

City of Wilmington 2016

Water Quality Report



To ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in public water systems.

The Environmental Protection Agency (EPA) requires the City of Wilmington, and all other water suppliers in the US, to report yearly 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.

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. To ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulates bottled water, which must provide the same protection to the public's health.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

(Full report continues on page 3)

Public-Private Partnership Yields Benefits!

Cities that have naturally occurring hills, like Wilmington, require water pressures to be set at various levels to accommodate the natural terrain. For example, if you set the water pressure for the highest customer served and then let the customers at lower elevations receive water at that same pressure, they would see water pressures that could exceed 200 pounds per square inch, which is too much for normal residential use. In response, the City's water system has been set into a series of pressure zones that allow for specific areas to see relatively the same pressure. These zones are usually set by the height of water tanks, which go higher in elevation as the natural ground elevation rises. The pressure zones are also usually limited by some other features, which create boundaries, such as the Brandywine Creek.

(Continued on page 8)

Volume 15 • Summer 2017

Water Works

*A newsletter published by the City of Wilmington,
Department of Public Works Water Division*



A Word from the Commissioner

Hello water customers! The City of Wilmington's Water Utility provides clean drinking water services to a population of about 110,000. That equates to approximately 38,000 residential and business customers located inside and outside of Wilmington's City limits. We are working hard implementing new programs to improve your water experience. Here are some new opportunities for customers:

Service Line Protection Plans. The City has partnered with American Water Resources to offer protection plans for your water and sewer lines. Read on to find out how you can participate and protect yourself from potential costly repairs.

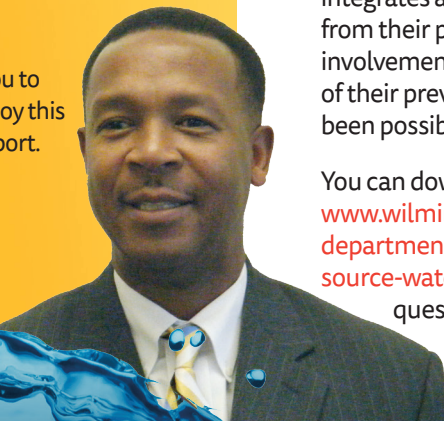
On-line Bill Payment. You may now pay your water bill on-line. Go to <http://wilmingtonde.gov/residents/view-and-pay-bills-online> for more information and ways to pay your utility bill.

Water Meter Replacement. Over the next couple of years, the City will be replacing and upgrading all residential water meters. The City has partner with ITRON to assist with the replacement program. The City is currently sending replacement notices to customers to schedule your water meter replacement. If you haven't received a notice yet, look for one in the mail in the near future. New meters ensure accurate bills based on the actual amount of water used.

Monthly Billing. The City is planning to implement monthly billing in 2017/2018. Monthly bills make it easier for you to budget and for you to compare your water usage from month to month. You can identify, and then correct, a potential leak more quickly.

The City strives to be customer friendly. We appreciate your feedback and encourage you to ask us if you have a question! I hope you enjoy this issue of the 2016 Consumer Confidence Report.

Jeff Starkey, Commissioner,
Department of Public Works



Source water...

The City of Wilmington developed the Source Water Protection Plan (SWP Plan) in order to better protect its water supply for future generations, reduce long term operating costs and carbon footprint, avoid future treatment requirements, improve planning and response to future spills and water quality events, and leverage upstream investments to protect its water supply.

Recognizing the efforts and input of the many dedicated stakeholders in the Brandywine Creek Watershed who have been involved with this SWP Plan is very important. The SWP Plan integrates a significant amount of information from their previous studies and plans. Without the involvement of these stakeholders and the benefit of their previous efforts, this plan would not have been possible.

You can download and read the SWP Plan at www.wilmingtonde.gov/government/city-departments/department-of-public-works/source-water-protection-plan. If you have any questions please contact Chris Oh, Water Quality Manager, at **(302) 573-5522**.

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, **(302) 576-3878**.

If you have questions about this report, call the Water Quality Laboratory at **(302) 571-4158**.

Weekends or after 5 P.M., **(302) 571-4150**.

