting pipe:
  - a. **To the greatest extent possible, minimize vibration while cutting and handling pipe section**
  - b. Turn off water upstream of pipe section prior to cutting.
    - i. Prior to turning off water, collect one liter (1 L) of tap water from the house (see later “damp sponge” discussion)
  - c. Field cut with a suitable pipe cutter (**Do not use a saw blade**). For example, <https://www.homedepot.com/b/Plumbing-Plumbing-Tools-Pipe-Tube-Cutters/Copper/N-5yc1vZc4ftZ1z0vifv>.
    - i. Cut downstream first to drain the pipe.
    - ii. Then cut upstream.
    - iii. *Handle pipe carefully to not disturb the scales. Suggested that after cutting place the pipe gently in bubble wrap.*

- d. Label the pipe with a tag – house address and extraction date. The direction of water flow and room where pipe was removed should also be noted on the pipe.
3. Within 24 hours of harvesting, at the shop or plant:
  - a. Carefully drain any water in the pipe.
  - b. Cut one commercial or utility sponge such that it will fit in one end of pipe and submerge in system water until saturated. Squeeze excess water from sponges.
  - c. Insert one sponge into end of the LSL, and seal with parafilm and tape.
  - d. Insert remaining sponge into other end of the LSL, and seal with parafilm and tape.
  - e. Carefully store the pipe where it will not be disturbed.
4. Every 10 days to 2 weeks re-wet sponges and replace and seal.
5. Summary of supplies needed:
  - a. Pipe cutter
  - b. Lead swabs
  - c. 1 L sample bottle
  - d. Small sponge, and scissors to cut sponge into sections
  - e. Bubble wrap
  - f. Cable ties, wire, etc. as needed
  - g. Tags and permanent marker (water insoluble)
  - h. Disposable gloves, masks, etc.
  - i. Camera or phone (take photos)