City of Wilmington

WATER QUALITY REPORT 2022

Published by the City of Wilmington
Department of Public Works Water Division

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in public water systems. The EPA requires the City of Wilmington, and all other water suppliers in the U.S., to report annually on specific details about testing for a number of contaminants in our water. Chemical and biological monitoring provide the data that helps suppliers, such as the City of Wilmington, make key water quality management decisions to ensure freshness and purity. This report, published in the spring of 2023, includes water quality information for the 2022 calendar year.

(Full report continues on page 2)

Kelly A. Williams, Commissioner, Department of Public Works

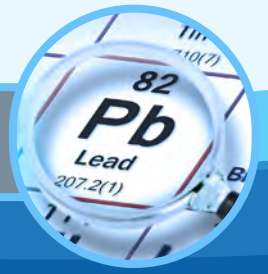
A WORD FROM THE COMMISSIONER

The City of Wilmington continues its commitment to provide our consumers with clean and reliable drinking water today and for future generations. As part of our continuing effort to improve the condition of the water system, the City of Wilmington has a plan to replace approximately 1.5% of its water mains per year through its capital improvement program. This project helps to improve water flows through the new water main and thus create more efficient operation of our water system. Can you believe that through this program we have replaced water mains that are as old as 100 years?

The City of Wilmington has over 420 miles of drinking water mains. Many of these are cast iron water mains which usually have a long service life. However, due to different soil conditions, working pressure and other factors, they need to be periodically replaced, and sometimes increased in size to provide for growing demand. During 2022, the City of Wilmington Water Division replaced small sized mains with 8" ductile iron pipe. All related valves and valve boxes associated with the mains were replaced and fire hydrants and service laterals renewed. This will increase flow and improve water quality for the communities of Browntown, Hedgeville, and Canby Park neighborhoods. The other benefit of this program is that it provides an opportunity to replace lead service lines as they are encountered. The City replaces every lead service line we see on the customer and city side. Replacing lead service lines remains a high priority for the City of Wilmington. To learn more about lead in drinking water see our article on **page 6**. We prioritize our areas largely based on customer concerns so always call 311 if you have a water-related issue. Water main replacement is one of many ways Wilmington continues to work to supply our customers with the highest quality drinking water possible.

I hope you find this year's Water Quality Report helpful and informative. If you have questions don't hesitate to call or e-mail the appropriate personnel listed inside the report.

LEAD IN DRINKING WATER
(Pages 6-7)



SOURCES OF DRINKING WATER

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at **(800) 426-4791**.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste odor, or color of drinking water please contact the customer call center at **(302) 576-3878**.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline **(800-426-4791)**.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home internal plumbing. We cannot control the variety of materials used in plumbing components.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for five minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at ***epa.gov/safewater/lead***.

The Division of Public Health, in conjunction with the Department of Natural Resources and Environmental Control (DNREC), has conducted source water assessments for nearly all community water systems in the state. The assessment may also be viewed at this website: ***delawaresourcewater.org***.

