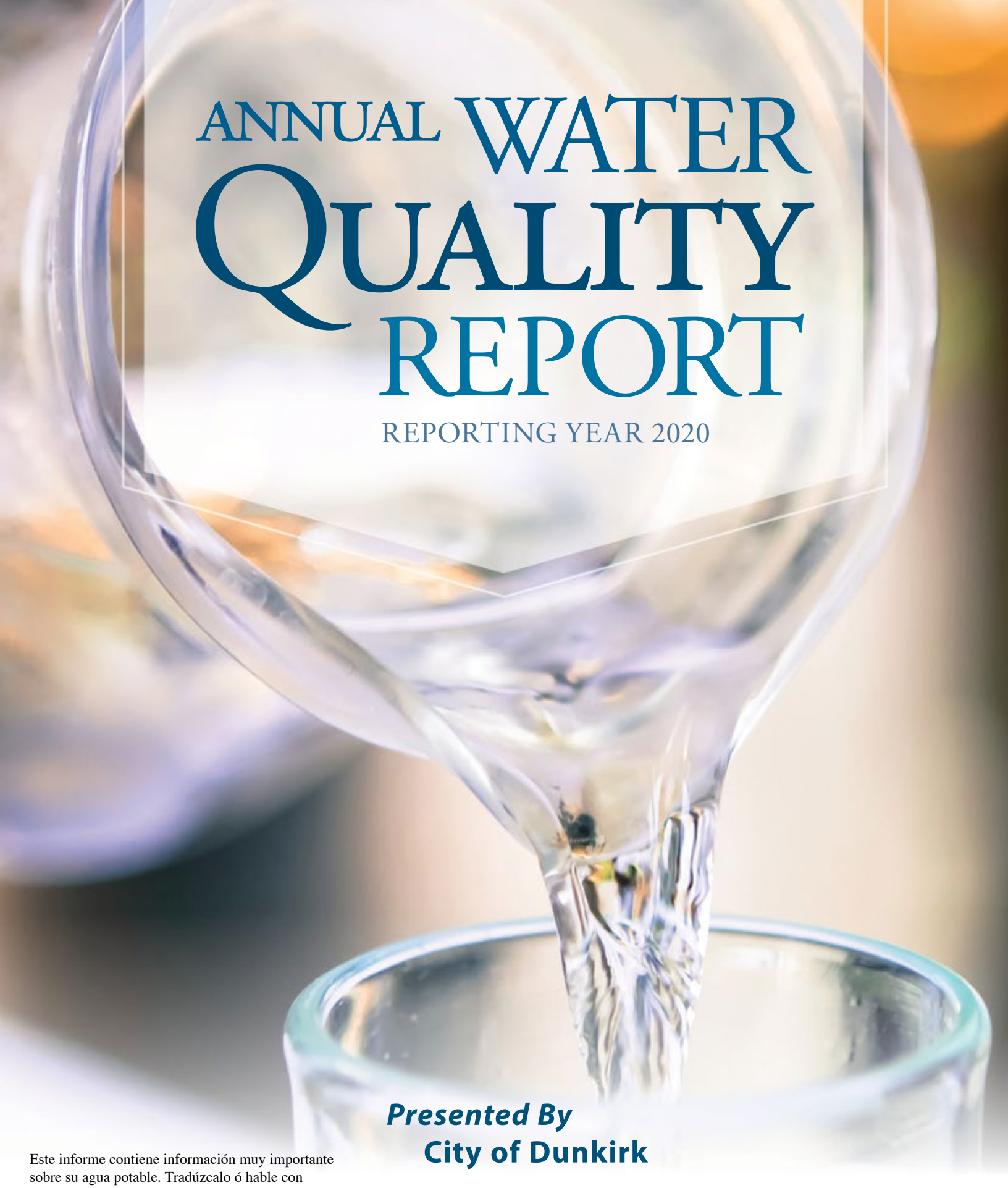

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

Presented By

City of Dunkirk

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

Ce rapport contient des informations importantes sur votre eau potable. Traduisez le ou parlez en avec quelqu'un qui le comprend bien.

PWS ID#: NY0600360

Introduction

To comply with State regulations the City of Dunkirk will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This report provides an overview of all of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact Kyle Schuster, Laboratory Director, at (716) 366-2955. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled City board meetings. The meetings are held the first and third Tuesday of each month, beginning at 5:30pm at City Hall, 342 Central Avenue, Dunkirk, New York.

