Accelerated Reduced Monitoring	
Small & Medium Water Systems	A water system that demonstrates for two consecutive six-month monitoring periods that the 90th percentile tap water lead level is less than or equal to 0.005 mg/L and the 90th percentile tap water copper level is less than or equal to 0.65 mg/L may reduce the frequency of tap water monitoring for lead and copper to once every three years and will not be required to take 2 annual samples. A water system that conducts reduced monitoring shall use the reduced number of sites taken from the initial tap water sampling pool and follow the sampling requirements.

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www.azdeq.gov/function/compliance/smallcomm.html

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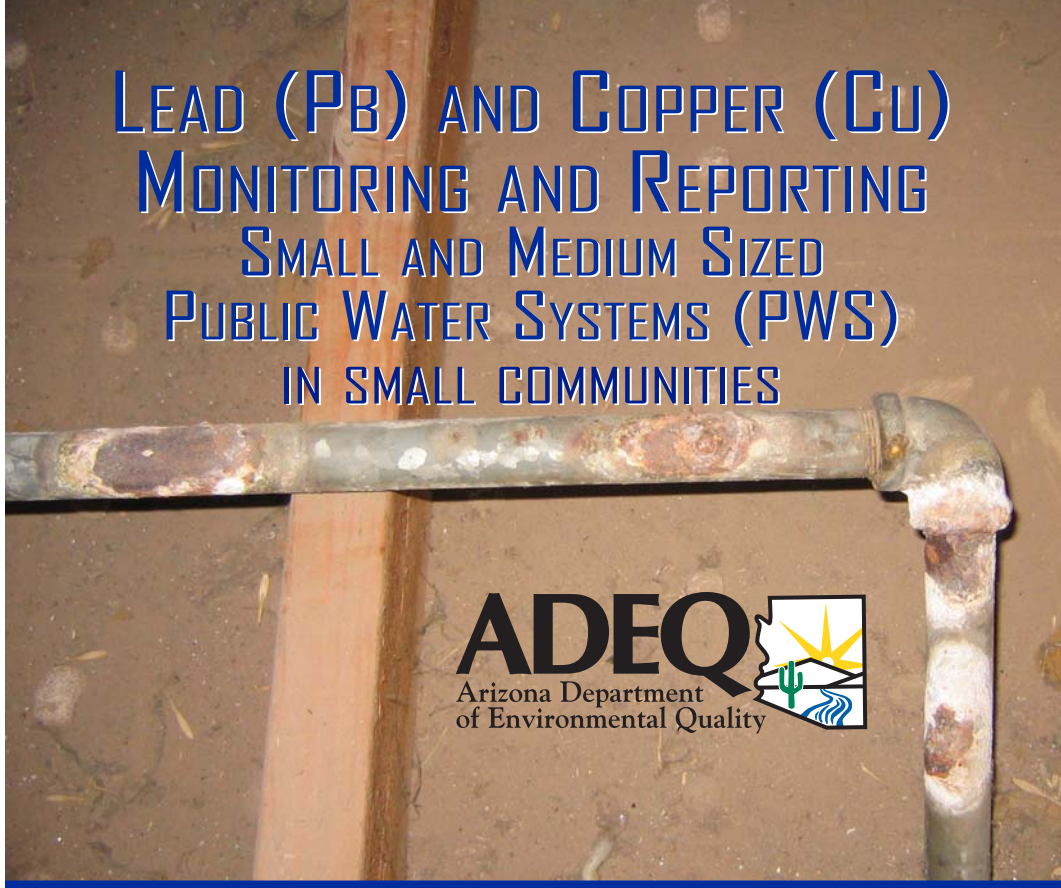
Lead (Pb) and Copper (Cu) Monitoring and Reporting

Small and Medium Sized Public Water Systems (PWS) in Small Communities



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The Lead and Copper Rule was developed to protect the public health by minimizing lead and copper levels in drinking water. The rule includes identifying residences or sampling locations with lead service lines, lead interior plumbing, or copper pipes with lead solder. If water is too corrosive, it can cause lead and copper to leach out of the plumbing materials and fixtures and enter the drinking water.

Children are especially susceptible to high levels of lead, which can cause damage to the brain, red blood cells, and kidneys. Exposure to low levels of lead can cause low IQ, hearing impairment, reduced attention span and poor classroom performance. High exposure to copper can cause stomach and intestinal distress, liver and kidney damage, and complications from Wilson's disease in genetically-predisposed people.

