

Important Information about Copper in your Drinking Water

Richmond City found elevated levels of copper in drinking water in some homes. Elevated levels of copper ingested over extended periods of time can cause serious health problems, especially for pregnant women and young children. Please read this information closely to see what you can do to reduce Copper in your drinking water. Below is a summary table of the copper results taken in the Richmond City distribution system during 2018:

	Jun-18	Sep-18	
Location	Copper	Copper	Action Level
1	1.57	1.06	1.3
2	0.116	0.0144	1.3
3	1.02	0.778	1.3
4	2.86	1.31	1.3
5	0.202	0.0181	1.3
6	0.0149	0.575	1.3
7	0.219	0.202	1.3
8	0.408	0.306	1.3
9	0.366	0.0124	1.3
10	1.47	1.02	1.3
11	0.42	1.13	1.3
12	0.362	0.327	1.3
13	0.175	0.568	1.3
14	0.663	1.39	1.3
15	1.68	0.517	1.3
16	0.659	0.579	1.3
17	0.688	0.456	1.3
18	0.0119	0.311	1.3
19	0.291	0.138	1.3
20	0.191	1.31	1.3

Health Effects of Copper:

Copper is a naturally occurring metal often found in soil, sediment and water. A small amount of copper is essential to maintain good health. However, in excess copper can cause serious health problems. Copper can cause damage to the brain, liver, kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. Symptoms of long-term exposure include jaundice and anemia as liver and kidney function are disrupted.

How Does Copper Get into Drinking Water?

The most common source of contamination is household plumbing, faucets, and water fixtures.

Water absorbs copper from plumbing materials such as pipes, fittings, and brass faucets. The amount of copper that is absorbed depends on the properties of the water and contact time with the plumbing material.

How can I reduce exposure to copper in drinking water?

When your water has been sitting for several hours, flush the pipe by running the cold- water tap until the water is noticeably colder before using the water for drinking or cooking. For more information go to the CDC at:

<https://www.cdc.gov/healthywater/drinking/private/wells/disease/copper.html>

- The longer water has been sitting in the pipes, the more dissolved metals it may contain. Use cold water for drinking and cooking. Because hot water dissolves more copper than cold water, limit consumption of water from the hot water tap.
- Do not use the hot-water tap to make baby formula.
- Do not boil the water. Boiling water does not reduce copper
- Test your drinking water for lead and copper (Call Richmond City for testing information)
- Consider replacing plumbing materials that may be sources of contamination.

What is being done?

The City has engaged J-U-B Engineers, our City Engineer, to assist in developing a plan for corrosion control. The City and J-U-B have conducted a preliminary assessment of the current and historic lead and copper sampling results, limited water quality data and regulatory guidance documents on corrosion control. Based on this information, we have developed this recommended plan to address corrosion control within our system. The plan can be summarized as a six-step process that involves the following: 1) Data Collection/Sampling, 2) Data Analysis/Modeling, 3) Bench/Pilot Testing 4) CCT (Corrosion Control Treatment) Design and Permitting, 5) CCT Construction, and 6) Testing and Validation. The

objectives and planned activities for each of these steps are described below.

- **Step 1 – Data Collection and Sampling**
 Objective: Collect a sufficient amount of water quality data to allow water chemistry to be evaluated and modeled with respect to corrosion control.
 Activities: Review existing water quality data and supplement this with additional data by collecting samples from the sources (where water enters the system) and within the distribution system (where it comes out of the tap). Sampling will gather limited water quality data exists for the system's sources and within the distribution system.
- **Step 2 – Data Analysis and Modeling**
 Objective: Determine the probable cause of elevated copper and develop a treatment strategy to correct the problem.
 Activities: Assess water chemistry and corrosion potential of water sources and blended/finished water using a commercially available water quality model such as WaterPro, Tetra Tech (RTW) Model or similar. Model corrosion control treatment methods to determine a proposed treatment strategy.
- **Step 3 - Bench/Pilot Testing**
 Objective: Physically test the proposed treatment strategy to confirm its efficacy.
 Activities: Develop and conduct either bench or pilot scale testing of the treatment method and conduct sampling/testing to confirm its effectiveness and develop design parameters for full-scale implementation.
- **Step 4 - CCT Design and Permitting**
 Objective: Prepare bid documents and apply for required permits to allow construction of the system.
 Activities: Prepare design and construction documents, submit permit applications.
- **Step 5 - CCT Construction**
 Objective: Construct the full-scale CCT system in accordance with the plans/specifications.
 Activities: Project bidding, contracting, construction and construction management, start-up.

- **Step 6 - Testing and Validation**
 Objective: Confirm the CCT system is performing as intended
 Activities: Check and confirm that the system is operating per design; sample within the distribution system and at customers taps to ensure the desired results are being achieved.

The results of Step 2- Data Analyses and Modeling will dictate the direction of the corrosion control plan. Following this step, we will meet with DDW (Division of Drinking Water) to discuss the proposed treatment strategy, next steps, and any modifications to this plan.

Below is the schedule for the completion of the proposed corrosion control plan.

Task/Step	Duration	Dates
Step 1 – Data Collection and Sampling	3 months	January –March 2019
Step 2 – Data Analyses and Modeling	3 months	April – June 2019
Step 3 - Bench/Pilot Testing	6 months	July- December 2019
Step 4 – CCT Design and Permitting	6 months	January – June 2020
Step 5 – CCT Construction	6 months	July – December 2020
Step 6 – Testing and Validation	6 months	January –June 2021

For more information please contact:

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 OR
 Utah Department of Environmental Quality,
 Division of Drinking Water
 Lead and Copper Rule Manager, Matt Wycoff - 801-536-0063 or mwycoff@utah.gov