Where Does Our Water Come From?

The City of Dunkirk's water customers are fortunate because we enjoy an abundant water supply from Lake Erie. Strict international laws ensure the lake will continue to be a source of high-quality water in Western New York. In general, 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 activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The New York State Department of Health has evaluated Lake Erie's susceptibility to contamination under the Source Water Assessment Program (SWAP). Their findings are summarized in the paragraph below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. It does not indicate that any contamination has or will occur. This water supply provides treatment and regular monitoring to ensure that the water that is delivered to consumers meets all applicable standards. This assessment found an elevated susceptibility to contamination. The amount of pasture in the assessment area results in a high potential for protozoa contamination. There is also a high density of sanitary wastewater discharges in the watershed, which results in elevated susceptibility for nearly all contaminant categories. However, the total amount of wastewater discharged to surface water is not high enough to considerably raise the potential for contamination. There are no noteworthy contamination threats associated with other discrete contaminant sources.

Water Treatment Process

The treatment process consists of a series of steps. First, raw water flows by gravity through a 36-inch pipe located approximately one mile out in the lake. Second, low lift pumps move the water through a pre-chlorination process and to our chemical building, where a coagulant, polyaluminum chloride, is added at the rapid mix. The coagulant causes dirt, clay, bacteria and organic material in the water to adhere together into floc. From the rapid mix, the water moves to flocculation chambers, where large paddles slowly mix the water, allowing the floc particles to grow bigger. The water then flows to the sedimentation basins, where the majority of the floc settles to the bottom to be removed later. From here, water flows into the filter beds, where it passes through layers of media to trap the remaining floc particles. The filtered water travels to the clear well, where the water is given final chlorination to maintain chlorine residual in the distribution system. Finally, high-lift pumps move the water from the clear well out into the distribution system to storage tanks and our customers.

Is Our Water System Meeting Other Rules That Govern Operations?

During 2020, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

Facts and Figures

Our water system serves approximately 11,848 customers through approximately 4,360 service connections. The total amount of water produced in 2020 was 1,117,699,000 gallons. The daily average of water treated and pumped into the distribution system was 3.05-million gallons per day. Approximately 76.2 % of the total was billed directly to consumers.

The balance or unaccounted water was used for firefighting purposes, street sweeping, sewer cleaning, hydrant flushing and distribution system leaks. Effective March 2020 water customers in the City of Dunkirk will pay on average $689 annually for their water (based on EPA's average family of four quarterly usage of 36,000 gallons). The average customer outside the City pays $1,206 for the same amount of water.

Improvements and Modifications

During 2020, the City of Dunkirk made the following improvements and modifications:

- Electrical and SCADA upgrades at Main Street Booster Station.
- #1 Booster pump upgraded at Main Street Booster Station.
- Improvements to data acquisition from Booster stations and Storage tanks.
- Started landscape and paving improvements at Main Street Booster station.

Proposed for 2021:

- Continuation of electrical improvements at Main Street Booster Station.
- Continuation of SCADA implementation at Water Treatment Plant and Booster Stations.
- Continuation of water line replacement throughout the City's distribution system.

Closing

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.

Do I Need to Take Special Precautions?

Some people may be more vulnerable to disease causing microorganisms or pathogens 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

Are There Contaminants in Our Drinking Water

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: Haloacetic acids, total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds including pesticides and herbicides. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test 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.

It should be noted that all drinking water, including bottled drinking water, may be reasonably 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 (800-426-4791) or the Chautauqua County Health Department at 716-753-4481.

On August 26, 2020, Public Water Supplies in New York State were required to begin monitoring for Per- and polyfluoroalkyl substances (PFAS). These substances include Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonate (PFOS), and 1,4-Dioxane. To this date, we have not had any detection of these contaminants and will continue to monitor for them in 2021 and beyond.

Why Save Water and How to Avoid Wasting It

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes. If it moved, you have a leak.

What Does This Information Mean?

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State. Lead and copper were detected within the system and two of the 30 samples collected were found exceeding the action levels. We are required to present the following information on Lead in drinking water:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The City of Dunkirk 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 http://www.epa.gov/safewater/lead.