2016 Water Quality Report

How We Test Our Drinking Water

The Wilmington Water Division monitors for over 100 contaminants, including herbicides, pesticides, Cryptosporidia, Giardia and coliform bacteria. We collect samples from the Brandywine Creek, Hoopes Reservoir, Porter Reservoir, Cool Spring Reservoir, the filtration plants and at customers' taps in the distribution system.

Last year, over 30,000 water samples were drawn from the City's fresh water supply treatment plants and distribution system. Our laboratory performed over 70,000 water analyses on those samples. This data supports the conclusion that Wilmington's water system complies with all applicable EPA drinking water regulations.

During disinfection, certain byproducts form as a result of chemical reactions between chlorine and naturally occurring organic matter in water. These are carefully controlled to keep disinfection effective and byproduct levels low.

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 report. 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 plumbing. The City of Wilmington is responsible for providing high quality drinking water, but 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 30 seconds to 2 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 **(1-800-426-4791)**, or at www.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. Contact the City at **(302) 573-5522** regarding the availability of the assessment and how you may obtain a copy. The assessment may also be viewed at this website: www.delawaresourcewater.org.



City of Wilmington
800 French St.
Wilmington, DE 19801

PWSID# DE0000663

June 1, 2017

Report Covers
Calendar Year 2016

Water System Contact
Chris Oh
Water Quality Manager
(302) 573-5522

Water Source:
Surface Water (Brandywine
Creek & Hoopes Reservoir)

Protecting the Public from Disease

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.

Microbiological testing of water helps protect the public from waterborne diseases such as polio, diphtheria, typhoid and cholera. Chlorine is very effective at killing or disinfecting most of these organisms in drinking water. However, Cryptosporidium, a microbial pathogen found in surface waters throughout the U.S., is resistant to chlorine. Optimized water treatment, including filtration, provides an effective barrier against passage of Cryptosporidium into drinking water. One commonly used measure of this treatment effectiveness is turbidity removal. Turbidity is the cloudiness of the water that is caused by particles that are generally invisible to the naked eye. As shown in **Table 1** on **page 5**, the City continues to provide water that is well within State and Federal turbidity requirements.

The most commonly-used filtration methods, such as those used by Wilmington, cannot guarantee 100 percent removal. The City of Wilmington began monitoring for Cryptosporidium in source water for its two plants beginning in November of 2005. Based on research conducted on the removal of Cryptosporidium by common filtration methods, the level detected in the source water should have been removed by the filters at the City’s treatment plant. Cryptosporidium has never been detected in the treated water supply.

Important Health Note for “At Risk” Populations

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those with cancer undergoing chemotherapy, organ transplant recipients, people with HIV/AIDS or other immune system disorders, the elderly, and infants can be particularly vulnerable to infections. These people should seek advice from their health care providers. EPA/CDC guidelines on appropriate ways to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline **(1-800-426-4791)**.

Regulating Contaminants

Contaminants that may be present in source water include: microbial contaminants, such as viruses and bacteria; inorganic contaminants, such as salts and metals, which can be naturally occurring; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in drinking water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.