High lead levels in adults have been linked to high blood pressure. Pregnant women and their fetuses are especially vulnerable to lead exposure,which can significantly harm the fetus, cause low birth weight and slow down normal mental and physical development.

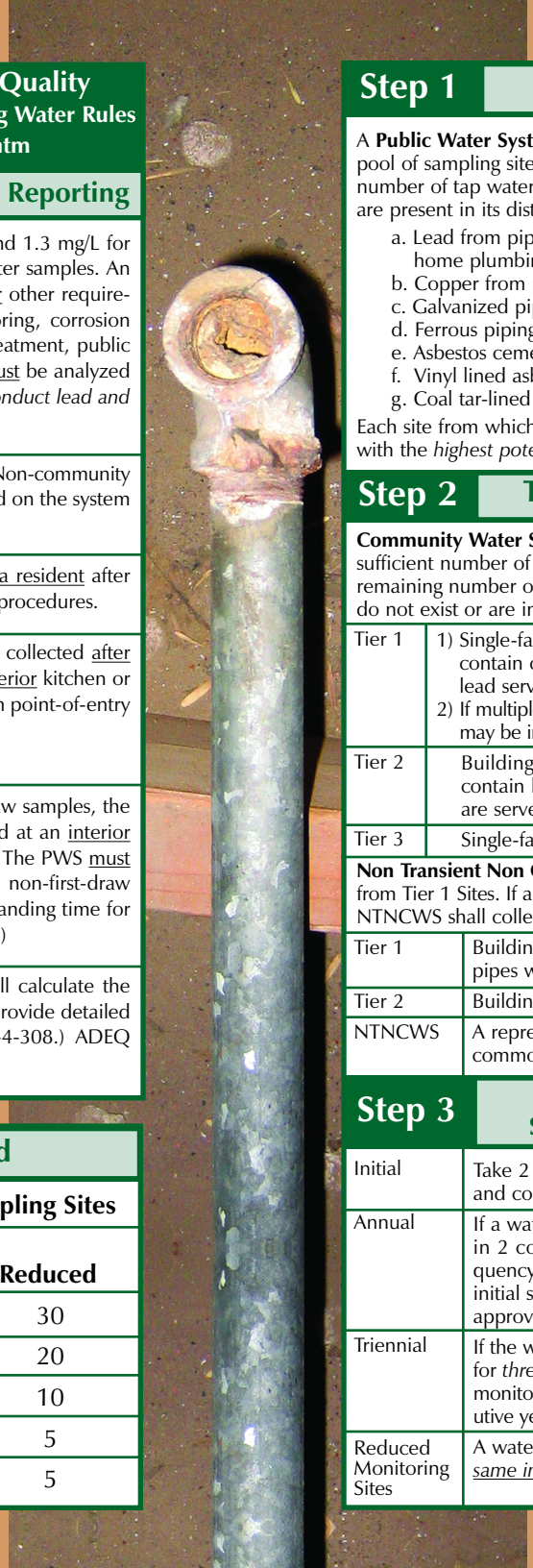
AZ Administrative Code Title 18. Environmental Quality
Chapter 4. Department of Environmental Quality - Safe Drinking Water Rules
http://www.azsos.gov/public_services/Title_18/18-04.htm

Overview of Lead (Pb) & Copper (Cu) Monitoring & Reporting

General Description	Establishes an Action Level of 0.015 mg/L for lead (Pb) and 1.3 mg/L for copper (Cu) based on the 90th percentile level of tap water samples. An Action Level exceedance is not a violation but can trigger other requirements including water quality parameter (WQP) monitoring, corrosion control treatment (CCT), source water monitoring and treatment, public education, and lead service line replacement. Samples must be analyzed by a laboratory using EPA approved methods. *Failure to conduct lead and copper tap water sampling is a violation*.
Who Must Sample	ALL community water systems (CWS) and Non-transient, Non-community water systems (NTNCWS). The number of samples is based on the system size and population served [See Table 1.]
Taking A Sample	A first-draw sample may be collected by the PWS or by a resident after providing instructions to the resident on proper sampling procedures.
First Draw Sample	Pb and Cu samples are one liter in volume and must be collected after water has been motionless for at least 6 hours from an interior kitchen or bathroom tap. NO samples can be collected from taps with point-of-entry or point-of-use devices or from outside hose bibs. (A.A.C. R18-4-310(D))
Non-First Draw Sample	If non-first draw samples are collected in place of first-draw samples, the sample shall be one liter in volume and shall be collected at an interior tap from which water is typically drawn for consumption. The PWS must report non-first draw samples to ADEQ and identify all non-first-draw sample sites selected by the PWS and the length of the standing time for each substitute sample collected. (A.A.C. R18-4-310(D)(3))
90th Percentile Calculation	The laboratory that analyzes the compliance samples will calculate the 90th percentile. However, the Drinking Water Rules do provide detailed instruction on calculating the 90th percentile. (A.A.C. R18-4-308.) ADEQ staff will also provide compliance assistance.