TABLE 1: WATER QUALITY RESULTS - DETECTED PRIMARY[1] PARAMETERS AT ENTRY POINTS TO DISTRIBUTION SYSTEM

				Brandywine Filter Plant			Porter Filter Plant			
Contaminant	Units	MCLG[2]	MCL[3] or TT[4][5]	Range of Levels Detected	Highest Detected Level	Violation	Range of Levels Detected	Highest Detected Level	Violation	Likely Source of Contamination
Microbiological Indicators[6]										
Turbidity - Percentile	% of samples below 0.3	N/A	95% of monthly samples must be less than 0.3.	100%	100%	No	100%	100%	No	Soil runoff
Turbidity - Values	NTU		No sample must ever exceed 1.0.	0.006 - 0.19	0.19	No	0.038 - 0.168	0.168	No	Soil runoff
Inorganic Chemicals (Metals and Nutrients)										
Barium	ppm	2	2	0.0348 - 0.0348	0.0348	No[8]	0.0414 - 0.414	0.0414	No[9]	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nickel	ppb	N/A	100	1.5 - 1.5	1.5	No[8]	2.0 - 2.0	2.0	No[8]	Discharge from industrial sources; Erosion of natural deposits
Chromium	ppb	100	100	1.0 - 1.0	1.0	No[8]	1.9 - 1.9	1.9	No[8]	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride	ppm	2	Delaware State MCL: 2 ppm[7]	0.43 - 1.32	1.32	No	0.22 - 1.25	1.25	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	ppm	10	10	1 - 4.1	4.1	No	0.9 - 3.8	3.8	No	Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits
Nitrite	ppm	1	1	0.002 - 0.011	0.011	No	0.002 - 0.02	0.020	No	Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits
Disinfectants										
Chlorine	ppm	N/A	At least 0.3 residual entering Distribution System.	1.13 - 2.4	2.4	No	1.23 - 2.7	2.7	No	Water additive used to control microbes.
Disinfection Byproduct Precursors										
Total Organic Carbon	ppm	N/A		0.79 - 2.3	2.3	N/A	0.58 - 1.7	1.7	N/A	Naturally present in the environment. Total organic carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts.
Total Organic Carbon	% Removal (Raw to Treated)	N/A	TOC Removal 25-35% requirement based on source water Alkalinity between	19 - 69	69%	No	39 - 72%	72%	No	
Total Organic Carbon	Compliance Ratio (rolling annual avg)	N/A	Ratio of Actual to Required Removal - must be greater than or equal to 1.	1.0 - 2.2	2.2	No[10]	1.0 - 2.5	2.5	No[10]	
Synthetic Organic Chemicals (pesticides, defoliants, fuel additives) - (2016 unless noted)										
Dalapon	ug/L	200	200	0.79 - 0.79	0.79	-	-	-	-	Runoff from herbicide on rights of way
Atrazine	ug/L	3	3	-	-	-	0.031 - 0.031	0.031	-	Runoff from herbicide on rights of way
Di (2-ethylhexyl) phthalate	ug/L	0	6	0.27 - 0.27	0.27	-	0.28 - 0.28	0.28	-	Discharge from plastic production
Hexachlorocyclopentadiene	ug/L	50	50	-	-	-	0.077 - 0.077	0.077	-	Runoff from herbicide on rights of way
Simazine	ug/L	4	4	-	-	-	0.072 0.072	0.072	-	Runoff from herbicide on rights of way

TABLE 2: WATER QUALITY RESULTS - DETECTED PRIMARY[1] PARAMETERS IN DISTRIBUTION SYSTEM

Contaminant	Units	MCLG[2]	MCL[3] or TT[4][5]	Range of Levels Detected	Highest Detected Level	Violation	Likely Source of Contamination
Microbiological Indicators							
Total Coliform	% of samples positive each month	0%	5.0%	0.0 - 1.0	1.0	No	Bacteria that are naturally present in the environment. Used as an indicator of the presence of other potentially harmful bacteria.
Disinfectants							
Chlorine	ppm	MRDLG = 4.0[11]	MRDL = 4.0[12]	0.02 - 2.2[13]	2.2[13]	No	Water additive used to control microbes.
Disinfection Byproducts							
Total Trihalomethanes	ppb	No goal for the total	80	15 - 50[14]	50[15]	No	Byproduct of drinking water disinfection. Forms due to reaction of chlorine with total organic carbon. **Health effects:** Some people who drink water containing TTHMs in excess of the MCL over many years could experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Haloacetic Acids	ppb	No goal for the total	60	13 - 37[14]	37[15]	No	Byproduct of drinking water disinfection. Forms due to reaction of chlorine with total organic carbon.

TABLE 3: DETECTION OF UNREGULATED CONTAMINANTS[16]

Chemical or Constituent	Units	Average	Range of Levels Detected	Likely Source of Contamination
Per-and Polyfluroalkyl-Substances (2022)				
Perfluorobutanesulfonic acid (PFBS)	ppt	3.01	2.1-3.87	Industrial discharges
Perfluoroheptanoic acid (PFHpA)	ppt	3.67	2.3-8.8	Industrial discharges
Perfluorohexanoic acid (PFHxA)	ppt	7.27	3.8-16.0	Industrial discharges
Perfluorononanoic acid (PFNA)	ppt	2.22	1.9-3.8	Industrial discharges
Perfluorooctanesulfonic acid (PFOS)	ppt	2.68	1.9-3.63	Industrial discharges
Perfluorooctanoic acid (PFOA)	ppt	6.27	4.0-10.0	Industrial discharges
Disinfection Byproducts (2020)				
Bromochloroacetic Acid (BCAA)	ppb	4.15	1.9-6.4	Chlorination disinfection by-product
Bromodichloromethane (BDCM)	ppb	11.0	5.9-16.1	Chlorination disinfection by-product
Chlorodibromomethane (CDBM)	ppb	3.5	<1.0-6.0	Chlorination disinfection by-product
Dibromoacetic Acid (DBAA)	ppb	0.9	<1.0-1.8	Chlorination disinfection by-product
Dichloroacetic Acid (DCAA)	ppb	12.35	5.1-19.6	Chlorination disinfection by-product
Monobromoacetic Acid (MBAA)	ppb	1.25	<1.0-1.5	Chlorination disinfection by-product
Monochloroacetic Acid (MCAA)	ppb	2.25	<2.0-2.5	Chlorination disinfection by-product
Trichloroacetic Acid (TCAA)	ppb	12.05	4.7-19.4	Chlorination disinfection by-product