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 - (2016 unless noted)										
Turbidity - Percentile	% of samples below 0.3	N/A	95% of monthly samples must be less than 0.3	100 - 100	100	No	100 - 100	100	No	Soil runoff
Turbidity - Values	NTU		No sample must ever exceed 1.0	0.014 - 0.118	0.118	No	0.02 - 0.09	0.090	No	Soil runoff
Inorganic Chemicals (Metals and Nutrients) - (2016 unless noted)										
Barium	ppm	2	2	0.0348 - 0.0348	0.0348	No ^[14]	0.0414 - 0.0414	0.0414	No ^[15]	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nickel	ppb	N/A	100	1.5 - 1.5	1.5	No ^[14]	2.0 - 2.0	2.0	No ^[15]	Discharge from industrial sources; Erosion of natural deposits
Chromium	ppb	100	100	1.0 - 1.0	1.0	No ^[14]	1.9 - 1.9	1.9	No ^[15]	Discharge from steel and pulp mills; Erosion of national deposits
Fluoride	ppm	2	Delaware State MCL: 2 ppm ^[6]	0.40 - 1.77	1.77	No	0.52 - 1.16	1.16	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	ppm	10	10	1.5 - 3.8	3.8	No	0.6 - 2.9	2.9	No	Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits
Nitrite	ppm	1	1	<0.002 - 0.008	0.008	No	<0.002 - 0.010	0.010	No	Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits
Disinfectants - (2016 unless noted)										
Chlorine	ppm	N/A	At least 0.3 residual entering Distribution System	0.92 - 2.2	2.2	No	1.32 - 2.6	2.6	No	Water additive used to control microbes
Disinfection Byproduct Precursors - (2016 unless noted)										
Total Organic Carbon	ppm	N/A		0.68 - 2.55	2.55	N/A	0.65 - 2.32	2.32	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	Must exceed 35% (25% in certain instances)	36 - 68%	68%	No	29 - 67%	67%	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	1.30 - 1.57	1.57	No	1.00 - 1.46	1.46	No	
Synthetic Organic Chemicals (pesticides, defoliants, fuel additives) - (2016 unless noted)										
Dalapon	ug/L	200	200.0	0 - 0.79	0.79	No	-	-	-	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 - 4.2	4.2	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 ^[9]	MRDL = 4.0 ^[8]	0.0 - 2.2	2.2 ^[10]	No	Water additive used to control microbes
Disinfection Byproducts							
Total Trihalomethanes	ppb	No goal for the total	80	10.0-88 ^[7]	71 ^[11]	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	10.0-79 ^[7]	53 ^[11]	No	Byproduct of drinking water disinfection. Forms due to reaction of chlorine with total organic carbon.

Potential Contaminants

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agriculture livestock operations and wildlife.

Inorganic Contaminants, such as salts and metals, which can occur naturally 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 byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff and septic systems.

Radioactive Contaminants, which can occur naturally or as a result of oil and gas production and mining activities.

Table 3: Detection of Unregulated Contaminants^[12] (based on 2014 sampling-Third Unregulated Contaminant Monitoring Rule UCMR 3)

Chemical or Constituent	Units	Average	Range of Levels Detected	Likely Source of Contamination
Chromium 6+	ug/L	0.33	0.24 - 0.41	Naturally occurring from geological formations, also from manufacturing textile dyes, wood preservation, leather tanning & anti-corrosion coatings
Chromium, Total	ug/L	0.46	0.38 - 0.54	Discharge from steel & pulp mills & chrome plating; erosion of natural deposits. Allergic dermatitis may occur in sensitive individuals who use water containing chromium in excess of the MCL over many years.
Strontium	ug/L	135	130 - 140	Found in rocks & soil, use of phosphate fertilizers
Vanadium	ug/L	0.4	0.4 - 0.4	Naturally occurring metal; Steel manufacture
Molybdenum	ug/L	2.9	1.5 - 4.2	Naturally occurring element in ores & present in plants, animals & bacteria; Used as a chemical reagent in the form molybdenum trioxide
Chlorate	ug/L	382	270 - 500	Agricultural defoliant or desiccant; Disinfection byproduct & used in the production of chlorine dioxide
1,4-dioxane	ug/L	0.1	0.1 - 0.1	A clear liquid used as a solvent in the manufacture of chemicals

Table 4: Radioactive Contaminants (2016 unless noted)

Radioactive Contaminants	Units	MCLG	MCL	Highest Detected Level	Range of Levels Detected	Violation	Likely Source of Contamination
Beta/photon ^[16] emitters	pCi/L	0	50 ^[17]	3.5	3.5 - 3.5	No	Decay of natural and man-made deposits
Combined Radium	pCi/L	0	5	0.49	0.49 - 0.49	No	Erosion of natural deposits
Gross alpha excluding radon & uranium	pCi/L	0	15	0.44	0.44 - 0.44	No	Erosion of natural deposits

Table 5: Secondary Parameters and Other Parameters of Interest Detected in Water as it Enters Distribution System