The NYSDOH has a free lead testing program – for more information go to: https://www.health.ny.gov/environmental/water/drinking/lead/free_lead_testing_pilot_program

DETECTED CONTAMINANTS

CONTAMINANT	VIOLATION	DATE OF SAMPLE	LEVEL DETECTED	UNIT MEASUREMENT	REGULATORY LIMIT (MCL/AL)	MCLG	LIKELY SOURCE OF CONTAMINATION
MICROBIOLOGICAL CONTAMINANTS							
Turbidity[1]	No	5/16/20	0.155 NTU	NTU	TT=<1.0 NTU	N/A	Soil Run-off
Turbidity[1]	No	May (2020)	100% <0.3	NTU	TT=95% of samples <0.3 NTU	N/A	Soil Run-off
Distribution Turbidity[2]	No	Jan (2020)	0.40	NTU	MCL>5 NTU	N/A	Soil Run-off
INORGANIC CONTAMINANTS							
Nickel	No	7/01/20	0.9	ug/l	N/A	N/A	Nickel enters groundwater and surface water by dissolution of rocks and soils, from atmospheric fallout, from biological decays and from waste disposal.
Lead[3]	No	7/1/19-8/20/19	8.2; Range= ND-50.6	ug/l	15 (AL)	0	Corrosion of household plumbing systems; Erosion of natural Deposits
Copper[4]	No	7/1/19-8/20/19	0.0633; Range= 0.0035-0.0976	mg/l	1.3(AL)	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Barium	No	7/01/20	0.0207	mg/l	2.0(MCL)	2	Discharge of drilling wastes; discharge from metal refineries; erosion or natural deposits
Fluoride	No	8/1/18	0.12	mg/l	2.2(MCL)		
Nitrate	No	7/01/20	0.212	mg/l	10(MCL)	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sulfate	No	7/01/20	22.9	mg/l	250(MCL)	N/A	Naturally occurring.

STAGE 2 DISINFECTION BYPRODUCTS (17 LAFAYETTE STREET)

CONTAMINANT	VIOLATION	DATE OF SAMPLE	LEVEL DETECTED	UNIT MEASUREMENT	REGULATORY LIMIT (MCL/AL)	MCLG	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids	No	Quarterly (2020)	Avg.=5.43 Range=ND–10.9	ug/l	60(MCL)	N/A	By-products of drinking water chlorination.
Trihalomethanes	No	Quarterly (2020)	Avg.=33.13 Range=25.1–50.3	ug/l	80(MCL)	N/A	By-products of drinking water chlorination. TTHM's are formed when source water contains large amounts of organic matter.

STAGE 2 DISINFECTION BYPRODUCTS (344 HOYT STREET)

CONTAMINANT	VIOLATION	DATE OF SAMPLE	LEVEL DETECTED	UNIT MEASUREMENT	REGULATORY LIMIT (MCL/AL)	MCLG	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids	No	Quarterly (2020)	Avg.=5.75 Range=3.7–8.4	ug/l	60(MCL)	N/A	By-products of drinking water chlorination.
Trihalomethanes	No	Quarterly (2020)	Avg.=23.6 Range=16.7–38.0	ug/l	80(MCL)	N/A	By-products of drinking water chlorination. TTHM's are formed when source water contains large amounts of organic matter.

STAGE 2 DISINFECTION BYPRODUCTS (DEC FISHERY)

CONTAMINANT	VIOLATION	DATE OF SAMPLE	LEVEL DETECTED	UNIT MEASUREMENT	REGULATORY LIMIT (MCL/AL)	MCLG	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids	No	Quarterly (2020)	Avg. =0.3 Range=ND–1.2	ug/l	60(MCL)	N/A	By-products of drinking water chlorination.
Trihalomethanes	No	Quarterly (2020)	Avg.=31.35 Range=27.1–40.3	ug/l	80(MCL)	N/A	By-products of drinking water chlorination. TTHM's are formed when source water contains large amounts of organic matter.

STAGE 2 DISINFECTION BYPRODUCTS (DUNKIRK SENIOR CENTER)

CONTAMINANT	VIOLATION	DATE OF SAMPLE	LEVEL DETECTED	UNIT MEASUREMENT	REGULATORY LIMIT (MCL/AL)	MCLG	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids	No	Quarterly (2020)	Avg. =8.45 Range=7.8–9.3	ug/l	60(MCL)	N/A	By-products of drinking water chlorination.
Trihalomethanes	No	Quarterly (2020)	Avg.=33.63 Range=26.4–44.0	ug/l	80(MCL)	N/A	By-products of drinking water chlorination. TTHM's are formed when source water contains large amounts of organic matter.