For more information on Per-and Polyfluroalkyl-Substances visit
drinktap.org/Water-Info/Whats-in-My-Water/Per-and-Polyfluoroalkyl-Substances

For more information on Unregulated Contaminants visit
drinktap.org/Water-Info/Whats-in-My-Water/Unregulated-Contaminant-Monitoring-Rule-UCMR

TABLE 4: RADIOACTIVE CONTAMINANTS (2020 UNLESS NOTED)

Radioactive Contaminants	Units	MCLG	MRL	Highest Detected Level	Range of Levels Detected	Violation	Likely Source of Contamination
Beta/photon emitters (2011)	pCi/L	0	50[17]	3.5	3.5 - 3.5	No	Decay of natural and man-made deposits.
Gross Alpha Particle Activity	pCi/L	0	3	0.14	0.14 - 0.14	No	Decay of natural and man-made deposits.
Radium-226	pCi/L	0	1	0.25	0.25 - 0.25	No	Decay of natural and man-made deposits.
Radium-228	pCi/L	0	1	0.84	0.84 - 0.84	No	Decay of natural and man-made deposits.

TABLE 5: SECONDARY[18] PARAMETERS AND OTHER PARAMETERS OF INTEREST DETECTED IN WATER AS IT ENTERS DISTRIBUTION SYSTEM

			Brandywine Filter Plant			Porter Filter Plant			
Contaminant	Units	SMCL[18]	Average	Lowest	Highest	Average	Lowest	Highest	Source
Conventional Physical and Chemical Parameters									
pH	units	6.5 - 8.5	7.4	6.8	7.9	7.4	6.3	8.2	Waters with pH = 7.0 are neutral
Alkalinity	ppm as $CaCO_3$	N/A	65	39	81	62	37	77	Measure of buffering capacity of water or ability to neutralize an acid
Hardness	ppm as $CaCO_3$	N/A	115	67	136	126	98	160	Naturally occurring; Measures Calcium and Magnesium
Conductivity	µmhos/cm	N/A	368	189	451	409	308	502	General measure of mineral content
Sodium	ppm	N/A	31	31	31	33	33	33	Naturally occurring; Chemical additive to treat the water; Road salt application and run-off
Sulfate	ppm	250	17	17	17	19	19	19	Naturally occurring; Can cause objectionable taste and odor in water
Chloride	ppm	250	60	35	130	72	36	119	Naturally occurring; Chemical additive to treat the water; Road salt application and run-off
Metals									
Iron	ppb	300	_	_	_	0.023	0.02	0.09	Naturally occurring; Chemical additive to treat the water; Corrosion of pipes; Can cause discoloration in water
Manganese	ppb	50	0.014	0.003	0.200	0.017	0.006	0.040	Naturally occurring; Can cause discoloration and objectionable taste in water
Zinc	ppm	5	0.12	0.05	0.19	0.12	0.07	0.50	Naturally occurring; Chemical additive to treat the water

TABLE 6: LEAD AND COPPER

(BASED ON 2020 SAMPLING–TESTING IS DONE EVERY 3 YEARS)

Contaminant	MCLG	Action Level (AL)[19]	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	1.3	1.3	0.27	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	0	15	2.2	2	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits

KEY TO TABLES

[1] Primary parameters are contaminants that are regulated by a maximum contaminant level (MCL), because above this level consumption may adversely affect the health of a consumer.

[2] MCLG - Maximum Contaminant Level Goal is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow no margin of safety.

[3] MCL - Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available.

[4] TT - Treatment Technique refers to the required process intended to reduce the level of a contaminant in drinking water. EPA's surface water treatment rules require systems to (1) disinfect their water and (2) filter their water such that the specific contaminant levels cited are met. Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. Total organic carbon is regulated by a Treatment Technique that requires systems operate with enhanced coagulation or enhanced softening to meet specified percent removals.

[5] Unless otherwise indicated value given is a MCL.

[6] The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. If this is the case, the sample year will be noted in the table.

[7] State limit is to not exceed 2.0 mg/L.

[8] Collected in 2014.

[9] Collected in 2015.

[10] Total Organic Carbon compliance is calculated quarterly based on the running annual average of removal %.

[11] MRDLG - Maximum Residual Disinfectant Level Goal is the level of drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

[12] MRDL - Maximum Residual Disinfectant Level is the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

[13] Cited value is the lowest and/or highest number of routine samples.

[14] Cited range is the range of all individual results in 2022.