			Brandywine Filter Plant			Porter Filter Plant			
Contaminant	Units	SMCL ^[iv]	Average	Lowest	Highest	Average	Lowest	Highest	Source
Conventional Physical and Chemical Parameters									
pH	units	6.5 - 8.5	7.5	6.7	8.5	7.3	6.7	7.9	Waters with pH = 7.0 are neutral
Alkalinity	ppm as CaCO ₃	N/A	65	54	81	59	40	85	Measure of buffering capacity of water or ability to neutralize an acid
Hardness	ppm as CaCO ₃	N/A	127	112	140	120	73	160	Naturally occurring; Measures Calcium and Magnesium
Conductivity	µmhos/cm	N/A	447	344	645	401	256	624	General measure of mineral content
Sodium	ppm	N/A	29	29	29	23	23	23	Naturally occurring; Chemical Additive to treat the water; Road salt application and run-off
Sulfate	ppm	250	22.0	22.0	22.0	21.5	21.5	21.5	Naturally occurring; Can cause objectionable taste and odor in water
Chloride	ppm	250	83	61	153	74	56	156	Naturally occurring; Chemical Additive to treat the water; Road salt application and run-off
Metals									
Iron	ppb	300	<10	<10	<10	22	<20	60	Naturally occurring; Chemical Additive to treat the water; Corrosion of pipes; Can cause discoloration in water
Manganese	ppb	50	17	11	28	11	4	29	Naturally occurring; Can cause discoloration and objectionable taste in water
Zinc	ppm	5	0.08	0.05	0.12	0.11	<0.01	0.2	Naturally occurring; Chemical Additive to treat the water

Table 6: Lead and Copper (based on 2014 sampling-testing is done every 3 years)

Contaminant	MCLG	Action Level (AL) ^[13]	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	1.3	1.3	0.333	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	0	15	4.02	3	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 treatment technology.

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

[7] Cited range is the range of all individual results in 2016.

[8] 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.

[9] 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.
- [10] Cited value is the lowest and/or highest average of a minimum of 100 routine samples per month.

[11] 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.

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

[13] Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.

[14] Collected in 2014.

[15] Collected in 2015.

[16] Collected in 2011.

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

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

ND: not detected



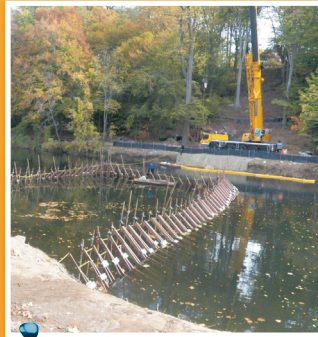
Public-Private Partnership Yields Benefits! (Continued from cover)

Such a boundary exists between two pressure zones (or “gradients” as they are also called) just to the northwest of the City. On the west side of the Brandywine Creek lies the Kennett Pike Pressure zone, which is very similar in elevation to the Alapocas Pressure Zone, which sits to the east of the Creek. The two pressure zones, however, did not meet because of the river.

On the east side of the Creek, within the Alapocas Zone, sits a large industrial customer who desired to have a second source of water because of its critical operations. They also desired to bring natural gas to their facility, which was not available nearby. To meet this customer's desires, a Public-Private Partnership was struck between the customer, the gas company and the City's Water Department. Using the gas company as the lead developer, a side-by-side gas main and water main were extended from the area of Barley Mill Road, under the Brandywine Creek and continued into Alapocas Drive. The water main extension allowed the Kennett Pike water to be delivered to this customer in case of a failure in service on the Alapocas Zone (or vice-versa) but also provided the added benefit to the City's distribution system of connecting the two pressure gradients, making for a much more flexible operation of the two similar zones.

What made this Public-Private Partnership really work was the small cost to the City in exchange for significant benefits. Because the gas main was being constructed simultaneously, the gas service absorbed the costs of excavation and restoration, including the difficult crossing of the Brandywine Creek. Also unique to this situation is that the water main running between the pressure zones is a transmission main, meaning that there are no customer service connections on the pipe, and therefore a different kind of pipe could be used to carry the water across the pressure zones. The result is that the pipeline was constructed at a small fraction of the cost had conventional design-bid-build methods been employed, and the benefits gained to the City's operation and improved reliability are immeasurable.

