

Lead in City of Flint Drinking Water Briefing Document

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The purpose of the city of Flint water sampling is to determine compliance with the drinking water regulations for lead.

- There is no health-based Maximum Contaminant Level (MCL) for lead.
- Lead enters drinking water in the distribution system from corrosion of lead-containing supply lines or plumbing fixtures in a home.
- EPA & DEQ rely on a “treatment approach” to reduce exposures to lead in drinking water.
- The “action level” for lead in drinking water is 15 parts per billion (ppb).
- This is a level the EPA considers attainable by such measures as adjusting the physical characteristics of the water (pH, hardness) that affect the corrosivity of the water.
- The compliance point for lead is the tap water in the homes.
- Water suppliers randomly select homes to be sampled and focus on areas with lead service lines.
- A tap water sample is collected by the resident from a frequently used cold water faucet. DEQ instructs residents to flush the faucet for 5 minutes, then not use it at all for at least 6 hours (but not more than 12) after which the residents collect a first draw sample.
- The first draw sample represents the water that has been motionless (or stagnant) in the home’s plumbing for 6-12 hours.
- If more than 10% of the samples collected during any monitoring period is greater than 15 ppb the drinking water system is out of compliance.
- Compliance monitoring is not intended to represent or evaluate human intake of lead.

The purpose of the water sampling conducted by the Virginia Tech Flint Water Study was to characterize lead levels in drinking water in the city of Flint to which people are exposed.

- VA Tech researchers recruited volunteer participants and attempted to sample all areas of the city.
- Tap water samples were collected by the resident from a kitchen or bathroom cold-water faucet.
- Residents were instructed not to use the faucet for at least 6 hours (no pre-flush) then collect 3 samples:
 - a first draw sample, which represents the water that has been motionless (or stagnant) in the home’s plumbing for at least 6 hours,
 - a second sample letting the tap run for 45 seconds after filling the 1st bottle, which represents water from the service line proximal to the home, and
 - a third sample letting the tap run for 2 minutes after filling the #2 bottle, which presumably represents water from the service line at a greater distance from the home.
- The visual graphic representations of the VA Tech data are attached.
- First draw samples exceeded 15 ppb in zip codes 48503 (20% of 69), 48504 (18% of 55), 48505 (13% of 48), 48506 (16% of 44), and 48507 (16% of 51).
- Second and third sample results appear to have exceeded 15 ppb as well, but exact percentages cannot be determined from the graphic representations of the data.
- Too few samples were collected from zip codes 48502, 48529, and 48532 to draw conclusions.
- **The protocol used by the VA Tech researchers and their results appear to be consistent with their intent to characterize lead levels in drinking water in the city of Flint.**