[15] Cited value is the highest Locational Running Annual Average (LRAA). MCL is based on the LRAA, which is compiled to include data from previous quarters.

[16] Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether the Agency should consider regulating those contaminants in the future.

[17] The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

[18] SMCL - Secondary Maximum Contaminant Level ppm: milligrams per liter or parts per million - or one ounce in 7,350 gallons of water ppb: micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

[19] AL - Action Level: The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow. ND: not detected.

LEAD IN DRINKING WATER

Providing safe, reliable drinking water is our top priority. The City of Wilmington treats the drinking water to minimize the amount of lead that may leach into the water and performs routine water testing to ensure the treatment is effective. Drinking water is lead-free when it leaves our treatment plants, but as water travels through the system to your faucet, lead can enter the water from plumbing components including brass fixtures and fittings, and lead soldered joints in household plumbing, as well as lead service lines – the pipe that brings water into the home from the water main in the street.

Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney, or nervous system problems.

The Environmental Protection Agency (EPA) requires that 90% of the sampled sites must have lead levels below the Action Level of 15 parts per billion (ppb), and we have been below this threshold since the Lead and Copper Rule was established in 1991. To monitor lead levels, the City of Wilmington tests tap water in homes that are most likely to have lead. Sampling is conducted at 50 locations every three years, as required by the United States EPA Lead and Copper Rule. The EPA requires that 90% of the sampled sites must have lead levels below the Action Level of 15 parts per billion (ppb), and our lead levels were 2.2 ppb in the last monitoring period. The next round of sampling will take place in 2023. However, there are steps you can take to reduce your exposure to lead in drinking water, which are provided to the right.

SIMPLE TIPS TO REDUCE LEAD EXPOSURE IN YOUR HOME:

1. **Have your water tested.** The only way to determine the level of lead in drinking water at your home is to have the water tested. If you would like your water tested, contact the Water Quality Lab **(302) 571-4158**.

2. **Learn if you have a lead service line.** You can identify the service line material by checking your water service connection inside your home. For more information, refer to the **Water Service Line Material Identification** section on page 7.

3. **Run your water.** Before drinking, flush your home's pipes for five minutes by running the tap, taking a shower, doing laundry, or doing a load of dishes. The amount of time to run the water will depend on whether your home has a lead service line or not, and the length of the lead service line.

4. **Use cold water.** Use only cold water for drinking, cooking and making baby formula. Boiling water does not remove lead from water.

5. **Clean your aerator.** Regularly clean your faucet's screen (also known as an aerator). Sediment, debris, and lead particles can collect in your aerator. If lead particles are caught in the aerator, lead can get into your water. After removing the aerator, flush the cold-water line for five minutes.

6. **Use your filter properly.** If you use a filter, make sure you use a filter certified to remove lead. Read the directions to learn how to properly install and use your cartridge and when to replace it. Using the cartridge after it has expired can make it less effective at removing lead. Do not run hot water through the filter. Visit ***nsf.org*** for more information about filters certified for lead removal.

7. **Install lead-free faucets and fixtures.** Look for lead certification marks indicating the new product is lead free, and then replace old faucets and fixtures. Visit ***nepis.epa.gov*** and search for lead free certification for more information.

NEW REGULATORY REQUIREMENTS FOR LEAD

The Lead and Copper Rule Revisions (LCRR) were recently promulgated by the EPA, and all public water systems must be in compliance with the new rule by October 16, 2024. The LCRR contains major changes for monitoring and controlling lead in drinking water that include the following:

- Development of a lead service line inventory.
- Updated tap water sampling locations and modified sample collection procedures.
- Development of sampling plans for schools and childcare facilities.
- New requirements for lead service line replacement.
- Additional planning, monitoring, and corrosion control treatment requirements based on a new trigger level of 10 ppb (parts per billion) - below the 15 ppb action level.
- Stricter public education and communication requirements.

In addition, the EPA is planning to finalize and promulgate the Lead and Copper Rule Improvements (LCRI) ahead of the LCRR's compliance date that will contain additional requirements for further reducing lead in drinking water.