DISINFECTANT

CONTAMINANT	VIOLATION	DATE OF SAMPLE	LEVEL DETECTED	UNIT MEASUREMENT	REGULATORY LIMIT (MCL/AL)	MCLG	LIKELY SOURCE OF CONTAMINATION
Chlorine residual	No	Daily (2020)	Avg. =0.99 Range=0.98–1.00	mg/l	4.0(MCL)	N/A	Water additive used to control microbes.

UNREGULATED CONTAMINANT MONITORING RULE UCMR4 2018-2019

CONTAMINANT	VIOLATION	DATE OF SAMPLE	LEVEL DETECTED	UNIT MEASUREMENT	REGULATORY LIMIT (MCL/AL)	MCLG	LIKELY SOURCE OF CONTAMINATION
Total Organic Carbon (TOC)	Not Regulated	10/17/18-7/24/19	Avg. =2.65 Range=2.50–2.80	mg/l	N/A	N/A	Likely source is naturally occurring.
Bromide	Not Regulated	11/30/18-4/24/19	Avg. =36.9 Range=36.1–36.3	ug/l	N/A	N/A	Likely source is naturally occurring.
Manganese	Not Regulated	10/17/18-7/24/19	Avg. =1.13 Range=0.92–1.2	ug/l	N/A	N/A	Likely source is naturally occurring.
HAA5 Group (St. Columban's)	Not Regulated	10/17/18-7/24/19	Avg. =9.04 Range=1.0–18.96	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA6Br Group (St. Columban's)	Not Regulated	10/17/18-7/24/19	Avg. =5.32 Range=0.7–9.66	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA9 Group (St. Columban's)	Not Regulated	10/17/18-7/24/19	Avg. =14.09 Range=1.7–27.96	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA5 Group (17 Lafayette St.)	Not Regulated	10/17/18-7/24/19	Avg. =8.08 Range=4.8–11.63	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA6Br Group (17 Lafayette St.)	Not Regulated	10/17/18-7/24/19	Avg. =4.94 Range=3.0–7.2	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA9 Group (17 Lafayette St.)	Not Regulated	10/17/18-7/24/19	Avg. =12.74 Range=7.9–17.6	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA5 Group (344 Hoyt St.)	Not Regulated	10/17/18-7/24/19	Avg. =3.07 Range=0.28–6.4	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA6Br Group (344 Hoyt St.)	Not Regulated	10/17/18-7/24/19	Avg. =2.19 Range=0–5.1	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA9 Group (344 Hoyt St.)	Not Regulated	10/17/18-7/24/19	Avg. =5.09 Range=0.6–11.1	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA5 Group (JN Adams)	Not Regulated	10/17/18-7/24/19	Avg. =7.78 Range=4.6–10.6	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA6Br Group (JN Adams)	Not Regulated	10/17/18-7/24/19	Avg. =6.82 Range=3.6–11.0	ug/l	N/A	N/A	Byproduct of drinking water chlorination.
HAA9 Group (JN Adams)	Not Regulated	10/17/18-7/24/19	Avg. =13.99 Range=7.8–17.8	ug/l	N/A	N/A	Byproduct of drinking water chlorination.

[1]Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for the year occurred on 5/16/20 (0.155 NTU). State regulations require that turbidity must always be less than or equal to 1.0 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. Although in the month of May 2020 we recorded our highest combined turbidity readings, at no time within the calendar year did we exceed the 0.3 NTU turbidity limit, all readings recorded were in the acceptable range allowed and did not constitute a treatment technique violation.

[2]Distribution Turbidity is a measurement of the cloudiness of the water found in the distribution system. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. Our highest monthly distribution turbidity measurement detected during the year (0.40 NTU) occurred in January 2020. This value is below the State's maximum contaminant level (5 NTU).

[3]The level presented represents the 90th percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the Lead values detected in your water system. In this case, 30 samples were collected at your water system and the 90th percentile value was calculated to be the 27th value and that value equaled 8.2ug/l.

[4]The level presented represents the 90th percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the Copper values detected in your water system. In this case, 30 samples were collected at your water system and the 90th percentile value was calculated to be the 27th value and that value equaled 0.0633mg/l. The action level for Copper was not exceeded at any of the 30 sampling locations.

Definitions

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

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

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).