Reliability and redundancy are the two most important features to build into a water distribution system in order to minimize the likelihood of a disruption of water service. In the case of this particular project, both objectives were achieved, and all city water customers benefited as a result.



Lead and Copper

Many customers ask similar questions concerning lead in the City of Wilmington's drinking water. Sources of lead in drinking water include old lead service lines, lead soldered joints in household plumbing, brass fixtures and fittings; however, water leaving the City's water treatment plants is not a source of lead.

While there is no safe level of lead in drinking water, the Lead and Copper Rule requires that City-wide sampling be done every three years and that 90 percent of the samples collected have a concentration of lead of less than 15 parts per billion (ppb). The 15 ppb is considered an Action Level, which is an enforcement level set by the EPA for a harmful or toxic substance. This means that utilities must ensure that water from the customer's tap does not exceed this level in at least 90 percent of the homes sampled. The City's samples have never exceeded this Action Level (in 90 percent of the samples collected). The City has always been in compliance with the EPA's Lead and Copper Rule. Additionally, a corrosion inhibitor called Zinc Orthophosphate is added to the drinking water before the water leaves the treatment plant. The corrosion inhibitor coats the inside of the water mains and service lines with a protective layer to minimize the likelihood of lead leaching into drinking water.

As a homeowner, you can also play a role in limiting your risk of lead exposure. It is advised to only use cold water for drinking, cooking, and making baby formula. Flushing out your water lines after a period of stagnation and periodically cleaning faucet aerators can also reduce exposure risk. Please be aware that the City has a limited rebate program to assist customers with the replacement of their service lines. Additionally, free water tests for lead are, and have always been, available to customers upon request through the Water Quality Lab.

FAQs

Many customers have similar questions regarding the quality of their tap water. This article addresses some of the most frequently asked questions. Always call the Call Center at 302-576-3877 or the Water Quality Lab at 302-571-4158 if you have further questions about your tap water.

Question 1: Brown / Yellow Colored Water Issues:

What is the color from?

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

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: http://water.epa.gov/drink/contaminants/secondary_standards.cfm#three-a-two)

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

- **Step 1:** Call the Call Center (302)-576-3877 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 a log 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.

Question 2: Why does my water smell like . . .

Chemicals or a Swimming Pool (Cold and Hot Water)

At the City's Treatment Facilities, the chemical chlorine is added to the drinking water once it has been through the filtering process. Chlorine is used as a disinfectant to ward off harmful or deadly microorganisms and eliminate potential disease as water travels through the City's pipelines. Some people are more sensitive to smell, which can result in them smelling the presence of chlorine in their water supply. Please note that while this smell can vary from person to person, chlorine is always present as a disinfectant in the City's drinking water.

(Continued on page 10)

Water Quality Problem?

The City of Wilmington is committed to providing you with high quality and safe drinking water. We also understand that concerns may arise at your tap and we strive to address these quickly and efficiently. If you experience issues such as: low water pressure, rusty/discolored water, or unusual taste and smell, please call the Call Center at (302) 576-3878. 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.



FAQs

Question 2: Why does my water smell like . . .

Rotten Eggs or Sulfur (Hot Water)

A rotten egg odor can occur in the hot water if the drain is partially clogged. When the hot water enters the partially clogged drain the odor caused by the clog is pushed up out of the drain. Test this by filling a cup with the same water. If the water does not smell in the cup then it is likely a drain clog.

A rotten egg odor can also occur from hydrogen sulfide (H₂S) gas. The odor is repulsive, but the gas is not usually harmful at the low concentrations that occur in a household water system. This is not a problem of health but aesthetics. Hot water tanks can provide an ideal environment for the production of hydrogen sulfide gas when corrosion occurs. If the rotten egg smell persists then replacing the anode may be the next step to solving the smelly water issue. Always refer to the hot water tank's manual or call a plumber before replacing anything. **(Reference Article:** David J. Hacker~ Project Engineer. Opflow, Phew my hot water smells like rotten eggs. ISSN: 0149-8029; Vol. 16. No. 7; July 1990.)