The City of Wilmington is diligently working to address the new requirements, including developing a water service line inventory. **To determine the type of material for the portion of the service line within your home, and to reduce your exposure to lead in drinking water, we need your help!**

WATER SERVICE LINE MATERIAL IDENTIFICATION

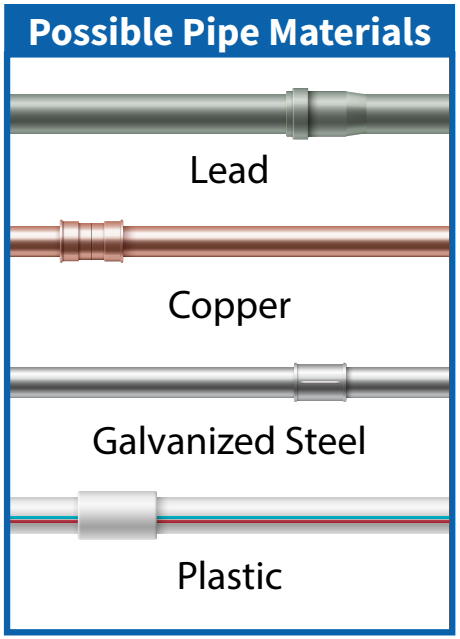
You can identify the service line material by checking your water service connection inside your home, usually located in the basement. Typical service pipe materials include lead, copper, galvanized steel, and plastic as shown to the right.

Lead: A dull, silver-gray color that is easily scratched with a coin. Use a magnet – strong magnets will not cling to lead pipes.

Copper: The color of a copper penny.

Galvanized: A dull, silver-gray color. Use a magnet – strong magnets will typically cling to galvanized pipe.

Plastic: White, rigid pipe that is joined to water supply piping with a clamp.



IDENTIFY YOUR WATER SERVICE LINE MATERIAL HERE!

Please help the City of Wilmington identify lead Water Service lines by completing the following survey. Additional guides for identifying service line material are available at *epa.gov/safewater/lead*. If you believe your service line material is lead, please use **Wilmington 311** or call **302-576-2620** and request an evaluation of your service line material. We will arrange for an inspection to be performed at a time convenient for you.

WATER QUALITY
FREQUENTLY ASKED QUESTIONS

Many customers have questions regarding the quality of their tap water. Below are some of the questions that are frequently asked. Please call the Call Center at **(302) 576-3878** or the Water Quality Lab at **(302) 571-4158** if you have further questions about your tap water.

FAQ 1: BROWN / YELLOW COLORED WATER ISSUES

1. **Why is my water discolored?**

   All treated water introduced into the system is clean and clear; however, a large portion of the City's pipes are made of unlined cast iron. On occasion, the internal build-up of iron corrosion in these pipes can be released due to a disturbance event such as main breaks, construction and flushing fire hydrants. Rusty water events are usually brief and will clear up within a day or so after the disturbance is resolved and water is flushed out through your piping system. *(Reference Article: Water Quality – Questions & Answers. Henry County Water Authority. HCWSA, 2015.)*

2. **Are there regulations for rusty water concerning health?**

   The Environmental Protection Agency (EPA) states that rusty water is safe to drink unless it has been contaminated with unrelated substances. The EPA has established National Secondary Drinking Water Regulations (NSDWRs) that set non-mandatory water quality standards for 15 contaminants. While the EPA does not enforce these Secondary Maximum Contaminant Levels (SMCLs), they are established as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. However, these contaminants are not considered a risk to human health at the SMCL. *(Reference Website: epa.gov/sdwa/secondary-drinking-water-standards-guidance-nuisance-chemicals)*

3. **What should I do when rusty water appears in my faucets?**

   Step1: Call the Call Center **(302)-576-3878** and they will assist you in diagnosing and resolving the water issue. Contacting the Call Center is the only way the City knows there is an issue with the water. This creates an electronic record that is especially useful if there is a recurring issue.

   Step 2: Take a sample of the rusty COLD water in a white cup or bowl for comparison and set it aside.

   Step 3: Go to the lowest sink in the house, set a timer for 15 minutes and run the COLD water only. Running the hot water can cause rusty water to fill the hot water tank, which will then require it to be drained.

   Step 4: After 15 minutes, take another sample in another white cup or bowl and compare the first with the second. Continue to flush and keep an eye on the water color for a lightening effect. If it has not lightened call the Call Center back for further instructions.

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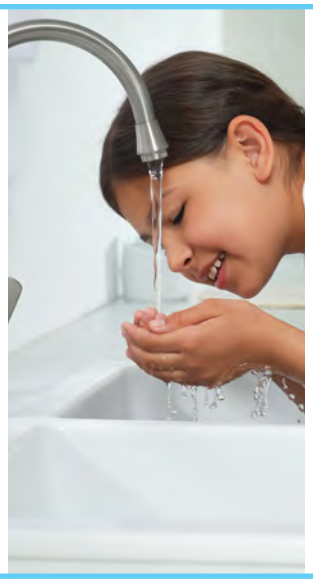