TABLE 1 Number Of Samples Required

PWS Size	Population Served	Number of Tap Water Sampling Sites	
		Initial Samples Standard	Reduced
Medium	10,001 – 50,000	60	30
	3,301 – 10,000	40	20
Small	501 – 3,300	20	10
	101 – 500	10	5
	≤ 100	5	5



Step 1 Materials Survey

A **Public Water System (PWS)** shall complete a materials survey of its distribution system to identify a pool of sampling sites that is sufficiently large enough to ensure that the PWS can collect the required number of tap water samples. A PWS shall identify whether any of the following construction materials are present in its distribution system when conducting a materials survey:

a. Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing;
b. Copper from piping and alloys, service lines, and home plumbing;
c. Galvanized piping, service lines, and home plumbing;
d. Ferrous piping materials, such as cast iron and steel;
e. Asbestos cement pipes;
f. Vinyl lined asbestos cement pipe; and
g. Coal tar-lined pipes and tanks.

Each site from which a first-draw sample is collected shall be selected from the pool of sampling sites with the *highest potential for lead and copper to leach into drinking water.*

Step 2 Targeting Sampling Sites Based on Materials Survey

Community Water System (CWS) Sample Sites - samples should be collected from Tier 1 Sites. If a sufficient number of Tier 1 sampling sites do not exist or are inaccessible, then a CWS shall collect the remaining number of tap water samples from Tier 2 sampling sites. If a sufficient number of Tier 2 sites do not exist or are inaccessible, then the remaining number of samples may collected from Tier 3 sites.

Tier 1	1) Single-family structures that meet any of the following requirements contain lead pipes; contain copper pipes with lead solder that were installed *after* 1982; or are served by a lead service line. 2) If multiple-family residences comprise at least 20 percent of the structures served by a PWS, they may be included in the sampling pool as Tier 1 sampling sites based on the materials survey.
Tier 2	Buildings and multiple-family residences that meet *any* of the following requirements: contain lead pipes; contain copper pipes with lead solder that were installed *after* 1982; or are served by a lead service line.
Tier 3	Single-family structures that contain copper pipes with lead solder, installed *before* 1983.

Non Transient Non Community Water System (NTNCWS) Sample Sites - samples should be collected from Tier 1 Sites. If a sufficient number of Tier 1 sampling sites do not exist or are inaccessible, then a NTNCWS shall collect the remaining number of tap water samples from Tier 2 sampling sites.

Tier 1	Buildings that meet *any* of the following requirements: contain lead pipes; contain copper pipes with lead solder that were installed *after* 1982; or are served by lead service lines.
Tier 2	Buildings that contain copper pipes with lead solder that were installed *before* 1983.
NTNCWS	A representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the NTNCWS.

Step 3 Tap Water Lead & Copper Sampling
See Table 1 for the required number of samples to be taken.

Initial	Take 2 consecutive 6 month tap water samples (January–June and July-December) for lead and copper from the same sampling sites identified in the materials survey.
Annual	If a water system does not exceed the action level for lead and the action level for copper in 2 consecutive 6-month monitoring periods the water system may reduce the frequency of tap water monitoring to once per year. Samples must be taken from the same initial sampling sites during the months of June, July, August or September unless ADEQ approves an alternate schedule.
Triennial	If the water system does *not* exceed the action level for lead and the action level for copper for *three consecutive years* of monitoring, it may *further reduce* the frequency of tap water monitoring for lead and copper to ***once every three years***. No exceedance for three consecutive years includes the first year of 2 consecutive 6 month samples plus 2 annual samples.
Reduced Monitoring Sites	A water system that conducts *reduced* monitoring shall select the sampling sites from the *same initial sampling sites* used to collect the initial 2 consecutive tap water samples.