Question 3: Fluoride in drinking water:

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. **(Reference Article:** https://www.epa.gov/sites/production/files/2015-10/documents/2011_fluoride_questionsanswers.pdf)

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:** <http://www.dhss.delaware.gov/dhss/dph/hsp/pubdw.html>)

Jr. Water Works Sigh-ence Lab Oh-No! Look at this mess!

Dr. Clearwater is a microbiologist and this is, or was, her laboratory. Now it's a disaster area. Her first mistake was agreeing to watch her young niece and nephew, the Spillsbury twins! Her second mistake was trusting them to behave while she stepped out of her lab for five minutes to turn in her water quality data. Now she has returned to find her lab has been turned upside down.

Maybe we can help her clean up before she needs to start her next experiment. The first thing we need to do is find all the things that should not be in a laboratory. The Spillsbury twins have scattered things all over that just don't belong here. Let's see how good you are at spotting things that are out of place. See how many of the things on the list below you can find. When you find something on the list, cross it off. If you can find them all, Dr. Clearwater will be so thankful.

Find these objects:

- | | |
|-----------------|---------------------|
| Tennis Ball | Sword |
| Viking Helmet | Roller Skate |
| Pipe Wrench | Kid's Chalk Drawing |
| Baby Binkie | Electric Mixer |
| High Heel Shoe | Game Controller |
| Electric Guitar | Tennis Racquet |
| Ketchup Bottle | Dumbbell |
| Soccer Ball | Cowboy Boot |
| Pretzel | Teddy Bear |
| Toaster | Bongo Drum |





Jeffrey Starkey, Commissioner
Department of Public Works
Louis L. Redding City/County Bldg.
800 French Street, Wilmington, DE 19801-3537

Velda Jones Potter, City Treasurer

www.wilmingtonde.gov

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

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



Water & Sewer Service Line Warranty Program

This past fall, American Water Resources and the City of Wilmington launched their official partnership to offer Service Line Protection Programs to Wilmington homeowners. To date over 2,000 Wilmington homeowners have taken advantage of this program to protect themselves from potentially expensive and unexpected repairs. Homeowners should be aware that property owners are responsible for the maintenance and repair of water and sewer lines running through their property.

Repairs to your water and sewer line may require heavy construction equipment to excavate and repair the lines. Contractors may be required to break through city streets and sidewalks. Home owner's insurance typically does not cover these repairs, which can run into thousands of dollars. That's why we partnered with American Water Resources (AWR) to offer you the Water Line and Sewer Line Protection Programs.

The City of Wilmington chose AWR for its proven track record of service excellence. AWR has an A+ rating with the Better Business Bureau, so you can be confident of quality work. With this Program you will receive:

- Up to \$10,000 per occurrence for covered water line repairs
- Up to \$8,000 per occurrence for covered sewer line repairs
- Quick response and no limit on service calls
- 1-Year Warranty on all covered repairs
- Affordable Pricing

If you have any questions or are interested in enrolling in this program, call American Water Resources at **1-866-315-4473**. You can also visit them on their website at **AWRUSA.com/Wilmington** for more information.

Michael S. Purzycki, Mayor

CITY COUNCIL MEMBERS

The Honorable Hanifa Shabazz
President of City Council

The Honorable Nnamdi O. Chukwuocha
City Council Member, 1st District

The Honorable Ernest Congo II
City Council Member, 2nd District

The Honorable Zanthia Oliver
City Council Member, 3rd District

The Honorable Michelle Harlee
City Council Member, 4th District

The Honorable Va'Shun Turner
City Council Member, 5th District

The Honorable Yolanda McCoy
City Council Member, 6th District

The Honorable Robert A. Williams
City Council Member, 7th District

The Honorable Charles M. Freel
City Council Member, 8th District

The Honorable Ciro Adams
City Council Member-at-Large

The Honorable Rysheema Dixon
City Council Member-at-Large

The Honorable Samuel L. Guy, Esq.
City council Member-at-Large

The Honorable Loretta Walsh
President Pro Tempore,
City Council Member-at-Large

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.

Developed and Designed by Remline Corp © 2017