FAQ 2: FLUORIDE IN DRINKING WATER

1. **Is there Fluoride in my drinking water?**

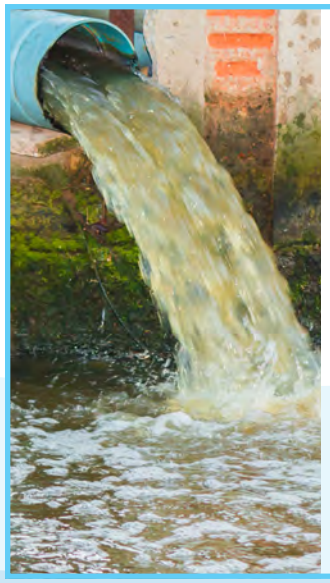
   Fluoride is a naturally occurring mineral that can enter water sources from the erosion of natural deposits or discharge from fertilizer and aluminum factories. While there is a small background level of fluoride found in the City's raw water supplies, additional levels of fluoride are added during the treatment process. This is done to promote strong teeth and protect against skeletal fluorosis. The addition of fluoride is also required by the State of Delaware Office of Drinking Water.

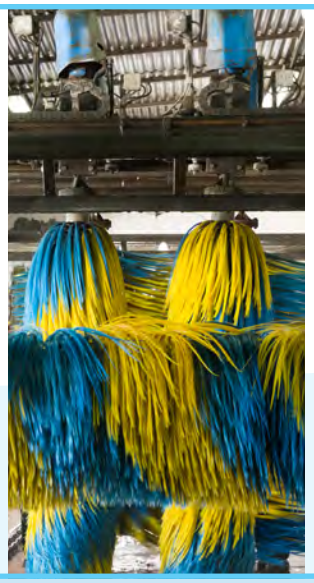
2. **Are there standards for this chemical?**

   In Delaware, the Maximum Contaminant Level (MCL) for fluoride is 2.0 ppm. MCLs describe a biological, chemical, or physical characteristic of water that may affect the taste, odor, color, or appearance (aesthetics) of water. The City is required to notify customers if the average levels of fluoride exceed the State's MCL *(Reference Article: dhss.delaware.gov/dhss/dph/hsp/pubdw.html)*

CITY IMPLEMENTS NEW CROSS-CONNECTION CONTROL PROGRAM

The City is pleased to announce its Cross-Connection Control (CCC) Program. By 2024, all public water systems in Delaware must have CCC Program. The CCC program protects water consumers through the elimination, prevention, and control of cross-connections. A cross connection is a plumbing point where the potable (drinking) water supply is connected to a non-potable source. Pollutants or contaminants can enter the drinking water system through uncontrolled cross connections when back flow occurs. Common areas of cross connections that represent a health hazard can include agricultural facilities, car washes, food processing plants, medical facilities, mortuaries, and wastewater treatment facilities. The City's CCC program will include an inventory and records of testing, repairs, and maintenance of all backflow prevention assemblies, as well as backflow elimination methods. This program will ensure increased safety to drinking water customers.





WHAT ARE PFAS?

Per- and polyfluoroalkyl substances (PFAS) are manufactured chemicals used in many household products including nonstick cookware (e.g., Teflon™), stain repellants (e.g., Scotchgard™), and waterproofing (e.g., GORE-TEX™). They are also used in industrial applications such as in firefighting foams and electronics production. There are thousands of PFAS chemicals, and they persist in the environment. Two well-known PFAS chemicals are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). These were phased out of production in the United States and replaced by hexafluoropropylene oxide-dimer acid (commonly known as GenX), perfluorobutane sulfonic acid (PFBS) and others.

Additional information on PFAS from the United States Environmental Protection Agency (U.S. EPA) can be found at *epa.gov/pfas*.

WHAT IS THE CITY OF WILMINGTON DOING ABOUT PFAS IN DRINKING WATER?

The City of Wilmington sampled for PFAS in 2022 to get an understanding of the levels in the drinking water leaving the treatment plants. The results are provided in the table below. The levels are in parts per trillion (ppt).

Chemical or Constituent	Units	Average	Range of Levels Detected	Likely Source of Contamination
Per-and Polyfluroalkyl-Substances (2022)				
Perfluorobutanesulfonic acid (PFBS)	ppt	3.01	2.1-3.87	Industrial discharges
Perfluoroheptanoic acid (PFHpA)	ppt	3.67	2.3-8.8	Industrial discharges
Perfluorohexanoic acid (PFHxA)	ppt	7.27	3.8-16.0	Industrial discharges
Perfluorononanoic acid (PFNA)	ppt	2.22	1.9-3.8	Industrial discharges
Perfluorooctanesulfonic acid (PFOS)	ppt	2.68	1.9-3.63	Industrial discharges
Perfluorooctanoic acid (PFOA)	ppt	6.27	4.0-10.0	Industrial discharges

The EPA has taken action on PFAS in drinking water by establishing health advisory levels for four PFAS chemicals. PFAS chemicals are unique, so two PFAS chemicals at the same level typically do not present the same risk. Therefore, you should not compare the results for one PFAS chemical against the results of another. Drinking water limits and health advisories are not the same thing.

Drinking water limits are enforceable, which means water systems must meet them. U.S. EPA sets drinking water limits as close to the level where no health impacts are expected, considering the ability to measure and treat the chemical, among other factors. Health advisories, on the other hand,

are more narrowly focused on the potential health impacts and do not consider other aspects. Water systems are not required to meet health advisory levels, but instead use the technical information provided to help with decision making, which may include additional sampling, customer outreach, installation of treatment, or other actions. More information on the development of federal drinking water limits is available at *epa.gov/sdwa* and more information on U.S. EPA's health advisory levels is available at *epa.gov/sdwa/questions-and-answers-drinking-water-health-advisories-pfoa-pfos-genx-chemicals-and-pfbs*.

U.S. EPA is developing drinking water limits for PFOA and PFOS as part of the PFAS Strategic Roadmap. More information is available at *epa.gov/pfas*. We will closely watch the development of new PFAS limits and share information with you as it becomes available.

Additionally, in 2023 the City of Wilmington will start checking our drinking water for 29 PFAS by participating in the U.S. EPA Unregulated Contaminant Monitoring Rule program, or UCMR. Through the UCMR program, water systems collect data on a group of contaminants that are currently not regulated in drinking water at the federal level. U.S. EPA uses this information when deciding if it needs to create new drinking water limits. We will share the results from our UCMR sampling in the 2023 CCR. More information on the UCMR program can be found at *epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule*.

WHAT IS A PART PER TRILLION?

A part per trillion describes the amount of something, in this case PFAS, in water or soil. Here is an idea of what that means:

parts per million (ppm)

added to a 42-gallon barrel

parts per billion (ppb)

added to a large tanker truck

parts per trillion (ppt)

added to the Rose Bowl

CAN I STILL DRINK MY TAP WATER AND USE IT TO COOK AND BATHE?

Yes. U.S. EPA is not recommending bottled water for communities based solely on concentrations of PFAS chemicals in drinking water that exceed the health advisory levels. Additionally, per U.S. EPA, studies have shown that only a small amount of PFAS can get into your body through skin. They also highlight that PFAS cannot be removed by heating or boiling water. More information is available at *epa.gov/sdwa/questions-and-answers-drinking-water-health-advisories-pfoa-pfos-genx-chemicals-and-pfbs#q6*.

However, some customers may make the personal choice to use water filters or drink bottled water. Certified water filtration systems may lower levels of some PFAS if the filter is properly maintained. Information on certified filter systems can be found at *nsf.org/consumer-resources/articles/pfoa-pfos-drinking-water*.

WHAT CAN I DO TO REDUCE MY OVERALL EXPOSURE TO PFAS?

PFAS can be found in many consumer products. One way to reduce exposure is to think about what products you are buying and using.

- Buy products from companies who have committed to removing PFAS from their manufacturing.
- Be aware. Many companies are working to remove PFAS from their products; however, until the removal is complete, products including nonstick cookware (e.g., Teflon™), stain repellants (e.g., Scotchgard™), and water proofing (e.g., GORE-TEX™) may have PFAS. PFAS are also found in certain types of dental floss, nail polish, facial moisturizers, eye make-up, and more. Here are a few PFAS ingredients to avoid:
  - Polytetrafluoroethylene (PTFE)
  - Perfluorononyl Dimethicone
  - Perfluorodecalin
  - C9-15 Fluoroalcohol Phosphate
  - Octafluoropentyl Methacrylate
  - Perfluorohexane
  - Pentafluoropropane
  - Polyperfluoroethoxymethoxy Difluoroethyl Peg Phosphate
  - Polyperfluoroethoxymethoxy Peg-2 Phosphate
  - Methyl Perfluorobutyl Ether
  - Perfluorononylethyl Carboxydecyl Peg-10 Dimethicone
  - Perfluorodimethylcyclohexane
  - Perfluoroperhydrophenanthrene
- Avoid non-stick cookware that has PFAS. Consider using stainless steel or cast-iron pots and pans. When the coating on existing non-stick cookware shows signs of wear-and-tear, replace them with stainless steel or cast-iron cookware.

WHAT CAN I DO TO HELP DECREASE PFAS ENTERING THE ENVIRONMENT AND POTENTIALLY THE WATER SUPPLY?

A good first step is to increase your understanding of how PFAS can enter our bodies, our homes and the environment. Ongoing education on PFAS and staying informed on federal and state guidance can help manage personal exposure. Materials that help explain this are available in the One Water Toolkit at *waterrf.org/research/projects/pfas-one-water-risk-communication-messaging-water-sector-professionals*.

Another key action is to purchase products with less or no PFAS. This is hard because so many everyday products, from food packaging to carpets and raincoats, may have PFAS in them. Other products, like fertilizers and compost, may also have PFAS. Buying PFAS-free options will help decrease the amount of new PFAS entering the environment. A list of product types that may have PFAS, can be found at *atsdr.cdc.gov/pfas/health-effects/exposure.html*.

HOW CAN I LEARN MORE ABOUT PFAS IN DRINKING WATER?

More information on PFAS is in the U.S. EPA PFAS Strategic Roadmap, available at *epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024*.

PFAS health effect information can also be found on the U.S. Centers for Disease Control and Prevention (CDC) website at *atsdr.cdc.gov/pfas/health-effects/index.html*.

ARE YOU EXPERIENCING A WATER QUALITY PROBLEM OR HAVE QUESTIONS AND CONCERNS?

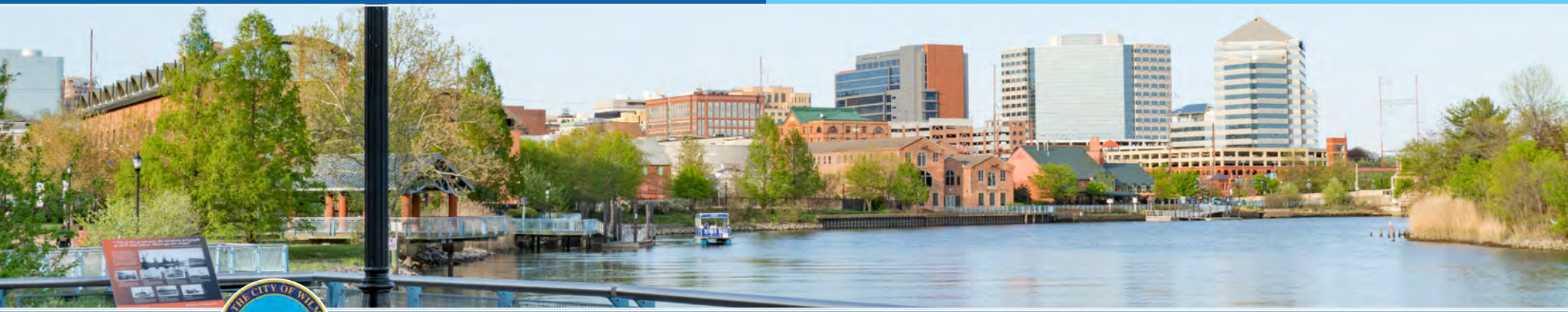
The City of Wilmington is committed to providing you with high quality drinking water. We also understand that concerns may arise at your tap and we strive to address these quickly and efficiently. If you have questions about the quality of your water or are experiencing an issue such as low water pressure, rusty/discolored water, or unusual taste and smell, please call our Call Center at **(302) 576-3878** or the Water Quality Lab at **(302) 571-4158**. You will be asked a series of questions regarding your concern and then the appropriate Water Department personnel will be contacted to address your problem. If you would like your water to be sampled, one of our Water Quality Specialists will call you to schedule a time that is convenient for you.

CONTACT US

You can help us ensure the safety of our water supply by reporting any unusual or suspicious activity either on our waterways, near our reservoirs, water filtration plants, water towers, or pumping stations.

To report an incident or general water quality concerns, call the City Call Center at **(302) 576-3878**.

If you have questions about this report, call the Water Quality Laboratory at **(302) 571-4158**. Weekends or after 4 P.M., **(302) 576-3878**.



Kelly A. Williams, Commissioner
Department of Public Works
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DaWayne Sims, City Treasurer

wilmingtonde.gov

An electronic version of this document is available at *ccrwilmingtonde.com.*

Una versión en español de este documento está disponible por correo, previa solicitud.

MICHAEL S. PURZYCKI, MAYOR

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President of City Council

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City Council Member, 1st District

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City Council Member-at-Large

The Honorable Latisha Bracy
City Council Member-at-Large

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In accordance with Title VI of the Civil Rights Act of 1964, state and federal law, "no person or group shall be excluded from participation, denied any benefits, or subjected to discrimination on the basis of race, color, national origin, age, sex, religion, handicap, and/or disability." General complaints or inquiries should be directed to: Affirmative Action Officer (302) 576-2460, and persons with disabilities may contact 504 Coordinator (302) 576-2460, City of Wilmington, Personnel Department, 4th Floor, 800 French Street, Wilmington, Delaware 19801. TDD is available at (302) 571-4546.